Initial Study and Mitigated Negative Declaration

City of Laguna Beach
Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, CA 92651

Public Review Draft

Fuel Breaks in Fuel Modification Zone 23 – Canyon Acres and Fuel Modification Zone 24 – Laguna Canyon:

Laguna Canyon Unified Fuel Modification and Habitat Restoration Project

Prepared by:

Aspen environmental group

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September 2019

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Prepared for
City of Laguna Beach
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* Project funded by the California Climate Investments Program. For information: www.caclimateinvestments.ca.gov

Technical Support Provided by
Aspen Environmental Group

September 2019

Initial Environmental Study / Checklist
City of Laguna Beach, California

1. Project Title

Fuel Breaks in Fuel Modification Zone 23 – Canyon Acres and Fuel Modification Zone 24 – Laguna Canyon: Laguna Canyon Unified Fuel Modification and Habitat Restoration Project

2. Lead Agency Name and Address

City of Laguna Beach
Laguna Beach Fire Department
505 Forest Ave.
Laguna Beach, CA 92651

3. Contact Person and Phone Number

Mike Rohde, Program Manager
Laguna Beach Fire Department
Wildland Fire Defense & Fuels Management
Office: (949) 464-6683

4. Project Location

The proposed project consists of fuel modification zone (FMZ) 23 and FMZ 24, as shown in Figure 1. FMZ 23 would start immediately east of Laguna Beach Parking Lot 10 and proceed behind (southeast) the Sawdust Art Festival and Boys & Girls Club of Laguna Beach and along both sides of Canyon Acres Drive. FMZ 24 would proceed from Canyon Acres Drive north to just past the Anneliese School near El Toro Road, remaining generally on the east side of Laguna Canyon Road (State Highway [SR] 133) behind homes and businesses, with a short portion on the west side around Laguna College of Art and Design.

5. Project Sponsor's Name and Address

Laguna Beach Fire Department
505 Forest Ave.
Laguna Beach, CA 92651

6. General Plan Designations

FMZ 23 would traverse the following General Plan Designations: CBD (Central Business District), POS (Permanent Open Space), and RHP (Residential Hillside Protection).

FMZ 24 would traverse the following General Plan Designations: POS (Permanent Open Space) and RHP (Residential Hillside Protection Zone).

7. Zoning

FMZ 23 would traverse the following Land Use Zones: CA (Civic Arts Zone), OSC (Open Space Conservation Zone), and RHP (Residential Hillside Protection Zone).

FMZ 24 would traverse the following Land Use Zones: OSC (Open Space Conservation Zone), OSP (Open Space Passive Zone), Open Space Reserve (in unincorporated Orange County west of Laguna Canyon Road), and RHP (Residential Hillside Protection Zone).

8. Description of the Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices in the Laguna Canyon area within the City of Laguna Beach and unincorporated areas of Orange County, California (see Figure 1). The proposed project is funded by a grant from the California Department of Forestry and Fire Protection (CalFire) California Climate Investment Fire Prevention Program. FMZ 23 and FMZ 24 would consist of 100-foot wide zones of cleared vegetation. Removal of heavy vegetation would reduce potential wildfire ignition of public structures and residential properties as well as reduce potential for wildfire to spread to high value habitat in wildlands. In addition, the proposed project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety. Lastly, it would establish roadside fire resistance along Laguna Canyon Road to help maintain a critical fire evacuation route for 25,000 residents.

The project site has experienced historic wildfires due to its relatively undeveloped surroundings. Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. The City currently maintains 27 FMZs managed by goat-grazing and manual removal. Participating partners for the proposed project include LBFD, Laguna Canyon Foundation, Natural Communities Coalition, Orange County Parks (OC Parks), City of Irvine, Orange County Fire Authority, and Greater Laguna Coast Firesafe Council. The partners engage in strategic level planning, coordination, and make key decisions in the project. Together, they received a $3.1 million grant through the CalFire California Climate Investment Fire Prevention Program, coupled with a 25 percent local match for $4.2 million to fund fuel modification activities in FMZ 23 and 24. According to the County of Orange and City of Laguna Beach, the project site lies in a Very High Fire Hazard Severity Zone, and any wildfire would be an immediate threat to structures. The proposed project would establish fuel breaks directly around wildland-urban interface around approximately 226 homes, 2 schools, a City Corporate Yard, a homeless shelter, and over 40 commercial structures, including the Sawdust Art Festival. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZ 23 and 24.

FMZ 23, a 16-acre stretch of land, surrounds Canyon Acres Drive and the Canyon Acres residential neighborhood (see Figure 2). It is located at the bottom of a tributary canyon to Laguna Canyon, and lower portions consist of extremely steep walls. The majority of FMZ 23 is already disturbed by existing fuel breaks and is vegetated by non-native plants introduced by homeowners. There are, however, some pockets of relatively intact coastal sage scrub, where goat-grazing would be prohibited. Table 1 provides the recommended access points (see Figure 2) to reach FMZ 23 treatment areas (see Figure 3).

Table 1: FMZ 23 (Canyon Acres) Access Points	
1.	1085 Laguna Canyon Rd. (Frontage) – vehicles will require a City-issued parking pass to avoid citation
2.	275 Woodland Dr.
3.	Intersection of Milligan Dr. & Victory Walk (private road)
4.	1345 Lewellyn Dr. (may require homeowner permission)
5.	477 Canyon Acres Dr. (vacant lot)
6.	End of Canyon Acres Dr.
7.	386 Canyon Acres Dr. (vacant lot)
8.	272 Canyon Acres Dr. (driveway)
9.	140 Canyon Acres Dr. (vacant lot)

FMZ 24 consists of approximately 38 acres and is predominantly on the east side of Laguna Canyon Road, behind residential properties and businesses. A small portion surrounds Laguna College of Art and Design on the southwestern end and another section surrounds the Anneliese School to the north (see Figure 4). FMZ 24, like FMZ 23, is also moderately impacted by existing fuel breaks and non-native plants, with some existing areas of relatively intact native habitats. Portions of this zone are owned by OC Parks, so goat-grazing and other intensive forms of vegetation removal would be prohibited in these areas to mitigate impacts to sensitive habitat. Table 2 provides the recommended access points (see Figure 4) to reach FMZ 24 treatment areas (see Figure 5).

Table 2: FMZ 24 (Laguna Canyon) Access Points	
1.	140 Canyon Acres Dr. (vacant lot)
2.	1795 Laguna Canyon Rd. (McCormick & Son Funeral Home parking lot
3.	1945 Laguna Canyon Rd. (Laguna Tire & Automotive parking lot)
4.	2415 Laguna Canyon Rd. (private driveway)
5.	2825 Laguna Canyon Rd. (LCAD parking lot)
6.	2925 Laguna Canyon Rd. (CLB-owned Open Space parking area)
7.	4 Castle Rock Rd. (private road)
8.	Stan Oaks Dr. (roadside parking)
9.	20672 Laguna Canyon Rd. (CLB Dog Park, metered roadside parking)
10.	20612 Laguna Canyon Rd. (Pacific Marine Mammal Center parking lot
11.	20522 Laguna Canyon Rd. (CLB/LBFD bone yard – locked gate)
12.	20286 Laguna Canyon Rd. (LCF Wilderness Center, on Phillips Rd.)
13.	Intersection of Laguna Canyon Rd. and El Toro Rd. (roadside parking)

Fuel Management Zone Treatment Protocols. The City's fuel modification zone treatment protocols, which are included as Appendix A to this Initial Study, have been developed based on the best available science and studies. The proposed project was designed using the City's treatment protocols.

All fuel management activities would be conducted within FMZ 23 and FMZ 24 to reduce available vegetation for potential wildfire ignition within 100 feet of developed structures. Fuel loads would be reduced or completely removed depending on species composition. Non-native vegetation would be completely removed, while sensitive native vegetation such as coastal sage scrub would be reduced by 50 percent. In erosion-prone areas, perennial plant roots would remain to reduce the risk of erosion. Management within the zones would primarily consist of the cost-saving method of goat-grazing in environmentally-disturbed areas or more careful hand crew treatment in habitats of higher sensitivity. If any sensitive species are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided. Prudent herbicide use may be used only in cases of spot treatment of invasive vegetation removal as determined by a biologist. Any necessary treatments outside of this range would be subject to removal of only targeted non-native, invasive weeds, or tree thinning and dead branch removal.

Initial biological surveys conducted by Laguna Canyon Foundation provided treatment recommendations for FMZ 23 (see Figure 3) and FMZ 24 (see Figure 5) based on habitat type and existence of any sensitive species within the zones. Recommended acreage for each treatment type is provided in Table 3.

Table 3: Proposed Treatment by Acreage

Treatment Methods	FMZ 23	FMZ 24
Goat	4.9	12.5
Hand	9.2	13.5
Mixed	0.0	1.7
Stream buffers (invasive control only)	0.8	1.7
Total	14.9	29.4

Source: Laguna Canyon Foundation, Laguna Canyon Unified Fuel Modification and Habitat Restoration Project, June 20, 2019.

Goat-grazing. As described in the *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), goat-grazing would follow the below listed treatment protocols. This method of vegetation removal would only be used in areas of Low to Moderate Habitat Value as defined in the *Laguna Beach Biological Resources Inventory* (See "Habitat Classification" in Appendix A). A maximum of 150 goats would be transported in one trip via trailer from Hemet, California and penned on-site during the duration of the project. Once a grazing site is complete, the goat handler would move the herd to the next grazing site. The goats would be moved by foot between grazing sites if distances are minimal, but may be trucked when relocated to farther sites. Upon project completion, the goats would be returned to Hemet in another single trip via trailer.

a. The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive plant species.

b. No more than 75 goats will be permitted per acre.

c. Goats shall remain in secure enclosures at all times.

d. Sensitive plant species shall be protected from trampling or consumption by establishing the secure enclosures a minimum distance of at least 15 feet between sensitive plants and the limits of grazing.

e. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.

f. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80 percent of the native and 100 percent of the non-native species in this cover type may be removed in such areas.

g. Goat grazing in woody (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50 percent of the vegetative cover and provide for a shaded fuel break outcome.

h. Goat grazed fuel breaks should generally be limited to 100-foot width. Penned areas may be extended to a maximum 150 feet when physical obstructions such as rock outcrops, cliffs, water courses etc. prevent reasonable establishment of pens at 100-foot width.

i. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.

j. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.

k. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

Hand Crew Removal. As described in the *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), hand crew treatment would be used in areas of High or Very High Habitat Value as defined in the *Laguna Beach Biological Resources Inventory* (See "Habitat Classification" in Appendix A) in compliance with the California Coastal Act. Up to 14 hand crew workers (2 groups of 7 workers each) would be working in an FMZ at a given time. The average crew size would be 7 workers. The initial phase of vegetation removal would include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters, and other hand tools.

b. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 feet.

c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for Big-Leaved Crownbeard, as determined by the biological monitor.

d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.

e. Tree-form shrubs (e.g. Laurel Sumac (*Malosma laurina*), Toyon (*Heteromeles arbutifolia*), Lemonade Berry (*Rhus integrifolia*) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50 percent of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially. Alternatively, with the discretion of a qualified biologist, some plants may be pruned beginning from the upper branches, depending on the species and need for such pruning.

f. For large tree species within FMZ's, non-native trees (*Pinus*, *Eucalyptus*, *Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership.

g. Native large trees (*Quercus*, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50 percent vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50 percent vegetative cover has been attained:

1. Coastal Goldenbush (*Isocoma menziesii*)
2. Coyote Brush (*Baccharis pilularis*)
3. California Buckwheat (*Eriogonum fasciculatum*)
4. Black Sage (*Salvia mellifera*)
5. California Sagebrush (*Artemisia californica*)
6. Monkeyflower (*Mimulus aurantiacus*)
7. Laurel Sumac (*Malosma laurina*)
8. Toyon (*Heteromeles arbutifolia*)
9. Lemonade Berry (*Rhus integrifolia*)

Stumps will be cut to within 4 inches or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime Chaparral species including Bush Rue (*Cneoridium dumosum*), Spiny Redberry (*Rhamnus crocea*) and Bigpod Lilac (*Ceanothus megacarpus*) will be retained.

As described in *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (see Appendix A), ephemeral water drainages or stream courses would be treated if invasive plant species such as pampas grass is found. The primary invasive vegetation treatment would be herbicide application within a 25-foot buffer on either side of any "blue-line" drainage or stream that cross the treatment areas as defined by a USGS map or City Website. Additional site-specific steps consistent with best environmental practice may be implemented to establish breaks in fuel continuity in corridors formed by long drainages. These corridors pose a fire hazard to nearby residences in the event of a wildfire.

Herbicides may be used for spot treatment of invasive species as identified and determined by a biologist. Herbicide treatment would be specific and limited to its intended use to not pose any risk to nearby sensitive species or water courses. Herbicides would never be used on a landscape scale to remove large expanses of vegetation.

Erosion Control. The majority of roots of perennial plants would be left in place to minimize erosion. Mulch and other erosion control measures (such as straw wattles and/or jute netting) would be installed as necessary for additional protection without being obtrusive, as recommended the project geotechnical report. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed

appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal and Maintenance. As mentioned in the *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*, all non-native vegetation waste would be removed from the site, transported via truck or dumpster, and hauled to a green waste recycler. The nearest green waste recycling facility to the site is Tierra Verde Industries at 8065 Marine Way, Irvine, CA 92618, but the contractor would ultimately determine the recycling site. Green waste that is not accepted by the green waste recycler would be hauled to a landfill. Under the proposed project, chipped native vegetation and mulch would be reused for erosion control within the project site and potentially other locations in the City of Laguna Beach. Chipped waste, excluding non-native and/or invasive waste, may also be used for dust control in recreational areas and park land. All efforts would be made to recycle as much native waste on site as possible. Native vegetation under 3 inches in diameter may be processed with hand tools on site and spread as mulch as an alternative to hauling and chipping, if it does not cover living native species and does not exceed 12 inches in depth. All trash and litter found on the project site would be removed and hauled to a landfill. The amount of trash and litter is expected to be minimal.

At the conclusion of the grant term, fuel break maintenance would be conducted by several project sponsors. The City of Laguna Beach would maintain fuel breaks around structures within the City, OC Parks would annually mow existing fuel breaks, and the Orange County Fire Authority would manage vegetation adjacent to SR 133.

Schedule. Fuel modification activities are expected to occur over the course of approximately one year. Vegetation removal would occur during normal business hours from 8:00 a.m. to 5:00 p.m. Monday through Friday, excluding weekends and federal holidays. The grant schedule denotes initial clearing of vegetation in 2020, with the first application of maintenance procedures in 2021. Grant-funded field activities would conclude by December 2021. The grant provides some funding for project audits by the State and final reporting in the first couple months of 2022. Continued maintenance is expected to occur annually into perpetuity with City funding and includes vegetation thinning and invasive species control.

9. Surrounding Land Uses and Setting

The overall landscape is minimally developed and consists of heavy chaparral and coastal sage scrub, along with populations of non-native and invasive plant species in highly-disturbed areas. FMZ 23 and FMZ 24 are located at the lower elevations of relatively steep canyon slopes.

The land surrounding FMZ 23 is predominantly low-density single-family residential, with commercial use concentrated along the southwestern end of Laguna Canyon Road. Canyon Acres Drive is a relatively narrow road that serves the residents in the Canyon Acres neighborhood. Sloped canyon walls surround both sides of the residential area. The eastern end of Canyon Acres Drive provides trail access to open space. The western end of Canyon Acres Drive leads to the main right-of-way, Laguna Canyon Road (SR 133).

The land surrounding FMZ 24 mainly serves commercial uses. Commercial structures are located along the east side of Laguna Canyon Road, beginning at Canyon Acres Drive and extending north towards El Toro Road. Public access to Laguna Coast Wilderness Park (i.e., Willow Staging Area) is located to the west of Laguna Canyon Road, outside but adjacent to FMZ 24. Two schools are located within FMZ 24: Laguna College of Art and Design and Anneliese School (preschool through sixth grade).

10. Other Public Agencies Whose Approval Is Required (e.g. permits, financing approval, or participation agreement)

The proposed project would require the following approvals:

- Design Review, City of Laguna Design Review Board
- Coastal Development Permit, California Coastal Commission

Attachments

Figure 1: Laguna Canyon Unified Fuel Modification and Habitat Restoration Project Location

Figure 2: Fuel Modification Zone 23 (Canyon Acres) Access Points

Figure 3: Fuel Modification Zone 23 (Canyon Acres) Treatment Areas by Type

Figure 4: Fuel Modification Zone 24 (Laguna Canyon) Access Points

Figure 5: Fuel Modification Zone 24 (Laguna Canyon) Treatment Areas by Type

APPENDICES ARE PROVIDED ON CD

Appendix A: Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

Appendix B: Biological Technical Report for Proposed Fuel Modification Zones 23 & 24

Appendix C: Biological Resources Survey for the Additional FMZ 23-Canyon Areas Project Area

Appendix D: Cultural Resources Resource Survey and Summary Reports

Appendix E: Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zones 23 and 24

Appendix F: Paleontological Resources Research and Analysis Memorandums

Appendix G: Policy Consistency Analysis Memo

Figure 1: Laguna Canyon Unified Fuel Modification and Habitat Restoration Project Location

Figure 2: Fuel Modification Zone 23 (Canyon Acres) Access Points

Figure 3: Fuel Modification Zone 23 (Canyon Acres) Treatment Areas by Type

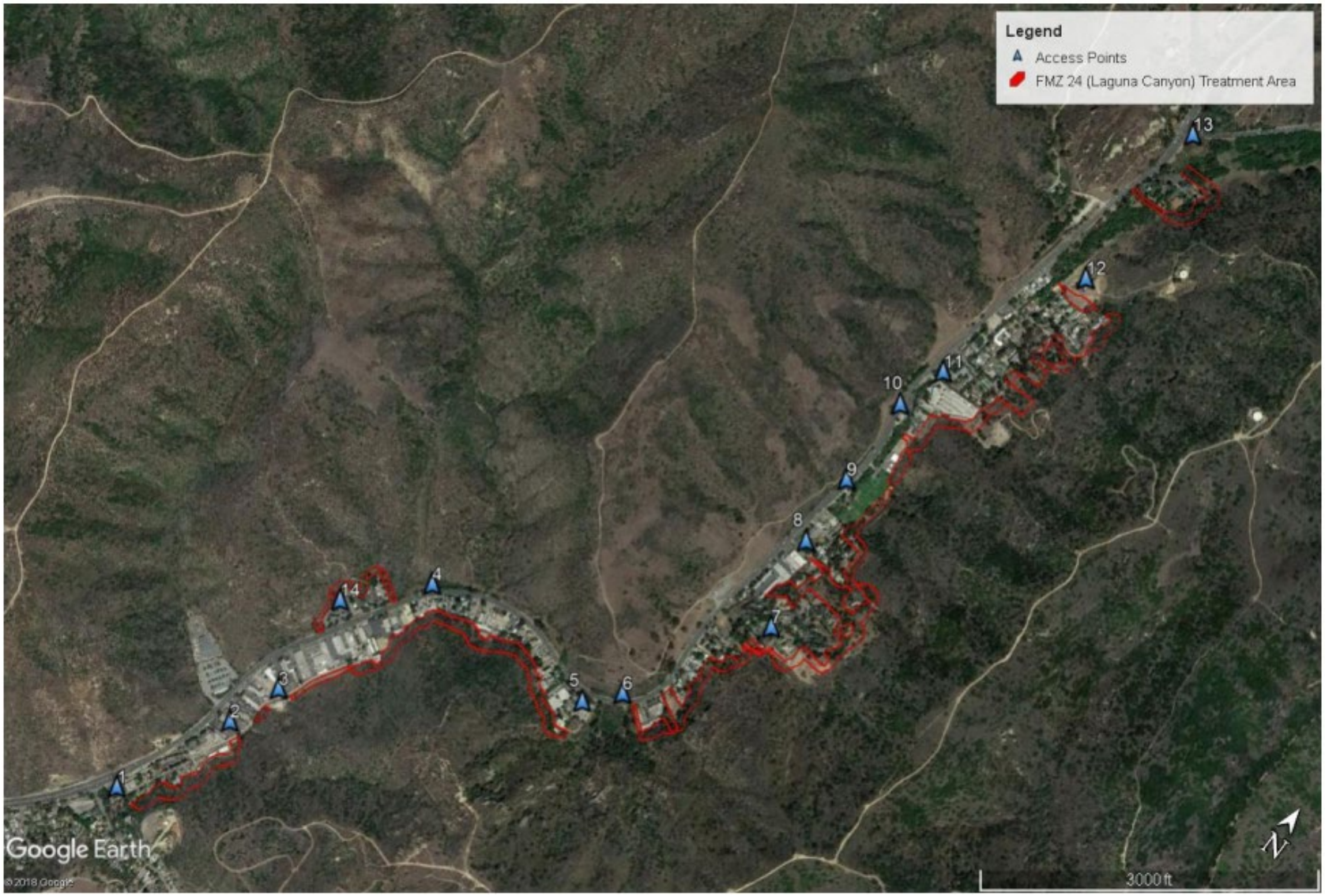

Figure 4: Fuel Modification Zone 24 (Laguna Canyon) Access Points

Figure 5: Fuel Modification Zone 24 (Laguna Canyon) Treatment Areas by Type

Environmental Factors Potentially Affected

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

☐ Aesthetics	☐ Agriculture & Forestry Resources	☐ Air Quality
☒ Biological Resources	☒ Cultural Resources	☐ Energy
☒ Geology/Soils	☐ Greenhouse Gas Emissions	☒ Hazards & Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☒ Wildfire	☒ Mandatory Findings of Significance

Determination

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the Proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Proposed Project, nothing further is required.

Mike Rohde, Program Manager
Laguna Beach Fire Department

9-5-19
Date

Evaluation of Environmental Impacts

1. AESTHETICS. Except as provided in Public Resources Code Section 21099, would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	1, 2	☐	☐	☒	☐

Less Than Significant Impact. The proposed project site (FMZ 23 and FMZ 24) would be in a predominantly non-urban area with low to medium development and on the wildland-urban interface of a scenic, heavily-vegetated natural landscape. The City of Laguna Beach's Landscape and Scenic Highways Element in its General Plan indicates that the concept of a "scenic" vista is based on the visibility of a natural landscape as viewed by travelers, the visual quality, and the extent to which development does not intrude upon the traveler's enjoyment of the view. The proposed project would have no significant impact on the topography of the hillsides within the FMZs. The fuel management activities would be limited to a reduction of 50 percent of existing vegetation within the FMZs and follow requirements as outlined in the City's *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* (i.e., Treatment Protocols for Fuel Modification Zones). The project would minimize impacts on sensitive species and habitats by avoiding removal in certain areas determined by a biologist. Risk of erosion would be minimized, as 50 percent or more of existing native vegetative cover would be kept in the FMZs. Therefore, the proposed project would not adversely impact the surrounding natural landscape and scenic vista.

b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	2, 3	☐	☐	☒	☐

Less Than Significant Impact. Laguna Canyon Road is not a State-designated scenic highway, and the nearest eligible highway, Coast Highway, would be approximately 0.5 miles southwest of the project. However, the County describes Laguna Canyon Road as a Viewscape Corridor in its Scenic Highway Plan and identifies this road as a valuable visual resource. The FMZs are located along the outer western edges of commercial buildings, residences, and Anneliese School, and along the eastern edge of Laguna College of Art and Design. The FMZs would be located behind the trees and buildings that are adjacent to the road, and therefore would be predominantly hidden from public views from the road. Given that the proposed project would not be within the viewshed of a State scenic highway, and the minimal visibility of the FMZs from Laguna Canyon Road, there would be a less than significant impact on scenic resources.

c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	1	☐	☐	☒	☐

Less Than Significant Impact. Fuel modification activities would occur on the wildland-urban edge of residential and commercial properties along Laguna Canyon Road and Canyon Acres Drive. Public views would be accessed mainly from these two roads and adjacent public lots and commercial centers. Visibility from public viewing points along Laguna Canyon Road would be minimal, as there are buildings and trees adjacent to the road that obscure visibility of the fuel breaks. Small portions of FMZ 24 may be minimally visible from the section of road near Laguna College of Art and Design but is expected to be insubstantial because the speed at which travelers move along the road would only provide brief views of FMZ 24. FMZ 24 may be visible at the intersection of Laguna Canyon Road and El Toro Road by Anneliese School, but trees would minimize this impact. Fuel modification activities would only prune dead and dying branches from native trees, and 50 percent or more of existing native vegetation would remain, so this public view would not be substantially degraded. Therefore, fuel modification activities would not degrade public views of the site and its surroundings, and the proposed project would have a less than significant impact.

d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?		☐	☐	☐	☒

No Impact. The project would not introduce any lighting elements or materials that would create a new source of substantial light or glare. Fuel modification activities would occur during the day, and no nighttime activities would occur. Therefore, the proposed project would have no impact.

2. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	4	☐	☐	☐	☒

No Impact. According to the California Resources Agency's Farmland Mapping and Monitoring Program, the proposed project does not lie within Prime Farmland, Unique Farmland, or Farmland of Statewide Importance and therefore would not convert this farmland to non-agricultural use. The Orange County Important Farmland map depicts the location of FMZ 23 and FMZ 24 as "urban and built-up land" and "other land" (low density rural developments not suitable for agricultural activities). The proposed project would have no impact on Farmland.

b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	5, 6	☐	☐	☐	☒

No Impact. The proposed project would not be located within an agricultural zone or Williamson Act parcel, so it would not conflict with existing zoning for an agricultural use or a Williamson Act contract. Therefore, the proposed project would have no impact.

c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	5	☐	☐	☐	☒

No Impact. The proposed project site is designated by the City of Laguna Beach as an Open Space and Residential/Hillside Protection zone. None of the areas within the project site are zoned for forest land, timberland, or Timberland Projection. The proposed activities would have no impact on forest land or timberland or cause rezoning of these lands.

d. Result in the loss of forest land or conversion of forest land to non-forest use?	5	☐	☐	☐	☒

No Impact. Since the proposed project would not occur within forest land, it would not result in the loss of forest land or convert forest land to non-forest use. The proposed project would have no impact on existing forest land.

e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	5	☐	☐	☐	☒

No Impact. Because the project site would not occur within or in proximity to zoned farmland or forest land, it would neither convert Farmland to non-agricultural use nor convert forest land to non-forest use. The proposed project would have no impact on Farmland or forest land.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?		☐	☐	☐	☒

No Impact. The proposed project's emissions sources (on-road vehicles, chainsaws, a wood chipper) would comply with State and local emissions regulations included in the currently approved South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP). Additionally, the proposed project does not change any land use or growth assumptions as forecast by SCAQMD and Southern California Association of Governments (SCAG) that were used in the AQMP. Additionally, the proposed project is consistent with the City of Laguna Beach General Plan's growth projection, since it would not change any development density or population assumptions. As such, the proposed project's initial and ongoing fuel modification activities are considered to be consistent with the AQMP emission source estimate assumptions and consistent with the AQMP and local planning land use/growth assumptions, so it is considered consistent with the SCAQMD's AQMP. No impact would occur.

b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard?		☐	☐	☒	☐

Less Than Significant Impact. Applicable thresholds of significance are the SCAQMD regional air quality emissions thresholds. These are daily emissions thresholds, which for a "construction" project like the proposed project range from a low of 55 pounds per day for fine particulate matter (PM2.5) to a high of 550 pounds per day for Carbon Monoxide (CO). The proposed project involves goat grazing and hand cutting to clear vegetation in defined areas. The hand cutting and clearing would use gasoline fueled chainsaws, as many as six operating per day, a gas- or diesel-powered wood chipper, brush-cutters, and other hand tools. The proposed project would also include employee commuting trips and small and large truck trips to haul waste, supplies, and goats. The goat herder(s) are also expected to stay on-site near the goat pens in habitable vehicles, such as motor homes or modified pickup truck or in tents and could have small comfort emissions sources such as gasoline or diesel powered generators and propane fueled cooking equipment. The scale of use for these small off-road equipment items and daily vehicle trips would not have the potential to produce emissions near the SCAQMD regional emissions thresholds. The worst-case daily emissions[1] during the initial fuel modification activities are estimated and compared to the SCAQMD thresholds as shown in Table 4.

Table 4. Maximum Daily Emissions (lbs/day)

	VOC	CO	NO_X	PM10	PM2.5
Chainsaws	31.25	232.64	31.25	0.87	0.87
CalEEMod/On-Road Vehicles & Wood Chipper	0.80	6.39	4.44	1.43	0.48
Total	32.05	239.02	35.69	2.30	1.35
SCAQMD Regional Significance Thresholds	75	550	100	150	55
Significant?	NO	NO	NO	NO	NO

Acronyms: VOC = volatile organic compounds; CO = Carbon Monoxide; NOx = Nitrogen Oxides; PM10 = Particulate Matter of diameter 10 micrometers or less; PM2.5 = Fine Particulate Matter of diameter less than 2.5 micrometers.

[1] The maximum daily emissions are estimated with the following conservative assumptions: Six 5.5 horsepower California Air Resources Board (CARB) spark-engine emissions factor compliant gasoline powered chainsaws operating 8 hours per day, one 81 horsepower diesel fueled wood chipper operating 8 hours per day, 792 Vehicle Miles Traveled (VMT)/day of passenger vehicle use, 32 VMT/day of medium sized truck use, and 100 VMT of heavy truck use. Other minor emission sources, such as those associated with the on-site goat herder(s) are speculative and are considered to be minor in comparison to the other emissions sources. Sulfur Oxide (SOx) emissions are not estimated as they are negligible given CARB fuel sulfur content regulations.

3. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Note: VOC and NOx emissions factor for spark ignition engines (chainsaws) is based on a combined not to exceed value. To be conservative, both are assumed to be at the upper limit, but for gasoline-fueled engines the emissions will be primarily VOC emissions.

The proposed project is also required to comply with applicable rules and regulations, such as SCAQMD Rule 403 – Fugitive Dust, that requires control of fugitive dust causing activities. However, grading or other major earth-moving activities would not occur, so no dust emissions impacts or need for control measures are anticipated. Impacts would be less than significant. Similarly, impacts during ongoing annual fuel modification activities, which involve a much lower level of activity than the initial fuel modification activities, would be below the SCAQMD thresholds and impacts would be less than significant.

c. Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less Than Significant Impact. The project site is adjacent to sensitive receptors, such as residential uses and schools. Air pollutant emissions generated by construction activities are anticipated to cause temporary increases in local air pollutant concentrations. However, the construction equipment (e.g., chainsaws and wood chipper) used during hand clearing would generate minimal emissions, and the emissions levels are not anticipated to exceed the SCAQMD's screening level localized significance thresholds (LST). In fact, the maximum daily emissions estimate that include the on-road emissions that are not localized emissions would be below the SCAQMD LSTs, when compared to the most conservative LST table assumptions for the proposed project (1-acre site within 25 meters of a sensitive receptor) as shown in Table 5.

Table 5. Maximum Daily Emissions (lbs/day)

	CO	NO_X	PM10	PM2.5
Chainsaws	232.64	31.25	0.87	0.87
CalEEMod/On-Road Vehicles & Wood Chipper	6.39	4.44	1.43	0.48
Total	239.02	35.69	2.30	1.35
SCAQMD Localized Significance Thresholds	647	92	4	3
Significant?	NO	NO	NO	NO

Notes: Thresholds are for SRA 20 (Central Orange County Coastal). VOC does not have a LST. Emissions are total daily emissions; the localized maximum daily emissions would be lower.

The quantity of toxic air contaminant (TAC) emissions from proposed project emissions sources, given the quantity and short duration of the proposed project's TAC emissions, are similarly minor in the context of the SCAQMD TAC significance thresholds. Given the low localized emissions potential for the proposed project, impacts would be less than significant.

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would not emit objectionable odors that would affect a substantial number of people. The proposed project would include odor emissions from the goats and their waste products. However, these odors are natural, would not be concentrated and ongoing such as odors from dairies or cattle feed lots, given the number of goats the odor intensity would not be substantial, and this odor source would not last long as the period of goat grazing would only occur for a very limited period of time in any given location. Additionally, emissions from construction equipment (e.g., chainsaws and wood chipper) may generate minor odors; however, these odors would not be highly objectionable near the source, would dissipate quickly, and would be temporary. Therefore, the proposed project's odor sources would not affect a substantial number of people. A small amount of nuisance dust emissions would be generated by the proposed project, but these emissions would be minor; limited to infrequent and limited vehicle use of unpaved areas and dust kicked up by workers and goats. Additionally, the proposed project would be required to comply with the SCAQMD Rule 402, Nuisance. Therefore, objectionable odors and other nuisance emissions would not adversely affect a substantial number of people, so impacts would be less than significant.

4. **BIOLOGICAL RESOURCES. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	7, 8	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Two biological resources reports were prepared in 2019 for the proposed project (see Appendices B and C). Each report included a literature review of biological resources known from the area and field surveys to assess the habitat for these species and to search for special-status species, map jurisdictional drainages, and map vegetation. During the surveys two State and/or federally listed species were identified within the project site, including Laguna Beach dudleya (*Dudleya stolonifera*) and least Bell's vireo (*Vireo belli pusillus*). Coastal California gnatcatcher (*Polioptila californica californica*), which is federally listed, was also determined to be likely to occur in or adjacent to the project site. Impacts to any of these species including harass, harm, pursue, wound, or kill would be significant and without mitigation, the proposed project would have the potential to "take" these species. With implementation of Mitigation Measures BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), impacts to these species, including "take" would be avoided and reduced to a less-than-significant level. Furthermore, habitat for least Bell's vireo and coastal California gnatcatcher is abundant throughout the vicinity of the project site and a loss of a limited amount of suitable habitat would therefore be negligible.

Several additional special-status plants were found within the project site, including intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), Catalina mariposa lily (*Calochortus catalinae*), paniculate tarplant (*Deinandra paniculata*), Nuttall's scrub oak (*Quercus dumosa*), Southern California black walnut (*Juglans californica*), and Coulter's matilija poppy (*Romneya coulteri*). Intermediate mariposa-lily and Nuttall's scrub oak have a California Rare Plant Rank (CRPR) of 1B which indicates these plants are rare, threatened, or endangered in California and impacts to these species may be significant. Mitigation Measures BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-4 (biological monitoring), and BIO-5 (environmental training), would reduce the level of impact to these species to a less-than-significant level. Impacts would be avoided by (1) requiring a pre-construction clearance survey for special-status species, (2) identifying buffer areas around any special-status biological resources within or near the project site, and (3) conducting biological monitoring and environmental training.

Paniculate tarplant, Catalina mariposa lily, Southern California black walnut, and Coulter's matillija poppy all have a CRPR of 4, which indicates that these species have a limited range but are not considered to be rare, threatened, or endangered in California. As such, impacts to these species are not expected to be significant and no mitigation is required.

Two additional special-status wildlife species were found within the project site including yellow warbler (*Setophaga petechia*) and red-diamond rattlesnake (*Crotalus ruber*). These species are State Species of Special Concern as designated by the California Department of Fish and Wildlife (CDFW). Impacts to these species may be significant and could include harass, harm, pursue, wound, or kill. With implementation of Mitigation Measures BIO-1 (designation of a Project Biologist), BIO-2 (pre-construction survey for special-status species), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), impacts to these species would be reduced to a less-than-significant level. Impacts would be avoided by (1) avoiding nesting season if possible, (2) requiring a pre-construction clearance survey for special-status species, (3) requiring a pre-construction clearance surveys during bird nesting season, (4) identifying buffer areas around any bird nest or special-status biological resources within or near the project site, and (5) conducting environmental training.

The federal Migratory Bird Treaty Act (MBTA) and California Fish and Game Code Sections 3503, 3503.5, and 3513 prohibit take of migratory birds, including eggs or active nests, except as permitted by regulation (e.g., licensed hunting). Mitigation Measures BIO-1 (designation of a Project Biologist), BIO-3 (nesting bird avoidance), BIO-4 (biological monitoring), and BIO-5 (environmental training), would avoid potential "take" or other adverse impacts to nesting birds by (1) avoiding nesting

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

season if possible, (2) requiring a pre-construction clearance surveys during bird nesting season, (3) identifying buffer areas around any bird nest within or near the project site, and (4) conducting environmental training.

Mitigation Measures

BIO-1 The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), conducting worker training (MM BIO-5), and flagging drainages (MM BIO-6). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.

BIO-2 Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist should search for nesting birds, special-status plants, and other special-status species. Any special-status species or sensitive resources shall be flagged and avoided, as feasible. If Laguna Beach dudleya are located within the project site, they shall be flagged, and a 50-foot buffer installed. Intermediate mariposa-lily and Nuttall's scrub oak shall be flagged with and a 15-foot buffer installed. No work will be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer.

BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from February 15 through August 15), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities will be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure the goats do not enter the nesting bird buffer.

BIO-4 The Project Biologist shall be present on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures.

BIO-5 The Project Biologist shall conduct training to ensure that all workers (including goat herders) on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers will be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training the Project Biologist will briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers will be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.

b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		☐	☐	☐	☒

No Impacts. The northern-most portion of the project site is traversed by Laguna Creek, which contains 0.76 acres of arroyo willow thickets. This vegetation is not identified as a sensitive natural community but is considered riparian habitat pursuant to Section 1602 of the California Fish and Game Code. Impacts to riparian habitat could be considered a significant impact pursuant to CEQA; however, the project proposes to avoid all impacts to arroyo willow thickets. Therefore, no significant impacts to riparian habitat or other sensitive natural communities would occur.

4. **BIOLOGICAL RESOURCES. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	7, 8	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. An assessment of jurisdictional features within the project site was conducted by Glenn Lukos Associates and Aspen Environmental Group (see Appendices B and C). Approximately 25 ephemeral drainages occur within the project site. Alteration to these drainages would necessitate authorization from the United States Army Corps of Engineers in Section 404 of the Clean Water Act and the California Regional Water Quality Control Board in Section 401 of the Clean Water Act. In addition, the streambeds and any adjacent riparian vegetation on the project site are regulated under Section 1600 of the California Fish and Game Code and alteration to these features would necessitate authorization from the CDFW. With the implementation of Mitigation Measure BIO-6 (drainage avoidance), the proposed project would avoid all potential impacts to jurisdictional streambeds and riparian vegetation, reducing impacts to below a level of significance.

Mitigation Measure

BIO-6 The Project Biologist shall flag the limits of all drainages crossing through or entering the project site for avoidance. The flagging will be installed 25 feet from the edges of the drainage or to the edge of riparian vegetation, whichever is a greater distance. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. The proposed project is in natural lands at the edge of residential and commercial development. It supports limited wildlife movement as a result of the surrounding development and steep terrain. Movement through the project site appears to be limited to low-lying canyon bottoms and is not likely to occur in areas immediately adjacent to residential development where fuel modification activities are proposed. Additionally, the proposed project is not expected to erect any permanent barriers to wildlife movement or alter wildlife movement through the area; therefore, the proposed project would have no significant impact on wildlife movement.

The project site provides suitable nesting habitat for many birds and nursery sites for other wildlife species. Impacts to nesting bird will be avoided with implementation of Mitigation Measure BIO-3 (nesting bird avoidance) as discussed above for question (a). No additional mitigation measures are needed to reduce the level of impacts to a less-than-significant level. Any impacts to common wildlife species would be less than significant given the abundance of similar habitat throughout the vicinity of the project site.

e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	7	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. The project site is located within the coastal zone, which is under the permitting authority of the City of Laguna Beach through the City's Local Coastal Program. In addition, the City has inventoried biological resources occurring within the City and has designated several categories of habitat value, ranging from low value habitats to very high value habitats. A portion of the project site occurs within an area designated as a high value habitat. The City requires that all development proposals, including fuel modification proposals, located within or adjacent to high value or very high value habitat, undergo detailed biological assessments (GLA, 2019). Pursuant to the City's general plan, these biological assessments are to utilize the biological value criteria specified in the City's Biological Resource Inventories to conduct an updated, and smaller-scale assessment of the resources present on site.

The proposed project would impact 3.16 acres of High and Very High Value Habitats consisting of coastal sage or chaparral habitats. The project proposes to reduce the cover within these areas by up to 50 percent with selective thinning for a total of 1.58 acres of habitat loss, which would be a significant impact. To mitigate for this loss of habitat, Mitigation Measure BIO-7 would require the City to create 3.0 acres of coastal sage scrub/chaparral habitat and enhance an additional 1.5 acres of similar habitat to offset impacts at a 2.85:1 ratio (4.5 acres). With implementation of Mitigation Measure BIO-7, impacts to High and Very High Habitat would be less than significant.

4. BIOLOGICAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

Additionally, to protect watershed areas and natural watercourses, the City has designated certain drainage features throughout the City as "significant drainage courses." Avoidance of these drainage courses is recommended within the City's General Plan to minimize the likelihood of disasters such as flooding and mudslides, and to protect water supply, water quality, and valuable habitat lands and ecological systems. As discussed under question (c), 25 segments of significant drainages cross or partially intersect the project site. With implementation of Mitigation Measure BIO-6, which requires all drainages to be flagged and avoided, impacts to drainages would be less than significant.

Lastly, for areas with coast live oak or western sycamore trees, trees will not be removed. Rather, as set forth in the City's protocol, large trees such as oaks and sycamores shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed (Appendix A). With implementation of these practices as shown in Appendix A, impacts to the large trees would be less than significant.

Mitigation Measure

BIO-7 The City of Laguna Beach (City) shall create 3.0 acres of native upland habitat that will include coastal sage scrub and chaparral species and shall enhance an additional 1.5 acres of similar habitat. This habitat shall be created and enhanced in and adjacent to Laguna Coast Wilderness Park per the Rattlesnake Canyon Restoration Project and along the west side of Laguna Canyon Road per the Cactus Restoration Project, both proposed by the City. The City shall develop and implement a Habitat Restoration Plan or similar document that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information.

f.	Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?		☐	☐	☐	☒

No Impact. The project site is not within nor would it conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5. CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	9, 10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Two cultural resources surveys were prepared for the project site (see Appendix D). Each included a cultural resources records search, additional research, and a field survey. The cultural resources surveys determined that there are no known cultural resources identified in the FMZ 23 and FMZ 24 project areas. Therefore, no impact would occur to known historical resources. However, previously identified and excavated human remains were found very close to the southern limit of the project area (FMZ 23) at the base of the cliffs at the sewage disposal facility built in 1935. Also nearby is an important rock alcove or shelter up the hillside on the east side of the canyon. There is therefore a low to moderate chance of inadvertent discoveries. As such, Mitigation Measures CUL-1 and CUL-2 are recommended to reduce impacts to a less-than-significant level.

Mitigation Measures

CUL-1 A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until grading and excavation is complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

CUL-2 Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized

5. CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	9, 10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. The settlement of Laguna Canyon included use of rock shelters naturally formed in the Sandstone formations that make up much of the canyon's geology. These shelters had a lifecycle of having been created by natural forces of rain and wind, were utilized by native people for shelter and ceremony, and then ultimately had been eroded to disuse with many eventually suffering collapse. There is a potential for encountering unknown archaeological resources in talus material at the base of the cliffs where the proposed project is located. As such, Mitigation Measures CUL-1 and CUL-2 are recommended to reduce impacts to a less-than-significant level.

c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	9, 10	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. No human remains, including those interred outside of dedicated cemeteries, are known in the project area. Human remains were uncovered very nearby during construction of the Laguna Beach Sewage disposal facility in 1935. The project area therefore has a low to moderate sensitivity for encountering human remains. As such, Mitigation Measure CUL-3 is recommended to reduce this impact to a less-than-significant level.

Mitigation Measure

CUL-3 All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

6. ENERGY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?		☐	☐	☒	☐

Less Than Significant Impact. The proposed project would consume energy in the form of diesel and gasoline fuels used in off-road equipment (wood chipper) and on-road vehicles and hand-held equipment (chainsaws). The proposed project is designed to efficiently remove areas of heavy vegetation that pose a wildfire threat. This efficient vegetation control approach includes the use of goats, where feasible, to control vegetation rather than using fuel consuming equipment. Indirectly, the proposed project is designed to reduce the potential for wildfires, which would reduce the potential for much greater future energy consumption events that would otherwise be required for firefighting and fire damage repair without

6. **ENERGY. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

the proposed project. Therefore, the proposed project would not include the wasteful, inefficient, or unnecessary consumption of energy resources.

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?		☐	☐	☒	☐

Less Than Significant Impact. The proposed project does not include renewable energy, restrict renewable energy projects, or restrict the use of renewable energy. The proposed project does not include energy consumption sources that are directly subject to State or local energy efficiency plans. Indirectly, on-road vehicles used during fuel management activities would have to meet the ongoing federal and State fuel efficiency requirements. Therefore, the proposed project would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

7. **GEOLOGY AND SOILS. Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:					
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	11	☐	☐	☐	☒

No Impact. According to the California Geologic Survey's (CGS) California Earthquake Hazards Zone Application, no known Alquist-Priolo earthquake fault zones exist within 10 miles of the project location. Therefore, the fuel modification activities would have no impact on the potential cause of the rupture of an Alquist-Priolo earthquake fault zone. No impact is anticipated.

ii) Strong seismic ground shaking?	12	☐	☐	☒	☐

Less Than Significant Impact. There are two major inactive fault systems in the City of Laguna Beach, which are the Laguna Canyon Fault and the Temple Hills Fault. There is no evidence within the last 11,000 years that suggests that these faults would become active soon. Furthermore, none of the proposed project activities involve the erection of structures or grading, thus eliminating any risk of additional substantial adverse effects to human life and health caused by seismic ground shaking. Impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?	11	☐	☐	☒	☐

Less Than Significant Impact. According to the CGS California Earthquake Hazards Zone Application, FMZ 23 and FMZ 24 are located on the border between liquefaction zones and landslide zones. Laguna Canyon Road is located at the base of Laguna Canyon with moderately steep terrain and would act as a channel for potential liquefaction events. However, the proposed project's activities would not exacerbate seismic-related ground failure such as liquefaction, because measures such as hand removal and goat-grazing would avoid complete removal of vegetation, reducing the probability of a seismic-related ground failure event. In High to Very High value habitat, native vegetation would be left onsite to provide additional soil stability. Therefore, the proposed project would have a less-than-significant impact on causing adverse effects relating to seismic-related ground failure.

iv) Landslides?	1, 13	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. As assessed in the project-specific geotechnical evaluation report (provided as Appendix E to this Initial Study), the overall likelihood of increased gross slope instability as a result of fuel modification is very low. The confirmation of the presence or absence of landslide features was not within the scope of the report; however, FMZ 23 contains evidence of more frequent and larger ancient landslides in steeper areas of hillside terrain (see Figures 7 and 8 in Appendix E). Vegetation would be removed in the spring and summer in these landslide-prone areas within FMZ 23 (see Mitigation Measure GEO-1). The Big Bend portion of FMZ 24 (between Laguna College of Art and Design

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

to the south and Laguna Coast Wilderness Park: Big Bend to the north) is also prone to mud and debris flows, with evidence of additional landslide deposits (see Figures 5 and 6 in Appendix E). As recommended in the geotechnical evaluation report, Mitigation Measure GEO-1 is recommended, which would require the use of spray adhesives, fiber rolls, or jute matting to maintain soil stability in landslide-prone areas in FMZ 23 and 24. The report also provides guidelines outlining goat-grazing as an acceptable method of thinning vegetation, as root systems are retained, grasses are cleared, and the goats can be moved judiciously. The proposed project's use of goat-grazing would comply with this guideline and would be implemented according to the *Treatment Protocols for Fuel Modification Zones* to further reduce the risk of landslides. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measure

GEO-1 The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 23 and the Big Bend portion in FMZ 24:

- Fuel modification activities shall be conducted in the spring and summer
- Spray adhesives, fiber rolls, or jute matting shall be used on a case-by-case basis prior to winter
- Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems

b. Result in substantial soil erosion or the loss of topsoil?	1	☐	☐	☒	☐

Less Than Significant Impact. Although there is potential for project activities to increase soil erosion and topsoil loss, the use of goat-grazing and hand crew treatment would leave up to 50 percent or more of native perennial root systems in the soil to minimize potential for erosion. Goats would be rotated and moved periodically to ensure enough vegetation remains after each grazing period. Natural goat grazing behavior would ensure most root systems remain intact, further reducing erosion risk. Removed native vegetation may be chipped and spread on the ground for erosion protection. Other erosion control methods would include spray adhesives, fiber rolls, or jute matting where necessary. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs. The proposed project would not use heavy machinery that would disrupt a substantial amount of topsoil. Therefore, impacts to soil erosion or loss of topsoil would be less than significant.

c. Be located on geologic units or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	13	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. According to the geotechnical report (see Initial Study Appendix E), portions of FMZ 23 have evidence of several ancient landslides in the upslope and flanking hillside terrain and are of undetermined stability. The Big Bend portion of FMZ 24 is also naturally susceptible to mud and debris flows. Mitigation Measure GEO-1 would reduce the risk of landslides and liquefaction in areas of unstable geologic units. Therefore, impacts would be less than significant with mitigation incorporated.

d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*		☐	☐	☐	☒

No Impact. Under the proposed project, no new structures or buildings would be built. No impact from expansive soil would occur.

e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?		☐	☐	☐	☒

No Impact. The proposed project would not require the development or use of any septic systems. No impact from soils incapable of supporting wastewater would occur.

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	14, 15	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Two paleontological resource reports were completed covering the project area (see Appendix F). As determined in these reports, the proposed project may contain unique paleontological resources, but does not contain unique geologic features. Proposed project ground disturbance would be minimal and remain surficial, but vegetation removal could create new exposures, revealing fossils, which could be unintentionally disturbed, damaged, or destroyed. Therefore, the following mitigation measure is recommended to ensure impacts to scientifically significant paleontological resources are reduced to a less-than-significant level.

Mitigation Measure

GEO-2 If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection.

8. GREENHOUSE GAS EMISSIONS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?		☐	☐	☒	☐

Less Than Significant Impact. The determination of project significant greenhouse gas (GHG) emission levels can be determined via many methods depending on the type of project, such as by per capita emissions thresholds or total project annual emissions. Per capita thresholds are most relevant to new residential construction projects, or similar projects that have a clear per capita use that can be expressed. For this type of project, an annual GHG emissions threshold would be more appropriate. There are many such thresholds proposed for use by different agencies for different project types; however, the City of Laguna Beach has not approved the use of any CEQA GHG emissions significance thresholds. The SCAQMD has proposed, but not adopted, the use of a "bright line" GHG emissions significance threshold of 3,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) emissions per year for non-stationary source projects. Other local jurisdictions in Southern California have approved this significance threshold, which is considered reasonable and appropriate for the proposed project. The proposed project's emissions include temporary emissions from vehicles, chainsaws, and a wood chipper. Biogenic emissions from the project's use of goats are not considered to be a GHG emissions increase, as the project would not increase the goat population or their biogenic GHG emissions. The proposed project's total GHG emissions would be substantially below the significance threshold of 3,000 MT CO_2e (<20 MT CO_2e); therefore, the proposed project's GHG emissions impacts would be less than significant.

b. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?		☐	☐	☒	☐

Less Than Significant Impact. Applicable plans adopted for the purpose of reducing GHG emissions include the most recent California Air Resources Board's (CARB) Scoping Plan Update, SCAG's 2016-2040 Regional Transportation Plan (RTP)/ Sustainable Communities Strategy (SCS), and the City of Laguna Beach Climate Protection Action Plan. The proposed project would temporarily generate small amounts of GHG emissions during fuel modification activities by using small off-road equipment items such as chain saws and a wood chipper; and through the necessary vehicle trips for the workers commute, contractor work trucks, and waste and goat haul trucks. The proposed project would not change the project site area's use and would not result in any long-term emissions. The proposed project would also appropriately dispose of green waste, native green waste would be mulched and applied on the project site, and non-native green waste would be sent to a green waste recycler. These disposal methods conform with State and City GHG emissions reduction goals to maximize recycling and minimize landfill waste. Therefore, the proposed project would not conflict with any applicable plan, policy, or regulations adopted for the purpose of reducing the GHG emissions. Impacts are less than significant.

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	1	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. The proposed project would not involve the routine transport, use, or disposal of hazardous materials. Equipment would be limited to hand tools (e.g. chainsaws, brush-cutters), chippers, and trucks during temporary fuel modification activities. Many of these tools would be powered by gas and/or diesel fuel. Any onsite refueling would need to occur in a containment system to prevent spills, as required by Mitigation Measure HAZ-1. Similarly, trucks and larger equipment would need to be fueled off site (see Mitigation Measure HAZ-1). Per the City's *Treatment Protocols for Fuel Modification Zones*, herbicides would be used for spot treatment of invasive species, would not occur within 25 feet of any "blue-line" ephemeral drainages or steam courses that cross the treatment areas, and would be specific to the intended use and be used in a manner as not to pose excessive risk to nearby sensitive species or water courses. Herbicides would not be used on a landscape scale to defoliate large expanses of vegetation. Therefore, impacts would be less than significant with mitigation incorporated.

Mitigation Measure

HAZ-1 The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing:

- All power tools shall be fueled in an area clear of fire hazards.
- Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills.
- Any fuel spills shall be cleaned up immediately and properly disposed.
- All trucks and larger equipment, such as chippers, shall be fueled off site.
- Engine fuel shall not be used as a cleaning solvent.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	1	☐	☐	☒	☐

Less Than Significant Impact. Hazardous material use during temporary fuel modification activities would be limited to gas and/or diesel fuel for equipment and herbicides (if spot treatment for invasive species is required). Hazardous materials would not be used or stored onsite in quantities that could create a foreseeable upset or accident condition that could create a significant hazard to the public or the environment. Impacts would be less than significant.

c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	1	☐	☐	☒	☐

Less Than Significant Impact. The proposed project is located adjacent to the Annaliese Elementary School and the Laguna College of Art and Design. Vegetation removal activities proposed in these areas would occur by hand crews. The amount of fuel onsite at any given time and the quantity of emissions from equipment, such as chainsaws, brush-cutters, and chippers, would not create a hazardous condition for students or the public. See discussion under Air Quality (question c). Impacts would be less than significant.

d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	16, 17, 18	☐	☐	☐	☒

No Impact. Hazardous materials sites pursuant to Government Code Section 65962.5 include all hazardous waste facilities subject to corrective action pursuant to Section 25187.5 of the California Health and Safety Code (HSC), all land designated as hazardous waste property or border zone property pursuant to former Article 11 (commencing with Section 25220) of Chapter 6.5 of Division 20 of the HSC, all information received by the Department of Toxic Substances Control (DTSC) on

9. HAZARDS AND HAZARDOUS MATERIALS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

hazardous waste disposals on public land pursuant to HSC Section 25242, and all sites listed pursuant to HSC Section 25356. A review of DTCS's EnviroStor database and the State Water Resources Control Board GeoTracker database, both of which track cleanup, permitting, enforcement, and investigation efforts at facilities with known hazardous waste or groundwater contamination or sites where there may be reasons to investigate further yielded no known hazardous materials site within the proposed project footprint. Several sites were identified within Laguna Canyon; however, all have been cleaned up and have a status of "Completed – Case Closed." No impact would occur.

e.	For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	19	☐	☐	☐	☒

No Impact. The proposed project is not located within an airport land use plan or within two miles of an airport. John Wayne Airport is over 8.5 miles to the northwest of the project site.

f.	Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	20, 21	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would temporarily place vehicles and equipment at access points to allow hand crews and goats to complete fuel management activities. Access points, as identified in the Project Description, would generally be within existing parking lots, vacant lots, metered roadside parking, private roads and driveways. Work would be conducted behind homes, schools, and commercial/industrial properties. Access along roads, especially along State Highway 133, which is a critical evacuation route for Laguna Beach, would be maintained. As such, implementation of the proposed project would not interfere with adopted emergency response plans or emergency evacuation plans.

g.	Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	21, 22	☐	☐	☐	☒

No Impact. The project site lies within designated Very High Fire Hazard Severity Zone as identified by the County of Orange and the Cities of Laguna Beach and Irvine. The area also resides within the California Public Utilities Commission designated Tier 1 Fire Threat area. FMZ 23 and FMZ 24 are within unincorporated Orange County State Responsibility Area (SRA) and the City of Laguna Beach Local Responsibility Area (LRA). The proposed project would reduce the risk of wildland fires by removing vegetation cover within 100 feet of residences, businesses, schools, and commercial properties, thereby reducing fire threats to people and structures. Additional fire safety and prevention measures during fuel management activities would include requiring fire extinguishers and hand tools on site, prohibiting smoking, prohibiting operation of power tools during red flag warnings, and implementing proper fueling locations and practices. This impact would be beneficial, and no adverse impacts would occur.

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	1, 23, 24, 25	☐	☐	☒	☐

Less Than Significant Impact. The proposed project area drains directly to Laguna Canyon Creek and from there to the Pacific Ocean at Laguna Beach approximately 0.6 to 3 miles downstream. Impacts to water quality could be produced by the disturbance of topsoil and reduction in vegetative cover resulting in increased sediment delivery to Laguna Canyon Creek, by the addition of organic sediments and bacteria from the droppings of the goats, and by herbicides.

Over half of the proposed treatment area would be by hand crews using chainsaws, brush-cutters, and other hand tools. This will minimize the potential for fuels and lubricants normally associated with larger mechanized equipment and will minimize the disturbance of soil that could cause displacement of sediment to surface waters. Several Best Management Practices are proposed to reduce the potential for water contamination, as described in the Project Description. For example, the treatment area has been evaluated by a geologist for stability and flood/debris movement potential and unstable areas have

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact

been removed from the treatment area or treatment modified to avoid inducing land movement. Where possible, watercourses have been given a 25-foot buffer from treatment (except for removal of invasive plants). Native vegetation may be chipped and spread on the ground, which will act as a deterrent to surface erosion. Roots of perennial plants would be left in place to reduce erosion where possible. Mulch and other erosion-control measures such as straw wattles and/or jute netting would be installed as necessary for erosion protection as recommended in site geotechnical reports. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs. Trash and litter found on the site would be removed.

Goat grazing is proposed for a total of 17.4 acres of the proposed project. Although grazing (not specifically by goats) has contributed to the impairment of waters in the past in California, nearly all of these have been in northern and central California. Laguna Canyon Creek and the downstream Pacific Ocean are not considered to be impaired by the State Water Resources Control Board, although just upstream of the proposed project area Laguna Canyon Creek is impaired due in part to bacteria from an unknown source.

The Laguna Canyon Watershed is 10.5 square miles in area, meaning the grazing treatment area represents 0.26 percent of the overall watershed area. Grazing treatment protocols include protection of sensitive plant areas, allowing shaded areas to remain in woody habitat, moving the goats periodically to allow enough vegetated cover to promote erosion control and inhibit dust, and limits grazing to 100-foot widths. The proposed treatment protocols, together with the small area being grazed in comparison to the watershed, indicate that the goat grazing operation would not create a significant adverse effect to water quality. This conclusion is supported by Order No. R9-2014-0041 from the San Diego Regional Water Quality Control Board (under whose jurisdiction the project lies) which includes a water quality waiver for discharges from grazing lands. The proposed project would be subject to the conditions of this waiver which concludes that the operations are unlikely to affect the quality of Waters of the State.

Herbicide use would be limited to spot treatment of invasive species as identified by a biologist and used in a manner as to not pose an excessive risk to watercourses. Herbicide use would be subject to the conditions of the Municipal Separate Storm Sewer System (MS4) Permit for the San Diego Region of the State Water Resources Control Board.

Based on the above considerations, this impact is determined to be less than significant.

b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?		☐	☐	☐	☒

No Impact. The proposed project would not use any groundwater supplies, nor would it increase impervious areas or otherwise interfere with recharge. No impact would occur.

c.	Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces,in a manner which would:					
	(i) result in substantial erosion or siltation on- or off-site;	1	☐	☐	☒	☐

Less Than Significant Impact. There is a potential for increased erosion and siltation into Laguna Canyon Creek resulting from the removal of vegetative cover. However, the proposed treatments completed by hand crews and goat grazing, which would minimize disturbance of soil that could cause displacement of sediment to surface waters. The treatment area has been evaluated by a geologist for stability and flood/debris movement potential and unstable areas have been removed from the treatment area or treatment modified to avoid inducing land movement. Most watercourses would be given a 25-foot buffer from treatment (except for removal of invasive plants). Native vegetation may be chipped and spread on the ground, which will act as a deterrent to surface erosion. Roots of perennial plants would be left in place to reduce erosion where possible. Mulch and other erosion-control measures, such as straw wattles and/or jute netting, would be installed as necessary for erosion protection. Haul paths would be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33 percent or 1:3 grade) would be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs. The total area to be treated is 44.3 acres which represents only a small portion (0.66 percent) of the overall Laguna Canyon watershed area. Therefore, impacts to existing drainage patterns would be less than significant.

10. HYDROLOGY AND WATER QUALITY. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	1	☐	☐	☒	☐

Less Than Significant Impact. There is a potential for increased runoff into Laguna Canyon Creek resulting from the removal of vegetative cover and corresponding increase in potential for the land to produce runoff. This impact is considered less than significant primarily due to the small size of the area to be treated in comparison to the Laguna Canyon watershed (See (i) above). Increased runoff would be further reduced by chipping and spreading native vegetation on the ground, leaving roots of perennial plants in place, using mulch and straw wattles for erosion protection, and leaving some vegetative cover in place.

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	1, 23	☐	☐	☒	☐

Less Than Significant Impact. Runoff from the project site would go into the Laguna Canyon Creek channel, which is a constructed flood-control channel. A small to negligible increase in flood discharge could result from the proposed project, but this increase would be less than significant as described under (ii) above. The area to be treated is a very small fraction of the watershed area and the reduction in vegetative cover would be offset by leaving ground cover in the form of mulch. No sources of pollution would be produced other than those described under (a) above.

(iv) impede or redirect flood flows?		☐	☐	☐	☒

No Impact. The proposed project would remove vegetative cover, which would not alter the terrain or install structures that could impede or redirect flood flows. No impact will occur.

d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	26	☐	☐	☒	☐

Less Than Significant Impact. Based on the *California Emergency Management Agency Tsunami Inundation Map Laguna Beach Quadrangle* the proposed project is not within a tsunami inundation zone. Seiches are wave inundation produced on large lakes. There are no lakes adjacent to the project site and therefore no possibility of seiche. Except as described under item (a), the proposed project would produce no pollutants that could affect flood waters. As such, flood hazard impacts would be less than significant.

e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		☐	☐	☐	☒

No Impact. The proposed project would have no effect on groundwater as all work would be completed by hand crews or goat grazing and has no features that could conflict with or obstruct a water quality control plan.

	11. LAND USE PLANNING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a.	Physically divide an established community?		☐	☐	☐	☒

No Impact. The proposed project would not result in any structures that would physically divide an established community. The proposed fuel breaks would be located on the outer edges of urban development. No impact is anticipated.

11. LAND USE PLANNING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	12, 27, 28, 29, 30, 31, 32, 33	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would primarily occur within the planning boundary of the City of Laguna Beach, with portions of the project extending into unincorporated County land. Project activities would be subject to the policies of the City's General Plan and Local Coastal Program (LCP), the County's General Plan, the management plans for the Laguna Coast Wilderness Park and Aliso and Woods Canyon Wilderness Park, and the California Coastal Act. Appendix G to this Initial Study identifies the relevant policies from these applicable plans and demonstrates the project's consistency with these policies. The proposed project would have a less-than-significant impact because it does not conflict with any land use plan, policy, or regulation.

12. MINERAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	34	☐	☐	☐	☒

No Impact. According to the California Department of Conservation's Generalized Aggregate Resource Classification Map, FMZ 23 and FMZ 24 are in mineral resources zone (MRZ) 1 and MRZ 3. MRZ 1 is defined as areas where no significant aggregate deposits are present, or where presence is unlikely. MRZ 3 is defined as areas where inadequate information is available to determine the significance of deposit presence. Fuel modification activities would not result in the loss of availability of a known valuable regional or State mineral resource. Therefore, no impact is anticipated.

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	28, 29, 30, 31	☐	☐	☐	☒

No Impact. No locally important mineral resource recovery sites are delineated in the City of Laguna Beach General Plan or other applicable land use plan or specific plan. No impact would occur.

13. NOISE. Would the project result in:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	35, 36	☐	☐	☒	☐

Less Than Significant Impact. No new development or land uses are proposed that would generate noise levels in excess of established standards. The proposed project, which is limited to construction-type activities and maintenance, would be completed in compliance with the City of Laguna Beach Noise Ordinance (Title 7 Health and Sanitation, Chapter 7.25 Noise, Section 7.25.080 Construction activity noise regulations) and Orange County noise regulations (Title 4 – Health Sanitation and Animal Regulations, Division 6 – Noise Control, Section 4-6-7 – Special Provisions). Under these regulations, construction noise is allowed between 7:30am and 6:00pm Monday-Friday within the City of Laguna Beach and between 7:00am-8:00pm Monday-Saturday within unincorporated areas of Orange County; no construction activities are allowed on federal holidays. Work completed by hand crews, which would involve the use of mechanical equipment, such as chainsaws and a wood chipper, would be limited to Monday-Friday 8am-5pm and would not occur on federal holidays. Therefore, a less-than-significant impact would occur.

13. NOISE. Would the project result in:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
b. Generation of excessive groundborne vibration or groundborne noise levels?	37	☐	☐	☒	☐

Less Than Significant Impact. Equipment used during vegetation clearing activities would be limited to wood chipper, chainsaws, brush-cutters, and hand tools. This equipment would not generate excessive groundborne vibration or noise levels. Chippers used to create mulch, however, could generate groundborne vibrations. Vibrations generated would attenuate quickly at short distances (within 200 feet or less) and would not be at a level to cause building damage. Any vibrations from equipment would be negligible to nearby structures and would not result in significant impacts.

c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	19	☐	☐	☐	☒

No Impact. The proposed project is not located in the vicinity of a private airstrip or within an airport land use plan. John Wayne Airport is over 8.5 miles to the northwest of the project site.

14. POPULATION AND HOUSING. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?		☐	☐	☐	☒

No Impact. The proposed project would not introduce any new development that would directly or indirectly induce substantial unplanned population growth. No impact would occur.

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?		☐	☐	☐	☒

No Impact. The proposed project would not create any new development or involve demolition that would displace people or housing. No impact would occur.

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

No Impact. The proposed project would not involve any construction activities nor would it require increased fire protection services. Instead, it would enhance fire safety and reduce wildfire hazards for the public. No new or physically altered fire facilities would be necessary and no impact is anticipated.

b. Police protection?		☐	☐	☐	☒

No Impact. The proposed project is not a development project and would not result in any substantial population increase or new structures that require increased police protection. No impact is anticipated.

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

No Impact. The proposed project is not a development project and would not create demands for new or expanded school facilities. The fuel breaks would instead provide protection to the following two existing schools in FMZ 24: Anneliese School and Laguna College of Art and Design. No impact is anticipated.

d. Parks?		☐	☐	☐	☒

No Impact. The proposed project is not a development project and would not increase the demand for parks. The proposed project would not affect the park service ratio and no new or expanded parks would be necessary. No impact is anticipated.

e. Other public facilities?		☐	☐	☐	☒

No Impact. The proposed project is not a development project that would affect other public facilities such as library services or hospitals. The proposed project would not increase demands for such public services or otherwise affect performance objectives. No impact is anticipated.

16. RECREATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?		☐	☐	☐	☒

No Impact. Some portions of the fuel breaks would occur within Laguna Coast Wilderness Park and Aliso and Woods Canyon Wilderness Park and would be in the vicinity of Crystal Cove State Park. None of the proposed fuel modification activities would increase use of these parks. The proposed project would neither cause a population increase nor create new developments that would increase the use of existing recreational facilities. Therefore, no substantial physical deterioration of recreational facilities would occur or be accelerated. No impact is anticipated.

b. Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?		☐	☐	☐	☒

No Impact. The proposed project does not include any recreational facilities or require the construction or expansion of recreational facilities. Therefore, no impact would occur.

17. TRANSPORTATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	38, 39	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would include the use of several vehicles to transport up to an estimated maximum of 14 crew members and equipment, and a trailer to transport a an estimated maximum of 150 goats. Because there are no major construction activities that would require a substantial number of workers and large equipment, the number of vehicles is expected to be minimal and temporary, and as a result, have nominal impact on local traffic conditions.

17. TRANSPORTATION. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
According to the CalTrans Traffic Volumes report from 2017, approximately 36,300 to 37,500 vehicles travel on Laguna Canyon Road between Canyon Acres Drive within FMZ 23 and El Toro Road within FMZ 24. The addition of a few vehicles for the proposed project would not add a substantial amount of traffic to existing traffic volume. The fuel modification activities would not conflict with any of the policies as outlined in the City General Plan's Transportation, Circulation, and Growth Management Element. Therefore, there would be a less than significant impact on the City's circulation policy.					
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?		☐	☐	☒	☐
Less Than Significant Impact. Section 15064.3 of the CEQA Guidelines describes vehicle miles traveled (VMT) as an appropriate measure of transportation impacts. In this case, VMT is analyzed qualitatively as the project is most similar to a construction project. The proposed project would involve such a small quantity of vehicles, trips, and total VMT that it would not have a substantial effect on the level of service on Laguna Canyon Road and other associated roads. Impacts would be less than significant.					
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?		☐	☐	☐	☒
No Impact. The proposed project would not introduce any new geometric design features to roads or include incompatible uses that would substantially increase road hazards. Transportation uses involved in the proposed project would only include compatible uses such as trucks to transport hand crew personnel and trailers to transport goats. No impact would occur.					
d. Result in inadequate emergency access?		☐	☐	☐	☒
No Impact. FMZ 23 and FMZ 24 would each have multiple access points that would also serve as potential staging areas and emergency access if needed. If used as staging areas, most of the access points are vacant lots and private roads and would not impede on the general public's need for emergency access. Therefore, no impact to emergency access would occur.					

18. TRIBAL CULTURAL RESOURCES. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:					
(i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or		☐	☐	☐	☒
No Impact. No historical resources listed in, or considered eligible for listing in, the California Register of Historical Resources occur in the project area or would be affected by the proposed project.					

18. TRIBAL CULTURAL RESOURCES. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
(ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		☐	☐	☐	☐

No Impact. No historical resources listed in, or considered eligible for listing in, the California Register of Historical Resources occur in the project area or would be affected by the proposed project. In accordance with Public Resources Code Section 21080.3.1, the City requested a tribal consultation contact list for Orange County from the Native American Heritage Commission (NAHC) in December 2018. The NAHC provided a list of 22 Native American contacts. The City sent each Tribe a notification of the proposed project with a request for them to respond within the 30-day required period as to whether they would like to consult on the proposed project. Three Tribes responded stating they do not have cultural affiliations with the project area.

19. UTILITIES AND SERVICE SYSTEMS. **Would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?		☐	☐	☐	☒

No Impact. The proposed project would not include any new development and the site would remain undeveloped. No utilities or other service systems would be needed. No impact would occur.

b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?		☐	☐	☐	☒

No Impact. The proposed project would not include any development and the site would remain undeveloped. No water supplies would be needed to serve the project. No impact would occur.

c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?		☐	☐	☐	☒

No Impact. The proposed project would not include any development and the site would remain undeveloped. It would not require wastewater treatment. No impact would occur.

19. UTILITIES AND SERVICE SYSTEMS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?		☐	☐	☐	☒

No Impact. The proposed fuel modification activities would only generate green waste. The amount of green waste would be minimal compared to the amount of solid waste generated by the general public on a daily basis. Of the total amount of green waste generated, native green waste would be left onsite, while the majority of non-native green waste would be consumed by goats, reducing the amount of green waste hauling required. The remaining non-native green waste would most likely consist of non-native tree debris, which would be hauled to a green waste recycling facility or landfill. The total amount of solid waste is not expected to be in excess of the capacity of local infrastructure. Therefore, no impact would occur.

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?		☐	☐	☐	☒

No Impact. The proposed project would not generate solid waste other than green waste, which would be converted to mulch and left in place or be taken to a green waste recycling facility or landfill. The proposed project would not conflict with federal, state, or local statues and regulations related to solid waste.

20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?		☐	☐	☐	☒

No Impact. The proposed project would not substantially impair the city's adopted emergency response plan and would instead improve wildfire response. Fuel breaks would create defensible space between wildfires and urban development to reduce risk of ignition. Therefore, no impacts would occur.

b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?		☐	☐	☐	☒

No Impact. Removal of fuels in the wildland-urban interface would reduce the risk of flammability in developed areas. Therefore, project occupants would not be exposed to hazards from exacerbated wildfire risks. No impact would occur.

c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?		☐	☐	☐	☒

No Impact. The proposed project aims to create and maintain fuel breaks with the intention of reducing fire risk to nearby urban structures. It would not exacerbate fire risks and thus would not require installation or maintenance of infrastructure to reduce those risks. No impact would occur.

20. WILDFIRE. If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, **would the project:**	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	1, 13	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Fuel modification activities would remove vegetation cover in landslide-prone areas in FMZ 23. However, the proposed project would implement treatment protocols and comply with the geotechnical report's suggested method of goat-grazing as a fuel removal method for seasonal grasses because it would minimize root removal, thus maintaining stable topsoil and reducing runoff. Additionally, although the Big Bend portion of FMZ 24 (between Laguna College of Art and Design to the south and Laguna Coast Wilderness Park: Big Bend to the north) is prone to heavy runoff, spring or early summer fuel modification at the base of the slope should not exacerbate the future mudflow potential. Mitigation measures for unstable geologic units within FMZ 23 and FMZ 24 are discussed in Mitigation Measure GEO-1. Vegetation reductions at the base of slopes generally would not increase the volume of runoff and surface sediment losses from upper hillsides. Flooding, landslides, and post-fire slope instability impacts would be less than significant with mitigation incorporated.

21. MANDATORY FINDINGS OF SIGNIFICANCE	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Section 4, Biological Resources, discusses the potential impacts to wildlife, plants, and the quality of the environment as well as any required mitigation measures. See Mitigation Measures BIO-1 through BIO-7. Section 5, Cultural Resources, and Section 18, Tribal Cultural Resources, discuss impacts that would be less than significant to historic and prehistoric California artifacts and remains with mitigation incorporated. See Mitigation Measures CUL-1, CUL-2, and CUL-3. Additionally, impacts to paleontological resources would be minimized with implementation of Mitigation Measure GEO-2. Impacts to these resources would be less than significant with mitigation incorporated.

b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)		☐	☐	☒	☐

Less Than Significant Impact. Impacts that may contribute cumulatively with concurrent or past projects may include air quality, greenhouse gases, noise, and transportation. The proposed project would utilize a minimal number of vehicles and motorized hand equipment that would not significantly contribute to the impacts of other projects. Due to the highly localized, temporary, and brief nature of the proposed project, these impacts are expected to remain less than significant.

21. MANDATORY FINDINGS OF SIGNIFICANCE	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
c. Does the project have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?		☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. As discussed in Section 9, Hazards and Hazardous Materials, gas or diesel would be used to fuel equipment. Mitigation Measure HAZ-1 would mitigate any fuel spillage hazards to avoid potential adverse effects on human beings. Section 7, Geology and Soils, refers to the geotechnical report (Appendix E) findings of areas of potential soil unit instability within FMZ 23 and FMZ 24. Section 20(d) of Wildfire also discusses the potential for post-fire downslope landslides. Mitigation Measure GEO-1 would mitigate landslide, mudflow, and general soil instability risks mentioned in these two sections. Implementing these mitigation measures would lessen impacts and potential effects on human beings to a less-than-significant level.

22. SOURCE REFERENCES

1	City of Laguna Beach Fire Department. 2018. Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting.
2	City of Laguna Beach. 2018. Laguna Beach General Plan (Landscape and Scenic Highways Element). Accessed July 1, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?BlobID=2691.
3	County of Orange. 2005. County of Orange General Plan, Chapter IV Scenic Highway Plan Map. Accessed July 2, 2019. https://www.ocgov.com/civicax/filebank/blobdload.aspx?blobid=8588.
4	California Department of Conservation. 2016. Orange County Important Farmland 2016. Accessed July 2, 2019. https://www.conservation.ca.gov/dlrp/fmmp/Pages/Orange.aspx.
5	City of Laguna Beach. City of Laguna Beach GIS Map. Accessed July 2, 2019. http://gisweb.lagunabeachcity.net/Html5Viewer/index.html?configBase=http://gisweb.lagunabeachcity.net/Geocortex/Essentials/REST/sites/GISMap3/viewers/HTML5_22/virtualdirectory/Resources/Config/Default.
6	California Department of Conservation. 2004. Agricultural Preserves 2004: Williamson Act Parcels Orange County, California. Accessed July 2, 2019. ftp://ftp.consrv.ca.gov/pub/dlrp/wa/.
7	Glenn Lukos Associates (GLA). 2019. Biological Technical Report for Proposed Fuel Modification Zones 23 & 24 in the Canyon Acres Area and Laguna Canyon Road, Laguna Beach, Orange County, California. Provided as Appendix B to this document.
8	Wood, Justin M. 2019. Project Memorandum, FMZ 23- Canyon Acres. Biological Resources Survey for the Additional FMZ 23-Canyon Acres Project Area. Aspen Environmental Group, Upland, CA. Provided as Appendix C to this document.
9	LSA. 2019. Cultural Resource Survey Report, Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon), Laguna Beach, Orange County, California. Prepared by Kerrie Collison, RPA at LSA for the City of Laguna Beach Fire Department. March. Provided as Appendix D to this document.
10	Macko, Michael E. 2019. Project Memorandum, FMZ 23-Canyon Acres. Cultural Resources Survey for the Additional FMZ 23-Canyon Acres Project Area. Aspen Environmental Group, Agoura Hills, CA. Provided as Appendix D to this document.
11	California Geological Survey. 2019. "Earthquake Zones of Required Investigation." Accessed July 2, 2019. https://maps.conservation.ca.gov/cgs/EQZApp/app/
12	City of Laguna Beach. 1995. Laguna Beach General Plan (Safety Element). Accessed July 2, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?BlobID=2689.

22. SOURCE REFERENCES

13	Geofirm. 2019, February 19. Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zones 23 and 24, Laguna Canyon and Canyon Acres Area Laguna Beach, California. 4-7. Provided as Appendix E to this document.
14	LSA. 2019. Paleontological Analysis of the Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project, Laguna Beach, Orange County, California. Prepared by Kelly Vreeland, M.Sc. at LSA for the City of Laguna Beach Fire Department. February. Provided as Appendix F to this document.
15	Stewart, Joe. 2019. Project Memorandum, FMZ 23- Canyon Acres. Paleontological Resources Summary for the Additional FMZ 23-Canyon Acres Project Area. Aspen Environmental Group, Agoura Hills, CA. Provided as Appendix F to this document.
16	California Legislative Information. Government Code Title 7, Planning and Land Use, Division 1, Planning and Zoning, Chapter 4.5 Review and Approval of Development Projects, Article 6 Development Permits for Classes of Projects, Section 65962.5. Accessed July 27, 2019. https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=GOV&sectionNum=65962.5
17	California Department of Toxic Substances Control. EnviroStor. 2019. Accessed July 27, 2019. https://www.envirostor.dtsc.ca.gov/public/
18	State Water Resources Control Board. GeoTracker. 2015. Accessed July 27, 2019. https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=laguna+beach
19	Orange County Airport Land Use Commission. 2008. Land Use Plan for John Wayne Airport. Amended April 17, 2008. Figure 1. Accessed June 27, 2019. https://www.ocair.com/commissions/aluc/docs/JWA_AELUP-April-17-2008.pdf
20	Laguna Canyon Foundation. 2019. FMZ 23 (Canyon Acres) & FMZ 24 (Laguna Canyon) Laguna Canyon Unified Fuel Modification and Habitat Restoration Project: Results of Initial Surveys Including Current Conditions and Recommendations for Treatment by Laguna Beach Fire Department, City of Laguna Beach, California. June 20.
21	City of Laguna Beach. 2018. City of Laguna Beach Local Hazard Mitigation Plan: FEMA Approved Plan. June. Accessed July 27, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?blobid=20350
22	California Department of Forestry and Fire Protection (CAL FIRE) California Climate Investment Fire Prevention Program Grant Application Fiscal Year 2017-18 Funding Opportunity for the Laguna Canyon Unified Interface Fuel Break and Habitat Restoration Project. June 4, 2013.
23	OCWCRD (Orange County Watershed & Coastal Resources Division). 2019. Introduction to Laguna Canyon Watershed. [Online] https://web.archive.org/web/20071009194549/http://www.ocwatersheds.com/watersheds/lagunacanyonchannel.asp. Accessed July 1, 2019.
24	SWRCB (State Water Resources Control Board). 2019. Final 2014/2016 California Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report). [Online] https://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2014_2016.shtml. Accessed July 1, 2019.
25	UC Rangelands. 2019. Potential Grazing Related Water Quality Impairments in California. [Online] http://rangelands.ucdavis.edu/water/potential-grazing-related-water-quality-impairments-in-california/. Accessed July 1, 2019.
26	CEMA (California Emergency Management Agency) 2009. Tsunami Inundation Map for Emergency Planning – Laguna Beach Quadrangle. California Emergency Management Agency, California Geological Survey, University of Southern California. March 15.

22. SOURCE REFERENCES

27	City of Laguna Beach. 2018. Laguna Beach General Plan (Land Use Element). Accessed July 2, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?BlobID=8066.
28	City of Laguna Beach. 2006. Laguna Beach General Plan (Open Space/Conservation Element). Accessed July 2, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?BlobID=2688.
29	County of Orange. 2009. Aliso and Wood Canyon Wilderness Park Resource Management Plan. Accessed July 2, 2019. http://www.ocparks.com/civicax/filebank/blobdload.aspx?BlobID=22978.
30	County of Orange. 1998. Laguna Coast Wilderness Park Resource Management Plan.
31	County of Orange. County of Orange General Plan (Recreation Element, Resources Element, Land Use Element, Public Services/Facilities Element, Safety Element). Accessed July 2, 2019. http://www.ocpublicworks.com/ds/planning/generalplan.
32	City of Laguna Beach. 1992. Local Coastal Program. Accessed July 3, 2019. http://www.lagunabeachcity.net/cityhall/cd/planning/lp.htm.
33	California Coastal Commission. Laws & Regulations, The Coastal Act. Accessed July 3, 2019. https://www.coastal.ca.gov/laws/
34	California Department of Conservation. Generalized Aggregate Resource Classification Map, Orange County – Temescal Valley and Adjacent Production – Consumption Regions, 1981. ftp://ftp.consrv.ca.gov/pub/dmg/pubs/sr/SR_143/PartIII/Plate_3-1.pdf
35	City of Laguna Beach. 2019. Laguna Beach Municipal Code. Title 7 Health and Sanitation, Chapter 7.25 Noise, Section 7.25.080 Construction activity noise regulations. Accessed June 27, 2019. https://qcode.us/codes/lagunabeach/view.php?topic=7-7_25-7_25_080&frames=on
36	Orange County. 2019. Orange County Municipal Code. Title 4 – Health Sanitation and Animal Regulations, Division 6 – Noise Control, Section 4-6-7 – Special Provisions.
37	Federal Transit Administration. 2018. Transit Noise and Vibration Impact Assessment Manual. September. Accessed June 27, 2019. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf
38	City of Laguna Beach. 1992. Laguna Beach General Plan (Transportation, Circulation, and Growth Management Element). Accessed July 3, 2019. http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?BlobID=2692.
39	CalTrans. 2017. Caltrans Traffic Volumes 2017. Accessed July 11, 2019. https://data.ca.gov/dataset/caltrans-traffic-volumes/resource/fc5cee63-8d1e-4f78-ae23-68d2ca2e2305#{view-graph:{graphOptions:{hooks:{processOffset:{},bindEvents:{}}}},graphOptions:{hooks:{processOffset:{},bindEvents:{}}}}.

23. MITIGATION MEASURES

For effects that are "Less Than Significant Impact with Mitigation Incorporated," describe the mitigation measure(s) which were incorporated and the extent to which they address site-specific conditions of the project. The responsible person, Department, Agency, etc., that will be responsible for verification and the event or time of verification should also be specified. The following mitigation measures were identified for the proposed project. A Mitigation Monitoring Program is included in Table 6.

4. BIOLOGICAL RESOURCES

4(a). BIO-1 The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), conducting worker training (MM BIO-5), and flagging drainages (MM BIO-6). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species.

4(a). BIO-2 Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist should search for nesting birds, special-status plants, and other special-status species. Any special-status species or sensitive resources shall be flagged and avoided, as feasible. If Laguna Beach dudleya are located within the project site, they shall be flagged, and a 50-foot buffer installed. Intermediate mariposa-lily and Nuttall's scrub oak shall be flagged with and a 15-foot buffer installed. No work will be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer.

4(a, d). BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from February 15 through August 15), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities will be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure the goats do not enter the nesting bird buffer.

4(a). BIO-4 The Project Biologist shall be present on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures.

4(a). BIO-5 The Project Biologist shall conduct training to ensure that all workers (including goat herders) on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers will be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training the Project Biologist will briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers will be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.

4(c, e). BIO-6 The Project Biologist shall flag the limits of all drainages crossing through or entering the project site for avoidance. The flagging will be installed 25 feet from the edges of the drainage or to the edge of riparian vegetation, whichever is a greater distance. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.

4(e). BIO-7 The City of Laguna Beach (City) shall create 3.0 acres of coastal sage scrub/chaparral habitat and enhance an additional 1.5 acres of similar habitat. This habitat shall be created and enhanced in and adjacent to Laguna Coast Wilderness Park per the Rattlesnake Canyon Restoration Project and along the west side of Laguna Canyon Road per the Cactus Restoration Project, both proposed by the City. The City shall develop and implement a Habitat Restoration Plan or similar document that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information.

5. CULTURAL RESOURCES

5(a, b). CUL-1 A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until grading and excavation is complete, or until the monitoring archaeologist, based on field observations, is

satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

5(a, b). CUL-2 Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

5(c). CUL-3 All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

7. GEOLOGY AND SOILS & 20. WILDFIRE

7(a, c), 20(d).

GEO-1 The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 23 and the Big Bend portion in FMZ 24:

- Fuel modification activities shall be conducted in the spring and summer
- Spray adhesives, fiber rolls, or jute matting shall be used on a case-by-case basis prior to winter
- Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems

7(f). GEO-2 If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection.

9. HAZARDS AND HAZARDOUS MATERIALS

9(a). HAZ-1 The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing:

- All power tools shall be fueled in an area clear of fire hazards.
- Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills.
- Any fuel spills shall be cleaned up immediately and properly disposed.
- All trucks and larger equipment, such as chippers, shall be fueled off site.
- Engine fuel shall not be used as a cleaning solvent.

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 23 and FMZ 24

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
4. BIOLOGICAL RESOURCES	4(a)	**BIO-1** The City of Laguna Beach (City) shall assign a qualified biologist to the project (i.e., Project Biologist). The qualified biologist shall be responsible for conducting pre-construction surveys (MM BIO-2), implementing nesting bird avoidance (MM BIO-3), monitoring project activities (MM BIO-4), conducting worker training (MM BIO-5), and flagging drainages (MM BIO-6). The "qualified biologist" is defined as a person with appropriate education, training, and experience to conduct the required surveys, monitor project activities, provide worker education programs, and supervise or perform other monitoring-related actions. The Project Biologist shall be authorized by the City to temporarily halt project activities, if needed, to prevent take of listed species or harm to any other special-status species	City of Laguna Beach Fire Chief	Prior to and during fuel modification activities
	4(a)	**BIO-2** Prior to start of project activities, the Project Biologist shall survey the work area to determine if any special-status species are present. During the survey, the Project Biologist should search for nesting birds, special-status plants, and other special-status species. Any special-status species or sensitive resources shall be flagged and avoided, as feasible. If Laguna Beach dudleya are located within the project site, they shall be flagged, and a 50-foot buffer installed. Intermediate mariposa-lily and Nuttall's scrub oak shall be flagged with and a 15-foot buffer installed. No work will be permitted within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the special-status species buffer.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	4(a, d)	**BIO-3** Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from February 15 through August 15), or after a pre-construction nesting bird survey has been completed. The Project Biologist shall confirm that no birds are nesting in or adjacent to areas to be disturbed. If native birds are nesting on the site, then project activities will be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure the goats do not enter the nesting bird buffer.	City of Laguna Beach Fire Chief	Prior to fuel modification activities outside of bird breeding season
	4(a)	**BIO-4** The Project Biologist shall be present on the project site during vegetation clearing done by hand crews to document compliance with the avoidance and minimization measures and to provide guidance in avoiding or minimizing impacts to biological resources. The Project Biologist shall monitor the goat-grazing treatment areas at least once per week to document compliance with the avoidance and minimization measures.	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 23 and FMZ 24

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
	4(a)	**BIO-5** The Project Biologist shall conduct training to ensure that all workers (including goat herders) on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers will be required to (1) limit all activities to approved work areas; (2) report any special-status species; (3) report any bird nests; (4) avoid contact with any wildlife that may approach a work area, and be aware of potential venomous reptile bites from carelessness or unnecessary harassment; (5) pick up and properly dispose of any food, trash, or construction refuse; and (6) report any spilled materials (e.g., oil, fuel, solvent, engine coolant, raw concrete, or other material potentially hazardous to wildlife) to the supervisor. During the training the Project Biologist will briefly discuss special-status species that may occur in the work areas, their habitats, and requirements to avoid or minimize impacts. In addition, all workers will be informed of civil and criminal penalties for violations of the federal Endangered Species Act, California Endangered Species Act, and the Migratory Bird Treaty Act.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	4(c, e)	**BIO-6** The Project Biologist shall flag the limits of all drainages crossing through or entering the project site for avoidance. The flagging will be installed 25 feet from the edges of the drainage or to the edge of riparian vegetation, whichever is a greater distance. No project related disturbance will be allowed within these buffers. If a buffer is within a goat-grazing treatment area, a secure enclosure shall be installed to ensure goats do not enter the buffer.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	4(e)	**BIO-7** The City of Laguna Beach (City) shall create 3.0 acres of coastal sage scrub/chaparral habitat and enhance an additional 1.5 acres of similar habitat. This habitat shall be created and enhanced in and adjacent to Laguna Coast Wilderness Park per the Rattlesnake Canyon Restoration Project and along the west side of Laguna Canyon Road per the Cactus Restoration Project, both proposed by the City. The City shall develop and implement a Habitat Restoration Plan or similar document that provides all the details of the restoration sites, species to be planted, schedule, maintenance plans, and other pertinent information.	City of Laguna Beach Fire Chief	During or after fuel modification activities
5. CULTURAL RESOURCES	5(a, b)	**CUL-1** A qualified professional archaeologist shall be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until grading and excavation is complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 23 and FMZ 24

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.		
	5(a, b)	**CUL-2** Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.	City of Laguna Beach Fire Chief	Prior to fuel modification activities
	5(c)	**CUL-3** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions. After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the	City of Laguna Beach Fire Chief	During fuel modification activities

Table 6. Mitigation Monitoring Program for Fuel Breaks in FMZ 23 and FMZ 24

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC. According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).		
7. GEOLOGY AND SOILS 20. WILDFIRE	7(a, c) 20(d)	**GEO-1** The City of Laguna Beach shall adhere to the following fuel modification protocols in landslide-prone areas in FMZ 23 and the Big Bend portion in FMZ 24: • Fuel modification activities shall be conducted in the spring and summer • Spray adhesives, fiber rolls, or jute matting shall be used on a case-by-case basis prior to winter • Fuel modification efforts shall be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems	City of Laguna Beach Fire Chief	During fuel modification activities
	7(f)	**GEO-2** If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant resources are collected, a report of findings shall be prepared to document the collection.	City of Laguna Beach Fire Chief	During fuel modification activities
9. HAZARDS AND HAZARDOUS MATERIALS	9(a)	**HAZ-1** The City of Laguna Beach shall include the following provisions or similar in the contractor bid contract for hand clearing: • All power tools shall be fueled in an area clear of fire hazards. • Fueling of power tools in the fuel modification zones shall occur over a containment system (e.g., plastic tray or tub) to catch and prevent spills. • Any fuel spills shall be cleaned up immediately and properly disposed. • All trucks and larger equipment, such as chippers, shall be fueled off site. • Engine fuel shall not be used as a cleaning solvent.	City of Laguna Beach Fire Chief	Prior to fuel modification contract signing

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Appendix A

Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting

The intent of this protocol is to define City procedures for achieving compliance with regulation of the California Coastal Commission, California Environmental Quality Act (CEQA), California Department of Fish and Wildlife, and U.S. Fish and Wildlife Service, (et. al.) regarding fuel modification in zones requiring a Coastal Development Permit.

Fuel Modification Zones (FMZ's) are managed by the City of Laguna Beach under two different approaches;

a. Public Nuisance Abatement sites – Those legacy sites which have a history of long-term grazing disturbance. These sites and their associated management by goat grazing predates the adoption of the Coastal Act and has been judged by the State Attorney General as exempt from the act as a pre-existing condition. This generally refers to sites grazed by goats in FMZ's 1-10.

b. Coastal Development Permit sites- Those sites subject to the Coastal Act for which a Coastal Development Permit must be obtained for fuel modification. This treatment protocol guides fuel modification for these sites, which includes all zones currently maintained under Coastal Development Permits (FMZ's 10-15), and all program expansion sites planned for future development.

Reduction of Fire Behavior Potential

The objective of any fuel modification treatment shall be to achieve at least an average 75% reduction in potential wildfire fire line intensity (energy release), as measured by lame length and rate of spread. In general, a 50% reduction of fuel loading, accomplished by the parameters of this protocol will achieve such a reduction. (*Fuel Modification Impacts to Potential Fire Behavior- A Case Study for the City of Laguna Beach, Rohde, 2017*, and *Catastrophic Wildfire Assessment- City of Laguna Beach, Franklin, 2013*).

Treatment Area Determination:

Fuel Modification treatments will generally be limited to those areas that are within 100 feet of developed properties or structures. Treatments outside of these areas will be limited to removal of targeted invasives, general non-natives weeds control, or tree thinning and dead branch removal. Fuel modification outside of the 100 foot zone shall be conducted with intent to minimize impacts to adjacent intact habitats, serve as partial on-site mitigation for fuel modification impacts when required, or for prevention of fire branding over the fuel break.

The primary methods for vegetation management shall consist of grazing or hand crew modification. Other methods including mechanical mastication, prescribed burning, mass herbicide use, crushing, chaining, or other means of mechanical conversion have been generally eliminated from consideration for environmental, risk, or social/political concerns.

Geotechnical Findings:

Proposed FMZ's shall be evaluated by a qualified geologist for geologic stability and flood/debris movement potential. Treatment within areas determined to be geologically unstable in the geotechnical report may be modified or eliminated. Unstable sites may include historic landslide or debris flow areas, unstable soil or rock structure, or similar sites.

Archeological/Paleontological Findings:

Proposed FMZ's shall be evaluated for archeological and paleontological resources in accordance with CEQA requirements. Such evaluation requires solicitation of tribal interests, survey of data sources for known resources, and site survey. Areas determined to have a presence of identified archaeological and/or paleontological resources may require fuels treatment to be modified or eliminated.

Sensitive Species Protection:

For all Coastal Development Permit FMZ's, a qualified biologist shall inspect proposed fuel modification sites for the presence of sensitive species prior to the initiation of work. If the presence of sensitive species are identified, a trained biological monitor shall be present at all times while work is conducted in the immediate vicinity of identified habitat to ensure no accidental takings occur, and sensitive species are protected. Crews conducting fuel modification work shall receive instruction and training in sensitive species management and avoidance prior to initiation of work.

Sensitive species include those identified in the California Endangered Species Act (CESA), the Native Plant Protection Act (NPPA), the California Environmental Quality Act (CEQA), the Natural Community Conservation Planning Act (NCCPA), California Penal Code Section 384a, or by Federal designation in the Endangered Species Act (F-ESA). Sensitive species shall not be disturbed by fuel modification activities.

Sensitive plant species of principal concern in Laguna Beach include:

1. Big-leaved Crownbeard (*Verbesina dissita*)
2. Intermediate Mariposa Lilly (*Calochortus weedii* var. *intermedius)*
3. Many-Stemmed Dudleya (*Dudleya multicaulis*)
4. Fish's Milkwort (*Polygala cornuta* var. *fishae*)
5. Cliff Spurge (*Euphorbia misera*)
6. Catalina Mariposa Lily (*Calochortus catalinae*)
7. Coulter's Matillija Poppy (*Romneya coulteri*)
8. Western Dichondra (*Dichondra occidentalis*)
9. Laguna Beach Life-forever (*Dudleya stolonifera*)
10. Many-stemmed Dudleya (*Dudleya multicaulus*)

Whenever sensitive plant species are identified, they will be protected by establishing a flagged, 15-foot buffer around all specimens of the sensitive species, inside of which no material shall be initially removed. Such presence and limits shall be effectively communicated to project contractors. Based upon the species identified, its ecology and phenology, hand removal of non-native vegetation within the 15 foot buffer may be initiated at the direction of the biological monitor, if it is determined to be ecologically beneficial for the identified species. For Big-Leaved Crownbeard (*Verbesina dissita*), the potential shading/nurse plant benefit of non-native shrubs would be considered before removing non-native shrubs with such a determination to be made by the biological monitor.

To avoid impacts to nesting and migratory birds, including the Coastal California Gnatcatcher (*Polioptila californica*), removal of vegetation should occur outside of nesting season (February 1 to August 31 in upland habitats) as much as is practicable. If work is conducted during nesting season, a qualified biologist will conduct a Nesting Bird Survey in the work area within 48 hours of the commencement of work. If any are found, a buffer zone will be flagged around the nesting site(s) in compliance with the biologist's recommendations before work commences. Contractor personnel will be directed to check all vegetation for nests before cutting and to cease work in the area immediately if one is found, until a qualified biologist can assess it. If work ceases for more than two days, another nesting bird survey will be required before work can re-commence.

<u>Grazing Treatment Protocols:</u>

Goats will be used to implement grazed fuel modification treatment in areas of Low to Moderate Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* `see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

a. The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive plant species.
b. No more than 75 goats will be permitted per acre.
c. Goats shall remain in secure enclosures at all times.
d. Sensitive plant species shall be protected from trampling or consumption by establishing the secure enclosures a minimum distance of at least 15 feet between sensitive plants and the limits of grazing.
e. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.
f. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80% of the native and 100% of the non-native species in this cover type may be removed in such areas.

g. Goat grazing in woody (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50% of the vegetative cover, and, and provide for a shaded fuel break outcome.
h. Goat grazed fuel breaks should generally be limited to 100 foot width. Penned areas may be extended to a maximum 150 feet when physical obstructions such as rock outcrops, cliffs, water courses etc. prevent reasonable establishment of pens at 100 foot width.
i. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.
j. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.
k. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

Hand Crew Treatment Protocols:

Hand crews will be used to implement fuel modification in areas of High or Very High Habitat Value as defined in the *Laguna Beach Biological Resources Inventory, (Marsh et. al 1983,* see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced, and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

The initial phase of vegetation removal shall include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters and other hand tools.
b. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 feet.
c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for Big-Leaved Crownbeard, as determined by the biological monitor.
d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.
e. Tree-form shrubs (*e.g.* Laurel Sumac (*Malosma laurina*), Toyon (*Heteromeles arbutifolia*), Lemonade Berry (*Rhus integrifolia*)) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50% of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially.
f. For large tree species within FMZ's, non-native trees (P*inus, Eucalyptus*, *Washingtonia*, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native

g. large trees (Quercus, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50% vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50% vegetative cover has been attained:

1. Coastal Goldenbush (*Isocoma menziezii*)
2. California Buckwheat (*Erigonium fasciculatum*),
3. Black Sage (*Salivia mellifera*)
4. California Sagebrush (Artemisia californica)
5. Monkeyflower (*Mimulus aurantiacus*)
6. Laurel Sumac (*Malosma laurinus*)
7. Toyon (*Heteromeles arbutifolia*)
8. Lemonade Berry (*Rhus integrifolia*)

Stumps will be cut to within 4" or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime

Chaparral species including Bush Rue (*Cneoridium dumosum*), Spiny Redberry (*Rhamnus crocea*) and Bigpod Lilac (*Ceanothus megacarpus*) will be retained.

Treatment of Water Courses

Pampas Grass and other invasive plant removal and herbicide treatment will be the primary vegetation management within a 25-foot buffer on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGCS map or City Website) that cross the treatment areas. For long drainages which may form a corridor through which fire may be ushered into residences at the head of drainages, additional site-specific steps may be implemented to establish breaks in fuel continuity within these corridors on a site-specific basis consistent with best environmental practice.

Herbicide Use

Herbicides may be used for spot treatment of invasive species when identified as appropriate by the site biologist. Herbicides shall be specific to the intended use and be used is such a manner as to not pose excessive risk to nearby sensitive species or water courses. Herbicides shall not be used on a landscape scale to defoliate large expanses of fuels.

Erosion Control

The preponderance of roots of perennial plants will be left in place to minimize erosion. Mulch and other erosion control measures (such as straw wattles and/or jute netting) will be installed as necessary for additional protection without being obtrusive, as recommended in site geotechnical reports. Haul paths will be minimized and rehabilitated with mulch or other methods as deemed appropriate by the project biologist. Areas of relatively low slope (i.e., below 33% or 1:3 grade) will be mulched to an adequate depth to minimize weed propagation and ongoing maintenance needs.

Disposal of Cut Materials

All dead and cut material will be disposed of properly. All non-native material will be removed from the site, placed in a truck or dumpster and hauled to a green waste recycler. City contractors will generally be conditioned within their contracts to pay all dump fees related to disposal. Native material will be chipped and used as mulch on-site in areas of moderate slope to reduce erosion and weed propagation. Native material unable to be reused on site will be hauled to a green waste recycler, though efforts will be made to reuse as much native material on site as possible.

Native vegetation under 3 inches in diameter, live or dead, may be processed with hand tools on site and spread in place as mulch as an alternative to hauling and chipping, if it is cut into pieces not exceeding 12 inches, lays flat on the ground, does not cover remaining native plant species and total mulch depth does not exceed 12 inches. All coarse non-native material (e.g., woody debris, Pampas Grass leaves), live or dead, must be removed from the site, including any material dumped in the Project

Area by residents or others. Fine material treated with herbicide (e.g., non-native grasses and annual weeds) may be left on site.

Additional Mitigations

Additional site mitigations may be considered when recommended or required by environmental permitting agencies on a case-by-case basis.

Trash and Litter Found On-site

Trash and litter found throughout the Project Area will be removed from the site and hauled to a landfill.

Site Monitoring and Documentation

An annual monitoring report shall be prepared by the City detailing the following:

1. Dates and locations of vegetation treatment or modification
2. Treatment methods utilized by site
3. Number of acres managed
4. Photos of treatment sites, pre- and post- treatment

5. Description of any violations or failure to meet conditions of the Coastal Development Permit

HABITAT CLASSIFICATION

The following definitions are utilized in the classification of habitat types within the City of Laguna Beach: (Excerpt from: *Laguna Beach Biological Resources Inventory*, *Marsh et. al 1983 pp. 35-36)*

Biological Value Mapping is based on the parameters of habitat integrity and extent, faunal use, and presence of endangered, rare, or locally unique biota. From these, a ranking system was developed of low, medium, high, and very high value habitat. These habitats are classified as follows:

LOW VALUE HABITAT:
Disturbed, impacted sites, often dominated by ruderals, annual plants, and escaped horticulturals. Such areas are usually highly fragmented by, or are contiguous to urban development. These sites are biologically simplified and are of low faunal carrying capacity. Low value habitats do not possess biological constraints to urban development, but may, if developed, be areas where spillover impact adversely affects contiguous higher value settings

MODERATE VALUE HABITAT:
These sites may contain either native vegetation of a specific community type, or ornamental species in a setting providing horizontal and vertical structural diversity. The sites are usually, however, limited in area extent, being contiguous to urban development. Thus their faunal carrying capacity, and often, the native floral species diversity, is lower than "high value" habitats described below.

HIGH VALUE HABITAT:
These are extensive areas dominated by indigenous plant communities which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the city, by wild-fauna transversable open space corridors. Their faunal carrying capacity is good to excellent, many areas are utilized as bedding and foraging sites by mule deer or possess large resident populations of avifauna or native small animals.

VERY-HIGH VALUE HABITAT:
These include the habitats of endangered, rare, or locally unique native plant species (including disjunct and outpost populations). Also included are areas of southern oak Woodland and natural (not irrigation augmented) springs and seeps. Among the very-high value habitats inventoried are areas of significant rock outcrop exposures, because of the assemblages of sensitive plant species which often occupy such settings.

Appendix B

Biological Technical Report for Proposed Fuel Modification Zones 23 & 24

BIOLOGICAL TECHNICAL REPORT FOR PROPOSED FUEL MODIFICATION ZONES 23 & 24 IN THE CANYON ACRES AREA AND LAGUNA CANYON ROAD LAGUNA BEACH, ORANGE COUNTY, CALIFORNIA

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July 2019

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I. SITE LOCATION

This report addresses the biological resources associated with the proposed Fuel Modification Zones 23 and 24 (Study Area) located in the City of Laguna Beach, Orange County, California (Exhibit 1: Regional Map). The Study Area is generally located on both sides of Canyon Acres Drive and areas east of Laguna Canyon Road in Sections 13, 18, and 24 of Township 7 South, Range 9 West of the Laguna Beach, California topographic quadrangle (dated 1965 and photorevised in 1981) [Exhibit 2 – Vicinity Map].

The Fuel Modification Zone 23 study area is located predominantly on the east side of Laguna Canyon Road south of the El Toro Road intersection to Canyon Acres Drive. The Fuel Modification Zone 24 study area is located at Canyon Acres Drive and includes narrow alignments on the north and south sides of the road behind private residences.

II. SITE DESCRIPTION AND PROJECT PURPOSE

As indicated above, the Study Area addressed in this report includes two newly-proposed fuel modification zones that would extend from the edge of residential areas 100 feet into the undeveloped canyons. The initial conceptual fuel modification zones totaled approximately 54 acres; however, the Laguna Canyon Foundation (LCF), conducted a detailed evaluation of the areas, which resulted in refinements and an overall reduction of the area proposed for fuel modification, which as proposed covers approximately 44.2 acres. The proposed fuel modification would require approximately fifty-percent thinning of vegetation as described in more detail below. The Study Area is located on hillsides adjacent to residential housing developments and includes moderate to steep canyons that are vegetated with chaparral and coastal sage scrub habitat, as well as ornamental and non-native vegetation.

In 2017, Laguna Beach Fire Department (LBFD) and Laguna Canyon Foundation (LCF) partnered with the Natural Communities Coalition (NCC), Orange County Parks (OC Parks), the City of Irvine, Orange County Fire Authority and the Greater Laguna Coast Firesafe Council to apply for and receive a $3.1 million grant through the CalFire California Climate Investment Fire Prevention Program. This grant, with matching funds from the City of Laguna Beach and NCC, proposes to fund and implement fuel modification activities in the areas addressed in this report.

The City of Laguna Beach Geographic Information Systems (GIS) database includes 9.58 acres of High Value Habitat within the 44-acre Study Area and an additional 5.12 acres of Very High Value Habitat. The City has also mapped 16 stream segments that are identified as “Significant Drainage Course” that cross or partially intersect the proposed fuel modification areas.

The purpose for conducting biological surveys detailed in this report is to determine where special-status species occur within the Study Area, to provide for avoidance during vegetation thinning. All special-status species detected and mapped during surveys will be clearly identified for avoidance during fuel modification activities and such areas would not be subject to fuel modification activities. In addition, areas mapped as Very High Value Habitat will be subject to special treatment to reduce potential impacts and Significant Drainages Courses, including a 25-foot buffers from edge of each drainage would be subject to avoidance with

limited exceptions such as removal of non-native invasive species. The intent is to design a fuel modification zone that will meet the need for public safety while preserving the sensitive biological resources that occur in the proposed fuel modification zones. Therefore, the project will result in no impacts to special-status species as identified through the California Natural Diversity Database (CNDDB) [CDFW 2019], the CDFW Special Animals List (CDFW 2019), the California Native Plant Society (CNPS) Online Inventory (CNPS 2019), the USFWS online list of threatened and endangered species for Orange County, other pertinent literature, and extensive knowledge of the Laguna Beach environs and associated biological resources.

The Study Area consists of hillsides and canyon areas vegetated with a mosaic of native and non-native vegetation along the interface with existing development that has been in place for decades. As such, portions of the Study Area exhibit varying levels of disturbance while other areas support native vegetation alliances including chaparral, coastal sage scrub, coast live oak woodland along with ecotonal habitats. Exhibit 3 depicts the vegetation alliances mapped within the Study Area.

Dominant plant species within chaparral habitat include lemonade berry (*Rhus integrifolia*), toyon (*Heteromeles arbutifolia*), scrub oak (*Quercus berberidifolia*), mesa bushmallow (*Malacothamnus fasciculatus*), and laurel sumac (*Malosma laurina*), with a few individuals of sugar bush (*Rhus ovata*) also encountered.

Coastal sage scrub habitat within the Study Area is dominated by black sage (*Salvia mellifera*), California sagebrush *(Artemisia californica),* California buckwheat (*Eriogonum fasciculatum*), coastal prickly pear (*Opuntia littoralis*), orange bush monkey-flower (*Mimulus aurantiacus*), coastal goldenbush (*Isocoma menziesii*), and deerweed (*Acmispon glaber*).

III. METHODS

Biologists Kevin Livergood, Jason Fitzgibbon and Jillian Stephens, from Glenn Lukos Associates, Inc. (GLA) visited the Study Area during March, April, May, and June 2019 to identify the presence of special-status species and habitats, including conducting general and focused surveys for special-status plants and animals including focused protocol surveys for the coastal California gnatcatcher (*Polioptila californica californica*). The areas were also evaluated for the presence of aquatic features potentially subject to the jurisdiction of the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act, the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code and Significant Drainage Courses as identified on the City's GIS database. Reconnaissance was conducted in such a manner as to allow inspection of the entire site by direct observation, including the use of binoculars, for avian surveys.

In addition to site reconnaissance, the study included a review of the CNDDB for the Laguna Beach Quadrangle[1], a review of the California Native Plant Society (CNPS) Online Inventory

[1] California Department of Fish and Wildlife. June 2019. Natural Diversity Database: RareFind 5.0.

(CNPS 2019), and a review of the Natural Resources Conservation Service's (NRCS)[2] soil survey for Laguna Beach.

To adequately identify biological resources, GLA assembled biological data consisting of the following components:

- Performance of vegetation mapping for the Study Area;
- Performance of site-specific habitat assessments for special-status plants and animals; and
- General and focused biological surveys to evaluate the presence/absence of special-status plant and animal species (or potentially suitable habitat).

Vegetation associations and land use types within the Study Area were also surveyed on foot and mapped directly onto a 200-scale topographic map based on A Manual of California Vegetation, Second Edition or MCVII, which is the California expression of the National Vegetation Classification[3]. Habitat assessments and focused surveys within the Study Area were conducted on foot and were generally limited to the proposed fuel modification zone and areas immediately adjacent to the fuel modification zones for each target plant or animal species identified below.

A. Summary of Surveys

The field studies focused on the following primary objectives in accordance with CEQA: (1) general reconnaissance surveys and vegetation mapping per the Holland Classification System; (2) general botanical surveys; (3) general wildlife surveys; (4) habitat assessments for special-status plants; (5) habitat assessments for special-status animals; (6) focused surveys for special-status plants, and (7) focused surveys for the coastal California gnatcatcher (CAGN). Observations of all plant and wildlife species were recorded during each of the above-mentioned survey efforts [Appendix A: Floral Compendium and Appendix B: Faunal Compendium]. Table 1 provides a summary list of survey dates, survey types, and personnel and Table 2 is specific to the surveys for the California gnatcatcher.

Table 1. Summary of Surveys (Excluding California Gnatcatcher) for the Study Area

Survey Date and Time	**Survey Type**	**Surveying Biologist**	**Weather**
March 20, 2019	• General Botanical and Wildlife Survey • Special-Status Plant Habitat Assessment; • Focused Special-Status Plant Surveys	Jason Fitzgibbon	Clear
March 26, 2019	• General Botanical and Wildlife Survey • Special-Status Plant Habitat Assessment	Jason Fitzgibbon Jillian Stephens	Clear

[2] NRCS was formerly the Soil Conservation Service (SCS).

[3] Sawyer, J.O. and T. Keeler-Wolf. 1995. A Manual of California Vegetation. California Native Plant Society.

Survey Date and Time	**Survey Type**	**Surveying Biologist**	**Weather**
	• Vegetation Mapping		
June 3, 2019	• General Botanical and Wildlife Survey • Focused Survey for Special-Status Plants	Jason Fitzgibbon	Marine Layer
June 26, 2019	• General Botanical and Wildlife Survey • Special-Status Plant Habitat Assessment and Survey • Vegetation Mapping Verification	Jason Fitzgibbon Jillian Stephens	Marine Layer
July 1, 2019	• General Botanical and Wildlife Survey • Special-Status Plant Habitat Assessment and Survey • Vegetation Mapping Verification	Jason Fitzgibbon	Clear

Individual plants and wildlife species are evaluated in this report based on their "special-status." For this report, plants were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State Endangered Species Act (ESA);
- Occurrence in the CNPS Rare Plant Inventory/California Rare Plant Rank (CRPR) (Rank 1A/1B, 2A/2B, 3, or 4); and/or
- Occurrence in the CNDDB inventory.

Wildlife species were considered "special-status" based on one or more of the following criteria:

- Listing through the Federal and/or State ESA; and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species.

Vegetation communities and habitats were considered "special-status" based on one or more of the following criteria:

- Global (G) and/or State (S) ranking of category 3 or less based on CDFW (see Section 3.2.2 below for further explanation);
- Riparian habitat; and
- Occurrence of vegetation community or habitat in the CNDDB inventory.

B. Botanical Resources

A site-specific survey program was designed to accurately document the botanical resources within the Study Area, and consisted of seven components: (1) a literature search; (2) preparation of a list of target special-status plant species and sensitive vegetation communities that could occur within the Study Area; (3) general field reconnaissance surveys; (4) vegetation mapping according to the MCVII; (5) habitat assessments for special-status plants; (6) focused surveys for special-status plants; and (7) preparation of a vegetation map for the Study Area.

1. Literature Search

Prior to conducting fieldwork, pertinent literature on the flora of the region surrounding the Study Area was examined. A thorough archival review was conducted using available literature and other historical records. These resources included the following:

- California Native Plant Society *Online Inventory of Rare and Endangered Plants of California*. Available at: http://www.rareplants.cnps.org/; and

- California Natural Diversity Data Base (CNDDB 2019) for the USGS 7.5' Laguna Beach quadrangle which contains the Study Area, and the six adjacent quadrangles including Dana Point, San Juan Capistrano, El Toro, Tustin, Costa Mesa and Newport Beach.

2. Vegetation Mapping

Vegetation alliances within the Project site were mapped in accordance with A Manual of California Vegetation, Second Edition or MCVII, which is the California expression of the National Vegetation Classification. Where necessary, deviations were made when areas were not consistent with the "membership rules" set forth in the MCVII. Such modifications to the vegetation alliances were designated based on the dominant plant species. Vegetation alliances were mapped in the field directly onto a 200-scale (1" = 200') aerial photograph. A vegetation map is included as Exhibit 3, Sheets 1 – 7.

3. Focused Surveys for Special-Status Plants

Based on the literature search and use of reference populations, surveys were conducted at appropriate times based on precipitation and flowering periods.[4] An aerial photograph, soils and vegetation maps, and/or a topographic map were used to determine the community types and other physical features that may support sensitive and uncommon taxa or communities within the Project site. Surveys were conducted by following meandering transects within target areas of suitable habitat. All plant species encountered during the field surveys were identified and recorded following the above-referenced guidelines adopted by CNPS (2010) and CDFW by Nelson (1984). A complete list of the plant species observed is provided in Appendix A. Scientific nomenclature and common names used in this report follow Baldwin et al (2012), Munz (1974), and Allen and Roberts (2013).

C. <u>Wildlife Resources</u>

1. General Surveys

Birds

During the general biological and reconnaissance survey within the Project site, birds were detected by direct observation and/or by vocalizations, with identifications recorded in field notes.

[4] GLA notes that due to the unseasonably cool spring, blooming periods for many species were delayed during the 2019 season, making use of reference populations a necessary component of the survey program.

Mammals
During general biological and reconnaissance surveys within the Project site, mammals were identified and detected by direct observations and/or by the presence of diagnostic sign (i.e., tracks, burrows, scat, etc.). In addition, focused surveys were conducted for special-status bats as well as common bat species that could potentially roost on the site.

Reptiles and Amphibians
During general biological and reconnaissance surveys within the Project site, reptiles and amphibians were identified incidentally during surveys. Habitats were examined for diagnostic reptile sign, which include shed skins, scat, tracks, snake prints, and lizard tail drag marks. All reptiles and amphibian species observed, as well as diagnostic sign, were recorded in field notes.

2. Special-Status Animal Species Reviewed

A literature search was conducted to obtain a list of special-status wildlife species with the potential to occur within the Project site. Species were evaluated based on two factors: 1) species identified by the CNDDB as occurring (either currently or historically) on or in vicinity of the Project site, and 2) any other special-status animals that are known to occur within the vicinity of the Project site, or for which potentially suitable habitat occurs on the Project site.

3. Habitat Assessment for Special Status Animal Species

GLA biologists Jason Fitzgibbon and Kevin Livergood conducted habitat assessments for special-status animal species. An aerial photograph, soil map and/or topographic map were used to determine the community types and other physical features that may support special-status and uncommon taxa within the Project site.

Focused Surveys for Coastal California Gnatcatcher
Protocol surveys for the coastal California gnatcatcher were performed in accordance with the 1997 USFWS guidelines, which stipulate that during the breeding season, six surveys shall be conducted in all areas of suitable habitat with at least seven days between site visits. The USFWS survey guidelines also stipulate that no more than 80 acres of suitable habitat shall be surveyed per biologist per day. The survey area contained approximately 15 acres of coastal sage scrub, and therefore supported less than 80 acres of suitable habitat for the gnatcatcher. As such, the site consisted of one survey polygon requiring one "survey-day" per week. It is important to note that the CAGN surveys were completed prior to refinements made by LCF and thus the area surveyed exceeds the area identified by LCF.

GLA biologist Kevin Livergood (TE-172638-2) conducted the presence/absence surveys. During the 2019 breeding season, surveys were conducted on March 26th, April 9th, April 16th, April 23rd, April 30th, and May 7th. Areas of suitable habitat were surveyed by walking slowly and methodically along transect routes based on vegetation and topographic conditions. The presence/absence of coastal California gnatcatchers was determined through vocalization and visual identification. A combination of gnatcatcher vocalization recordings and "pishing"

sounds were used (as needed depending on the vegetation density and topography) to elicit responses from gnatcatchers.

Weather conditions during the surveys were conducive to a high level of bird activity. All surveys were conducted during the morning hours and were completed by 12:00 P.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures in excess of 95ºF/35ºC). Table 2 summarizes the survey dates/times and weather conditions.

Table 2. Summary of Survey Dates and Weather Data

Date	Survey Time	Temperature (ºF)	Cloud Cover	Wind Speed (Mph)	Surveying Biologists
3/26/19	0700-1200	48-63	Mostly sunny	0-5	K. Livergood
4/9/19	0700-1200	60-66	Overcast	0-6	K. Livergood
4/16/19	0645-1200	57-61	Overcast	0-4	K. Livergood
4/23/19	0700-1200	56-65	Overcast-Clear	1-5	K. Livergood
4/30/19	0800-1200	59-62	Overcast	3-5	K. Livergood
5/7/19	0800-1200	58-64	Overcast	2-5	K. Livergood

D. Jurisdictional Delineation

Prior to beginning the field delineation, a 200-scale color aerial photograph and the previously cited USGS topographic map Laguna Beach was examined to determine the locations of blue-line drainages potentially subject to Corps/CDFW jurisdiction. The USGS map was supplemented with the City's mapping of "Significant Stream Courses", which are depicted on Exhibit 4, Sheets 1 – 7. Because the City's Significant Stream Course map includes 24 stream segments crossing or intersecting a portion of the Study Area and the USGS Map Laguna Beach only depicts three blue-line drainages intersecting the Study Area, the City's mapping was used for identifying locations of streams that would require avoidance in accordance with the policies set forth in City of Laguna Beach Local Coastal Program (LCP). As discussed in more detail below, because the proposed fuel modification program does not include discharge of dredge or fill material into any stream and also includes a 25-foot setback from the edge of any identified stream, which would include the requirement to avoid any riparian habitat, the jurisdictional delineation incorporates the City's Significant Drainage Course mapping as the project's jurisdictional delineation. For the segment of Laguna Creek, which traverses the northern-most portion of the proposed area for fuel modification, the extent of arroyo willow thicket was used to determine the potential extent of CDFW jurisdiction pursuant to Section 1602 of the Fish and Game Code as well as the potential extent of wetlands and riparian habitat as defined under the City's LCP.

IV. REGULATORY SETTING/REQUIREMENTS

The proposed activities may be subject to local, state, and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including: state- and federally-listed plants and animals; aquatic resources including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species which are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

A. State and/or Federally Listed Plants or Animals

1. State of California Endangered Species Act

California's Endangered Species Act (CESA) defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." The State defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an Endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the commission as rare on or before January 1, 1985 is a threatened species." Candidate species are defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the commission has published a notice of proposed regulation to add the species to either list." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

2. Federal Endangered Species Act

The FESA of 1973 defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species

that is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range." Under provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the U.S. Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

3. State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the CESA require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state-listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

B. <u>Aquatic Resources</u>

1. U.S. Army Corps of Engineers

For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ''waters of the United States'' means:

(1) All waters which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
(2) All interstate waters, including interstate wetlands;
(3) The territorial seas;
(4) All impoundments of waters otherwise identified as waters of the United States under this section;
(5) All tributaries, as defined in paragraph (c)(3) of this section, of waters identified in paragraphs (a)(1) through (3) of this section;
(6) All waters adjacent to a water identified in paragraphs (a)(1) through (5) of this section, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters;
(7) All waters in paragraphs (a)(7)(i) through (v) of this section where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. The waters identified in each of paragraphs (a)(7)(i) through (v) of this section are similarly situated and shall be combined, for purposes of a significant nexus analysis, in the watershed that drains to the nearest water identified in paragraphs (a)(1) through (3) of this section. Waters identified in this paragraph shall not be combined with waters identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

(i) *Prairie potholes. Prairie potholes are a complex of glacially formed wetlands, usually occurring in depressions that lack permanent natural outlets, located in the upper Midwest.*
(ii) *Carolina bays and Delmarva bays. Carolina bays and Delmarva bays are ponded, depressional wetlands that occur along the Atlantic coastal plain.*
(iii) *Pocosins. Pocosins are evergreen shrub and tree dominated wetlands found predominantly along the Central Atlantic coastal plain.*
(iv) *Western vernal pools. Western vernal pools are seasonal wetlands located in parts of California and associated with topographic depression, soils with poor drainage, mild, wet winters and hot, dry summers. (v) Texas coastal prairie wetlands. Texas coastal prairie wetlands are freshwater wetlands that occur as a mosaic of depressions, ridges, intermound flats, and mima mound wetlands located along the Texas Gulf Coast.*

(8) All waters located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section and all waters located within 4,000 feet of the high tide line or ordinary high water mark of a water identified in paragraphs (a)(1) through (5) of this section where they are determined on a case-specific basis to have a significant nexus to a water identified in paragraphs (a)(1) through (3) of this section. For waters determined to have a significant nexus, the entire water is a water of the United States if a portion is located within the 100-year floodplain of a water identified in paragraphs (a)(1) through (3) of this section or within 4,000 feet of the high tide line or ordinary high water mark. Waters identified in this paragraph shall not be combined with waters

identified in paragraph (a)(6) of this section when performing a significant nexus analysis. If waters identified in this paragraph are also an adjacent water under paragraph (a)(6), they are an adjacent water and no case-specific significant nexus analysis is required.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(e) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

The 2015 Clean Water Rule provides additional detail regarding the definition of "waters of the United States":'

Previous definitions of ''waters of the United States'' regulated all tributaries without qualification. This final rule more precisely defines ''tributaries'' as waters that are characterized by the presence of physical indicators of flow—bed and banks and ordinary high water mark—and that contribute flow directly or indirectly to a traditional navigable water, an interstate water, or the territorial seas.

The term "wetlands" (a subset of "waters of the United States") is defined at 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support...a prevalence of vegetation typically adapted for life in saturated soil conditions." In 1987 the Corps published a manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the 1987 Wetland Delineation Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the manual and Supplement provide great detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- more than 50 percent of the dominant plant species at the site must be typical of wetlands (i.e., rated as facultative or wetter in the National List of Plant Species that Occur in Wetlands[5]);
- soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the 1987 Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season

[5] Lichvar, R. W. 2013. *The National Wetland Plant List:* 2013 wetland ratings. Phytoneuron 2013-49: 1-241.

during a normal rainfall year, the Arid West Supplement does not include a quantitative criterion with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

2. Regional Water Quality Control Board

Section 401 of the Clean Water Act requires any applicant for a Section 404 permit to obtain certification from the State that the discharge (and the operation of the facility being constructed) will comply with the applicable effluent limitation and water quality standards. In California a 401 certification is obtained from the Regional Water Quality Control Board (RWQCB). The Corps, by law, cannot issue a Section 404 permit until a 401 certification is issued or waived.

3. California Department of Fish and Wildlife

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

The Fish and Game Code defines a stream (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." CDFW also defines a stream as “a body of water that flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical or biological indicators.”

It is important to note that the Fish and Game Code defines fish and wildlife to include: all wild animals, birds, plants, fish, amphibians, invertebrates, reptiles, and related ecological communities including the habitat upon which they depend for continued viability (FGC Division 5, Chapter 1, section 45 and Division 2, Chapter 1 section 711.2(a) respectively). Furthermore, Division 2, Chapter 5, Article 6, Section 1600 et seq. of the California Fish and Game Code does not limit jurisdiction to areas defined by specific flow events, seasonal changes in water flow, or presence/absence of vegetation types or communities.

4. California Coastal Commission

The California Coastal Commission (CCC) regulates the diking, filling, or dredging of wetlands within the coastal zone. The Coastal Act Section 30121 defines “wetlands” as land “which may be covered periodically or permanently with shallow water.” The 1998 CCC Statewide Interpretive Guidelines state that hydric soils and hydrophytic vegetation “are useful indicators of wetland conditions, but the presence or absence of hydric soils and/or hydrophytes alone are not necessarily determinative when the Commission identifies wetlands under the Coastal Act. In the past, the Commission has considered all relevant information in making such determinations and relied upon the advice and judgment of experts before reaching its own independent conclusion as to whether a particular area will be considered wetland under the Coastal Act. The Commission intends to continue to follow this policy.”

C. Local Approvals

1. City of Laguna Beach

The Project Site is located within the coastal zone, which is under the permitting authority of the City of Laguna Beach through the City's Local Coastal Program. In addition, the City has inventoried biological resources occurring within the City and has designated several categories of habitat value, ranging from low value habitats to very high value habitats[6]. The Project Site occurs partially within an area designated as a high value habitat. High value habitats are described by the City as:

> *" . . . extensive areas dominated by indigenous plant communities, which possess good species diversity. They are often, but not always, linked to extensive open space areas, within or outside of the City, by traversable open space corridors. Their faunal carrying capacity is good to excellent; many areas are utilized as bedding and foraging sites by mule deer, or possess large resident populations of birds or native small mammals."*

The City requires that all development proposals, including fuel modification proposals, located within or adjacent to high value or very high value habitat, undergo detailed biological assessments. Pursuant to the City's general plan, these biological assessments are to utilize the biological value criteria specified in the City's Biological Resource Inventories to conduct an updated, and smaller-scale assessment of the resources actually present on site.

In regard to proposed fuel modification activities within areas designated as high value or very high value habitat, the City's General Plan specifically,

> *"Prohibit[s] intrusion of fuel modification programs into environmentally sensitive areas, including chaparral and coastal sage scrub."*

To protect watershed areas and natural watercourses, the City has designated certain drainage features throughout the City as "significant drainage courses". Avoidance of these drainage courses is recommended within the City's General Plan to minimize the likelihood of disasters such as flooding and mudslides, and to protect water supply, water quality, and valuable habitat lands and ecological systems. As noted, 24 segments of Significant Drainage Courses cross or partially intersect the proposed fuel modification areas but will be entirely avoided along with a 25-foot buffer from the edges of each Significant Drainage Course.

[6] City of Laguna Beach. 1993. Laguna Beach General Plan; Open Space/Conservation Element (updated February 2006)

D. California Environmental Quality Act

1. CEQA Guidelines Section 15380

The California Environmental Quality Act (CEQA) requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections VII.A.1 and VII.A.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW adopts the California Rare Plant Ranks (CRPR) and recognizes that species ranked as Rank 1A, 1B, 2A, or 2B of the CNPS *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Ranks 3 or 4.

2. Non-Listed Special-Status Plants and Animals Evaluated Under CEQA

Federally Designated Special-Status Species

Within recent years, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. Former C2 species (for which the USFWS had insufficient evidence to warrant listing) and C3 species (either extinct, no longer a valid taxon or more abundant than was formerly believed) are no longer considered as candidate species. Therefore, these species are no longer maintained in list form by the USFWS, nor are they formally protected. However, some USFWS field offices have issued memoranda stating that former C2 species are to be considered federal Species of Concern (FSC). This term is employed in this document but carries no official protections. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS.

For this report the following acronyms are used for federal special-status species:

- FE Federally listed as Endangered
- FT Federally listed as Threatened
- FPE Federally proposed for listing as Endangered
- FPT Federally proposed for listing as Threatened
- FC Federal candidate species (former C1 species)
- FSC Federal Species of Concern (former C2 species)

State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (SFP) Mammals or Fully Protected Birds, as described in the Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species designated as vulnerable to extinction

due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's CNDDB project. Informally listed taxa are not protected, but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For this report the following acronyms are used for State special-status species:

- SE State-listed as Endangered
- ST State-listed as Threatened
- SR State-listed as Rare
- SCE State candidate for listing as Endangered
- SCT State candidate for listing as Threatened
- SFP State Fully Protected
- SP State Protected
- SSC California Special Concern Species (CDFW)

V. RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments and focused surveys for special-status plants and animals, identification of areas of High Value Habitat and Very High Value Habitat pursuant to the City's LCP, and a jurisdictional delineation for Waters of the United States (including wetlands) subject to the jurisdiction of the Corps and Regional Board, streams (including riparian vegetation) subject to the jurisdiction of CDFW, and Significant Drainages Courses mapped for purposes of the City's LCP.

The proposed Fuel Modification Zones 23 and 24 are generally located on both sides of Canyon Acres Drive and areas east of Laguna Canyon Road. More specifically, the Project site is located predominantly on the east side of Laguna Canyon Road south of the El Toro Road intersection to Canyon Acres Drive (Fuel Modification Zone 23). At Canyon Acres Drive, the survey area includes narrow alignments on the north and south sides of the road behind private residences (Fuel Modification Zone 24). For both Fuel Modification Zones 23 and 24, the survey areas included a corridor 100 feet wide extending away from residential and commercial properties. The survey is identified on the Vegetation Map [Exhibit 3, Sheets 1 – 7). Within the identified fuel modification zones, general and focused surveys were conducted in locations that exhibited suitable habitat for target species.

Conditions within Fuel Modification Zones 23 and 24 include areas where residential properties interface with open space, vegetation communities are dominated by non-native, ornamental species with stands of eucalyptus trees (*Eucalyptus* sp.) and Peruvian pepper trees (*Schinus molle*) in the tree stratum and an understory of ornamental shrubs, vines and groundcover such as non-native grasses (*Bromus* sp) and iceplant (*Mesembryanthemum* sp.). In locations in which native vegetation is predominant, communities of bush sunflower (*Encelia californica*) interspersed with California sagebrush (*Artemisia californica*), toyon (*Heteromeles arbutifolia*), and laurel sumac (*Malosma laurina*) were most typical on the steep canyon slopes.

Conditions within the fuel modification zones were highly variable across the survey areas. Throughout the southern extent of the survey area, there were pockets of scrub habitats. Moving north, large sections of the survey area were vegetated predominantly with oak or eucalyptus woodlands. In sections located near commercial and residential structures, non-native grasslands were predominant in the understory with chaparral species such as toyon, laurel sumac and lemonade berry (*Rhus integrifolia*) composing the majority of the shrub layer. Larger pockets of coastal sage scrub (CSS) occur at the north end of the survey corridor, as well as in the small parcel on the west side of Laguna Canyon Drive.

A. Vegetation

During vegetation mapping of the 24.2-acre Study Area, 20 different vegetation alliances or land use types were identified. Table 3 provides a summary of vegetation types/land uses and the corresponding acreage. Detailed descriptions of each vegetation type follow the table. A Vegetation Map is attached as Exhibit 3.

Table 3. Summary of Vegetation/Land Use Types for the Study Area

Vegetation/Land Use Type	Area (Acres)
Grassland Alliances	
Brassica (*nigra*) Semi-Natural Herbaceous Stands – Upland mustards	0.09
Bromus (diandrus, hordeaceus) – Brachypodium distachyon Semi-Natural Herbaceous Stands (Annual brome grassland)	3.23
Phalaris aqutica Semi-Natural Herbaceous Stands (Harding grass swards)	0.22
Coastal Sage Scrub Alliances	
Artemisia californica Shrubland Alliance (Disturbed California sagebrush scrub)	1.82
Artemisia californica – Eriogonum fasciculatum Shrubland Alliance (California Sagebrush – California buckwheat scrub)	0.69
Artemisia californica – Salvia mellifera Shrubland Alliance (California sagebrush – black sage scrub)	2.94
Encelia californica Shrubland Alliance (California brittle bush scrub)	0.07
Native Revegetation Area	0.41
Chaparral Alliances	
Quercus berberidifolia Shrubland Alliance (Scrub oak chaparral)	0.07
Rhus integrifolia – Artemisia californica Shrubland Alliance (Lemonade berry – coastal sage scrub ecotone)	3.18
Maritime Chaparral Shrubland Alliance (Maritime chaparral)	6.10
Toxicodendron diversilobum Shrubland Alliance (Poison oak scrub)	0.58
Woodland Alliances	
Quercus agrifolia Woodland Alliance (Coast live oak woodland)	8.93
Quercus agrifolia Woodland Alliance (Coast live oak woodland) – Coastal Sage Scrub Ecotone	1.86

Quercus agrifolia (coast live oak) – *Platanus racemosa* (Western sycamore) Oak – Sycamore Woodland Alliance	0.08
Salix lasiolepis Woodland Alliance (Arroyo Willow thickets)	0.76
Sambucas nigra Shrubland Alliance (Blue elderberry stands)	0.12
Disturbed/Developed Habitats	
Developed	0.10
Ornamental/Landscaped	6.22
Disturbed	6.76
Total Vegetation/Land Use Acreage:	**44.23**

***Brassica* (*nigra*) Semi-Natural Herbaceous Stands – Upland mustards:** This alliance accounts for approximately 0.0.09 acre within the Study Area and is dominated black mustard (*Brassica nigra*) with an understory of non-native grasses such as ripgut brome (*Bromus diandrus*).

***Bromus (diandrus, hordeaceus) – Brachypodium distachyon* Semi-Natural Herbaceous Stands (Annual brome grassland)**: MCV membership rules require ripgut brome is >60% relative cover with other non-natives present. This alliance accounts for approximately 3.23 acres within the Study Area and is dominated by ripgut brome, while also supporting phacelia (*Phacelia distans*), and occasional shrubs including California buckwheat, California sagebrush, and ornamentals such as garden nasturtium (*Traepolium majus*).

***Phalaris aqutica* Semi-Natural Herbaceous Stands (Harding grass swards):** MCV membership rules require *Phalaris aquatica* is >20% absolute cover as dominant grass in the grassland. This vegetation alliance accounts for 0.22 acres within the Study Area and supports other non-native grasses including ripgut brome plus a few scattered individuals of laurel sumac (*Malosma laurina*).

***Artemisia californica* Shrubland Alliance (California sagebrush scrub)**: MCV membership rules require California sagebrush >60% relative cover in the shrub canopy. This vegetation type most closely matches this alliance in the MCV. This vegetation alliance accounts for 1.82 acres within the Study Area and supports a mix California sagebrush (*Artemisia californica*) and black mustard with a mix of non-native grasses including ripgut brome and red brome (*Bromus madritensis rubens*).

***Artemisia californica – Eriogonum fasciculatum* Shrubland Alliance (California Sagebrush – California buckwheat scrub)**: MCV membership rules require both California sagebrush and California buckwheat have 30-60% relative cover in the shrub canopy. This vegetation alliance accounts for 0.69 acres within the Study Area and is dominated by California sagebrush and California buckwheat and also supports California encelia (*Encelia californica*), lemonade berry (*Rhus integrifolia*), and sugar bush (*Rhus ovata*).

***Artemisia californica – Salvia mellifera* Shrubland Alliance (California sagebrush – black sage scrub)**: MCV membership rules require both California sagebrush and Black sage have 30-

60% relative cover in the shrub canopy. This vegetation alliance accounts for 2.94 acres within the Study Area and supports a mix of native scrub species and is dominated by black sage (*Salvia mellifera*), California sagebrush (*Artemisia californica*) and California encelia (*Encelia californica*), bush rue (*Cneoridium dumosum*), lemonade berry (*Rhus integrifolia*), and sticky monkey flower (*Diplacaus aurantiacus*).

***Encelia californica* Shrubland Alliance (California brittle bush scrub)**: MCV membership rules require *Encelia californica* as at least 30% relative cover in the shrub canopy. This vegetation alliance accounts for 0.07 acre within the Study Area and supports a mix of native scrub species and is dominated by California encelia, with California buckwheat, bush rue, lemonade berry, and prickly pear cactus (*Opuntia littoralis*).

Maritime chaparral: Areas of chaparral on the site do not correspond with MCV membership This vegetation alliance accounts for 6.10 acres within the Study Area and supports a mix of native scrub species with none achieving greater than 50-percent cover and includes toyon (*Heteromeles arbutifolia*), lemonade berry, sugarbush, black sage, California encelia, chaparral bushmallow (*Malacothamnus fasciculatus*), California sagebrush, and poison oak (*Toxicodendron diversilobum*).

Native Revegetation Area: LCF has implemented a 0.41-acre native revegetation program within an area adjacent to their headquarters, which is on Phillips Road near the northern portion of Fuel Modification Zone 24. This area is currently denuded due to construction activities associated with the Water Tank Burn Dump remediation. The area will be planted with native scrub that is acceptable with fuel modification zones and will be maintained at no more than 50-percent cover.

***Quercus berberidifolia* Shrubland Alliance (Scrub oak chaparral):** MCV membership rules require scrub oak is >60% relative cover in the shrub canopy. This vegetation alliance accounts for 0.07 acre within the Study Area and supports a native scrub species and is dominated scrub oak (*Quercus berberidifolia*).

***Quercus agrifolia* Woodland Alliance (Coast live oak woodland)**: MCV membership rules require coast live oak is >60% relative cover in the tree canopy. This vegetation alliance accounts for 8.93 acres within the Study Area and supports a canopy dominated by coast live oak (*Quercus agrifolia*) with an understory of wild radish (*Raphanus sativus*), tree tobacco (*Nicotiana glauca*), coyote brush (*Baccharis pilularis*), ripgut brome, and poison hemlock.

***Quercus agrifolia* Woodland Alliance (Coast live oak woodland – Coastal Sage Scrub Ecotone):** This area does not have a close analog in the MCV as it has sporadic coast live oaks occurring with California sagebrush, coyote brush, non-native grasses, black mustard, and tree tobacco, accounting for 1.86 acres within the Study Area.

***Quercus agrifolia* (coast live oak) – *Platanus racemosa* (Western sycamore) Oak – Sycamore Woodland Alliance:** This area, which accounts for 0.08 acre and the best analog in the MCV is the *Platanus racemosa – Quercus agrifolia* association. This alliance includes a mixed canopy

of coast live oaks and western sycamore with an understory of poison oak, and non-native grasses.

***Rhus integrifolia – Artemisia californica* Shrubland Alliance (Lemonade berry – coastal sage scrub ecotone):** This area, which accounts for 3.18 acres does not have an exact analog in the MCV which includes a mixed shrubland dominated by lemonade berry and California sagebrush along with black sage, California buckwheat.

***Salix lasiolepis* Woodland Alliance (Arroyo Willow thickets)**: MCV membership rules require arroyo willow is >50% relative cover in the canopy. This vegetation alliance accounts for 0.77 acre within the Study Area and supports a woodland with arroyo willow (*Salix lasiolepis*) as dominant with other trees including coast live oak and blue elderberry (*Sambucus nigra* ssp. *cearulea*), with coyote brush in the understory.

***Sambucus nigra* Shrubland Alliance (Blue elderberry stands)**: MCV membership rules require blue elderberry is >50% in the shrub overstory. This vegetation alliance accounts for 0.12 acre within the Study Area and supports a canopy dominated by blue elderberry with an understory of laurel sumac, poison hemlock, and non-native brome grasses.

***Toxicodendron diversilobum* Shrubland Alliance (Poison oak scrub)**: MCV membership rules require poison oak is >50% relative cover in the shrub canopy. This is the most closely matching analog in the MCV. This vegetation alliance accounts for 0.58 acre within the Study Area and supports a mix of native scrub species and is dominated by poison oak, and includes lemonade berry, toyon, sticky monkey flower, scrub oak (*Quercus berberidifolia*) and California sagebrush.

Ornamental/Landscaping: Ornamental/Landscape vegetation accounts for approximately 6.22 acres and primarily occurs adjacent to existing residential development, or downslope of existing development where landscaped areas have expanded into natural areas. Ornamental vegetation within the Study Area is varied but comprised of a variety species including Mexican fan palm (*Washingtonia robusta*), hottentot fig (*Carpobrotus edulus*), Allepo pine (*Pinus halepensis*), various species of acacia, and eucalyptus (*Eucalyptus* sp.), among others.

Developed: Developed areas are limited to 0.10 acre within the Study Area and consists of an area of paved street at the southern terminus of the Study Area.

Disturbed: Disturbed areas at the site comprise approximately 6.76 acres and consist of areas that are subject to regular disturbance and as a result are comprised primarily of various non-native grasses and weeds including ripgut brome, red brome, slender wild oat, black mustard, sweet fennel, horehound, and many other non-native annual species. These areas primarily occur adjacent to existing residential development and appear to have resulted from residents' fuel modification attempts.

B. Wildlife

A total of 51 species, including reptiles, birds, and mammals were recorded for the Site. Three species of reptiles were observed including the red diamondback rattlesnake (*Crotalus ruber*), western fence lizard (*Sceloporus occidentalis*) and the side blotched lizard (*Uta stansburiana*). Six mammal species were observed and/or detected including mule deer (*Odocoileus hemionus*), coyote (*Canius latrans*), brush rabbit (*Sylvilagus bachmani*), bobcat (*Lynx rufus*), dusky woodrat (*Neotoma fuscipes*), and ground squirrel (*Otospermophilus beecheyi*).

The following birds were observed during the protocol surveys: California quail (*Callipepla californica*), northern mockingbird (*Mimus polyglottos*), California thrasher (*Toxostoma redivivum*), house finch (*Carpodacus mexicanus*), Allen's hummingbird (*Selasphorus sasin*), Anna's hummingbird (*Calypte anna*), rufous hummingbird (*Selasphorus rufus*), lesser goldfinch (*Carduelis psaltria*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), Wilson's warbler (*Cardellina pusilla*), orange-crowned warbler (*Oreothlypis celata*), yellow-rumped warbler (*Setophaga coronate*), yellow warbler (*Setophaga petechial*), common yellowthroat (*Geothlypis trichas*), hooded oriole (*Icterus cucullatus*), Lazuli bunting (*Passerina amoena*), black-headed grosbeak (*Pheucticus melanocephalus*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), blue-gray gnatcatcher (*Polioptila caerulea*), black phoebe (*Sayornis nigricans*), wrentit (*Chamaea fasciata*), Cassin's kingbird (*Tyrannus vociferans*), western kingbird (*Tyrranis verticalis*), Pacific-slope flycatcher (*Empidonax difficilis*), ash-throated flycatcher (*Myiarchus cinerascens*), northern rough-winged swallow (*Stelgidopteryx serripennis*), white-throated swift (*Aeronautes saxatalis*), hermit thrush (*Catharus guttatus*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*), American robin (*Turdus migratorius*), bushtit (*Psaltriparus minimus*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), European starling (*Sturnus vulgaris*), and Japanese white-eye (*Zosterops japonicus*).

VI. SPECIAL-STATUS SPECIES AND HABITATS

Species were considered based on a number of factors, including: 1) species identified by the June 2019 CNDDB as occurring (either currently of historically) on or in the vicinity of the subject areas, and 2) any other special-status species that are known to occur within the vicinity of the subject areas, or for which potentially suitable habitat occurs within the subject areas.

A. Special-Status Plants

Table 4 below provides as list of special-status plants considered for the fuel modification zones.

1. State or Federally Listed Plant Species

State- and/or federally-listed plant species or species proposed for listing that are addressed in this letter report include: the federally- and state-listed threatened Laguna Beach dudleya (*Dudleya stolonifera*) and the federally- and state-listed threatened big-leaved crownbeard (*Verbesina dissita).* Suitable habitat does not exist on site for the big-leaved crownbeard as north Laguna is outside the range of the species. Laguna Beach dudleya occurs within the Study Area and is depicted on Exhibit 5.

2. Other Special-Status Plant Species

Other special-status plants that have the potential to occur on site include Coulter's matilija poppy (*Romneya coulteri*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), summer holly (*Comarostaphylis diversifolia* ssp. *diversifolia*), western dichondra (*Dichondra occidentalis*), many-stemmed dudleya (*Dudleya multicaulis*), cliff spurge (*Euphorbia misera*), and Fish's milkwort (*Polygala cornuta* var. *fishiae*). Coulter's Matilija poppy, a CRPR 4.2 species, was detected within the Study Area and is depicted on Exhibit 5. Note that Coulter's matilija poppy appears to have been planted in a resident's backyard as an ornamental plant and has spread to areas on the Project Site. Table 4 includes a summary list of the special-status plant species considered in the biological study and their legal status.

3. Special-Status Plants Detected

Six special-status plants were detected or are known to occur within or immediately adjacent to the approximately 44.2-acre Study Area: Laguna Beach Dudley, intermediate Mariposa lily, Nuttall's scrub oak, paniculate tarplant, Catalina mariposa lily, and Coulter's Matilija poppy. Of the six, only three occur within the boundaries of the proposed fuel modification zones. Nevertheless, as discussed below, would be fully avoided. Table 4 below is a list of all species considered and subject to survey efforts based on the habitat assessment.

Table 4. Special-Status Plant Species Considered for the Biological Assessment

Species	Status	Habitat	Occurrence On-Site
FEDERALLY OR STATE-LISTED THREATENED OR ENDANGERED SPECIES			
Big-leaved crownbeard *Verbesina dissita*	Federal: FT State: ST CRPR: 1B.1	Southern maritime chaparral, coastal sage scrub.	Does not occur on site due to lack of suitable habitat and beyond range within City.
California Orcutt grass *Orcuttia californica*	Federal: FE State: SE CNPS: Rank 1B.1	Vernal pools	Does not occur on site due to lack of suitable habitat.
Gambel's water cress *Nasturtium gambelii*	Federal: FE State: ST CNPS: Rank 1B.1	Marshes and swamps (freshwater or brackish).	Does not occur on site due to lack of suitable habitat.

Species	Status	Habitat	Occurrence On-Site
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CRPR: 1B.1	Rock faces within chaparral, cismontane woodland, coastal sage scrub, valley and foothill grassland. Occurring on rocky outcrops.	Two historic locations occur in proximity to Study Area, with one potentially occurring with Study Area.
Salt marsh bird's-beak *Chloropyron maritimum* ssp. *maritimum*	Federal: FE State: SE CNPS: Rank 1B.2	Coastal dune, coastal salt marshes and swamps.	Does not occur on site due to lack of suitable habitat.
San Diego button-celery *Eryngium aristulatum* var. *parishii*	Federal: FE State: SE CNPS: Rank 1B.1	Mesic soils in vernal pools, valley and foothill grasslands, sage scrub.	Does not occur on site due to lack of suitable habitat.
Slender-horned spineflower *Dodecahema leptoceras*	Federal: FE State: SE CNPS: Rank 1B.1	Sandy soils in alluvial scrub, chaparral, cismontane woodland.	Does not occur on site due to lack of suitable habitat.
Thread-leaved brodiaea *Brodiaea filifolia*	Federal: FT State: SE CNPS: Rank 1B.1	Clay soils in chaparral (openings), cismontane woodland, coastal sage scrub, playas, valley and foothill grassland, vernal pools.	Does not occur on site due to lack of suitable habitat.
OTHER SPECIAL-STATUS PLANTS			
Allen’s Pentachaeta *Pentachaeta aurea* ssp. *allenii*	Federal: None State: None CRPR: 1B.1	Heavy clay soils in valley and foothill grasslands, coastal scrub.	Does not occur on site due to lack of suitable habitat.
Aphanisma *Aphanisma blitoides*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal dune scrub.	Does not occur on site due to lack of suitable habitat.
Blochman's dudleya *Dudleya blochmaniae* ssp. *blochmaniae*	Federal: None State: None CNPS: Rank 1B.1	Coastal bluff scrub, chaparral, coastal sage scrub, valley and foothill grassland. Rocky soils, often of clay or serpentinite.	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
California box-thorn *Lycium californicum*	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur on site due to lack of suitable habitat.
Catalina mariposa lily *Calochortus catalinae*	Federal: None State: None CNPS: Rank 4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland.	Suitable habitat occurs in portions of Study Area, detected during focused surveys adjacent to Study Area.
Chaparral nolina *Nolina cismontana*	Federal: None State: None CNPS: Rank 1B.2	Chaparral, coastal sage scrub. Occurring on sandstone or gabbro substrates.	Does not occur on site due to lack of suitable habitat.
Chaparral ragwort *Senecio aphanactis*	Federal: None State: None CNPS: Rank 2B.2	Chaparral, cismontane woodland, coastal scrub. Sometimes associated with alkaline soils.	Does not occur on site due to lack of suitable habitat.

Species	Status	Habitat	Occurrence On-Site
Chaparral sand-verbena *Abronia villosa* var. *aurita*	Federal: None State: None CNPS: Rank 1B.1	Sandy soils in chaparral, coastal sage scrub.	Does not occur on site due to lack of suitable habitat.
Cliff malacothrix *Malacothrix saxatilis* var. *saxatilis*	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal scrub.	Does not occur on site due to lack of suitable habitat.
Cliff spurge *Euphorbia misera*	Federal: None State: None CRPR: 2B.2	Coastal bluff scrub and coastal sage scrub. Occurring on rocky soils.	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
Coast woolly-heads *Nemacaulis denudata* var. *denudata*	Federal: None State: None CNPS: Rank 1B.2	Coastal dunes	Does not occur on site due to lack of suitable habitat.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: None CRPR: 1B.1	Playas, vernal pools, marshes and swamps (coastal salt).	Does not occur on site due to lack of suitable habitat.
Coulter's matilija poppy	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Planted on margins of Study Area as ornamental shrub	Occurs on site but presumed to be an ornamental escape.
Coulter's saltbush *Atriplex coulteri*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, valley and foothill grassland. Occurring on alkaline or clay soils.	Does not occur on site due to lack of suitable habitat.
Davidson's saltscale *Atriplex serenana* var. *davidsonii*	Federal: None State: None CRPR: 1B.2	Alkaline soils in coastal sage scrub, coastal bluff scrub.	Does not occur on site due to lack of suitable habitat.
Decumbent goldenbush *Isocoma menziesii* var. *decumbens*	Federal: None State: None CRPR: 1B.2	Utilizes coastal sage scrub habitat intermixed with grassland, and is more partial to clay soils than other closely related varieties.	Does not occur on site due to lack of suitable habitat.
Estuary seablite *Suaeda esteroa*	Federal: None State: None CRPR: 1B.2	Coastal salt marsh and swamps. Occurs in sandy soils.	Does not occur on site due to lack of suitable habitat.
Intermediate mariposa lily *Calochortus weedii* var. *intermedius*	Federal: None State: None CRPR: 1B.2	Rocky soils in chaparral, coastal sage scrub, valley and foothill grassland.	Occurs within Study Area as well as adjacent areas.
Intermediate monardella *Monardella hypoleuca ssp.intermedia*	Federal: None State: None CNPS: Rank 1B.3	Usually in the understory of chaparral, cismontane woodland, and lower montane coniferous forest (sometimes)	Does not occur on site as the Study Area is outside the range which is the Santa Ana Mountains.
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CNPS: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes,	Does not occur on site due to lack of suitable habitat.

Species	Status	Habitat	Occurrence On-Site
		coastal scrub, and valley and foothill grassland.	
Los Angeles sunflower *Helianthus nuttallii* ssp. *parishii*	Federal: None State: None CNPS: Rank 1A	Marshes and swamps (coastal salt and freshwater).	Does not occur on site due to lack of suitable habitat.
Many-stemmed dudleya *Dudleya multicaulis*	Federal: None State: None CRPR: 1B.2	Chaparral, coastal sage scrub, valley and foothill grassland. Often occurring in clay soils.	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
Mesa horkelia *Horkelia cuneata* var. *puberula*	Federal: None State: None CRPR: 1B.1	Chaparral, cismontane woodland, and coastal scrub. Occuring on sandy or gravelly soils.	Does not occur on site due to lack of suitable habitat.
Mud nama *Nama stenocarpum*	Federal: None State: None CRPR: 2B.2	Marshes and swamps	Does not occur on site due to lack of suitable habitat.
Nuttall's scrub oak *Quercus dumosa*	Federal: None State: None CRPR: 1B.1	Closed-cone coniferous forest, chaparral, and coastal sage scrub. Occurring on sandy, clay loam soils.	Observed within Study Area.
Orcutt's pincushion *Chaenactis glabriuscula* var. *orcuttiana*	Federal: None State: None CRPR: 1B.1	Coastal bluff scrub (sandy soils) and coastal dunes.	Does not occur on site due to lack of suitable habitat.
Palmer's grapplinghook *Harpagonella palmeri*	Federal: None State: None CNPS: Rank 4.2	Chaparral, coastal sage scrub, valley and foothill grassland. Occurring in clay soils.	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
Paniculate tarplant *Deinandra paniculata*	Federal: None State: None CNPS: Rank 4.2	Usually in vernally mesic, sometimes sandy soils in coastal scrub, valley and foothill grassland, and vernal pools.	Observed immediately adjacent to Study Area and could potentially occur in the future.
Parish's brittlescale *Atriplex parishii*	Federal: None State: None CRPR: 1B.1	Alkali meadows, vernal pools, chenopod scrub, playas.	Does not occur on site due to lack of suitable habitat.
Parry's tetracoccus *Tetracoccus dioicus*	Federal: None State: None CNPS: Rank 1B.2	Chaparral and coastal sage scrub.	Does not occur, outside of known range.
Prostrate vernal pool navarretia *Navarretia prostrata*	Federal: None State: None CNPS: Rank 1B.1	Coastal sage scrub, valley and foothill grassland (alkaline), vernal pools. Occurring in mesic soils.	Does not occur on site due to lack of suitable habitat.
Red sand-verbena *Abronia maritima*	Federal: None State: None CNPS: Rank 4.2	Coastal dunes.	Does not occur on site due to lack of suitable habitat.
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub	Suitable habitat occurs in portions of Study

Species	Status	Habitat	Occurrence On-Site
			Area, not detected during focused surveys.
Salt Spring checkerbloom *Sidalcea neomexicana*	Federal: None State: None CNPS: Rank 2B.2	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	Does not occur on site due to lack of suitable habitat.
San Bernardino aster *Symphyotrichum defoliatum*	Federal: None State: None CNPS: Rank 1B.2	Cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, valley and foothill grassland (vernally mesic).	Does not occur on site due to lack of suitable habitat.
Sanford's arrowhead *Sagittaria sanfordii*	Federal: None State: None CNPS: Rank 1B.2	Marshes and swamps (assorted shallow freshwater).	Does not occur on site due to lack of suitable habitat.
Seaside cistanthe *Cistanthe maritima*	Federal: None State: None CNPS: Rank 4.2	Sandy soils in coastal bluff scrub, coastal scrub, and valley and foothill grassland.	Does not occur on site due to lack of suitable habitat.
Small-flowered morning-glory *Convolvulus simulans*	Federal: None State: None CNPS: Rank 4.2	Chaparral (openings), coastal sage scrub, valley and foothill grassland. Occurring on clay soils and serpentinite seeps.	Does not occur on site due to lack of suitable habitat.
South coast branching phacelia *Phacelia ramosissima* var. *austrolitoralis*	Federal: None State: None CNPS: Rank 3.2	Sandy, sometimes rocky soils in chaparral, coastal dunes, coastal scrub, and marshes and swamps (coastal salt)	Does not occur on site due to lack of suitable habitat.
South coast saltscale *Atriplex pacifica*	Federal: None State: None CRPR: 1B.2	Coastal bluff scrub, coastal dunes, coastal sage scrub, playas.	Does not occur on site due to lack of suitable habitat.
Southern tarplant *Centromadia parryi* ssp. *australis*	Federal: None State: None CNPS: Rank 1B.1	Disturbed habitats, margins of marshes and swamps, vernally mesic valley and foothill grassland, vernal pools.	Does not occur on site due to lack of suitable habitat.
Southwestern spiny rush *Juncus acutus* ssp. *leopoldii*	Federal: None State: None CNPS: Rank 4.2	Coastal dunes (mesic), meadows and seeps (alkaline seeps), and marshes and swamps (coastal salt).	Does not occur on site due to lack of suitable habitat.
Summer holly *Comarostaphylis diversifolia* ssp. *diversifolia*	Federal: None State: None CNPS: Rank 1B.2	Chaparral.	Study Area not within known range in OC, not detected during focused surveys.
Tecate cypress *Hesperocyparis forbesii*	Federal: None State: None CNPS: Rank 1B.1	Closed-cone coniferous forest, chaparral.	Does not occur on site. Confirmed absent.

Species	Status	Habitat	Occurrence On-Site
Vernal barley *Hordeum intercedens*	Federal: None State: None CNPS: Rank 3.2	Coastal dunes, coastal sage scrub, valley and foothill grassland (saline flats and depressions), vernal pools.	Does not occur on site due to lack of suitable habitat.
Western dichondra *Dichondra occidentalis*	Federal: None State: None CRPR: 4.2	Coastal sage scrub, chaparral, oak woodland. Often in dry sandy banks in scrub or under trees.	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	Federal: None State: None CNPS: Rank 2B.2	Sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland.	Does not occur on site due to lack of suitable habitat.
Woolly seablite *Suaeda taxifolia*	Federal: None State: None CNPS: Rank 4.2	Coastal bluff scrub, coastal dunes, marshes and swamps (margins of coastal salt).	Does not occur on site due to lack of suitable habitat.

Federal
FE – Federally Endangered
FT – Federally Threatened

State
SE – State Endangered
ST – State Threatened

CRPR
1B – Plants rare, threatened, or endangered in California and elsewhere.
2A - Plants rare, threatened, or endangered in California, but more common elsewhere.
2B – Plants rare, threatened, or endangered in California, but more common elsewhere.
3 – Plants about which more information is needed.
4 – Plants of limited distribution (a watch list).

Threat Code Extension
.1 – Seriously endangered in California (over 80% occurrences threatened)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

B. Special-Status Habitats

A review of the June 2019 CNDDB identified the following special-status habitats as occurring in Laguna Beach and adjacent quadrangles: Southern Coast Live Oak Riparian Forest, Southern Coastal Salt Marsh, Southern Cottonwood Willow Riparian Forest, Southern Dune Scrub, Southern Foredunes, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Valley Needlegrass Grassland. Limited areas of Coast Live Oak Riparian forest occur within the fuel modification zones.

C. Special-Status Animals

1. State- or Federally-Listed Animal Species

Table 5 includes a summary list of the special-status animal species considered in the biological study and their legal status. All species were evaluated for their potential to occur within the Study Area. State- and/or federally-listed animal species or species proposed for listing that are addressed in this letter report include: the federally-listed threatened coastal California

gnatcatcher (*Polioptila californica californica*), the federally- and state-listed endangered least Bell's vireo (*Vireo belli pusillus*), the federally-listed endangered Pacific pocket mouse (*Perognathus longimembris pacificus*), and the federally-listed endangered tidewater goby (*Eucyclogobius newberryi*). While none of the federally- or state-listed species were observed, the California gnatcatcher does have the potential to occur in areas of coastal sage scrub on site. Focused protocol surveys for gnatcatcher were conducted in 2019 and were negative. The least Bell's vireo, Pacific pocket mouse, and tidewater goby do not occur within the Study Area due to lack of suitable habitat.

2. Other Special-Status Animal Species

Other special-status species that have the potential to occur in the subject areas based on habitat and range include the orangethroat whiptail (*Aspidoscelis hyperythra*), red-diamond rattlesnake (*Crotalus ruber*), western mastiff bat (*Eumops perotis californicus*), and coast horned lizard (*Phrynosoma blainvillii* (*blainvillii* population)). The red diamond rattlesnake was observed within the study area and the others are expected to occur.

3. Special-Status Wildlife Species Detected

One special-status species was detected, the yellow warbler as depicted on Exhibit 5. Other species for which there is suitable habitat and have potential to occur are noted in Table 5 below and are addressed in the impact section below.

Table 5. Special-Status Wildlife Species Considered for the Biological Study

Species	Status	Habitat Requirements	Occurrence On-Site
FEDERALLY OR STATE-LISTED THREATENED OR ENDANGERED SPECIES			
Arroyo toad *Anaxyrus californicus*	Federal: FE State: None CDFW: SSC	Breed, forage, and/or aestivate in aquatic habitats, riparian, coastal sage scrub, oak, and chaparral habitats. Breeding pools must be open and shallow with minimal current, and with a sand or pea gravel substrate overlain with sand or flocculent silt. Adjacent banks with sandy or gravely terraces and very little herbaceous cover for adult and juvenile foraging areas, within a moderate riparian canopy of cottonwood, willow, or oak.	Does not occur due to lack of suitable habitat.
Bank swallow (nesting) *Riparia riparia*	Federal: None State: ST CDFW: None	Low areas along rivers, streams, ocean coasts or reservoirs. Often use human-made sites.	Does not occur due to lack of suitable habitat. Not observed during surveys.
Belding's savannah sparrow *Passerculus sandwichensis beldingi*	Federal: None State: SE CDFW: None	Coastal Marshes	Does not occur due to lack of suitable salt marsh habitat.

Species	Status	Habitat Requirements	Occurrence On-Site
California black rail *Laterallus jamaicensis coturniculus*	Federal: BCC State: ST, FP CDFW: None	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, and flooded grassy vegetation.	Does not occur due to lack of suitable salt marsh and emergent marsh habitat.
California least tern (nesting colony) *Sterna antillarum browni*	Federal: FE State: SE, FP CDFW: None	Flat, vegetated substrates near the coast. Occurs near estuaries, bays, or harbors where fish is abundant.	Does not occur due to lack of suitable habitat.
Coastal California gnatcatcher *Polioptila californica californica*	Federal: FT State: None CDFW: SSC	Low elevation coastal sage scrub and coastal bluff scrub.	Limited areas of suitable habitat occurs within Study Area, not detected during focused surveys.
Least Bell's vireo *Vireo bellii pusillus*	Federal: FE State: SE CDFW: None	Dense riparian habitats with a stratified canopy, including southern willow scrub, mule fat scrub, and riparian forest.	Limited potential habitat occurs near corner of El Toro Road and Laguna Canyon Road. Not detected during general surveys. Not expected to occur.
Light-footed clapper rail *Rallus longirostris levipes*	Federal: FE State: SE, FP CDFW: None	Marsh vegetation of coastal wetlands.	Does not occur due to lack of suitable salt marsh habitat.
Pacific pocket mouse *Perognathus longimembris pacificus*	Federal: FE State: None CDFW: SSC	Fine, alluvial soils along the coastal plain. Scarcely in rocky soils of scrub habitats.	Does not occur due to lack of suitable habitat.
Riverside fairy shrimp *Streptocephalus woottoni*	Federal: FE State: None CDFW: None	Restricted to deep seasonal vernal pools, vernal pool-like ephemeral ponds, and stock ponds.	Does not occur due to lack of suitable vernal pool habitat.
San Diego fairy shrimp *Branchinecta sandiegonensi*	Federal: FE State: None CDFW: None	Seasonal vernal pools	Does not occur due to lack of suitable vernal pool habitat.
Southern steelhead - southern California DPS *Oncorhynchus mykiss irideus*	Federal: FE State: None CDFW: None	Clear, swift moving streams with gravel for spawning. Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego county.)	Does not occur due to lack of suitable habitat.
Tidewater goby *Eucyclobobius newberryi*	Federal: FE State: None CDFW: SSC	Occurs in shallow lagoons and lower stream reaches along the California coast from Agua Hedionda Lagoon, San Diego Co. to the mouth of the Smith River.	Does not occur due to lack of suitable habitat.
Tricolored blackbird (nesting colony) *Agelaius tricolor*	Federal: BCC State: CE, SSC CDFW: None	Breeding colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland.	Does not occur due to lack of suitable habitat.

Species	Status	Habitat Requirements	Occurrence On-Site
Western snowy plover (nesting) *Charadrius alexandrinus nivosus*	Federal: FT, BCC State: None CDFW: SSC	Sandy or gravelly beaches along the coast, estuarine salt ponds, alkali lakes, and at the Salton Sea.	Does not occur due to lack of suitable habitat.
Western yellow-billed cuckoo (nesting) *Coccyzus americanus occidentalis*	Federal: FT, BCC State: SE CDFW: None	Dense, wide riparian woodlands with well-developed understories.	Does not occur due to lack of suitable habitat.
OTHER SPECIAL-STATUS ANIMALS			
American badger *Taxidea taxus*	Federal: None State: None CDFW: SSC	Most abundant in drier open stages of most scrub, forest, and herbaceous habitats, with friable soils.	Potential to occur, not observed during surveys.
Arroyo chub *Gila orcutti*	Federal: None State: None CDFW: SSC	Slow-moving or backwater sections of warm to cool streams with substrates of sand or mud.	Does not occur due to lack of suitable habitat.
Big free-tailed bat *Nyctinomops macrotis*	Federal: None State: None CDFW: SSC	Occurs in low-lying arid areas in Southern California. Roosts in high cliffs or rocky outcrops.	Does not occur due to lack of suitable habitat.
Burrowing owl *Athene cunicularia*	Federal: FSC State: None CDFW: SSC	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and underpasses.	Does not occur due to lack of suitable habitat.
California glossy snake *Arizona elegans occidentalis*	Federal: None State: None CDFW: SSC	Inhabits arid scrub, rocky washes, grasslands, chaparral. Prefers open areas with friable soils for burrowing.	Limited suitable habitat within Study Area. Vegetation thinning could marginally enhance habitat.
California horned lark *Eremophila alpestris actia*	Federal: None State: None CDFW: WL	Occupies a variety of open habitats, usually where trees and large shrubs are absent.	Does not occur due to lack of suitable habitat.
Coast horned lizard *Phrynosoma blainvillii*	Federal: FSC State: None CDFW: SSC	Occurs in a variety of vegetation types including coastal sage scrub, chaparral, annual grassland, oak woodland, and riparian woodlands.	Suitable habitat Not detected but expected to occur.
Coast patch-nosed snake *Salvadora hexalepis virgultea*	Federal: None State: None CDFW: SSC	Occurs in coastal chaparral, desert scrub, washes, sandy flats, and rocky areas.	Limited suitable habitat within Study Area.
Coastal cactus wren *Campylorhychus brunneicapillus sandiegensis*	Federal: None State: None CDFW: SSC	Occurs almost exclusively in cactus (cholla and prickly pear) dominated coastal sage scrub.	Marginally suitable habitat Not detected during focused surveys for CAGN.

Species	Status	Habitat Requirements	Occurrence On-Site
Coastal whiptail *Aspidoscelis tigris stejnegeri (multiscutatus)*	Federal: None State: None CDFW: SSC	Open, often rocky areas with little vegetation, or sunny microhabitats within shrub or grassland associations.	Suitable habitat Not detected but expected to occur.
Cooper's hawk (nesting) *Accipiter cooperii*	Federal: None State: None CDFW: WL	Primarily occurs in riparian areas and oak woodlands, most commonly in montane canyons. Known to use urban areas, occupying trees among residential and commercial.	Suitable breeding areas associated with oaks and large ornamental trees. Expected to occur within Study Area.
Ferruginous hawk (wintering) *Buteo regalis*	Federal: FSC State: None CDFW: SSC	Open, dry country, perching on trees, posts, and mounds. In California, wintering habitat consists of open terrain and grasslands of the plains and foothills.	Does not occur due to lack of suitable habitat.
Grasshopper sparrow (nesting) *Ammodramus savannarum*	Federal: None State: None CDFW: SSC	Open grassland and prairies with patches of bare ground.	Marginally suitable habitat within limited areas of non-native grassland. Not detected during surveys.
Mexican long-tongued bat *Choeronycteris mexicana*	Federal: None State: SSC WBWG: H	Variety of habitats ranging from desert, montane, riparian, to pinyon-juniper habitats. Found roosting in desert canyons, deep caves, mines, or rock crevices. Can use abandoned buildings.	Does not occur due to lack of suitable habitat.
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: None CDFW: SSC	Coastal sage scrub, sage scrub/grassland ecotones, and chaparral.	Not expected to occur as coastal Laguna Beach is beyond current range.
Orange-throated whiptail *Aspidoscelis hyperythrus*	Federal: None State: None CDFW: SSC	Coastal sage scrub, chaparral, non-native grassland, oak woodland, and juniper woodland.	Potential to occur within portions of Study Area.
Osprey (nesting) *Pandion haliaetus*	Federal: None State: None CDFW: WL	Ocean shore, bays, fresh-water lakes, and larger streams. Builds large nests in tree-tops within 15 miles of good fish-producing body of water.	Does not occur due to lack of suitable habitat.
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: None CDFW: SSC	Habitats with heavy brush and rock outcrops, including coastal sage scrub and chaparral.	Observed within Study Area.
San Diego desert woodrat *Neotoma lepida intermedia*	Federal: None State: None CDFW: SSC	Occurs in a variety of shrub and desert habitats, primarily associated with rock outcrops, boulders, cacti, or areas of dense undergrowth.	Expected to occur in Study Area.
Santa Ana speckled dace *Rhinichthys osculus* ssp. *3*	Federal: None State: None CDFW: SSC	Occurs in the headwaters of the Santa Ana and San Gabriel Rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temperatures of 17-20 C. Usually inhabits shallow cobble and gravel riffles.	Does not occur due to lack of suitable habitat.

Species	Status	Habitat Requirements	Occurrence On-Site
California legless lizard *Anniella sp. 1*	Federal: None State: None CDFW: SSC	Common in the Coast Ranges from the vicinity of Antioch, Contra Costa Co. south to the Mexican border. Range includes the floor of the San Joaquin Valley from San Joaquin Co. south, the west slope of the southern Sierra, the Tehachapi Mountains west of the desert, and the mountains of southern California. Common in several habitats but especially in coastal dune, valley-foothill, chaparral, and coastal scrub types.	Duff associated with oak woodlands represent potentially suitable habitat.
Southern California rufous-crowned sparrow *Aimophila ruficeps canescens*	Federal: None State: None CDFW: WL	Grass covered hillsides, coastal sage scrub, and chaparral.	Suitable habitat occurs within Study Area. Not detected during focused surveys for CAGN
Southern California saltmarsh shrew *Sorex ornatus salicoricus*	Federal: None State: None CDFW: SSC	Coastal marshes. Requires dense vegetation and woody debris for cover.	Does not occur due to lack of suitable habitat.
Southern grasshopper mouse *Onychomys torridus ramona*	Federal: None State: None CDFW: SSC	Desert areas, especially scrub habitats with friable soils for digging. Prefers low to moderate shrub cover.	Does not occur due to lack of suitable habitat.
Two-striped garter snake *Thamnophis hammondii*	Federal: None State: None CDFW: SSC	Aquatic snake typically associated with wetland habitats such as streams, creeks, and pools.	Does not occur due to lack of suitable habitat.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: None CDFW: SSC WBWG: H	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees, and tunnels.	Cliff faces within Study Area may provide suitable roosts.
Western pond turtle *Emys marmorata*	Federal: None State: None CDFW: SSC	Slow-moving permanent or intermittent streams, small ponds and lakes, reservoirs, abandoned gravel pits, permanent and ephemeral shallow wetlands, stock ponds, and treatment lagoons. Abundant basking sites and cover necessary, including logs, rocks, submerged vegetation, and undercut banks.	Does not occur due to lack of suitable habitat.
Western spadefoot *Spea hammondii*	Federal: FSC State: None CDFW: SSC	Seasonal pools in coastal sage scrub, chaparral, and grassland habitats.	Does not occur due to lack of suitable habitat.
White-tailed kite (nesting) *Elanus leucurus*	Federal: FSC State: None CDFW: CFP	Low elevation open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Dense canopies used for nesting and cover.	Coast Live Oak Woodlands represent suitable nesting habitat. Not detected during surveys.

Species	Status	Habitat Requirements	Occurrence On-Site
Yellow rail *Coturnicops noveboracensis*	Federal: BCC State: None CDFW: SSC	Shallow marshes, and wet meadows; in winter, drier freshwater and brackish marshes, as well as dense, deep grass, and rice fields.	Does not occur due to lack of suitable habitat.
Yellow warbler (nesting) *Setophaga petechia*	Federal: BCC State: None CDFW: SSC	Breed in lowland and foothill riparian woodlands dominated by cottonwoods, alders, or willows and other small trees and shrubs typical of low, open-canopy riparian woodland. During migration, forages in woodland, forest, and shrub habitats.	Detected adjacent to Study Area
Yellow-breasted chat *Icteria virens*	Federal: None State: None CDFW: SSC	Dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush with well-developed understories.	Does not occur due to lack of suitable habitat.

Federal
FE – Federally Endangered
FT – Federally Threatened
FPT – Federally Proposed Threatened
FSC – Federal Species of Concern
FD – Federally Delisted

State
SE – State Endangered
ST – State Threatened

CDFW
SSC – California Species of Concern
CFP – California Fully-Protected Species

D. Wildlife Movement

The Project Site supports limited wildlife movement as a result of steep topography and surrounding existing development. Species observed utilizing or moving through the site included raccoon (*Procyon lotor*) [tracks], coyote (*Canis latrans*) [tracks and scat], and mule deer (*Odocoileus hemionus*). Movement on the site appears to be limited to low-lying canyon bottoms and is not likely to occur in areas immediately adjacent to residential development where fuel modification activities are proposed. Additionally, movement to and from the site to adjacent open space areas is inhibited by dense, existing residential development and the associated roads. Very limited potential exists for wildlife movement into the site from the adjacent Aliso Creek open space area to the east, however, due to the insularity of the site, it does not function as a wildlife corridor. As such, wildlife movement would not be significantly affected by proposed fuel modification activities.

E. Jurisdictional Waters

Two USGS blue-line ephemeral drainages and their associated tributaries occur on the Project Site and are potentially subject to the jurisdiction of the Corps, RWQCB, CDFW, and/or CCC [Exhibit 4]. However, these areas will be avoided by the proposed fuel modification plan.

F. High and Very High Value Habitat

As depicted in Exhibit 6, approximately 9.58 acres of the Study Area is mapped by the City of Laguna Beach as High Value Habitat, of which 7.00 exhibit characteristics of High Value Habitat. In addition, approximately 5.11 acres of the 44-acre study area are mapped as Very High Value Habitat, of which 3.45 acres were confirmed in the field to be Very High Value Habitat. As noted in Table 6 below, several areas within those mapped as High or Very Value Habitat do not exhibit characteristics associated with High or Very High Value Habitat; primarily those areas immediately adjacent to existing residential development that exhibit high levels of disturbance and a lack of vegetation or are comprised wholly of ornamental vegetation. These areas comprise a total of approximately 4.24 acres. These areas include non-native grassland, black mustard, disturbed and developed areas. These areas do not support a high diversity of plant species nor do they facilitate wildlife movement, because they are comprised of non-native plant species and occur at the urban interface, which already serves to limit wildlife movement and dispersal.

Table 6: Summary of High and Very High Habitat by Vegetation Alliance

High Value Habitat	Areas Meeting HVH & VHVH (Acres)	Areas Not Meeting HVH & VHVH (Acres)
Annual brome grassland		0.04
Black mustard		0.09
California encelia scrub	0.07	
California sagebrush – black sage scrub	0.36	
California sagebrush – California buckwheat scrub	0.08	
Coast live oak woodland	4.30	
Coast live oak woodland – coastal sage scrub transition	0.81	
Disturbed		1.95
Disturbed California sagebrush scrub	0.85	
Lemonade berry / California sagebrush	0.29	
Maritime chaparral	0.24	
Ornamental / landscape		0.50
Total	**7.00**	**2.58**
Very High Value Habitat		
Annual brome grassland		0.74
Arroyo willow thickets	0.08	
California sagebrush - black sage scrub	0.19	
Coast live oak woodland	2.91	
Coast live oak woodland - coastal sage scrub transition	0.27	
Disturbed		0.72
Ornamental / landscape		0.20
Total	**3.45**	**1.66**

VII. PROJECT-RELATED IMPACTS

A. Discussion of Impacts Considered in Accordance with the California Environmental Quality Act (CEQA)

1. Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California:

> *"Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Appendix G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed activities.

2. Criteria for Determining Significance Pursuant to CEQA

In accordance with Appendix G (Environmental Checklist Form) to the State CEQA Guidelines, the Project would have a significant biota impact if it would:

(a) Have a substantial adverse effect, either directly or through habitat modifications,

on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Relative to each of the above criteria, the project is evaluated below for potentially significant impacts:

3. Description of Project Impacts

The Laguna Canyon Foundation (LCF) conducted a detailed evaluation of the proposed Fuel Modification Zones 23 and 24 to determine the best fuel modification treatments based on a number of factors that included the following.

1. Document the habitats types, plant and animal species present, with special attention given to rare, threatened and endangered species.

2. Refine treatment area maps to limit impacts to areas with 100 feet of inhabited structures and other areas where fuel modification is deemed necessary and effective to meet the goals of the fuel modification program (e.g., school parking lots).

3. Make qualitative assessments of habitat value and recommendations of which areas would be suitable for treatment with goat grazing and which areas will require treatment by hand crews.

4. Determine best points to access treatment areas.

5. Document special concerns or challenges that might exist for each treatment area.

Based on these factors, recommendations were made to the LBFD which include the following for Fuel Modification Zones 23 and 24:

Fuel Modification Zone 23:

*Approximately **14.9** acres are recommended for treatment.*
*Of this, approximately **4.9** acres were determined to be Low or Medium Value Habitat and suitable for initial treatment by goat grazing.*
*Another approximately **0.8** acre of this is within the 25-foot buffer around blue-line streams, and treatment in these areas is limited to removal of non-native species only (i.e., no removal of native species and no removal of dead woody materials).*
*The remaining **9.2** acres were determined to have Moderate or High Value Habitat and therefore are recommended for treatment by hand crew.*

Fuel Modification Zone 24:

*Approximately **29.4** acres is recommended for treatment.*
*Of this, approximately **12.5** acres were determined to be Low or Medium Value Habitat and to be suitable for initial treatment by goat grazing.*
*An additional **1.7** acres was identified as suitable for a mixed treatment involving a combination of hand crews (to remove large woody non-native vegetation) and goat grazing (to remove finer vegetation).*
*Another approximately **1.7** acres of this is within the 25-foot buffer around blue-line streams, and treatment in these areas is limited to removal of non-native species only (i.e., no removal of native species and no removal of dead woody materials).*
*The remaining **13.5** acres were determined to have Moderate or High Value Habitat and therefore are recommended for treatment by hand crew.*

The City of Laguna Beach has developed protocols for fuel modification specifically for areas subject to Coastal Development Permitting. Potential treatments include use of goats as well as hand crews. The protocols for each are described below and would be implemented for Fuel Modification Zones 23 and 24:

<u>Grazing Treatment Protocols:</u>
Goats will be used to implement grazed fuel modification treatment in areas of Low to Moderate Habitat Value as defined in the Laguna Beach Biological Resources Inventory, (Marsh et. al 1983, see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

a. *The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive plant species.*
b. *No more than 75 goats will be permitted per acre.*
c. *Goats shall remain in secure enclosures at all times.*
d. *Sensitive plant species shall be protected from trampling or consumption by establishing the secure enclosures a minimum distance of at least 15 feet between sensitive plants and the limits of grazing.*

e. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.
f. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80% of the native and 100% of the non-native species in this cover type may be removed in such areas.
g. Goat grazing in woody (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50% of the vegetative cover, and, and provide for a shaded fuel break outcome.
h. Goat grazed fuel breaks should generally be limited to 100 foot width. Penned areas may be extended to a maximum 150 feet when physical obstructions such as rock outcrops, cliffs, water courses etc. prevent reasonable establishment of pens at 100-foot width.
i. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.
j. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.
k. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

<u>Hand Crew Treatment Protocols:</u>
Hand crews will be used to implement fuel modification in areas of High or Very High Habitat Value as defined in the Laguna Beach Biological Resources Inventory, (Marsh et. al 1983, see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

The initial phase of vegetation removal shall include the following steps:

a. Fuel Modification will be conducted by hand crews with chainsaws, brush-cutters and other hand tools.
b. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 feet.
c. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plant benefits for Big-Leaved Crownbeard, as determined by the biological monitor.
d. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.
e. Tree-form shrubs (e.g. Laurel Sumac (Malosma laurina), Toyon (Heteromeles arbutifolia), Lemonade Berry (Rhus integrifolia)) that are over 6 feet tall will be carefully pruned of their lower branches to increase the Crown Base Height to 50% of the plant height. For example, a 10-foot-tall plant would have its lower branches removed to a height of 5 feet. Branches will be pruned to within 1 inch or less of the

branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially.

f. For large tree species within FMZ's, non-native trees (Pinus, Eucalyptus, Washingtonia, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native large trees (Quercus, Platanus, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Where there is still over 50% vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50% vegetative cover has been attained:

1. *Coastal Goldenbush (Isocoma menziezii)*
2. *California Buckwheat (Erigonium fasciculatum),*
3. *Black Sage (Salivia mellifera)*
4. *California Sagebrush (Artemisia californica)*
5. *Monkeyflower (Mimulus aurantiacus)*
6. *Laurel Sumac (Malosma laurinus)*
7. *Toyon (Heteromeles arbutifolia)*
8. *Lemonade Berry (Rhus integrifolia)*

Stumps will be cut to within 4" or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large openings. All healthy specimens of Southern Maritime Chaparral species including Bush Rue (Cneoridium dumosum), Spiny Redberry (Rhamnus crocea) and Bigpod Lilac (Ceanothus megacarpus) will be retained.

Based on the protocols summarized above potential impacts area addressed below.

(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Special-Status Plants

Five special-status plants have been identified within the proposed Fuel Modification Zones, or areas immediately adjacent areas, of which four are depicted on Exhibit 5: Laguna Beach dudleya, Intermediate mariposa lily, Nuttall's scrub oak, Catalina Mariposa lily, and paniculate tarplant. Coulter's Matilija poppy is functioning as a native ornamental and is not depicted.

Laguna Beach dudleya
A historic location of Laguna Beach dudleya potentially occurs within Fuel Modification Zone 24 as depicted on Exhibit 5. This occurrence was not confirmed during field surveys; however, it is presumed to be extant. Prior to implementing fuel modification activities, the location of this occurrence will be confirmed in the field and a minimum buffer of 50 feet will be established, beginning at the outer limits of the Laguna Beach dudleya associated with the occurrence. With implementation of the avoidance measures, impacts to Laguna Beach dudleya would not occur and there would be no significant impact to this species.

Intermediate mariposa lily
Six occurrences were detected during focused surveys in 2019 as depicted on Exhibit 5, of which three are within areas proposed for treatment. The intermediate mariposa lily is an herbaceous perennial that emerges from a bulb in the early spring and flowers typically beginning in late May or early June. By late July, the plant has dropped its seed and the emergent portions of the plant has died back. This species often relies on scrub species such as California sage brush as "nurse" plants, emerging through the foliage of the such shrubs. To ensure avoidance of these areas of scrub occupied by this species would be avoided to ensure that the nurse plants are not damaged during fuel modification. With implementation of this avoidance measure, impacts to immediate mariposa lily would be avoided and there would be no significant impact to this species.

Nuttall's scrub oak
One occurrence of Nuttall's scrub oak was reported by LCF in the area behind the residence at 216 Canyon Acres Drive as depicted on Exhibit 5. LCF recommends that the area around the occurrence be surveyed prior to implementation of fuel modification activities and a 15-foot buffer be established around the perimeter of the plants. With implementation of this avoidance measure, impacts to Nuttall's scrub oak would be avoided and there would be no significant impact to this species.

Coulter's Matilija poppy
Coulter's Matilija poppy is commonly used as a "native" landscape plant in Laguna Beach, and if often observed adjacent to residences where it has escaped from cultivation. This species is a CNPR List 4 taxon and impacts to this species, associated with fuel modification activities would not be considered significant. Nevertheless, it is recommended that this species, be avoided to the extent feasible during hand clearing and if present in an area to be treated with goats would be flagged for avoidance with a five-foot buffer.

Paniculate tarplant
Three occurrences of paniculate tarplant were detected during surveys including one location immediately north of the Study Area as depicted on Exhibit 5 as are two occurrences to the east of the Study Area. This species is a CNPR List 4 taxon and has a Rarity Ranking of S4 (apparently stable in California) and impacts to this species, associated with fuel modification activities would not be considered significant should it occur during future years. If detected during future seasons, it is recommended that this species, be avoided to the extent feasible during grazing and/or hand clearing and if present in an area to be treated with goats would be flagged for avoidance with a fifteen-foot buffer.

Special-Status Wildlife

No special-status wildlife individuals were detecting during general wildlife surveys; however, a number of species have potential to occur; albeit, only limited potential for occurrence. The following species have potential to occur and potential impacts are addressed.

Avifauna: The only suitable habitat for least Bell's vireo, yellow-breasted chat, and yellow warbler is the area of Arroyo Willow Thicket at the northern extent of the Study Area. As noted below, the Arroyo Willow Thicket will be avoided and potential impacts to these species would be avoided and there would be no significant impacts to least Bell's vireo, yellow-breasted chat, and yellow warbler associated with the project.

Limited areas of suitable habitat for the coastal California gnatcatcher consisting on various alliances of coastal sage scrub occur within the Study Area. Nevertheless, the coastal California gnatcatcher was not detected during protocol surveys and the project is not expected to impact the coastal California gnatcatcher. The coastal sage scrub and chaparral also represent potentially suitable habitat for the Southern California rufous-crowned sparrow, this species was not detected during surveys and would not be impacted by the project. Finally, the Study Area includes very limited amounts of cactus and there would be no impact to the coastal Cactus wren.

The Study Area contains areas of native and non-native woodland that could be used by the Cooper's hawk for nesting and foraging. The Cooper's hawk is common and exhibits high levels of adaptability within the urban matrix and would not be subject to significant impacts.

Importantly, relative to potential impacts to avifauna, the project includes requirements to conduct fuel modification activities outside the avian breeding season or requires nesting surveys where circumstances require vegetation thinning during the breeding season. Thus, with implementation of work outside the breeding season or implementation of nesting surveys, there would be no significant impacts on special-status avifauna associated with the project.

Reptiles: A number of special-status reptiles have potential to occur within portions of the Study Area, including California glossy snake, coast horned lizard, coast patch-nosed snake, coastal whiptail, orange-throated whiptail, red-diamond rattlesnake, and California legless lizard. The proposed fuel modification would not remove potential habitat but would only result in vegetation thinning and removal of dead plant material. For some species, the vegetation-thinning and associated openings created in the habitat areas could benefit certain species such as the California glossy snake. The proposed fuel modification would not result in significant impacts on special-status reptiles.

Small Mammals: One small mammal has potential for occur within portions of the Study Area, the San Diego desert woodrat. Woodrat nests are easily detected and where they are identified within the fuel modification zone, the nests would be avoided and buffered by 15 feet as for rare plants. With this measure there would be no impacts to small mammals associated with the project.

Bats: One special-status bat species, the western mastiff bat exhibits potential for occurring in the Study Area, specifically within crevices within cliff faces that occur in limited portions of the Study Area. Fuel modification activities would generally not be conducted on cliff faces due to the difficulty in safely accessing such areas and crevices in any case would not be affected. Thus, there would be no significant impact on special-status bats associated with the project.

(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

The northern-most portion of the Study Area is traversed by Laguna Creek and contains 0.76 acres of Arroyo Willow Thicket which exhibits a CNDDB Rarity Ranking of S4 and is thus not considered to have special status. The area of arroyo willow is considered riparian habitat pursuant to Section 1602 of the California Fish and Game Code and impact to riparian habitat associated with vegetation thinning for purposes of fuel modification would be considered a significant impact pursuant to CEQA. To avoid potentially significant impacts, the arroyo willow thickets would be avoided and there would be no significant impacts to this vegetation alliance or to Section 1602 jurisdiction.

The Project would not have a significant impact, either directly or through habitat modifications, on any vegetation types identified as a candidate, sensitive, or special status species in regional plans, policies, or regulations, or the CDFW or USFWS.

The CNDDB identified three special-status habitats that could potentially occur within the Study Area including southern coast live oak riparian forest, southern sycamore alder riparian woodland, and valley needlegrass grassland. None of these habitat-types were detected within the Study Area. The Study Area supports Arroyo Willow Thicket which has a Rarity Ranking of S4, but which is subject to CDFW jurisdiction; however, this vegetation alliance will be avoided.

Based on the project level vegetation mapping, areas of High Value Habitat that exhibit suitable characteristics total 7.0 acres and areas of confirmed Very High Value Habitat totals 3.45 acres. Before mitigation, impacts would be considered significant. Areas of Arroyo Willow Thicket would be avoided and areas of Coast Live Oak Woodland would be avoided with only trimming of dead branches and limited limb removal such that 4.30 acres of High Value Habitat would be avoided and 2.91 acres of Very High Value Habitat would be avoided. Table 6 depicts the actual impacts.

It is also important to note that the treatment approach described by LCF would allow for initial treatment by goat grazing in only approximately 4.9 acres were determined to be Low or Medium Value Habitat for Fuel Modification Zone 23 and approximately 12.5 acres of Low or Medium Value Habitat in Fuel Modification Zone 24 plus an additional 1.7 acres in Fuel Mod Zone 24 identified as suitable for a mixed treatment involving a combination of hand crews (to remove large woody non-native vegetation) and goat grazing (to remove finer vegetation). LCF's proposed treatment would ensure that there would be no grazing of goats in High and Very High Value Habitat as set forth in the City's policy developed for Coastal Development Permitting:

Goats will be used to implement grazed fuel modification treatment in areas of Low to Moderate Habitat Value as defined in the Laguna Beach Biological Resources Inventory, (Marsh et. al 1983, see Appendix). To determine habitat value for this purpose, Laguna Beach City GIS maps based on the above-referenced document will be initially referenced and modified as necessary based on site visits by a qualified biologist to reflect current conditions.

Thus, the impacts to areas of High and Very High Value Habitat, summarized in Table 6 below, would consist entirely of work by hand crews.

Table 6: Summary of High and Very High Habitat by Vegetation Alliance

High Value Habitat	Impacts to HVH & VHVH (Acres)	Avoidance of HVH & VHVH (Acres)
California encelia scrub	0.07	
California sagebrush – black sage scrub	0.36	
California sagebrush – California buckwheat scrub	0.08	
Coast live oak woodland		4.30
Coast live oak woodland – coastal sage scrub transition	0.81	
Disturbed California sagebrush scrub	0.85	
Lemonade berry / California sagebrush	0.29	
Maritime chaparral	0.24	
Total	**2.70**	**4.30**
Very High Value Habitat		
Arroyo willow thickets		0.08
California sagebrush - black sage scrub	0.19	
Coast live oak woodland		2.91
Coast live oak woodland - coastal sage scrub transition	0.27	
Total	**0.46**	**2.99**

With avoidance, any potential impacts to 2.70 acres of High Value Habitat and 0.46 acre of Very High Value Habitat as confirmed in the field would be reduced to less than significant as described in the Mitigation Section below.

It is also important to note that impacts to areas of native coastal scrub and chaparral habitats never remove more than 50-percent of the vegetation in accordance with the hierarchy developed for the fuel modification program. Specifically, the vegetation thinning would remove all non-native species first and then where there is still more than 50-percent cover, the following would be employed:

Where there is still over 50% vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the

hierarchical list below, beginning with the first species listed, then in descending order through the list until 50% vegetative cover has been attained:

1. *Coastal Goldenbush (Isocoma menziezii)*
2. *California Buckwheat (Erigonium fasciculatum),*
3. *Black Sage (Salivia mellifera)*
4. *California Sagebrush (Artemisia californica)*
5. *Coyote Brush (Baccharis pilularis)*[7]
6. *Monkeyflower (Mimulus aurantiacus)*
7. *Laurel Sumac (Malosma laurinus)*
8. *Toyon (Heteromeles arbutifolia)*
9. *Lemonade Berry (Rhus integrifolia)*

Thus, there would be a maximum of 50-percent native scrub removal and in most instances, it would be less than 50-percent. Thus, for purposes of mitigation, impacts to native scrub would be considered to be 50-percent of the total area subject to thinning.

For coast live oak woodland and coast live oaks and western sycamores, no trees would be removed for fuel modification purposes with only trimming as described:

For large tree species within FMZ's, non-native trees (Pinus, Eucalyptus, Washingtonia, et. al.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native large trees (Quercus, Platanus, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

Thus, there would be no significant impacts to native oaks or sycamores associated with the fuel modification program.

(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

The segment of Laguna Creek at the northern-most portion of the Study contains wetlands consisting of arroyo willow thicket and as defined by the State as set forth in the California Coastal Act, a portion of which would be wetlands as defined under Section 404 of the federal Clean Water Act. Removing vegetation for purposes of fuel modification, which would be performed with no disturbance of the substrate (i.e., "dredge or fill") would not be a significant impact to federal wetlands. However, under both the Fish and Game Code, the City's LCP and the California Coastal Act, removal of the vegetation would be considered a significant impact. As noted above, avoidance of the Arroyo Willow Thicket would also result in the avoidance of

[7] Note, Coyote Brush is not included in the City's policy developed for Coastal Development Permitting; however, it has been included at suggestion of LCF.

State wetlands and there would be no significant impacts to wetlands.

Finally, as noted, the Study Area contains streams as depicted on Exhibit 4. As noted in the LCF recommendation above, a 25-foot buffer on each side of each Significant Drainage Course will be established and the only vegetation that can be removed from within the significant drainage course would consist of non-native invasive species identified during pre-removal surveys. With establishment of the 25-foot buffers from both edges of each significant drainage, there would be no impacts to drainages as defined by the LCP.

(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

1. Wildlife Movement

The site in not located within a wildlife movement corridor and exhibits no potential for impacts to wildlife movement. Nevertheless, thinning of the vegetation as set forth in the City's Treatment Protocols would have no effect on wildlife movement. Thus, there would be no significant impacts to wildlife movement associated with the fuel modification project.

2. Nesting Birds and Migratory Bird Treaty Act Considerations

The Study Area currently contains mostly non-native groundcover and a mix of native and non-native shrubs that have the potential to support nesting birds which are protected while nesting pursuant to the Migratory Bird Treaty Act (MBTA) and Sections 3503 and 3503.5 of the California Fish and Game Code. Potential impacts to nesting birds can be mitigated to less than significant as described in the mitigation measures below. The site does not contain suitable trees for supporting raptor nests.

(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The Study area is not within nor would it conflict with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

VIII. MITIGATION MEASURES

A. Special-Status Plants

Six special-status plant species, Laguna Beach dudleya, Intermediate Mariposa lily, Nuttall's scrub oak, paniculate tarplant, Catalina mariposa lily, and Coulter's matilija poppy, occur within or occur adjacent to the proposed fuel modification zone. Of the six, impacts to Laguna Beach dudleya, Intermediate Mariposa lily, Nuttall's scrub oak would be considered significant should plants be removed by the vegetation thinning actions. The following measures are recommended to minimize impacts to special-status plants:

- To the extent practicable, vegetation thinning within coastal sage scrub and chaparral habitats should be limited to the winter months outside of the growing/blooming season to avoid impacts to special-status plants. However, if seasonal fire conditions warrant, fuel modification activities may be required during the spring and summer months. Under such circumstances, areas that are known to support or have potential to support Laguna Beach dudleya, Intermediate Mariposa lily, and Nuttall's scrub oak would be identified in the field by a biologist prior to the commencement of fuel modification activities. To avoid impacts to special-status plants, a qualified biologist shall flag locations. Fencing will be installed around special-status plants, including paniculate tarplant and Coulter's matilija poppy utilizing a 15-foot buffer (50-foot buffer for Laguna Beach dudleya) and five-foot buffer for Coulter's Matilija poppy as this is a large prominent shrub and easy to avoid while in the field) and the areas will be prohibited from fuel modification activities.

- If goats are used for vegetation thinning, the fur and hooves shall be cleaned of non-native seeds and debris to prevent distribution of weedy species.

B. High and Very High Value Habitat

The project would impact 2.70 acres of High Value Habitat and 0.46 acre of Very High Value Habitat consisting of coastal sage or chaparral habitats. As described above, the fuel modification program is designed to further limit potential impacts through selective thinning that would ensure that native vegetation cover is never reduced by more than one-half, and in many instances the loss of habitat will be substantially less than one half.

- To minimize impacts to native vegetation designated as High or Very High Value Habitat, thinning will focus on the removal of non-native species and dead or dying material to achieve a threshold of no more than fifty-percent vegetative cover. In areas dominated by non-native species or dead and dying material, cover may be reduced to less than fifty percent. Where it is not possible to reduce cover to at least fifty-percent through the removal of only non-natives, and dead or dying material, woody native species will be removed in accordance with the following hierarchy:

  Initial vegetation removals will include all non-native species as well as dead and dying vegetation. If cover is not reduced to at least fifty-percent after removing non-native

species and dead plant material, then non-special-status native species such as coastal goldenbush may be removed. If fifty-percent cover is not attained after removing coastal goldenbush, then California buckwheat will be removed followed by black sage and California sagebrush until fifty-percent cover is attained. If fifty-percent cover is not attained after removing coastal sage scrub elements, laurel sumac may be removed followed by toyon and lemonade berry until fifty-percent cover is attained.

As noted, for areas with coast live oak or western sycamore trees, trees will not be removed. Rather, as set forth in the City's protocol, "Large trees (*Quercus*, *Platanus*, et. al.) shall be pruned of dead components, and lower small branches removed to a height of 8 feet or one half their height, whichever is less, to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed.

- Finally, as noted above, with the implementation of the mitigation measures, all significant impacts can be mitigated to less than significant within the Project limits with the exception of the loss of up to 50-percent High and Very High Value Habitat. Impacts to these habitats would total approximately 3.16 acres x 50-percent = a loss of 1.58 acres of scrub habitat and would therefore be considered significant pursuant to CEQA. These impacts can be mitigated through 1:1 replacement of "in-kind" habitat or through 3:1 dedication of existing "in-kind" habitat that has been mapped as High Value or Very High Value within City open space subject to confirmation by a qualified biologist that the areas identified meet the thresholds for High and/or Very High Value Habitat.

- Therefore, to mitigate the loss of 1.58 acres of High and Very High Value Habitat, The City will create 1.58 acres of coastal/sage scrub and/or chaparral or provide for habitat dedication at a 3:1 to offset the proposed impacts and would have to occur in offsite locations within City open space. With either 1:1 restoration or 3:1 dedication, the impacts 1.58 acres of sage scrub and chaparral would be reduced to less than significant.

C. <u>Nesting Birds</u>

- To avoid impacts to nesting and migratory birds including coastal California gnatcatcher, it is recommended that any removal or clearing of vegetation be conducted outside of the breeding season, which extends from February 1 to August 31. In the event that seasonal conditions promote a high risk for wildfires, work may occur during the breeding season if a qualified biologist conducts a survey for nesting birds within 48 hours prior to the commencement of fuel modification activities in the area, and ensures that no active nests are affected.

Appendix C

Biological Resources Survey for the Additional FMZ 23-Canyon Acres Project Area

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PROJECT MEMORANDUM
FMZ 23-CANYON ACRES

Date: June 17, 2019
To: Mike Rohde, Project Manger
From: Justin Wood, Senior Biologist
Subject: Biological Resources Summary for the Additional FMZ 23-Canyon Acres Area

Purpose and Intent of the Memorandum

This memorandum was prepared by Aspen Environmental Group to support the Fuel Break in FMZ 23-Canyon Acres and FMZ-24-Laguna Canyon Project (Project). This Project is proposed by the City of Laguna Beach Fire Department (LBFD). This memorandum summarizes the biological resources that are present or could be present in an additional approximately 2-acre area in Laguna Canyon, which extends approximately 1,000 feet southwest from the originally defined FMZ 23-Canyon Acres. The 2-acre area that was surveyed and included in this memorandum is referred to as the survey area. The memorandum also discusses potential impacts to the biological resources that are present or have a potential to be present.

Site Description and Location

The additional FMZ 23 fuel break area is situated on a very steep slope behind commercial buildings along the south side of State Route 133 (Figure 1). Vegetation on the slopes to the east is dominated by coastal sage scrub and chaparral vegetation that can facilitate wildfire spread into these urban areas. The survey area comprises approximately two acres within primarily privately-owned lands.

Methods

Aspen Senior Biologist, Justin M. Wood, reviewed available literature to identify special status plants and animals known from the vicinity of the survey area. This review included searches of the California Natural Diversity Database (CNDDB; CDFW 2019) for the following USGS 7½ minute topographic quadrangles (quads): Laguna Beach, San Juan Capistrano, and Dana Point (Attachment D). Mr. Wood also reviewed the California Native Plant Society (CNPS) On-line Electronic Inventory (CNPS 2019), Consortium of California Herbaria data (CCH 2019), iNaturalist (2019), ebird (2019), and other databases for additional special-status species locations near the site. Tables 1 and 2 list all special-status species identified during the literature review that have a potential to be present and summarizes their habitat, distribution, conservation status, and probability of occurrence on the site. Attachment C lists all special-status species identified during the literature review that have no potential to be present. Mr. Wood also reviewed the NRCS soil web to determine what soil types are present within the survey area (NRCS 2019).

On May 23, 2019 Mr. Wood surveyed the additional FMZ 23 fuel break area for special-status plants and animals. He also conducted a habitat assessment for other special-status species. Photos from the survey area are provided in Attachment A. A species list of all species observed was created (Attachment B) and vegetation was described.

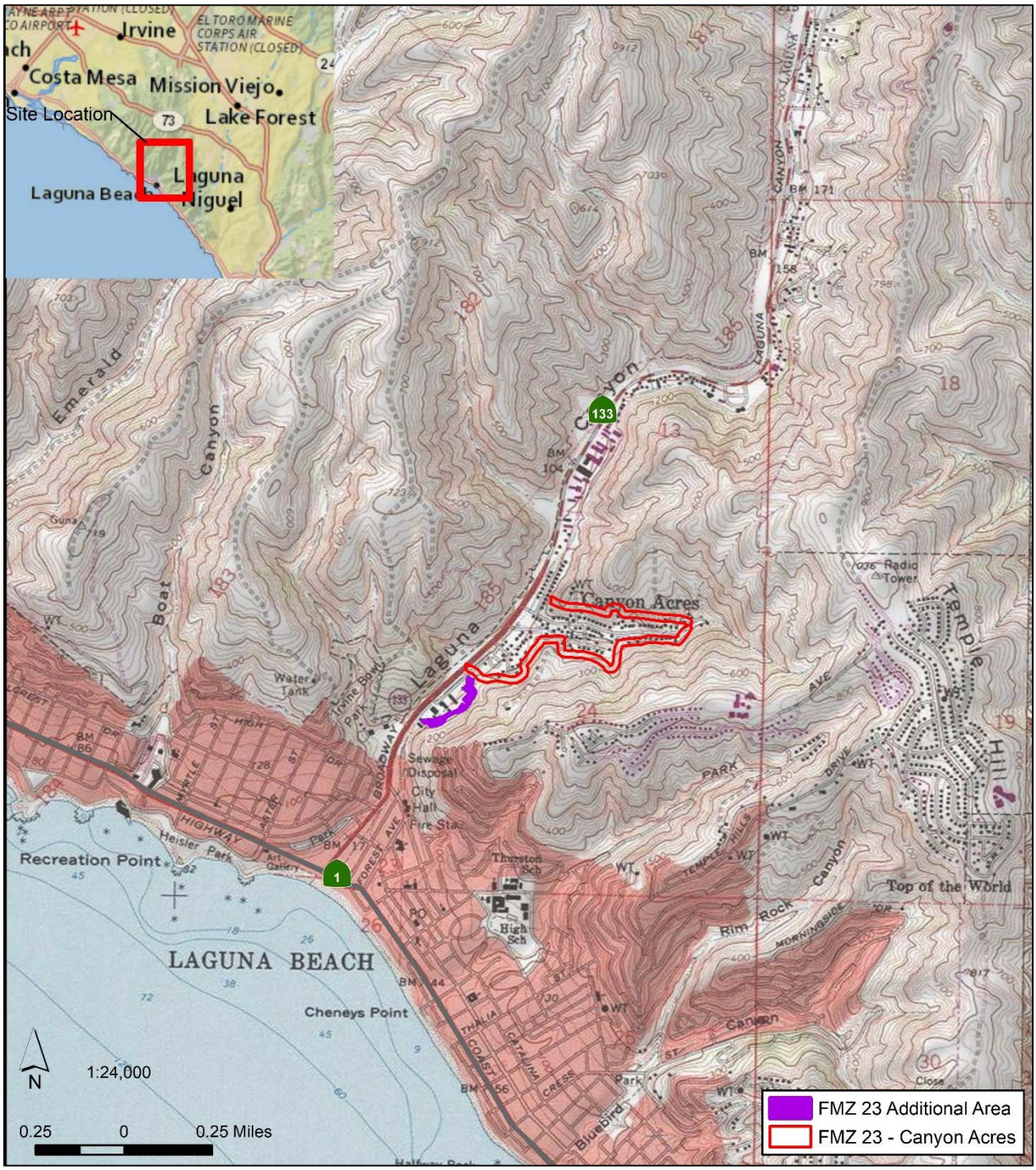

Figure 1. Additional Canyon Acres Area Location Map

Results

Soils and Vegetation

The survey area is located east of Laguna Canyon Road, approximately 0.25 miles northeast of the Laguna Beach City Hall. It is located just east of several businesses including the Laguna Beach Beer Company, Kitchen in the Canyon, Seven-Degrees, and the Sawdust Art Festival, to name a few. The elevation of the survey area rages from approximately 50 to 160 feet. Two soil types are present within the survey area. These include the following:

- Anaheim clay loam, 50 to 75 percent slopes
- Capistrano sandy loam, 2 to 9 percent slopes

In general, the survey area is dominated by steep loamy soils with several rock outcrops also present within the southern half. The survey area appears to lack heavy clay soils. As shown in Figure 2, an ephemeral drainage flows through an incised canyon, which crosses through the northern portion of the survey area. The ephemeral drainage terminates into an ornamental concrete-lined pond within the Sawdust Art Festival venue. Because of the presence of a defined bed and bank, the drainage is likely to fall under the jurisdiction of the California Department of Fish and Wildlife (CDFW). To avoid the need for a Lake and Streambed Alteration Agreement, the Project must avoid any permanent impacts to the drainage. The Project can use the drainage for pedestrian access to the work area.

Most of the vegetation within the survey area is dominated by native coastal sage scrub and chaparral shrubs. These include species such as toyon (*Heteromeles arbutifolia*), lemonadeberry (*Rhus integrifolia*), California sagebrush (*Artemisia californica*), blue elderberry (*Sambucus nigra* ssp. *caerulea*), sticky monkeyflower (*Mimulus aurantiacus*), black sage (*Salvia mellifera*), and giant wild rye (*Elymus condensatus*). The vegetation best matches descriptions of California sagebrush scrub (*Artemisia californica* Shrubland Alliance) in *A Manual of California Vegetation* (Sawyer et al. 2009). Several rock outcrops are also present that support a unique assemblage of plants such as Southern California dudleya (*Dudleya lanceolata*), Canada toadflax (*Nuttallanthus canadensis*), and various mosses and lichens.

Numerous non-native invasive and ornamental species are also present. Ornamentals such as gum trees (*Eucalyptus* sps.), ngaio tree (*Myoporum laetum*), agapanthus (*Agapanthus* sp.), and garden geraniums (*Geranium* sp.) are present along the east side of the businesses. Invasive plants present include garden nasturtium (*Tropaeolum majus*), cape ivy (*Delairea odorata*), castor bean (*Ricinus communis*), Canary Island St John's wort (*Hypericum canariense*), black mustard (*Brassica nigra*), and brome grasses (*Bromus* sps.).

Special-status Plants

Plants may be ranked as special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under the Federal Endangered Species Act or California Endangered Species Act. Others have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species of conservation concern appear on lists compiled by resource agencies or private conservation organizations. In this memo, “special-status species” includes all plants listed as threatened or endangered or included in these other compilations. All special-status plants occurring in the region in habitats like those found in the survey area are shown in Table 1, with brief descriptions of habitat and distribution, conservation status, and probability of occurrence in the survey area.

Figure 2. Additional Canyon Acres Area Detailed Map

Table 1. Special-status Plants Known from the Vicinity of the Survey Area with a Potential to be Present

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
PLANTS				
Brodiaea filifolia Thread-leaved brodiaea	Clay soils; coastal scrub; valley and foothill grasslands; vernal pools; moist open grassy areas on gentle slopes, surrounded by chaparral, woodlands, Approx. 80-2,900 ft. elev.	Mar-Jun	Fed: THR CA: END, S2 CRPR: 1B.1	Minimal. Minimally suitable habitat is present, not observed during focused survey.
Calochortus catalinae Catalina mariposa lily	Perennial herb; clay soils in grasslands, coastal sage scrub, chaparral, and woodlands; Approx. 50-2,300 ft. elev.	Mar-Jun	Fed: none CA: S3S4 CRPR: 4.2	Low. Minimally suitable habitat is present, not observed during focused survey.
Calochortus weedii var. *intermedius* Intermediate mariposa-lily	Perennial herb; rocky, calcareous soils, chaparral, coastal scrub, and valley and foothill grasslands with dry, rocky open slopes and rock outcrops. Approx. 300-2,800 ft. elev.	May-Jul	Fed: none CA: S2 CRPR: 1B.2	Moderate. Marginally suitable habitat present, known from within about 2 miles, not observed during focused survey.
Comarostaphylis diversifolia ssp. *diversifolia* Summer holly	Evergreen shrub; chaparral and cismontane woodland, Approx. 100-2,000 ft. elev.	Apr-Jun	Fed: none CA: S2 CRPR: 1B.2	Low. Suitable habitat is present, known from within about 4 miles, not observed during focused survey.
Deinandra paniculata Paniculate tarplant	Annual herb; mesic or sand sites in coastal scrub, vernal pools, and native grasslands, Approx. 80-3,000 ft. elev.	Apr-Nov	Fed: none CA: S4 CRPR: 4.2	Low. Minimally suitable habitat is present, not observed during focused survey.
Dudleya multicaulis Many-stemmed dudleya	Perennial herb; clay soils and outcrops in chaparral, coastal sage scrub, and native grasslands, Approx. 50-2,600 ft. elev.	Apr-Jul	Fed: none CA: S2 CRPR: 1B.2	Moderate. Marginally suitable habitat is present, known from within about 1 mile, not observed during focused survey.
Dudleya stolonifera Laguna Beach dudleya	Perennial stoloniferous herb; rocky habitats in chaparral, coastal sage scrub, oak woodland, and native grasslands, Approx. 30-850 ft. elev.	May-Jul	Fed: THR CA: THR, S1 CRPR: 1B.1	Moderate. Suitable habitat is present, known from within 1 mile, not observed during focused survey.
Horkelia cuneata var. *puberula* Mesa horkelia	Perennial herb; sandy or gravelly soils in oak woodlands and coastal scrub; Approx. 200-2,700 ft. elev.	Feb-Jul	Fed: none CA: S1 CRPR: 1B.1	Low. Marginally suitable habitat is present, not observed during focused surveys.
Juglans californica Southern California black walnut	Tree; chaparral, coastal scrub, cismontane woodland, and riparian woodland; Approx. 100-5,000 ft. elev.	Year-round	Fed; none CA: S4 CRPR: 4.2	Present. Two walnut trees are present, it is unclear whether these were planted or are natural.
Pentachaeta aurea ssp. *allenii* Allen's pentachaeta	Annual herb; openings in coastal sage scrub and native grasslands; Approx. 250-1,700 ft. elev.	Mar-Jun	Fed: none CA: S1 CRPR: 1B.1	Low. Minimally suitable habitat is present, not observed during focused survey.
Quercus dumosa Nuttall's scrub oak	Evergreen shrub; sandy or clay soils in coastal scrub, chaparral, and confer forest; Approx. 50-1,300 ft elev.	Year-round	Fed: none CA: S3 CRPR: 1B.1	Low. Suitable habitat is present, known from within about 3 miles, not observed during focused survey.

Table 1. Special-status Plants Known from the Vicinity of the Survey Area with a Potential to be Present

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Verbesina dissita Big-leaved crownbeard	Perennial herb; maritime chaparral and coastal scrub; Approx. 150-700 ft. elev.	Apr-Jul	Fed: THR CA: THR, S1 CRPR: 1B.1	Low. Marginally suitable habitat is present, known from within about 3 miles, not observed during focused survey.

General references (botany): Baldwin et al. 2012; CDFW 2019; CNPS 2019; and CCH 2019.

Conservation Status
Federal designations (*Fed*): (Federal Endangered Species Act, USFWS).
- END: Federally listed, endangered.
- THR: Federally listed, threatened.
- Delisted: Previously Federally listed and formally delisted.

State designations (*CA*): (California Endangered Species Act, CDFW, Fish and Game Commission)
- END: State listed, endangered.
- THR: State listed, threatened.
- RARE: State designated rare, may not be taken without permit from CDFW.
- SC: Species of Special Concern
- WL: Watch List

California Rare Plant Rank designations. Note: According to the California Native Plant Society (http://www.cnps.org/cnps/rareplants/ranking.php), plants ranked as CRPR 1A, 1B, and 2 meet definitions as threatened or endangered and are eligible for state listing. That interpretation of the state Endangered Species Act is not in general use.
- 1A: Plants presumed extinct in California.
- 1B: Plants rare and endangered in California and throughout their range.
- 2A: Plants presumed extinct in California but more common elsewhere in their range.
- 2B: Plants rare, threatened or endangered in California but more common elsewhere in their range.
- 3: Plants about which we need more information; a review list.
- 4: Plants of limited distribution; a watch list.

California Rare Plant Rank Threat designation extensions:
- .1 Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- .2 Fairly endangered in California (20-80% occurrences threatened)
- .3 Not very endangered in California (<20% of occurrences threatened or no current threats known)

Definitions of occurrence probability: Estimated occurrence probabilities are based on literature sources cited earlier, field surveys, and habitat analyses reported here.
- *Present:* Observed on the site by qualified biologists.
- *High:* Habitat is a type often utilized by the species and the site is within the known range of the species.
- *Moderate:* Site is within the known range of the species and habitat on the site is a type occasionally used.
- *Low*: Site is within the species' known range but habitat is rarely used, or the species was not found during focused surveys covering less than 100% of potential habitat or completed in marginal seasons.
- *Minimal*: No suitable habitat on the site; or well outside the species' known elevational or geographic ranges; or a focused study covering 100% of all suitable habitat, completed during the appropriate season and during a year of appropriate rainfall, did not detect the species.

Southern California walnut was the only special-status plant observed during the focused survey. No additional special-status plants were observed or are known from the survey area. Those species with at least a moderate potential to be present are discussed below.

Laguna Beach dudleya (*Dudleya stolonifera*) is a stoloniferous herb that grows on north-facing sandstone walls. It was listed as threatened under the California Endangered Species Act in 1987 and as threatened under the Federal Endangered Species Act in 1998 (USFWS 2010a). It is a narrow endemic, found only in six occurrences, all on north-facing sandstone surfaces in steep-walled canyons near Laguna Beach (USFWS 2010a). It is known from several occurrences within one mile of the survey area. Suitable habitat is present on the slopes within the survey area, however, no Laguna Beach dudleya were observed during the focused survey.

Many-stemmed dudleya (*Dudleya multicaulis*) is a small ephemeral perennial herb. It grows on clay soils and rock outcrops is chaparral, coastal sage scrub, and grassland habitats. It is ranked by CNPS as CRPR 1B.2 because of its rarity and limited range. It is known from several occurrences within one mile of the survey area. Suitable habitat is present on the slopes within the survey area, however, no many-stemmed dudleya were observed during the focused survey.

Intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*) is a perennial bulb. It grows in coastal sage scrub and chaparral on exposed slopes, among outcrops, and interspersed with scrubs. It is ranked by CNPS as CRPR 1.2 because of its rarity and limited range. It is known from several occurrences within about two miles of the survey area. Suitable habitat is present throughout the survey area, however, no Intermediate mariposa-lily were observed during the focused survey.

Southern California black walnut was the only special-status plant that was observed during the survey. It has a CRPR of 4.2, which is a "watch list," not an indicator of rarity. In addition, it is unclear whether these trees were intentionally planted or are natural to the site. Regardless, impacts to this species, should they occur, generally would not be considered significant under the California Environmental Quality Act (CEQA).

Special-status Animals

Animals may be ranked as special-status species due to declining populations, vulnerability to habitat change, or restricted distributions. Certain species have been listed as threatened or endangered under the Federal Endangered Species Act or California Endangered Species Act. Others have not been listed, but declining populations or habitat availability cause concern for their long-term viability. These species of conservation concern appear on lists compiled by resource agencies or private conservation organizations. In this memo, "special-status animals" includes all animals listed as threatened or endangered or included in these other compilations. All special-status animals occurring in the region in habitats like those found in the survey area are shown in Table 2, with brief descriptions of habitat and distribution, conservation status, and probability of occurrence in the survey area.

Table 2. Special-status Animals Known from the Vicinity of the Survey Area with a Potential to be Present

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
INVERTEBRATES				
Bombus crotchii Crotch bumble bee	Coastal Calif. in sage scrub and chaparral. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia*, and *Eriogonum*.	Spring-Summer	Fed: none CA: S1S2	Moderate. Suitable habitat and food plants present, one historic record from Laguna Beach.
Danaus plexippus pop. 1 Monarch - California overwintering population	Winter roost sites from Baja Calif. north to Mendocino County. Roosts in protected tree groves including Eucalyptus, Monterey pine, and cypresses.	Winter	Fed: none CA: S2S3	Low. Marginally suitable roost sites, such as Eucalyptus trees, are present that would support overwintering monarchs.

Table 2. Special-status Animals Known from the Vicinity of the Survey Area with a Potential to be Present

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
REPTILES AND AMPHIBIANS				
Anniella stebbinsi Southern California legless lizard	Coastal Calif. from the Transverse Range south to Baja Calif. Moist loose soils under vegetation in a variety of habitats.	Year-round	Fed: none CA: SC, S3	Moderate. Marginally suitable sandy habitat in survey area, one historic record from Laguna Beach.
Aspidoscelis hyperythra Orange-throated whiptail	So. Calif. in low-elevation coastal scrub, chaparral, and valley-foothill hardwood habitats. Prefers sandy soils.	Spring-summer	Fed: none CA: S3	Low. Suitable habitat present in survey area, known from the vicinity of the survey area.
Aspidoscelis tigris stejnegeri Coastal whiptail	Found primarily in hot and dry open areas with sparse foliage - chaparral, woodland, and riparian areas.	Spring-Summer	Fed: none CA: SC, S3	Moderate. Suitable habitat is present in survey area, known from the vicinity of the survey area.
Crotalus ruber Red-diamond rattlesnake	Chaparral, woodlands, and grasslands, from San Diego and Orange counties. Found in rocky areas with dense vegetation.	Spring-summer	Fed: none CA: SC, S3	Moderate. Suitable habitat is present in survey area, known from the vicinity of the survey area.
Phrynosoma blainvillii Coast horned lizard	Found in open areas of sandy soil and low vegetation in valleys, foothills, semiarid mountains, grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil.	Spring-Summer	Fed: none CA: SC, S3S4	Low. Minimally suitable habitat is present, known from the vicinity of the survey area.
BIRDS				
Accipiter cooperii Cooper's hawk	Hunts in broken woodland and habitat edges. Nests in dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently.	Spring-Summer	Fed: none CA: WL, S4	High (foraging). Suitable foraging habitat is present throughout the survey area. Moderate (nesting). Suitable nest sites are present throughout.
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	Frequents relatively steep, often rocky hillsides with grass and forb patches; also, grassy slopes without shrubs, if rock outcrops are present.	Spring-Summer	Fed: none CA: WL, S3	High (foraging). Suitable foraging habitat is present throughout. High (nesting). Suitable nesting habitat present.
Athene cunicularia Burrowing owl	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation.	Spring-Summer	Fed: none CA: SC, S3	Minimal (foraging and nesting). Minimally suitable nesting and foraging habitat is present.
Campylorhynchus brunneicapillus sandiegensis Coastal cactus wren	The key habitat element is thickets of chollas (*Opuntia prolifera*) or prickly-pear cacti (*O. littoralis*) tall enough to support and protect the birds' nests. Suitable conditions are found on south-facing slopes, at bases of hillsides, or in dry washes.	Spring-Summer	Fed: none CA: SC, S3	High (foraging). Suitable foraging habitat present throughout. Moderate (nesting). Suitable nesting habitat is present in and adjacent to the survey area.

Table 2. Special-status Animals Known from the Vicinity of the Survey Area with a Potential to be Present

Species Name	Habitat Requirements	Activity Season	Conservation Status	Potential to Occur
Elanus leucurus White-tailed kite	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland.	Spring-Summer	Fed: none CA: FP, S3S4	High (foraging). Suitable foraging habitat throughout. Low (nesting). Minimally suitable nesting habitat.
Polioptila californica californica Coastal California gnatcatcher	Coastal sage scrub obligates; will utilize adjacent habitats, including grasslands, chaparral, and riparian habitats for foraging and dispersal.	Year-round	Fed: THR CA: SC, S2	High (foraging). Suitable foraging habitat is present throughout. Moderate (nesting). Suitable nesting habitat is present.
Setophaga petechia Yellow warbler	Summer resident of So. Calif. in low riparian habitats in vicinity of water or dry river bottoms; found below 2,000 ft.; nests in willows, cottonwoods, aspens, sycamores, and alders.	Spring-Summer	Fed: none CA: SC, S3S4	High (foraging). Suitable foraging habitat is present throughout. Moderate (nesting). Marginally suitable nesting habitat is present.
Vireo bellii pusillus Least Bell's vireo	Summer resident of So. Calif. in low riparian habitats in vicinity of water or dry river bottoms; found below 2,000 ft.; nests primarily in willows and mulefat.	Spring-Summer	Fed: END CA: END, S2	Present. Male heard calling from within the survey area. No nests found but may be present.
MAMMALS				
Eumops perotis californicus Western mastiff bat	Lowlands; Central and So. Calif., So. Ariz., New Mexico, Southwest Texas, and Northern Mexico; roost in deep rock crevices, forage over wide area	Year-round	Fed: none CA: SC, S3S4	Moderate (foraging). Suitable foraging habitat present. Minimal (roosting). No suitable foraging habitat present.
Myotis yumanensis Yuma myotis	Common and widespread, optimal habitat is open forests and woodlands but can be found over water sources such as ponds, streams, and stock tanks. Roosts in buildings, mines, caves, or crevices.	Year-round	Fed: none CA: S4	Moderate (foraging). Suitable foraging habitat present. Minimal (roosting). No suitable foraging habitat present.
Neotoma lepida intermedia San Diego desert woodrat	Coastal scrub from San Diego County to San Luis Obispo County in dense canopies with rock outcrops, rocky cliffs, and slopes.	Year-round	Fed: none CA: SC, S3S4	High. Suitable habitat present surrounding the survey area, no middens observed during survey.
Nyctinomops macrotis Big free-tailed bat	Low-lying arid habitats in So. Calif. Roosts on cliffs and in rock outcrops. Forages in a variety of habitats and feeds on large moths.	Spring-Summer	Fed: none CA: SC, S3	Low (foraging). Suitable foraging habitat present, one record from Orange County. Minimal (roosting). No suitable foraging habitat present.

General references (animals): American Ornithologists Union (AOU) 1998 (including supplements through 2011); Erhlich 1988; Harvey, et al. 2011; Feldhamer et al. 2003; Grinnell and Miller 1944; Hall 1981; Jennings and Hayes 1994; Shuford and Gardal 2008; Stebbins 2003; Wilson and Ruff 1999.

Conservation Status (See Table 1)

One least Bell's vireo (*Vireo bellii pusillus*) was present within the survey area during the focused survey. No additional special-status animals were observed during the survey. Several special-status animals have a potential to be present and are discussed below.

Coastal California gnatcatcher (*Polioptila californica californica*) is a federally listed threatened species. It inhabits coastal sage scrub in low-lying foothills and valleys up to about 1,640 feet elevation in southwestern California and Baja California. California gnatcatchers may also occur in chaparral or other habitats adjacent to occupied coastal sage scrub, for foraging and dispersal, but they are tied to coastal sage scrub for reproduction (USFWS 2010b). The additional fuel break area is not within designated critical habitat for coastal California gnatcatcher, but critical habitat is present just over two miles to the northwest of the survey area (USFWS 2007). Suitable nesting and foraging habitats are present throughout the additional fuel break area in areas vegetated by coastal sage scrub. Gnatcatchers were not observed during the survey; however, a protocol-level survey was not conducted. California gnatcatchers have been observed numerous times within Laguna Canyon, including two records within about 0.30 miles of the survey area (ebird 2019).

Least Bell's vireo (*Vireo bellii pusillus*) is listed as both State and federally endangered (CDFW 2019). Least bell's vireos were once widespread throughout Southern California, but their range was greatly reduced in the 1980s and 1990s. In recent years their numbers have begun to increase range-wide and they have been expanding their range and elevation limits. They primarily nest in riparian habitats dominated by willows of mixed age composition. These areas frequently include other trees such as cottonwood, California sycamore, willows, and mulefat. They also occasionally nest in upland vegetation that is in close proximity to riparian habitat and provide similar habitat structure as the riparian habitat. The survey area is not within designated critical habitat for least Bell's vireo and the nearest critical habitat is more than 10 miles from the survey area (USFWS 1994). Atypical nesting and foraging habitat are present within the survey area and it was occupied by at least one least Bell's vireo during the survey.

Special-status invertebrates. Crotch bumble bee (*Bombus crotchii*) in the only special-status invertebrate with at least a moderate potential to occur within the survey area. It is a widespread secretive species that is known from more than two hundred locations over a broad geographic range. It is typically found in openings in grassland and scrub habitats where it burrows into the ground and lives in colonies. It feeds on a variety of native plants including milkweed (*Asclepias* sps.), pincushion (*Chaenactis* sps.), lupine (*Lupinus* sps.), phacelia (*Phacelia* sps.), sage (*Salvia* sps.), snapdragon (*Antirrhinum* sps.), clarkia (*Clarkia* sps.), bush poppy (*Dendromecon rigida*), and buckwheat (*Eriogonum* sps.). Many of these food plants are present in the survey area; therefore, crotch bumblebee may be present within the survey area, either for burrowing or foraging.

Special-status reptiles. Special-status reptiles that have at least a moderate potential to be present within the survey area include Southern California legless lizard (*Anniella stebbinsi*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), and red-diamond rattlesnake (*Crotalus ruber*). All of these species are found primarily in open areas with sparse foliage including chaparral, woodland, and riparian areas. They may occasionally utilize the habitat within the survey area. No special-status reptiles were observed during the focused survey; however, suitable habitat is present throughout the survey area and these species could to be present.

Special-status birds. Several special-status birds including Cooper's hawk (*Accipiter cooperi*), Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegensis*), yellow warbler (*Setophaga petechia*), and white-tailed kite (*Elanus leucurus*) could occupy the survey area, at least seasonally (Table 2). Habitat suitability for these species

ranges from moderate to high for foraging potential. None of these special-status birds were observed during the field survey; however, suitable habitat is present throughout the survey area and these species could to be present.

Special-status mammals. Three special-status bats including western mastiff bat (*Eumops perotis californicus*), big free-tailed bat (*Nyctinomops macrotis*), and Yuma myotis (*Myotis yumanensis*) have a moderate potential to forage over the survey area. No suitable bat roosts were observed within or adjacent to the survey area. Additionally, the San Diego desert woodrat (*Neotoma lepida intermedia*) may occupy the survey area. San Diego woodrat are common in chaparral and coastal sage scrub with rock outcrops. It could utilize the survey area for foraging or could construct a midden in the coastal sage scrub.

Sensitive Natural Communities

Four sensitive natural communities were identified in the literature review and database search. These natural communities included valley needlegrass grassland, southern coast live oak riparian forest, southern cottonwood willow riparian forest, and sycamore alder riparian woodland. The vegetation within the survey area does not match any of these vegetation types.

Impacts and Discussion

No State and federally listed plants were observed within the survey area. State and federally threatened Laguna Beach dudleya has at least a moderate potential to be present. Many-stemmed dudleya has a CRPR of 1B.1 and intermediate mariposa-lily has a CRPR of 1B.2 and both of these species have a moderate potential to be present. All of these species, if present, would be generally be growing on the rock outcrops and steep slopes within the southern half of the survey area. The Project is not expected to impact these rock outcrops; therefore, impacts to these species are expected to be less than significant.

Southern California black walnut was present within the survey area and has a CRPR of 4.2, which is a "watch list" and not an indicator of rarity. Impacts to generally would not be considered significant under CEQA.

Least Bell's vireo is federally listed and was present within the survey. Impacts to least Bell's vireo habitat would be less than significant given the abundance of suitable riparian habitat within Laguna Canyon. Direct impacts to least Bell's vireo will be avoided with implementation of Environmental Commitment 1 (EC-1) as shown below. With the implementation of EC-1, impacts to special-status species, including least Bell's vireo, will also be less than significant.

Federally listed coastal California gnatcatcher and several other special-status animals have at least a moderate potential to be present. Impacts to coastal California gnatcatcher habitat would be less than significant given the abundance of coastal sage scrub in the surrounding open space. Direct impacts to California gnatcatcher will be avoided with implementation of the environmental commitment (EC) or mitigation measure, as shown below. With the implementation of EC-1, impacts to special-status species will also be less than significant.

> ***EC-1: Pre-construction biological survey.*** *No more than 24 hours prior to the start of vegetation removal, a biologist will survey the Project site for nesting birds and special-status species, including coastal California gnatcatcher. If any species are present, a buffer zone shall be flagged around the nesting site(s) in compliance with the biologist's recommendations before work commences. Contractor personnel shall be directed to check all vegetation for nests before vegetation clearance,*

and to cease work in the area immediately if one is found until a qualified biologist can assess it. If work ceases for more than two days, another nesting bird survey shall be required before work can recommence. No direct impacts to coastal California gnatcatcher will allowed without consultation with the U.S. Fish and Wildlife Service prior to the start of the Project.

Conclusion

The Project has the potential to impact a listed species and several special-status species. With implementation of the proposed environmental commitment, biological resources impacts would be reduced to less than significant.

References

American Ornithologists' Union (AOU). 1998. Checklist of North American birds, seventh edition, and supplements. American Ornithologists' Union, Washington, D.C.

Baldwin, B.G., D.H. Goldman, D.J. Keil, R. Patterson, T.J. Rosatti, D.H. Wilken (eds.) 2012. The Jepson Manual: Vascular Plants of California, 2nd ed. University Press, Berkeley, California.

CDFW (California Department of Fish and Wildlife). 2019. California Natural Diversity Database (CNDDB), Rarefind, Version 5. Heritage section, CDFW, Sacramento.

CNPS (California Native Plant Society, Rare Plant Program). 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). [Online]: www.rareplants.cnps.org. Accessed May 2019.

CCH (Consortium of California Herbaria). 2019. Botanical specimen data provided by the participants of the Consortium of California Herbaria. [Online]: http://ucjeps.berkeley.edu/consortium/. Accessed May 2019.

ebird. 2019. [Online]: https://ebird.org/explore. Accessed May 2019.

Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The Birder's Handbook: A Field Guide to the Natural History of North American Birds. Fireside Book Publishing by Simon & Schuster Inc., New York, New York.

Feldhamer, G.A., B.C. Thompson, and J.A. Chapman (eds.). 2003. Wild Mammals of North America: Biology, Management and Conservation, 2nd ed. Johns Hopkins University Press, Baltimore MD.

Grinnell, J. and A.H. Miller. 1944. The distribution of the birds of California. Cooper Ornithological Club, Berkeley, California (reprint 1986 by Artemisia Press, Lee Vining, Calif.).

Hall, E.R. 1981. The Mammals of North America. John Wiley and Sons, New York.

Harvey, M. J., J. S. Altenbach, and T.L. Best. 2011. Bats of the United States and Canada. John Hopkins University Press, Baltimore, Maryland.

iNaturalist. 2019. [Online]: https://www.inaturalist.org/. Accessed May 2019.

Jennings, M.R. and M.P. Hayes. 1994. Amphibian and reptile species of special concern in California. California Dept. of Fish and Game, Sacramento.

NRCS (Natural Resource Conservation Service). 2019. Web Soil Survey 2.0. [Online]: http://websoilsurvey.nrcs.usda.gov/. Accessed May 2019.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evans. 2009. Manual of California Vegetation, 2nd ed. California Native Plant Society, Sacramento, California. 1300 pp.

Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento.

Stebbins, R.C. 2003. Western Reptiles and Amphibians, 3rd ed. Houghton Mifflin Company, Boston Mass.

USFWS (United States Fish and Wildlife Service). 1994. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Least Bell's Vireo; Final Rule. Federal Register 59:4845-4867 (February 2).

_____. 2007. Endangered and Threatened Wildlife and Plants; Revised Designation of Critical Habitat for the Coastal California Gnatcatcher (*Polioptila californica californica*); Final Rule. Federal Register 72:72010-72213 (December 19).

_____. 2010a. 5-year Review: Summary and Evaluation for Laguna Beach liveforever (*Dudleya stolonifera*) (April 16).

_____. 2010b. 5-year Review: Summary and Evaluation for Coastal California gnatcatcher (*Polioptila californica californica*) (September 29).

Wilson, D.E. and S. Ruff (eds.). 1999. Smithsonian Book of North American Mammals. Smithsonian Institution Press, Washington DC.

ATTACHMENT A: PHOTO EXHIBIT

Photo 1: View of typical vegetation in the southern half of the survey area.

Photo 3: View of the large drainage that is present in the northern portion of the survey area.

Photo 2: View of typical vegetation in the northern half of the survey area.

Photo 4: View of suitable outcrop habitat for Laguna Beach dudleya.

Attachment B. Species Observed in the Survey Area	
Latin Name	Common Name
VASCULAR PLANTS	
Dicotyledons	
ADOXACEAE	MUSKROOT FAMILY
Sambucus nigra ssp. *cerulea*	Blue elderberry
ANACARDIACEAE	SUMAC or CASHEW FAMILY
Rhus integrifolia	Lemonade berry
* *Schinus molle*	Peruvian pepper tree
Toxicodendron diversilobum	Western poison oak
APIACEAE	CELERY FAMILY
* *Conium maculatum*	Poison hemlock
Daucus pusillus	Wild carrot
* *Foeniculum vulgare*	Fennel
Sanicula crassicaulis	Pacific sanicle
ASTERACEAE	ASTER FAMILY
Acourtia microcephala	Sacapellote
Artemisia californica	California sagebrush
Artemisia dracunculus	Tarragon
Baccharis pilularis	Coyote brush
Baccharis salicifolia	Mule fat
* *Carduus pycnocephalus*	Italian thistle
* *Centaurea melitensis*	Tocalote
* *Delairea odorata*	Cape ivy
Encelia californica	California encelia
* *Erigeron bonariensis*	Flax-leaved horseweed
Isocoma menziesii	Coastal goldenbush
Pseudognaphalium biolettii	Two-color rabbit-tobacco
Pseudognaphalium californicum	California everlasting
Rafinesquia californica	California chicory
* *Sonchus asper* ssp. *asper*	*Prickly sow thistle*
* *Sonchus oleraceus*	*Common sow thistle*
Stephanomeria virgata	Wreath plant
BORAGINACEAE	BORAGE OR WATERLEAF FAMILY
* *Echium candicans*	Pride of Madeira
Eucrypta chrysanthemifolia	Common eucrypta
Phacelia ramosissima	Branching phacelia
BRASSICACEAE	MUSTARD FAMILY
* *Brassica nigra*	Black mustard
* *Hirschfeldia incana*	Shortpod mustard
CARYOPHYLLACEAE	PINK FAMILY, CARNATION FAMILY
Silene laciniata	Cardinal catchfly
* *Stellaria media*	Chickweed
CHENOPODIACEAE	GOOSEFOOT FAMILY
* *Chenopodium californicum*	California goosefoot
* *Salsola tragus*	Russian thistle

Attachment B. Species Observed in the Survey Area	
Latin Name	Common Name
CONVOLVULACEAE	MORNING GLORY FAMILY
Calystegia macrostegia	Island morning glory
CRASSULACEAE	STONECROP FAMILY
Dudleya lanceolata	Southern California dudleya
CUCURBITACEAE	CUCUMBER FAMILY
Marah macrocarpa	Chilicothe
EUPHORBIACEAE	SPURGE FAMILY
* *Euphorbia maculata*	Spotted spurge
Euphorbia serpillifolia (?)	Thyme-leafed spurge
* *Ricinus communis*	Castor bean
FABACEAE	LEGUME FAMILY, PEA FAMILY
* *Acacia redolens*	Bank catclaw
Acmispon glaber	Deerweed
Lupinus succulentus	Arroyo lupine
Trifolium willdenovii	Tomcat clover
FAGACEAE	OAK FAMILY
Quercus berberidifolia	Scrub oak
GERANIACEAE	GERANIUM FAMILY
* *Erodium cicutarium*	Redstem filaree
GROSSULARIACEAE	GOOSEBERRY FAMILY
Ribes speciosum	Fuchsia flowered gooseberry
HYPERICACEAE	ST. JOHN'S WART FAMILY
Hypericum canariense	Canary Island St John's wort
JUGLANDACEAE	WALNUT FAMILY
** *Juglans californica* (?)	Southern California black walnut
Juglans regia (?)	*English walnut*
LAMIACEAE	MINT FAMILY
* *Lavandula* sp.	Unid. lavender
* *Marrubium vulgare*	Horehound
* *Salvia microphylla*	Baby sage
Salvia mellifera	Black sage
MALVACEAE	MALLOW FAMILY
Malacothamnus fasciculatus	Chaparral bush mallow
* *Malva parviflora*	Cheeseweed
MONTIACEAE	MINER"S LETTUCE FAMILY
Claytonia perfoliata	Miner's lettuce
MORACEAE	FIG TREE FAMILY
* *Ficus* sp.	Unid. ficus
MYRSINACEAE	MYRSINE FAMILY
* *Anagallis arvensis*	Scarlet pimpernel
OXALIDACEAE	WOOD SORREL FAMILY
* *Oxalis pes-caprae*	Bermuda buttercup
PAPAVERACEAE	POPPY FAMILY
Eschscholzia californica	California poppy

Attachment B. Species Observed in the Survey Area	
Latin Name	Common Name
PHRYMACEAE	MONKEYFLOWER FAMILY
Mimulus aurantiacus	Sticky monkeyflower
PLANTAGINACEAE	PLANTAIN FAMILY
Antirrhinum coulterianum	Coulter's snapdragon
Keckiella cordifolia	Climbing penstemon
Nuttallanthus texanus	Blue toadflax
Plantago erecta	California plantain
POLEMONIACEAE	PHLOX FAMILY
Gilia angelensis	Chaparral gilia
POLYGONACEAE	BUCKWHEAT FAMILY
Eriogonum fasciculatum	California buckwheat
ROSACEAE	ROSE FAMILY
* *Cotoneaster* sp.	Unid. cotoneaster
Heteromeles arbutifolia	Toyon
* *Prunus* sp.	Unid. ornamental shrub
Rubus ursinus	California blackberry
RUBIACEAE	BEDSTRAW FAMILY
Galium nuttallii	Climbing bedstraw
SCROPHULARIACEAE	FIGWORT FAMILY
* *Myoporum laetum*	Ngaio tree
Nuttallanthus canadensis	Canada toadflax
SOLANACEAE	NIGHTSHADE FAMILY
Datura wrightii	Jimsonweed
Salpichroa origanifolia	Lily of the valley vine
TROPAEOLACEAE	NASTURTIUM FAMILY
* *Tropaeolum majus*	Garden nasturtium
URTICACEAE	NETTLE FAMILY
* *Urtica urens*	Dwarf nettle
VERBENACEAE	VERVAIN FAMILY
* *Lantana* sp.	Unid. lantana
Monocotyledons	
AGAVACEAE	AGAVE FAMILY
* *Agave americana*	American century plant
POACEAE	GRASS FAMILY
* *Avena fatua*	Wild oat
* *Brachypodium distachyon*	Purple false brome
* *Bromus diandrus (B. rigidus)*	Ripgut brome
* *Bromus madritensis ssp. rubens*	Red brome
* *Cortaderia selloana*	Pampas grass
* *Ehrharta erecta*	Upright veldt grass
Elymus condensatus	Giant wild-rye
* *Festuca perennis*	Awned Italian ryegrass
Melica imperfecta	Coast range melic

Attachment B. Species Observed in the Survey Area	
Latin Name	Common Name
Muhlenbergia microsperma	Littleseed muhly
THEMIDACEAE	BRODIAEA FAMILY
Dichelostemma capitatum	Wild hyacinth
VERTEBRATE ANIMALS	
AVES	
CATHARTIDAE	VULTURES
Cathartes aura	Turkey vulture
ACCIPITRIDAE	HAWKS, EAGLES, HARRIERS
Buteo jamaicensis	Red-tailed hawk
TROCHILIDAE	HUMMINGBIRDS
Calypte anna	Anna's hummingbird
EMBERIZIDAE	SPARROWS, WARBLERS, TANAGERS
Pipilo crissalis	California towhee
CARDINALIDAE	CARDINALS AND GROSBEAKS
Pheucticus melanocephalus	Black-headed grosbeak
TYRANNIDAE	FLYCATCHERS
Empidonax difficilis	Pacific-slope flycatcher
VIREONIDAE	VIREOS
** *Vireo bellii pusillus*	Least Bell's vireo
REPTILIA	
IGUANIDAE	IGUANID LIZARDS
Uta stansburiana	Side-blotched lizard
COLUBRIDAE	COLUBRID SNAKES
Lampropeltis getula	California kingsnake
MAMMALIA	
CANIDAE	DOGS, FOXES, AND COYOTES
Canis latrans	Coyote (tracks and scat)
FELIDAE	CATS
Lynx rufus	*Bobcat* (scat)

Non-native species indicated by asterisk, special-status species indicated by two asterisks. This list includes only species observed on the site. Others may have been overlooked or unidentifiable due to season (amphibians are active during rains, reptiles during summer, some birds (and bats) migrate out of the area for summer or winter, some mammals hibernate, many plants are identifiable only in spring). Plants were identified using keys, descriptions, and illustrations in Baldwin et al. (2012) and nomenclature generally follow Jepson eflora (http://ucjeps.berkeley.edu/IJM.html). Wildlife taxonomy and nomenclature generally follow Stebbins (2003) for amphibians and reptiles, AOU (1998) for birds, and Wilson and Ruff (1999) for mammals.

Attachment C. Special-status Species Not Addressed#

Scientific Name	Common Name	Reason for Exclusion
PLANTS		
Aphanisma blitoides	Aphanisma	No suitable alkali substrates or sea cliff habitat
Atriplex coulteri	Coulter's saltbush	No suitable alkali substrates
Atriplex pacifica	South coast saltscale	No suitable alkali substrates
Atriplex parishii	Parish's brittlescale	No suitable alkali substrates
Atriplex serenana var. *davidsonii*	Davidson's saltscale	No suitable alkali substrates
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	No suitable coastal dune habitat
Centromadia parryi ssp. *australis*	Southern tarplant	No suitable alkali substrates or seasonally mesic habitats
Dudleya blochmaniae ssp. *blochmaniae*	Bochman's dudleya	No suitable coastal bluff habitat
Euphorbia misera	Cliff spurge	No suitable alkali substrates or sea cliff habitat
Harpagonella palmeri	Palmer's grapplinghook	No suitable heavy clay soil in grassland
Isocoma menziesii var. *decumbens*	Decumbent goldenbush	No suitable coastal marsh habitat
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	No suitable marsh or vernal pool habitat
Nama stenocarpa	Mud nama	No suitable aquatic habitat
Navarretia prostrata	Prostrate vernal pool navarretia	No suitable vernal pool habitat
Pseudognaphalium leucocephalum	White rabbit-tobacco	No suitable wash habitat
Senecio aphanactis	Chaparral ragwort	No suitable alkali substrates
Suaeda esteroa	Estuary seablite	No suitable alkali substrates or sea cliff habitat
FISHES		
Eucyclogobius newberryi	Tidewater goby	No suitable aquatic habitat
Gila orcuttii	Arroyo chub	No suitable aquatic habitat
Oncorhynchus mykiss irideus pop. 10	Steelhead - southern California DPS	No suitable aquatic habitat
REPTILES AND AMPHIBIANS		
Arizona elegans occidentalis	California glossy snake	No suitable coastal scrub habitat
Emys marmorata	Western pond turtle	No suitable aquatic habitat
Spea hammondii	Western spadefoot	No suitable aquatic habitat
Thamnophis hammondii	Two-striped garter snake	No suitable aquatic habitat
BIRDS		
Agelaius tricolor	Tricolored blackbird	No suitable marsh of grassland habitat
Ammodramus savannarum	Grasshopper sparrow	No suitable grassland habitat
Coturnicops noveboracensis	Yellow rail	No suitable wetland habitat
Icteria virens	Yellow-breasted chat	No suitable riparian habitat
Passerculus sandwichensis beldingi	Belding's savannah sparrow	No suitable saltmarsh habitat
MAMMALS		
Chaetodipus californicus femoralis	Dulzura pocket mouse	Well outside of geographic range
Choeronycteris mexicana	Mexican long-tongued bat	Well outside of geographic range
Perognathus longimembris pacificus	Pacific pocket mouse	No suitable sea cliff habitat

ATTACHMENT D: CNDDB RESULTS

Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Laguna Beach (3311757) OR Dana Point (3311746) OR San Juan Capistrano (3311756))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Accipiter cooperii Cooper's hawk	ABNKC12040	None	None	G5	S4	WL
Agelaius tricolor tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
Aimophila ruficeps canescens southern California rufous-crowned sparrow	ABPBX91091	None	None	G5T3	S3	WL
Ammodramus savannarum grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
Anniella stebbinsi southern California legless lizard	ARACC01060	None	None	G3	S3	SSC
Aphanisma blitoides aphanisma	PDCHE02010	None	None	G3G4	S2	1B.2
Arizona elegans occidentalis California glossy snake	ARADB01017	None	None	G5T2	S2	SSC
Aspidoscelis hyperythra orange-throated whiptail	ARACJ02060	None	None	G5	S2S3	WL
Aspidoscelis tigris stejnegeri coastal whiptail	ARACJ02143	None	None	G5T5	S3	SSC
Athene cunicularia burrowing owl	ABNSB10010	None	None	G4	S3	SSC
Atriplex coulteri Coulter's saltbush	PDCHE040E0	None	None	G3	S1S2	1B.2
Atriplex pacifica south coast saltscale	PDCHE041C0	None	None	G4	S2	1B.2
Atriplex parishii Parish's brittlescale	PDCHE041D0	None	None	G1G2	S1	1B.1
Atriplex serenana var. davidsonii Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
Bombus crotchii Crotch bumble bee	IIHYM24480	None	None	G3G4	S1S2	
Brodiaea filifolia thread-leaved brodiaea	PMLIL0C050	Threatened	Endangered	G2	S2	1B.1
Calochortus weedii var. intermedius intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
Campylorhynchus brunneicapillus sandiegensis coastal cactus wren	ABPBG02095	None	None	G5T3Q	S3	SSC
Centromadia parryi ssp. australis southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Chaenactis glabriuscula var. orcuttiana Orcutt's pincushion	PDAST20095	None	None	G5T1T2	S1	1B.1
Chaetodipus californicus femoralis Dulzura pocket mouse	AMAFD05021	None	None	G5T3	S3	SSC
Choeronycteris mexicana Mexican long-tongued bat	AMACB02010	None	None	G4	S1	SSC
Comarostaphylis diversifolia ssp. diversifolia summer holly	PDERI0B011	None	None	G3T2	S2	1B.2
Coturnicops noveboracensis yellow rail	ABNME01010	None	None	G4	S1S2	SSC
Crotalus ruber red-diamond rattlesnake	ARADE02090	None	None	G4	S3	SSC
Danaus plexippus pop. 1 monarch - California overwintering population	IILEPP2012	None	None	G4T2T3	S2S3	
Dudleya blochmaniae ssp. blochmaniae Blochman's dudleya	PDCRA04051	None	None	G3T2	S2	1B.1
Dudleya multicaulis many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
Dudleya stolonifera Laguna Beach dudleya	PDCRA040P0	Threatened	Threatened	G1	S1	1B.1
Elanus leucurus white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
Emys marmorata western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
Eucyclogobius newberryi tidewater goby	AFCQN04010	Endangered	None	G3	S3	SSC
Eumops perotis californicus western mastiff bat	AMACD02011	None	None	G5T4	S3S4	SSC
Euphorbia misera cliff spurge	PDEUP0Q1B0	None	None	G5	S2	2B.2
Gila orcuttii arroyo chub	AFCJB13120	None	None	G2	S2	SSC
Harpagonella palmeri Palmer's grapplinghook	PDBOR0H010	None	None	G4	S3	4.2
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Icteria virens yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
Isocoma menziesii var. decumbens decumbent goldenbush	PDAST57091	None	None	G3G5T2T3	S2	1B.2
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Myotis yumanensis Yuma myotis	AMACC01020	None	None	G5	S4	
Nama stenocarpa mud nama	PDHYD0A0H0	None	None	G4G5	S1S2	2B.2
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
Neotoma lepida intermedia San Diego desert woodrat	AMAFF08041	None	None	G5T3T4	S3S4	SSC
Nyctinomops macrotis big free-tailed bat	AMACD04020	None	None	G5	S3	SSC
Oncorhynchus mykiss irideus pop. 10 steelhead - southern California DPS	AFCHA0209J	Endangered	None	G5T1Q	S1	
Passerculus sandwichensis beldingi Belding's savannah sparrow	ABPBX99015	None	Endangered	G5T3	S3	
Pentachaeta aurea ssp. allenii Allen's pentachaeta	PDAST6X021	None	None	G4T1	S1	1B.1
Perognathus longimembris pacificus Pacific pocket mouse	AMAFD01042	Endangered	None	G5T1	S1	SSC
Phrynosoma blainvillii coast horned lizard	ARACF12100	None	None	G3G4	S3S4	SSC
Polioptila californica californica coastal California gnatcatcher	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
Pseudognaphalium leucocephalum white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
Quercus dumosa Nuttall's scrub oak	PDFAG050D0	None	None	G3	S3	1B.1
Senecio aphanactis chaparral ragwort	PDAST8H060	None	None	G3	S2	2B.2
Setophaga petechia yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
Southern Coast Live Oak Riparian Forest Southern Coast Live Oak Riparian Forest	CTT61310CA	None	None	G4	S4	
Southern Cottonwood Willow Riparian Forest Southern Cottonwood Willow Riparian Forest	CTT61330CA	None	None	G3	S3.2	
Southern Sycamore Alder Riparian Woodland Southern Sycamore Alder Riparian Woodland	CTT62400CA	None	None	G4	S4	
Spea hammondii western spadefoot	AAABF02020	None	None	G3	S3	SSC
Suaeda esteroa estuary seablite	PDCHE0P0D0	None	None	G3	S2	1B.2
Thamnophis hammondii two-striped gartersnake	ARADB36160	None	None	G4	S3S4	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Valley Needlegrass Grassland	CTT42110CA	None	None	G3	S3.1	
Valley Needlegrass Grassland						
Verbesina dissita	PDAST9R050	Threatened	Threatened	G1G2	S1	1B.1
big-leaved crownbeard						
Vireo bellii pusillus	ABPBW01114	Endangered	Endangered	G5T2	S2	
least Bell's vireo						

Record Count: 64

Appendix D

Cultural Resources Resource Survey and Summary Reports

CULTURAL RESOURCE SURVEY REPORT

FUEL BREAKS IN FMZ 23 (CANYON ACRES) AND FMZ 24 (LAGUNA CANYON)

LAGUNA BEACH, ORANGE COUNTY, CALIFORNIA

LSA

March 2019

CULTURAL RESOURCE SURVEY REPORT

FUEL BREAKS IN FMZ 23 (CANYON ACRES) AND FMZ 24 (LAGUNA CANYON)

LAGUNA BEACH, ORANGE COUNTY, CALIFORNIA

Submitted to:

James Brown, Fire Marshal
City of Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, California 92651

Prepared by:

Kerrie Collison, RPA
LSA
285 South Street, Suite P
San Luis Obispo, California 93401
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Project No. LAB1804

Key Information:
USGS Map: *Laguna Beach, California* (USGS 1981)
Project Acreage: 54 acres
Area Surveyed: 11.54 acres
Key Words: CEQA Survey, Gabrielino, Negative Survey

LSA

March 2019

EXECUTIVE SUMMARY

LSA is under contract to the City of Laguna Beach (City) to conduct a cultural resource survey for the Fuel Breaks in Fuel Management Zone (FMZ) 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project (project) in Laguna Beach, Orange County, California. LSA's work for the project included a record search, a field survey, and this report. The City conducted Native American consultation per Assembly Bill 52, and the results of the consultation efforts are summarized in this report. All work has been completed per the requirements of the California Environmental Quality Act of 1970.

No prehistoric resources were identified in the project area as a result of the record search and field survey and no tribal cultural resources were identified in the project area as a result of the Native American consultation conducted by the City. One cultural resource is mapped by the South Central Coastal Information Center as including the project area, but the resource is a historic district of multiple cottages, none of which the project would impact. Marine shell was found within the project area but was determined to be paleontological in nature.

No further cultural studies are recommended and no archaeological monitoring is recommended during project activities. However, LSA recommends that a qualified professional archaeologist be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until grading and excavation is complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

In the unlikely event that human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to State Public Resources Code Section 5097.98. The County coroner must be notified of the find immediately. If the remains are determined to be Native American, the County coroner would notify the Native American Heritage Commission, which would determine and notify a Most Likely Descendent (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials, preservation of Native American human remains and associated items in place, relinquishment of Native American human remains and associated items to the descendants for treatment, or any other culturally appropriate treatment.

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APPENDICES

LIST OF ABBREVIATIONS AND ACRONYMS

CEQA	California Environmental Quality Act
City	City of Laguna Beach
FMZ	Fuel Management Zone
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
project	Fuel Management Zone 23 (Canyon Acres) and Fuel Management Zone 24 (Laguna Canyon) Project
USGS	United States Geological Survey

INTRODUCTION

LSA is under contract to the City of Laguna Beach (City) to conduct a cultural resources survey for the Fuel Breaks in Fuel Management Zone (FMZ) 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project (project) in Laguna Beach, Orange County, California. LSA's work for the project included a records search, a field survey, and this report. The City conducted Native American consultation per Assembly Bill 52; the results of the consultation efforts are summarized in this report. All work has been completed per the requirements of the California Environmental Quality Act of 1970 (CEQA).

PROJECT DESCRIPTION AND LOCATION

The City maintains FMZs as part of its wildland fire prevention program, some of which are subject to coastal development permitting. The City and the Laguna Beach Fire Department are proposing the following protocols for fuel modification treatments:

- All fuel modification will be limited to those areas within 100 feet of the property line of any inhabited structure.

- Treatments outside of these areas will be limited to targeted invasive control to minimize impacts to adjacent intact habitats and, in some cases, to serve as partial on-site mitigation for fuel modification impacts.

The primary methods for vegetation management shall consist of grazing or hand crew modification. Fuel modification will be conducted by hand crews with chainsaws, brush-cutters, and other hand tools. Other methods, including mastication, prescribed burning, mass herbicide use, crushing, chaining, or other means of mechanical conversion have been generally eliminated from consideration because of environmental risk or social/political concerns.

The approximately 54-acre project area extends along the eastern side of Laguna Canyon Road in the hills behind inhabited buildings from the intersection with El Toro Road to just south of Woodland Drive. There is also a portion of the project area on the western side of Laguna Canyon Road behind the Laguna College of Art and Design. The project area is depicted on the United States Geological Survey (USGS) *Laguna Beach, California* 7.5-minute topographic quadrangle map in Township 7 South, Range 8 West, Sections 7, 13, 18, and 24, San Bernardino Baseline and Meridian (USGS 1981; Appendix A, Figure 1).

BACKGROUND

NATURAL SETTING

The elevation of project area is dramatically varied – the lowest elevation of the project area is 50 feet above mean sea level and the highest elevation of the project area is 500 feet above mean sea level. In some parts of the project area, the elevation varies up to 72 feet between the western and eastern portions of the project area – an approximately 100-foot distance. Natural sediments of the project area consist of Miocene (23.03 to 5.333 million years ago) marine sedimentary rocks that are moderately- to well-consolidated (CGS 2015). The land cover in the project site is urban where buildings are present and coastal scrub in undeveloped areas where the project survey was conducted (DataBasin 2011).

CULTURAL SETTING

Prehistory

Of the many chronological sequences proposed for Southern California, two primary regional syntheses are commonly used in archaeological literature. The first, advanced by Wallace in 1955 and updated in 1978, is a typological approach that defines four cultural horizons, each with characteristic local variations: Early Horizon (9000–6500 BC), Milling Stone Horizon (6500–2000 BC), Intermediate Horizon (2000 BC–AD 200), and Late Prehistoric Horizon (AD 500–historic).

Employing a more ecological approach, Warren (1984) also defined four periods in Southern California prehistory: Pinto (4000–3000 BC), Gypsum (1000 BC–AD 1), Saratoga Springs (AD 500–1000), and Protohistoric (AD 1500–historic). Warren viewed cultural continuity and change in terms of various significant environmental shifts, defining the cultural ecological approach for archaeological research of the California deserts and coast. Many changes in settlement pattern and subsistence focus are viewed as cultural adaptations to a changing environment, beginning with the gradual environmental warming in the late Pleistocene and followed by the desiccation of the desert lakes during the early Holocene, a short return to pluvial conditions during the middle Holocene, and a general warming and drying trend, with periodic reversals, that continues to this day.

Ethnohistory

The traditionally identified border between the Gabrielino to the north and the Juaneño to the south is Aliso Creek (Kroeber 1976:636), placing the project area within Gabrielino territory. However, because the project area is just 2.5 miles north of Aliso Creek, the ethnohistoric backgrounds of both the Gabrielino and Juaneño are discussed below.

Gabrielino

The word “Gabrielino” refers to the Shoshonean (Takic) speaking Native Americans who lived throughout Los Angeles, western San Bernardino and Riverside, and Orange Counties, and who were historically affiliated with Mission San Gabriel Archangel. Some of these Shoshonean people also called themselves Tong-va (Johnson 1962; McCawley 1996).

The Gabrielino were hunters and gatherers who used both inland and coastal food resources. They caught and collected seasonally occurring food resources and evolved a semi-sedentary lifestyle, living in permanent and semi-permanent villages along inland watercourses and coastal estuaries. These villages took advantage of the varied resources available at such locales. Seasonally, as foods became available, the Gabrielino moved to temporary gathering camps and collected plant foods such as acorns, buckwheat, chia, berries, or fruits. They also periodically established camps along the coast or at estuaries to gather shellfish or to hunt waterfowl (Hudson 1971; McCawley 1996).

The Gabrielino lived in small, semi-permanent villages that were the focus of family life. Patrilineally linked extended families lived within each village (Kroeber 1976; Johnson 1962; Bean and Smith 1978). These kin groups were affiliated in several village clans. Both the clans and the villages were apparently exogamous and patrilocal, as Mission records suggest that after her marriage, a woman resided at her husband's village.

Gabrielino villages were politically independent even when marriage ties existed. The village was administered by a headman who inherited his position from his father. Shamans guided religious and medical activities, and group hunting or fishing was supervised by individual male specialists.

An active and elaborate Gabrielino ritual system was present when the Spanish padres arrived to establish Mission San Gabriel. Rituals included individual rites of passage, village rites, and participation in the widespread Chinigchinich cult. The cult of the culture hero, Chinigchinich, was observed and recorded by Franciscan Friar Geronimo Boscana while he resided at Missions San Juan Capistrano and San Luis Rey (Harrington 1933, 1934; Boscana 1933; Hanna 1933).

Juaneño

The Juaneño, named after Mission San Juan Capistrano, occupied a relatively small territory between the Gabrielino on the north and Luiseño territory to the south. Juaneño language was a dialect of the Luiseño language (Kroeber 1976), and Juaneño territory extended from the ocean to the southern crest of the Santa Ana Mountains. Southward, Juaneño territory ran between the San Onofre and Las Pulgas Creeks north to Los Alisos Creek (Kroeber 1976). Much of what is known about the Juaneño comes from studies of the Gabrielino and Luiseño.

As stated, Juaneño speech was a dialect of Luiseño, but as White (1963:104) states, the differences between the Juaneño and Luiseño "did not prevent mutual understanding." White (1963:104) also states that although local variations in culture existed between Juaneño and Luiseño, it was at a village level rather than a tribe level, suggesting only minor differences between the two groups. Sparkman (1908) and White (1963) believed that the Juaneño were really a subgroup of the greater Luiseño tribe. O'Neil (1988:107, 111) also refers to the Juaneño being a coastal branch of the Luiseño.

Merriam (1968) extends Juaneño territory northward to the Santa Ana River and Newport Bay. This is quite a distance north into what is considered coastal Gabrielino territory when compared with previous territory descriptions. However, previous descriptions of Juaneño affiliation suggest major similarities between the Luiseño and Juaneño, suggesting that extending Juaneño territory north of

Aliso Creek is not valid. In any event, major similarities existed between the Luiseño and Juaneño groups, much greater than the similarities between the Juaneño and Gabrielino.

Juaneño culture was similar to Gabrielino culture in that it was characterized by an elaborate system of ritual and ceremony. The Gabrielino jimson weed ceremonies were practiced by the Juaneño, who in turn helped convey them to the Luiseño. As with the Luiseño, these rites were inspired by their god, *Chinigchinich,* and were recorded by Franciscan Friar Gerónimo Boscana during his residence at Missions San Juan Capistrano and San Luis Rey (Boscana 1933; Bright 1978:iii; Harrington 1933, 1934). Upon reaching puberty, children were given a drug, possibly a mixture of jimson weed and tobacco, during a communal ritual. The drug created visions, usually of an animal, in which the children were instructed to place all confidence because the animal vision would defend them from future danger. Animals mentioned by the Luiseño as guardian spirits included the coyote, bear, crow, raven, and rattlesnake (Kroeber 1976).

Juaneño chieftainship was hereditary along the male line (Kroeber 1976). The Juaneño word for shaman is *pul*, which appears to be the singular of *puplem*, "the initiated" (Kroeber 1976). The lack of differentiation between the shaman and those who were fully instructed in sacred tribal lore insinuates that shamans were revered figures. Luiseño shamans were known to have used stone pipes, despite the fact that the common smoking pipe was ceramic (Kroeber 1976). This suggests that stone pipes may have had religious significance.

The Juaneño, like their Gabrielino and Luiseño neighbors, were hunters and gatherers who used both inland and coastal food resources (McCawley 1996). They hunted and collected seasonally available food resources and led a semisedentary lifestyle, often living in permanent communities along inland watercourses and coastal estuaries. Commonly chosen habitation sites included rivers, streams, and inland watercourses, sheltered coastal bays and estuaries, and the transition zone marking the interface between prairies and foothills (Oxendine 1983). The most important factors in choosing a habitation site were the presence of water, a stable food supply, and some measure of protection from flooding. Communities in the interior regions often maintained permanent geographical territories or use areas that are thought to have averaged approximately 30 square miles. Village populations generally ranged from 50 to 100 inhabitants. It is unclear whether territory and community population size also held for coastal settlements, where food resources may have been more plentiful (White 1963:117; Oxendine 1983:44).

In addition to permanent settlements, native groups occupied temporary campsites used seasonally for hunting, fishing, and gathering plant foods and shellfish (White 1963:120–124; McCawley 1996:25). Rabbit and deer were the most commonly hunted animals, while acorns, buckwheat, chía, berries, and fruits were some of the more commonly collected plant foods. Acorns were the staple food of most indigenous Californians (Kroeber 1976) and were the most characteristic feature of the domestic economy of native California (Gifford 1936:87). The nearby Gabrielino established seasonal camps along the coast and near estuaries and bays (e.g., Newport Bay) in order to fish, gather shellfish, and hunt waterfowl (White 1963:122; Hudson 1971). There is little reason to suspect the Juaneño were different. The economy of coastal groups (e.g., the Juaneño) focused on marine rather than land resources (White 1963:119).

History

What is known about the Gabrielino and Juaneño was recorded principally during the initial European expeditions through the Southern California area. Due to the rapid reduction in indigenous population, later expeditions did not encounter the same pristine native populations observed during earlier excursions.

The first recorded contact between the Gabrielino and Europeans occurred on October 7, 1542, when Juan Rodríguez Cabrillo, leading a sailing expedition in his ships the *San Salvador* and the *Victoria*, arrived at Santa Catalina Island (Wagner 1941; Cleland 1962:xi; Páez 1968:7). The next day, Cabrillo reached the mainland near the Palos Verdes Peninsula, sailing across what is now known as San Pedro Bay, which he called *Bahia de los Fumos* (Bay of the Smokes), where the crew spoke with natives they found in a canoe (Wagner 1941:17; Páez 1968:10). This is the first recorded contact between Europeans and mainland Gabrielino.

The Spanish geographical term *laguna* usually referred to a small lake, but in Spanish Period California, it referred to any lake (Gudde 1998:200). A *diseño*, land claim map, dating 1841, depicts *Cañada de las Lagunas* (Canyon of the Lagoons, or Lakes) after which the town of Laguna Beach was named (Salley 1977:114; Gudde 1998:200).

On May 15, 1891, a "Lagona Beach" post office was established in what is now Laguna Beach, but it was discontinued October 14, 1893. On May 26, 1894, it was reestablished as "Lagona". On September 17, 1904, it was changed to "Laguna" and the word "Beach" was added (Salley 1977:114).

The road through Laguna Canyon was originally an Indian trail prior to becoming a rough wagon road leading to the isolated beach community of "Laguna Beach" sometime in the mid-to-late 1800s (Turnbull 1988:123). It was this trail that William Brooks followed to the coast sometime prior to 1876, when he filed a claim for 169.24 acres at Arch Beach (now Diamond Street). Depending on the source, either William Brooks or his brother, Nathaniel, can be considered the "Father of Laguna" (Ramsey and Ramsey 1976:cover; Turnbull 1988:123). William Brooks was the first stagecoach driver and postmaster in Laguna Beach (Turnbull 1988:12, 123). William Brooks was also a farmer and blacksmith (Ramsey and Ramsey 1976:13). The one-way stagecoach fare between El Toro and Laguna Beach was 25 cents, and between Santa Ana and Laguna Beach was $1.10 (Ramsey and Ramsey 1976:73). Laguna Canyon Road was paved in 1914 (Meadows 1966:76).

The northeast corner of Laguna Canyon Road and El Toro Road was the site of an 1876 Mormon settlement (Ramsey and Ramsey 1976:8-9; Marsh 1987; Rosenthal et al. 1987:55-60). The Mormons first came to San Bernardino from Salt Lake City, then branched out over Southern California, with several families settling along Laguna Canyon Road in 1876. They lived in this area about 14 years; however, in the 1890s, they left, taking their houses with them. The only building remaining from this settlement was the schoolhouse that was moved to Laguna Beach and became the First Catholic Church at Legion and Through Streets (Ramsey and Ramsey 1976:9).

Laguna Beach was relatively isolated until the mid-1920s, when Coast Highway was constructed on a right-of-way donated by The Irvine Company. The Irvine Company also donated the right-of-way for

pipelines running alongside Coast Highway and maintained the cost of easement rights, saving Laguna Beach considerable costs when Coast Highway was realigned over the years (Cleland 1952:144). Coast Highway (also known as State Route 1) is now known as Pacific Coast Highway (or PCH); however, it was referred to as Coast Boulevard on a May 14, 1929, property survey map of lots in Laguna Beach (Jones 1991:21). Prior to the 1920s, the road was unpaved (Jones 1991:9, 15), and before Coast Highway was constructed in 1926, Laguna Beach could be "… reached only by the winding dirt road through Laguna Canyon" (Robinson 1953:68).

During the early period of growth in the late 1880s, homesteads in the Laguna Beach and Laguna Canyon areas often contained groves consisting of hundreds of eucalyptus trees (Ramsey and Ramsey 1976). The trees were planted to obtain legal title to the land, which for many years had been considered no more than a cattle range and isolated territory. Because the eucalyptus trees needed very little water, they were useful to homesteaders who wished to prove that they were "developing" the land by planting trees. A large grove of eucalyptus trees could be grown with relative ease compared with other types of trees, although the eucalyptus trees had very little value. Today, eucalyptus trees are the official tree of the City of Laguna Beach (Musich 1993:76), and eucalyptus are often located in areas inhabited by early settlers around Southern California.

METHODS

RECORD SEARCH

On December 18, 2018, LSA archaeologist Aaron McCann conducted a record search at the South Central Coastal Information Center of the California Historical Resources Information System, located at California State University, Fullerton. The record search included a review of all recorded historic and prehistoric archaeological sites within a 0.25-mile radius of the project area, as well as a review of known cultural resource survey and excavation reports. In addition, the following inventories were examined:

- National Register of Historic Places
- California Register of Historical Resources
- California Historical Landmarks
- California Points of Historical Interest
- California Historic Resources Inventory

FIELD SURVEY

On January 9 and 21, 2019, LSA archaeologists Logan Freeberg and Aaron McCann surveyed accessible portions of the project area. Areas of exposed ground that could be accessed, even if vegetated, were surveyed by walking linear transects separated by 7 to 10 meters (23 to 33 feet) over larger areas and opportunistically over smaller areas. Inaccessible areas were visually inspected from a distance, when possible. Special attention was given in the accessible areas where exposed sediment, cut slopes, or rodent burrow backdirt was visible.

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission (NAHC) was contacted on January 3, 2019, to conduct a Sacred Lands File search for the project APE and to request a CEQA Tribal Consultation List per Assembly Bill 52. The NAHC responded on January 9, 2019, stating that the Sacred Lands File was conducted with negative results for the presence of Native American cultural resources in the project APE. However, the NAHC recommended that 31 Native American individuals representing the Cahuilla, Luiseño, Cupeño, Kumeyaay, Kitanemuk, Serrano, Tataviam, Gabrielino, and Juaneño groups be contacted for information regarding cultural resources that could be affected by the project. Per Assembly Bill 52, the City initiated consultation by sending project notification letters to the following individuals on January 23, 2019:

- Agua Caliente Band of Cahuilla Indians, Jeff Grubbe, Chairperson
- Campo Band of Mission Indians, Ralph Goff, Chairperson
- Ewiiaapaayp Tribe, Robert Pinto, Chairperson
- Ewiiaapaayp Tribe, Michael Garcia, Vice Chairperson
- Gabrieleno Band of Mission Indians – Kizh Nation, Andrew Salas, Chairperson
- Gabrieleno/Tongva San Gabriel Band of Mission Indians, Anthony Morales, Chairperson
- Gabrielino/Tongva Nation, Sandonne Goad, Chairperson
- Gabrielino Tongva Indians of California Tribal Council, Robert Dorame, Chairperson

- Gabrielino-Tongva Tribe, Charles Alvarez
- Jamul Indian Village, Lisa Cumper, Tribal Historic Preservation Officer
- Jamul Indian Village, Erica Pinto, Chairperson
- Juaneño Band of Mission Indians, Sonia Johnston, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation, Matias Belardes, Chairperson
- Juaneño Band of Mission Indians Acjachemen Nation – Romero, Teresa Romero, Chairperson
- La Jolla Band of Luiseño Indians, Thomas Rodriguez, Chairperson
- La Posta Band of Diegueno Mission Indians, Gwendolyn Parada, Chairperson
- La Posta Band of Diegueno Mission Indians, Javaughn Miller, Tribal Administrator
- Manzanita Band of Kumeyaay Nation, Angela Elliott Santos, Chairperson
- Mesa Grande Band of Diegueno Mission Indians, Mario Morales, Chairperson
- Mesa Grande Band of Diegueno Mission Indians, Virgil Oyos, Chairperson
- Pala Band of Mission Indians, Robert Smith, Chairperson
- Pauma Band of Luiseño Indians, Temet Aguilar, Chairperson
- Pechanga Band of Mission Indians, Mark Macarro, Chairperson
- Rincon Band of Luiseño Indians, Jim McPherson, Tribal Historic Preservation Officer
- Rincon Band of Luiseño Indians, Bo Mazzetti, Chairperson
- San Fernando Band of Mission Indians, Donna Yocum, Chairperson
- San Luis Rey Band of Mission Indians, San Luis Rey Tribal Council
- San Pasqual Band of Diegueno Mission Indians, Allen Lawson, Chairperson
- Soboba Band of Luiseño Indians, Scott Cozart, Chairperson
- Sycuan Band of the Kumeyaay Nation, Cody J. Martinez, Chairperson
- Viejas Band of Kumeyaay Indians, Robert Welch, Chairperson

RESULTS

RECORD SEARCH

The record search identified 7 previously conducted cultural resources studies that included portions of the project area and an additional 28 studies that have been conducted within 0.25 mile of the project area. Studies within the project area include surveys (3), an unknown type of study (1), a cultural resources management plan (1), an archaeological site status report (1), and an archival inventory (1). Studies within 0.25 mile of the project area include a history of archaeological research (1), surveys (14), an Extended Phase I study (1), property evaluation (1), a historic study report (1), a historic property survey report (1), a planning process review (1), an annual report (1), archaeological monitoring (1), a National Environmental Protection Act screening (1), a cultural resource evaluation (1), a historic building study (1), Section 106 evaluations (2), and a Phase II evaluation (1).

Previous cultural resource work in the project vicinity has resulted in recording 16 cultural resources within a 0.25-mile radius of the project area, including 1 that is mapped partly within the project area. This resource, P-30-177656, is a historic district of multiple cottages built between 1925 and 1940. Although the resource is mapped as including the project area, the district itself consists of buildings, none of which will be impacted by proposed project work (which only involves clearing of vegetation). Of the 15 cultural resources that are within 0.25 mile of the project area, 9 are prehistoric—primarily rock shelters and habitation sites—and 6 are historic. The historic cultural resources within 0.25-mile of the project area consist of structures and a well/cistern (Appendix B).

FIELD SURVEY

No archaeological resources were found during the survey. Only 11.54 acres (approximately 21 percent) of this 54-acre project were accessible due to steep slopes and dense, impenetrable vegetation (Appendix A, Figure 2). A small scatter of marine shell was encountered, but the sizes of the shell remnants (bean clam, scallop, and other unidentified bivalve) are too small to have been gathered for food prehistorically. Additionally, based on the size of the shells and their proximity (less than 250 feet) to fossilized shell exposed in bedrock, it was determined that the shells making up the shell scatter were fossilized and originated from prehistorically uplifted marine sediments that had eroded downslope from intact fossilized deposits.

NATIVE AMERICAN CONSULTATION

As a result of the project notification letters, three responses were received (Appendix C). On January 31, 2019, Shasta Gaughen—of the Tribal Historic Preservation Office for the Pala Band of Mission Indians—sent a letter response to the City stating that the project is not within the boundaries of the recognized Pala Indian Reservation, nor is the project within the Tribe's Traditional Use Area. As such, the Pala Band of Mission Indians defers to wishes of Tribes in closer proximity to the project.

Destiny Colocho, Tribal Historic Preservation Officer for the Rincon Band of Luiseño Indians, sent a letter response on February 4, 2019, stating that the Rincon Band has concerns for the impacts to

resources that are considered culturally significant to the Luiseño people, but that the project is not within Luiseño aboriginal territory. As such, the Tribe recommends locating a tribe within the project area to receive direction on how to handle any inadvertent findings. On February 8, 2019, Lacy Padilla, Archaeological Technician with Agua Caliente Band of Cahuilla Indians, responded via email, stating that the project is not within the Tribe's Traditional Use Area. As such, the Tribe defers to other tribes in the project area.

No tribal cultural resources were identified as a result of the Native American consultation efforts conducted by the City. Additionally, none of the received responses indicated concerns regarding the project or its potential to impact cultural resources.

SUMMARY AND RECOMMENDATIONS

Work for this project included a cultural resource record search, a field survey, and this report. No prehistoric resources were identified in the project area as a result of the record search and field survey and no tribal cultural resources were identified in the project area as a result of the Native American consultation conducted by the City of Laguna Beach. One previously recorded cultural resource is mapped by the South Central Coastal Information Center within the project area but it is a historic district with multiple cottages and will not be impacted by the proposed project. Marine shell found within the project area was determined to be paleontological in nature.

Although archaeologists surveyed only 11.5 acres (approximately 21 percent of the entire project area) due to accessibility, the main reason for inaccessibility (very steep slopes) precludes the presence of cultural resources. Intact cultural deposits generally do not exist on steep slopes, and there is little likelihood that Native Americans would have chosen to use or camp on these slopes. Additionally, if Native Americans had somehow used or camped on the slopes, any evidence of such use would have eroded long ago. The fossilized shell deposit identified during the field survey supports this conclusion.

For the above reasons, no further cultural studies are recommended and no archaeological monitoring is recommended during project activities. However, LSA recommends that a qualified professional archaeologist be retained to provide on-call monitoring services in the event that cultural resources are encountered during project activities. If any such resources are discovered, contractors should stop work in the immediate area of the find and contact the archaeologist to assess the nature of the find and determine if future monitoring is appropriate. If deemed appropriate, monitoring should continue until grading and excavation is complete, or until the monitoring archaeologist, based on field observations, is satisfied there is no likelihood of encountering intact archaeological deposits. Upon completion of any monitoring activities, the archaeologist should prepare a report to document the methods and results of monitoring activities. This report should be submitted to the South Central Coastal Information Center.

In the unlikely event that human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to State Public Resources Code Section 5097.98. The County coroner must be notified of the find immediately. If the remains are determined to be Native American, the County coroner would notify the Native American Heritage Commission, which would determine and notify a Most Likely Descendent (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site. The MLD recommendations may include scientific removal and nondestructive analysis of human remains and items associated with Native American burials, preservation of Native American human remains and associated items in place, relinquishment of Native American human remains and associated items to the descendants for treatment, or any other culturally appropriate treatment.

REFERENCES

Bean, Lowell J., and Charles R. Smith
1978 Gabrielino. In R. Heizer ed., *Handbook of North American Indians,* Vol. 8, *California*, pp. 538-549. Smithsonian Institution, Washington, D.C.

Boscana, Gerónimo
1933 *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Gerónimo Boscana's Historical Account of the Beliefs, Usages, Customs and Extravagancies of the Indians of this Mission San Juan Capistrano Called the Acagchemem Tribe (1846)*. Edited by P. T. Hanna. Reprinted Annotations by John P. Harrington. Foreword by F.W. Hodge. Illustrations by Jean Goodwin. Malki Museum Press, Banning, California. Originally written by Father Boscana in the 1820s, translated and first published by Alfred Robinson in 1846. Fine Arts Press, Santa Ana, California.

Bright, William
1978 Preface. In *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Geronimo Boscana's Historical Account of the Beliefs, Usages, Customs and Extravagancies of the Indians of this Mission San Juan Capistrano Called the Acagchemen Tribe [1846]*. P.T. Hanna, ed. Reprinted. Malki Museum Press, Banning, California. Originally published 1933, Fine Arts Press, Santa Ana, California.

California Geological Survey (CGS)
2015 Geologic Map of California (2010), Copyright 2015, State of California. Electronic document: https://maps.conservation.ca.gov/cgs/gmc/ (accessed January 2019).

Cleland, Robert Glass
1952 *The Irvine Ranch*. The Huntington Library, San Marino, California.

1962 Introduction. In *Historic Spots in California*, by M.B. Hoover, H.E. Rensch, and E.G. Rensch, pp. xi–xiv. Fourth printing revised by R. Teiser. Stanford University Press.

DataBasin
2011 California Augmented Multisource Landcover Map (CAML 2010). Issued 2011. Uploaded by Conversation Biology Institute on May 14, 2015; last modified February 28, 2017. Electronic document: https://databasin.org/datasets/debf0f2164544091a35e401ca6452d61 (accessed January 2019).

Gifford, Eugene W.
1936 Californian Balanophagy. *Essays in Anthropology Presented to A. L. Kroeber*, pp. 87–98. Reprinted in 1971. The California Indians, A Source Book, edited by R. Heizer and M. Whipple, pp. 301–305. University of California Press, Berkeley and Los Angeles.

Gudde, Erwin G.
1998 *California Place Names, the Origin and Etymology of Current Geographical Names*. Fourth edition, revised and enlarged by William Bright. University of California Press.

Harrington, John P.
1933 Annotations. In *Chinigchinich: A Revised and Annotated Version of Alfred Robinson's Translation of Father Gerónimo Boscana's Historical Account of the Belief, Usages, Customs and Extravagancies of the Indians of this Mission of San Juan Capistrano Called the Acagchemem Tribe*. Fine Arts Press, Santa Ana, California. (Reprinted, 1978. Malki Museum Press, Banning, California.)

1934 A New Original Version of Boscana's Historical Account of the San Juan Capistrano Indians of Southwest California. *Smithsonian Miscellaneous Collections* 92(4):1–62. Smithsonian Institution, Washington, D.C.

Hanna, Phil Townsend
1933 *Chinigchinich* by Geronimo Boscana. Fine Arts Press, Santa Ana, California. (Reprinted in 1978 by Malki Museum Press, Banning, California.)

Hudson, D. Travis
1971 Proto-Gabrielino Patterns of Territorial Organization in Southern Coastal California. *Pacific Coast Archaeological Society Quarterly* 7(2):449–476.

Johnson, Bernice E.
1962 *California's Gabrielino Indians*. Frederick Webb Hodge Anniversary Fund Publication No. 8. Southwest Museum, Los Angeles.

Jones, Roger W.
1991 *The History of Villa Rockledge: A National Treasure in Laguna Beach*. American National Research Institute.

Kroeber, A.L.
1976 *Handbook of the Indians of California*. Dover Publications, New York. Originally published 1925, Bulletin No. 78, Bureau of American Ethnology, Smithsonian Institution, Washington, D.C.

Marsh, Diann
1987 Historical Resources Report, Laguna Canyon Road House Site. Appendix C, In Rosenthal et al., Test Level Investigations at CA-ORA-308, CA-ORA-309, CA-ORA-502, CA-ORA-974, and CA-ORA-948H, Laguna Canyon, Orange County, California. LSA Associates, Inc. On file, South Central Coastal Information Center, California State University of California, Fullerton.

McCawley, William
1996 *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press and Ballena Press, Banning and Novato.

Merriam, C. Hart
1968 Village Names in Twelve California Mission Records. *University of California Archaeological Survey Report* 74.

Musich, Patty
1993 *Focus: Orange County '93*. D. Harrison, ed. Metro Lifestyles & Design, Newport Beach, California.

O'Neil, Stephen
1988 Their Mark upon the Land: Native American Place Names in Orange County and Adjacent Areas. In *The Natural and Social Sciences of Orange County*, edited by H. Koerper, pp. 106–122. Natural History Foundation of Orange County.

Oxendine, Joan
1983 The Luiseño Village During the Late Prehistoric Era. Unpublished Ph.D. Dissertation, University of California, Riverside.

Páez, Juan
1968 *Cabrillo's Log 1542–1543, A Voyage of Discovery*. Translated by James R. Moriarty and Mary Keistman. The Western Explorer V(2 & 3). Cabrillo Historical Association, San Diego.

Ramsey, Merle, and Mabel Ramsey
1976 The First Hundred Years in Laguna Beach. Hastie Printers, Laguna Beach, California.

Robinson, W.W.
1953 Panorama: A Picture History of Southern California. Issued on the 60th Anniversary of Title Insurance and Trust Company. Title Insurance and Trust Company, Los Angeles.

Rosenthal, E. Jane
1991 Past to Present: Cultural and Scientific Resources. An Archival Inventory, Irvine Ranch Open Space Reserve, Orange County, California. LSA Associates, Inc. On file, South Central Coastal Information Center, California State University, Fullerton (Accession No. OR-1127).

Salley, Harold E.
1977 *History of California Post Office 1849–1976*. Postal History Associates, Inc. Heartland Printing and Publishing Co., Spring Valley, California.

Sparkman, Philip S.
1908 The Culture of the Luiseño Indians. *University of California Publications in American Archaeology and Ethnology* 8 (4):187–234.

Turnbull, Karen W.
1988 Laguna Beach and South Laguna. In E Cramer, K. Dixon, D. Marsh, P. Brigandi, and C. Blamer eds., *A Hundred Years of Yesterdays: A Centennial History of the People of Orange County and their Communities*. pp. 122–126. The Orange County Centennial, Inc., Santa Ana, California.

United States Geological Survey (USGS)
1981 *Laguna Beach, California* 7.5-minute quadrangle map. U.S. Geological Survey, Denver, Colorado.

Wagner, Henry R.
1941 *Juan Rodriguez Cabrillo: Discoverer of the Coast of California*. California Historical Society, San Francisco.

Wallace, William J.
1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3).

1978 Post Pleistocene Archaeology 9000–2000 B.C. In R. Heizer ed., *Handbook of North American Indians*, Vol. 8, California, pp. 25–36. Smithsonian Institution, Washington, D.C.

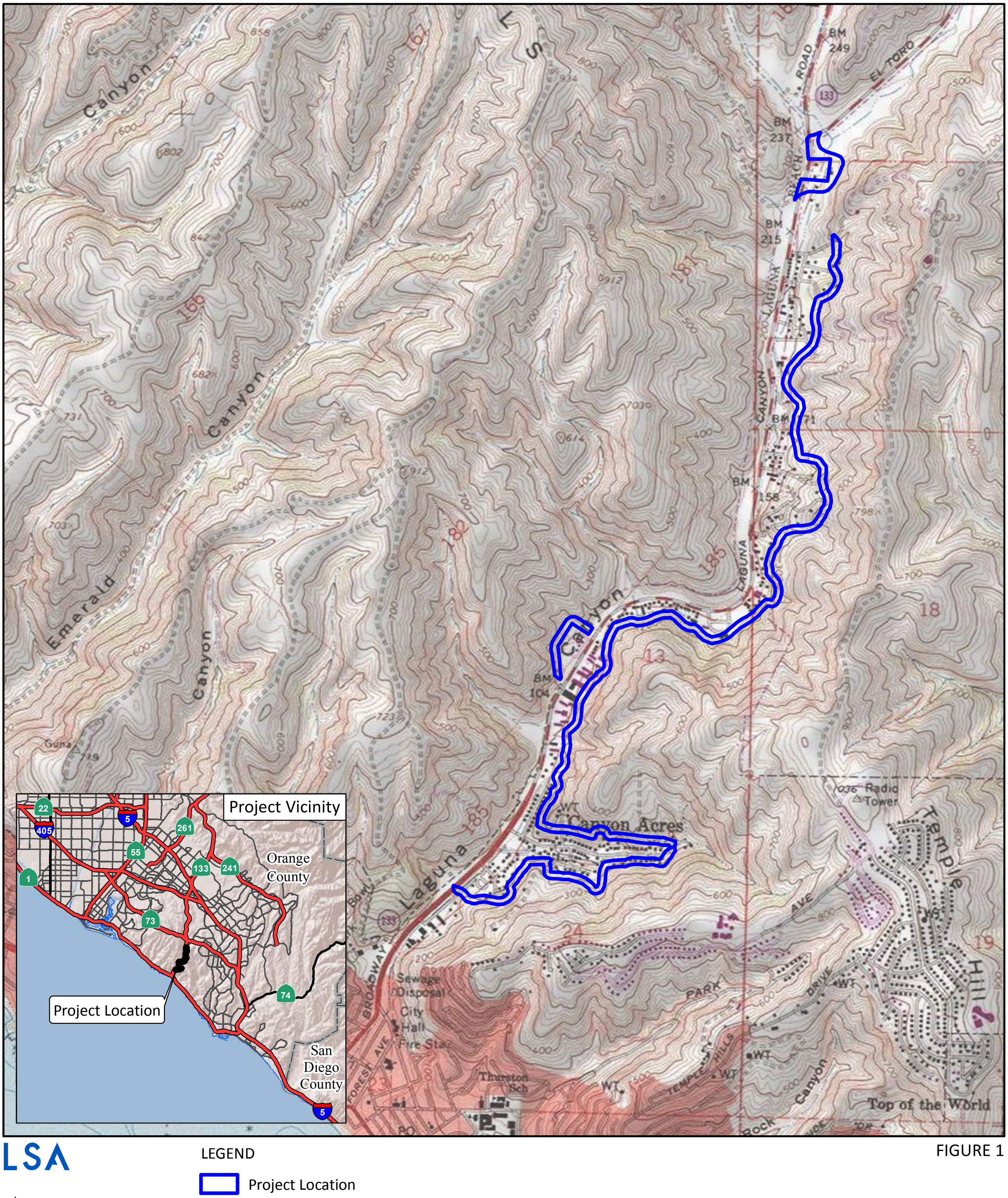
Warren, Claude N.
1984 The Desert Region. In *California Archaeology*, by Michael J. Moratto, pp. 339–430. Academic Press, Orlando, Florida.

White, Raymond C
1963 Luiseño Social Organization. Berkeley and Los Angeles: *University of California Publications in American Archaeology and Ethnology* 48(2):91-194.

APPENDIX A

PROJECT FIGURES

Figure 1 – Project Location
Figure 2 – Survey Coverage Map



LSA

FIGURE 1

0 1000 2000
FEET

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Project Location

SOURCE: USGS 7.5' Quad - Laguna Beach (1981), CA

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LSA

LEGEND

Project Location

Survey Coverage Area

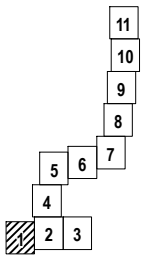

FIGURE 2

Sheet 1 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

N

0 100 200

FEET

SOURCE: Google Earth (2018)

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LSA

LEGEND

Project Location

Survey Coverage Area

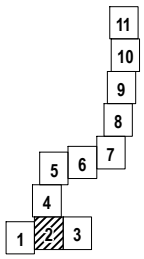

FIGURE 2

Sheet 2 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

N

0 100 200

FEET

SOURCE: Google Earth (2018)

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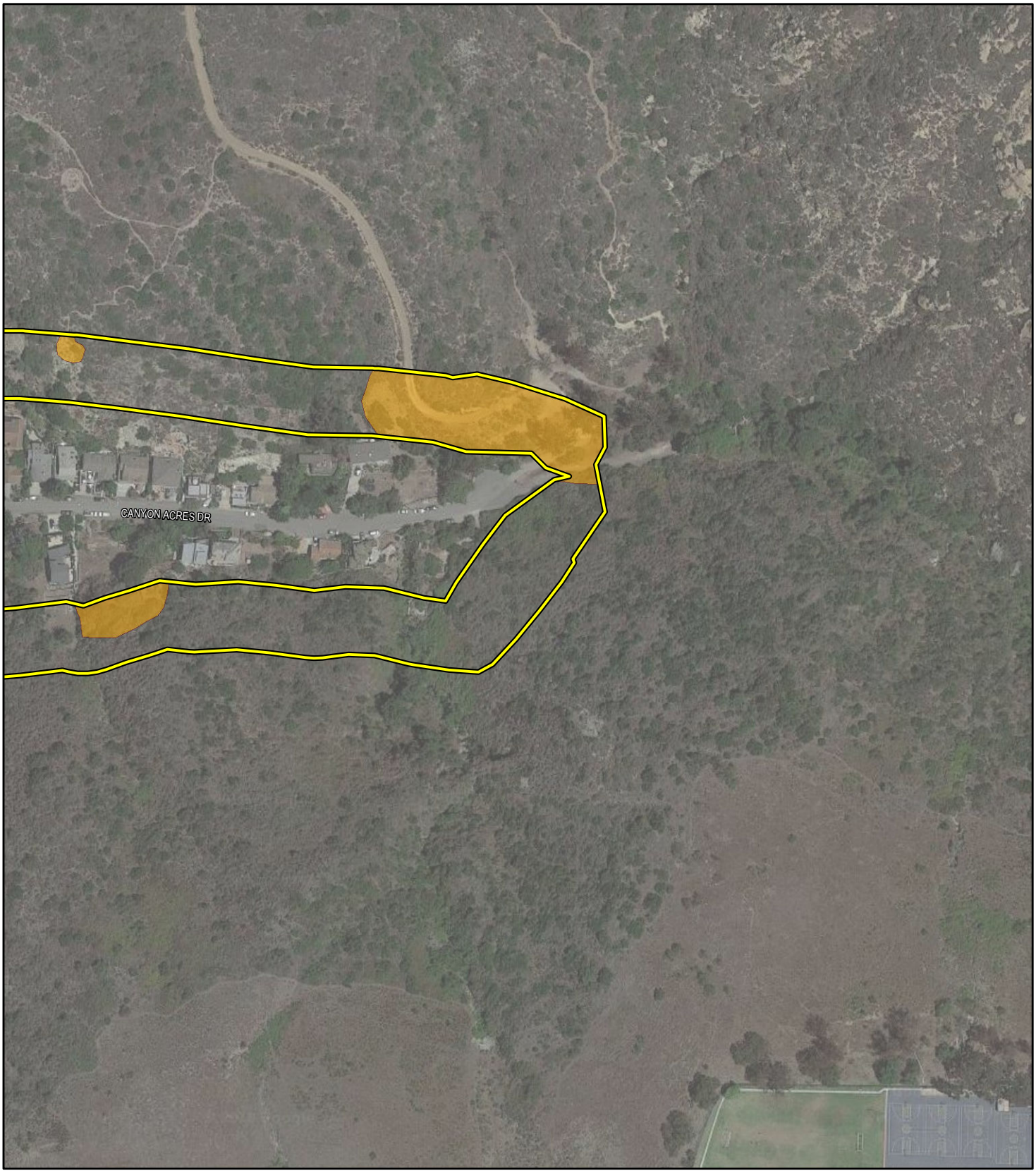


LSA

LEGEND

Project Location

Survey Coverage Area

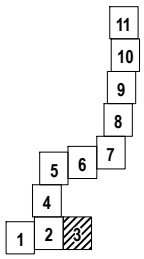


FIGURE 2

Sheet 3 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

N

0 100 200

FEET

SOURCE: Google Earth (2018)

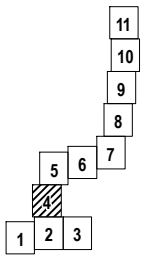
I:\LAB1804\GIS\MXD\SurveyCoverage.mxd (1/30/2019)

LSA

LEGEND

Project Location

Survey Coverage Area



0 100 200

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SOURCE: Google Earth (2018)

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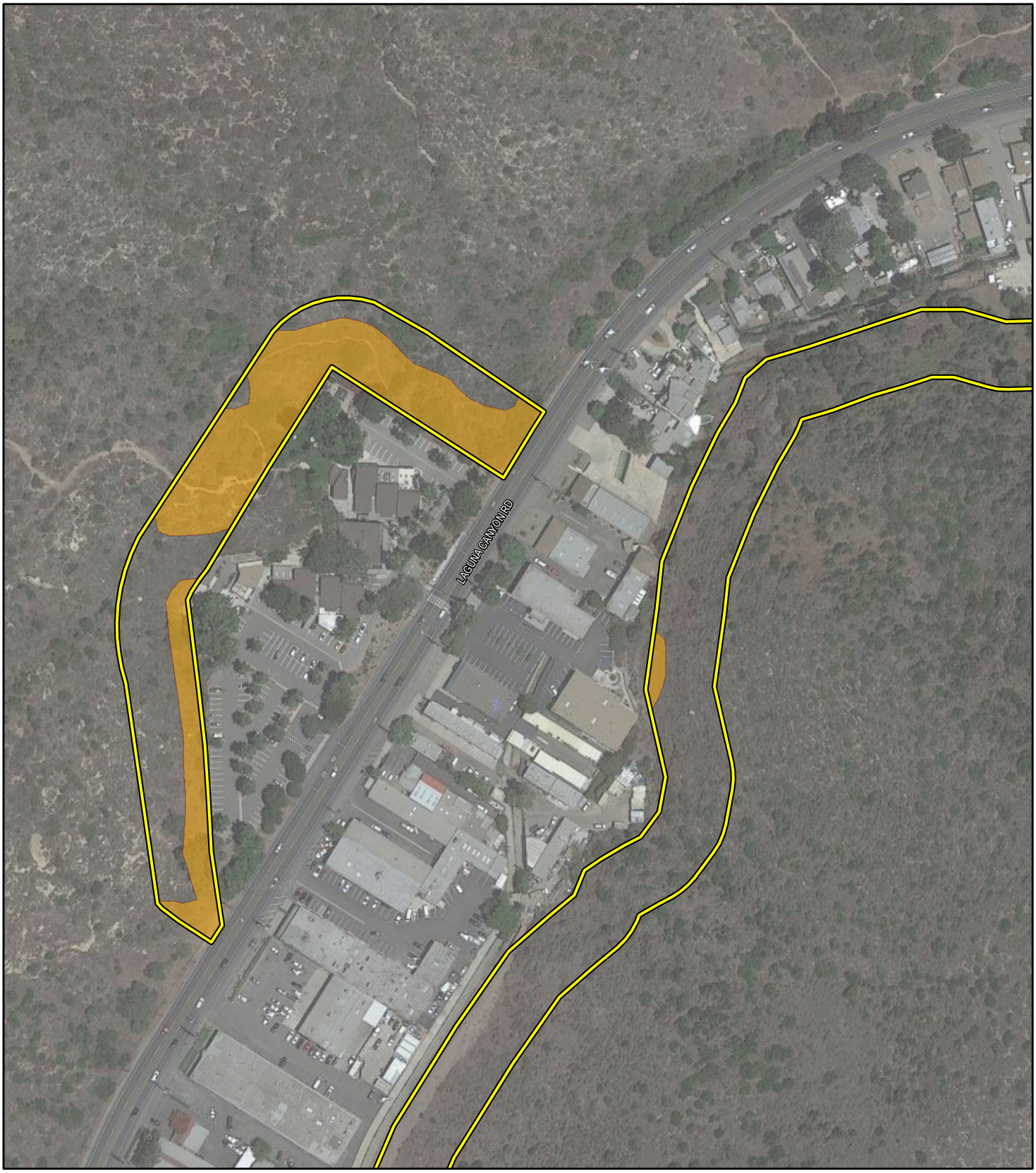
FIGURE 2

Sheet 4 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

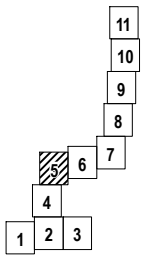


LSA

LEGEND

Project Location

Survey Coverage Area



0 100 200

FEET

SOURCE: Google Earth (2018)

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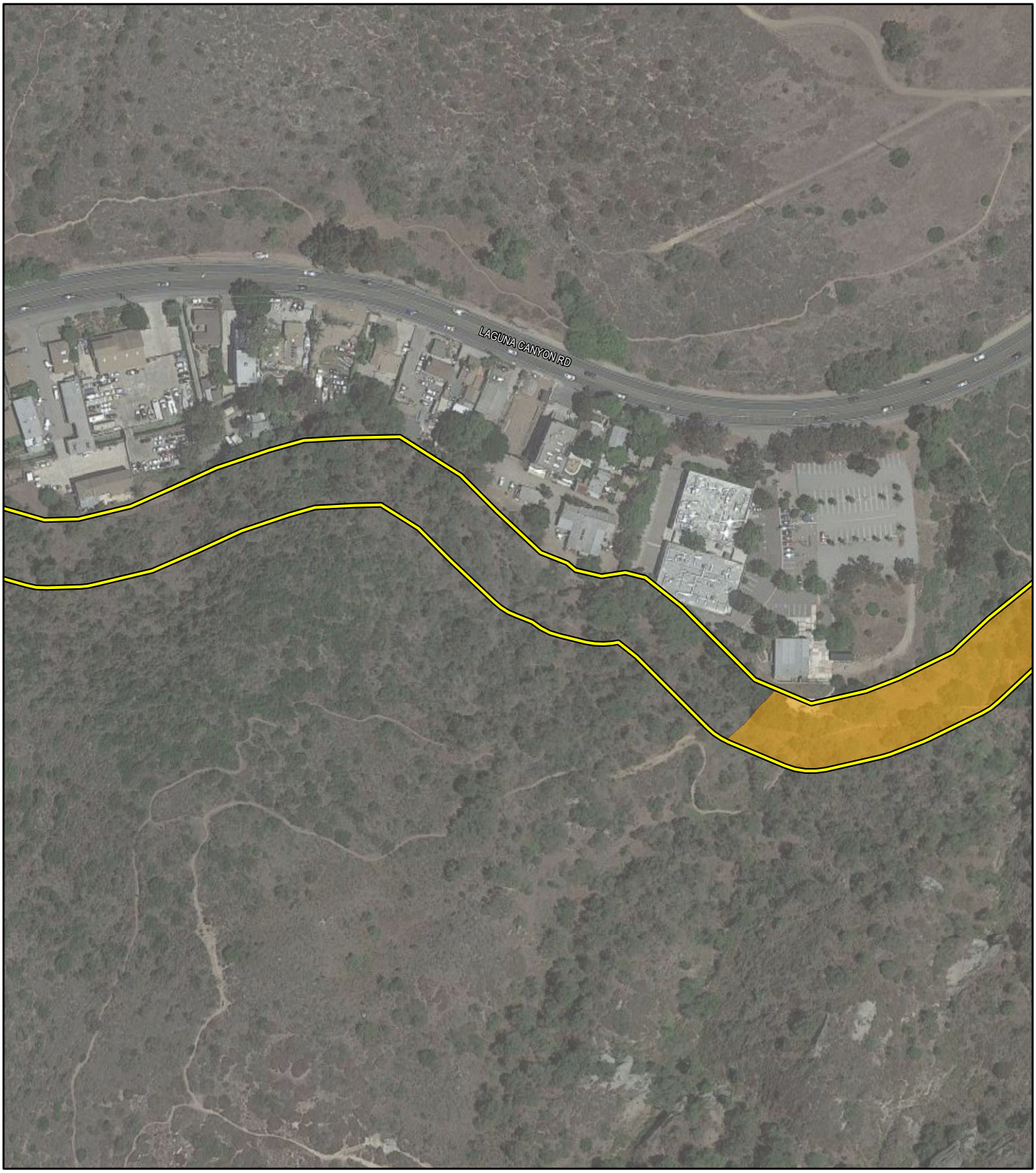
FIGURE 2

Sheet 5 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

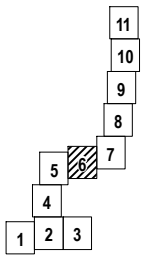


LSA

LEGEND

Project Location

Survey Coverage Area



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SOURCE: Google Earth (2018)

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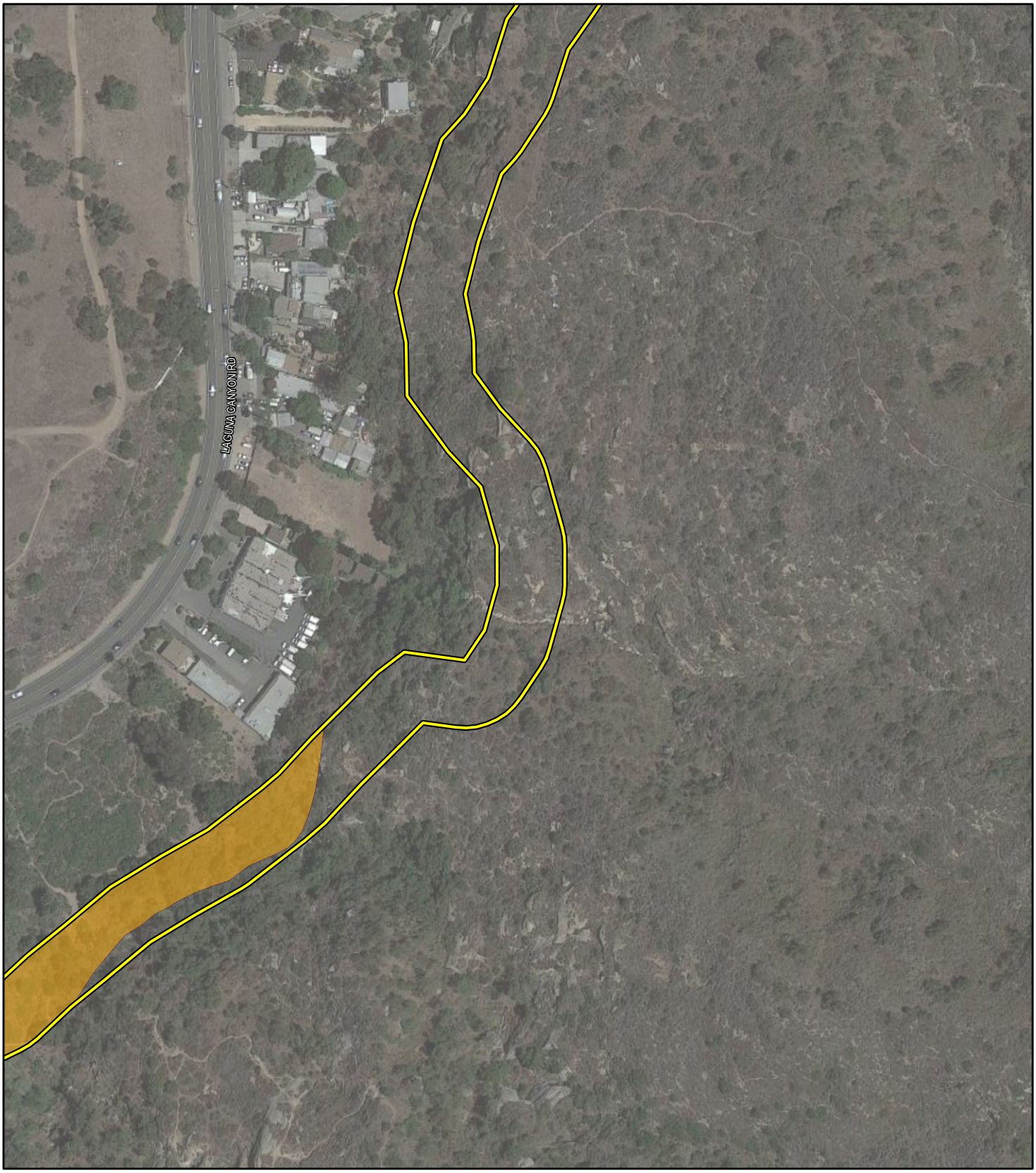
FIGURE 2

Sheet 6 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map



LSA

LEGEND

Project Location

Survey Coverage Area

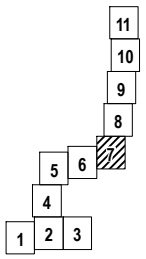


FIGURE 2

Sheet 7 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

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SOURCE: Google Earth (2018)

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LSA

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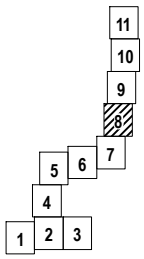
Project Location

Survey Coverage Area



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SOURCE: Google Earth (2018)

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FIGURE 2

Sheet 8 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

LSA

LEGEND

Project Location

Survey Coverage Area

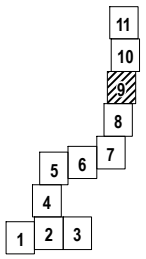

FIGURE 2

Sheet 9 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

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SOURCE: Google Earth (2018)

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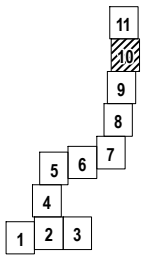
LSA

LEGEND

Project Location

Survey Coverage Area



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SOURCE: Google Earth (2018)

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FIGURE 2

Sheet 10 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

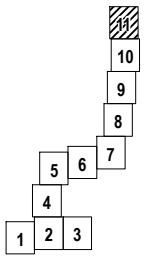
Survey Coverage Map

LSA

LEGEND

Project Location

Survey Coverage Area



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FEET

SOURCE: Google Earth (2018)

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FIGURE 2

Sheet 11 of 11

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Survey Coverage Map

APPENDIX B

RECORDS SEARCH RESULTS

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00047		1977	Whitney-Desautels, Nancy A.	Archaeological Survey Report and Analysis on 182(+) Acres of Land Located in the Laguna Canyon Area of Orange County	Archaeological Associates, Ltd.	
OR-00111		1976	Anonymous	A 6.6 Acre Parcel of Land Located in the Laguna Canyon of the County of Orange	Scientific Resource Surveys, Inc.	
OR-00179				VOIDED		
OR-00305		1979	Schroth, Adella	The History of Archaeological Research on Irvine Ranch Property: the Evolution of a Company Tradition	Archaeological Resource Management Corp.	30-000002, 30-000044, 30-000047, 30-000048, 30-000051, 30-000053, 30-000059, 30-000060, 30-000061, 30-000062, 30-000063, 30-000064, 30-000065, 30-000066, 30-000067, 30-000068, 30-000069, 30-000070, 30-000071, 30-000072, 30-000073, 30-000077, 30-000091, 30-000099, 30-000100, 30-000104, 30-000106, 30-000107, 30-000109, 30-000111
OR-00373		1980	Unknown	An Archaeological Records Search and Reconnaissance Survey Laguna Heights Property Orange County, California	Archaeological Planning Collaborative	30-000477, 30-000873
OR-00431		1979		Aliso Viejo Cultural/scientific Resources Management Plan	Archaeological Resource Management Corp.	30-000019, 30-000064, 30-000126, 30-000388, 30-000389, 30-000390, 30-000395, 30-000396, 30-000397, 30-000398, 30-000399, 30-000400, 30-000401, 30-000402, 30-000403, 30-000404, 30-000405, 30-000406, 30-000407, 30-000408, 30-000409, 30-000410, 30-000411, 30-000412, 30-000413, 30-000414, 30-000415, 30-000416, 30-000417, 30-000418, 30-000419, 30-000420, 30-000421, 30-000422, 30-000425, 30-000582, 30-000703
OR-00553	Paleo -	1978	Cottrell, Marie G.	Report of Archaeological, Paleontological and Historical Resource Assessment Conducted for Tract No. 10054, Laguna Beach, California	ARMC	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00585		1980	Douglas, Ronald D. and Edward B. Weil	Irvine Coast Survey Cultural Resources Inventory, Orange County, California		30-000130, 30-000230, 30-000274, 30-000333, 30-000336, 30-000337, 30-000338, 30-000339, 30-000340, 30-000500, 30-000501, 30-000616, 30-000660, 30-000662, 30-000663, 30-000664, 30-000665, 30-000666, 30-000667, 30-000668, 30-000669, 30-000670, 30-000671, 30-000672, 30-000674, 30-000675, 30-000676, 30-000677, 30-000678
OR-00687		1983	Cottrell, Marie G.	Archaeological Resources Assessment Conducted for the Laurel Canyon Area of the Laguna - Laurel Planned Community	Archaeological Resource Management Corp.	30-000310, 30-000311, 30-000312, 30-000313, 30-000345, 30-000802, 30-001033, 30-001034
OR-00705		1973	Anonymous	A Final Report on the Scientific Resources Survey for Moulton Ranch	Archaeological Research, Inc.	30-000013, 30-000411
OR-00711		1974	Irwin, Charles N.	A Report on the Archaeological Survey of Laguna and El Toro Canyons Carried Out by the Pacific Coast Archaeological Society for the Orange County Flood Control District		30-000306, 30-000307, 30-000308, 30-000309, 30-000310, 30-000311, 30-000312, 30-000313, 30-000500, 30-000501, 30-000502, 30-000503, 30-000948
OR-00741		1984	Romani, John F.	Archaeolgical Survey Report For the Proposed Widening of Route ORA-133, Between Canton Acres Drive and I-405 Pm. 1.09-8.23 07-210-003940	Caltrans	30-000307, 30-000308, 30-000500, 30-000501, 30-000942, 30-001032, 30-001054, 30-001055
OR-00763		1983	Cottrell, Marie G.	Archaeological Resource Assessment Conducted for the Laguna Beach - Rossmoor Project	Archaeological Resource Management Corp.	
OR-00772		1985	Romani, John F. and Robert J. Wlodarski	Extended Phase I Archaeological Investigations at CA-ORA-1054. Laguna Canyon Road, Orange County, California (07-0ra-133 P.m. 1.1/3.4) 07209-003940	Caltrans	30-000003, 30-000004, 30-000005, 30-000177, 30-000285, 30-000305, 30-000307, 30-000308, 30-000309, 30-000495, 30-000499, 30-000768, 30-000775, 30-001032, 30-001054
OR-00827		1986	Dibble, Stephen D.	The Archaeological Assessment of the Thurston Park Senior Housing Project Site	Archaeological Resource Management Corp.	
OR-00830	Paleo -	1986	Padon, Beth	Cultural/scientific Assessment of the Laguna Canyon Road Project	LSA Associates, Inc.	30-000308, 30-000310, 30-000311, 30-000767, 30-001032, 30-001055
OR-00918		1985	Bissell, Ronald M.	Cultural Resources Evalluation of Propery Located at 1295 Roosevelt Lane, Laguna Beach, Orange County, California		

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-00938		1988	Bissell, Ronald M.	Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California	RMW Paleo Associates, Inc.	30-000006, 30-000013, 30-000019, 30-000020, 30-000126, 30-000133, 30-000177, 30-000266, 30-000388, 30-000389, 30-000390, 30-000395, 30-000396, 30-000397, 30-000398, 30-000399, 30-000400, 30-000401, 30-000402, 30-000403, 30-000404, 30-000405, 30-000406, 30-000407, 30-000412, 30-000413, 30-000415, 30-000418, 30-000422, 30-000423, 30-000424, 30-000427, 30-000436
OR-01127	Paleo -	1991	Rosenthal, Jane	Past to Present: Cultural and Scientific Resources, an Archival Inventory Irvine Ranch Open Space Reserve Orange County, California	LSA Associates, Inc.	30-000079, 30-000184, 30-000273, 30-000310, 30-000311, 30-000312, 30-000345, 30-000384, 30-000386, 30-000476, 30-000494, 30-000495, 30-000496, 30-000501, 30-000502, 30-000523, 30-000524, 30-000547, 30-000557, 30-000705, 30-000706, 30-000707, 30-000709, 30-000720, 30-000731, 30-000734, 30-000735, 30-000736, 30-000751, 30-000767, 30-000787, 30-000798, 30-000799, 30-000800, 30-000801, 30-000802, 30-000803, 30-000804, 30-000805, 30-000811, 30-000822, 30-000932, 30-000933, 30-000939, 30-000940, 30-000941, 30-000943, 30-000996, 30-000998, 30-001000, 30-001001, 30-001006, 30-001029, 30-001032, 30-001033, 30-001034, 30-001054, 30-001055, 30-001077
OR-01389		1994	Carbone, Larry A.	Cultural Resources Survey for Canyon Acres Water Pipeline Spur and Castle Rock Water Pipeline Spur, Orange County, California	Chambers Group, Inc.	
OR-01619		1997	Strudwick, Ivan H.	Historic Study Report for the Proposed Laguna Canyon Road (sr-133) Improvement Project in Orange County, California	LSA Associates, Inc.	30-000948
OR-01620		1997	Strudwick, Ivan H.	Historic Property Survey Report for the Proposed Laguna Canyon Road (sr-133) Improvement Project in Orange County, California	LSA Associates, Inc.	30-000305, 30-000306, 30-000308, 30-000948, 30-001055, 30-001476, 30-001477, 30-001478

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-01621		1997	Strudwick, Ivan H.	Archaeological Survey Report for the Proposed Laguna Canyon Road (sr-133) Improvement Project in Orange County, California	LSA Associates, Inc.	30-000305, 30-000306, 30-000308, 30-000948, 30-001055, 30-001476, 30-001477, 30-001478
OR-01745	Cellular -	1998	Brechbiel, Brant A.	Cultural Resources Records Search and Survey Report for a Pacific Bell Mobile Services Telecommunicatons Facility: Cm 250-02 Near Laguna Beach, California	Chambers Group, Inc.	
OR-01822		1998	Koerper, Henry C.	Archaeological Survey of an Approximately 5 Acre Parcel at 1900 Laguna Canyon Road, City of Laguna Beach, Proposed Public Parking and Maintenance Facility	Michael Brandman Associates	
OR-01937		1985	Anonymous	Historic Property Survey Laguna Cayon Road Orange County, California	Caltrans	30-001032, 30-001054, 30-001055
OR-02225	Other - Irvine Ranch	1978	Strozier, Hardy	The Irvine Company Planning Process and California Archaeology- A Review and Critique	The Irvine Company	
OR-02534		1976		Annual Report to The Irvine Company from Archaeological Research, Inc.	ARI	30-000051, 30-000064, 30-000099, 30-000100, 30-000106, 30-000119, 30-000130, 30-000184, 30-000196, 30-000197, 30-000484, 30-000518, 30-000575
OR-02617		2002	Bonner, Wayne H.	Festival of Arts Center Storm Drain Archaeological Monitoring	W. H. Bonner Associates	
OR-02967		2003	Bonner, Wayne H.	Cultural Resource Evaluation of Sprint Telecommunications Facility Og36xc529a (replace Pole #gt7424), 2526 Laguna Canyon Road, Laguna Beach. Orange County, California	Michael Brandman Associates	
OR-02992	Cellular -	2001	Bell, Heather	NEPA Screening for Wireless Telecommunications Site-laguna Art, 2222 Laguna Canyon Road, Laguna Beach, Orange County, California	Clayton Group Services, Inc.	
OR-03569		2008	Bai "Tom" Tang and Michael Hogan	Historic Building Study: Residence at 580 Oak Street, City of Laguna Beach, Orange County, California	CRM Tech	30-158048
OR-04094		2010	Roland, Carol	Highway 133 Laguna Beach Distributed Antennae System Network Section 106 Evaluations, Laguna Beach, California	Mean & Hunt	

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
OR-04095		2010	Roland, Carol	Highway 133 Laguna Beach Distributed Antennae System Network Section 106 Evaluations, Laguna Beach, California	Mead & Hunt	
OR-04161		2011	Maxon, Patrick and Kuhner, Tony	Phase II Cultural Resources Evaluation, Sun Valley Burn Dump, Laguna Beach, Orange County, California	BonTerra Consulting	30-001719
OR-04285		2013	Switalski, Hubert and Larkin, Robert	Cultural Resources Assessment for Proposed Laguna Canyon Road Pedestrian Pathway Project, Laguna Beach, Orange County, California	Stantec Consulting Services	30-177470

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-000311	CA-ORA-000311	Resource Name - LAGUNA #7	Site	Prehistoric	AP14 (Rock shelter/cave)	1968 (DESAUTELS, Cal State College Long Beach)	OR-00675, OR-00687, OR-00711, OR-00830, OR-01127, OR-01995
P-30-000312	CA-ORA-000312	Resource Name - LAGUNA #8	Site	Prehistoric	AP14 (Rock shelter/cave)	1968 (DESAUTELS, Cal State College, Long Beach)	OR-00675, OR-00687, OR-00711, OR-01127, OR-01995
P-30-000313	CA-ORA-000313	Resource Name - Laguna #9	Site	Prehistoric	AP14 (Rock shelter/cave)	1968 (R. Desautels, Cal State College Long Beach)	OR-00675, OR-00687, OR-00711, OR-01995
P-30-000413	CA-ORA-000413	Resource Name - Jas-9	Site	Prehistoric	AP14 (Rock shelter/cave); AP15 (Habitation debris)	1973 (FOSTER; NISSLEY; FENENGA, Archaeological Research, Inc); 1988 (Ronald Bissell, RMW Paleo Associates, Inc.)	OR-00431, OR-00702, OR-00938, OR-01995
P-30-000500	CA-ORA-000500	Resource Name - PCAS 1	Site	Prehistoric	AP02 (Lithic scatter); AP14 (Rock shelter/cave); AP15 (Habitation debris)	1973 (HUBBS, Pacific Coast Archaeological Society, Inc.)	OR-00585, OR-00711, OR-00741, OR-01995
P-30-000501	CA-ORA-000501	Resource Name - PCAS 2	Site	Prehistoric	AP02 (Lithic scatter); AP14 (Rock shelter/cave)	1973 (HUBBS, PCAS)	OR-00585, OR-00711, OR-00741, OR-01127, OR-01995
P-30-000942	CA-ORA-000942H	Resource Name - APC-018-80	Structure	Historic	AH02 (Foundations/structure pads); AH11 (Walls/fences)	1980 (Helman; Gardner); 1980 (B.Beroza, Archaeological Planning Cooperative)	OR-00741, OR-03568
P-30-001054	CA-ORA-001054	Resource Name - Site B	Site	Prehistoric	AP02 (Lithic scatter); AP15 (Habitation debris)	1983 (Romani, John & Gwen, Caltrans)	OR-00741, OR-00772, OR-01127, OR-01937, OR-04315
P-30-001682	CA-ORA-001682		Site	Prehistoric	AP02 (Lithic scatter); AP14 (Rock shelter/cave); AP15 (Habitation debris)	1977 (N. Whitney, J. Cizek, Archaeological Associates)	
P-30-001719		Resource Name - SunValley Burn Dump; Other - former DeWitt Parcel Burn Dump	Site	Historic	AH04 (Privies/dumps/trash scatters)	2011 (Patrick Maxon and Tony Kuhner, Bonterra Consulting)	OR-04161

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-30-100234		Resource Name - Redeposit-1	Other	Prehistoric	AP15 (Habitation debris)	2018 (Ivan Strudwick, LSA)	
P-30-176761		Resource Name - LSA-EMA631A-S-1	Building, Object, Site	Historic	AH02 (Foundations/structure pads); AH05 (Wells/cisterns)	2005 (T. Fulton, LSA Associates, Inc)	
P-30-177470		Resource Name - Laguna Canyon Road	Structure	Historic	AH07 (Roads/trails/railroad grades)	2013 (Hubert Switalski, Stantec); 2016 (Jeremy Adams, ECORP)	OR-04285, OR-04589
P-30-177655		Resource Name - Launa Canyon Flood Control Channel	Structure	Historic	HP20 (Canal/aqueduct)	2016 (Jeremy Adams, ECORP)	OR-04589
P-30-177656		Resource Name - Laguna Canyon; OHP Property Number - 037947?; OHP PRN - 2651-0026-9999?;	District	Historic	HP02 (Single family property)	1981 (Kathleen Les, Environmental Coalition)	OR-04589
P-30-177657		Resource Name - Milligan Drive Bridge	Structure	Historic	HP19 (Bridge)	2016 (Jeremy Adams, ECORP)	OR-04589

APPENDIX C

NATIVE AMERICAN CONSULTATION RECORDS

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

January 9, 2019

Mike Rohde
Laguna Beach Fire Department

VIA Email to: mrohde@lagunabeachcity.net

RE: Native American Tribal Consultation, Pursuant to the Assembly Bill 52 (AB 52), Amendments to the California Environmental Quality Act (CEQA) (Chapter 532, Statutes of 2014), Public Resources Code Sections 5097.94 (m), 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2 and 21084.3, Laguna Beach Fire Department Fuel Breaks in FMZ 23 and FMZ 24, Orange County

Dear Mr. Rohde:

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

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

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

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

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

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

   - A listing of any and all known cultural resources that have already been recorded on or adjacent to the APE, such as known archaeological sites;

   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

   - Whether the records search indicates a low, moderate, or high probability that unrecorded cultural resources are located in the APE; and

   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

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

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

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

3. The result of any Sacred Lands File (SLF) check conducted through the Native American Heritage Commission was negative.
4. Any ethnographic studies conducted for any area including all or part of the APE; and

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

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

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

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

If you have any questions, please contact me at my email address: steven.quinn@nahc.ca.gov.

Sincerely,

Steven Quinn
Associate Governmental Program Analyst

Attachment

Native American Heritage Commission
Tribal Consultation List
Orange County
1/9/2019

Agua Caliente Band of Cahuilla Indians
Jeff Grubbe, Chairperson
5401 Dinah Shore Drive — Cahuilla
Palm Springs, CA, 92264 — Luiseno
Phone: (760) 699 - 6800
Fax: (760) 699-6919

Campo Band of Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 — Kumeyaay
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Tribe
Robert Pinto, Chairperson
4054 Willows Road — Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
wmicklin@leaningrock.net

Ewiiaapaayp Tribe
Michael Garcia, Vice Chairperson
4054 Willows Road — Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
michaelg@leaningrock.net

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393 — Gabrieleno
Covina, CA, 91723
Phone: (626) 926 - 4131
admin@gabrielenoindians.org

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

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

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490 — Gabrielino
Bellflower, CA, 90707
Phone: (562) 761 - 6417
Fax: (562) 761-6417
gtongva@gmail.com

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

Jamul Indian Village
Lisa Cumper, Tribal Historic Preservation Officer
P.O. Box 612 — Kumeyaay
Jamul, CA, 91935
Phone: (619) 669 - 4855
lcumper@jiv-nsn.gov

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 — Kumeyaay
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
epinto@jiv-nsn.gov

Juaneno Band of Mission Indians
Sonia Johnston, Chairperson
P.O. Box 25628 — Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

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This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Laguna Beach Fire Department Fuel Breaks in FMZ 23 and FMZ 24 Project, Orange County.

Juaneno Band of Mission Indians Acjachemen Nation
Matias Belardes, Chairperson
32161 Avenida Los Amigos — Juaneno
San Juan Capisttrano, CA, 92675
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Romero
Teresa Romero, Chairperson
31411-A La Matanza Street — Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
Fax: (949) 488-3294
tromero@juaneno.com

La Jolla Band of Luiseno Indians
Thomas Rodriguez, Chairperson
22000 Highway 76 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

La Posta Band of Diegueno Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road — Kumeyaay
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

La Posta Band of Diegueno Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road — Kumeyaay
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Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 — Kumeyaay
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

Mesa Grande Band of Diegueno Mission Indians
Mario Morales, Cultural Resources Representative
PMB 366 35008 Pala Temecula Rd. — Kumeyaay
Pala, CA, 92059
Phone: (760) 622 - 1336

Mesa Grande Band of Diegueno Mission Indians
Virgil Oyos, Chairperson
P.O Box 270 — Kumeyaay
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com

Pala Band of Mission Indians
Robert Smith, Chairperson
12196 Pala Mission Road — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3500
Fax: (760) 742-3189
rsmith@palatribe.com

Pauma Band of Luiseno Indians
Temet Aguilar, Chairperson
P.O. Box 369 — Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 1289
Fax: (760) 742-3422
bennaecalac@aol.com

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This list is only applicable for consultation with Native American tribes under Public Resources Code Sections 21080.3.1 for the proposed Laguna Beach Fire Department Fuel Breaks in FMZ 23 and FMZ 24 Project, Orange County.

Pechanga Band of Mission Indians
Mark Macarro, Chairperson
P.O. Box 1477 — Luiseno
Temecula, CA, 92593
Phone: (951) 770 - 6000
Fax: (951) 695-1778
epreston@pechanga-nsn.gov

Rincon Band of Luiseno Indians
Jim McPherson, Tribal Historic Preservation Officer
1 West Tribal Road — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
vwhipple@rincontribe.org

Rincon Band of Luiseno Indians
Bo Mazzetti, Chairperson
1 West Tribal Road — Luiseno
Valley Center, CA, 92082
Phone: (760) 749 - 1051
Fax: (760) 749-5144
bomazzetti@aol.com

San Fernando Band of Mission Indians
Donna Yocum, Chairperson
P.O. Box 221838 — Kitanemuk
Newhall, CA, 91322 — Serrano
Phone: (503) 539 - 0933 — Tataviam
Fax: (503) 574-3308
ddyocum@comcast.net

San Luis Rey Band of Mission Indians
San Luis Rey, Tribal Council
1889 Sunset Drive — Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

San Pasqual Band of Diegueno Mission Indians
Allen Lawson, Chairperson
P.O. Box 365 — Kumeyaay
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
allenl@sanpasqualtribe.org

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 — Cahuilla
San Jacinto, CA, 92583 — Luiseno
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Sycuan Band of the Kumeyaay Nation
Cody J. Martinez, Chairperson
1 Kwaaypaay Court — Kumeyaay
El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov

Viejas Band of Kumeyaay Indians
Robert Welch, Chairperson
1 Viejas Grade Road — Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov

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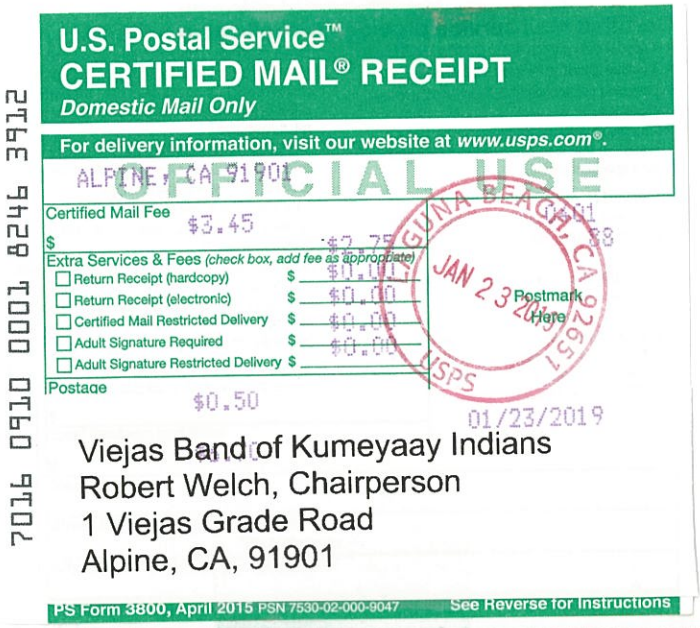

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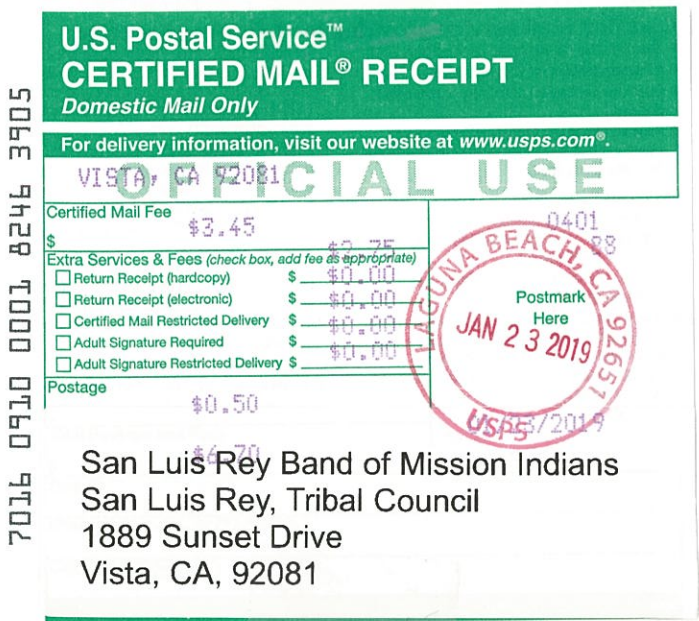

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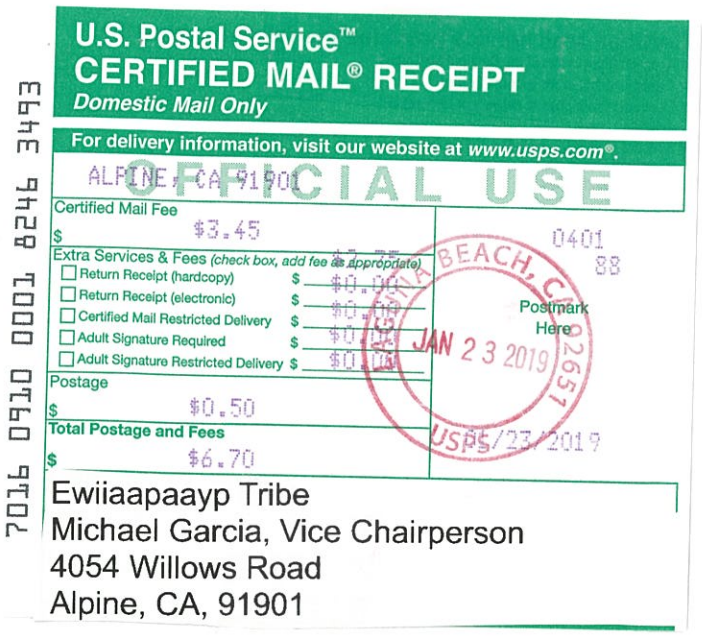

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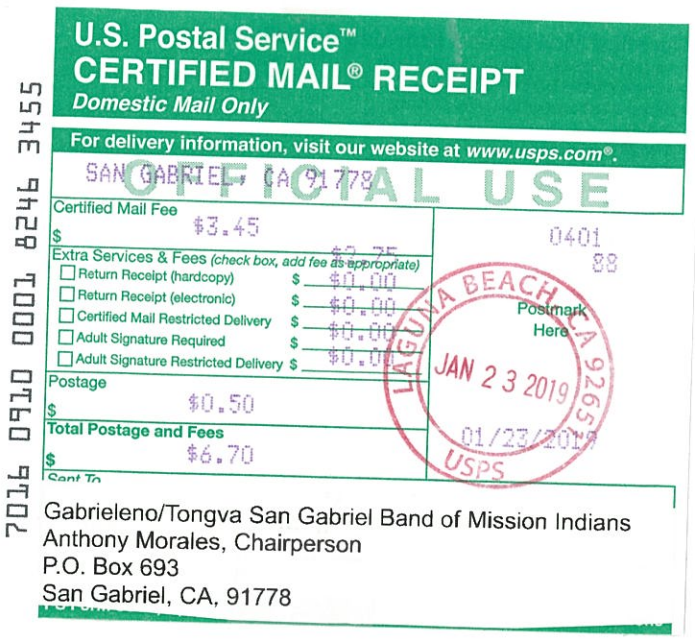
Ewiiaapaayp Tribe
Michael Garcia, Vice Chairperson
4054 Willows Road
Alpine, CA, 91901



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Gabrieleno/Tongva San Gabriel Band of Mission Indians
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Andrew Salas, Chairperson
P.O. Box 393
Covina, CA, 91723

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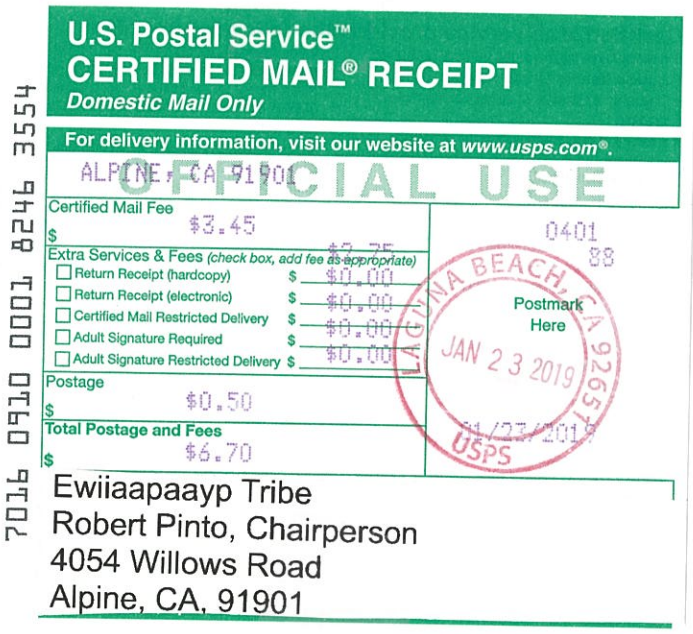

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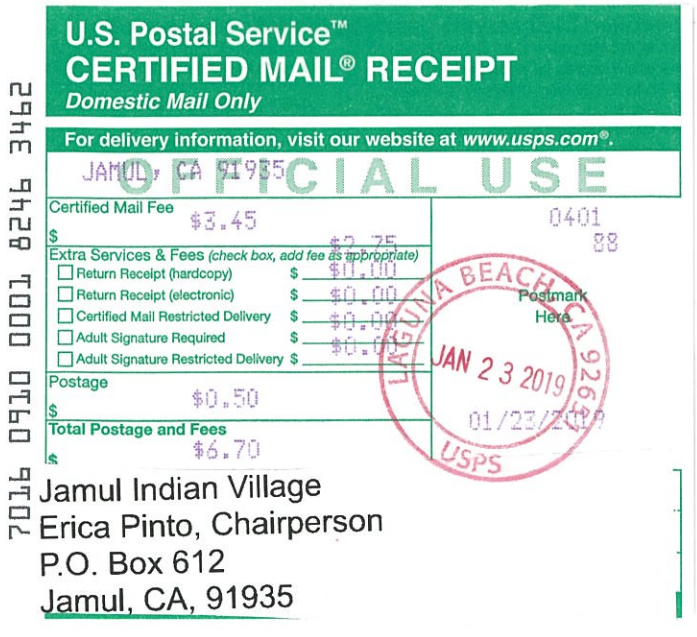
Ewiiaapaayp Tribe
Robert Pinto, Chairperson
4054 Willows Road
Alpine, CA, 91901



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Jamul Indian Village
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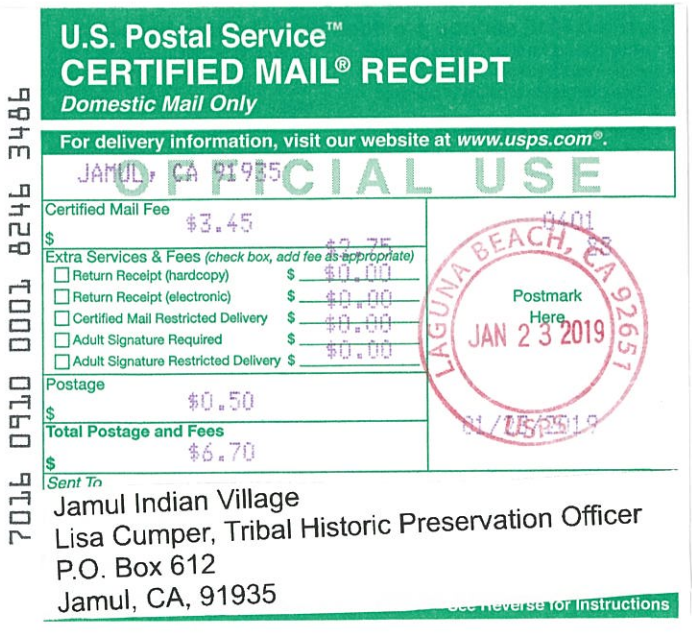
P.O. Box 612
Jamul, CA, 91935



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Jamul Indian Village
Lisa Cumper, Tribal Historic Preservation Officer
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La Posta Band of Diegueno Mission Indians
Gwendolyn Parada, Chairperson
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Sonia Johnston, Chairperson
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Santa Ana, CA, 92799

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Mesa Grande Band of Diegueno Mission Indians
Mario Morales, Cultural Resources Representative
PMB 366 35008 Pala Temecula Rd.
Pala, CA, 92059

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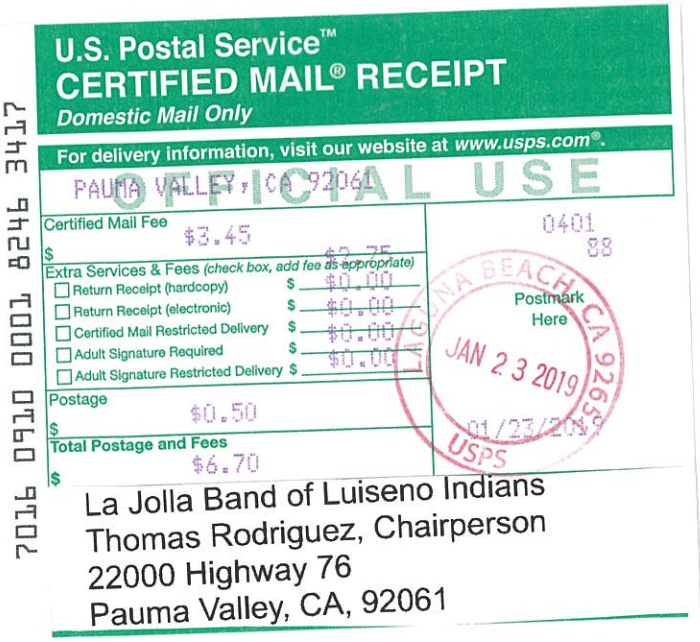

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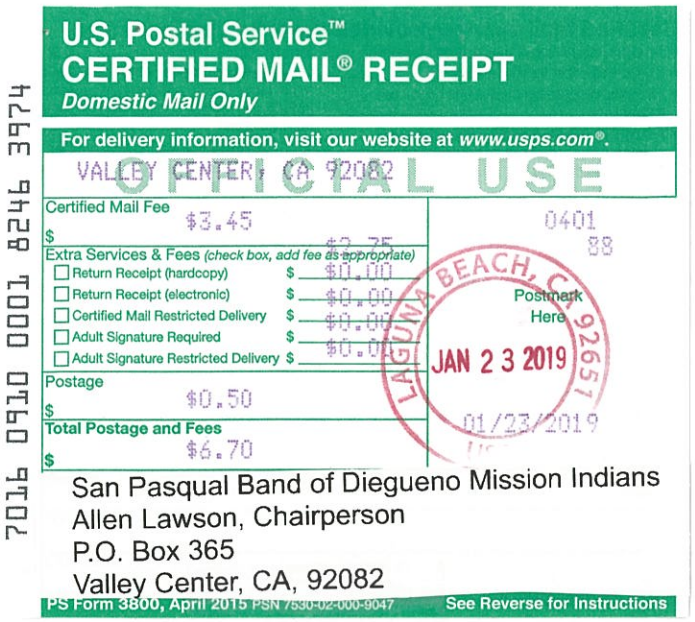
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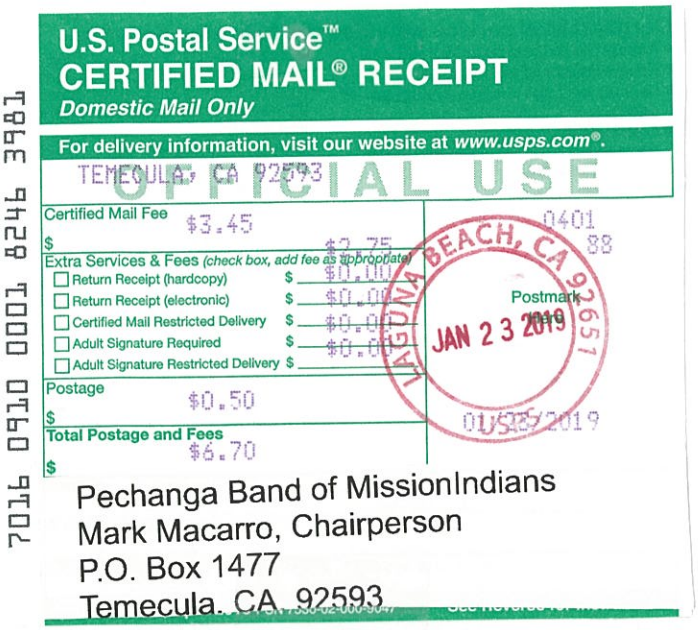
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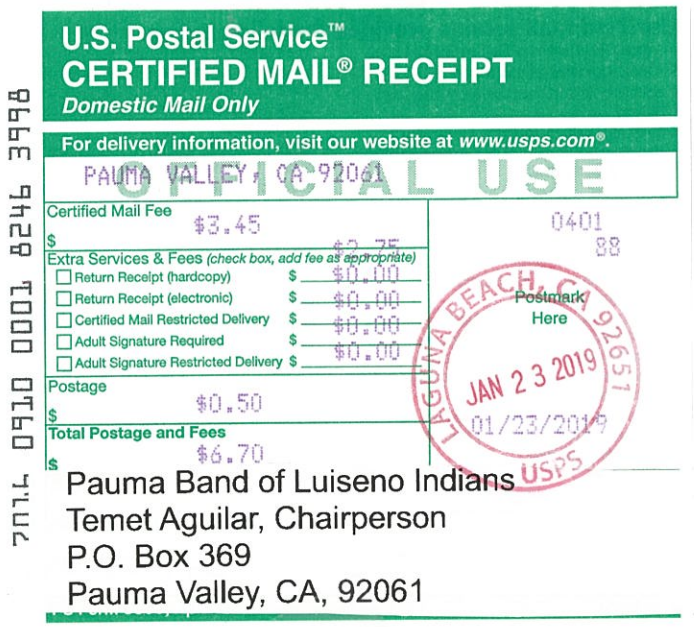
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Gabrielino /Tongva Nation
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PALA TRIBAL HISTORIC PRESERVATION OFFICE

PMB 50, 35008 Pala Temecula Road
Pala, CA 92059
760-891-3510 Office | 760-742-3189 Fax

PALA THPO

January 31, 2019

Michael Rohde
City of Laguna Beach
505 Forest Ave.
Laguna Beach, CA 92059

Re: AB-52 Consultation; Laguna Canyon Unified Fuel Break and Habitat Restoration Project

Dear Mr. Rohde:

The Pala Band of Mission Indians Tribal Historic Preservation Office has received your notification of the project referenced above. This letter constitutes our response on behalf of Robert Smith, Tribal Chairman.

We have consulted our maps and determined that the project as described is not within the boundaries of the recognized Pala Indian Reservation. The project is also beyond the boundaries of the territory that the tribe considers its Traditional Use Area (TUA). Therefore, we decline AB-52 consultation at this time, but do not waive our right to request consultation under other applicable laws in the future. At this point we defer to the wishes of Tribes in closer proximity to the project area.

We appreciate involvement with your initiative and look forward to working with you on future efforts. If you have questions or need additional information, please do not hesitate to contact Alexis Wallick by telephone at 760-891-3537 or by e-mail at awallick@palatribe.com.

Sincerely,

Shasta C. Gaughen, PhD
Tribal Historic Preservation Officer
Pala Band of Mission Indians

RINCON BAND OF LUISEÑO INDIANS

Cultural Resources Department

One Government Center Lane · Valley Center, California 92082 ·
(760) 297-2330 Fax:(760) 297-2339

February 4, 2019

Michael S. Rohde
City of Laguna Fire Department
Wildland Fire Defense Program
505 Forest Avenue
Laguna Beach, CA 92651

Re: Fuel Modification Zone Protocol

Dear Mr. Michael S. Rohde:

This letter is written on behalf of the Rincon Band of Luiseño Indians. Thank you for inviting us to submit comments on the above mention project. Rincon is submitting these comments concerning your projects potential impact on Luiseño cultural resources.

The Rincon Band has concerns for the impacts to historic and cultural resources and the finding of items of significant cultural value that could be disturbed or destroyed and are considered culturally significant to the Luiseño people. This is to inform you, your identified location is not within the Luiseño Aboriginal Territory. We recommend that you locate a tribe within the project area to receive direction on how to handle any inadvertent findings according to their customs and traditions.

If you would like information on tribes within your project area, please contact the Native American Heritage Commission and they will assist with a referral.

Thank you for the opportunity to protect and preserve our cultural assets.

Sincerely,

Destiny Colocho, RPA
Tribal Historic Preservation Officer
Rincon Cultural Resources Department

From: Padilla, Lacy (TRBL) lpadilla@aguacaliente.net
2/8/19
To: Mike Rohde

Greetings,

A records check of the Tribal Historic preservation office's cultural registry revealed that this project is not located within the Tribe's Traditional Use Area. Therefore, we defer to the other tribes in the area. This letter shall conclude our consultation efforts.

Thank you,

Lacy Padilla
Archaeological Technician
Agua Caliente Band of Cahuilla Indians
5401 Dinah Shore Drive Palm Springs, CA 92264
D: 760-699-6956 | C: 760-333-5222

Aspen environmental group
5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

PROJECT MEMORANDUM
FMZ 23-CANYON ACRES

Date: June 12, 2019
To: Mike Rohde, Project Manager
From: Michael Macko, Archaeologist
Subject: Cultural Resources Summary for the Additional FMZ 23-Canyon Acres Area

Purpose and Intent of the Memorandum

This memorandum summarizes the results of a cultural resources records search and pedestrian survey of an additional approximately 2-acre area in Laguna Canyon, which extends approximately 1,000 feet southwest from the originally defined FMZ 23-Canyon Acres studied by LSA (2019) (Figure 1).

Site Description and Location

The additional fuel break area is situated on a very steep slope behind commercial buildings along the south side of State Route 133 (Figure 1). The steep slope is heavily vegetated, except where large outcrops of bedrock occur. The additional area lies within Section 24, Township 7 South, Range 9 West. It can be found on the Laguna Beach 7.5' quadrangle.

The Fuel Break in FMZ 23-Canyon Acres and FMZ-24-Laguna Canyon Project will involve minor ground disturbances to remove and reduce vegetation with a combination of brush-cutting, hand-pulling, and use of goats to remove vegetation. All cuttings will be removed and hauled off site. Uprooting plants may expose cultural soils currently inaccessible due to vegetation cover.

Methods

Aspen archaeologist, Michael E. Macko, reviewed available literature by conducting a records search at the California Historical Resources Inventory System (CHRIS) facility at the South Central Coastal Information Center at Cal State Fullerton. The records search was necessitated by the additional extent of FMZ 23 that included areas beyond the 0.25-mile buffer used by Collison (LSA 2019). The full extent of cultural resource surveys conducted previously in the area is detailed in *Cultural Resource Survey Report, Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon), Laguna Beach, Orange County, California* (LSA 2019).

On May 24, 2019, Mr. Macko surveyed the additional fuel break area to confirm previously identified resources. The area was accessible from the north edge where a trail ascends the hillside through dense vegetation. The trail terminates abruptly, but allows a perusal of the hillside features to the south. Additional access was obtained through the Sawdust Festival property and again from parking areas behind commercial buildings along Laguna Canyon Road. Survey was essentially that of opportunity where the hillside was accessible and the vegetation not impassable. This resulted in inspecting the ground surface of no more than 15 percent of the additional fuel break area.

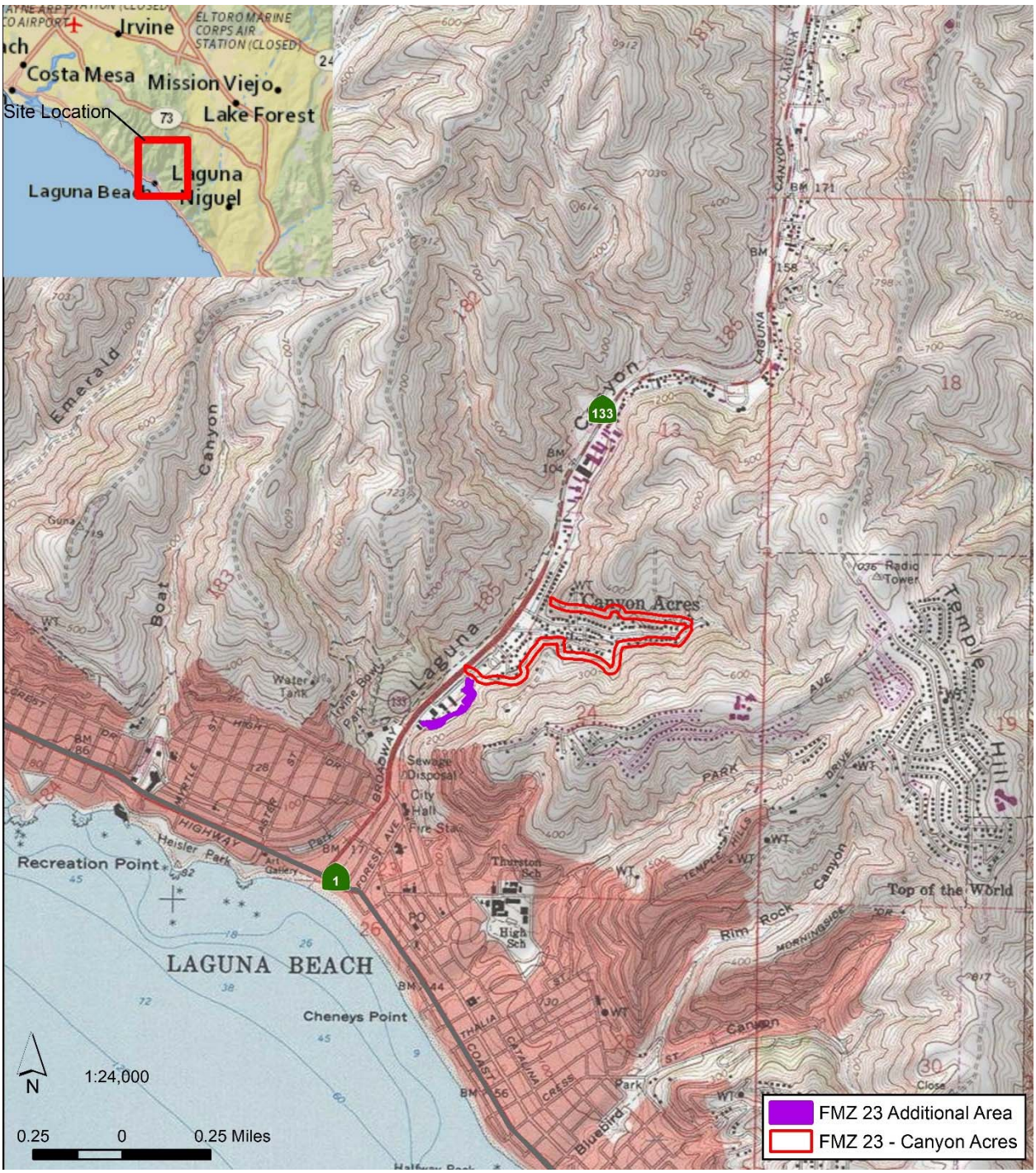


Figure 1. Additional Canyon Acres Area Location Map

Results

Records Search

The record search for the additional fuel break area indicated that five important prehistoric archaeological sites are within close proximity. Table 1 lists the cultural resource sites identified within 0.25 of the additional fuel break area, though all are within 500-750 feet of the southern extent.

Table 1. Cultural Resources within 0.25 mile of the Additional FMZ 23 Area

Resource Name (number)	Type	Site Status	Impact Potential
CA-ORA-285	Human skeletal remains unearthed during construction activities for the Laguna Sewage Treatment Plant.	Investigated by WPA 1935	No
CA-ORA-286	Rock Shelter with Midden Deposit of shell, mammal, and fish bone; and bone and stone artifacts. Considered associated with the skeletal remains at ORA-285.	Investigated by WPA 1935	No
CA-ORA-1000	Small rockshelter with shell midden on east side of Laguna Canyon roughly 60 feet above Laguna Canyon Road.	Not Evaluated	No
CA-ORA-1001	Small rockshelter with no evident midden shell midden on east side of Laguna Canyon roughly 60 feet above Laguna Canyon Road.	Not Evaluated	No
CA-ORA-1744	Buried shell midden noted in five lenses 50 cm below asphalt parking lot at The Festival of the Arts Ticket Booth.	Destroyed during monitoring. No studies conducted (Strudwick 2014)	No

Field Survey

Based on the records search it was important to determine whether any rock formations may occur which contain alcoves or shelters that may have been used prehistorically. The survey indicated that none exist. Further, the middens associated with many rockshelters in the San Joaquin Hills typically form aprons or fans that accumulate below the shelters. None of these features or associations were noted.

From current information available, no cultural resources are present or expected within the additional fuel break area. However, as with the occurrence of the buried midden deposits discovered and recorded as ORA-1744 during construction at the Festival of the Arts (Strudwick 2014) there exists the possibility of buried remains anywhere along Laguna Canyon. The amount of soils and sandstone material that has slid to the bottom of the steep cliffs over the years increases the possibility of buried materials at the foot of the hillsides. For these reasons the following considerations are recommended.

Environmental Commitments

This memorandum recommends incorporating the following Environmental Commitments (ECs) into the Project design to avoid impacts to cultural resources:

> ***EC-1: Train construction personnel.*** *Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist regarding the recognition of cultural resources (i.e.,*

prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing archaeological deposits masked by vegetation.

EC-2: Treatment of Human Remains. *All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site (i.e., Orange County Parks) is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.*

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

According to the California Health and Safety Code, six (6) or more human burials at one (1) location constitute a cemetery (Section 8100), and willful disturbance of human remains is a felony (Section 7052).

References

LSA. 2019. Cultural Resource Survey Report, Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon), Laguna Beach, Orange County, California. Prepared by Kerrie Collison, RPA at LSA for the City of Laguna Beach Fire Department. March.

Strudwick, Ivan H. 2014. Letter Report – Results of Monitoring for the Laguna – Festival of Art Construction Project, Laguna Beach, Orange County, California. LSA Associates, Inc.

Appendix E

Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zones 23 and 24

GeoFirm
801 Glenneyre St. • Suite F • Laguna Beach • CA 92651
(949) 494-2122 • FAX (949) 497-0270

February 19, 2019

City of Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, CA 92651

Project No: 72431-23/24
Report No: 19-8491

Attention: Mr. Mike Rohde, Laguna Beach Fire Dept.
Wildland Fire Defense Coordinator

Subject: **Geotechnical Evaluation of Potential Slope Stability Impacts,**
Proposed Fuel Modification Program, Zones 23 and 24,
Laguna Canyon and Canyon Acres Area
Laguna Beach, California

INTRODUCTION

This report presents the updated results of a geotechnical evaluation of the potential slope stability impacts related to proposed fuel modification on the slopes ascending easterly from properties along Laguna Canyon Road from El Toro Road to Canyon Acres Drive, westerly above the Laguna College of Art and Design, and ascending to the north and south of the Canyon Acres community within the City of Laguna Beach.

It is our understanding the proposed fuel modification involves an approximately 50 percent reduction in the density of the current vegetation canopy along a zone extending approximately 100 feet from the adjacent residential properties. The goal of this modification is to provide a defensible space adjacent to homes in an effort to enhance the residents' ability to evacuate and survive a severe fire event. An example of this 100-foot buffer is currently in place in a number of areas throughout the City. These areas have undergone similar modification for the past several years, and are meeting performance expectations with respect to controlled vegetation reduction without increasing erosion.

From the geotechnical perspective, two components of vegetation enhance slope stability. The plant canopy system and leaf structure provide surface area that accumulates rainfall for evaporation, reduces soil wetting and rainfall impact erosion or softening, and shades the soil surface from extreme drying and wind loosening during summer. The height and density of the vegetation is proportional to the protection provided during severe storms. Also, from a subsurface perspective, the plant root systems play a very important role by reinforcing the overall soil structure to increase strength and reduce the potential for shallow slippage and mudflows.

The purpose of this study is to assist the Fire Department to provide a safe fire break within Zones 23 and 24, to identify the slope stability issues within the fuel modification area, and to provide mitigating guidelines, where possible.

Scope of Investigation

The investigation included:

1. Review of the published geologic reports and maps pertaining to the site vicinity, and nearby site-specific geotechnical investigations.
2. Geologic surface reconnaissance of the fuel modification area.
3. Geotechnical review and evaluation of our findings for the formulation of our guidelines.
4. Preparation of this geotechnical report and graphics containing our conclusions and guidelines.

Accompanying Illustrations and Appendix

Figure 1 – Geologic Location Map
Figures 2-8 – Slope Ratios Maps, Zones 23 and 24
Appendix A – References

Site Description

The area of Zone 23 can be characterized as the lower eastern hillside flanks of approximately 2.5 miles of Laguna Canyon, south of El Toro Road, and a portion of the western hillside slope backing LCAD. The area is located on a lower edge of natural slopes with ascending terrain on the order of 500 to 800 feet in total height. Overall, the majority of the slopes in this area are moderate to severe, inclined from 3:1 to 2:1 (horizontal:vertical) ratios, with localized isolated areas at 1:1 ratio to vertical at bedrock outcrops.

Development is limited to a relatively narrow, approximately 500 feet wide, band adjacent to Laguna Canyon Road and including Arroyo Drive. The Sun Valley/Phillips Road area, the storage facility, and Castle Rock community extend easterly into the hillside up to 1,000 feet from Laguna Canyon Road. From north to south this zone accommodates some open space separated with schools, commercial buildings, residential properties, City park, and other public facilities. North of Arroyo Drive a ¼-mile segment of largely commercial development is separated from the ascending slope by the concrete-lined Laguna Creek drainage culvert. The remainder of the properties flank the eastern natural terrain.

The area of Zone 24 can be characterized as the lower hillside flanks of Canyon Acres Drive approximately 0.5 miles to Laguna Canyon Road. The area is located on a lower edge of natural

slopes with ascending terrain on the order of 500 to 700 feet in total height. Overall, the majority of the slopes in this area are moderate to severe, inclined from 3:1 to 2:1 (horizontal: vertical) ratios, with localized isolated areas at 1:1 ratio to vertical at bedrock outcrops. Dense development is flanks Canyon Acres Drive and accommodates sparse open space separated with residential properties. All of the properties flank the ascending natural terrain.

Vegetation within these areas are variable but similar to most of the hillsides in Laguna Beach. On the lots and in the canyon bottoms much of the vegetation is mature and in excess of five feet in height. At the interface on the flanks of the canyons the vegetation is a more open mix of sparse brush with many mature trees, typically twenty feet or more in height. On the ridge tops and within trail areas the vegetation is limited to sparse grasses, cactus and brush commonly under three feet in height. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the area.

GEOTECHNICAL CONDITIONS

Geologic Setting

The area and vicinity are located on the seaward slope of the San Joaquin Hills. The San Joaquin Hills are composed of Tertiary marine sedimentary strata uplifted due to regional tectonic forces acting on this portion of southern California during the last million years. Throughout this uplift, numerous canyons have been deeply incised into the San Joaquin Hills by erosional processes. Zone 23 is located along southerly draining Laguna Canyon. Zone 24 flanks a westerly draining tributary to lower Laguna Canyon.

During this regional erosion-uplift process, decay and failure of the rock slopes occur naturally. Over time, the bedrock materials chemically and mechanically reduce to form a thin soil mantle that essentially blankets the flat and gently sloped areas. In some cases, and in steep terrain, the residual soils and shallow failures are completely removed by erosion over time. Where not eroded, these surficial remain sporadically located throughout the modification area.

Earth Materials

The modification area is underlain at shallow to moderate depths by bedrock strata assigned on the basis of regional geologic mapping to the Topanga and Vaqueros Formations. The Topanga bedrock typically consists of hard and cemented medium-grained sandstones interbedded with thick sections of siltstones. The Vaqueros Formation consists of dense fine-grained sandstone. Throughout the Canyon area siltstone and claystone beds occur very infrequently. Overall the bedrock underlying the area is resistant and strong, except where thin weakened claystone beds are unsupported. Bedrock is commonly exposed at the surface in slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Landslide deposits are indicated as being present in Zones 23 and more predominantly mapped in Zone 24 based on a review of State maps and aerial photographs. The ancient landslides are largely due to past canyon down-cutting exposing the easterly dipping structure on weaker fine-grained layering within the rock. The moderate to shallow sloping terrain of the areas are mantled at shallow depth with a veneer of residual soil deposits. The residual soil consists of a coalesced mix of slopewash, weathered rock, and vegetation detritus, and is composed of medium to coarse grained sands with clays. The deposits are loose to dense, locally cohesionless, and prone to surficial instability where moderately sloping and if saturated.

Geologic Structure

In general, the regional bedding within the Zones 23 and 24 strikes closely north-south and is inclined 20 to 30 degrees to the east from horizontal. This structure results in a supported condition on west-facing slopes, a dip-slope to unsupported condition on east-facing slopes, and oblique bedding orientations underlying the southern and northern-facing terrain. Overall, the potential for deep gross failure of the bedrock is unlikely in the majority of Zone 23 owing the supported bedding and the hard and cemented character of the formation. Landslides flanking Zone 24 are of undetermined stability and may be only marginally stable in the present configuration.

Faulting, fractures and joints are also present in the bedrock. These structures strike mostly north-northwest and dip at moderate to very high angles from horizontal. Over weeks to months after an application of water, these features provide a conduit for water to permeate into the hillside. The historic impact of increased groundwater in this area has not been and is not anticipated to be significant with regard to deep instability.

Surficial Stability and Runoff

Throughout both Zones 23 and 24 the residual soils and weathered fill materials mantling the bedrock are considered subject to shallow instability in moderately steep terrain. Mudflows and debris flows may occur in exposed terrain inclined at a 2:1 (horizontal:vertical) ratio or steeper. The USGS has prepared maps depicting the risk of shallow soil instability within the 30’ x 60’ Santa Ana Quadrangle. This study indicates the risk for surficial instability on the upper slopes above the residential properties is moderate to high, and low to moderate on the lower slopes. Some areas, which appear to be underlain with fill or residual soil, were observed with recent erosional scars and thin soil slips.

It is important to note the area of Big Bend in Zone 23 has a history of devastating mudflows and debris flows. In 1938, 1969 and most recently in the winter of 1997-1998 the drainages throughout this area are documented to have shed many feet of mud and debris into the properties at the base of the western and northern-facing slopes, resulting in the loss of life. These failures were the result of historic rainfall events and storm cells generating significant

rainfall in short periods on the very steep upper tributary canyons with accumulated soil cover. To our knowledge, these flow events are generated in the upper and central portions of the slope and occur in this area with the normal vegetative canopy and cover. Spring or early summer fuel modification at the base of the slope should not exacerbate the future mudflow potential.

Within Zones 23 and 24 the majority of the fuel modification area is unimproved with regard to drainage, except portions of the slopes where informal or limited drains systems were installed by residents or as a result of more significant local improvements. In most sloping areas, the residual soil and rock slopes sheet flow to tributary drainages, which ultimately collect in the canyon bottom. Reductions in vegetation at the base of slopes typically do not increase the volume of runoff and surface sediment losses from the ascending steeper hillsides.

Gross Slope Stability

Confirmation of the presence or absence of landslide features is not within the scope of this investigation. In Zone 23 the character of the rock and the easterly-dipping supported bedding in the Topanga Formation is not generally prone to gross instability in west-facing slopes. Accordingly, the California Geological Survey landslide map for Laguna Beach indicates few landslide deposits are known to be present in this Zone, with the exception of the Big Bend area and the east-facing hillside above the Laguna College of Art and Design. In these areas the ancient landsliding appears to be the result of unsupported or obliquely unsupported fine-grained bedding structure.

Alternatively, within Zone 24 several large ancient landslides are mapped as present in the upslope and flanking hillside terrain. If present these failures are also the result of unsupported and/or exposed weakened bedding surfaces on the north and south-facing slopes, and may be marginally stable at present. Many of these failures are large to very large, and are less impacted by limited or localized changes in vegetation.

CONCLUSIONS

1. The primary geotechnical benefit of vegetation in hillside terrain is canopy protection of the soil from the elements, and root structure reinforcement within the upper soils to increase strength.

2. The majority of the fuel modification area is underlain at the surface to relatively shallow depths by hard bedrock. The bedrock is mantled by isolated, thin residual soils and minor engineered fills from prior grading operations. Portions of the Zones, particularly Zone 24, are underlain by ancient landslides of undetermined stability.

3. The exposed bedrock materials have a very low susceptibility to surficial failure. The residual soil and fill deposits have a low to moderate susceptibility to surficial movement

with the current vegetation. Landslides are present and have a low to moderate susceptibility to surficial movement with the current vegetation.

4. Overall, the likelihood of increased gross slope instability as a result of fuel modification is very low. The proposed fuel modification may have a limited adverse impact on soil stability in moderately sloping terrain, in landslide areas, and where thicker soil or fill materials are present.

5. The potential for debris and/or mudflows from significant fuel modification is negligible for slopes shallower than a 4:1 (horizontal:vertical) ratio, moderate on terrain sloping from a 4:1 to a 2:1 ratio, and high on slopes between a 2:1 to 1:1 ratio. Slopes steeper than a 1:1 ratio do not typically support soil accumulation, and therefore pose a relatively low debris flow potential. Landslides and sensitive surficial stability areas are indicated in light and dark orange, respectively, on Figures 2 through 8.

6. The Big Bend area of Zone 23 is naturally susceptible to devastating mud and debris flows. Spring and summer fuel modification in this area should not adversely impact this potential. Fuel modification efforts should be reviewed.

7. Fuel modification impacts can be mitigated if conducted in a manner that considers the potential impacts to gross and surficial slope instability. Dead, fallen and woody debris may be removed without significant consequence to stability.

GUIDELINES

Our guidelines are considered to be generally consistent with the standards of practice. They are based on both analytical and empirical methods derived from experience with similar geotechnical conditions. These guidelines are considered to be geotechnically appropriate for the likely soil conditions and are not intended to supersede the criteria for fuel modification required for safe fire prevention or the responsibilities of the governing fire agencies.

1. Fuel modification should be conducted in the spring and completed in the early summer, to allow for some re-establishment of the native canopy prior to the next rainfall season.

2. Fuel modification efforts should be limited to the canopy and seasonal grasses, and should minimize damage to the existing root systems. Based on our prior experience, the use of the goats to thin the vegetation may be acceptable, as they preferentially eat grasses, do not disturb root systems, and impact on the canopy can be controlled by moving the herd judiciously. We recommend a test area be used for a period of six months to one year, to evaluate the potential impacts.

3. In Big Bend or in fuel modification areas with a thick accumulation of soil on terrain sloping between a 2:1 to 1:1 (horizontal:vertical) ratio should consider surficial

amendments, such as spray adhesives, fiber rolls, or jute matting, after the modification is complete and prior to the winter season.

4. Fuel modification areas with landslide deposits should evaluated on a case-by-case basis and, depending on slope gradients, may consider surficial amendments, such as spray adhesives, fiber rolls, or jute matting, after the modification is complete and prior to the winter season.

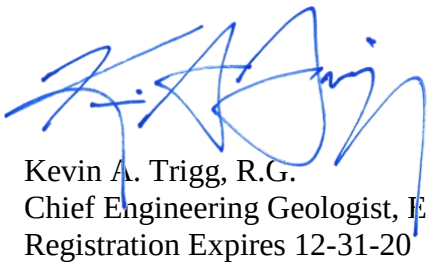
LIMITATIONS

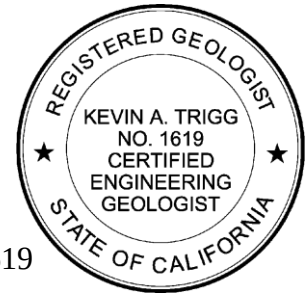
This investigation has been conducted in accordance with generally accepted practice in the engineering geologic and soils engineering field. No further warranty is offered or implied. Conclusions and guidelines presented are based on the conditions encountered and are not meant to imply a control of nature. As site geotechnical conditions may alter with time, the recommendations presented herein are considered valid for a time period of one year from the report date. Changes in proposed land use may require supplemental investigation. Also, independent use of this report in any form cannot be approved unless specific written verification of the applicability of the recommendations is obtained from this firm.

Thank you for this opportunity to be of service. If you have any questions, please contact this office.

Respectfully submitted,

GEOFIRM

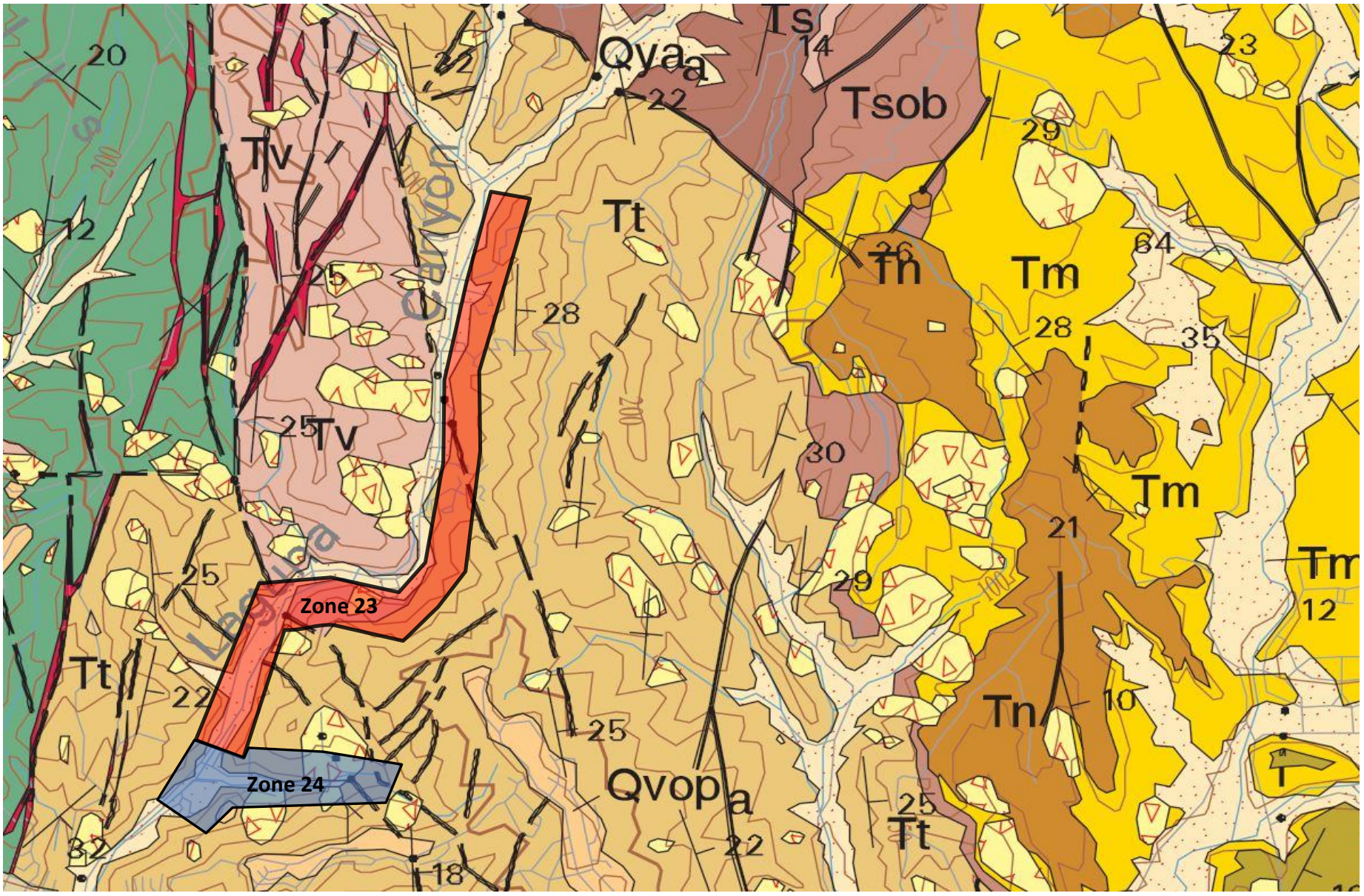




Kevin A. Trigg, R.G.
Chief Engineering Geologist, E.G. 1619
Registration Expires 12-31-20

KAT/HHR: np

Distribution: Via email



Geofirm	**USGS Geologic Location Map, Santa Ana 30' x 60' Quadrangle, Zones 23 and 24**		
	JOB NO.: **72431-00**	DATE: **February 2019**	FIGURE: **1**

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides (Direction of Slide)

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	2

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides (Direction of Slide)

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

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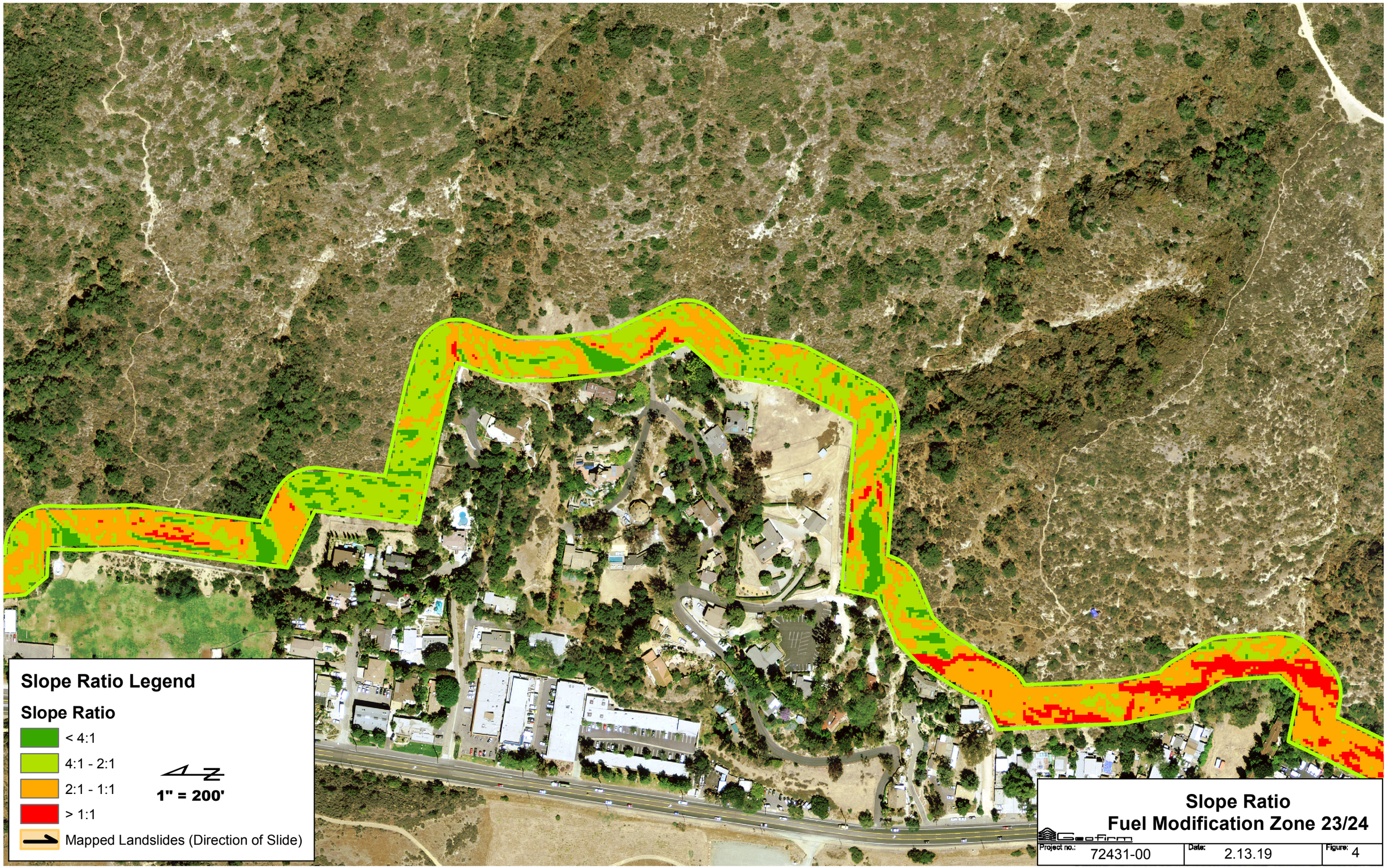
72431-00	2.13.19	3



Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	4

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	5

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides (Direction of Slide)

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	6

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides (Direction of Slide)

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	7

Slope Ratio Legend

Slope Ratio

- < 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- > 1:1
- Mapped Landslides (Direction of Slide)

1" = 200'

Slope Ratio
Fuel Modification Zone 23/24

GeoFirm

Project no.:	Date:	Figure:
72431-00	2.13.19	8

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

1. California Geological Survey, 2006, "Draft-Preliminary Landslide Inventory, Laguna Beach Quadrangle", dated May 8.

2. Geofirm, 2009, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Arch Beach Heights Fuel Modification Areas 1 and 2, Laguna Beach, California", Project No. 71817-00, Report No. 09-6516, dated May 28.

3. Geofirm, 2012, "Evaluation for Slope Restoration and Erosion Control Plan, September 16, 2012 Fire Incident, Nyes Place Open Space, Laguna Beach, California", Project No. 72021-00, Report No. 12-7202, dated February 6.

4. Geofirm, 2017, "Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 10, Hobo Canyon Area, Laguna Beach, California", Project No. 72287-10, Report No. 17-8025, dated February 6.

5. Hollingsworth, R., and Kovacs, G.S., 1981, "Soil Slumps and Debris Flows: Prediction and Protection", AEG Bulletin, Vol. 18, No. 1, pp 17-28.

6. Tan. S.I. and Edgington, W., 1976, "Geology and Engineering Geologic Aspects of the Laguna Beach Quadrangle, Orange County, California", Special Report 127, California Division of Mines and Geology.

7. Morton, D.M., et. al., 2003, "Preliminary Soil-Slip Susceptibility Maps, Southwestern California" United States Geological Survey Open File report 03-17, Santa Ana Quadrangle, dated January 16 (modified 8-24-06)

8. USGS, 2003, " Soil-Slip Stability Map for the Santa Ana 30' x 60' Quadrangle, Southern California", Open-File Report 03-17, Plate 5.

Appendix F

Paleontological Resources Research and Analysis Memorandums

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: February 28, 2019

TO: James Brown, Fire Marshal, Laguna Beach Fire Department

FROM: Kelly Vreeland, M.Sc.

SUBJECT: Paleontological Analysis of the Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project, Laguna Beach, Orange County, California

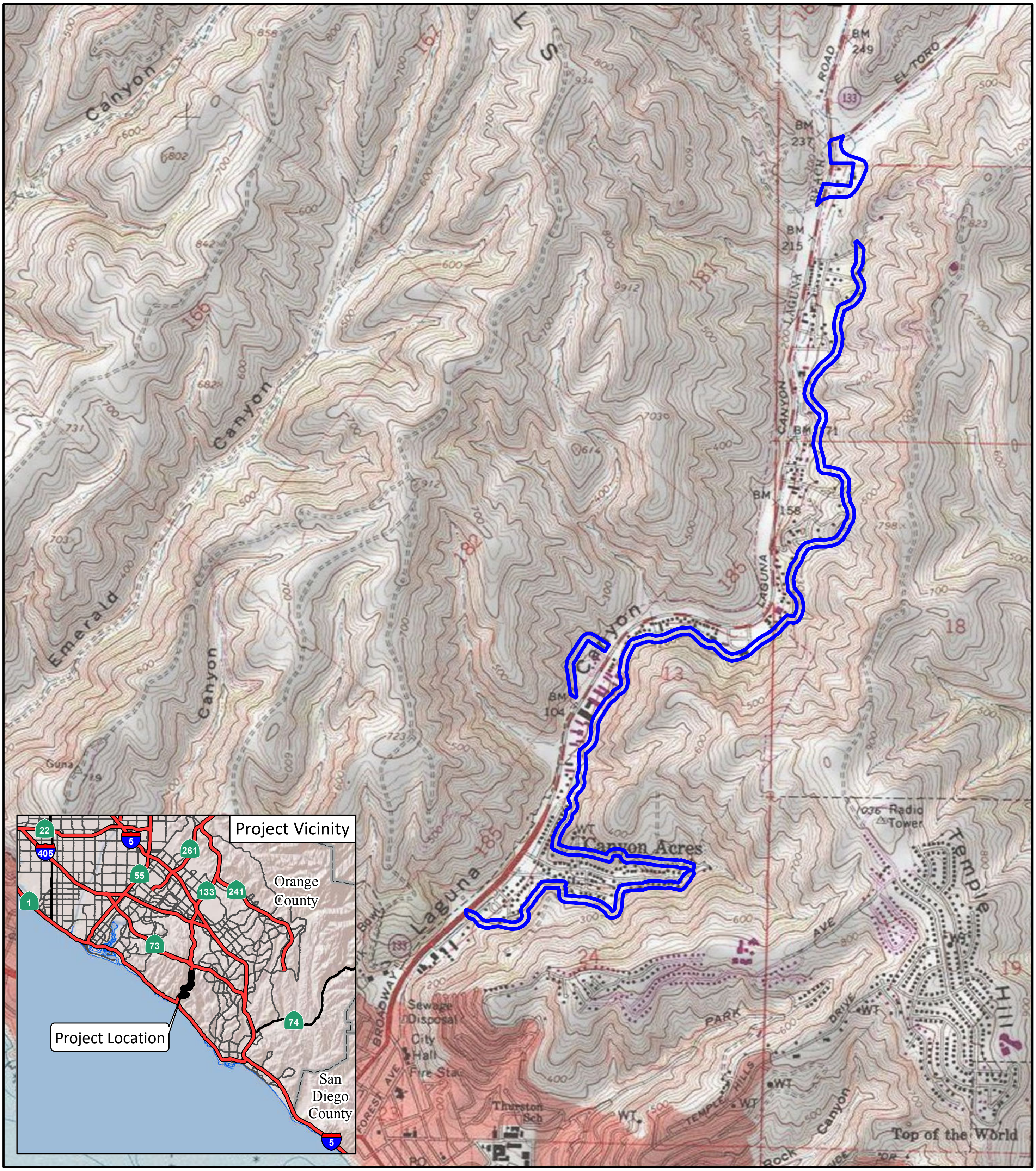
INTRODUCTION

This memorandum was prepared to ensure the Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project (project) in Laguna Beach, Orange County, California is in compliance with all applicable State regulations and requirements regarding paleontological resources, as well as guidelines of the Society of Vertebrate Paleontology (SVP, 2010). The applicable regulations and requirements include the California Environmental Quality Act (CEQA): Public Resources Code (PRC) Division 13, Chapter 2.6; the State *CEQA Guidelines*: California Code of Regulations, Title 14, Chapter 3, Appendix G, Section VII(f); and PRC 5097.5. This memorandum addresses the potential for the project to impact paleontological resources and, if needed, includes mitigation measures and other recommendations to minimize these impacts. The City of Laguna Beach (City) is the Lead Agency under CEQA.

PROJECT LOCATION AND DESCRIPTION

The approximately 54-acre project area extends along the eastern side of Laguna Canyon Road in the hills behind inhabited buildings from the intersection with El Toro Road to just south of Woodland Drive and along both sides of Canyon Acres Drive. There is also a portion of the project area on the western side of Laguna Canyon Road behind the Laguna College of Art and Design. The project area is depicted on Figure 1 on the United States Geological Survey (USGS) *Laguna Beach, California* 7.5-minute topographic map in unsectioned land of the San Joaquin and Niguel Land Grants, as well as Township 7 South, Range 8 West, Sections 7 and 18 and Township 7 South, Range 9 West, Sections 13 and 24, San Bernardino Baseline and Meridian (USGS, 1981).

Fuel modification treatments will be limited to those areas within 100 feet (ft) of the property line of any inhabited structure. Treatments outside those areas will be limited to targeted invasive control to minimize impacts to adjacent intact habitats, and in some cases, to serve as partial on-site mitigation for fuel modification impacts. The primary methods for vegetation management shall consist of goat grazing or hand crew modification, with the method employed depending on the



LSA

FIGURE 1

LEGEND

Project Location

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Laguna Beach Fire Department Fuel Breaks
in FMZ 23 (Canyon Acres)
and FMZ 24 (Laguna Canyon) Project

Project Location

SOURCE: USGS 7.5' Quad - Laguna Beach (1981), CA

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habitat value of a given site as determined by the City in consultation with a qualified biologist using the following definitions:

- **Low Habitat Value:** Sites that are disturbed; are impacted; are often dominated by ruderals, annual plants, and escaped horticulturals; are biologically simplified; and have low faunal carrying capacity.

- **Moderate Habitat Value:** Sites with either native vegetation of a specific community type or ornamental species in a setting providing horizontal and vertical structural diversity and that have a faunal carrying capacity lower than "high value" habitats.

- **High Habitat Value:** Extensive areas dominated by indigenous plant communities that possess good species diversity and have good to excellent faunal carrying capacity

- **Very High Value Habitat:** Sites that have endangered, rare, or locally unique native plant species, including areas of southern oak woodland, natural springs and seeps, and significant rock outcrops because of the assemblages of sensitive plant species that often occupy such settings

Goat grazing will be used to implement fuel modification in areas of low and moderate habitat value, and hand crews will be used in areas of high or very high habitat value. The protocols for these modification methods are detailed below.

Goat Grazing Treatment Protocol

1. The fur and hooves of all goats will be cleaned of seeds and debris before arriving at the treatment area and when being moved between enclosures to prevent the spread of invasive species.

2. No more than 75 goats will be permitted per acre.

3. Goats shall remain in secure enclosures at all times.

4. Sensitive plant species shall be protected from trampling or consumption by keeping the secure enclosures at least 15 ft away from them.

5. Grazing animals shall be moved periodically to ensure enough vegetative cover remains to promote erosion control, inhibit dust, and preserve view aesthetics.

6. Goat grazing shall be preferred for removal of nonnatives, or native herbaceous species. Up to 80 percent of the native and 100 percent of the non-native species in this cover type may be removed in such areas.

7. Goat grazing in wood (Coastal Marine Chaparral) or woody-herbaceous (Coastal Sage Scrub) chaparral species shall be limited to removal of 50 percent of the vegetative cover, and provide for a shaded fuel break outcome.

8. Goat grazed fuel breaks should generally be limited to 100 ft width. Penned areas may be extended to a maximum 150 ft when physical obstructions such as rock outcrops, cliffs, water courses, etc. prevent reasonable establishment of pens at 100 ft width.

9. Goats shall be used for brush reduction only and shall be immediately removed when the brush clearance has been accomplished.

10. A targeted invasive control plan will be implemented in all future goat-grazed areas to prevent invasive species from propagating and impacting adjacent intact habitat.

11. Where practicable and environmentally appropriate, goat grazing may be used as the maintenance method for areas which required initial clearance by hand crews.

Hand Crew Treatment Protocol

The initial phase of vegetation removal shall include the following steps:

1. Fuel modification will be conducted by hand crews with chainsaws, brush-cutters, and other hand tools.

2. Hand crew fuel modification conducted in high or very high value habitat shall generally be limited to a width of 100 ft.

3. Crews will cut down all non-native vegetation (including unmaintained ornamental vegetation) and dead/dying native vegetation and carefully remove dead branches from trees and large shrubs. As noted above, an exception may be made where non-native shrubs are providing shading/nurse plan benefits for big-leaved crownbeard, as determined by the biological monitor.

4. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.

5. Tree-form shrubs (e.g., laurel sumac, toyon, and lemonade berry) that are over 6 ft tall will be carefully pruned of their lower branches to increase the crown base height to 50 percent of the plant height. For example, a 10 ft tall plant would have its lower branches removed to a height of 5 ft. Branches will be pruned to within 1 inch or less of the branch crown. Southern Maritime Chaparral shrub species shall be left fully intact except as noted below, and not pruned initially.

6. For large tree species within FMZ's, non-native trees (*Pinus, Eycalyptus, Washingtonia,* etc.) shall be considered for removal on a case-by-case basis, taking into consideration their potential ignitability, potential to spread fire from or across the FMZ, and property/tree ownership. Native large trees (*Quercus, Platanus,* et al.) shall be pruned of dead components, and lower small branches removed to a height of 8 ft or one half their height, whichever is less, so as to disrupt "fuel ladder" potential. Dead and down tree components on the ground below large trees shall be removed. No more than three trees may be retained in a single grouping or cluster of trees. A minimum distance of 20 ft shall be maintained between mature tree canopies.

7. Remaining shrub clusters shall not exceed 400 square feet, except in the presence of sensitive species. Spacing between shrub clusters shall generally be at least 6 ft width.

Where there is still over 50 percent vegetative cover after the above material has been removed, the contractor will remove healthy live vegetation in accordance with the hierarchical list below, beginning with the first species listed, then in descending order through the list until 50 percent vegetative cover has been attained:

- Coast golden bush
- California buckwheat
- Black sage
- California sagebrush
- Monkeyflower
- Laurel sumac
- Toyon
- Lemonade berry

Stumps will be cut to within 4 inches or less of the ground. Thinning of healthy, live vegetation will be done in a dispersed manner to avoid creating new large opening. All healthy specimens of southern maritime chaparral species, including bush rue, spiny redberry, and bigpod lilac, will be retained.

EXCAVATION PARAMETERS

Habitat restoration and planting will not involve surface disturbance beyond shovel depth for plantings (Michael Rohde, personal communication, November 2018).

METHODS

LSA examined geologic maps of the project area and reviewed relevant geological and paleontological literature to determine which geologic units are present in the project area and whether fossils have been recovered in the project area or from those or similar geologic units elsewhere in the region. A search for known fossil localities was also conducted through the Natural History Museum of Los Angeles County (LACM) to determine the status and extent of previously recorded paleontological resources within and surrounding the project area. On January 9 and 21, 2019, LSA field technicians Logan Freeberg and Aaron McCann conducted a reconnaissance pedestrian survey of the project area to note the sediments at the surface and to identify any previously unrecorded paleontological resources. Large portions of the project area consisted of very steep slope faces, and some portions were not accessible due to private property boundaries. These areas were surveyed from a distance.

RESULTS

Literature Review

The project is at the northern end of the Peninsular Ranges Geomorphic Province, a 900-mile-long northwest-southeast-trending structural block that extends from the Transverse Ranges in the north

to the tip of Baja California in the south and includes the Los Angeles Basin (California Geological Survey, 2002; Norris and Webb, 1976). This province is characterized by mountains and valleys that trend in a northwest-southeast direction, roughly parallel to the San Andreas Fault. The total width of the province is approximately 225 miles, extending from the Colorado Desert in the east, across the continental shelf, to the southern Channel Islands (i.e., Santa Barbara, San Nicolas, Santa Catalina, and San Clemente) (Sharp, 1976). It contains extensive pre-Cenozoic (more than 66 million years ago [Ma]) igneous and metamorphic rocks covered by limited exposures of Cenozoic (less than 66 Ma) sedimentary deposits (Norris and Webb, 1976).

Geologic mapping by Morton and Miller (2006) indicates that the project area contains Young Axial Channel Deposits, Young Landslide Deposits, the Topanga Group, and the Vaqueros Formation. Artificial Fill may present due to previous development of Laguna Canyon Road. These geologic units and their paleontological sensitivities are described in more detail below. The dates for the geologic epochs and ages are derived from the International Chronostratigraphic Chart prepared by the International Commission on Stratigraphy (Cohen et al., 2018).The geology of the project area is shown on Figure 2.

Artificial Fill

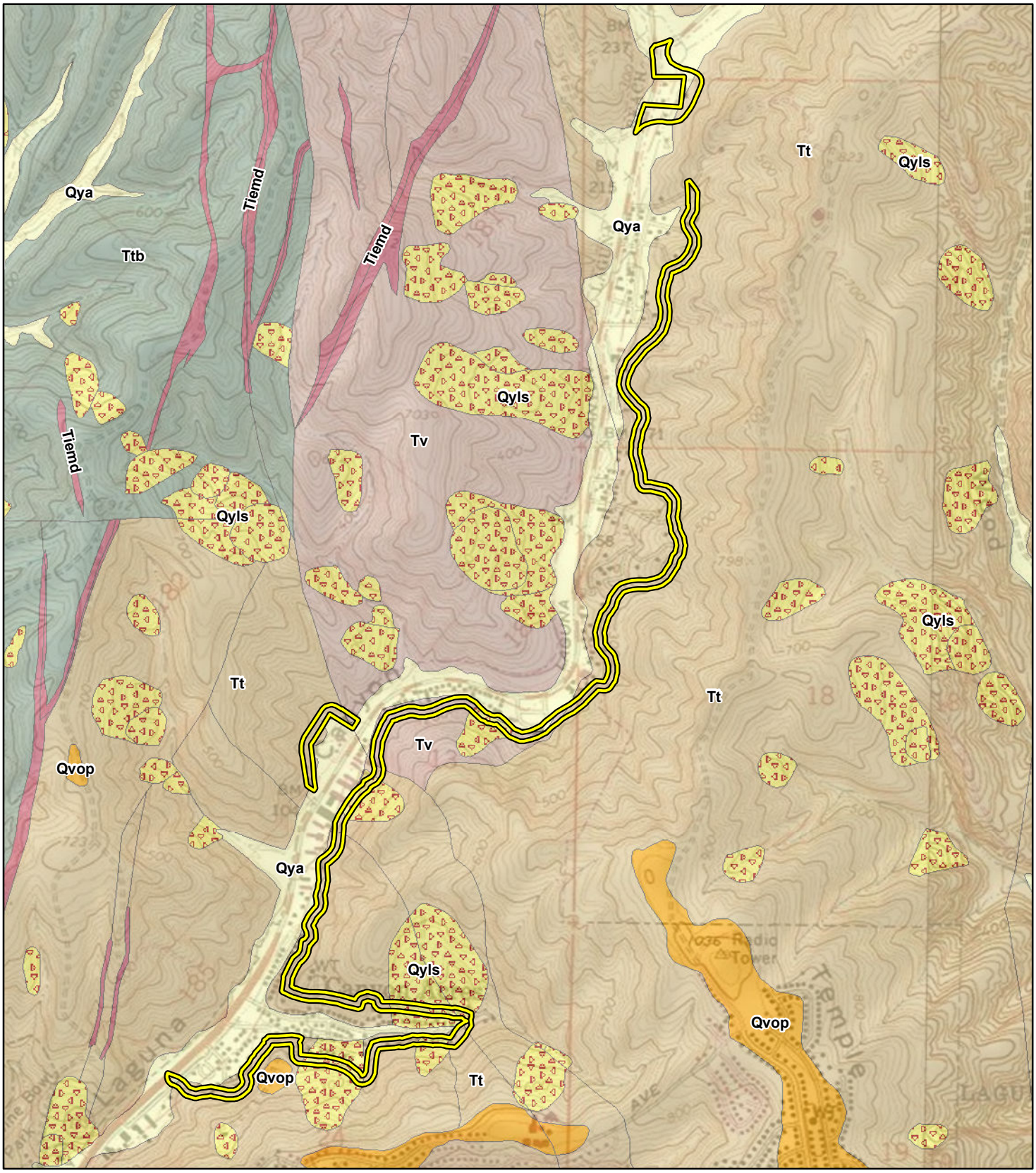
Artificial Fill consists of sediments that have been removed from one location and transported to another location by human activity, rather than by natural means. The transportation distance can vary from a few feet to many miles, and composition is dependent on the source and purpose. Artificial Fill will sometimes contain modern debris such as asphalt, wood, bricks, concrete, metal, glass, plastic, and even plant material.

Although Artificial Fill may contain fossils, these fossils have been removed from their original location and are thus out of stratigraphic context. Therefore, they are not considered important for scientific study, and Artificial Fill has no paleontological sensitivity.

Young Axial Channel Deposits

The Young Axial Channel Deposits are Holocene to late Pleistocene in age (less than 126,000 years ago) and consist of slightly to moderately consolidated silt, sand, and gravel (Morton and Miller, 2006). They formed as streams and washes carried sediment down from higher elevations in the foothills of the Santa Ana Mountains.

Although Holocene (less than 11,700 years ago) deposits can contain remains of plants and animals, only those from the middle to early Holocene (4,200–11,700 years ago) are considered scientifically important (SVP, 2010), and fossils from this time interval are not very common. The Holocene deposits overlie older, Pleistocene deposits, which have produced scientifically important fossils elsewhere in Orange County and the region (Jefferson, 1991a, 1991b; Miller, 1971; Reynolds and Reynolds, 1991; Springer et al., 2009). The older deposits in this unit date to the end of the Rancholabrean North American Land Mammal Age (NALMA), which was named for the Rancho La Brea fossil site in central Los Angeles and dates from 240,000 to 11,000 years ago (Bell et al., 2004; Sanders et al., 2009). The presence of *Bison* defines the beginning of the Rancholabrean NALMA (Bell et al., 2004), but fossils from this time also include other large and small mammals, reptiles, fish, invertebrates, and plants.



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LEGEND

Project Location

Geology

Qya - Young Axial-channel Deposits

Qyls - Young Landslide Deposits

Qvop - Very Old Paralic Deposits

Tt - Topanga Group, Undifferentiated

Ttb - Topanga Group, Bommer Formation

Tiemd - Volcanic Intrusive Rocks Associated with El Modeno Volcanics

Tv - Vaqueros Formation

Ts - Sespe Formation

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SOURCE: Bing Maps (2015); Morton and Miller (2006)

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FIGURE 2

Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project

Geology Map

There is a potential to encounter these types of fossils in the older sediments within this unit below a depth of 10 ft. Any vertebrate, invertebrate, and plant fossils recovered would be considered scientifically important because they would add to our understanding of the environment of this area over the last 126,000 years and the evolution of the animals and plants that lived here. Therefore, these deposits are assigned a low paleontological sensitivity above a depth of 10 ft and a high sensitivity below that mark.

Young Landslide Deposits

The Young Landslide Deposits formed during the Holocene and Late Pleistocene (less than 126,000 years ago) as a result of slope failure on the hillsides (Morton and Miller, 2006). They consist of chaotically mixed soil, rubble, and displaced blocks of bedrock (Morton and Miller, 2006).

There is a potential to encounter fossils within the Young Landslide Deposits because although the landslide(s) occurred in the last 126,000 years, the rocks involved consist of the underlying and surrounding Vaqueros Formation and Topanga Group, which have high paleontological sensitivity (see below). However, because these rocks have been transported from their original location, fossils they may contain may have been broken, deformed, or otherwise disturbed and therefore, not as scientifically valuable. As a result, these deposits are considered to have low paleontological sensitivity.

Topanga Group

The Topanga Group includes sandstone, siltstone, and shale deposited in a marine environment in the middle Miocene (11.63–15.97 Ma). Kew (1924) first described and mapped the "Topanga Formation" in the Santa Monica Mountains, and it has since been correlated with deposits throughout the Los Angeles Basin, as well as in the Santa Ana Mountains and San Joaquin Hills in Orange County (Campbell et al., 2007).

The sandstones, siltstones, and shales of the Topanga Group are known to be fossiliferous and record the marine life that existed in the ancient Los Angeles Basin during the middle Miocene. Lamar (1970) reported 15 genera of fish from the Topanga Group in the Repetto and Elysian Hills to the northwest of the project area. The Topanga Group in the Puente Hills, also northwest of the project area, has produced fossil invertebrates, such as bivalves and gastropods, and vertebrates (Durham and Yerkes, 1964; Eisentraut and Cooper, 2002). Farther northwest, in the Santa Monica Mountains, rocks from the Topanga Group have yielded foraminifera, plants, bivalves, gastropods, echinoids, barnacles, crabs, fish, whales, and sea lions (Koch et al., 2004). In the Santa Ana Mountains, northeast of the project area, abundant invertebrates, plants, and vertebrates like sharks, whales, sea cows, and sea lions have been recovered from these deposits (Eisentraut and Cooper, 2002).The marine sediments of the Topanga Group in the project area have the potential to yield invertebrate and vertebrate fossils similar to those found in other areas where this group is mapped. In addition, fossils recovered from this area could be beneficial for biostratigraphic studies and correlating geologic units across the basin, which could ultimately present a clearer, more complete picture of the geologic history of Southern California. As such, fossils from the Topanga Group are considered scientifically significant and give these deposits a high sensitivity rating.

Vaqueros Formation

In Orange County, the predominantly marine Vaqueros Formation is early Miocene to late early Oligocene in age and dates to the Arikareean NALMA (20.6–30.8 Ma) (Bell et al., 2004; Morton and Miller, 2006; Morton et al., 1976; Prothero and Donohoo, 2001; Schoellhamer et al., 1981; Whistler and Lander, 2003). It is composed of white, pale yellow brown, yellowish green, reddish, and greenish-gray interbedded sandstone, sandy siltstone, siltstone, mudstone, and shale, with minor conglomerates and local coquina beds (Daniel-Lyle, 1995; Morton et al., 1976; Schoellhamer et al., 1981). The wide range of lithologies in this formation represents deposition in a variety of subenvironments, including river-dominated (delta front through delta plain), wave-dominated (lower shoreface through backshore), tide-dominated (interdistributary bay), and shallow to deep marine environments (Daniel-Lyle, 1995).

Exposures of the Vaqueros Formation across Orange County have produced a variety of scientifically important fossils of marine invertebrates, marine and terrestrial vertebrates, and plants. Between 2003 and 2006, LSA conducted paleontological mitigation monitoring in the Vaqueros Formation along Laguna Canyon Road and recovered a substantial assemblage of vertebrate, invertebrate, and plant fossils (Smith et al., 2008). Specifically, 1,352 marine vertebrate, 582 invertebrate, and 19 plant specimens were recovered from 67 localities along the length of Laguna Canyon Road during the course of this project (Smith et al., 2008). These specimens included a wide variety of sharks, bat rays, a sea cow, whales, dolphins, barnacles, crabs, echinoids, bivalves, and gastropods (Smith et al., 2008). The marine vertebrate collection was particularly significant because several of the whale, dolphin, and the sea cow specimens were new to science or showed better preservation than previously discovered examples (Smith et al., 2008). In addition, northeast of the project area in the foothills of the Santa Ana Mountains, paleontological mitigation monitoring at the Frank R. Bowerman Landfill by RMW Paleo Associates, Inc. between 1991 and 1996 also yielded a significant collection of marine invertebrates and vertebrates, including polychaete worms, crabs, barnacles, bivalves, gastropods, cephalopods, sand dollars, sharks, rays, bony fish, a bird, camels, three kinds of dolphin, and a baleen whale (Raschke, 1997). Some of these finds represent first occurrences for Orange County, such as the baleen whale, *Pachycetus*, and one of the dolphins (Raschke, 1997). Based on the abundance, diversity, and scientific significance of the fossils previously recovered from the Vaqueros Formation, this unit is considered to have high paleontological sensitivity.

Fossil Locality Search

According to the locality search the LACM conducted in December 2018 (Attachment B), there are no known fossil localities within the boundaries of the project. The LACM reports that they do not have fossil localities from the surficial deposits of the younger Quaternary Alluvium (i.e., Young Axial Channel Deposits and Young Landslide Deposits) near the project area.

From the Topanga Formation (i.e., Topanga Group), the LACM's closest fossil vertebrate is LACM 7249, east of the southern portion of the proposed project area on a ridge northeast of Temple Hill and west of Wood Canyon. This locality produced a fossil specimen of sea cow (*Dioplotherium allisoni*). To the southeast of the southern portion of the project area, at the head of Rim Rock Canyon south of Temple Hill Drive, locality LACM 4007 produced a fossil specimen of undetermined sea cow (Dugongidae). On the west side of Aliso Creek canyon approximately due east of the

intersection of Coast Highway (State Route 1) and Bluebird Canyon Drive, locality LACM 3222 produced a fossil specimen of the rare and peculiar four-legged marine mammal *Desmostylus*. From the bedrock exposures of the Vaqueros Formation, the LACM has a suite of marine vertebrate fossils located from north of the project area. These localities are LACM 7505, LACM 7548-7553, LACM 7675-7678, and LACM 7712. This suite of marine fossils includes eagle ray (*Myliobatis*), requiem shark (*Carcharhinus*), the extinct quadrupedal marine mammal Desmostylia, sea cow (Dugongidae), toothed whales (Squalodontidae, Platanistidae, and *Argyrocetus*), and baleen whales (Eomysticetidae and Cetotheriidae).

Field Survey

Visibility along the length of the project area varied from less than 5 percent in some areas with substantial vegetation cover to approximately 40 percent in road cuts and areas with more exposed surfaces. Areas where ground sediments were visible and accessible were consistent with mapping by Morton and Miller (2006). In an area directly south of 2955 Laguna Canyon Road, a minor shell deposit was noted and a fossil shell was observed in a boulder. No vertebrate paleontological resources were identified during the course of the survey.

CONCLUSIONS AND RECOMMENDATIONS

Although the project area contains deposits with high paleontological sensitivity, project activities (goat grazing and hand crew treatment methods) will only remove vegetation in small areas above or near the surface, extending only a shovel's depth below the surface. Therefore, ground disturbance associated with this project is expected to be minimal and remain surficial, and the potential for impacting scientifically important paleontological resources is unlikely. However, with new exposures created by vegetation removal, fossils may be encountered during project development. Without being addressed properly, those fossils could be unintentionally disturbed or destroyed. Therefore, LSA recommends the following mitigation measure:

PALEO-1 If paleontological resources are encountered during the course of ground disturbance, work in the immediate area of the find shall be redirected and a paleontologist contacted to assess the find for scientific significance. If determined to be significant, the fossil shall be collected from the field. The paleontologist may also make recommendations regarding additional mitigation measures, such as paleontological monitoring. Scientifically significant resources shall be prepared to the point of identification, identified to the lowest taxonomic level possible, cataloged, and curated into the permanent collections of a museum repository. If scientifically significant paleontological resources are collected, a report of findings shall be prepared to document the collection.

Implementation of this mitigation measure will ensure that project impacts to scientifically significant paleontological resources will be mitigated to a level that is less than significant.

Attachments:
A. References
B. Paleontological Locality Search Results from the Natural History Museum of Los Angeles County

ATTACHMENT A

REFERENCES

Bell, Christopher J., Ernest L. Lundelius, Jr., Anthony D. Barnosky, Russell W. Graham, Everett H. Lindsay, Dennis R. Ruez, Jr., Holmes A Semken, Jr., S. David Webb, and Richard J. Zakrzewski
2004 The Blancan, Irvingtonian, and Rancholabrean Mammal Ages. Chapter 7 in Michael O. Woodburne, ed., Late Cretaceous and Cenozoic Mammals of North America. pp. 232–314.

California Geological Survey
2002 California Geomorphic Provinces. California Geologic Survey Note 36. California Department of Conservation.

Campbell, R.H., T.H. McCulloh, and J.G. Vedder
2007 The Miocene Topanga Group of Southern California—A 100-Year History of Changes in Stratigraphic Nomenclature, U.S. Geologic Survey Open File Report 2007-1385. Revised 2009. 36 pp.

Cohen, K.M., S.C. Finney, P.L. Gibbard, and J.-X. Fan
2018 The ICS International Chronostratigraphic Chart. Updated July 2018. Episodes 36:199–204.

Daniel-Lyle, Lori
1995 Depositional Environments and paleogeography of the Lower Miocene Vaqueros Formation, Santa Ana Mountains, California. In A.E. Fritsche, ed., Cenozoic Paleogeography of the Western United States II: Pacific Section SEPM Book 75, p. 9-21.

Durham, D.L., and R.F. Yerkes
1964 Geology and Oil Resources of the Eastern Puente Hills Area, Southern California, U.S. Geologic Survey Professional Paper 420-B. 62 pp.

Eisentraut, P., and J. Cooper
2002 Development of a Model Curation Program for Orange County's Archaeological and Paleontological Collections. Prepared by California State University, Fullerton and submitted to the County of Orange Public Facilities Resources Department/Orange County Harbors, Beaches, and Parks (PFRD/HBP).

Jefferson, George T.
1991a A Catalogue of Late Quaternary Vertebrates from California: Part One: Non-marine Lower Vertebrate and Avian Taxa. Natural History Museum of Los Angeles County Technical Reports Number 5. Los Angeles.

1991b A Catalogue of Late Quaternary Vertebrates from California: Part Two: Mammals. Natural History Museum of Los Angeles County Technical Reports Number 7. Los Angeles.

Kew, W.S.W.
1924 Geology and Oil Resources of a Part of Los Angeles and Ventura Counties. California. U.S. Geological Survey Bulletin 753:411–420.

Koch, A.L., V.L. Santucci, and T.R. Weasma
2004 Santa Monica Mountains National Recreation Area Paleontological Survey. Technical Report NPS/NRGRD/GRDTR-04/01.

Lamar, D.L.
1970 Geology of the Elysian Park-Repetto Hills Area, Los Angeles County, California. California Division of Mines and Geology Special Report 101. 45 pp.

Miller, W.E.
1971 Pleistocene Vertebrates of the Los Angeles Basin and Vicinity (Exclusive of Rancho La Brea). Los Angeles County Museum of Natural History Bulletin, Science No. 10.

Morton, Douglas M., and Fred K. Miller
2006 Geologic Map of the San Bernardino and Santa Ana 30-minute by 60-minute quadrangles, California. Digital preparation by Pamela M. Cosette and Kelly R. Bovard. Prepared by the United States Geological Survey (USGS) in cooperation with the California Geological Survey. USGS Open File Report 2007-1217. Map Scale 1:100,000.

Morton, Paul K., Russell V. Miller, and James R. Evans.
1976 Environmental Geology of Orange County, California. California Division of Mines and Geology Open-File Report 79-8 LA. 474 pp.

Norris, R.M., and R.W. Webb
1976 Geology of California. John Wiley and Sons, Inc., New York. 379 pp.

Prothero, Donald R., and Linda L. Donohoo
2001 Magnetic Stratigraphy of the Lower Miocene (Early Hemingfordian) Sespe-Vaqueros Formations, Orange County, California. In D. R. Prothero, ed., Magnetic Stratigraphy of the Pacific Coast Cenozoic: Pacific Section SEPM (Society for Sedimentary Geology), Book 91, p. 242-253.

Raschke, Rodney
1997 Paleontological Monitoring Report, Frank R. Bowerman Landfill, Orange County, California. Prepared by RMW Paleo Associates, Inc. for County of Orange Integrated Waste Management Department. RMW Paleo Associates, Inc. Project Number 91-1084. March 5, 1997.

Reynolds, R.E., and R.L. Reynolds
1991 The Pleistocene Beneath our Feet: Near-surface Pleistocene Fossils in Inland Southern California Basins. In M.O. Woodburne, R.E. Reynolds, and D.P. Whistler, eds., Inland Southern California: The Last 70 Million Years. San Bernardino County Museum Special Publication 38(3 and 4): 41–43. Redlands, California.

Sanders, A.E., R.E. Weems, and L.B. Albright
2009 Formalization of the Middle Pleistocene "Ten Mile Beds" in South Carolina with Evidence for Placement of the Irvingtonian-Rancholabrean Boundary. Museum of Northern Arizona Bulletin 64:369-375.

Schoellhamer, J.E., J.G. Vedder, R.F. Yerkes, and D.M. Kinney
1981 Geology of the Northern Santa Ana Mountains, California. United States Geologic Survey, Professional Paper 420-D, 109 pp.

Sharp, R.P.
1976 Geology: Field Guide to Southern California. Second Edition. Kendall/Hunt Publishing Company. p. 181.

Smith, Brooks R., Meredith Staley, Lawrence G. Barnes, Steven W. Conkling, Robert R. Reynolds, and Benjamin Matzen
2008 Results of Paleontological Resource Mitigation Monitoring for Laguna Canyon Road (State Route 133) Widening and Realignment Project, Cities of Irvine and Laguna Beach and Unincorporated Areas of Orange County, California. Prepared by LSA Associates, Inc. for California Department of Transportation. LSA Associates, Inc. Project Numbers SEM330 and BOT0701E. June.

Society of Vertebrate Paleontology (SVP)
2010 Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. Society of Vertebrate Paleontology. Impact Mitigation Guidelines Revision Committee. 11 pp.

Springer, Kathleen, Eric Scott, J. Christopher Sagebiel, and Lyndon K. Murray
2009 The Diamond Valley Lake Local Fauna: Late Pleistocene Vertebrates from Inland Southern California. In L.B. Albright, III, ed., Papers in Geology, Vertebrate Paleontology, and Biostratigraphy in Honor of Michael O. Woodburne. Museum of Northern Arizona Bulletin 65:217–236.

United States Geological Survey
1981 Laguna Beach, California 7.5-minute topographic quadrangle. Published 1965, photorevised 1981. United States Geological Survey, Denver, Colorado.

Whistler, David P., and E. Bruce Lander
2003 New Late Uintan to Early Hemingfordian Land Mammal Assemblages from the Undifferentiated Sespe and Vaqueros Formations, Orange County, and from the Sespe and Equivalent Marine Formations in Los Angeles, Santa Barbara, and Ventura Counties, Southern California. Bulletin of the American Museum of Natural History 279:231-268.

Yerkes R.F., T.H. McCulloh, J.E. Schoellhamer, and J.G. Vedder
1965 Geology of the Los Angeles Basin, California– An Introduction. United States Geological Survey Professional Paper 420-A. 57 pp.

ATTACHMENT B

PALEONTOLOGICAL LOCALITY SEARCH RESULTS FROM THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY

Natural History Museum
of Los Angeles County
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Los Angeles, CA 90007

tel 213.763.DINO
www.nhm.org

NATURAL HISTORY MUSEUM
LOS ANGELES COUNTY

Vertebrate Paleontology Section
Telephone: (213) 763-3325

e-mail: smcleod@nhm.org

28 December 2018

LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Attn: Kelly Vreeland, Paleontologist

re: Paleontological Resources Records Check for the proposed Laguna Beach Fire Department Fuel Breaks in FMZ 23 and FMZ 24 Project, LSA Project # LAB1804, in the City of Laguna Beach, Orange County, project area

Dear Kelly:

I have thoroughly searched our paleontology collection records for the locality and specimen data for the proposed Laguna Beach Fire Department Fuel Breaks in FMZ 23 and FMZ 24 Project, LSA Project # LAB1804, in the City of Laguna Beach, Orange County, project area as outlined on the portion of the Laguna Beach USGS topographic quadrangle map that you sent to me via e-mail on 19 December 2018. We do not have any vertebrate fossil localities that lie directly within the proposed project boundaries, but we do have localities nearby from the same sedimentary deposits that occur in the proposed project area.

The lowest lying terrain in the central portion of the proposed project area has surficial deposits composed of younger Quaternary Alluvium, derived as fluvial deposits from the Laguna Canyon drainage. These deposits typically do not contain significant vertebrate fossils in the uppermost layers, but may well contain significant fossil vertebrate remains in older underlying deposits. In the elevated terrain around the margins of most of the proposed project area there are exposures of the marine middle Miocene Topanga Formation. Our closest fossil vertebrate locality from the Topanga Formation is LACM 7249, east of the southern portion of the proposed project on a ridge northeast of Temple Hill and west of Wood Canyon, that produced a fossil specimen of the sea cow *Dioplotherium allisoni* figured in the scientific literature by D. P.

Domning (1978. Sirenian Evolution in the North Pacific Ocean. University of California Publications in Geological Sciences, 118:1-176). Just south of east of the southern-most portion of the proposed project area, at the head of Rim Rock Canyon south of Temple Hill Drive, our Topanga Formation locality LACM 4007 produced a fossil specimen of undetermined sea cow, Dugongidae. Further to the southeast of the proposed project area, on the west side of Aliso Creek canyon approximately due east of the intersection of the Pacific Coast Highway (Highway 1) and Bluebird Canyon Drive, our Topanga Formation locality LACM 3222 produced a fossil specimen of the rare and peculiar four-legged marine mammal *Desmostylus*.

In the elevated terrain on the western side of the central portion of the entire proposed project area, and on both sides of the east-west bend in Laguna Canyon, there are bedrock exposures of the marine Oligo-Miocene Vaqueros Formation. Our closest vertebrate fossil localities in the Vaqueros Formation are LACM 7505, 7548-7553, 7675-7678, and 7712, north of the proposed project area in the San Joaquin Hills just south to southwest of the intersection of the San Diego Freeway (I-405) and the Laguna Freeway (Highway 133) between the Sand Canyon Reservoir and the Laguna Reservoir, that produced a suite of marine vertebrate fossils including eagle ray, *Myliobatis*, requiem shark, *Carcharhinus*, extinct quadrupedal marine mammals, Desmostylia, sea cow, Dugongidae, toothed whales, Squalodontidae, Platanistidae and *Argyrocetus*, and baleen whales, Eomysticetidae and Cetotheriidae.

Shallow excavations in the younger Quaternary Alluvium exposed in the lowest lying portions of the proposed project area are unlikely to uncover significant fossil vertebrate remains. Deeper excavations in the those areas that extend down into older sedimentary deposits, or any excavations in the exposures of the Topanga Formation or the Vaqueros Formation along the margins of the proposed project area, however, may well encounter significant vertebrate fossil remains. Any substantial excavations in the proposed project area, therefore, should be monitored closely to quickly and professionally recover any fossil remains discovered while not impeding development. Sediment samples should also be collected and processed to determine the small fossil potential in the proposed project area. Any fossils collected should be placed in an accredited scientific institution for the benefit of current and future generations.

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

Sincerely,

Samuel A. McLeod

Samuel A. McLeod, Ph.D.
Vertebrate Paleontology

enclosure: invoice

Aspen environmental group

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PROJECT MEMORANDUM
FMZ 23-CANYON ACRES

Date: June 4, 2019
To: Mike Rohde, Project Manager
From: Joe Stewart, PhD
Subject: Paleontological Resources Summary for the Additional FMZ 23-Canyon Acres Area

Purpose and Intent of the Memorandum

This memorandum summarizes the paleontological resources that are present or could be present within the additional approximately 2-acre area in Laguna Canyon, which extends approximately 1,000 feet southwest from the originally defined Fuel Modification Zone (FMZ) 23-Canyon Acres studied by LSA (2019) (Figure 1). It also discusses potential impacts to these paleontological resources.

Site Description and Location

The additional fuel break area is situated on a very steep slope behind commercial buildings along the south side of State Route 133 (Figure 1). The steep slope is heavily vegetated, except where large outcrops of bedrock occur. The additional area lies within Section 24, Township 7 South, Range 9 West. It can be found on the Laguna Beach 7.5' quadrangle. The additional fuel break area is located within the Topanga Formation (Tt), according to the mapping of Morton and Miller (2006). The Topanga Formation is of middle Miocene age and was deposited under marine conditions.

Results

The paleontological resources records search done by the Natural History Museum of Los Angeles County for the Fuel Breaks Project (LSA 2019) covered the additional fuel break area. That records search yielded three known nearby Topanga Fm. localities. Two localities lie about two miles to the east. They both produced sea cow remains. Another locality a bit over three miles to the southeast produced a specimen of the rare and peculiar four-legged marine mammal *Desmostylus.* Thus, the Topanga Formation has a high sensitivity for paleontological resources.

Aspen paleontologist, Dr. Joe Stewart, surveyed the accessible parts of the additional fuel break area on May 29, 2019. Much of the eastern portion was not accessible because of ongoing construction associated with the businesses along there. Areas that could be accessed showed bioturbation of the surficial sediments and much plant material worked into the sediments. An exposure of the Topanga Fm. was accessible in a parking lot (Figure 2). It consisted of a white to yellow sandstone with a few gravelly layers. It was searched in some detail for microvertebrate fossils, but none of the gravel-sized objects were of organic origin. The abundance of dark yellow-green orthoquartzite pebbles was noted in these sediments.

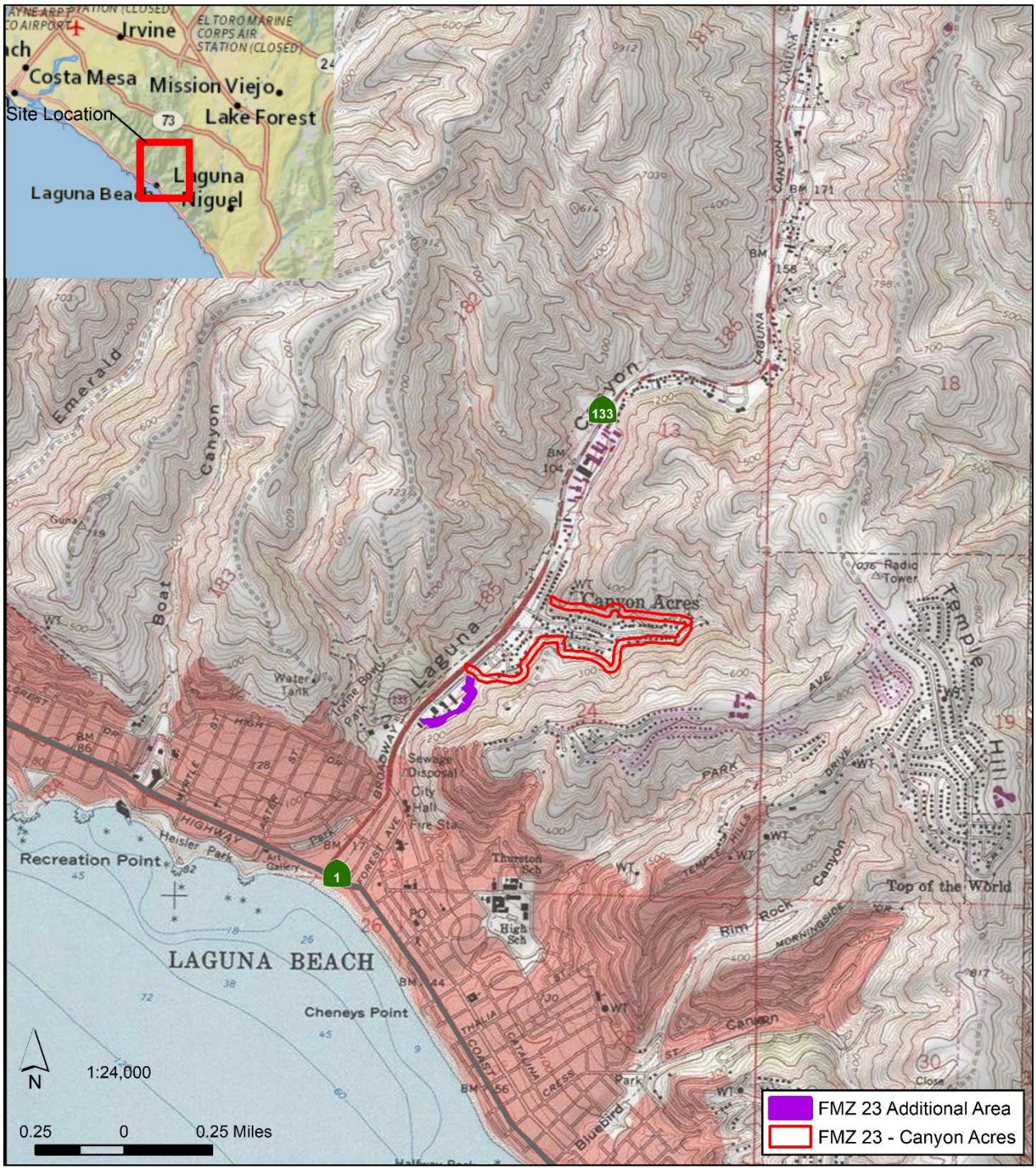

Figure 1. Additional Canyon Acres Area Location Map

Figure 2.

Outcrop of the Topanga Formation at the Project Site

Impacts

The Fuel Break in FMZ 23-Canyon Acres and FMZ-24-Laguna Canyon Project will involve minor ground disturbances to remove and reduce vegetation with a combination of brush-cutting, hand-pulling, and use of goats to remove vegetation. All cuttings will be removed and hauled off site. The sediments that will be impacted are already bioturbated and mixed with humus and dead vegetation. The parts that are not disturbed are too hard to support plant life and most likely would not be impacted by the fuel modification activities. There is no clear evidence that the Topanga Formation will be impacted and would at most be impacted only by pedestrian and/or animal traffic. The likelihood of impacting significant paleontological resources that are not already disturbed by vegetation is negligible.

Conclusion

Impacts to paleontological resources within the additional Canyon Acres area would be negligible. No mitigation is required.

References

LSA. 2019. Memorandum to James Brown, Fire Marshal, Laguna Beach Fire Department, from Kelly Vreeland, M.Sc. of LSA. Subject: Paleontological Analysis of the Laguna Beach Fire Department Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon) Project, Laguna Beach, Orange County, California. February 28.

Morton, D. M., and F. K. Miller. 2006 Geologic Map of the San Bernardino and Santa Ana 30-minute by 60-minute quadrangles, California. Digital preparation by Pamela M. Cosette and Kelly R. Bovard. Prepared by the United States Geological Survey (USGS) in cooperation with the California Geological Survey. USGS Open File Report 2007-1217. Map Scale 1:100,000.

Appendix G

Policy Consistency Analysis Memo

Aspen environmental group

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PROJECT MEMORANDUM

Date: July 16, 2019
To: Mike Rohde, City of Laguna Beach Fire Department Wildland Fire Defense Coordinator
From: Tatiana Inouye, Environmental Planner
Subject: Policy Consistency Analysis for Fuel Breaks in FMZ 23 (Canyon Acres) and FMZ 24 (Laguna Canyon)

The City of Laguna Fire Department has partnered with the City of Laguna Beach to implement the proposed Fuel Breaks in Fuel Modification Zone 23 – Canyon Acres and Fuel Modification Zone 24 – Laguna Canyon: Laguna Canyon Unified Fuel Modification and Habitat Restoration Project. The project would include two fuel management zones (FMZs) in the Laguna Canyon area within the City of Laguna Beach and unincorporated parts of Orange County. FMZ 23 measures approximately 16 acres and surrounds the eastern edge of Canyon Acres Drive and the Canyon Acres residential neighborhood. FMZ 24 measures approximately 38 acres and is adjacent to Laguna Canyon Road beginning from Canyon Acres Drive to just south of El Toro Road. Both FMZs would be within the jurisdictions of City of Laguna Beach and County of Orange. The proposed fuel break activities in FMZ 23 would be entirely located within the planning boundary for the City of Laguna Beach General Plan. The majority of FMZ 24 lies within the planning boundary of the City of Laguna Beach General Plan, with the exception of the northern section which is within the County's planning area for Aliso and Wood Canyons Wilderness Park and the southwestern section which is within the planning area for the Laguna Coast Wilderness Park.

This technical memorandum demonstrates the proposed project's consistency with the California Coastal Act, City of Laguna Beach General Plan (City of Laguna Beach, 2012), Laguna Coast Wilderness Park Resource Management Plan (RMP) (County of Orange, 1998), Aliso and Wood Canyons Wilderness Park RMP (County of Orange, 2009), and County of Orange General Plan (County of Orange, 2015) that provide policies for managing and monitoring the lands associated with the project.

California Coastal Act

The California Coastal Act establishes a comprehensive approach to govern land use planning along the entire California coast. The coastal zone is defined in Section 30103 of the Coastal Act as the following:

> (a) "Coastal zone" means that land and water area of the State of California from the Oregon border to the border of the Republic of Mexico . . . extending seaward to the state's outer limit of jurisdiction, including all offshore islands, and extending inland generally 1,000 yards from the mean high tide line of the sea. In significant coastal estuarine, habitat, and recreational areas it extends inland to the first major ridgeline paralleling the sea or five miles from the mean high tide line of the sea, whichever is less, and in developed urban areas the zone generally extends inland less than 1,000 yards.

The Coastal Act sets forth general policies (Public Resources Code Section 30200 et seq.) that are used by the California Coastal Commission (Coastal Commission) to review permit applications and local

plans. Development activities within the coastal zone generally require a coastal permit. In the case of recreational facilities, Section 30600 of the Coastal Act states:

> (a) Except as provided in subdivision (e), and in addition to obtaining any other permit required by law from any local government or from any state, regional, or local agency, any person, as defined in Section 21066, wishing to perform or undertake any development in the coastal zone, other than a facility subject to Section 25500, shall obtain a coastal development permit (CDP).

In addition to the regulatory oversight of the Coastal Commission, Coastal Act policies are implemented through the preparation of Local Coastal Programs (LCPs) by the cities and counties that are located in whole or in part within the coastal zone. LCPs include a land use plan and a local implementation program that specify the relevant planning policies and zoning ordinances specific to the coastal zone within that jurisdiction. Once an LCP is certified, coastal development permit authority is delegated to the appropriate local government, with the exception of certain specific lands for which the Coastal Commission retains original permit jurisdiction.

The proposed fuel modification activities would primarily occur within the planning boundary of the City of Laguna Beach LCP. Figures 2 through 5 in the Initial Study illustrate the location of specific fuel modification activities within FMZ 23 and FMZ 24.

The entire City of Laguna Beach is encompassed within the coastal zone, with the exception of the Sycamore Hills area (City of Laguna Beach, 2006). The City's LCP constitutes the following planning and policy documents, and any amendments to these documents require Coastal Commission approval as LCP Amendments: General Plan Land Use Map, excluding Blue Lagoon and Three Arch Bay; Land Use and Open Space/Conservation General Plan Elements; Zoning Map; Downtown Specific Plan; Laguna Canyon Annexation Specific Plan; Chapter 12.08, Preservation of Heritage Trees Ordinance; Chapter 14.78 Geology Reports - Preparation and Requirements Ordinance; Title 16 (Water Quality Control); Title 21 (Plats and Subdivision); Title 22 (Excavation and Grading); Title 25 (Zoning Code); Shoreline Protection Guidelines (as adopted by Resolution 88.43); Design Guidelines for Hillside Development (as adopted by Resolution 89.104); South Laguna Community Design and Landscape Guidelines (as adopted by Resolution 89.104); Fuel Modification Guidelines (of the Laguna Beach Safety General Plan Element); and Summer Festival Parking Agreements.

The City of Laguna Beach LCP was certified in 1993, and an amendment to the LCP was certified in 2004. The certified LCP provides permitting authority to the City of Laguna Beach within its respective coastal zone.

California Coastal Act Consistency Determination

The proposed fuel modification activities would be consistent with the California Coastal Act based on the following review of this project with respect to the Coastal Act and the City of Laguna Beach LCP. This discussion identifies the applicable requirements from the Coastal Act along with the relevant polices from the City's LCP, the County's Wilderness Park RMPs, and the County's General Plan, and provides a justification for project consistency with each.

Article 3: Recreation Policies

Coastal Act Section 30223

"Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible."

Laguna Beach General Plan: Land Use Element

- Policy 7.1: Protect dedicated and accepted open space.

Orange County General Plan: Recreation Element

- Policy 16.3 (Wilderness Parks): The resource management and development policy for wilderness parks permits only restricted hardscape and domestication appropriate to provide access and enjoyment/observation of natural resources and processes. Interpretive programs are permitted. Concessions are permitted.

Justification for Fuel Break Activities. The fuel modification activities in FMZ 23 and FMZ 24 would increase protection, reduce fire intensity and flame length, and reduce potential for wildfire to spread to open space and valuable recreational areas. These activities are consistent with the Coastal Act Section 30223 regarding protection and support of coastal recreational uses. They are also consistent with the Laguna Beach General Plan (Policy 7.1) and Orange County General Plan (Policy 16.3) regarding protection and restricted hardscaping to provide observation of natural resources.

Article 5: Land Resource Policies

Coastal Act Section 30240

"a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."

Laguna Beach General Plan: Land Use Element

- Policy 2.6: Require the preservation of significant trees in conjunction with development proposals. The Design Review Board may grant exceptions to this provision when its strict enforcement would deny a property owner reasonable use of his/her property.
- Policy 7.6: Implement individualized fuel modification programs for existing legal building sites whenever environmentally sensitive resources are present.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 4F (Water Conservation and Native Plants): Ensure that development encourage water conservation, efficient irrigation practices and the use of native or drought tolerant non-invasive plants appropriate to the local habitat to minimize the need for fertilizer, pesticides, herbicides and excessive irrigation. Prohibit the use of invasive plants, and require native plants appropriate to the local habitat where the property is in or adjacent to Environmentally Sensitive Areas (ESAs).

- Policy 8C: Identify and maintain wildlife habitat areas in their natural state as necessary for the preservation of species.
- Policy 8G: Detailed biological assessments shall be required for all new development proposals, including all subdivisions and fuel modification proposals, located within or adjacent to areas designated high or very high value on the Biological Values Map. Such biological assessments shall utilize the biological value criteria specified in the Biological Resources Inventories (1983, 1992 and 1993).
- Policy 8N: Prohibit intrusion of fuel modification programs into environmentally sensitive areas, including chaparral and coastal sage scrub.

Laguna Coast Wilderness Park RMP

- Policy 4.1: Improve biological productivity and diversity through protection, enhancement and restoration activities that are consistent with the adaptive management strategy of the NCCP/HCP.
- Policy 4.4: Perform active management enhancement and restoration activities as needed to maintain the health of the park's ecosystem.
- Policy 4.6: Protect and manage plant communities that provide habitat to park wildlife.
- Policy 5.1: Identify compatible and incompatible activities/uses in relation to species protection and survival, and the ability to effectively implement specified habitat management, restoration and enhancement measures.
- Policy 5.2: Conduct direct monitoring of the "target and identified species" and the coastal sage scrub community to determine how well the NCCP/HCP adaptive management program is addressing the goal of maintaining long-term net habitat value of CSS habitat within the park.
- Policy 5.3: Include an inventory of target species, identified species, and special interest species in the monitoring plan.
- Policy 5.4: Except for identified monitoring and inventory tasks, utilize passive management for biological resources except where there is a need to control invasive species, or restoration and enhancement opportunities are not available.
- Policy 5.5: Monitor management activities to directly assess the efficacy in meeting overall resource management plan goals.
- Policy 8.1: Perform routine operation and maintenance activities as directed by the policies contained in the NCCP/HCP

Aliso and Wood Canyons Wilderness Park RMP

- BIO-1: Protect and maintain existing population of native plants and wildlife using active and passive techniques. Develop a park-wide, long-term invasive management plan to control exotic plant species that includes both natural and disturbed areas in the park for both the Reserve and non-Reserve lands.
- BIO-2: Control pest plants particularly within the known 293 mapped polygons (approximately 1,000 acres), fuel modification zones, and other disturbed priority areas. Follow the management plan (NREP) for NCCP/HCP Reserve lands and any other approved long-term management plan to locate, monitor, and eradicate exotic plant species. Removal methods may include flail mowing, discing, soil

solarization, control burning, chemical application, cut and paint and/or wicking chemical application. Eradicate according to an established (maybe species specific) schedule.

- Restore native habitat actively using approved site-specific seeding and planting techniques. Fencing and signage, weed management, and erosion control may be necessary to protect areas during plant establishment. Exotic species prevention measures (e.g., weeds, Argentine ants) should be implemented.
- Control pest plants particularly within the known 293 mapped polygons (approximately 1,000 acres), fuel modification zones, and other disturbed priority areas. Follow the management plan (NREP) for NCCP/HCP Reserve lands and other approved long-term management plan to locate, monitor, and eradicate exotic plant species. Update the NROC database once every five years, at a minimum.

■ BIO-3/STEW-5: Monitor key ecological processes, such as perturbation events either actively or passively, whichever is more appropriate, as determined by the Resource Specialist and other concerned parties to interpret biological change and responses to management measures.

- Record monitoring data for all resource management activities, as described in the NROC Monitoring and Adaptive Management Program. Data from species inventories will be compiled in files and a GIS database. Monitoring frequency may vary and should be evaluated by the supervising park ranger, the Resource Specialist or Resource Coordinator, NROC, and resource agencies (e.g., CDFG, USFWS). Produce report and photographic documentation for each site.
- Conduct annual inspections of the fuel modification zones and park boundaries to monitor fuel modification zone limits, erosion, exotic plant and animal species, including, feral domestic animals.
- Actively monitor noxious weed eradication using semipermanent line or point-intercept transects or plots, depending on the area characteristics, to collect quantitative data both before eradication, to collect baseline data, and after eradication in years one, three, and five.
- Actively monitor accidental burns and prescribed vegetation clearing areas for floral and faunal characteristics. Methods shall include plot and transect techniques and other suitable techniques.
- Actively monitor the populations of the “targeted and identified species,” general bird species, plant community composition, and other sensitive resources, including CSS vegetation and their responses to management actions. Methods shall include plot and transect sampling techniques.
- Actively monitor fuel modification areas collecting qualitative and quantitative data every two years.
- Monitor locally uncommon, sensitive, federally-threatened or endangered species and other sensitive resources to track the populations, identify threats, develop management recommendations, and determine the effectiveness of management actions. Monitoring frequency should be evaluated by the supervising park ranger, the Resource Specialist or Resource Coordinator, NROC, and resource agencies (e.g., CDFG, USFWS). Once every five years, recommended.
- To assess coastal sage scrub and riparian habitat quality, survey for the following species: the threatened coastal California gnatcatcher and endangered southwestern willow flycatcher and least Bell’s vireo, and the sensitive yellow-breasted chat and yellow warbler.

- Suitable sensitive plant habitat surveys shall be conducted in areas not known to have sensitive plant habitat. Survey every five years during the spring.

- BIO-4: Incorporate applicable provisions of the NCCP/NROC Fire Management Plan, when completed, into the RMP. That plan, through the NROC, is currently in preparation.
  - Continue existing fire control methods required by the City of Laguna Beach and OCFA within the designated zones at the urban-wildland interface. Areas that have been disturbed outside of the fuel modification zone within the park boundaries will be revegetated with plants that are compatible with adjacent native vegetation. Adopt fire control methods that cause the least damage to natural resources while still providing effective fire control.
  - Develop one fuel modification plan for the park in cooperation with the applicable agencies. Encourage the HOAs to adopt a section of the park in a "good neighbor" program.
  - Develop and implement a program to educate local jurisdictions, park neighbors, and the public about wildfire management. Include the natural role of fire in native vegetation communities, fire safe practices in designing and building structures in interfaces areas and in landscaping.
  - Collaborate with the OCFA, local fire agencies, fire safety councils, neighborhood groups, and others in the implementation of the Fire Management Plan.

Orange County General Plan: Land Use Element

- Major Land Use Policy 9: Enhancement of Environment
  - The purpose of this policy is to ensure that all land use activities seek to enhance the physical environment, including the air, water, sound levels, landscape, and plant and animal life. This policy does not mean that environmental enhancement precludes development. It recognizes the need to improve both the manmade and natural environments. Where aspects of the natural environment are deemed to be truly significant, this policy requires measures be taken to preserve these aspects.

Justification: Appendix A to the Initial Study includes a comprehensive list of the treatment protocols for fuel modification zones within the coastal zone. The fuel modification actions would follow strict vegetation removal protocols based on the sensitivity of species found in the FMZs, utilizing careful hand crew treatment to avoid sensitive species in a Moderate or High Value Habitat area. This procedure would ensure consistency with Coastal Act Section 30240, the Laguna Beach General Plan (Policies 7.6, 8G, and 8N), Laguna Coast Wilderness Park RMP (Policies 4.1, 4.4, and 5.2), and Aliso and Wood Canyons Wilderness Park RMP (Policy BIO-2).

Some areas within FMZ 23 and 24 are disturbed by non-native and invasive annual species, rendering removal necessary for both fire protection and invasive management. In these areas, goat-grazing will be suitable to remove vegetation in Low or Medium Value Habitat, and in some instances, herbicide may be applied as spot treatments for non-native and/or invasive plants when necessary. Professional biological surveys have already been made to determine prescribed treatments for areas within each FMZ based on the species surveyed. Healthy trees outside of the FMZs would not be removed, but simply pruned to clear dead branches and any other flammable material. Targeted removal of non-native and/or invasive species would be conducted within and surrounding the zones, consistent with Laguna Beach General Plan Policy 2.6; Laguna Coast Wilderness Park RMP Policies 4.6 and 5.4; and Aliso and Wood Canyons Wilderness Park RMP Policy BIO-1. These individualized treatments ensure that the project would comply with the aforementioned policies. Furthermore, fire management education and

cooperation among residents and annual monitoring of FMZs would be consistent with Laguna Beach General Plan Policy 2.6, Aliso and Wood Canyons Wilderness Park RMP Policy BIO-4, and Orange County General Plan Policy 9.

Coastal Act Section 30244

"Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required."

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 12D: Preserve cultural/scientific sites, including geologically unique formations having archaeological significance.

Laguna Coast Wilderness Park RMP

- Policy 7.1: Locate and map all cultural resource (archeological and historical) sites. Whenever possible, preserve the site.
- Policy 7.2: Maintain confidentiality for all records of cultural or paleontological site locations.
- Policy 7.3: Avoid siting park facilities and improvements on or near cultural or paleontological resources.

Aliso and Wood Canyons Wilderness Park RMP

- CULT-1: Establish a cultural resources records management system. 1) Create a relational database system to record pertinent site information using the Model Curation Program, California State University, Fullerton (CSUF), as a template. 2) Digitize known park resources into a controlled-access GIS format to produce a base map of Aliso and Wood Canyons Wilderness Park (AWCWP).
  - Implement a formal procedure for care of existing collections with AWCWP through the OC Parks Historical and Cultural Programs office. Use standards provided in Part IV of the CSUF Proposed Policy and Procedural Guidelines and relevant County policies and procedures.
  - Create a site inventory checklist for inventorying all archaeological sites within AWCWP. A major feature of the checklist should be a section that details threats to the site. Digital photographs of the site conditions, and GPS location data should be incorporated.
  - Conduct a search of the Native American Heritage Commission Sacred Lands Files in order to identify Traditional Cultural Areas within the park. Native American groups should be appropriately consulted by park management personnel in identifying sacred sites and natural resources procurement areas; and to help develop management programs for these resources.
  - When site-specific plans are created that detail future park improvements, they can be compared with the AWCWP resource constraints map to identify known significant cultural resource sites in the vicinity of disturbance. In addition, focused pedestrian surveys consistent with the County Standard Conditions of Approval (SCA) A01 should be conducted for all future park improvements.
  - For any cultural resource work conducted within the Park, an Orange County certified archaeologist should prepare a Research Design that identifies research strategies to be implemented during the research program. A review team of cultural resource professionals should establish research priorities for the park, and cultural resource work within the park should be designed to address these priorities.

- Routinely patrol culturally sensitive areas in order to help evaluate ongoing impacts to known archaeological sites. Sites should be evaluated in terms of the potential effects on the resources by natural weathering and erosion of site and the impacts of park visitors.
- When sites and/or isolates are located, they should be recorded on California Department of Parks and Recreation (DPR) 523 series forms. Location data should be recorded using a handheld GPS unit. Site updates, including photos and maps, should be completed for previously documented sites that are reevaluated. Surface collection is recommended for any materials encountered if the site appears to be threatened by natural or human factors. Forms should comply with both the CSUF Model Curation Program format, and the California Historical Resources Information System (CHRIS) Format. Updates and new forms should be submitted to the South Central Coastal Information Center of the CHRIS.
- If a known significant site will undergo direct impacts, an Orange County certified archaeologist should be consulted to both recommend and implement appropriate mitigation measures. Mitigation Measures should follow the County SCA A01 – A04.
- When the significance of a site is unknown, an Orange County certified archaeologist should conduct test excavations at those sites to determine if they are eligible for listing on the National Register of Historic Places and/or the California Register of Historical Resources. The archaeologist shall provide recommendations for further action based on the findings of test level excavations.
- Monitoring of any project that involves earth disturbing activities in culturally rich soils should be conducted by a trained archaeologist under the supervision of an Orange County Certified Archaeologist. Artifacts that are unearthed during this construction should be collected with provenience information when available. Monitoring should comply with County SCA A04.
- Implement an emergency response plan for sites that have been exposed by erosion. When cultural resources, including artifacts or features, are encountered, either during a planned patrol or in another unexpected manner, an Orange County certified archaeologist should be consulted. The certified archaeologist will both recommend and, with OC Parks' approval, implement mitigation measures that are appropriate for the impacts to the sites.
- Presence/Absence archaeological surveys are considered to have a limited lifetime. The park has not been surveyed for cultural resources in over 5 years. A park-wide systematic reconnaissance survey should be conducted every 10 years under the direction of an Orange County certified archaeologist. To help staff with this endeavor, qualified volunteer groups could be utilized to assist in the survey of the AWCWP. Update the park-wide survey every ten years, particularly in high visitation, and high erosion areas.
- In association with a qualified archaeologist, establish a volunteer program to help complete necessary artifact analysis and inventory. Create a training manual for working with archaeological collections. Volunteers should be organized through the County's Adopt-a-Park program.

- CULT-2: Establish a paleontological resources records management system. 1) Create a relational database system to record pertinent site information using the Modal Curation Program, CSUF as a template. Once in place, this database should be continually updated to include new information about previously recorded localities, as well as document newly discovered localities. 2) Digitize known park fossil resources into an access-controlled GIS format to produce a base map of AWCWP.
- CULT-3: Implement a formal procedure for care of existing collections with AWCWP. Collections are managed through the OC Parks Historical and Cultural Programs office using standards provided in

Part IV of the CSUF Proposed Policy and Procedural Guidelines and relevant County policies and procedures.

- Place paleontological resource collections from AWCWP in a suitable repository within Orange County.
- Conduct a park-wide systematic reconnaissance survey under the direction of an Orange County certified paleontologist. Survey work should be completed to a level that will satisfy Orange County Standard Condition of Approval A05.
- Create a site inventory checklist for inventorying all paleontological sites within AWCWP. A major feature of the checklist should be a section that details threats to the locality.
- Schedule routine patrols in paleontologically sensitive areas to help evaluate known and as yet undiscovered paleontological localities. Localities should be evaluated in terms of the potential effects on the resources by the natural weathering and erosion of the locality and the impacts of park visitors.
- When fossil localities are identified, they should be recorded on fossil locality sheets that will document important information about the find such as a temporary field number, tentative identification of the find(s), description of the sediments, formation name, location of the find within the AWCWP, elevation and GPS locational information. Every effort should be made to preserve the site in situ for future generations. Collection is recommended for any materials encountered if the fossil appears to be threatened by natural or human factors.
- Prior to any proposed ground disturbing activities within AWCWP, conduct a paleontological assessment survey under the direction of a County-certified paleontologist to identify both the rock types present in the area and the potential for significant fossil resources to be discovered. The survey should comply with County SCA A05.
- If significant fossils are identified, they should be scientifically salvaged prior to initiation of construction activities. A County certified paleontologist should develop a paleontological resources impact mitigation program (PRIMP) consistent with guidelines developed by the Society of Vertebrate Paleontologists (SVP 1995) to direct resource monitoring of excavations in order to collect and properly curate any fossils that may be discovered during the ground-disturbing activities. Salvage activities should comply with County SCA A06.
- Implement an emergency response plan for sites that have been exposed by erosion or planned AWCWP maintenance. When paleontological resources are encountered, an Orange County certified paleontologist should be consulted. The certified paleontologist will recommend mitigation measures that are appropriate for the impacts to the locality.
- In association with a qualified paleontologist, establish a volunteer program to help complete necessary fossil analysis and inventory. Create a training manual for working with paleontological collections.

- CULT-5: If human remains are encountered during survey and/or ground disturbing activities, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code §5097.98.

Orange County General Plan: Resources Element

- Archaeological Resources Policies

  1. To identify archaeological resources through literature and records research and surface surveys.

  2. To evaluate archaeological resources through subsurface testing to determine significance and extent.

  4. To preserve archaeological resources by:

     a) Maintaining them in an undisturbed condition, or

     b) Excavating and salvaging materials and information in a scientific manner.

- Paleontological Resources Policies

  1. To identify paleontological resources through literature and records research and surface surveys.

  2. To monitor and salvage paleontological resources during the grading of a project.

  3. To preserve paleontological resources by maintaining them in an undisturbed condition

- Historic Resources Policies

  1. To identify historic resources through literature and records research and/or on-site surveys

  2. To evaluate historic resources through comparative analysis or through subsurface or materials testing.

  3. To preserve significant historic resources by one or a combination of the following alternatives, as agreed upon by the Resources and Development Management Department and the project sponsor:

     a) Adaptive reuse of historic resource.

     b) Maintaining the historic resource in an undisturbed condition.

     c) Moving the historic resource and arranging for its treatment.

     d) Salvage and conservation of significant elements of the historic resources.

     e) Documentation (i.e., research narrative, graphics, photography) of the historic resource prior to destruction.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 23 and 24 be evaluated for archaeological and paleontological resources in accordance with CEQA requirements. Per these treatment protocols, areas determined to have a presence of identified archaeological and/or paleontological resources may require modification or elimination of fuels treatment. Site-specific evaluation has been documented in Appendix B to the Initial Study, and subsequent modifications to fuels treatment have been incorporated into the project as mitigation to avoid impacts to cultural resources and ensure project consistency with Coastal Act Section 30244, the Laguna Beach General Plan (Policy 12D), the Laguna Coast Wilderness Park RMP (Policies 7.1 through 7.3), the Aliso and Wood Canyons Wilderness Park RMP (Policies CULT-1 through CULT-3 and CULT-5), and the Orange County General Plan (Archeological, Paleontological, and Historic Resources Policies).

Article 6: Development Policies

Coastal Act Section 30251

"The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting."

Laguna Beach General Plan: Land Use Element

- Policy 3.9: Maintain the landscape guidelines set forth in the City's Landscape and Scenic Highways Resource Document.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 7G: The Design Review process for an individual project shall include criteria for treatment of the urban edge between existing development and open space in areas designated "Residential/Hillside Protection" on the Land Use Plan Map. The criteria shall be developed to reflect topographic constraints and shall include at a minimum:

  a. Treatments to screen development, including the use of vegetation, variable setbacks and modified ridgelines or berms;

  b. Fuel modification techniques for new development which provide the following: result in graduated fuel modification zones in which the minimum amount of native vegetation is selectively thinned; prohibit grading or discing for fuel modification; confine fuel modification to the development side of the urban open space edge to the maximum extent; avoid fuel modification encroachment into environmentally sensitive areas; locate structures with respect to topographic conditions to incorporate setbacks, minimize fuel modification requirements and maximize hazards; and provide requirements for ongoing maintenance.

  c. Treatments for fuel modification and maintenance techniques for existing development consistent with standards in (b) above to the maximum extent feasible.

Laguna Coast Wilderness Park RMP

- Policy 3.1: Restrict public access in areas that are unsafe for users due to conflicts with wildlife, degraded site conditions or where it is necessary to minimize impacts to sensitive habitat.
- Policy 3.3 Establish buffer and urban interface conditions for the park and adjacent development.

Justification: The fuel modification project is consistent with Coastal Act Section 30251, the Laguna Beach General Plan (Policies 3.9 and 7G), and Laguna Coast Wilderness Park RMP (Policies 3.1 and 3.3) regarding compliance with the City's landscape guidelines and establishment of a proper buffer between existing development and open space. FMZ 23 and 24 are located directly along the wildland-urban interface adjacent to Laguna Canyon Road. Urban structures along the road are considered at high risk during fire season due to their location in a predominantly heavily vegetated canyon. The fuel breaks would provide defensible space for Laguna Canyon Road and structures from heavy-load chaparral fuels,

reduce potential wildfire intensity and flame length, reduce the risk of wildfire from spreading to high value habitat, and increase viability of Laguna Canyon Road as the primary evacuation route for residents. Fuel modification activities would only occur within their respective zones and be limited to 150-foot widths. Once fuel breaks are established, annual maintenance of approved methods (goat-grazing and hand crew removal in appropriate locations) would occur.

Coastal Act Section 30253

"New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

(c) Be consistent with requirements imposed by an air pollution control district or the State Air Resources Board as to each particular development.

(d) Minimize energy consumption and vehicle miles traveled.

(e) Where appropriate, protect special communities and neighborhoods that, because of their unique characteristics, are popular visitor destination points for recreational uses."

Laguna Beach General Plan: Land Use Element

- Policy 9.3: Ensure that the City is adequately prepared for potential hazards and natural disasters.
- Policy 10.6: Require all fuel modification to be located within the site being developed. Exceptions may be granted for existing legal building sites when findings can be made by the approval authority that other alternatives are not available, and a strict application of this provision would endanger environmentally sensitive resources or deny a property owner reasonable use of an already existing legal building site. Fuel modification performed by private property owners cannot go beyond property lines without agreement by the adjacent property owners. Fuel modification on public land to protect existing development should be avoided whenever feasible; if avoidance isn't feasible, measures must be employed to minimize the amount of fuel modification necessary on public land.

Laguna Beach General Plan: Open Space/Conservation Element

- Policy 10G: Fuel modification plans, where appropriate shall be included within the boundary of the developed land use zone.

Laguna Beach General Plan: Safety Element

- Policy 4B: Review and continually maintain each year the City's fuel modification program.
- Policy 4C: Work with adjacent local jurisdictions and agencies on the ongoing implementation of the City's fuel modification program.
- Policy 4D: Coordinate the City's fuel modification program with neighborhood associations.
- Policy 4F: Develop a funding mechanism which has a long-term viability of providing for a relatively continuous, adequate revenue stream to fund the City's fuel modification program.

- Policy 4G: Educate and inform the public on fire safety, especially regarding landscaping installation and maintenance in urban areas, to further protect the community and the environment from unnecessary fire hazards.
- Policy 4H: Require that new development located within wildland interface areas reduce the threat of wildfires through fuel modification, fire resistive construction and defensible space management consistent with the following Fuel Modification Guidelines and in compliance with the Fuel Modification Exhibit (Figure IV-1):

  (a) Prohibit combustible structures, including but not limited to wood decks, sheds, gazebos and wood fences, within the 20-foot minimum width of Zone A.

  (b) Require irrigation systems to be installed and operated within Zone A to ensure a reasonable moisture content in planted areas.

  (c) Discourage the planting of trees and vegetation which produce excessive fuel or litter within Zone A.
- Policy 4N: As a condition of new development, require private responsibility for development and maintenance of fuel modification zones and programs, including a recorded deed restriction acknowledging the fire hazard potential and maintenance responsibility by the developer or his successors and assigns.
- Policy 4O: Encourage property owners to create defensible space surrounding their homes, including providing access for firefighters, maintenance of plantings and outdoor areas and minimizing combustible structures.
- Policy 4P: Encourage property owners to consider “fire-wise” planting, especially in landscapes in areas adjacent to the wildlands interface.

Orange County General Plan: Land Use Element

- Policy 9 (Enhancement of Environment): To guide development so that the quality of the physical environment is enhanced.

Orange County General Plan: Public Services/Facilities Element

- Orange County Fire Authority Policies (Site Design Criteria): Require all land use proposals to implement adequate site design so as to maximize fire protection and prevention in order to minimize potential damages. The site design criteria shall be established to reflect the levels of protection needed for projects in various fire hazard areas. Such criteria shall include consideration as to: structure type and density, emergency fire flow and fire hydrant distribution, street pattern and emergency fire access, fuel modification programs, automatic fire sprinkler systems, and other requirements as determined by the Fire Chief.

Orange County General Plan: Resources Element

- Open Space Policy 2.1 To ensure the health and safety of County residents by identifying, planning, and managing open space areas subject to flooding, landslides, noise, high fire hazards, and earthquake potential.
- Open Space Policy 4.1 To plan for the acquisition, development, maintenance, operation, and financing of open space lands which provide recreational, scenic, aesthetic, scientific, and educational opportunities.

Orange County General Plan: Safety Element

- Fire Policy 1: To encourage periodic updating of fire hazard mapping and continue to analyze existing fire hazard data as it pertains to Orange County.
- Fire Policy 9: To encourage improvement of fire defense systems in hazardous areas.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 23 and 24 be evaluated by a qualified geologist for geological stability and flood/debris movement potential. Per these treatment protocols, areas determined to be geologically unstable may require modification or elimination of fuels treatment. Site-specific evaluation has been documented in Appendix C to the Initial Study, and subsequent modifications to fuels treatment have been incorporated into the project as mitigation to avoid impacts resulting from geological instability or erosion and ensure project consistency with Coastal Act Section 30253 and Orange County General Plan Policy 2.1.

Furthermore, the proposed fuel modification satisfies the requirements of the Laguna Beach General Plan (Policies 9.3, 10.6, 10G, 4G, 4H, 4N, 4O, and 4P) and Orange County General Plan (Fire Policies 1, 9, and Site Design Criteria) regarding increasing safety from fire hazards and creating defensible space around development. FMZ 24's location along Laguna Canyon Road would serve as an important fuel break that reduces the potential for wildfire to cross a major transportation corridor. The road serves approximately 25,000 residents, and in the event of a wildfire, would be a crucial emergency escape route for evacuees. FMZ 24 directly surrounds schools, commercial structures, and some residential buildings adjacent to Laguna Canyon Road, while FMZ 23 encompasses the Canyon Acres residential neighborhood. The management zone would provide defensible space between manmade structures and wildfires, reducing thermal outputs and flame lengths by an average of 75%. Residents of Canyon Acres neighborhood have experienced the 1993 Laguna Beach fire, which destroyed most of the homes in the neighborhood. Consequently, most residents are supportive and aware of fuel modification activities, having already installed fuel breaks on some private properties.

References

City of Laguna Beach. 2006. Informational Guide for a Coastal Development Permit. Revised July. [online]: http://www.lagunabeachcity.net/civicax/filebank/blobdload.aspx?blobid=8761. Accessed July 15, 2019.

_____. 2012. City of Laguna Beach General Plan. Revisions Adopted by City Council on February 7, 2012. [online]: http://www.lagunabeachcity.net/cityhall/cd/planning/plans.htm. Accessed July 15, 2019.

County of Orange. 1998. Laguna Coast Wilderness Park Resource Management Plan. September.

_____. 2009. Aliso and Wood Canyons Wilderness Park Resource Management Plan. August.

_____. 2015. County of Orange General Plan. Updated October. [online]: https://www.ocgov.com/gov/pw/cd/planning/generalplan2005.asp. Accessed July 15, 2019.