Initial Study and Mitigated Negative Declaration

Prepared for:

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

SOUTH LAGUNA FUEL MODIFICATION PROJECT

Technical Support Provided by:

Aspen environmental group

5020 Chesebro Road,
Suite 200
Agoura Hills, CA 91301

September 2021

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Initial Environmental Study / Checklist
City of Laguna Beach, California

1. Project Title

South Laguna Fuel Modification 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) 20 (South Laguna) and FMZ 21 (Sunset), as shown in Figure 1. FMZ 20 encompasses the canyons and hillsides bounded roughly on the west by Ceanothus Drive, Alta Loma Drive, Holly Drive, and Ocean View Street; on the south by West Street, Valido Road, and Paseo del Sur; and wrapping around East Georges Way, Mar Vista Avenue, and Eagle Rock Way.

FMZ 21 is located on the hillsides to the east of the neighborhoods between Eagle Rock Way to the north and Vista Del Sol to the south. 3rd Avenue, Mar Vista Avenue, Sunset Avenue, and Hillhaven Ranch Way generally follow the orientation of FMZ 21. The north end of FMZ 21 ties into FMZ 20 and the west end ties into the existing FMZ 8.

5. Project Sponsor's Name and Address

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

6. General Plan Designations

FMZ 20 (South Laguna) would traverse the following General Plan Designations: OS (Open Space), RHP (Residential Hillside Protection), and VLD (Village Low Density).

FMZ 21 (Sunset) would traverse the following General Plan Designations: OS (Open Space), RHP (Residential Hillside Protection), VLD (Village Low Density), and PI (Public/Institutional).

7. Zoning

FMZ 20 (South Laguna) would traverse the following Land Use Zones: OS/C (Open Space/Conservation Zone), R/HP (Residential/Hillside Protection Zone), and R1 (Residential Low Density Zone).

FMZ 21 (Sunset) would traverse the following Land Use Zones: OS/C (Open Space/Conservation Zone), R/HP (Residential/Hillside Protection Zone), R1 (Residential Low Density Zone), and I (Institutional Zone).

8. Description of the Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices in the South Laguna area within the City of Laguna Beach, California (see Figure 1). FMZ 20 (South Laguna) and FMZ 21 (Sunset) would consist of approximately 100-foot-wide zones of cleared vegetation. Removal of heavy vegetation would reduce potential wildfire ignition of primarily residential properties, increase the evacuation time for residents, and provide better access for firefighters to protect structures. In addition, the proposed project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety. Lastly, it would protect High and Very High Value Habitat containing special-status plant species.

Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. After the 1993 wildfires, the program was expanded, and now the City currently maintains 27 FMZs managed by goat-grazing and hand crews. In 2019, the City received a $1 million grant through Assembly Bill 109 to provide funds for fuel modification in the South Laguna area. The California Department of Natural Resources awarded the grant to fund fuel modification activities in FMZ 20 and 21. According to the 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 to protect residential and public property. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZ 20 and 21.

FMZ 20, an approximately 7.9-acre stretch of land, predominantly borders the northern portion of the South Laguna residential neighborhood as well as the South Coast Water District office and water reservoir (see Figure 2). The homes in this neighborhood are adjacent to large portions of densely vegetated steep hillsides and are susceptible to wildfire hazards. The majority of FMZ 20 is located within Aliso and Wood Canyons Wilderness Park and includes the beginning of Valido Trail. FMZ 20 contains a variety of native and disturbed habitat and also contains an intact population of big-leaved crownbeard, a State- and federally-listed threatened species. Other plant species within FMZ 20 include coastal sagebrush, coastal sage scrub, lemonade berry, laurel sumac, bigpod ceanothus, bush rue, southern maritime scrub, and chamise. According to the City of Laguna Beach's GIS Constraints layers, large portions of FMZ 20 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas. Areas categorized as Very High Value Habitat or have had rare plant sightings were surveyed by a qualified biologist in spring 2021 and the project design was further refined to avoid rare plants and minimize vegetation clearance in these areas. Exclusion areas in FMZ 20 would be established near West Street/Paseo Del Mar to avoid disturbance of known cultural resources (see Figure 2). These exclusion areas may be reduced once vegetation clearing has begun under the supervision of a qualified archaeologist (see Mitigation Measure CUL-3).

Seismic Hazard Landslide Areas would require specific treatment measures to minimize erosion hazards. According to the project geotechnical report for FMZ 20, the majority of FMZ 20 is underlain at the surface to relatively shallow depths by hard bedrock, which has a very low susceptibility to surficial failure (i.e., soil collapse or instability). No mapped landslides are present on the slopes within FMZ 20 (see Appendix

E). Plant species in the lower drainage areas include southern willow scrub and non-native ornamental plants. Table 1 provides the recommended access points to reach FMZ 20 treatment areas (see Figure 2). The City will work with the contractor and homeowners to obtain access to the project site.

Table 1. FMZ 20 (South Laguna) Access Points

1.	Valido Trailhead (Valido Rd.)
2.	Mar Vista Avenue (north end near gate)
3.	Intersection of Eagle Rock Way and Mar Vista Ave. (near 22311 Eagle Rock Way)[1]
4.	E. George's Way (private road with locked gate)[1]
5.	31462 Ceanothus Dr. (no on-road parking)[1]

Note: (1) Access requires homeowner permission.

Similar to FMZ 20, FMZ 21 is located on steep, densely vegetated slopes that pose the risk of wildfire hazards to nearby structures. FMZ 21 consists of approximately 12.5 acres and is predominantly on the east side of residential single-family homes and Mission Hospital Laguna Beach between Eagle Rock Way to the north and Vista Del Sol to the south (see Figure 3). Two portions of FMZ 21 are within High/Very High Value Habitat. The heavily vegetated steep slopes within and above FMZ 21 pose a risk of wildfire damage to adjacent homes, valuable habitat, and homes at the top of Niguel Hill and Monarch Crest. FMZ 21, like FMZ 20, is also moderately impacted by non-native ornamental plants as well as existing fuel breaks likely established by homeowners. The areas with relatively intact native habitat contain bigpod ceanothus, spiny redberry, bush rue, southern maritime scrub, lemonade berry, laurel sumac, toyon, and chamise. The lower portions of existing drainages are largely disturbed and planted with ornamental vegetation, with small amounts of remaining native vegetation including mulefat, elderberry, and giant wild rye. One population of big-leaved crownbeard occurs in and adjacent to the north end of FMZ 21. Additionally, a small population of Coulter's Matilija Poppy (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) occurs near 1 Hillhaven Ranch Way. Portions of FMZ 21 that have been categorized as Very High Value Habitat or have had rare plant sightings were surveyed by a qualified biologist in spring 2021 and the project design further refined to avoid rare plants and minimize vegetation clearance in these areas. Table 2 provides the recommended access points to reach FMZ 21 treatment areas (see Figure 3). The City will work with the contractor and homeowners to obtain access to the project site.

Table 2. FMZ 21 (Sunset) Access Points

1.	Intersection of Eagle Rock Way and Mar Vista Ave. (Valido Rd.)
2.	South end of Eagle Rock Way (near 22311 Eagle Rock Way)
3.	East end of 3rd Ave. (near 22401 3rd Ave.)
4.	Sunset Ave. near intersection with Mar Vista Ave. (near hospital)
5.	Intersection of 8th Ave. and Sunset Ave.
6.	Intersection of Sunset Ave. and Hillhaven Ranch Way
7.	22351 Eagle Rock Way (private driveway)[1]
8.	22315 Mar Vista Ave. (private driveway)[1]
9.	Hillhaven Ranch Way (private road with locked gate)[1]

Note: (1) Access requires homeowner permission.

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 20 and FMZ 21 to reduce available vegetation for potential wildfire ignition within approximately 100 feet of developed structures. Fuel management methods would focus exclusively on hand crews due to the presence of special-status species and steepness of topography. Fuel loads would be reduced or completely removed depending on species composition. Non-native vegetation would be completely removed first; if 50 percent reduction in wildfire fuel is achieved by removing invasive vegetation, vegetation clearing would stop. If further thinning or removal needs to occur, crews would follow the hierarchical list in the City's fuel modification treatment protocols (see list under "Hand Crew Removal" below) to remove the least sensitive plants first., ~~while sensitive native vegetation such as coastal sage scrub would be reduced by 50 percent.~~

FMZ 20 and FMZ 21 would be managed by hand crews, as goat-grazing would be infeasible due to steep terrain and presence of sensitive vegetation communities. Portions of both FMZ 20 and FMZ 21 would require specific treatment methods or complete avoidance to avoid impacts to biological resources and known cultural resources (see Figures 2 and 3). A 25-foot buffer would be established on either side of "blue-line" streams (i.e., a waterbody such as a creek or stream that appears as a broken or solid blue line on a U.S. Geographical Survey topographic map). Approximately 1.7 acres in FMZ 20 and approximately 2 acres in FMZ 20 would be within these buffers, which would be limited to the removal of non-native plant species using hand crews only. Approximately 0.9 acres of FMZ 20 and approximately 0.011 acres of FMZ 21 containing big-leaved crownbeard and Coulter's Matilija poppy would be excluded from fuel modification activities to avoid impacts to this species. In erosion-prone areas, such as steep slopes and the areas previously cleared by homeowners in FMZ 21, measures would include worker fall protection (e.g., field personnel would be trained in fall prevention, and crews would be restricted from working on slopes where field supervisors or staff judge conditions to be unsafe for unprotected work) and post-treatment erosion control measures (e.g., scattered cut brush clippings, jute netting, straw bales, and related efforts as recommended by consulting geologists). If any special-status plants or animals are found, a trained biological monitor would flag such areas before treatment to ensure the species are protected and avoided. Within these flagged buffers, 50 percent removal may not be feasible. 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.

Treatment recommendations for FMZ 20 and FMZ 21 (see Figures 2 and 3) based on habitat type and existence of any sensitive species within the zones were developed based on initial biological surveys conducted by Laguna Canyon Foundation. Table 3 provides the recommended acreages for each treatment type. These acreages may be slightly modified as the project is refined based on conditions at time of implementation.

Table 3. Proposed Treatment by Acreage

Treatment Methods	FMZ 20	FMZ 21
Hand	4.4	10.5
Stream buffers (invasive control only)	1.7	1.82
Privately cleared	N/A	0.92
Exclusion areas (big-leaved crownbeard, Coulter's Matilija poppy, and cultural resources)	1.8	0.011
Total	7.9	12.5

Source: #22 – Laguna Canyon Foundation, Fuel Modification Zone Proposed Expansions, Initial Survey Results, Analysis and Recommendations for the City of Laguna Beach, California, October 31, 2018.

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 most portions of FMZ 20 and FMZ 21 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 crosses 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.

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.

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 scattered cut brush clippings, straw wattles, straw bales, and/or jute netting) would be installed as necessary for additional protection without being obtrusive, as recommended by the project geotechnical report (provided as Appendix E). 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. Chipped waste, excluding non-native and/or invasive waste, may also be deposited over bare earth to a maximum depth of 10 to 12 inches for dust control within the FMZs. Excess materials would be hauled away for disposal as green waste. 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 the City of Laguna Beach. The City would maintain fuel breaks by pruning, weeding, and controlling invasive vegetation, which may include spot treatment with herbicides.

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, federal holidays, and adverse weather conditions such as rain and Red Flag conditions. The grant schedule denotes initial clearing of vegetation in January 2022, and grant-funded field activities would conclude by mid-December 2022. The grant provides some funding for project audits by the State and final reporting in the first couple months of 2023. 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 landscape adjacent to FMZ 20 and FMZ 21 consists of heavy chaparral and coastal sage scrub, along with populations of non-native and invasive plant species in disturbed areas. FMZ 20 and FMZ 21 are located at the lower elevations of steep canyon slopes.

The land surrounding FMZ 20 and FMZ 21 is predominantly low-density single-family residential uses, with public/institutional uses (municipal water and healthcare facilities) at 31633 West Street and along Coast Highway. FMZ 20 and FMZ 21 would serve as a barrier between the urban-wildland interface, as steep, undeveloped canyon slopes and hillsides are located to the east and north of development in these areas. The majority of FMZ 20 would overlap the southern portion of Aliso and Wood Canyons Wilderness Park and surround Valido Trail, which provides access to the park. In addition to surrounding homes, FMZ 20 would also partially surround the northern, eastern, and southern boundaries of the South Coast Water District office and reservoir (located at 31593 West Street), and FMZ 21 would border the eastern end of several medical buildings, including Mission Hospital Laguna Beach.

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

The proposed project would require the following approvals:

- City of Laguna Beach Planning Commission
- Coastal Development Permit, California Coastal Commission

Attachments

Figure 1: South Laguna Fuel Modification Project Location

Figure 2: Fuel Modification Zone 20 (South Laguna) Recommended Treatment and Exclusion Areas

Figure 3: Fuel Modification Zone 21 (Sunset Study Area) Recommended Treatment and Exclusion Areas

APPENDICES ARE PROVIDED ON CD WITH HARD COPIES

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

Appendix B: Air Quality Calculations

Appendix C: Biological Resources Report

Appendix D: Cultural Resources Assessment Report for the South Laguna Fuel Modification Project

Appendix E: Geotechnical Reports

- Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 20, Northern South Laguna Community Area, Laguna Beach, California.
- Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 21, South Laguna and Sunset Drive Area, Laguna Beach, California.

Appendix F: Paleontological Resources Summary for the South Laguna Fuel Modification Project

Appendix G: Policy Consistency Analysis Memo

Figure 1: South Laguna Fuel Modification Project Location

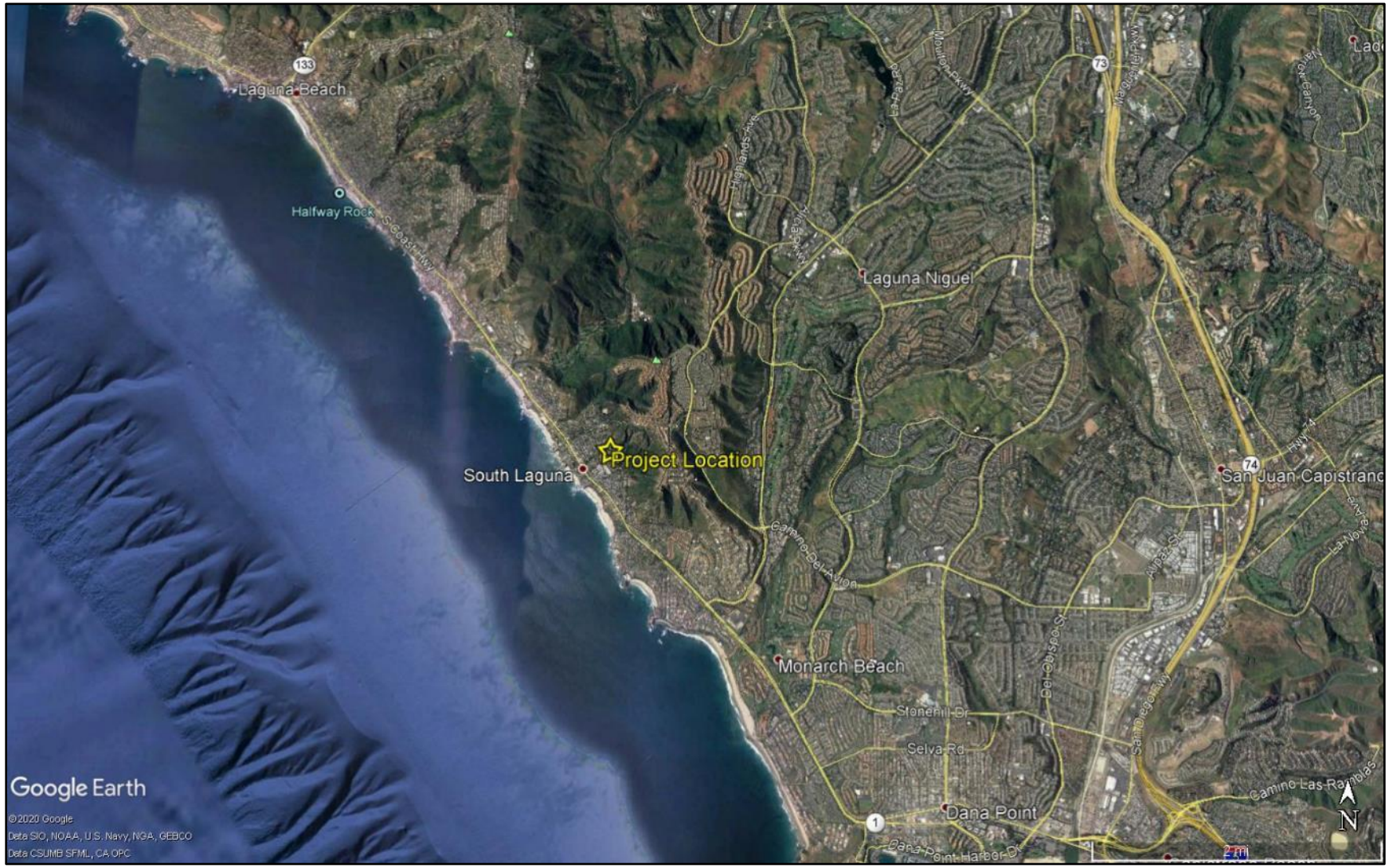

Figure 2: Fuel Modification Zone 20 (South Laguna) Treatment and Exclusion Areas

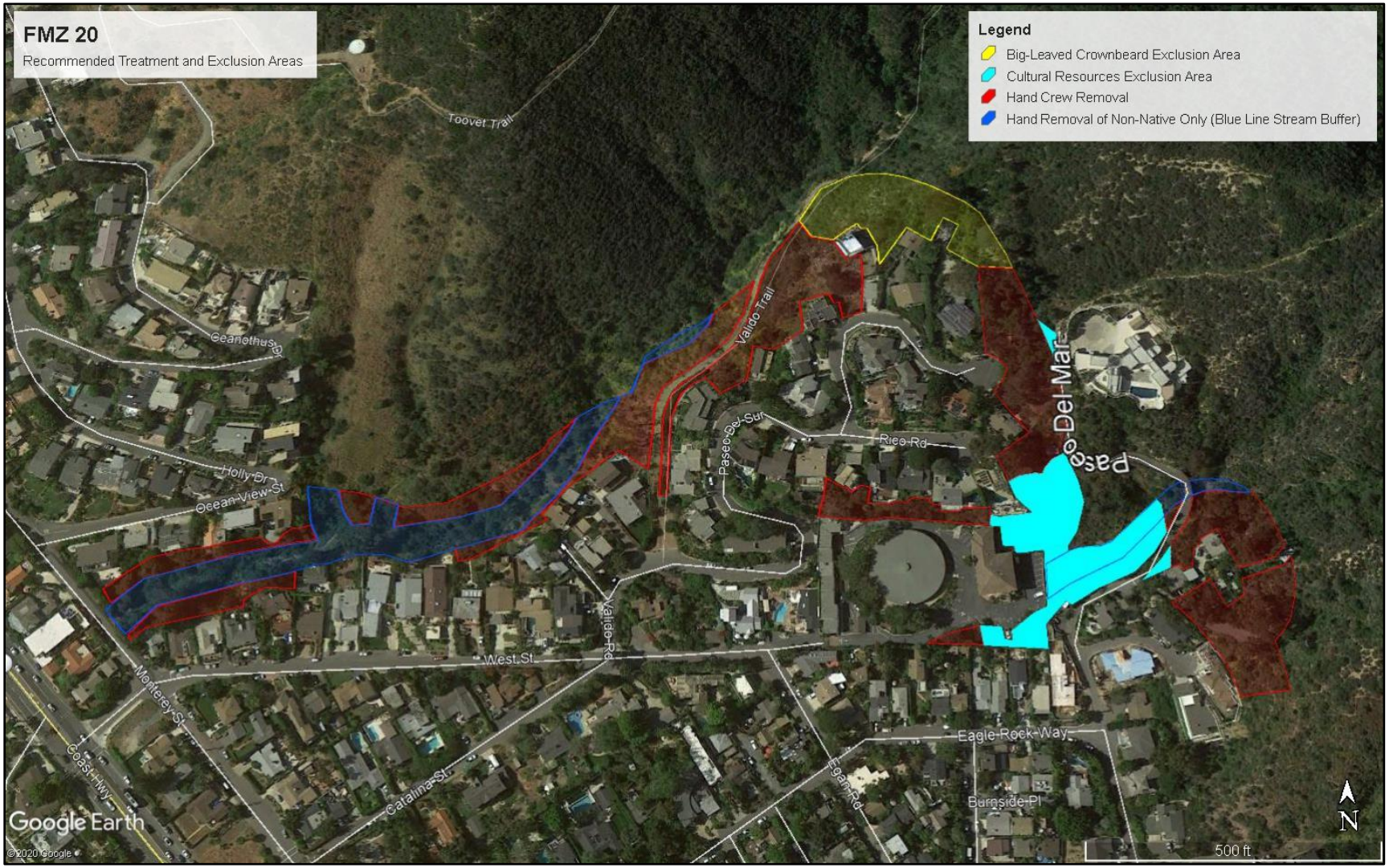

Figure 3: Fuel Modification Zone 21 (Sunset Study Area) Treatment and Exclusion Areas

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

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 20 and FMZ 21) would be in an area with low to medium development and on the wildland-urban interface of a heavily vegetated 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 be located primarily near residential areas and public and institutional facilities and would not be highly visible to travelers from Coast Highway. Limited areas of the southwest-oriented portion of FMZ 20 would be partially visible from Coast Highway, particularly at the intersection of Coast Highway and West Street. However, the majority of views would be obscured due to topography, houses, and trees adjacent to Coast Highway. Furthermore, a large portion of FMZ 20 at this location would consist of a blue-line stream (i.e., a waterbody such as a creek or stream) buffer, which would be limited to only non-native plant removal (with certain case-by-case exceptions such as removal of excessive dead plant matter and rubbish). The proposed project would have no significant impact on the topography of the hillsides within the FMZs. The fuel management activities would completely or partially remove vegetation depending on species composition, topography, and presence of cultural resources. Sensitive native vegetation would be limited to a reduction of up to 50 percent 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). The project would minimize impacts on sensitive species and habitats by avoiding removal in certain areas as 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, and post-treatment erosion control measures would be implemented. 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	☐	☐	☒	☐

Less Than Significant Impact. The proposed project site is located between approximately 180 feet (0.03 mile) and 0.3 mile away from Coast Highway, the nearest eligible State scenic highway. The County describes Coast Highway as a Viewscape Corridor in its Scenic Highway Plan and identifies this road as a valuable visual resource. The FMZs are generally located along the outer northern and eastern edges of residences, the South Coast Water District office and reservoir, and Mission Hospital Laguna Beach. The FMZs would predominantly be located behind and obscured by the topography, houses, and trees, and therefore would be generally hidden from major public views from Coast Highway. Given that the proposed project would not be within the viewshed of a designated State scenic highway, and the minimal visibility of the FMZs from Coast Highway, 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 interface of predominantly residential and public and institutional properties. Public views of FMZ 20 would be accessed along the Valido Trail in Aliso and Wood Canyons Wilderness Park, and views of both FMZs would be accessible from residential roads. Although the majority of FMZ 20 would be located within Aliso and Wood Canyons Wilderness Park and includes Valido Trail, public views of fuel modification activities would be insubstantial. 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 public views from Valido Trail would not be substantially degraded. Visibility from public viewing points along the residential roads would be limited, as there are homes and trees that would obscure visibility of the fuel breaks. Public views of the project area are expected to be insubstantial as project activities would be implemented using hand crews only, and equipment would be limited to hand tools and trucks over a temporary period. 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.

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

No Impact. The proposed 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?	3	☐	☐	☐	☒

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 20 and FMZ 21 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?	4	☐	☐	☐	☒

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))?	4	☐	☐	☐	☒

No Impact. The proposed project would traverse the following City-designated land use zones: Open Space/Conservation, Residential/Hillside Protection, Residential Low Density, and Institutional Zones. None of the areas within the project site are zoned for forest land, timberland, or Timberland Production. 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?	4	☐	☐	☐	☒

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?	4	☐	☐	☐	☒

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?	2, 5	☐	☐	☐	☒

No Impact. The proposed project's emissions sources (on-road vehicles, chainsaws, a woodchipper) 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 forecast by SCAQMD and the Southern California Association of Governments (SCAG) 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 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?	6	☐	☐	☒	☐

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 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 woodchipper, brush-cutters, and other hand tools. The proposed project would also include employee commuting trips and small and large truck trips to haul waste and supplies. The scale of use for these small off-road equipment items (e.g, woodchipper) and daily vehicle trips would not have the potential to produce emissions near the SCAQMD regional emissions thresholds. The worst-case daily emissions[1] are estimated (see Appendix B) and compared to the SCAQMD thresholds in Table 4. As shown, daily emissions would be below the SCAQMD thresholds and therefore less than significant.

[1] The maximum daily emissions are estimated with the following conservative assumptions: Six 5.5 horsepower (HP) California Air Resources Board (CARB) spark-engine emissions factor-compliant gasoline powered chainsaws operating 8 hours per day, one 81 HP diesel-fueled woodchipper operating 8 hours per day, 554 Vehicle Miles Traveled (VMT)/day of passenger vehicle use, 32 vehicle miles traveled (VMT)/day of medium sized truck use, and 40 VMT/day of heavy truck use. 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

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 & Woodchipper	0.41	3.70	2.61	0.58	0.23
Total	31.66	236.34	33.86	1.45	1.10
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.
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 and unpaved road travel is unlikely to occur, so fugitive dust emissions would be negligible and there would be no need for fugitive dust control mitigation measures, and impacts would be less than significant. In the unlikely event that off-road vehicle use would occur, vehicles would likely travel short distances over natural ground cover vegetated areas to gather cut vegetation wastes. Fugitive dust impacts would remain less than significant because the vegetated ground cover would reduce dust emissions. However, off-road vehicle use is unlikely because the majority of the project site is not suitable for off-road vehicle use due to difficulty of access (i.e., there are no direct vehicle access points to the FMZs and steep slopes would prevent vehicle use). 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?	6	☐	☐	☒	☐

Less Than Significant Impact. The project site is adjacent to sensitive receptors, specifically residential uses. 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 woodchipper) 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 including on-road emissions which 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 daily working area within the project site area that could be within 25 meters of a sensitive receptor) as shown in Table 5 (see Appendix B).

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 & Woodchipper	3.70	2.61	0.58	0.23
Total	236.34	33.86	1.45	1.10
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.

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

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 emissions from construction equipment (e.g., chainsaws and woodchipper) that 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 dust kicked up by workers and in unlikely cases, short occasional vehicle trips over vegetated areas. 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. A biological resources report was prepared in 2021 for the proposed project (GLA, 2021a – see Biological Technical Report in Appendix C). This 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, one State and federally listed species, big-leaved crownbeard (*Verbesina dissita*), was identified within the project site. The proposed project has been modified with exclusion areas (see Table 3) to avoid any potential impacts to big-leaved crownbeard. California gnatcatcher (*Polioptila californica californica*), which is federally listed, was also determined to have potential to occur in coastal sage scrub habitat in or adjacent to the project site (GLA, 2021b – see Coastal California Gnatcatcher letter report in Appendix C). 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 both these species is abundant throughout the vicinity of the project site and removal or thinning of a limited amount of suitable habitat would therefore be negligible.

Several additional special-status plants have a potential to be present including Coulter's matilija poppy (*Romneya coulteri*), Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), Palmer's grapplinghook (*Harpagonella palmeri*), western dichondra (*Dichondra occidentalis*), cliff spurge (*Euphorbia misera*). None of these were detected during focused surveys in 2021.

Intermediate mariposa-lily has 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. Cliff spurge has a CRPR of 2B.2 which indicates these plants are rare, threatened, or endangered in California but may be common elsewhere 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 impact to these species to a less-than-significant level. Impacts would be avoided by (1) requiring a pre-construction clearance survey for special-

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

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.

Catalina mariposa lily, Coulter's matilija poppy, Palmer's grapplinghook, and Western dichondra 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. No special-status wildlife species were found within the Project Site during the surveys. Several species, as noted in Table 3 (GLA, 2021a – see Biological Technical Report in Appendix C), have varying degrees of potential to be present and include American badger (*Taxidea taxus*), California glossy snake (*Arizona elegans occidentalis*), coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), coastal cactus wren (*Campylorhychus brunneicapillus sandiegensis*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), Cooper's hawk (*Accipiter cooperii*), grasshopper sparrow (*Ammodramus savannarum*), orange-throated whiptail (*Aspidoscelis hyperythrus*), San Diego desert woodrat (*Neotoma lepida intermedia*), and Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*).

Many of 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 (MM) 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 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), and conducting worker training (MM BIO-5). 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 shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around "blue-line" drainages (per the City's Treatment Protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with OC Parks, CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.

BIO-3 Vegetation removal and initial ground disturbance shall be completed outside the breeding season (i.e., no removal of potential nesting habitat from January 1 through September 1), 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 shall be postponed until nesting is completed or the Project Biologist shall

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

designate appropriate avoidance buffers around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers.

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 also conduct quarterly monitoring of the project site for 12-months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist shall inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.

BIO-5 The Project Biologist shall conduct training to ensure that all workers on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers shall 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 shall 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 shall 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?		☐	☐	☒	☐

Less Than Significant Impact. Impacts to native vegetation would 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, as specified in the City's Treatment Protocols.

The project site includes a significant drainage course near the west end of FMZ 20, which consists of approximately 0.24 acre of Goodding's Willow – Red Willow Riparian Woodland (Salix gooddingii – Salix laevigata Woodland) and has a State Rank of S3; therefore, impacts may be significant. In accordance with the Treatment Protocols, a 25-foot buffer on either side of any "blue-line" ephemeral drainages or stream courses crossing the treatment area would be established. In addition, any willow canopy that falls outside of the 25-foot buffer would also be avoided (MM BIO-2). There is no riparian habitat within FMZ 21, therefore, there would be no impacts to riparian habitat including special-status riparian habitat associated with the proposed project.

The proposed project would also result in direct impact to approximately 3.47 acres of Lemonade Berry Scrub (Rhus integrifolia Shrubland Alliance) which has a State Rank of S3 and impacts may be significant. Per the City's Treatment Protocols, impacts to areas of chaparral habitat, including Lemonade Berry Scrub, would not have more than 50-percent of the vegetation removed in accordance with the hierarchy developed for the fuel modification program (Appendix A). Specifically, vegetation thinning would remove all non-native species first and then have additional native removals where there is still more than 50-percent cover. Per the City's Treatment Protocols, Lemonade Berry Scrub is the last element in the removal hierarchy, which would limit the amount of Lemonade Berry Scrub that would otherwise be removed, reducing impacts to less than significant.

One other special-status alliance, big-pod ceanothus (S4), encompasses 0.07 acre and is considered very high value habitat in many settings within Laguna Beach. The proposed project would impact High Value Habitat within FMZ 20 and Very High Value Habitat in FMZ 21, as identified by the City of Laguna Beach Local Coastal Program. Impacts would be reduced to less than significant with the avoidance of the big pod ceanothus and big-leaved crownbeard, per the proposed project's exclusion areas and measures set forth in the City's Treatment Protocols. With implementation of the Treatment Protocols, impacts to High and Very High Value Habitat would be reduced to less-than-significant.

With implementation of the Treatment Protocols as part of the proposed project, impacts to riparian and sensitive vegetation types 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
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	☐	☐	☒	☐

Less Than Significant Impact. There are no wetlands as defined by the state or under Section 404 of the Clean Water Act, and there would be no impacts due to implementation of the fuel modification program. An assessment of jurisdictional features within the project site was conducted by Glenn Lukos Associates (GLA, 2021a – see Biological Technical Report in Appendix C). Approximately 11 ephemeral drainages occur within the project site. Alteration to these drainages would necessitate authorization from 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. As noted in the City's Treatment Protocols, a 25-foot buffer on each side of each significant drainage course would be established and the only vegetation 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 and limited vegetation removal, impacts to drainages as defined by the City's Local Coastal Program would be less than significant.

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 encompasses natural lands at the edge of residential 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 impacts to a less-than-significant level. Any impacts to common wildlife species would be less than significant given that habitat would not be removed, habitat would be improved by removal of non-natives, and similar habitat is abundant 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. 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 high and very 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, 2021a – see Biological Technical Report in Appendix C). 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 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 which would be a significant impact. The impact to High and Very High Value Habitats would be less than significant because habitat would not be entirely removed from the project site, is abundant in the open space surrounding the project site, and the total acreage of potential impacts to these habitats would be limited. Removal of non-native invasives would benefit habitat.

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), 11 segments of significant

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

drainages cross or partially intersect the project site. With establishment of the 25-foot buffers from both edges of each significant drainage and limited vegetation removal per the City's Treatment Protocols, impacts to the City's significant drainage courses would be less than significant.

Lastly, for areas with coast live oak or western sycamore trees, trees would not be removed. Rather, as set forth in the City's Treatment Protocols, 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. With implementation of Treatment Protocols (Appendix A), the project would not conflict with local policies and ordinances, and impacts to the large trees would be less than significant.

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?		☐	☐	☒	☐

Less Than Significant Impact. The project site is entirely within the Orange County Central Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) area. The City of Laguna Beach is not a signatory to the Orange County Central Coastal NCCP/HCP and the project does not conflict with the NCCP/HCP because the project proposes to remove invasive species from the project site and reduce the total cover by up to fifty percent using only hand tools. It does not propose to completely remove native habitat. In addition, all potential impacts to sensitive habitats and species are mitigated for as described elsewhere in this document. As such, the proposed project would not conflict with adopted HCPs, NCCPs, 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	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. A cultural resources study was prepared for the project site (see Appendix D). The study included a cultural resources records search at the South Central Coastal Information Center (SCCIC), a Native American Heritage Commission Sacred Lands File search, Tribal outreach, and an attempted field survey. The record search indicates the presence of two known archaeological sites, P-30-000812 and P-30-000813, within the FMZ 20. A pedestrian survey was not feasible at the time of the study because of safety concerns with the steep slopes and the density of vegetation. Since a pedestrian survey is not possible, P-30-000812 and P-30-000813 are presumed eligible for the California Register of Historical Resources (CRHR) and therefore should be avoided. The project has been designed to include avoidance areas to avoid these resources assuming a conservative buffer of 15-feet, which per Mitigation Measure CUL-3 may be reduced once enough vegetation has been removed to clearly identify the extent of the resources. As such, impacts to known resources would be reduced to a less than significant level. Mitigation Measures CUL-1 and CUL-2 are also recommended to reduce impacts to unanticipated discoveries 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 vegetation removal activities are 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 removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may

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

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.

CUL-3 The locations of P-30-000812 and P-30-000813 shall be excluded and avoided during project vegetation removal. In order to maximize the amount of vegetation removed, all vegetation removal within the vicinity of these exclusion zones shall be monitored by a qualified professional archaeologist. Once enough vegetation has been removed, and the archaeologist can safely access P-30-000812and P-30-000813, the sites will be delineated and flagged for avoidance. This may allow for a reduction in the size of the exclusion zones. Lastly, the qualified archaeologist shall update the Department of Parks and Recreation (DPR) 523 series forms for P-30-000812 and P-30-000813 as applicable, based on current field observations. DPR 523 updates will be submitted to the SCCIC for inclusion in the archaeological record.

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

Less Than Significant Impact With Mitigation Incorporated. The settlement of the project site included use of rock shelters naturally formed in the sandstone formations that make up much of the coastal hillside'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. As such, there is a potential for encountering unknown buried resources within the project site. 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	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. No human remains, including those interred outside of dedicated cemeteries, are known in the project site. The project site therefore has a low sensitivity for encountering human remains. Mitigation Measure CUL-4 is recommended to reduce this impact to a less than significant level.

Mitigation Measure

CUL-4 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 landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner 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?		☐	☐	☒	☐

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

Less Than Significant Impact. The proposed project would consume energy in the form of diesel and gasoline fuels used in off-road equipment (woodchipper) 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. 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 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.	10	☐	☐	☐	☒

No Impact. According to the California Department of Conservation (DOC) 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?	11	☐	☐	☒	☐

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?	10	☐	☐	☐	☒

Less Than Significant Impact. According to the DOC California Earthquake Hazards Zone Application, FMZ 20 and FMZ 21 are not located within a liquefaction zone. Furthermore, the proposed project would not exacerbate seismic-related ground failure such as liquefaction because no structures such as buildings would be built on the hillsides, thus eliminating the probability of a seismic-related liquefaction event. Therefore, the proposed project would have no impact on causing adverse effects relating to seismic-related ground failure.

iv) Landslides?	1, 10, 12, 13	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. According to the DOC California Earthquake Hazards Zone Application, FMZ 20 and FMZ 21 are located within a landslide zone. However, the proposed project's activities would not exacerbate the risk of landslides because the exclusive use of hand removal would avoid complete removal of vegetation

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

and reduce erosion, reducing the probability of a landslide. In very steep areas and slopes previously cleared by homeowners, post-treatment erosion control measures such as scattered cut brush clippings, jute netting, straw bales, and related efforts as recommended in the FMZ 20 and FMZ 21 geotechnical reports (see Appendix E) would be implemented to further minimize the potential for landslides. A qualified biologist would survey for rare plant species in High/Very High Value Habitat, and any native rare plant species would be avoided and left in place. As assessed in the project-specific geotechnical evaluation reports (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. No mapped landslides are present on the slopes within FMZ 20 or FMZ 21. Residual soils on the bedrock are subject to shallow instability in moderately steep terrain, but steep slopes do not typically support soil accumulation, and therefore pose a relatively low debris flow potential. Sensitive surficial instability areas are indicated in Figure 1 in both reports (see Appendix E). As suggested in the geotechnical evaluation reports' guidelines, Mitigation Measure GEO-1 is recommended, which would require vegetation to be removed in the spring and completed in the early summer in landslide-prone areas within the FMZs, limiting fuel modification effort to the canopy and seasonal grasses, minimizing damage to the existing root systems, and using spray adhesives, fiber rolls, or jute matting to maintain soil stability in landslide-prone areas in FMZ 20 and 21. 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 20 and FMZ 21:

- Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season.
- Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems.
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter.

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 hand crew treatment would leave up to 50 percent or more of native perennial root systems in the soil to minimize potential for erosion. Removed native vegetation may be chipped and spread on the ground for erosion protection. Other erosion control methods such as straw wattles and/or jute netting would be installed where necessary, as recommended by the 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. 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?	12, 13	☐	☒	☐	☐

Less Than Significant With Mitigation Incorporated. According to the geotechnical reports (see Initial Study Appendix E), some slopes (ranging from 4:1 to 1:1 ratios [horizontal:vertical]) in FMZ 20 and FMZ 21 have a moderate to high potential for debris and/or mudflows from major fuel modification activities. In these areas, safety measures would include worker fall protection (e.g., field personnel would be trained in fall prevention, and crews would be restricted from working on slopes where field supervisors or staff judge conditions to be unsafe for unprotected work) and post-treatment erosion control measures (e.g., scattered cut brush clippings, jute netting, straw bales, and related efforts as recommended by consulting geologists). Furthermore, Mitigation Measure GEO-1 would reduce the risk of landslides, lateral spreading, liquefaction, and collapse 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.

7. GEOLOGY AND SOILS. Would the project:	Sources	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?		☐	☐	☐	☒

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.

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	14	☐	☐	☒	☐

Less Than Significant Impact. A paleontological resource report was completed covering the project area (see Appendix F). According to the report, the project area is mostly underlain by San Onofre Breccia and some exposures of the Topanga Formation. The paleontological resources records search yielded one known San Onofre Breccia locality and two known nearby Topanga Formation localities. As determined in the report, the proposed project is unlikely to substantially impact unique paleontological resources because ground disturbance would be minimal. There is no clear evidence that the Topanga Formation or the San Onofre Breccia would be impacted and would at most be impacted only by pedestrian traffic. Therefore, the proposed project would result in less than significant impacts.

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?	6, 15	☐	☐	☒	☐

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 adopted a GHG emissions significance threshold of 10,000 metric tons (MT) of carbon dioxide equivalent (CO_2e) emissions per year for industrial projects. The SCAQMD has also proposed, but not adopted, the use of a "bright line" GHG emissions significance threshold of 3,000 MT CO_2e/year for residential/commercial projects. Other local jurisdictions in Southern California, such as Los Angeles County, San Bernardino County, and Riverside County have approved this emissions level as a CEQA screening level or 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 woodchipper. The proposed project's total GHG emissions would be substantially below the significance threshold of 3,000 MT CO_2e (<15 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?	16, 17, 18	☐	☐	☒	☐

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 2020-2035 Regional Transportation Plan/ Sustainable Communities Strategy, 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 woodchipper, and through the necessary vehicle trips for the workers commute, contractor work trucks, and waste haul trucks. The proposed project would not change the project site area's use and the less intensive ongoing annual vegetation maintenance would not result in substantial 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 would be 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 would need to be fueled off site (see Mitigation Measure HAZ-1). Per the City's Treatment Protocols, herbicides would be used for spot treatment of invasive species, would not occur within 25 feet of any blue-line ephemeral drainages or stream 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 and determined necessary by a qualified biologist). 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 not located within 0.25 mile of any existing or proposed schools. The nearest school is Anneliese Schools – Aliso Campus (21542 Wesley Dr., Laguna Beach), approximately 0.6 mile to the northwest. Vegetation removal activities 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 given the project's distance from this school. No impacts would occur.

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?	19, 20, 21	☐	☐	☐	☒

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

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 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 GeoTracker sites were identified near the project site in urbanized areas; 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?	22	☐	☐	☐	☒

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 13 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?	23, 24	☐	☐	☒	☐

Less Than Significant Impact. The proposed project would temporarily place vehicles and equipment at access points to allow hand crews to complete fuel management activities. Access points, as identified in the Project Description Tables 1 and 2, would generally be along residential streets, private roads, and driveways. The work itself would generally be conducted behind homes and a few public facilities. Access through private roads and driveways would be coordinated with homeowners to ensure access is available. Access along public roadways 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?	24	☐	☐	☐	☒

No Impact. The project site lies within designated Very High Fire Hazard Severity Zone as identified by the City of Laguna Beach. FMZ 20 and FMZ 21 are within 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 and public facilities, 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	☐	☐	☒	☐

Less Than Significant Impact. The proposed project area includes several drainage areas that drain to the Pacific Ocean at Laguna Beach approximately 0.13 to 0.43 mile downstream (see Figures 3 and 5). Impacts to water quality could occur as a result of disturbing topsoil and reducing vegetation coverage. Increased sediment delivery to these drainages may result in the addition of organic sediments and herbicides.

Both FMZs would be managed 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

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

of soil that could cause displacement of sediment to surface waters. As described in the Project Description, 25-foot buffers would be established on either side of blue-line streams to limit impacts to drainages from erosion and sedimentation. Within these buffers, only non-native plant species would be removed by hand crews in accordance with the City's Treatment Protocols, and all other native plant species would be left in place. In certain cases, excessive dead plant matter and rubbish would be removed. All watercourses recognized by the City and California Coastal Commission as "blue line" would be protected within this buffer, except for hand crew removal of invasive plants and certain case-by-case exceptions such as removal of excessive dead plant matter and rubbish. Additionally, hazardous steep slopes, some of which are nearly vertical in some areas, may require modified treatment or avoidance to prevent disturbing unstable areas that could adversely impact nearby water courses. 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 spray adhesives, fiber rolls, straw wattles, and/or jute netting would be installed as necessary for erosion protection as recommended in the 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.

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, 25	☐	☐	☒	☐

Less Than Significant Impact. There is a potential for increased erosion and siltation into the Pacific Ocean resulting from the removal of vegetative cover. However, the proposed treatments completed by hand crews, which would minimize disturbance of soil that could cause displacement of sediment to surface waters. The treatment area has been evaluated and mapped by a geologist for stability (see Figure 1 in each of the reports provided in Appendix E). Unstable areas may be avoided if deemed unsafe by field supervisors or staff. All blue-line streams would be given a 25-foot buffer from treatment (except for hand crew removal of invasive plants and case-by-case exceptions as described in (a)). 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 20.4 acres (see Table 3) which represents only a small portion (0.4 percent) of the overall Salt Creek/Dana Point Coastal Streams watershed area (approximately 4,741 acres). Therefore, impacts to existing drainage patterns would be less than significant.

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	1	☐	☐	☒	☐

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

Less Than Significant Impact. There is a potential for increased runoff into the various drainages within and adjacent to the project area due to reduced vegetation cover. This impact is considered less than significant primarily due to the small size of the area to be treated in comparison to the Salt Creek 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, 25	☐	☐	☒	☐

Less Than Significant Impact. Runoff from the project site would flow into the Pacific Ocean. 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 Salt Creek watershed area and the reduction in vegetative cover would be offset by leaving most perennial plant roots in place and 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 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.

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?	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. Project activities would be subject to the policies of the City's General Plan and Local Coastal Program, the Aliso and Wood Canyons Wilderness Park Resource Management Plan (RMP), 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 20 and FMZ 21 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	☐	☐	☐	☒

No Impact. No locally important mineral resource recovery sites are delineated in the City of Laguna Beach General Plan or Aliso and Wood Canyons Wilderness Park RMP. 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 woodchipper, would be limited to Monday-Friday 8am-5pm and would not occur on federal holidays. Therefore, a less-than-significant impact would occur.

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 woodchipper, 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 13 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.					
c. Schools?		☐	☐	☐	☒
No Impact. The proposed project is not a development project and would not create demands for new or expanded school facilities. 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 FMZ 20 would occur within Aliso and Wood Canyons Wilderness Park. None of the proposed fuel modification activities would increase use of this park. 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. 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. According to the Caltrans Traffic Volumes report from 2017, approximately 36,800 to 37,750 vehicles travel on the segment of Coast Highway nearest to FMZ 20 and FMZ 21 (Doheny Park Road in Dana Point to Mountain Road in Laguna Beach). The addition of a few vehicles for the proposed project would not add a substantial amount of traffic to existing traffic volumes. 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 State CEQA Guidelines describes vehicle miles traveled (VMT) as an appropriate measure of transportation impacts. In this case, VMT is analyzed qualitatively as the proposed project is most similar to a construction project. Up to 14 crew members would be onsite at any given time to conduct work and are likely to come from local areas. VMT would be generated by transporting workers, equipment, and green waste. 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 Coast Highway 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 small hand-held equipment such as chainsaws, brush-cutters, and other hand tools. 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
d. Result in inadequate emergency access?		☐	☐	☐	☒

No Impact. FMZ 20 and FMZ 21 would each have multiple access points that would also serve as potential staging areas and provide emergency access if needed. Most of the access points are private roads that require coordination with property owners 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	9	☐	☐	☐	☒

No Impact. Assembly Bill (AB) 52 consultation was not completed for this project as no Native American tribes have requested consultation with the City of Laguna Beach. On September 16, 2020, Aspen requested that the Native American Heritage Commission (NAHC) complete a search of its Sacred Lands Files to determine if resources significant to Native Americans have been recorded within the project site. On September 22, 2020, Aspen received a response from the NAHC stating that the search of its Sacred Lands File was negative for the presence of resources within the project site (see Appendix D). The NAHC also provided their contact list of interested Native Americans to contact for additional information regarding resources in the area. Aspen sent outreach letters on September 28, 2020 to each of the listed representatives asking if any additional information could be provided regarding resources within the project site. Follow up emails and/or phone calls were completed on October 15, 2020 and December 7, 2020. One response has been received to date from the Juaneño Band of Mission Indians, Acjachemen Nation indicating that the tribe had no concerns with the vegetation removal by hand crews.

(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.	40	☐	☐	☐	☒

No Impact. AB 52 consultation was not completed for this project as no Native American tribes have requested consultation for this area of South Laguna. As stated above, the NAHC did not indicate the presence of any tribal cultural resources within the project site and those tribes contacted did not indicate the presence of Tribal Cultural Resources in the project site.

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. 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. 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 neither include any development nor require wastewater treatment. No impact would occur.					
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 hauled to a green waste recycling facility. Any remaining green waste that is not accepted by the green waste recycler would be hauled to a landfill. The total amount of solid waste is not expected to be in excess of the capacity of local infrastructure. Therefore, a less than significant 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.					

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
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.

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, 12, 13	☐	☒	☐	☐

Less Than Significant Impact With Mitigation Incorporated. Fuel modification activities would remove vegetation cover in landslide-prone areas in FMZ 20 and FMZ 21. However, the proposed project would implement the City's Treatment Protocols and comply with the geotechnical reports' suggested erosion control methods such as installing spray adhesives, fiber rolls, and/or jute netting as necessary for additional protection, thus maintaining stable topsoil and reducing runoff. Additionally, in very steep areas and slopes previously cleared by homeowners, post-treatment erosion control measures such as scattered cut brush clippings, jute netting, straw bales, and related efforts as determined by the geotechnical reports (Appendix E) would be implemented to further minimize the potential for landslides. Additionally, although some slopes in FMZ 20 and FMZ 21 may have a moderate to high potential for debris and/or mudflows from significant fuel modification, spring or early summer fuel modification should not exacerbate the future mudflow potential, as some of the native canopy would re-establish by the rainy season which would maintain soil stability. Mitigation measures for unstable geologic units within FMZ 20 and FMZ 21 are discussed in Mitigation Measure GEO-1. 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-5. 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, CUL-3, and CUL-4. Impacts to these resources 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
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 substantially 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 and not result in a cumulatively considerable 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 reports' (Appendix E) findings of areas of potential soil unit instability within FMZ 20 and FMZ 21. Section 20(d) of Wildfire also discusses the potential for post-fire downslope landslides. Mitigation Measure GEO-1 would mitigate 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

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5	South Coast Air Quality Management District. Air Quality Management Plan (AQMP) webpage. Accessed January 2021. [Online]: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.
6	South Coast Air Quality Management District. Air Quality Analysis Handbook webpage. Accessed January 2021. [Online]: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.
7	Glenn Lukos Associates (GLA). 2021a. Biological Technical Report for Proposed Fuel Modification Zones 20 & 21, Laguna Beach, Orange County, California. Provided as Appendix C to this document.
8	Glenn Lukos Associates (GLA). 2021b. Results of Protocol Coastal California Gnatcatcher Surveys for the City of Laguna Beach Proposed Fuel Modification Zones 20 and 21, Orange County, California. Provided as Appendix C to this document.

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15	South Coast Air Quality Management District. 2008. SCAQMD Governing Board letter - Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans. December 5. Accessed January 2021. [Online]: http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2.
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22. SOURCE REFERENCES

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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 4.

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), and conducting worker training (MM BIO-5). 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 shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around "blue-line" drainages (per the City's Treatment Protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with OC Parks, CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.

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 January 1 through September 1), 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 shall 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 shall be allowed within these buffers.

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 also conduct quarterly monitoring of the project site for 12-months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist will inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an

ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.

4(a). BIO-5 The Project Biologist shall conduct training to ensure that all workers 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 shall 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 shall 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.

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 vegetation removal activities are 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(a). CUL-3 The locations of P-30-000812 and P-30-000813 shall be excluded and avoided during project vegetation removal. In order to maximize the amount of vegetation removed, all vegetation removal within the vicinity of these exclusion zones shall be monitored by a qualified professional archaeologist. Once enough vegetation has been removed, and the archaeologist can safely access P-30-000812and P-30-000813, the sites will be delineated and flagged for avoidance. This may allow for a reduction in the size of the exclusion zones. Lastly, the qualified archaeologist shall update the Department of Parks and Recreation (DPR) 523 series forms for P-30-000812 and P-30-000813 as applicable, based on current field observations. DPR 523 updates will be submitted to the SCCIC for inclusion in the archaeological record.

5(c). CUL-4 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 landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner 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 20 and the FMZ 21:

- Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season.
- Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems.
- Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal: vertical) ratio prior to winter.

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 4. Mitigation Monitoring Program for Fuel Breaks in FMZ 20 and FMZ 21

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), and conducting worker training (MM BIO-5). 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 shall search for nesting birds, special-status plants, and other special-status species. Pre-clearing surveys shall be performed during the appropriate blooming period for special-status plants to ensure species present are identified. Any special-status species or sensitive resources shall be flagged and avoided, in coordination with the Project Biologist. If big-leaved crownbeard are located within the project site, they shall be flagged, and a 50-foot buffer installed. Any willow canopy that falls outside the 25-foot buffer around “blue-line” drainages (per the City’s Treatment Protocols), shall be avoided. San Diego desert woodrat nests shall be avoided with a 15-foot buffer. Plants with a CRPR of 1B or 2B shall be flagged and a 15-foot buffer installed. No work shall be permitted within these buffers. The Project Biologist shall also flag coast live oak seedlings and western sycamore seedlings for avoidance, as feasible. The Project Biologist shall also search for shot hole borers on all oak and sycamore trees that are proposed for pruning. If shot hole borers are found, the Project Biologist shall notify the City who will then coordinate with OC Parks, CDFW, and the U.S. Fish and Wildlife Service. All pruning tools shall be cleaned and disinfected prior to use within the project area and at least weekly during the project to further reduce the spread of pathogens. To the extent practicable, thinning within coastal sage scrub and chaparral habitats shall be limited to winter months outside the growing season.	City of Laguna Beach Fire Chief	Prior to and during 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 January 1 through September 1), 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 shall be postponed until nesting is completed or the Project Biologist shall designate appropriate avoidance	City of Laguna Beach Fire Chief	Prior to fuel modification activities outside of bird

Table 4. Mitigation Monitoring Program for Fuel Breaks in FMZ 20 and FMZ 21

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		buffers around nests to protect nesting birds. No project related disturbance shall be allowed within these buffers.		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 also conduct quarterly monitoring of the project site for 12-months after the completion of the fuel treatment. During this post-treatment monitoring the Project Biologist shall inspect the mulched plant material for Argentine ants and will also note wildlife use of the treatment areas. If Argentine ants are found within the mulched plant material, the City shall implement an ant control program to remove them from these areas. If any new non-native plants are found within the project area, the City shall implement a control program for these species to ensure they are eradicated and not allowed to spread into adjacent natural lands.	City of Laguna Beach Fire Chief	During fuel modification activities and continuing for at least 12 months following completion of activities
	4(a)	**BIO-5** The Project Biologist shall conduct training to ensure that all workers on the project site are aware of all applicable mitigation measures for biological resources. Specifically, workers shall 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 shall 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 shall 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
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 vegetation removal activities are 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	City of Laguna Beach Fire Chief	During fuel modification activities

Table 4. Mitigation Monitoring Program for Fuel Breaks in FMZ 20 and FMZ 21

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		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(a)	**CUL-3** The locations of P-30-000812 and P-30-000813 shall be excluded and avoided during project vegetation removal. In order to maximize the amount of vegetation removed, all vegetation removal within the vicinity of these exclusion zones shall be monitored by a qualified professional archaeologist. Once enough vegetation has been removed, and the archaeologist can safely access P-30-000812and P-30-000813, the sites will be delineated and flagged for avoidance. This may allow for a reduction in the size of the exclusion zones. Lastly, the qualified archaeologist shall update the Department of Parks and Recreation (DPR) 523 series forms for P-30-000812 and P-30-000813 as applicable, based on current field observations. DPR 523 updates will be submitted to the SCCIC for inclusion in the archaeological record.	City of Laguna Beach Fire Chief	During fuel modification activities
	5(c)	**CUL-4** 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	City of Laguna Beach Fire Chief	During fuel modification activities

Table 4. Mitigation Monitoring Program for Fuel Breaks in FMZ 20 and FMZ 21

Environmental Factor	Reference Number	Mitigation Measures	Responsible Party	Timing
		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 landowner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the landowner shall reinter the remains in an area of the property secure from further disturbance. If the landowner 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 20 and FMZ 21: • Fuel modification activities shall be conducted in the spring and summer and allow for some re-establishment of the native canopy prior to the next rainy season. • Fuel modification efforts shall be limited to the canopy and seasonal grasses and should minimize damage to the existing root systems. • Spray adhesives, fiber rolls, or jute matting shall be used in areas with a thick accumulation of soil on slopes between a 2:1 to 1:1 (horizontal:vertical) ratio prior to winter.	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

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

Air Quality Calculations

South Laguna Fuel Modification Project

Initial Vegetation Removal Emissions Estimate

Assumptions:

1) Project's initial vegetation removal activities will occur in 2022.

2) Woodchipper and on-road vehicle emissions are estimated using CalEEMod fleet average factors.

3) Gasoline fueled chainsaw emissions are estimated separately using CARB emission standard compliance.

4) Chainsaws are assumed to be 70 cc, 5.5 hp models.

5) A total of six chainsaws, three per crew, with two crews are assumed to operate 8 hours per day.

6) For chainsaws PM=PM10=PM2.5.

Chainsaws		EFs (g/bhp)			
Number	Hours/day	VOC	NOx	CO	PM
6	8	53.6912752	53.6912752	399.701715	1.49142431

		Emissions				
	Chainsaws	VOC	NOx	CO	PM	
	lbs/day	31.25	31.25	232.64	0.87	
	Chippers and Vehicles	VOC	NOx	CO	PM10	PM2.5
From CalEEMod	lbs/day	0.41	2.61	3.70	0.58	0.23
	Total lbs/day	**31.66**	**33.86**	**236.34**	**1.45**	**1.10**

South Laguna Brush Removal Project

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Recreational	20.00	User Defined Unit	20.00	0.00	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	31
Climate Zone	8			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	702.44	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Construction emissions estimate only.

Land Use - user defined

Off-road Equipment - user defined

Trips and VMT - edited per crew assumption and project needs.

On-road Fugitive Dust - project estimate, workers will park in paved areas.

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4106	2.6092	3.7084	0.0103	0.4857	0.0975	0.5832	0.1298	0.0972	0.2270	0.0000	1,025.5627	1,025.5627	0.0507	0.0000	1,026.8295
Maximum	**0.4106**	**2.6092**	**3.7084**	**0.0103**	**0.4857**	**0.0975**	**0.5832**	**0.1298**	**0.0972**	**0.2270**	**0.0000**	**1,025.5627**	**1,025.5627**	**0.0507**	**0.0000**	**1,026.8295**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	0.4106	2.6092	3.7084	0.0103	0.4857	0.0975	0.5832	0.1298	0.0972	0.2270	0.0000	1,025.5627	1,025.5627	0.0507	0.0000	1,026.8295
Maximum	**0.4106**	**2.6092**	**3.7084**	**0.0103**	**0.4857**	**0.0975**	**0.5832**	**0.1298**	**0.0972**	**0.2270**	**0.0000**	**1,025.5627**	**1,025.5627**	**0.0507**	**0.0000**	**1,026.8295**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/2/2022	5/27/2022	5	20	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Crushing/Proc. Equipment	1	8.00	81	0.42

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	1	28.00	4.00	40.00	19.80	7.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2460	1.6548	2.2224	3.6000e-003		0.0924	0.0924		0.0924	0.0924		340.9851	340.9851	0.0222		341.5402
Total	**0.2460**	**1.6548**	**2.2224**	**3.6000e-003**	**0.0000**	**0.0924**	**0.0924**	**0.0000**	**0.0924**	**0.0924**		**340.9851**	**340.9851**	**0.0222**		**341.5402**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0145	0.4800	0.1133	1.5100e-003	0.0349	1.4000e-003	0.0363	9.5700e-003	1.3400e-003	0.0109		164.6671	164.6671	0.0116		164.9561
Vendor	0.0114	0.3835	0.0941	1.1200e-003	0.0293	7.7000e-004	0.0301	8.4300e-003	7.4000e-004	9.1700e-003		119.4927	119.4927	6.9000e-003		119.6654
Worker	0.1388	0.0909	1.2785	4.0200e-003	0.4215	2.9700e-003	0.4244	0.1118	2.7400e-003	0.1145		400.4177	400.4177	0.0100		400.6680
Total	**0.1646**	**0.9543**	**1.4860**	**6.6500e-003**	**0.4857**	**5.1400e-003**	**0.4908**	**0.1298**	**4.8200e-003**	**0.1346**		**684.5776**	**684.5776**	**0.0285**		**685.2894**

3.2 Demolition - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.2460	1.6548	2.2224	3.6000e-003		0.0924	0.0924		0.0924	0.0924	0.0000	340.9851	340.9851	0.0222		341.5401
Total	**0.2460**	**1.6548**	**2.2224**	**3.6000e-003**	**0.0000**	**0.0924**	**0.0924**	**0.0000**	**0.0924**	**0.0924**	**0.0000**	**340.9851**	**340.9851**	**0.0222**		**341.5401**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0145	0.4800	0.1133	1.5100e-003	0.0349	1.4000e-003	0.0363	9.5700e-003	1.3400e-003	0.0109		164.6671	164.6671	0.0116		164.9561
Vendor	0.0114	0.3835	0.0941	1.1200e-003	0.0293	7.7000e-004	0.0301	8.4300e-003	7.4000e-004	9.1700e-003		119.4927	119.4927	6.9000e-003		119.6654
Worker	0.1388	0.0909	1.2785	4.0200e-003	0.4215	2.9700e-003	0.4244	0.1118	2.7400e-003	0.1145		400.4177	400.4177	0.0100		400.6680
Total	**0.1646**	**0.9543**	**1.4860**	**6.6500e-003**	**0.4857**	**5.1400e-003**	**0.4908**	**0.1298**	**4.8200e-003**	**0.1346**		**684.5776**	**684.5776**	**0.0285**		**685.2894**

Appendix C

Biological Resources Reports

Biological Technical Report for Proposed Fuel Modification Zones 20 & 21, Laguna Beach, Orange County, California

Results of Protocol Coastal California Gnatcatcher Surveys for the City of Laguna Beach Proposed Fuel Modification Zones 20 and 21, Orange County, California

BIOLOGICAL TECHNICAL REPORT FOR PROPOSED FUEL MODIFICATION ZONES 20 & 21 LAGUNA BEACH, ORANGE COUNTY, CALIFORNIA

Prepared for:
Laguna Beach Fire Department
505 Forest Avenue
Laguna Beach, California 92651

Prepared by:
Glenn Lukos Associates
1940 East Deere Avenue
Santa Ana, California 92705

JUNE 2021

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EXHIBITS

APPENDICES

1.0 INTRODUCTION

This report addresses the biological resources associated with the proposed Fuel Modification Zone 20 (FMZ 20) (South Laguna) and Fuel Modification Zone 21 (FMZ 21) (Sunset) located in South Laguna within the City of Laguna Beach, Orange County, California (Exhibit 1: Regional Map – All exhibits provided at the end of this report). FMZ 20 and FMZ 21 would extend from the edge of residential areas out 100 feet into adjacent areas consisting of a mosaic of native vegetation alliances and ornamental vegetation cover that pose a substantial fire risk.

1.1 Site Location

FMZ 20 (South Laguna) encompasses the canyons and hillsides bounded roughly on the west by Ceanothus Drive, Alta Loma Drive, Holly Drive, and Ocean View Street; on the south by West Street, Valido Road, and Paseo del Sur, and wrapping around East Georges Way, Mar Vista Avenue. and Eagle Rock Way. On the west, it will merge into the existing goat-grazed Fuel Modification Zone 7 (FMZ 7) and on the east with FMZ 21. Much of the proposed treatment area is located within Aliso & Wood Wilderness Park and includes the area surrounding the Valido Trailhead. FMZ 20 includes different vegetation alliances, with ornamental/landscaped areas, toyon chaparral, lemonade berry chaparral, non-native herbaceous as most prevalent but also interspersed with laurel sumac scrub and a single small patch of big-pod ceanothus chaparral as well.

FMZ 21 (Sunset) is above the neighborhoods between Eagle Rock Way to the north and 10th Street to the south. The streets paralleling the Study Area include Third Avenue, Mar Vista Avenue, Sunset Avenue, and Hillhaven Ranch Way. It would tie in on the north with the proposed FMZ 20 and on the west with the existing goat-grazed Fuel Modification Zone 8. FMZ 21 includes the area behind Mission Hospital and includes many of the same vegetation alliances as FMZ 20, with ornamental/landscaped areas, toyon chaparral, lemonade berry chaparral, non-native herbaceous as most prevalent but also interspersed with laurel sumac scrub and a very limited area big-pod ceanothus chaparral. It is dissected by several steep-sided canyons.

1.2 Site Description

The Study Area consists of hillsides and canyon areas vegetated with a mosaic consisting of mostly native vegetation with areas of non-native vegetation along the interface with existing development. The area has generally not been subject to brush thinning by the City of Laguna Beach and any brush thinning (fuel modification) that has occurred has been conducted by residents.

Coastal sage scrub habitat within the Study Area is limited and dominated by California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*) with limited areas of California buckwheat (*Eriogonum fasciculatum*). Other components include orange bush monkeyflower (*Mimulus aurantiacus*), coastal goldenbush (*Isocoma menziesii*), and deerweed (*Acmispon glaber*).

The dominant native vegetation alliances include chaparral that in turn includes toyon chaparral, laurel sumac chaparral, lemonade berry chaparral, and very limited areas of big-pod ceanothus

chaparral. Non-native cover contributes significantly to the FMZ areas and includes landscaped/ornamental and herbaceous vegetation cover types.

2.0 CITY OF LAGUNA BEACH TREATMENT PROTOCOLS

Evaluation of impacts associated with fuel modification actions as set forth in Sections 7.0 ("Project-Related Impacts") and 8.0 ("Recommended Measures") occurs within the context of the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting* ("Treatment Protocols"), dated May 27, 2020. The Treatment Protocols provide the framework for avoidance as a component of the project to reduce potential significant impacts to less-than significant. These protocols, which provide a description of the methods to remove dangerous fuels while providing for maximum protection of the biological resources within areas subject to fuel modification, are summarized below.

Per the Treatment Protocols, the objective of any fuel modification treatment shall be to achieve at least an average 75% reduction in potential wildfire fire line intensity. In general, a 50% reduction of fuel loading, accomplished by the parameters of the protocol, will achieve such a reduction.

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 is 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*)

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*) (CAGN), which was not detected during protocol surveys, removal of vegetation should occur outside of nesting season (January 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.

2.1 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 City Treatment Protocols). 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. In general, hand treated sites will be dominated by woody herbaceous or shrub species.

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 shall be the preferred method for fuel modification in high or very high value habitat, as described in Section 4.3.
c. Fuel Modification shall generally be limited to a width of 100 feet.
d. 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.
e. Special care will be exercised to distinguish dormant native vegetation from dead/dying native vegetation.
f. 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 unless all other hierarchy opportunities have been exhausted. Pruning methods shall be determined by environmental monitors based upon needs of specific species to maximize probability of survival.

g. 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 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. No more than three trees may be retained in a single grouping or cluster of trees. A minimum distance of 20 feet shall be maintained between mature tree canopies. 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 feet width.
h. Prescribed fire use shall be limited to pile burning only when air quality and fire behavior limitations may be met. Broadcast use of fire will not generally be utilized due to the presence of heavy, old age class fuels with a high dead-to-live ratio, lending to difficulty of control, air quality concerns, and risks to developed properties of escape.

Fuels clearance by mechanical heavy equipment and related methods such as chaining will generally not be used for landscape-scale treatments within the City due to terrain and slope restrictions on heavy equipment, concerns for geologic slope stability, and the broad presence of high value habitat and sensitive species. Where these concerns may be eliminated, heavy equipment use may be considered.

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 large new 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.

2.2 Treatment of Water Courses

Pampas Grass and other invasive plant removal and herbicide treatment will be the only vegetation management within a 25-foot buffer on either side of any "blue-line" ephemeral drainages or stream courses (as listed by U.S. Geological Survey 7.5 Minute Topographic Maps 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 consistent with best environmental practice.

2.3 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.

2.4 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.

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

3.0 SURVEYS

Biologist Tony Bomkamp from Glenn Lukos Associates, Inc. (GLA) conducted initial site visits of FMZ 20 (South Laguna) and FMZ 21 (Sunset) on September 24 and October 12, 2020. Tony Bomkamp and Jason Fitzgibbon conducted vegetation mapping and mapping special-status resources for purposes of ensuring avoidance during fuel modification activities. Additional vegetation mapping and focused surveys for special-status plants were conducted on March 17 and May 26, 2021. Surveys for the federally threatened coastal California gnatcatcher were conducted by Kevin Livergood on April 15, 22, and 29 and May 6, 13 and 20, 2021.

In addition to surveys, the study included a review of the California Natural Diversity Database (CNDDB) for the Laguna Beach Quadrangle (California Department of Fish and Wildlife (CDFW) 2021), a review of the California Native Plant Society (CNPS) Online Inventory (CNPS 2021), and a review of the Natural Resources Conservation Service's (NRCS)[1] 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; and
- General and focused biological surveys to map the locations 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 (Sawyer, Keller-Wolf, Evens, 2009). 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 in Tables 2 and 3 below.

The field studies focused on the following primary objectives in accordance with CEQA: (1) general reconnaissance surveys and vegetation mapping in accordance with the MCVII, (2) general botanical surveys; (3) general wildlife surveys; (4) habitat assessments for special-status plants; (5) habitat assessments and focused surveys for special-status animals including the coastal California gnatcatcher (CAGN); and (6) focused surveys for special-status plants. 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].

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:

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

- 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 (CDFW 2019a); and
- Designation by the State as a Species of Special Concern (SSC) or California Fully Protected (CFP) species (CDFW 2019b).

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 "Regulatory Setting/Requirements" in Section 4.0 for further explanation);
- Riparian habitat; and
- Occurrence of vegetation community or habitat in the CNDDB inventory.

3.1 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, including review of previous mapping for the sites; (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.

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 2021) 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.

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 3a – 3c for FMZ 20 and Exhibit 3c – 3e for FMZ 21.

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.[2] 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 guidelines adopted by CDFW (2018) and 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).

3.2 Wildlife Resources

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 the 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.

Habitat Assessment and Focused Surveys for Special Status Animal Species. GLA biologists Tony Bomkamp and Jason Fitzgibbon 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 protocol surveys for the California gnatcatcher were conducted by Kevin Livergood as noted above and included as Appendix C.

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. **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.

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.

[2] GLA notes that due to the unseasonably cool spring, blooming periods for many species were delayed during the 2021 season, making use of reference populations a necessary component of the survey program.

3.3 Jurisdictional Delineation

The Project Site contains portions of six City-mapped Significant Stream Courses within FMZ 20 and portions of five Significant Stream Courses in FMZ 21 that would potentially be subject to the jurisdiction of the CDFW and the jurisdiction of the Regional Water Quality Control Board (RWQCB). The drainages are not expected to meet the definition for Waters of the U.S. under the recently issued Navigable Waters Protection Act as the drainages are ephemeral and thus not considered Waters of the U.S.[3] These are depicted on Exhibits 4a – 4e.

The proposed fuel modification program does not include discharge of dredge or fill material into any stream and, as described in Section 2.2, includes a 25-foot setback from the edge of any identified stream, which would encompass the requirement to avoid riparian habitat. Therefore, the jurisdictional delineation incorporates the City's Significant Drainage Course mapping as the project's jurisdictional delineation.

4.0 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.

4.1 State and/or Federally Listed Plants or Animals

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

[3] Because of the avoidance required for Significant Drainage Courses in the City's LCP, there would be no potential for impacts to the drainages and a formal delineation was not conducted.

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.

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.

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.

4.2 Aquatic Resources

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."

4.3 Local Approvals

City of Laguna Beach. The Project Site is located within the coastal zone, which is under the permitting authority of the California Coastal Commission. In support of the City of Laguna Beach Local Coastal Program, 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[4]. The Project Site contains limited areas designated as a very high value habitat. Very high value habitats are described by the City as:

> *" . . . include the habitats of endangered, rare or locally unique native plant species. 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 that often occupy such settings. "*

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

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

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, 2 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.

4.4 California Environmental Quality Act

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 7.1 and 7.2 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.

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

<u>*Federally Designated Special-Status Species*</u>. 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)

4.5 Migratory Bird Treaty Act and California Fish and Game Code 3503 and 3503.5

As of the writing of this document, the Migratory Bird Treaty Act is undergoing amendments and a final rule has not been published (U.S. Fish and Wildlife Service, 2021). Nevertheless, nesting birds are protected under Sections 3503 and 3503.5. Section 3503 states: "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto". Section 3503.5 states: "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto".

5.0 RESULTS

This section provides the results of general biological surveys, vegetation mapping, habitat assessments, and focused surveys for special-status plants and general faunal surveys. Areas of High Value Habitat, Very High Value Habitat, and Significant Drainage Courses were identified pursuant to the City's LCP.

The proposed FMZ 20 and FMZ 21 have not been subject to specific City-implemented fuel modification activities; although some properties have been subject to brush thinning. Overall, the

areas support a predominance of native habitats including toyon chaparral, laurel sumac chaparral, lemonade berry chaparral and limited areas of coastal sage scrub and big-pod ceanothus chaparral. The vegetation cover with the largest extent in the FMZs 20 and 21 combined consists of ornamental/landscaped cover which at 5.72 aces accounts for exactly one-third of the proposed FMZ area.

5.1 Vegetation

During vegetation mapping of the 17.05-acre FMZs, a mosaic of 14 vegetation alliances and land use types were identified. Table 1 provides a summary of vegetation alliances/land uses and the corresponding acreage. Detailed descriptions of each vegetation alliance or land cover type follow the table. Table 1 also includes the CNDDB State Rarity Rankings, where applicable. A Vegetation Map is attached as Exhibit 3a – 3e.

Table 1. Summary of Vegetation/Land Use Types for FMZ 20 & 21 Combined

Vegetation/Land Use Type	Area (Acres)
Grassland Alliances	
Non-native/Herbaceous	1.67
Coastal Sage Scrub Alliances	
Artemisia californica – Salvia mellifera Shrubland Alliance (California Sagebrush - Black Sage Scrub) S4G4	0.21
Eriogonum fasciculatum Shrubland Alliance (California Buckwheat Scrub) S5G5	0.07
Chaparral Alliances	
Ceanothus megacarpus Shrubland Alliance (Big-pod Ceanothus Chaparral) S4G4	0.07
Heteromeles arbutifolia Shrubland Alliance (Toyon Chaparral) S4G5	1.08
Malosma laurina Shrubland Alliance (Laurel Sumac Scrub) S4G4	2.63
Disturbed *Malosma laurina* Shrubland Alliance (Laurel Sumac Scrub) S4G4	0.16
Rhus integrifolia Shrubland Alliance (Lemonade Berry Scrub) S3G3	3.16
Disturbed *Rhus integrifolia* Shrubland Alliance (Lemonade Berry Scrub) S3G3	0.31
Woodland Alliances	
Quercus agrifolia trees (Coast Live Oak Trees)	0.03
Salix gooddingii – Salix laevigata Woodland (Goodding's Willow – Red Willow Riparian Woodland) S3G4	0.24
Platanus racemosa (Western sycamore trees)	0.01
Ornamental/Landscaped	
Ornamental/Landscaped	5.72
Disturbed	
Disturbed/Developed	1.69
Total Vegetation/Land Use Acreage:	**17.05**

Semi-Natural Non-Native Herbaceous Stands: Within the site, this alliance does not correspond with MCV membership rules. This alliance accounts for approximately 1.67 acres and is dominated by ripgut brome (*Bromus diandrus*), wild oats (*Avena fatua*), summer mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), black mustard (*Brassica nigra*), red-stemmed filaree (*Erodium cicutarium*), cheese weed (*Malva parviflora*), horehound (*Marrubium vulgare*), and white sweet clover (*Melilotus albus*).

Artemisia californica – Salvia mellifera **Shrubland Alliance (California sagebrush scrub – black sage scrub))**: This vegetation type most closely matches this alliance in the MCV. This vegetation alliance accounts for 0.21 acre in and supports a mix of black sage (*Salvia mellifera*) with a mix of other shrubs including deerweed (*Acmispon glaber*), coast goldenbush (*Isocoma menziesii*), California buckwheat (*Eriogonum fasciculatum*) and California encelia (*Encelia californica*).

Eriogonum fasciculatum **Shrubland Alliance (California buckwheat scrub)**: This vegetation alliance accounts for 0.07 acre within the site and is dominated by California buckwheat and also supports including deerweed, coast goldenbush, black mustard, fountain grass (*Pennisetum setaceum*), and ripgut brome.

Ceanothus megacarpus **Shrubland Alliance (Southern Maritime chaparral)**: The Project Site includes 0.07 acre of chaparral is dominated by big-pond ceanothus which often supports the federally listed big-leaved crownbeard. Other species include bushrue (*Cneoridium dumosum*), little-leaved redberry (*Rhamnus crocea*), and black sage (*Salvia mellifera*).

Heteromeles arbutifolia **Shrubland Alliance (Toyon Chaparral):** The Project Site includes 1.08 acre of chaparral dominated by toyon (*Heteromeles arbutifolia*) and includes a variety of other shrubs including, big-pod ceanothus, sticky-leaved monkey flower (*Diplacus aurantiacus*), California buckwheat, little-leaved redberry, and Salvia mellifera.

Malosma laurina **Shrubland Alliance (Laurel Sumac Scrub):** The Project Site includes 2.79 acres of chaparral dominated by laurel sumac (*Malosma laurina*) and includes a variety of other shrubs including, big-pod ceanothus, sticky-leaved monkey flower, lemonadeberry (*Rhus integrifolia*), California buckwheat, little-leaved redberry, and *Salvia mellifera*.

Rhus integrifolia **Shrubland Alliance (Lemonade Berry Scrub)** The Project Site includes 3.47 acres of chaparral dominated by laurel sumac (*Malosma laurina*) and includes a variety of other shrubs including, big-pod ceanothus, sticky-leaved monkey flower, lemonadeberry (*Rhus integrifolia*), California buckwheat, little-leaved redberry, and Salvia mellifera.

Quercus agrifolia **trees (Coast Live Oak Trees):** Consists of individual or very small groups of coast live oak covering 0.03 acre. The number and density of trees present where mapped does not constitute oak woodland or oak forest status.

Salix gooddingii – Salix laevigata **Woodland (Goodding's Willow – Red Willow Riparian Woodland)** The Project Site includes a few small patches of willow covering 0.24 acre.

***Platanus racemosa* – (Western Sycamore Tree)** A western sycamore tree accounts for 0.01 acre.

Ornamental/Landscaping: Ornamental/Landscape vegetation accounts for approximately 5.72 acres within Project Site 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.

5.2 Wildlife

A total of 37 species, including reptiles, birds, and mammals were recorded (or expected) for the Site. Two species of reptiles were observed including the western fence lizard (*Sceloporus occidentalis*) and the side blotched lizard (*Uta stansburiana*). Five mammal species were observed and/or expected including mule deer (*Odocoileus hemionus*), coyote (*Canius latrans*), brush rabbit (*Sylvilagus bachmani*), dusky woodrat (*Neotoma fuscipes*), and ground squirrel (*Otospermophilus beecheyi*).

The following birds were observed during the 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*), lesser goldfinch (*Carduelis psaltria*), song sparrow (*Melospiza melodia*), white-crowned sparrow (*Zonotrichia leucophrys*), yellow-rumped warbler (*Setophaga coronata*), common yellowthroat (*Geothlypis trichas*), hooded oriole (*Icterus cucullatus*), Lazuli bunting (*Passerina amoena*), mourning dove (*Zenaida macroura*), greater roadrunner (*Geococcyx californianus*), Bewick's wren (*Thryomanes bewickii*), blue-gray gnatcatcher (*Polioptila caerulea*), black phoebe (*Sayornis nigricans*), wrentit (*Chamaea fasciata*), Cassin's kingbird (*Tyrannus vociferans*), western kingbird (*Tyrranis verticalis*), ash-throated flycatcher (*Myiarchus cinerascens*), northern rough-winged swallow (*Stelgidopteryx serripennis*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*), American robin (*Turdus migratorius*), bushtit (*Psaltriparus minimus*), red-tailed hawk (*Buteo jamaicensis*), California scrub jay (*Aphelocoma californica*), American crow (*Corvus brachyrhynchos*), and European starling (*Sturnus vulgaris*).

6.0 SPECIAL-STATUS SPECIES AND HABITATS

Species were considered based on a number of factors, including: (1) species identified by the 2021 CNDDB as occurring (either currently of historically) on or in the vicinity of the subject areas, (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, special-status habitats (includes habitats/vegetation alliances with a State Rarity Ranking of S1, S2 or S3); and areas mapped as High or Very High Value Habitat by the City of Laguna Beach or areas that meet the City's criteria for High and/or Very High Value Habitat.

6.1 Special-Status Plants

Table 2 below provides as list of special-status plants considered for the fuel modification zones.

State or Federally Listed Plant Species. State- and/or federally listed plant species or species proposed for listing that are addressed in this 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 Laguna Beach dudleya; however big-leaved crownbeard occurs within both FMZ 20 and FMZ 21 and is depicted on Exhibit 4a – 4e.

Other Special-Status Plant Species. Other special-status plants that have the potential to occur on site include Coulter's matilija poppy (*Romneya coulteri*), Catalina mariposa lily (*Calochortus catalinae*), intermediate mariposa-lily (*Calochortus weedii* var. *intermedius*), Palmer's grapplinghook (*Harpagonella palmeri*), western dichondra (*Dichondra occidentalis*), cliff spurge (*Euphorbia misera*). None of these were detected during focused surveys in 2021. Specifically, the Coulter's matilija poppy, cliff spurge, and Fish's milkwort are large shrubs that are easily identifiable and were not detected. The Catalina lily, intermediate lily, many-stemmed dudleya, and Palmer's grapplinghook were not detected; however, given the low rainfall, flowering individuals of these species may not have emerged in the 2021 season and their presence cannot be ruled out.

Special-Status Plants Detected. One special-status plant was detected within and immediately adjacent to Project Site: the federally listed threatened big leaved crownbeard occurs within the boundaries of the proposed fuel modification zones. Table 2 below is a list of all species considered and subject to survey efforts based on the habitat assessment.

Table 2. 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.	Occurs within Project Site.
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.
Laguna Beach dudleya *Dudleya stolonifera*	Federal: FT State: ST CRPR: 1B.1	Rock faces within chaparral, cismontane woodland, coastal sage scrub, valley and	Does not occur on site due to lack of suitable habitat.

Species	Status	Habitat	Occurrence On-Site
		foothill grassland. Occurring on rocky outcrops.	
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.	Does not occur on site due to lack of suitable habitat.
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, not detected during focused surveys.
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.
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.

Species	Status	Habitat	Occurrence On-Site
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 *Romneya coulteri*	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	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
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.
Fish's Milkwort *Polygala cornuta* var. *fishae*	Federal: None State: None CNPS: Rank 4.2	Mesic chaparral and coastal sage scrub, dry drainage courses	Suitable habitat occurs in portions of Study Area, not detected during focused surveys.
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.	Historic occurrence known from vicinity and potential to occur. Not detected during recent surveys but could occur based on low rainfall in 2021.
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.

Species	Status	Habitat	Occurrence On-Site
Lewis' evening-primrose *Camissoniopsis lewisii*	Federal: None State: None CNPS: Rank 3	Sandy or clay soils in coastal bluff scrub, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland.	Does not occur on site due to lack of suitable habitat.
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.	Potential to occur. Not detected during recent surveys but could occur based on low rainfall in 2021.
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.	Does not occur on site due to lack of suitable habitat.
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.	Does not occur on site due to lack of suitable habitat.
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.

Species	Status	Habitat	Occurrence On-Site
Robinson's pepper grass *Lepidium virginicum* var. *robinsonii*	Federal: None State: None CNPS: Rank 4.3	Chaparral, coastal sage scrub	Does not occur on site due to lack of suitable habitat.
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. Study Area not within known range in Orange County, not detected during focused surveys.

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)

6.2 Special-Status Habitats

A review of the June 2020 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. None of these occur within FMZ 20 or FMZ 21.

One special-status vegetation alliance lemonade berry (S3) covering 3.47 acres within the 17.05-acre FMZ. One other special-status alliance, big-pod ceanothus (S4) covering 0.07 acre and considered very high value habitat in many settings within Laguna Beach. Finally, there are a few small patches or individuals of black willow/red willow forest covering 0.24 acre within FMZ 20.

6.3 Special-Status Animals

State- or Federally Listed Animal Species. Table 3 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 Biological Technical 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 was determined have the potential to occur in the limited areas of coastal sage scrub adjacent to the central portion of FMZ 21. Nevertheless, this species was not detected during protocol surveys and is considered absent. The least Bell's vireo, Pacific pocket mouse, and tidewater goby do not occur within the Study Area due to lack of suitable habitat.

Other Special-Status Animal Species. No special-status wildlife species were found within the Project Site during the surveys. Several species, as noted in Table 3, have varying degrees of potential to be present and include American badger (*Taxidea taxus*), California glossy snake (*Arizona elegans occidentalis*), coast horned lizard (*Phrynosoma blainvillii*), coast patch-nosed snake (*Salvadora hexalepis virgultea*), coastal cactus wren (*Campylorhychus brunneicapillus sandiegensis*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), Cooper's hawk (*Accipiter cooperii*), grasshopper sparrow (*Ammodramus savannarum*), orange-throated whiptail (*Aspidoscelis hyperythrus*), San Diego desert woodrat (*Neotoma lepida intermedia*), and Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*).

Special-Status Wildlife Species Detected. Other species for which there is suitable habitat and have potential to occur are noted in Table 3 below and are addressed in the impacts Section 7.0.

Table 3. 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 occur within FMZs 20 & 21. Not observed during protocol 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.	Does not occur due to lack of suitable riparian habitat.
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.
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.

SPECIES	STATUS	HABITAT REQUIREMENTS	OCCURRENCE ON-SITE
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.	Limited 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. Not detected during surveys.
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.
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.

SPECIES	STATUS	HABITAT REQUIREMENTS	OCCURRENCE ON-SITE
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. Not detected during surveys.
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.	Limited suitable habitat. Not detected 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. Not detected during surveys.
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.	Does not occur due to lack of 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.
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.	Does not occur due to lack of suitable habitat.
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.	Does not occur due to lack of suitable habitat.

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.	Does not occur due to lack of suitable habitat.
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

6.4 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 open space area to the east; however, due to the insularity of the site, it does not function as a wildlife corridor.

6.5 Jurisdictional Waters

There are no USGS blue-line drainages within the Study area that would be subject to the jurisdiction of the Corps, RWQCB, CDFW, and/or CCC. As noted, there are Significant Drainage Courses as mapped on the City's GIS and are depicted on Exhibits 4a – 4e. FMZ 20 contains six City-mapped significant drainage courses and FMZ 21 contains five mapped drainages.

6.6 High and Very High Value Habitat

As depicted in Exhibits 4a – 4e, there are limited areas of Very High Value Habitat within FMZ 20 and limited areas of Very High Value Habitat within FMZ 21 as mapped by the City of Laguna Beach. High Value Habitat accounts for 0.42 acre in FMZ 20 and Very High Value Habitat accounts for 0.16 acre. There is no High Value Habitat in FMZ 20 and Very High Value Habitat accounts for 0.30 acre.

7.0 PROJECT-RELATED IMPACTS

The impact analysis considers and incorporates the City of Laguna Beach *Treatment Protocols for Fuel Modification Zones Subject to Coastal Development Permitting*, dated May 27, 2020, as part of the proposed project.

7.1 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 criteria discussed in Section 7.2 would result from implementation of the proposed activities.

7.2 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?

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

(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

One special-status plant, big-leaved crownbeard was identified within the FMZ 20 [Exhibit 4a and 4b], and big-leaved crownbeard has also been identified in FMZ 21 [Exhibit 4c & 4e]. As provided in the Treatment Protocol, all areas with big-leaved crownbeard and will be avoided with a buffer and there would be no significant impacts.

As noted in Section 6.1, Catalina Mariposa lily, intermediate Mariposa lily, many-stemmed dudleya, and Palmer's grapplinghook were not identified during focused surveys in 2021; however, due to the lower-than-average rainfall in 2021, it is possible that these species occur

within FMZs 20 and/or 21 and did not emerge. As such, pre-clearing surveys would be performed during the appropriate blooming period if work occurs outside the winter dormancy for these plants to ensure that if these species are present, they would be identified and would be flagged for avoidance during brush thinning. With implementation of these measures, there would be no significant impacts to special-status plants.

Special-Status Wildlife

Reptiles. Special-status reptiles with potential to occur within portions of the Study Area include California glossy snake, coast horned lizard, coast patch-nosed snake, coastal whiptail, and orange-throated whiptail. The proposed fuel modification would not remove potential habitat, but would result in vegetation thinning and removal of dead plant material. Vegetation-thinning and associated openings created in habitat areas could benefit certain species, such as the California glossy snake. The proposed fuel modification would not result in significant impacts to special-status reptiles.

Birds. Limited areas of suitable habitat for the coastal California gnatcatcher consisting of coastal sage scrub dominated by California sagebrush and/or California buckwheat occur within the Study Area and areas immediately adjacent to the FMZ 21; however, the coastal California gnatcatcher was not detected during focused protocol surveys. California sagebrush will not be subject to thinning or other fuel modification activities and the project will not directly impact potential habitat for the coastal California gnatcatcher. The coastal sage scrub and chaparral alliances also provide potentially suitable habitat for the Southern California rufous-crowned sparrow. This species was not detected during biological surveys or monitoring. This species prefers areas of open scrub habitat and the thinning associated with the fuel modification would be a marginal benefit. Thus, this species would not be impacted by the project.

The project includes measures to conduct fuel modification activities outside the avian breeding season, and requires nesting surveys where circumstances require vegetation thinning during the breeding season. With implementation of these measures, there would be no significant impacts to special-status avifauna.

Mammals. One small mammal has potential to 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. With this measure, there would be no significant impacts to small mammals. No special-status bat species exhibit potential for occurring in the Study Area. 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?

Riparian Habitat. There is limited riparian habitat associated with a City of Laguna Beach Significant Stream Course near the west end of FMZ 20, consisting of 0.24 acre of *Salix gooddingii – Salix laevigata Woodland* (Goodding's Willow – Red Willow Riparian Woodland) S3G4. In

accordance with the Treatment Protocols, a 25-foot buffer is required on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGS map or City Website) that cross the treatment area. Within the buffer, only non-native vegetation identified during pre-project surveys would be removed, unless site specific conditions require additional removal for fire breaks. In addition, any willow canopy that falls outside of the 25-foot buffer will also be avoided. There is no riparian habitat within FMZ 21. There would be no impacts to riparian habitat including special-status riparian habitat.

Lemonade Berry Scrub (S3G3). The project would result in direct impacts to 3.47 acres of *Rhus integrifolia Shrubland Alliance* (Lemonade Berry Scrub) (which includes 0.31 acre of "disturbed lemonade berry scrub"). The fuel modification program is designed to limit potential impacts through selective thinning that would ensure that native vegetation cover is never reduced by more than one-half. Impacts to areas of chaparral habitat, including lemonade berry scrub, would not remove more than 50-percent of the vegetation. In accordance with the Treatment Protocols, vegetation thinning would remove all non-native species first, followed by native species in hierarchical order, as presented in Section 2.1.

While lemonade berry is the last element in the removal hierarchy, it may require removal specifically in areas where the lemonade berry exhibits more than 50-percent cover. Impacts to this vegetation alliance would be considered significant, but with implementation of treatment protocols, the impacts would be reduced to less-than-significant.

Big-pod Ceanothus Chaparral (S4G4). FMZ 20 and FMZ 21 each contain a very small patches of *Ceanothus megacarpus Shrubland Alliance* (Big-pod Ceanothus Chaparral) dominated by big-pod ceanothus, which is the defining species along with the big-leaved crownbeard. Impacts to both big-leaved crownbeard and the big-pod ceanothus will be fully avoided during hand removals.

High Value/Very High Value Habitat. The project will also impact 0.42 acre of High Value Habitat within FMZ 20, and 0.16 acre of Very High Value Habitat in FMZ 20. The project will impact 0.30 acre of Very High Value Habitat in FMZ 21. Where big-pod ceanothus and big-leaved crownbeard occur within these areas, it would be fully avoided. With avoidance of special-status plants and implementation of the Treatment Protocols, impacts to High and Very High Value Habitat would be reduced to less-than-significant. Overall, removal of non-native vegetation would benefit these habitats, and thinning of native vegetation would benefit habitats and species by reducing wildfire risk.

(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?

There are no wetlands as defined by the state or under Section 404 of the Clean Water Act, and there would be no impacts due to implementation of the fuel modification program.

The Study Area contains portions of 11 segments of Significant Stream Courses as depicted on Exhibits 4a – 4d. As noted in Section 2.3, a 25-foot buffer on each side of each Significant Stream Course will be established where only non-native vegetation identified during pre-project surveys

would be removed, unless site specific considerations require additional vegetation removal for fire breaks. 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.[5]

(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?

Wildlife Movement. Movement on the site is limited to low-lying canyon bottoms and is not likely to occur in areas where fuel modification activities are proposed. The site in not located within a wildlife movement corridor. While vegetation would be thinned, overall vegetation cover would be maintained for wildlife using the site. There would be no significant impacts to wildlife movement.

Nesting Birds and Migratory Bird Treaty Act Considerations. The Study Area currently supports mostly non-native groundcover and a mix of native and non-native shrubs that have the potential to support nesting birds. Potential impacts to nesting birds would be mitigated to less than significant with implementation of pre-project nesting bird surveys, as needed, and general avoidance of the nesting season, per Treatment Protocols. 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 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 high and very 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. 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 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 which would be a significant impact. The impact to High and Very High Value Habitats would be less than significant because habitat would not be entirely removed from the Project Site, is abundant in the open space surrounding the Project Site, and the total acreage of potential impacts to these habitats would be limited. Habitat would be benefitted by the removal of non-native invasive plant species.

[5] The Significant Drainage Courses in FMZs 20 and 21 have not been confirmed in the field and will be addressed during establishment of the required 25-foot buffer.

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), 11 segments of Significant Stream Courses cross or partially intersect the Project Site. With establishment of the 25-foot buffers from both edges of each significant drainage and limited vegetation removal per the City's Treatment Protocols, impacts to the City's significant drainage courses would be less than significant.

Lastly, for areas with coast live oak or western sycamore trees, trees would not be removed. Rather, as set forth in the City's Treatment Protocols, 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. With implementation of Treatment Protocols, impacts to the large trees would be less than significant.

With implementation of Treatment Protocols as part of the proposed project, the project would not conflict with local policies and ordinances.

(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 Project Site is entirely within the Orange County Central Coastal Natural Community Conservation Plan (NCCP)/ Habitat Conservation Plan (HCP) area. The City of Laguna Beach is not a signatory to the Orange County Central Coastal NCCP/HCP. The project does not conflict with the NCCP/HCP as the project proposes to benefit habitat by removing invasive species using hand tools and to reduce wildfire risk by reducing the total cover by up to fifty percent. It does not propose to completely remove native habitat.

All potential impacts to sensitive habitats and species are mitigated through the Treatment Protocols and mitigation measures. The proposed project would not conflict with adopted HCPs, NCCPs, or other approved local, regional, or State habitat conservation plan.

8.0 RECOMMENDED MEASURES

8.1 Treatment Protocol Measures

The following measures from the Treatment Protocols, implemented as part of the proposed project, would avoid and minimize impacts to biological resources.

Special-Status Plants. 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. For Big-Leaved Crownbeard (*Verbesina dissita*), the

potential shading/nurse plant benefit of non-native shrubs would be considered before removing nonnative shrubs with such a determination to be made by the biological monitor.

High and Very High Value Habitat. To minimize impacts to native vegetation designated as High or Very High Value Habitat, including lemonade berry scrub, 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 may be removed in accordance with the following hierarchy until cover is reduced to fifty-percent:

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)[6]
6. Monkeyflower (Mimulus aurantiacus)
7. Laurel Sumac (Malosma laurina)
8. Toyon (Heteromeles arbutifolia)
9. Lemonade Berry *(Rhus integrifolia)*

Riparian Habitat. A 25-foot buffer shall be avoided on either side of any "blue-line" ephemeral drainages or stream courses (as listed by USGS map or City Website) that cross the treatment area.

Nesting Birds. To avoid impacts to nesting and migratory birds protected under Sections 3503 and 3503.5 of the California Fish and Game Code, including coastal California gnatcatcher (which was not detected during protocol surveys), it is recommended that any removal or clearing of vegetation be conducted outside of the breeding season, (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.

8.2 Mitigation Measures

The following additional mitigation measures are recommended to further minimize impacts to biological resources.

Special-status plants. Pre-clearing surveys will be performed during the appropriate blooming period to ensure that special-status plant species present would be identified and flagged for avoidance during brush thinning. The pre-clearing surveys, as set forth in the following paragraph,

[6] 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.

would also include surveys for Catalina Mariposa lily, many-stemmed dudleya, intermediate Mariposa lily, and Palmer's grapplinghook. Surveys would be conducted due to the potential lack of emergence during the 2021 rainfall season, which was below normal. Impacts to big-leaved crownbeard and big-pod ceanothus will be fully avoided using a flagged buffer as would impacts to any other special-status plants detected during pre-clearing surveys.

To the extent practicable, 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. 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 special-status plants would be subject to pre-clearing focused surveys, occupied areas identified and flagged in the field by a biologist prior to the commencement of fuel modification activities.

Riparian Habitat. Any willow canopy that falls outside of the 25-foot buffer around "blue-line" drainages will be avoided. The avoidance would be accomplished through flagging the limits of the canopy of the willow trees by the Biological Monitor.

Mammals. San Diego desert woodrat nest would be avoided and buffered by 15 feet and would be marked by flagging by the Biological Monitor.

9.0 REFERENCES

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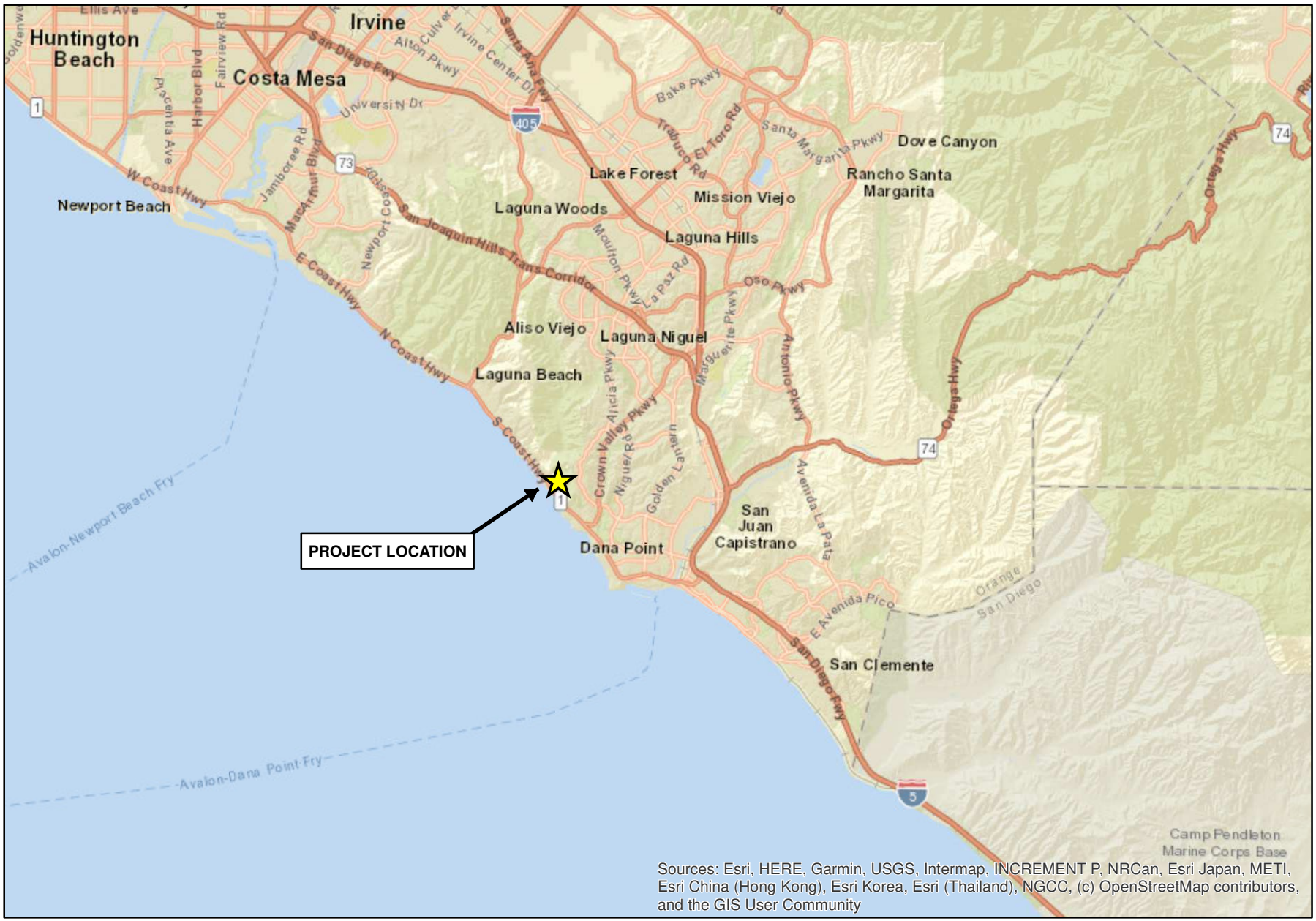
EXHIBITS

Source: ESRI World Street Map



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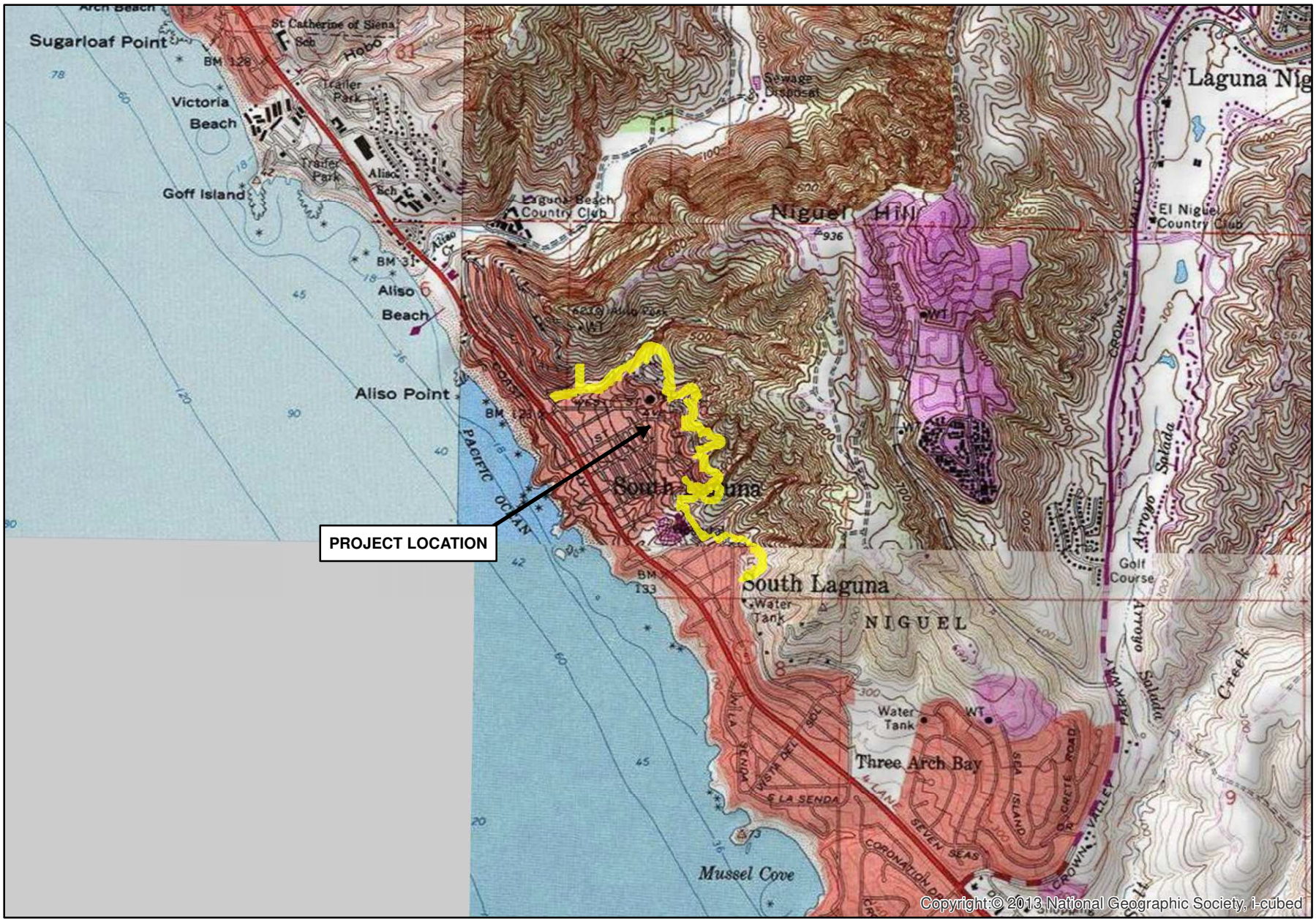
0 2 4 8 Miles

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS San Juan Capistrano and Dana Point, CA quadrangles

N

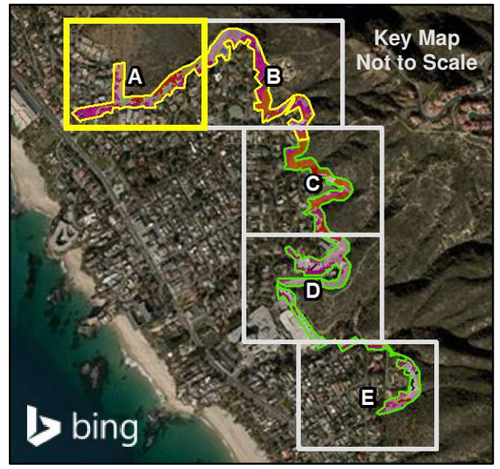
0 1,000 2,000 4,000 Feet

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2



Map Sheet
FMZ 20
FMZ 21

- Bigpod Ceanothus Chaparral
- California Buckwheat Scrub
- California Sagebrush - Black Sage Scrub
- Coast Live Oak Trees
- Goodding's Willow – Red Willow Riparian Woodland
- Laurel Sumac Scrub
- Disturbed Laurel Sumac Scrub
- Lemonade Berry Scrub
- Disturbed Lemonade Berry Scrub
- Non-native/Herbaceous
- Ornamental/Landscaped
- Toyon Chaparral
- Western Sycamore
- Disturbed

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3A

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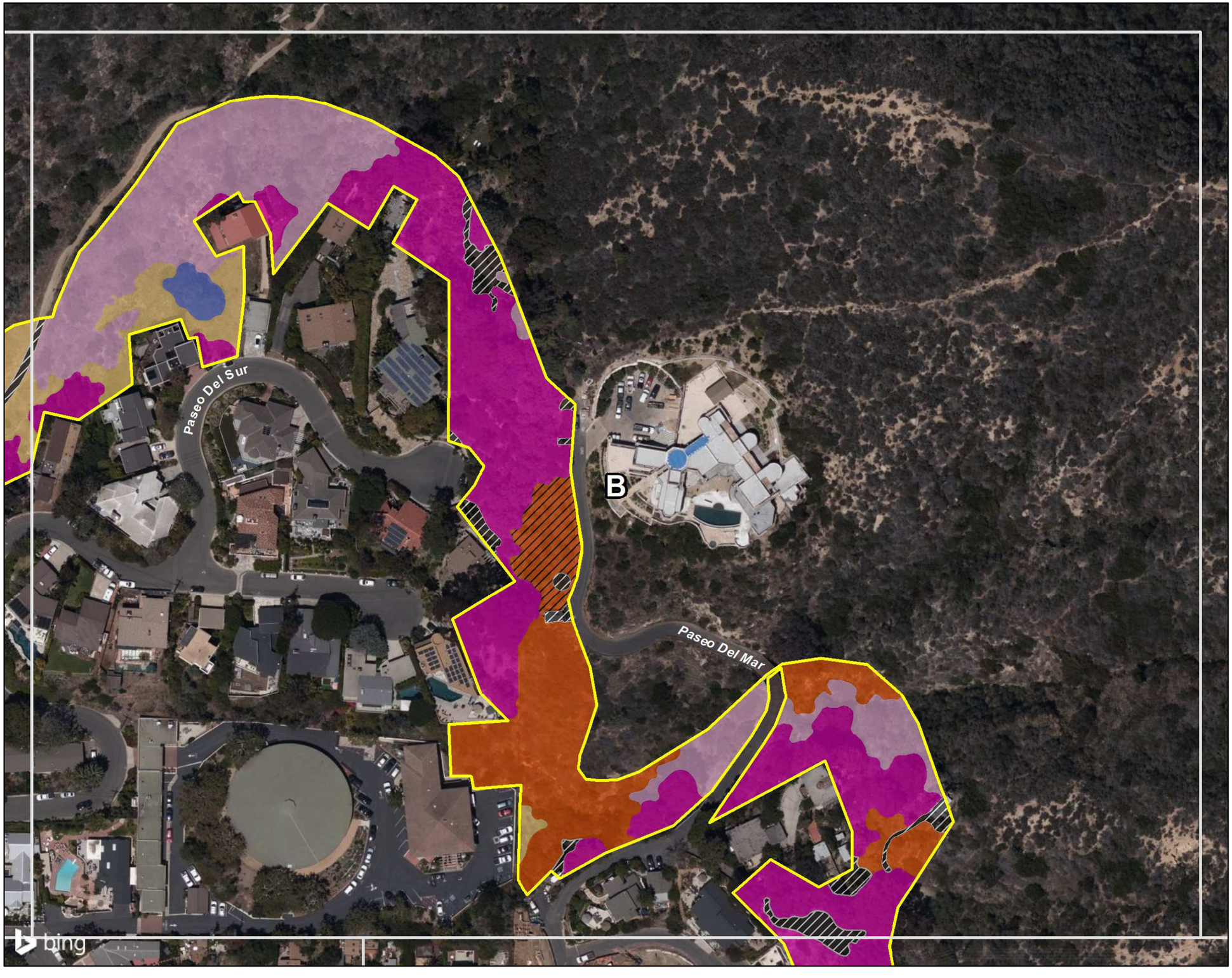

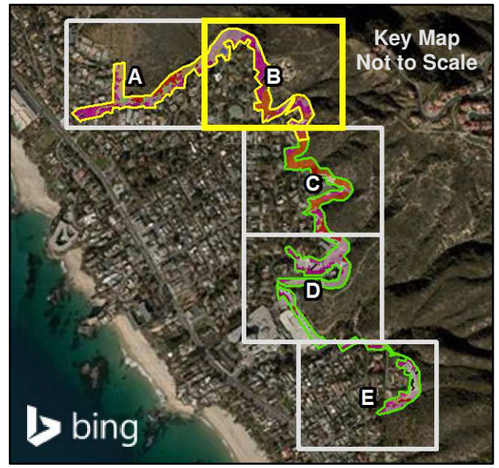

- Map Sheet
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- FMZ 21
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- California Sagebrush - Black Sage Scrub
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- Western Sycamore
- Disturbed

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

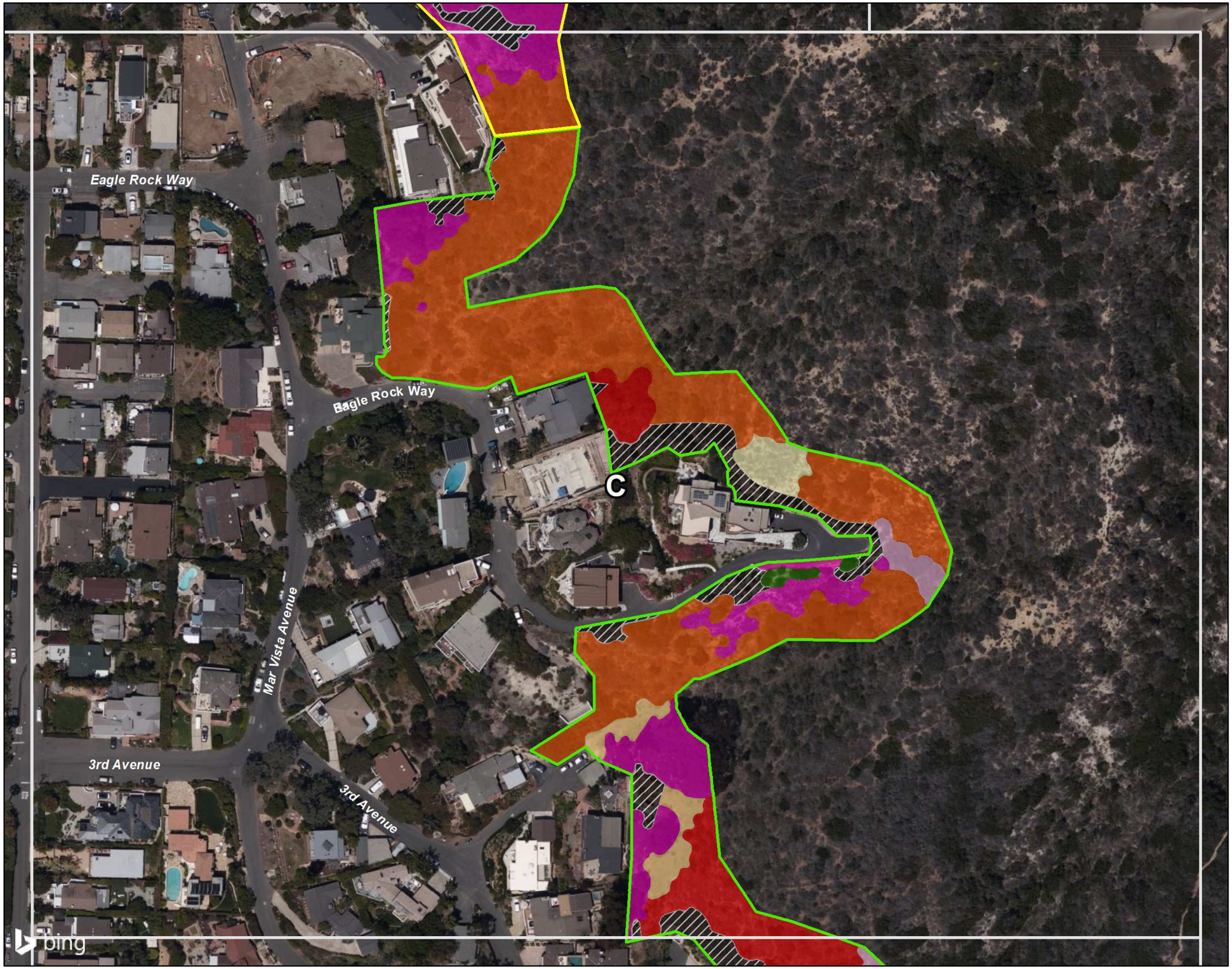
CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

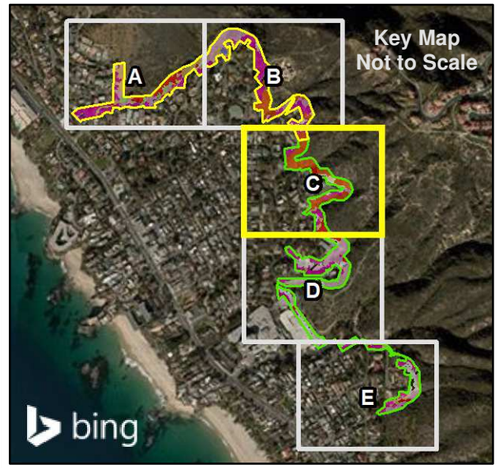
Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3B

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\VegetationGIS\185-60_Vegetation.mxd





Map Sheet
FMZ 20
FMZ 21

- Bigpod Ceanothus Chaparral
- California Buckwheat Scrub
- California Sagebrush - Black Sage Scrub
- Coast Live Oak Trees
- Goodding's Willow – Red Willow Riparian Woodland
- Laurel Sumac Scrub
- Disturbed Laurel Sumac Scrub
- Lemonade Berry Scrub
- Disturbed Lemonade Berry Scrub
- Non-native/Herbaceous
- Ornamental/Landscaped
- Toyon Chaparral
- Western Sycamore
- Disturbed

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3C

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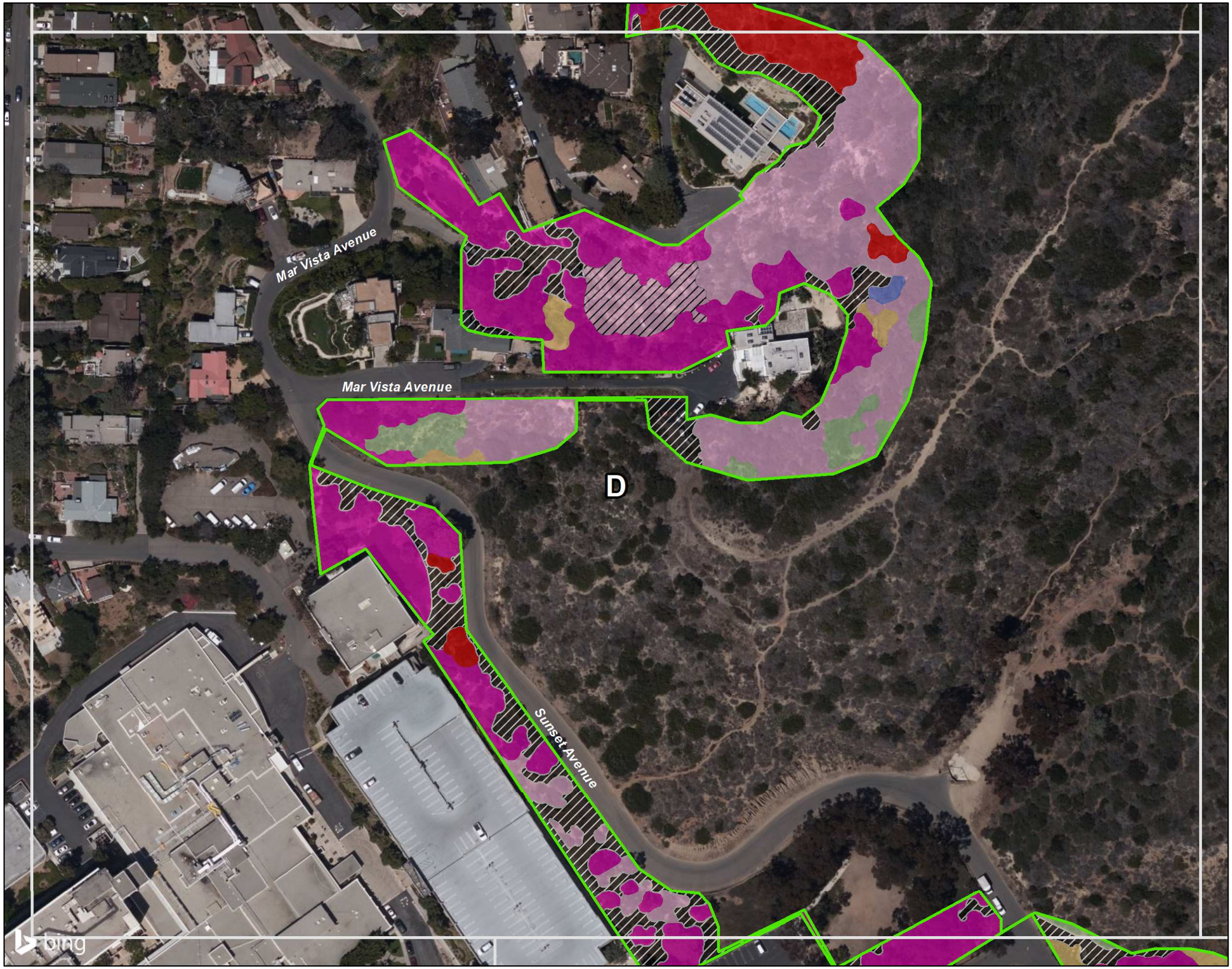

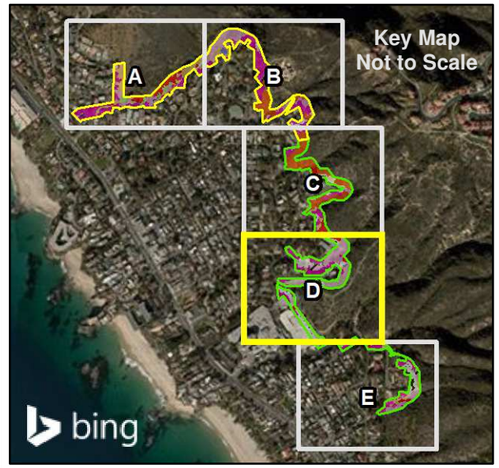

- Map Sheet
- FMZ 20
- FMZ 21
- Bigpod Ceanothus Chaparral
- California Buckwheat Scrub
- California Sagebrush - Black Sage Scrub
- Coast Live Oak Trees
- Goodding's Willow – Red Willow Riparian Woodland
- Laurel Sumac Scrub
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- Non-native/Herbaceous
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- Toyon Chaparral
- Western Sycamore
- Disturbed

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3D

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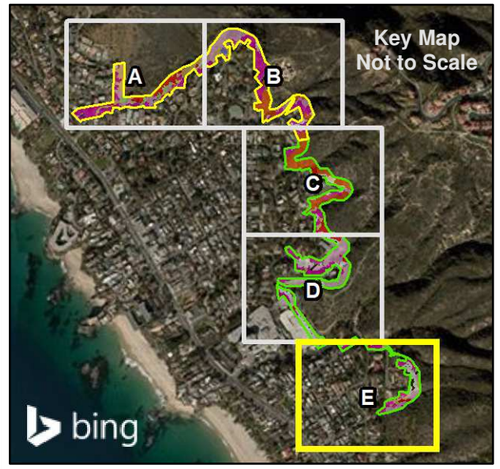

- Map Sheet
- FMZ 20
- FMZ 21
- Bigpod Ceanothus Chaparral
- California Buckwheat Scrub
- California Sagebrush - Black Sage Scrub
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0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
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Map Prepared by: B. Gale, GLA
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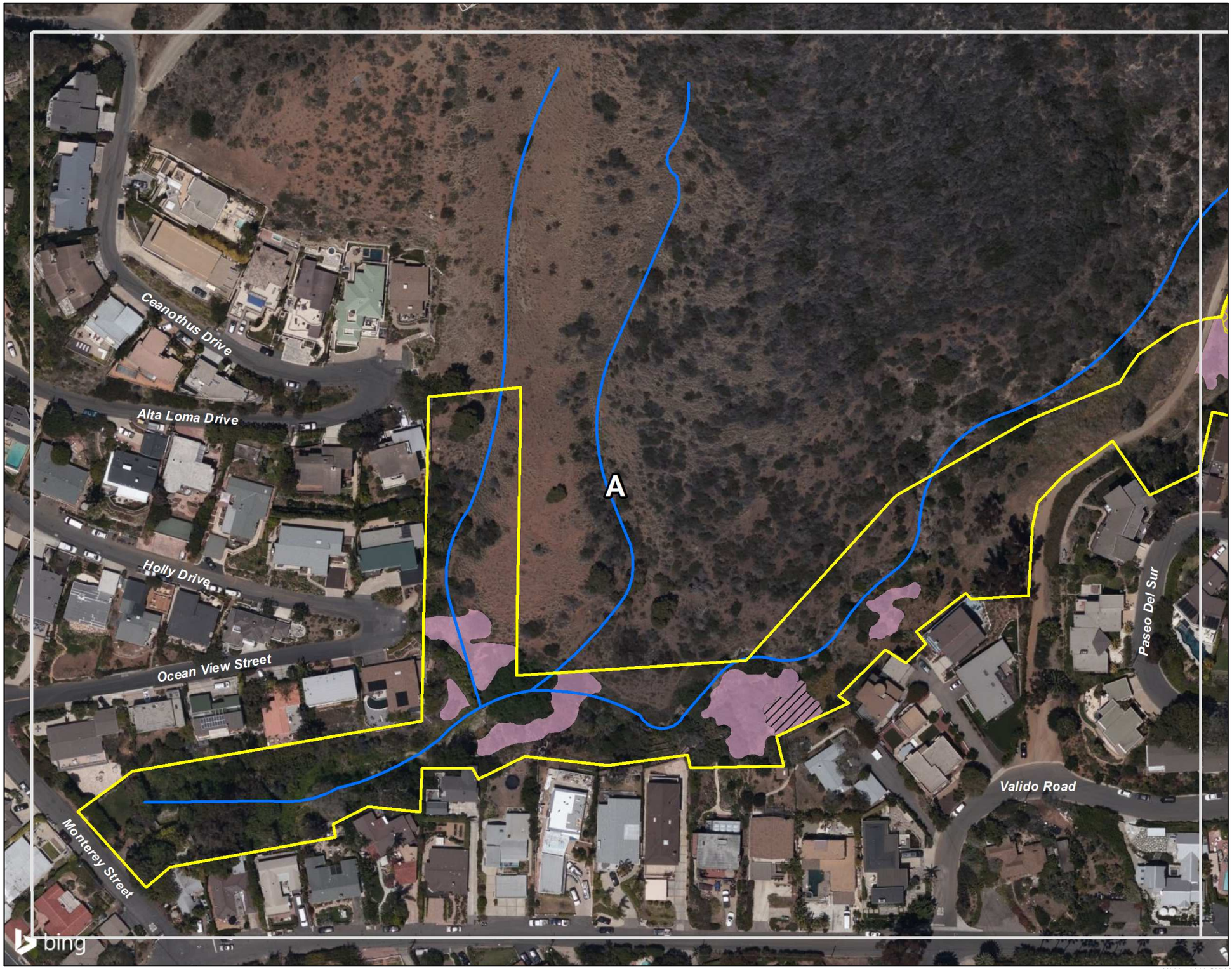
CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

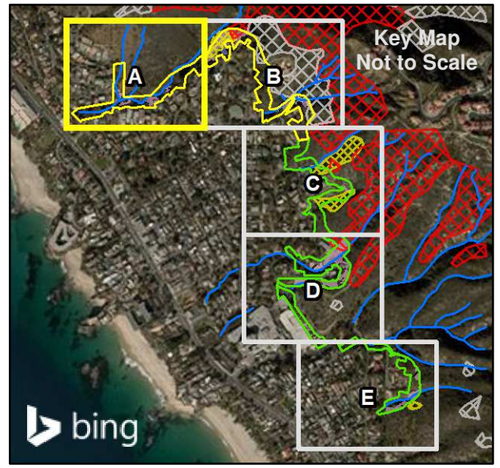
Vegetation Map

GLENN LUKOS ASSOCIATES

Exhibit 3E

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\VegetationGIS\185-60_Vegetation.mxd





Map Sheet

FMZ 20 FMZ 21

Significant Drainage Course Centerline

High Value Habitat

Very High Value Habitat

Big-Leaved Crownbeard

Bigpod Ceanothus Chaparral

Lemonade Berry Scrub

Disturbed Lemonade Berry Scrub

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

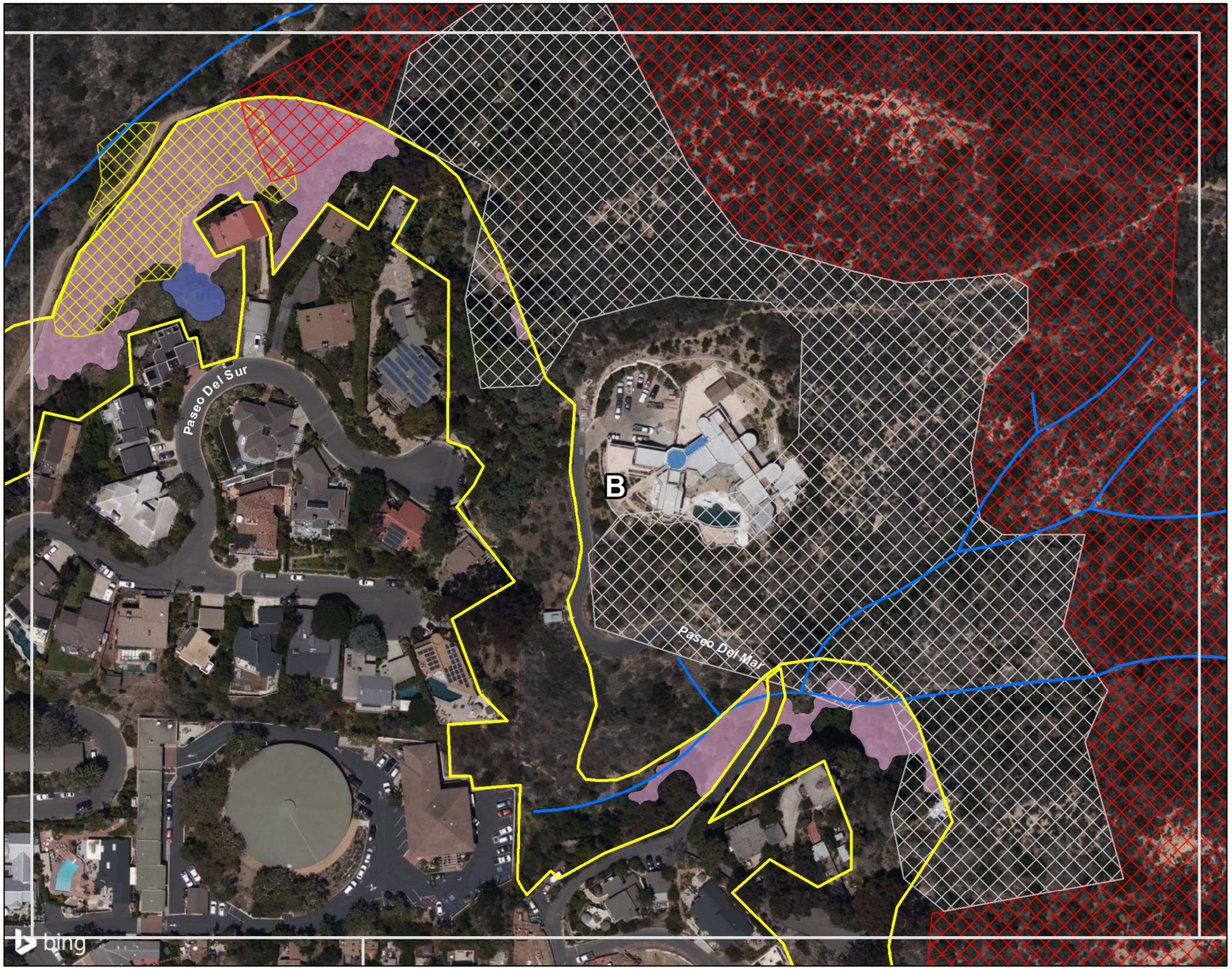
CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

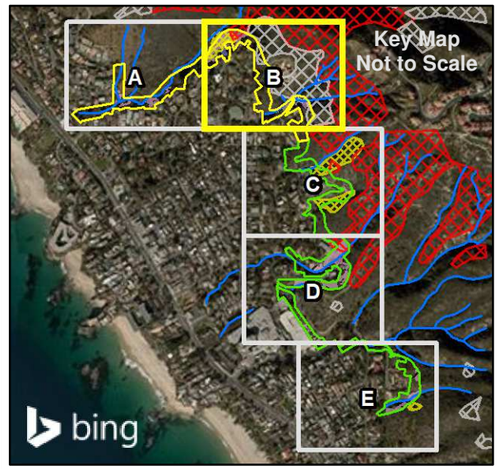
Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 4A

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\HabitatGIS\185-60_SpecialStatusBiologicalResources.mxd





- Map Sheet
- FMZ 20
- FMZ 21
- Significant Drainage Course Centerline
- High Value Habitat
- Very High Value Habitat
- Big-Leaved Crownbeard
- Bigpod Ceanothus Chaparral
- Lemonade Berry Scrub
- Disturbed Lemonade Berry Scrub

0 50 100 200
Feet

1 inch = 100 feet

N

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

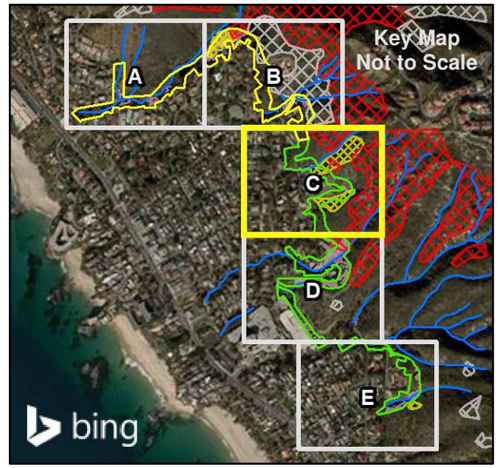
CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 4B

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\HabitatGIS\185-60_SpecialStatusBiologicalResources.mxd



Map Sheet

FMZ 20 FMZ 21

Significant Drainage Course Centerline

High Value Habitat

Very High Value Habitat

Big-Leaved Crownbeard

Bigpod Ceanothus Chaparral

Lemonade Berry Scrub

Disturbed Lemonade Berry Scrub

0 50 100 200

Feet

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Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: June 8, 2021

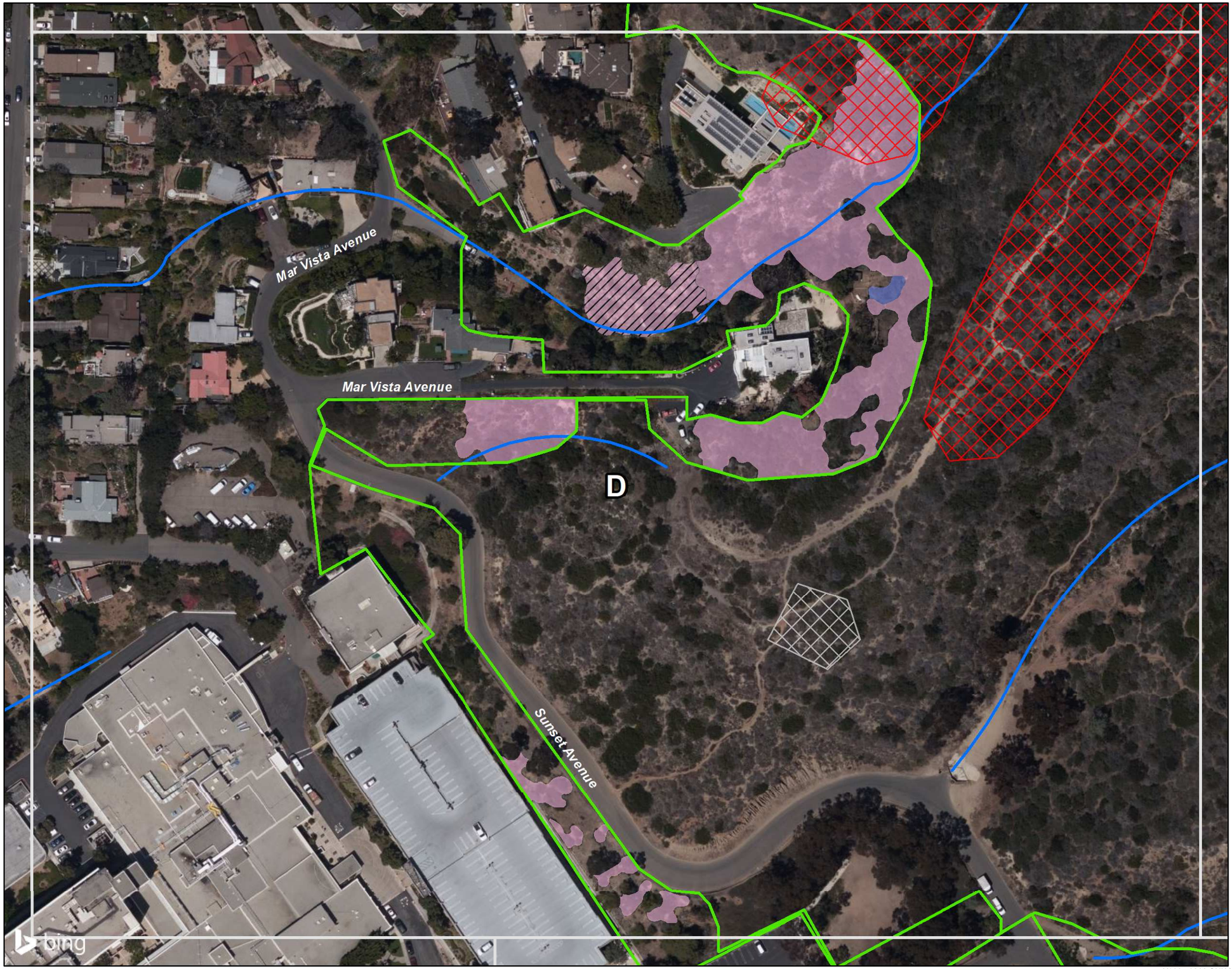
CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

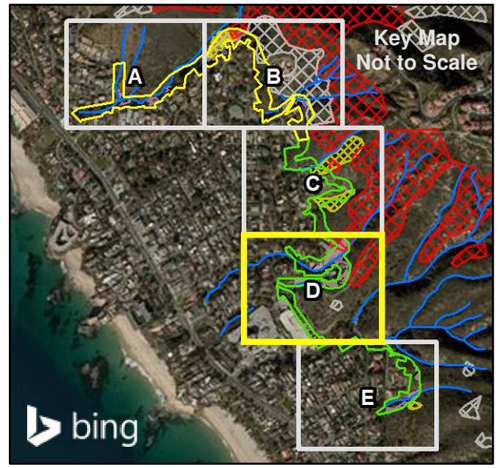
Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 4C

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\HabitatGIS\185-60_SpecialStatusBiologicalResources.mxd





Map Sheet

FMZ 20 FMZ 21

Significant Drainage Course Centerline

High Value Habitat

Very High Value Habitat

Big-Leaved Crownbeard

Bigpod Ceanothus Chaparral

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CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 4D

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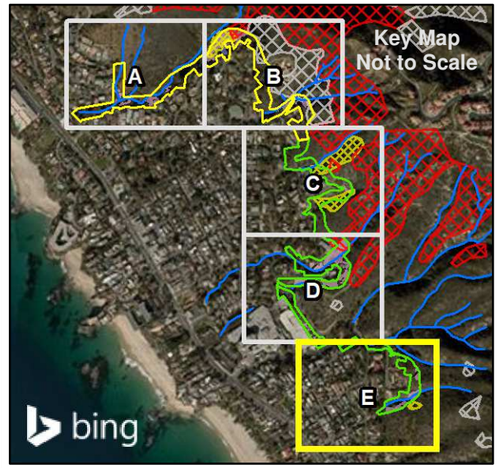

Map Sheet

FMZ 20 FMZ 21

Significant Drainage Course Centerline

High Value Habitat

Very High Value Habitat

Big-Leaved Crownbeard

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CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Special Status Biological Resources Map

GLENN LUKOS ASSOCIATES

Exhibit 4E

X:\00 - 0362 ONLY\0185-60SUNS\185-60_GIS\HabitatGIS\185-60_SpecialStatusBiologicalResources.mxd

APPENDICES

FLORAL COMPENDIUM

The floral compendium lists all species identified during floristic level/focused plant surveys conducted for the Project site. Taxonomy typically follows the Angiosperm Phylogeny Group (APG), which in some cases differs from The Jepson Manual (1993). Common plant names are taken from Hickman (1993), Munz (1974), and Roberts et al (2004) and Roberts (2008). An asterisk (*) denotes a non-native species.

SCIENTIFIC NAME	COMMON NAME
MONOCOTYLEDONS	**MONOCOTS**
AGAVACEAE	**Agave Family**
Yucca whipplei	our lord's candle
ARECACEAE	**Palm Family**
* *Washingtonia robusta*	Mexican fan palm
IRIDACEAE	**Iris Family**
Sisyrinchium bellum	California blue-eyed grass
LILIACEAE	**Lily Family**
Calochortus weedii var. *intermedius*	intermediate mariposa lily (expected)
POACEAE	**Grass Family**
* *Avena barbata*	slender wild oat
* *Avena fatua*	common wild oat
* *Cortaderia selloana*	pampas grass
Leymus condensatus	giant wildrye
* *Pennisetum setaceum*	fountain grass
Stipa pulchra	purple needlegrass
* *Bromus diandrus*	ripgut grass
* *Bromus rubens*	red brome
Hordeum murinum	foxtail barley
* *Schismus barbatus*	Mediterranean grass
THEMIDACEAE	**Brodiaea Family**
Dichelostemma capitatum	blue dicks
EUDICOTYLEDONS	**EUDICOTS**
ADOXACEAE	**Moschatel Family**
Sambucus nigra	black elderberry

AIZOACEAE		**Carpet-Weed Family**
*	*Carpobrotus edulis*	hottentot-fig
*	*Mesembryanthemum crystallinum*	crystal ice plant
ANACARDIACEAE		**Sumac Family**
	Malosma laurina	laurel sumac
	Rhus integrifolia	lemonade berry
	Rhus ovata	sugarbush
*	*Schinus terebinthifolius*	Brazilian pepper tree
	Toxicodendron diversilobum	poison oak
APIACEAE		**Carrot Family**
	Apiastrum angustifolium	mock parsley
*	*Foeniculum vulgare*	sweet fennel
ARALIACEAE		**Ginseng Family**
*	*Hedera helix*	English ivy
ASTERACEAE		**Sunflower Family**
	Artemisia californica	California sagebrush
	Artemisia douglasiana	California mugwort
	Baccharis pilularis	coyote bush
	Baccharis salicifolia	mule fat
*	*Carduus pycnocephalus*	Italian thistle
*	*Centaurea melitensis*	tocalote
	Corethrogyne filaginifolia	common sand aster
*	*Cotula coronopifolia*	brass buttons
	Deinandra fasciculata	clustered tarweed
	Encelia californica	California encelia
	Eriophyllum confertiflorum	golden yarrow
	Hazardia squarrosa	saw-toothed goldenbush
*	*Helminthotheca echioides*	bristly ox-tongue
*	*Hypochaeris glabra*	smooth cat's ear
*	*Hypochaeris radicata*	hairy cat's ear
	Isocoma menziesii var. *vernonioides*	coastal goldenbush
	Logfia gallica	narrowleaf cottonrose
*	*Silybum marianum*	milk thistle
*	*Sonchus asper*	spiny sowthistle
	Verbesina dissita	big-leaved crownbeard
BORAGINACEAE		**Borage Family**
	Amsinckia intermedia	common fiddleneck
	Emmenanthe penduliflora	whispering bells
	Phacelia distans	common phacelia

BRASSICACEAE		**Mustard Family**
*	*Brassica nigra*	black mustard
*	*Capsella bursa-pastoris*	shepard's purse
	Hirschfeldia incana	Summer mustard
*	*Sisymbrium irio*	London rocket
CACTACEAE		**Cactus Family**
	Opuntia littoralis	coastal prickly pear
CAPRIFOLIACEAE		**Honeysuckle Family**
*	*Lonicera japonica*	Japanese honeysuckle
CARYOPHYLLACEAE		**Pink Family**
	Silene laciniata	cardinal catchfly
*	*Stellaria media*	chickweed
CHENOPODIACEAE		**Cactus Family**
	Chenopodium californicum	California goosefoot
CLEOMACEAE		**Caper Family**
	Peritoma arborea	bladderpod
CONVOLVULACEAE		**Morning-Glory Family**
*	*Convolvulus arvensis*	field bindweed
	Cuscuta californica	California dodder
CRASSULACEAE		**Stonecrop Family**
	Crassula connate	pigmy weed
	Dudleya pulverulenta subsp. *pulverulenta*	chalk dudleya
CUCURBITACEAE		**Gourd Family**
	Marah macrocarpa	wild cucumber
EUPHORBIACEAE		**Spurge Family**
	Euphorbia albomarginata	rattlesnake spurge
*	*Ricinus communis*	castor bean
FABACEAE		**Legume Family**
*	*Acacia* sp.	acacia
	Acmispon glaber	deerweed
	Acmispon strigosus	strigose lotus
	Lupinus hirsutissimus	stinging lupine
*	*Medicago polymorpha*	bur clover
*	*Melilotus indicus*	yellow sweetclover
*	*Robinia pseudoacacia*	black locust

FAGACEAE		**Beech Family**
	Quercus agrifolia	coast live oak
	Quercus berberidifolia	California scrub oak
GERANIACEAE		**Geranium Family**
*	*Erodium cicutarium*	red-stemmed filaree
GROSSULARIACEAE		**Gooseberry Family**
	Ribes speciosum	fuschia flowered gooseberry
LAMIACEAE		**Mint Family**
*	*Marrubium vulgare*	horehound
	Salvia apiana	white sage
	Salvia columbariae	chia
	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
MYOPORACEAE		**Myoporum Family**
*	*Myoporum laetum*	myoporum
MYRSINACEAE		**Myrsine Family**
*	*Lysimachia arvensis*.	scarlet pimpernel
MYRTACEAE		**Myrtle Family**
*	*Eucalyptus* sp.	eucalyptus species
NYCTAGINACEAE		**Four O'Clock Family**
	Mirabilis laevis var. *crassifolia*	California wishbone bush
ONAGRACEAE		**Evening Primrose Family**
*	*Camissoniopsis micrantha*	Spencer primrose
OXALIDACEAE		**Wood Sorrel Family**
*	*Olaxis pes-caprae*	sour grass
PAEONIACEAE		**Peony Family**
	Paeeonia californica	California peony
PHRYMACEAE		**Monkeyflower Family**
	Mimulus aurantiacus	bush monkey flower

PLANTAGINACEAE	**Plantain Family**
Keckiella cordifolia	climbing penstemon
Nuttallanthus texanus	blue toadflax
PLATANACEAE	**Plane-tree Family**
Platanus racemosa	California sycamore
POLYGONACEAE	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
ROSACEAE	**Rose Family**
Heteromeles arbutifolia	toyon
Rosa californica	California wildrose
RUBIACEAE	**Madder Family**
Galium angustifolium subsp. *angustifolium*	narrow-leaved bedstraw
Galium aparine	common bedstraw
RUTACEAE	**Rue Family**
Cneoridium dumosum	bushrue
SCROPHULARIACEAE	**Figwort Family**
* *Myoporum laetum*	myoporum
SOLANACEAE	**Nightshade Family**
* *Nicotiana glauca*	tree tobacco
Solanum xanti.	Chaparral nightshade
TROPAEOLACEAE	**Tropaeloum Family**
* *Tropaeolum majus*	garden nasturtium
URTICACEAE	**Nettle Family**
* *Urtica urens*	dwarf nettle

FAUNAL COMPENDIUM

The faunal compendium lists species that were either observed within or adjacent to the Study Area (denoted by a '*'), or that have some potential to occur within or adjacent to the Study Area (denoted by a '+'). Taxonomy and common names are taken from the California Wildlife Habitat Relationships System (CDFG 2003); AOU (1998) and CDFG (1990) for birds; Stebbins (1985), Collins (1990), Jones et al. (1992), and CDFG (1990) for reptiles and amphibians; and CDFG (1990) for mammals.

REPTILIA	REPTILES
PHRYNOSOMATIDAE	**Phrynosomatid Lizards**
Sceloporus occidentalis	western fence lizard
VIPERIDAE	**Vipers**
Crotalus ruber+	red-diamond rattlesnake

AVES	BIRDS
ODONTOPHORIDAE	**New World Quails**
Callipepla californica	California quail
ACCIPITRIDAE	**Hawks and Old World Vultures**
Accipiter cooperii	Cooper's hawk
Buteo lineatus	red-shouldered hawk
Buteo jamaicensis	red-tailed hawk
COLUMBIDAE	**Pigeons and doves**
Zenaida macroura	mourning dove
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
Selasphorus rufus	rufous hummingbird
Selasphorus sasin	Allen's hummingbird
PICIDAE	**Woodpeckers and Allies**
Melanerpes formicivorus	acorn woodpecker
Picoides nuttallii	Nuttall's woodpecker
TYRANNIDAE	**Tyrant Flycatchers**
Empidonax difficilis	pacific-slope flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Sayornis nigricans	black phoebe
Sayornis saya	Say's phoebe

Tyrannus verticalis	western kingbird
Tyrannus vociferans	Cassin's kingbird
CORVIDAE	**Crows and Jays**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
Corvus corax	common raven
POLIOPTILIDAE	**Gnatcatchers**
Polioptila caerulea	blue-gray gnatcatcher
TIMALIIDAE	**Babblers**
Chamaea fasciata	wrentit
MIMIDAE	**Mockingbirds and Thrashers**
Mimus polyglottos	northern mockingbird
Toxostoma redivivum	California thrasher
PARULIDAE	**Wood Warblers and Relatives**
Cardellina pusilla	Wilson's warbler
Geothlypis trichas	common yellowthroat
Setophaga coronata	yellow-rumped warbler
Setophaga petechial	yellow warbler
Vermivora celata	orange-crowned warbler
EMBERIZIDAE	**Emberizids**
Pipilo maculatus	spotted towhee
Melozone crissalis	California towhee
Zonotrichia leucophrys	white-crowned sparrow
ICTERIDAE	**Blackbirds**
Icterus bullockii	Bullock's oriole
Icterus cucullatus	hooded oriole
FRINGILLIDAE	**Fringilline, Cardueline Finches and Allies**
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
PASSERELLIDAE	**Passerines**
Melospiza melodia	song sparrow
CARDINALIDAE	**Grosbeaks, Buntings and Allies**
Passerina amoena	lazuli bunting
CUCULIDAE	**Cuckoos**
Geococcyx californianus	greater roadrunner

TROGLODYTIDAE	**Wrens**
Thryomanes bewickii	Bewick's wren
Troglodytes aedon	house wren
HIRUNDINIDAE	**Swallows**
Stelgidopteryx serripennis	northern rough-winged swallow
TURDIDAE	**Wider Thrushes**
Turdus migratorius	American robin
STURNIDAE	**Starlings**
Sturnus vulgaris	European starling
AEGITHALIDAE	**Bushtits**
Psaltriparus minimus	American bushtit

MAMMALIA

MAMMALS

CANIDAE	**Foxes, Wolves, and Allies**
Canis latrans	coyote
PROCYONIDAE	**Raccoons and Allies**
Procyon lotor	raccoon
CERVIDAE	**Deer, Elk, and Allies**
Odocoileus hemionus	mule deer

Taxonomy and nomenclature are based on the following.

Amphibians and reptiles: Crother, B.I. et al.(2000. Scientific and standard English names of amphibians and reptiles of North America north of Mexico, with comments regarding confidence in our understanding. *Herpetological Circular* 29; and 2003 update.) for species taxonomy and nomenclature; Stebbins, R.C. (2003. A Field Guide to Western Reptiles and Amphibians, third edition, Houghton Mifflin, Boston.) for sequence and higher order taxonomy.

Birds: American Ornithologists' Union (1998. The A.O.U. Checklist of North American Birds, seventh edition. American Ornithologists' Union, Washington D.C.; and 2000, 2002, 2003, and 2004 supplements.).

Mammals: Grenfell, W.E., Parisi, M.D. and McGriff, D. (2003. Complete list of amphibians, reptiles, birds and mammals in California. California Department of Fish and Game. http://www.dfg.ca.gov/whdab/pdfs/species_list.pdf).

GLENN LUKOS ASSOCIATES

Regulatory Services

June 1, 2021

Stacey Love
U.S. Fish and Wildlife Service
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

SUBJECT: Results of Protocol Coastal California Gnatcatcher Surveys for the City of Laguna Beach Proposed Fuel Modification Zones 20 and 21, Orange County, California

Dear Ms. Love:

This letter report documents the results of protocol presence/absence surveys conducted by Glenn Lukos Associates, Inc. (GLA) for the federally listed threatened coastal California gnatcatcher (*Polioptila californica californica*) at the property mentioned above. Surveys were conducted from April 15, 2021, through May 20, 2021, in all areas of potentially suitable habitat per U.S. Fish and Wildlife Service (USFWS) guidelines. No Coastal California gnatcatchers were detected within the survey area.

1.0 SITE LOCATION AND DESCRIPTION

Proposed Fuel Modification Zones (FMZ) 20 and 21 (the Survey Area) are located within the City of Laguna Beach, Orange County, California [Exhibit 1 – Regional Map]. The Survey Area is located in Section 5, Township 8 South, Range 8 West of the San Juan Capistrano, California USGS 7.5-minute topographical map (dated 1968, photorevised 1981) [Exhibit 2 – Vicinity Map]. Approximate Universal Transverse Mercator (UTM) coordinates for the site are 431284.86 mE and 3707143.54 mN (Zone 11S). The Survey Area is located in the undeveloped spaces within 100 feet of residential properties and 150 feet of infrastructure extending from the convergence of Ceanothus Drive/Alta Loma Drive on the west end to the canyon east of Hillhaven Ranch Way on the east end [Exhibit 3 – Site Map].

FMZ 20 encompasses the canyons and hillsides bounded roughly on the west by Ceanothus Drive, Alta Loma Drive, Holly Drive, and Ocean View Street; on the south by West Street, Valido Road, and Paseo del Sur, and wrapping around East Georges Way, Mar Vista Avenue, and Eagle Rock Way. On the west, it will merge into the existing goat-grazed Fuel Modification Zone 7 (FMZ 7) and on the east with FMZ 21. Much of the proposed treatment area is located within Aliso & Wood Wilderness Park and includes the Valido Trailhead area. FMZ 20 includes

multiple vegetation alliances, including ornamental/landscaped areas, toyon (*Heteromeles arbutifolia*) chaparral, lemonade berry (*Rhus integrifolia*) chaparral, and herbaceous non-natives as most prevalent, but also interspersed with laurel sumac (*Malosma laurina*) scrub and a single small patch of big-pod ceanothus (*Ceanothus megacarpus*) chaparral as well.

FMZ 21 is above the neighborhoods between Eagle Rock Way to the north and 10th Street to the south. The streets paralleling the Survey Area include Third Avenue, Mar Vista Avenue, Sunset Avenue, and Hillhaven Ranch Way. It would tie into the proposed FMZ 20 to the north and the existing goat-grazed FMZ 8, including the area behind Mission Hospital. Like FMZ 20, the area exhibits multiple vegetation alliances, including ornamental/landscaped areas, toyon chaparral, and lemonade berry chaparral. Non-native herbaceous plants interspersed with laurel sumac scrub are most prevalent with a small area of big-pod ceanothus chaparral. It is inclusive of several steep-sided canyons.

The Survey Area for FMZ 20 and FMZ 21 includes vegetated areas that extend 100 feet from the edge of residential areas into the mosaic of native and ornamental vegetation that poses a potential fire risk to people and structures along the suburban interface.

Coastal sage scrub habitat within the Survey Area is limited. Where it occurs, it is dominated by California sagebrush (*Artemisia californica*) and black sage (*Salvia mellifera*) with occasional patches of California buckwheat (*Eriogonum fasciculatum*). Other components include orange bush monkeyflower (*Mimulus aurantiacus*), coastal goldenbush (*Isocoma menziesii*), and deerweed (*Acmispon glaber*).

2.0 METHODOLOGY

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 is approximately 17 acres, of which less than 0.3 acre is associated with Coastal Sage Scrub Alliances. As such, the site consisted of one survey polygon requiring one “survey-day” per week.

GLA biologist Kevin Livergood (TE-172638-2) conducted the presence/absence surveys. Surveys were conducted on April 15, 22, 29, May 6, 13, and 20. Areas of suitable habitat were surveyed by walking slowly and methodically along pre-determined transect routes. The location of each transect was based on the 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 before 12:00 P.M. No surveys were conducted during extreme weather conditions (i.e., winds exceeding 15 miles per hour, rain, or temperatures above 35ºC/95ºF). Table 1 summarizes the survey dates/times and weather conditions.

Table 1. Summary of Survey Dates and Weather Data.

Date	Survey Time	Temperature (ºF)	Cloud Cover (%)	Wind Speed (Mph)	Surveying Biologists
4/15/21	0830-1030	55/57	25	1-3	K. Livergood
4/22/21	0900-1030	57/57	100	3-4	K. Livergood
4/29/21	0715-0845	55/63	Clear	1-2	K. Livergood
5/6/21	0715-0845	57/62	100/75	2-4	K. Livergood
5/13/21	0850-1020	61/64	100	1-2	K. Livergood
5/20/21	0740-1045	61-62	100/75	5-8	K. Livergood

3.0. RESULTS

No Coastal California gnatcatchers were detected within or directly adjacent to the Survey Area.

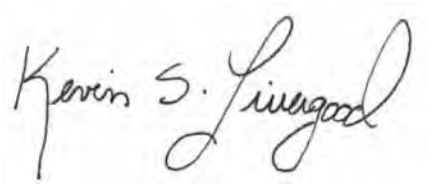
Bird species observed during the protocol surveys included the following: northern mockingbird (*Mimus polyglottos*), house finch (*Carpodacus mexicanus*), American crow (*Corvus brachyrhynchos*), Allen's hummingbird (*Selasphorus sasin*), Anna's hummingbird (*Calypte anna*), lesser goldfinch (*Carduelis psaltria*), song sparrow (*Melospiza melodia*), mourning dove (*Zenaida macroura*), Bewick's wren (*Thryomanes bewickii*), house wren (*Troglodytes aedon*), wrentit (*Chamaea fasciata*), Cassin's kingbird (*Tyrranis vociferans*), pacific-slope flycatcher (*Empidonax difficilis*), ash-throated flycatcher (*Myiarchus cinerascens*), orange-crowned warbler (*Leiothlypis celata*), California towhee (*Melozone crissalis*), spotted towhee (*Pipilo maculatus*), bushtit (*Psaltriparus minimus*), Cooper's hawk (*Accipiter cooperi*), and California scrub jay (*Aphelocoma californica*).

No brown-headed cowbirds (*Molothrus ater*) were detected within or adjacent to the Survey Area.

If you have any questions regarding the findings of this report, please contact me by email at klivergood@wetlandpermitting.com.

I certify that the information in this survey report and the attached exhibits fully and accurately represents my work.

GLENN LUKOS ASSOCIATES, INC.



TE-172638-2 June 1, 2021

Kevin Livergood Permit # Date
Biologist

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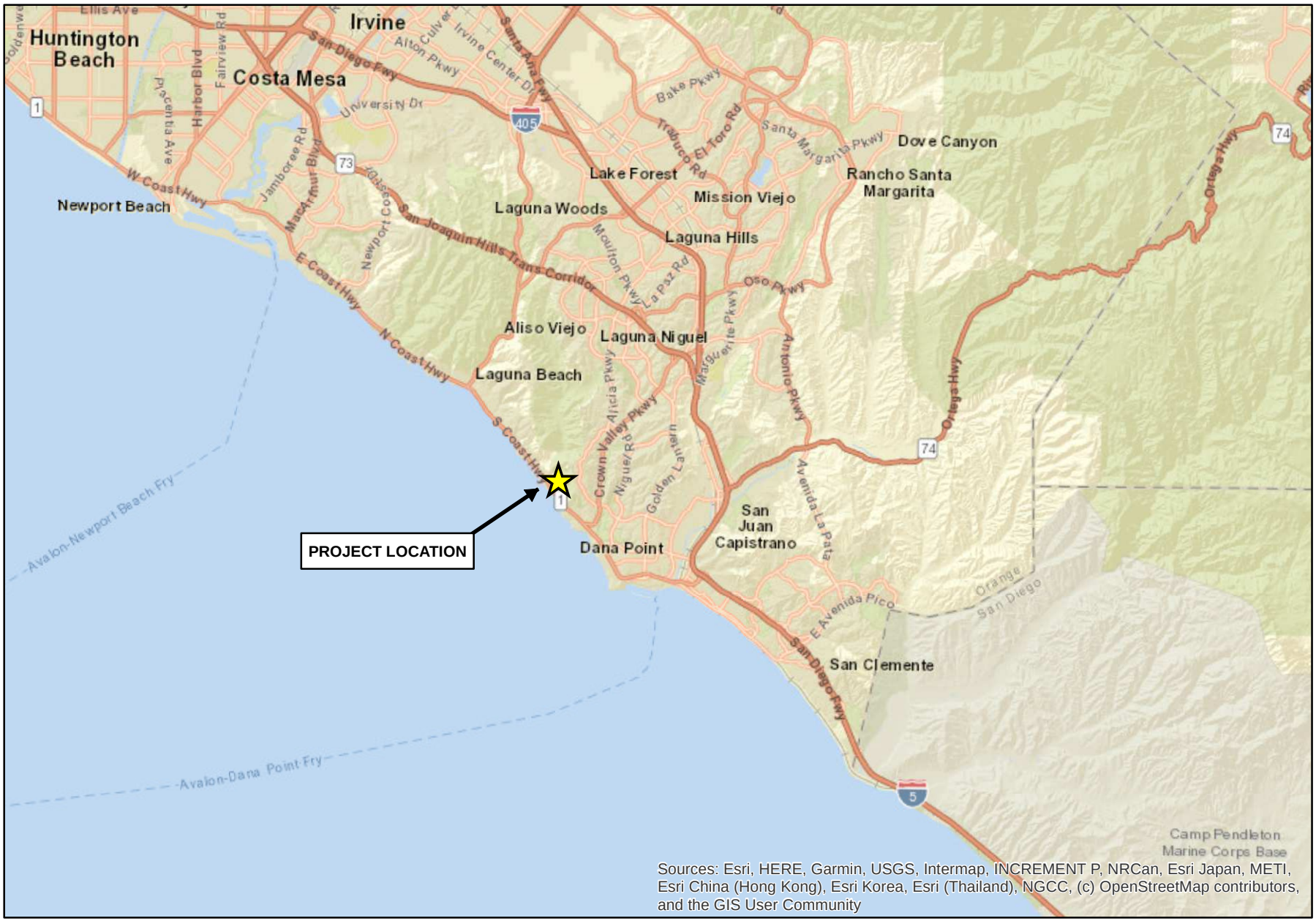


Source: ESRI World Street Map

N

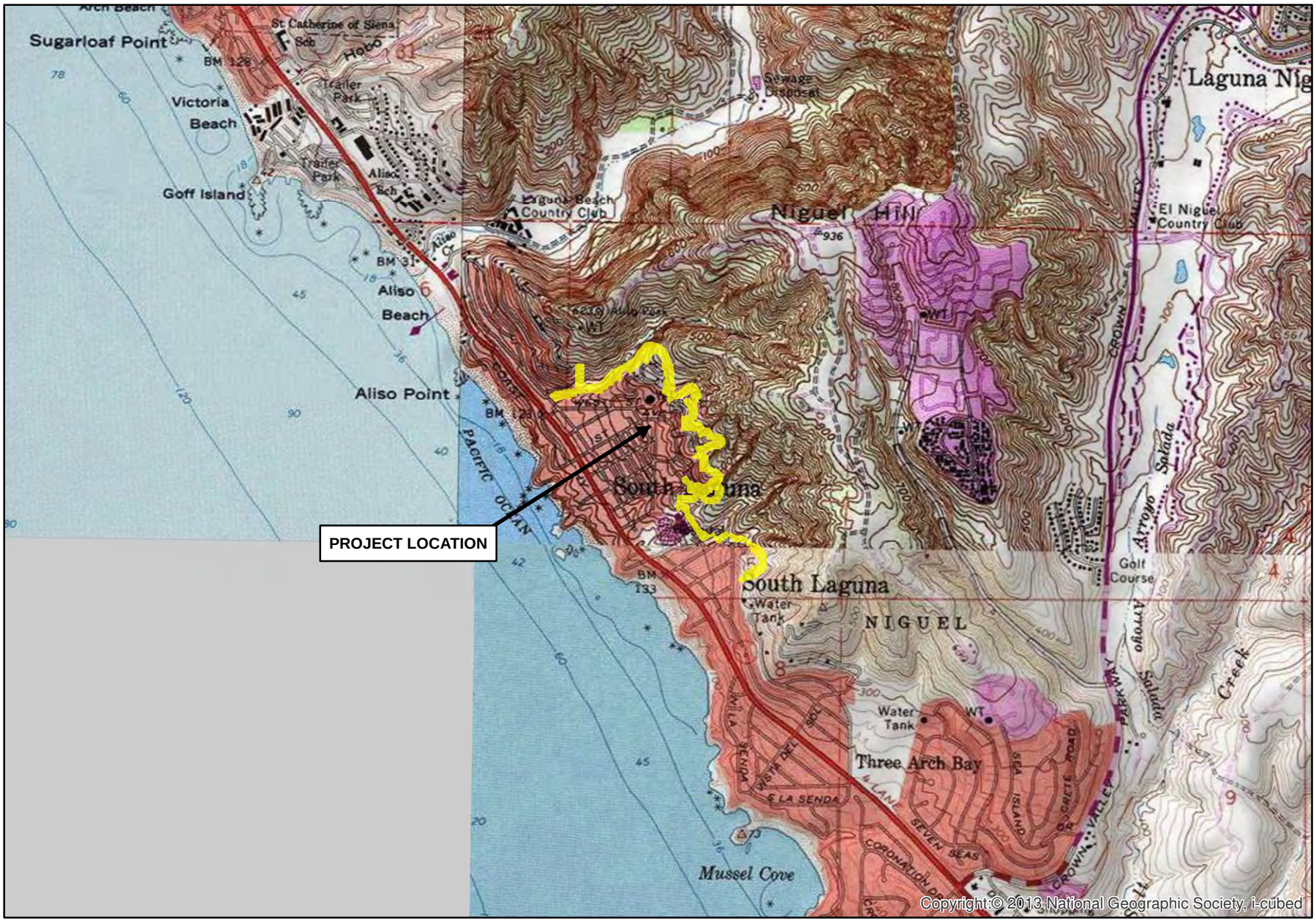
0 2 4 8 Miles

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Regional Map

GLENN LUKOS ASSOCIATES

Exhibit 1



Adapted from USGS San Juan Capistrano and Dana Point, CA quadrangles

N

0 1,000 2,000 4,000 Feet

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

Vicinity Map

GLENN LUKOS ASSOCIATES

Exhibit 2

Fuel Modification Zone 20

Fuel Modification Zone 21

N

0 187.5 375 750

Feet

1 inch = 375 feet

Coordinate System: State Plane 6 NAD 83
Projection: Lambert Conformal Conic
Datum: NAD 1983 2011
Map Prepared by: B. Gale, GLA
Date Prepared: March 24, 2021

CITY OF LAGUNA BEACH – PROPOSED FUEL MODIFICATION ZONES 20 & 21

CAGN Survey Area Map

GLENN LUKOS ASSOCIATES

Exhibit 3

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ACCIPITRIDAE	**HAWKS**
Accipiter cooperii	Cooper's hawk
AEGITHALIDAE	**BUSHTIT**
Psaltriparus minimus	bushtit
COLUMBIDAE	**PIGEONS AND DOVES**
Zenaida macroura	mourning dove
CORVIDAE	**JAYS AND CROWS**
Aphelocoma californica	California scrub-jay
Corvus brachyrhynchos	American crow
EMBERIZIDAE	**EMBERIZIDS**
Melospiza melodia	song sparrow
Pipilo crissalis	California towhee
Pipilo maculatus	spotted towhee
FRINGILLIDAE	**FINCHES**
Carpodacus mexicanus	house finch
Carduelis psaltria	lesser goldfinch
MIMIDAE	**THRASHERS**
Mimus polyglottos	northern mockingbird
PARULIDAE	**WOOD-WARBLERS**
Oreothlypis celata	orange-crowned warbler
SYLVIIDAE	**WRENTITS**
Chamaea fasciata	wrentit
TROCHILIDAE	**HUMMINGBIRDS**
Calypte anna	Anna’s hummingbird
Selasphorus sasin	Allen’s hummingbird
TROGLODYTIDAE	**WRENS**
Thryomanes bewickii	Bewick’s wren
Troglodytes aedon	house wren
TYRANNIDAE	**TYRANT FLYCATCHERS**
Empidonax difficilis	pacific-slope flycatcher
Myiarchus cinerascens	ash-throated flycatcher
Tyrannus vociferans	Cassin's kingbird

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Tyrannus vociferans	Cassin's kingbird

Appendix D

Cultural Resources Assessment Report for the South Laguna Fuel Modification Project

Cultural Resources Assessment Report for the South Laguna Fuel Modification Project

Prepared for:

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

Prepared by:
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James Allan, Ph.D., RPA

5020 Chesebro Road, Suite 200
Agoura Hills, CA, 91301

January 2021

This document contains sensitive information regarding the location of archaeological sites, which should not be disclosed to the general public or other unauthorized persons. Archaeological and other heritage resources can be damaged or destroyed through uncontrolled public disclosure of information regarding their location.

Therefore, information regarding the location, character, or ownership of archaeological or other heritage resources is exempt from the Freedom of Information Act pursuant to the National Historic Preservation Act (16 USC 470w-3) and Archaeological Resources Protection Act (16 USC Section 470[h]). This report and records that relate to archaeological sites information maintained by the California Historical Resources Information System and the City of Lancaster are exempt from the California Public Records Act (Government Code Section 6250 et seq., see Government Code Section 6254.19). In addition, Government Code Section 6254 explicitly authorizes public agencies to withhold information from the public relating to Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.

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Introduction

At the request of the City of Laguna Beach Fire Department (LBFD), Aspen Environmental Group (Aspen) performed a cultural resources records search and pedestrian survey for the proposed South Laguna Fuel Modification Project (Project), which covers Fuel Modification Zone (FMZ) 20 (South Laguna) and FMZ 21 (Sunset). These investigations are designed to meet the requirements for consideration of cultural resources under federal, state, and local regulations. The Project site is located in Orange County, California.

To identify any cultural or tribal cultural resources eligible for the California Register of Historical Resources (CRHR), Aspen conducted a cultural resources records search at the California Historical Resources Information System (CHRIS), South Central Coastal Information Center (SCCIC), at California State University, Fullerton; reviewed ethnographic literature; completed historical background research; and attempted to conduct a pedestrian survey of the Project site. Native American outreach was also conducted with State-recognized tribal groups that may have traditional or cultural ties to the Project site or surrounding areas.

The following report is a full account of the methods and results of research, the conclusions of the study, and recommendations for the treatment of cultural and tribal cultural resources potentially affected by the Project.

Project Description

The LBFD proposes to apply fuel management practices in the South Laguna area within the City of Laguna Beach (City), California. Work within FMZ 20 (South Laguna) and FMZ 21 (Sunset), which comprise the Project, would consist of vegetation clearance within approximately 100-foot wide zones. Removal of heavy vegetation would reduce potential wildfire ignition of primarily residential properties, increase the evacuation time for residents, and provide better access for firefighters to protect structures. In addition, the proposed Project would reduce fire line intensity, reduce wildfire rates of spread, and improve occupant safety. Lastly, it would protect High and Very High Value Habitat containing special-status plant species.

Since the 1950s, the City has maintained a system of fuel breaks for protection from wildfires. After the 1993 wildfires, the program was expanded, and now the City currently maintains 27 FMZs managed by goat-grazing and hand crews. The City received a grant through a legislative amendment to the State budget. The California Department of Natural Resources awarded the grant to fund fuel modification activities in FMZ 20 and 21. According to the 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 to protect residential and public property. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZ 20 and 21.

FMZ 20, an approximately 7.9-acre stretch of land, predominantly borders the northern portion of the South Laguna residential neighborhood as well as the South Coast Water District office and water reservoir. The homes in this neighborhood are adjacent to large portions of densely vegetated steep hillsides and are susceptible to wildfire hazards. The majority of FMZ 20 is located within Aliso and Wood Canyons Wilderness Park and includes the beginning of Valido Trail. FMZ 20 contains a variety of native and disturbed habitat and also contains an intact population of big-leaved crownbeard, a State- and federally-listed threatened species. Other plant species within FMZ 20 include coastal sagebrush, coastal sage scrub, lemonade berry, laurel sumac, bigpod ceanothus, bush rue, southern maritime scrub, and

chamise. According to the City's GIS Constraints layers, large portions of FMZ 20 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas.

Similar to FMZ 20, FMZ 21 is located on steep, densely vegetated slopes that pose the risk of wildfire hazards to nearby structures. FMZ 21 consists of approximately 12.5 acres and is predominantly on the east side of residential single-family homes and Mission Hospital Laguna Beach between Eagle Rock Way to the north and Vista Del Sol to the south. Two portions of FMZ 21 are within High/Very High Value Habitat. The heavily vegetated steep slopes within and above FMZ 21 pose a risk of wildfire damage to adjacent homes, valuable habitat, and homes at the top of Niguel Hill and Monarch Crest.

All fuel management activities would be conducted within FMZ 20 and FMZ 21 to reduce available vegetation for potential wildfire ignition within approximately 100 feet of developed structures. Fuel management methods would be implemented exclusively on hand crews utilizing chainsaws, brush-cutters, and other hand tools due to the presence of special-status species and steepness of topography.

Project Location

The Project site encompasses approximately 20.4 acres and is located around the perimeter of residences starting from Ocean View Street extending north and east to Hill Haven Ranch Way in South Laguna, Orange County. The proposed Project is bordered by residential houses to the south and generally boarded by steep mountainous slopes to the north, west, and east. Specifically, the Project site is depicted on the United States Geologic Survey (USGS) *San Juan Capistrano* and *Dana Point* 7.5-minute quadrangles (Figure 1).

Regulatory Framework

Numerous laws, ordinances, regulations, and standards on state and local levels seek to protect and manage cultural resources. The primary state regulation governing significant cultural resources is the California Environmental Quality Act (CEQA) and Public Resources Code (PRC) Section 5097.

State Regulations

California Environmental Quality Act (1970) (PRC Sections 21000 et seq., Section 21083.2, **Section 5024, Section 5024.5; California Code of Regulations [CCR] Title 14, Chapter 3, Sections 15000 et seq.)** established that historical and archaeological resources are afforded consideration and protection by the CEQA. CEQA Guidelines define significant cultural resources under three regulatory designations: historical resources, unique archaeological resources, and tribal cultural resources. The latter is discussed separately below (see Assembly Bill 52).

A historical resource is a "resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR"; or "a resource listed in a local register of historical resources or identified as significant in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code"; or "any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the agency's determination is supported by substantial evidence in light of the whole record" (14 CCR Section 15064.5[a][3]).

Figure 1- Project Location Map

Historical resources automatically listed in the CRHR include California cultural resources listed in or formally determined eligible for the National Register of Historical Resources (NRHP) and California Historical Landmarks list from No. 770 onward (PRC 5024.1[d]). Locally listed resources are entitled to a presumption of significance unless a preponderance of evidence in the record indicates otherwise.

Under CEQA, a resource is generally considered historically significant if it meets the criteria for listing in the CRHR. A resource must meet at least one of the following criteria (PRC 5024.1; 14 CCR Section 15064.5[a][3]):

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage. Title 14, CCR Section 4852(b)(1) adds, "is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States."

2. Is associated with the lives of persons important in our past. Title 14, CCR Section 4852(b)(2) adds, "is associated with the lives of persons important to local, California, or national history."

3. Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values. Title 14, CCR 4852(b)(3) allows a resource to be CRHR eligible if it represents the work of a master.

4. Has yielded, or may be likely to yield, information important in prehistory or history. Title 14, CCR 4852(b)(4) specifies that importance in prehistory or history can be defined at the scale of "the local area, California, or the nation.

Historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association (14 CCR 4852[c]).

An archaeological artifact, object, or site can meet CEQA's definition of a unique archaeological resource even if it does not qualify as a historical resource (PRC 21083.2[g]; 14 CCR 15064.5[c][3]). An archaeological artifact, object, or site is considered a unique archaeological resource if "it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria (PRC 21083.2[g]):

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Environmental Setting

The Project site is located near low density residential sing-family homes. The Project site mainly consists of steep, undeveloped canyon slopes and hillsides with heavy chaparral and coastal sage scrub, along with populations of non-native and invasive plant species in disturbed areas. The geology of the area primarily consists of marine terrace deposits (Morton et al. 1999).

Cultural Setting

Prehistoric Overview

Various archaeologists have developed temporal chronologies for the prehistory of Southern California. This section is based on observed patterns of cultural behavior as reported by Glassow (1996) and Morrato (1984)

but most importantly King (1990). The chronology is organized into five broad cultural time periods. Time is presented throughout this section as calibrated years before present (BP).

Paleocoastal Period (13,000 - 8,500 BP)

The term "Paleocoastal" refers to the time period of the earliest migrations into North America, which appear to have involved a corridor that followed the coastline and its wealth of marine resources. Native peoples are known to have been in North America from coast to coast as represented by the Clovis culture (12,500-13,500 BP). Clovis-style spear points have been identified in California, the nearest being found at Moro Canyon State Park in Orange County.

There are no mainland *coastal* sites of this age, and for good reason. At 13,000 BP the sea levels of Southern California were over 300 feet lower than today. As the Pleistocene epoch was coming to a close beginning around 18,000 years ago, the massive arctic and Antarctic ice sheets, and the glaciers covering much of North America, began a slow melting process, and sea levels rose. Rising sea levels were accompanied with more rapid coastal erosion and retreating marine terraces where coastal sites would be located. So, coastal sites on the mainland would have suffered destruction from both inundation and wave erosion.

It is not until approximately 10,000 BP that sites of human occupation become evident on the mainland. The Paleocoastal Period has been described as a time of very low population density, expedient stone tool technology, and high mobility. People living in coastal and coastal riparian ecological niches appear to have subsisted largely on plants, shellfish, and vertebrate species that included land and marine mammals. The Paleocoastal artifact assemblage emphasized flaked stone tools. Stone milling implements were not in use during this period (Glassow et al. 2007). In comparison to more recent time periods, relatively few Paleocoastal sites have been identified. On the mainland, the earliest coastal dates are from archaeological site ORA-64 at Newport Bay in Orange County, which produced radiocarbon and obsidian hydration dates indicating an age in excess of 10,000 BP.

Early Period (8,500 - 3,200 BP)

Cultural changes during the Early Period are thought to have resulted from environmental shifts, rising sea levels, which finally stabilized near present levels at 6,000 BP, and an increase in population size. Around 8,000 BP, California experienced an extended warm and dry period, often referred to as the Altithermal. This climactic event drastically altered the environmental resources available to prehistoric inhabitants, thus changing their subsistence efforts to focus on the procurement of plant foods supplemented with small animals. The response to these changes by people of this period is evidenced by sites that appear more settled, but not permanent, with an increase in specialized sites for resource procurement activities such as hunting, fishing, and plant material processing. As a result of increased population, trade between regions expanded, as evidenced by the presence of exotic shell beads and obsidian materials. This period is also defined by a prevalence of handstones and milling slabs, indicating a reliance on seeds and other plant foods. Toward the end of the period, mortars and pestles appear, possibly indicating systematic exploitation of acorns and other nut resources. Improvements to maritime technology led to greater commerce between the mainland and the Channel Islands, with shell beads and ornaments moving from the island to the mainland, and terrestrial land mammal goods, such as hair pins made from deer bone, being transported to island groups. Greater emphasis on status differentiation begins to emerge, as indicated in cemeteries where items of wealth are differentially spread across the population (Glassow et al. 2007).

Middle Period (3,200 - 1200 BP)

The Middle Period is defined by continued specialization in resource exploitation and increased technological complexity that led to an increase in the number and size of archaeological sites. This expansion of settlements occurred in part due to major changes in the subsistence economy, which led to changes in the organization and distribution of settlements. Fish and acorns became dominant food sources during the Middle Period, with a greater use of seasonal resources and the first indications of food storage. A stronger emphasis on fishing and sea mammal hunting is attributed to the introduction of circular shell fishhooks at about 2600 BP and use of barbed harpoons and plank canoes after 1500 BP, the latter evidenced by canoe drills and asphaltum plugs. Higher degrees of sedentism are inferred from the discovery of semi-subterranean houses and ceremonial structures, as well as more formalized cemeteries. It has also been proposed that demographic changes along the coast resulted in more intensive occupation of the interior mountain areas, and that interior settlements quickly engaged in a series of sophisticated trade networks designed to move seed resources to the coast in exchange for a variety of marine foods and other goods. Communication and transport of goods along natural waterways and rivers may have played a part in the social and economic development of this period.

Middle-Late Period Transition (1200 - 900 BP)

The Middle to Late Period Transition generally characterized environmental factors occurring in the Santa Barbara Channel region and Southern California coast as published by Pisias (1978) and Kennett and Kennett (2000). Although there is disagreement about the severity of sea surface temperature SST fluctuations, and while its possible effect on ancient human populations is not fully understood yet, both studies demonstrate a general cooling of sea surface temperature and reduced productivity of marine food resources during this time. On the mainland, the impact of environmental changes included a rise in temperatures, potentially increased frequency of wildfires and insect pest populations, and fluctuations in the availability of terrestrial mammal and nut/seed food resources. These changes may have influenced social, economic, and possibly spiritual practices (Raab and Larson 1997).

Late Period (900 BP to Missionization)

Maritime adaptations continued to intensify along the Southern California coastline during the Late Period, leading to the development of large permanent coastal villages and further development of the trade network between the Channel Islands, mainland coast, and interior regions. Island people, particularly those on Santa Cruz Island, were in an excellent position to specialize in bead money production because the necessary raw materials (i.e., high quality chert for drills, Olivella shells for beads) were only available in appreciable amounts in the shallow, sandy-bottom waters surrounding the Island. By the Late Period, local Native American cultures, were probably very similar to what the Spanish observed upon arrival in the region. Artifact assemblages from the Late Period are incredibly diverse. In addition to the common functional classes such arrow points, bedrock mortars, hopper mortars, and numerous bead styles, artifacts include a wide range of bone and shell items used in personal adornment.

Ethnographic Overview

The Project site was historically occupied by the Tongva and Juaneño people. Below is a brief ethnographic and archaeological overview of the Tongva and Juaneño.

Tongva

The Shoshonean migration marks the arrival of the Uto-Aztecan speakers to Southern California. The Tongva, a branch of Shoshonean, arrived around 500 B.C. Their language has been identified as Cupon, which is part of the larger Uto-Aztecan (Johnston 1962).

At the time of Spanish contact, the Tongva inhabited a rich coastal and inland region of Southern California consisting of roughly 1,500 square miles and included present-day Los Angeles and Orange counties, including San Nicolas, San Clemente, and Santa Catalina islands (Bean and Smith 1978). Second only to the Chumash, the Tongva were the wealthiest, most populous and most powerful ethnic group in Southern California (Moratto 1984). Settlement pattern studies concluded there is a presence of both primary villages that were occupied year-round and secondary temporary camps inhabited at various times of the season. Both primary and temporary settlements seemed to be located near water sources (Bean and Smith 1978; McCawley 1996).

Their culture was very similar to that of the Chumash with a few exceptions in their language, cremation practices, and their ability to make pottery. The Tongva influenced cultures as far north as the San Joaquin Valley Yokuts, as far east as the Colorado River, and south into Baja California.

The majority of Tongva artifacts reflect ornate craftsmanship with everyday use items often decorated with asphaltum and shell inlaid, paintings and rare minerals. The Tongva established a successful economic system focusing on trading goods, food reserves, and distributing resources. The Tongva quarried steatite from Santa Catalina Island and often traded with neighboring tribes. The best-known items manufactured by the Tongva were made of steatite. Steatite was used to make pipes, animal carvings, cooking vessels, and ornaments. Shell beads, baskets, wooden paddles, bone tools, flint weapon and drills, fishhooks and mortar and pestles are common types used to describe Tongva culture (Bean and Smith 1978; McCawley 1996).

A typical Tongva village contained a variety of structures used for religious, recreational, and residential use. Tongva houses were circular structures thatched with tule, fern, or carrizo. Some houses were recorded as being up to 60 ft in diameter. Sweathouses, menstrual huts, and dancing grounds were other common structures found in villages. Larger communities often had a sacred enclosure at the center surrounded by elite members of the community. Surrounding these structures were smaller houses occupied by the rest of the community members. (Bean and Smith 1978; McCawley 1996).

Juaneño

The Juaneño were culturally very similar to the Tongva and Luiseño. Named after the Mission San Juan Capistrano, the Juaneño occupied a small territory between the Tongva to the north and the Luiseño to the south, extending from the ocean to the Santa Ana mountains. Many anthropologists and linguists believe that the Juaneño are a coastal branch of the Luiseño (Kroeber 1976).

Like their neighbors to the north and south, the Juaneño were a hunter-gatherer society utilizing seasonally available food sources. Acorns were the most important single food source to the Juaneño. Villages were often located near water sources, which were necessary for leaching acorns. Primarily a coastal people, the Juaneño took full advantage of marine resources as well. Sea mammals, fish, and shellfish were hunted and gathered from both the shoreline and open ocean using dugout canoes. Shellfish often dominate the archaeological record, including mussels, clams, abalone, scallops, and turbans (Bean and Shipek 1978).

The Juaneño lived in permanent villages and associated seasonal camps, usually consisting of 35 to 300 people. Houses were partially subterranean, thatched structures of bark, reeds, or brush. Most villages included a rectangular open air structure, known as ramadas, where most of the daily chores occurred, as well as

semisubterranean sweathouses used for purification rituals. In addition to permanent settlements, seasonal camps were occupied for hunting and gathering of seasonally available resources (Bean and Shipek 1978).

Spanish Period (1542 to 1821)

In 1542, Spanish exploration of the California coast began with the expedition of Juan Rodríguez Cabrillo, whose crew first came ashore at the present-day harbor of San Diego. Cabrillo's expedition then sailed north to the Los Angeles area, passing San Pedro Bay (Chartkoff and Chartkoff 1984; Kielbasa 1997). Cabrillo visited Santa Catalina Island during this time and made peaceful contact with the native inhabitants present there. In 1602, another Spanish expedition led by Sebastián Vizcaíno also had a peaceful encounter with the Tongva on Catalina Island (Bean and Smith 1978). While these and other early Spanish expeditions made initial contact with the local Native Californians and facilitated trade networks, Spanish colonization did not fully commence until 1769 with the expeditions of the Franciscan administrator Junipero Serra and the Spanish military, under the command of Gaspár de Portola (Chartkoff and Chartkoff 1984; Laylander 2000). The encounters continued to be peaceful, but conflicts would arise soon after (Bean and Smith 1978).

These expeditions preceded the Spanish missionization efforts, which involved the establishment of the California Missions, whose purpose was to "convert" the Native Californians to Catholicism within 10 years, and then return the mission lands to them (Chartkoff and Chartkoff 1984; Laylander 2000). To support the Spanish settlements, missions used Native Californians to work on the local farms and ranches. The Spanish established the first mission among the Tongva in 1771 at San Gabriel. Five years later the San Juan Capistrano Mission was established among the Juaneño. The recruitment and absorption of the Tongva and Juaneño was relatively quick, and by the early 1800s, the vast majority of Native Americans were either in the mission system or had fled to the Central Valley or mountains. The Spanish eventually established 21 Missions in Alta (upper) California (Mourkas and Braun 2016). This period saw the development of the “Pueblos” around the missions and also the petitioning by retired soldiers for lands they could settle and improve.

Mexican Period (1821 to 1848)

The year 1821 marks the beginning of the Mexican Period and is concurrent with Mexico's independence from Spain. Mexico became California's new ruling government, and at first little changed for California Native Americans. The Franciscan missions continued to utilize the unpaid labor the natives, despite the Mexican Republic's 1824 Constitution that declared Indians to be Mexican citizens. This monopoly of Native American labor by a system that accounted for nearly one-sixth of the land in the state, angered the newly granted land-holding colonial citizens (Castillo 1998). During this period, extensive land grants were established, including Rancho San Joaquin, which was granted to Jose Sepulveda in 1837. Rancho San Joaquin encompassed approximately 48,000 acres, including present day Laguna Beach. Landowners largely focused on the cattle industry and devoted large tracts of land to grazing. Cattle hides became a primary Southern California export, providing a commodity to trade for goods from the east and other areas in the United States and Mexico. The number of non-native inhabitants increased during this period because of the influx of explorers, trappers, and ranchers (Chartkoff and Chartkoff 1984; Castillo 1998). Independence from Spain in 1821 also brought an end to the ban on foreign trade in California. This brought merchants and immigrants to the State, and whaling became an important industry in Southern California.

During the Mexican-American War of 1846 to 1848, the Mexican army defeated U.S. forces at the Battle of the Old Woman’s Gun in Dominguez Hills, the Battle of Chino, and the Siege of Los Angeles. But hope of a Mexican victory faded, and California forces surrendered in exchange for pardons at Cahuenga in January 1847. This ended the resistance to U.S. takeover of the territory and ushered in the American Period.

American Period (1847 to present)

In February 1848 California became a U.S. holding with the signing of the Treaty of Guadalupe Hidalgo. This treaty ended the Mexican American War and ceded much of the southwest (California, Nevada, Utah, and portions of Arizona, New Mexico, Colorado, and Wyoming) to the United States.

In 1848 gold was discovered at Sutter's Mill near Coloma on the south fork of the American River. By 1849 the rush to California's gold had begun. The southern route to reach California came by way of Santa Fe or Salt Lake City, and essentially followed the Old Spanish Trail to cross the Mojave Desert and enter the Southern California valley through Cajon Pass. This trail had previously been used to trade goods from Santa Fe and Mexican horses and mules from Los Angeles (Latta 1932). In the 1850s and 1860s, the eastern and western Mojave Desert was home to ranchers raising beef and sheep; gold, silver, lead, and borax miners; and small settlements of homesteaders and merchants.

Settlers began to arrive in the Laguna Beach area in the late 1880s, often taking advantage of the Timber Culture Act of 1873. The Timber Culture Act allowed settlers to be granted up to 160 acres of land if they would plant 40 acres of trees. In Laguna Beach, settlers planted acres of Eucalyptus trees because they required very little care and water to survive (Boyd 2011).

The Thurston Family of Utah became the first permanent homesteaders in the area in 1871. Five years later, brothers, William and Nathaniel "Nate" Brooks began acquiring land in Bluebird Canyon, which they later subdivided, establishing the community of Arch Beach (Yoch 1932). Nate Brooks developed a 500 foot tunnel in the hills above Arch Beach for water and constructed reliable roads to reach the community. His brother William was the first stagecoach driver and postmaster in Laguna Beach. Depending on the source, both brothers are referred to as the "father of Laguna" (City of Laguna Beach 2006).

Laguna Beach was also somewhat of a tourist destination. Hubbard Goff established the first hotels in the area, beginning with the Arch Beach Hotel in 1886, followed by the Laguna Beach Hotel in 1889. Goff sold both hotels to Joseph Yoch, who had big plans for the recently acquired hotels. Yoch had the Arch Beach Hotel dismantled, moved, and attached to the Laguna Beach Hotel, creating a massive thirty room hotel on the beach. The hotel was eventually condemned in 1928 and the landmark Hotel Laguna opened at the same site just one year later (City of Laguna Beach 2006).

The opening of the Pacific Coast Highway (PCH) in 1926 caused major growth in the area. PCH allowed for not only tourists, but artists, Hollywood filmmakers, and permanent residents to easily travel to and from Laguna Beach. In 1927, Laguna Beach was officially incorporated as a city with a population 1,900 people (City of Laguna Beach 2006). Today, Laguna Beach has an estimated population of just over 22,800 people.

Background Research: Methods and Results

Methods

On September 16, 2020, Aspen requested the South Central Coastal Information Center (SCCIC) at California State University, Fullerton, to conduct a literature and records search for the Project. The record search included the Project site, as well as an addition 0.25-mile buffer.

The record search included the review of all previously conducted surveys and previously documented cultural resources within the Project site and surrounding buffer. In addition, staff searched the following online resources: NRHP, CRHR, California Historical Landmarks, and California Points of Historical Interest, historic topographic maps, and historic aerial photographs.

Results

The SCCIC provided the results of the records search to Aspen on September 30, 2020. Thirty-two (32) previous cultural resources studies have been conducted within the 0.25-mile record search buffer of the Project site. Of these, eight (8) were conducted within the Project site itself and are shown in bold below in Table 1.

Table 1. Previous Cultural Resource Studies Conducted Within a 0.25-mile Radius of the Project Site

Report #	Authors	Year	Report Title	Company	Resources Found
OR-00094	Desautels, Roger J.	1976	Archaeological Survey Report on Parcel Number 46 - a Residential Lot Located in the South Laguna Area of O. C.	Scientific Resource Surveys, Inc.	N/A
OR-00125	Desautels, Roger J.	1976	Lot 34 of a Resurvey of a Portion of 3 Arches Palisades #2 (rs. 3-32) in the South Laguna Area of the County of Orange	Scientific Resource Surveys, Inc.	N/A
OR-00176	Desautels, Roger J.	1977	Archaeological Survey Report on Lots 5 and 64 Located in the South Laguna Area of Orange County	Scientific Resource Surveys, Inc.	N/A
OR-00255	**Anonymous**	**1977**	**Archaeological Report on the Aliso Creek Corridor- Planning Units 2 & 3 Orange County, California**	**Scientific Resource Surveys, Inc.**	**30-000006, 30-000008, 30-000009, 30-000010, 30-000017, 30-000018, 30-000019, 30-000020, 30-000033, 30-000040, 30-000074, 30-000110, 30-000126, 30-000131, 30-000133, 30-000135, 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, 30-000512, 30-000515, 30-000580**
OR-00377	**Magalousis, Nicholas M.**	**1979**	**Archaeological Survey Report**	**Interdisciplinary Research Group**	**30-000812, 30-000813, 30-000814**
OR-00432	Anonymous	1979	Archaeological Test Excavation of the Robert C. Dolley Property South Laguna	Interdisciplinary Research Group	30-000842
OR-00460	**Anonymous**	**1979**	**Archaeological Test Excavation Report Site ORA-813 South Laguna**	**Interdisciplinary Research Group**	**30-000813**
OR-00580	Anonymous	1977	The Aliso Creek Watershed, Orange County, California a Proposal for Creating an Archaeological District for the National Register of Historic Places and a Suggested Research and Study Design	Scientific Resource Surveys, Inc.	N/A
OR-00628	Desautels, Nancy A.	1981	Archaeological/historical Report on Tt 11323 Located in the Three Arch Bay Community of South Laguna	Scientific Resource Surveys, Inc.	N/A
OR-00641	**Anonymous**	**1981**	**Archaeological Report - Volume 1 Executive Summary on Ora-436, Ora-437 Test and Salvage Excavation**	**Scientific Resource Surveys, Inc.**	**30-000436, 30-000437, 30-000814**
OR-00663	**Anonymous**	**1983**	**Cultural Resources Report on the Proposed South Coast Community Hospital Extension, South Laguna**	**Scientific Resource Surveys, Inc.**	**N/A**
OR-00664	**Anonymous**	**1983**	**Cultural Resource Report on Two Parcels of Land Located in the South Laguna Area**	**Scientific Resource Surveys, Inc.**	**30-000437**

Table 1. Previous Cultural Resource Studies Conducted Within a 0.25-mile Radius of the Project Site					
Report #	**Authors**	**Year**	**Report Title**	**Company**	**Resources Found**
OR-00686	Cottrell, Marie G.	1983	Archaeological Assessment of the Ellis Residence Site of South Laguna Beach	Archaeological Resource Management Corp.	N/A
OR-00735	Bissell, Ronald M.	1984	Report of Archaeological Survey Tentative Tracts 8735 and 9702 South Laguna, Orange County, California	RMW Paleo Associates, Inc.	30-000437
OR-00822	Cameron, Constance	1986	Archaeological Investigations at Laguna Sur CA-ORA-813, CA-ORA-436, CA-ORA-437	Irvine Soils Engineering	30-000436, 30-000437, 30-000813
OR-00938	**Bissell, Ronald M.**	**1988**	**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-01013	Carrico, Richard L.	1976	Archaeological Testing at ORA-597 South Laguna Beach, California.	Westec Services, Inc.	30-000597
OR-01121	Breece, William H.	1991	Results of the Archaeological Study for the Binion Property, Laguna Niguel, Orange County, California.	LSA Associates, Inc.	30-000824
OR-01221	Bissell, Ronald M.	1992	Reconnaissance of a 22 Acre Parcel in Laguna Niguel, Orange County, California	RMW Paleo Associates, Inc.	N/A
OR-01347	Carrico, Richard L.	1977	Draft Environmental Impact Report #288 Christenson-porter Tract Map, South Laguna Tt10027	Westec Services, Inc.	30-000597
OR-01797	Brechbiel, Brant A.	1998	Cultural Resources Records Search and Literature Review Report for a Pacific Bell Mobile Services Telecommunications Facility: Cm 074-03 in the City of Laguna Beach, California	Chambers Group, Inc.	N/A
OR-03133	McKenna, Jeanette A.	2004	Cultural Resource Assessment Coast Highway Streetscape Improvements in South Laguna	McKenna et al.	19-000597, 19-000842, 30-000597
OR-03143	Wlodarski, Robert J.	2005	A Phase I Archaeological Study for 31691 Pacific Coast Highway South Laguna Beach, Orange County, California	Cellular, Archaeological, Resource, Evaluations	N/A

Table 1. Previous Cultural Resource Studies Conducted Within a 0.25-mile Radius of the Project Site					
Report #	**Authors**	**Year**	**Report Title**	**Company**	**Resources Found**
OR-03296	O'Neil, Stephen, Corey, Christopher, and Sikes, Nancy E.	2006	Cultural Resources Inventory and Evaluation for the Proposed Aliso Creek Inn and Golf Course Project, City of Laguna Beach, Orange County, California	SWCA Environmental Consultants, Inc.	30-000006, 30-000008, 30-000009, 30-000074, 30-000395, 30-000396, 30-000397, 30-000398, 30-000583
OR-03507	McKenna, Jeanette A.	2006	Historic Survey Report for the City of Laguna Beach Street Scape Improvements	McKenna et al.	30-000842
OR-03960	Wlodarski, Robert J.	2011	Records Search and Field Reconnaissance for Proposed AT&T Wireless Telecommunications Site LAC288 (South Laguna), 31642 Coast Hwy., Laguna Beach, California.	Cellular, Archaeological Resource Evaluations	30-000597, 30-000812, 30-000813, 30-000842
OR-04026	McKenna, Jeanette A.	2007	Archaeological Survey Report: South Laguna Coast Highway Improvements Project, Coast Highway Between West Street to 5th Avenue, City of South Laguna, Orange County, California	McKenna et al.	30-000842
OR-04082	Pierson, Larry, Shiner, Gerald, and Slater, Richard	1987	California Outer Continental Shelf, Archaeological Resource Study: Morro Bay to Mexican Border, Final Report	PS Associates	N/A
OR-04179	**unknown**	**2008**	**Laguna Beach Historic Resources Inventory**	**City of Laguna Beach**	**30-157939**
OR-04416	Daly, Pamela	2010	Historic Resources Assessment Report of 31762 South Coast Highway, South Laguna Beach, CA	Daly and Associates	30-177512
OR-04459	Bonner, Diane, Wills,Carrie, and Crawford, Kathleen	2014	Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate LA02074A (CM074 S Coast Medical Center) 31872 Coast Highway, Laguna Beach, Orange County, California	EAS	30-000437, 30-000597, 30-000812, 30-000813, 30-000842, 30-160147, 30-160186
OR-04476	Brunzell, Dave	2014	Cultural Resources Assessment Tunnel Stabilization and Sewer Pipeline Replacement Project South Laguna Beach, Orange County, California	BCR Consulting	30-000008, 30-000009, 30-000010, 30-000011, 30-000074, 30-000127, 30-000437, 30-000583, 30-000597, 30-000812, 30-000813, 30-000814, 30-000842, 30-001060, 30-001713, 30-160186, 30-176779, 30-177512, 30-177513

Source: SCCIC 2020. Record Search Results Summary Letter.
Note: Reports shown in bold are located within the Project site.

Based on the records search, six (6) previously documented cultural resources were recorded within the 0.25-mile record search area, as shown in Table 2. Of these, two (2) are located within the Project site and are shown in bold below.

Table 2. Cultural Resources Previously Recorded Within a 0.25-mile Radius of the Project Site					
Primary No.	**Trinomial**	**Age**	**Attributes**	**Recording Events**	**Reports**
P-30-000437	CA-ORA-000437	Prehistoric	Lithic scatter and habitation debris	1973 (Fenenga, G. & T. Cooley, Archaeological Research, Inc); 1981	OR-00641, OR-00664, OR-00735, OR-00822, OR-01995, OR-04249, OR-04409, OR-04459, OR-04476
P-30-000597	CA-ORA-000597	Prehistoric	Lithic scatter, habitation debris, and possible hearth	1976 (Drover, C.E.); 2014 (David Brunzell, BCR Consulting)	OR-01013, OR-01347, OR-01995, OR-03133, OR-03960, OR-04459, OR-04476
P-30-000812	**CA-ORA-000812**	**Prehistoric**	**Lithic scatter and rock shelter**	**1979 (MAGALOUSIS); 1979 (Magalousis, Nicholas M., Interdisciplinary Research Group)**	**OR-00377, OR-03960, OR-04459, OR-04476**
P-30-000813	**CA-ORA-000813**	**Prehistoric**	**Lithic scatter and rock shelter**	**1979 (MAGALOUSIS); 1979 (MAGALOUSIS); 1986 (Constance Cameron, Irvine Soils Engineering)**	**OR-00377, OR-00460, OR-00822, OR-03960, OR-04459, OR-04476**
P-30-000814	CA-ORA-000814	Prehistoric	Lithic scatter and habitation debris	1979 (MAGALOUSIS); 1979 (MAGALOUSIS)	OR-00377, OR-00641, OR-04409, OR-04476
P-30-000842	CA-ORA-000842	Prehistoric	Lithic scatter and habitation debris	1979 (Magalousis, Nicholas); 1979 (Roeder; Zelenka, Scientific Resource Surveys, Inc.); 2004 (Baker, Charles, Caltrans District 12); 2018 (Ivan Strudwick, LSA)	OR-00432, OR-03507, OR-03960, OR-04026, OR-04459, OR-04476

Source: SCCIC 2020. Record Search Results Summary Letter.

Native American Heritage Commission Sacred Lands File Search

On September 16, 2020, Aspen requested that the Native American Heritage Commission (NAHC) complete a search of its Sacred Lands Files to determine if resources significant to Native Americans have been recorded within the Project site. On September 22, 2020, Aspen received a response from the NAHC stating that the search of its Sacred Lands File was negative for the presence of resources within the Project site (see Appendix 1). The NAHC also provided their contact list of interested Native Americans to contact for additional information regarding resources in the area. Aspen sent outreach letters on September 28, 2020 to each of the listed representatives asking if any additional information could be provided regarding resources within the Project Site. Follow up emails and/or phone calls were completed on October 15, 2020 and December 7, 2020. As of the date of this report, one response has been received:

- Juaneño Band of Mission Indians, Acjachemen Nation- Ms. Joyce Perry responded via email on October 8, 2020, indicating that the tribe had no concerns with the vegetation removal by hand crews.

Survey Methods and Results

On October 28, 2020, Michael Macko, M.A., RPA, Aspen's Cultural Resources Group Manager, attempted to conduct an intensive archaeological survey of the Project site. Mr. Macko is qualified under the Secretary of the Interior's Qualification Standards and Guidelines for Archaeology and has in-depth familiarity with the prehistoric and historic period cultural resources of Orange County.

Access to the Project site was not possible at the time. Most of the areas surrounding the Project site, that have the best possible access points, are privately owned or gated. These access issues, as well as the amount

of dense vegetation and steep slopes, make surveying the Project site not feasible. Overview photographs of the Project site are provided in Appendix 2.

Summary and Recommendations

Aspen conducted archaeological literature reviews and record searches in September 2020. An intensive pedestrian survey was attempted in October 2020, however, access issues coupled with dense vegetation and steep slopes precluded the survey from being completed. The main goal of this archaeological investigation was to gather and analyze the information needed to determine if cultural resources are present within the Project site and whether they would be impacted by Project implementation.

The records search and archival research identified two previously recorded resources (P-30-000812 and P-30-000813) within the Project site The NAHC sent results of its Sacred Lands File search on September 22, 2020, which were negative.

Since a pedestrian survey was not feasible at this time, it is recommended that the two known resources, P-30-000812 and P-30-000813, be treated as potentially significant resources and avoided during implementation of the proposed Project. To achieve this avoidance measure while maximizing the amount of acreage available for clearance of vegetation, Aspen recommends that clearance of vegetation in the vicinity of P-30-000812 and P-30-000813 be monitored by a qualified archaeologist. Once enough vegetation is cleared, and there is safe access to the two known site locations, the qualified archaeologist can delineate these resources and flag them for avoidance.

Additionally, the following guidelines are recommended in the event of an unanticipated cultural resource discovery during Project implementation:

> If previously unknown cultural resources are encountered during any ground-disturbing activity related to the Project and a qualified archaeologist is not at the site, a qualified archaeologist should be notified to assess the significance of the find. All project-related ground disturbing activities within 50 feet of any unanticipated cultural resources discovered should be temporarily diverted or halted. If the qualified archaeologist determines the find to be potentially significant, ground-disturbing activities can continue once the find is mitigated. Ideally, mitigation of significant resources can include, but is not limited to, flagging the boundary of the resource for avoidance or data recovery excavations if the resource cannot be avoided.

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South Central Coastal Information Center (SCCIC)

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Appendix 1: Native American Heritage Commission Correspondence

NATIVE AMERICAN HERITAGE COMMISSION

CHAIRPERSON
Laura Miranda
Luiseño

VICE CHAIRPERSON
Reginald Pagaling
Chumash

SECRETARY
Merri Lopez-Keifer
Luiseño

PARLIAMENTARIAN
Russell Attebery
Karuk

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COMMISSIONER
William Mungary
Paiute/White Mountain Apache

COMMISSIONER
Julie Tumamait-Stenslie
Chumash

COMMISSIONER
[**Vacant**]

COMMISSIONER
[**Vacant**]

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Pomo

NAHC HEADQUARTERS
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(916) 373-3710
nahc@nahc.ca.gov
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September 22, 2020

Lauren DeOliveira
Aspen Environmental Group

Via Email to: ldeoliveira@aspeneg.com

Re: 3512.001 South Laguna Fuel Modification Project, Orange County

Dear Ms. DeOliveira:

A record search of the Native American Heritage Commission (NAHC) Sacred Lands File (SLF) was completed for the information you have submitted for the above referenced project. The results were negative. However, the absence of specific site information in the SLF does not indicate the absence of cultural resources in any project area. Other sources of cultural resources should also be contacted for information regarding known and recorded sites.

Attached is a list of Native American tribes who may also have knowledge of cultural resources in the project area. This list should provide a starting place in locating areas of potential adverse impact within the proposed project area. I suggest you contact all of those indicated; if they cannot supply information, they might recommend others with specific knowledge. By contacting all those listed, your organization will be better able to respond to claims of failure to consult with the appropriate tribe. If a response has not been received within two weeks of notification, the Commission requests that you follow-up with a telephone call or email to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from tribes, please notify me. With your assistance, we can assure that our lists contain current information.

If you have any questions or need additional information, please contact me at my email address: Andrew.Green@nahc.ca.gov.

Sincerely,

Andrew Green

Andrew Green
Cultural Resources Analyst

Attachment

Native American Heritage Commission
Native American Contact List
Orange County
9/22/2020

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
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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

Juaneno Band of Mission Indians
Sonia Johnston, Chairperson
P.O. Box 25628 Juaneno
Santa Ana, CA, 92799
sonia.johnston@sbcglobal.net

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
Joyce Perry, Tribal Manager
4955 Paseo Segovia Juaneno
Irvine, CA, 92603
Phone: (949) 293 - 8522
kaamalam@gmail.com

Juaneno Band of Mission Indians Acjachemen Nation - Belardes
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

Juaneno Band of Mission Indians Acjachemen Nation - Romero
Heidi Lucero, Cultural Resources Director
31411-A La Matanza Street Juaneno
San Juan Capistrano, CA, 92675
Phone: (949) 488 - 3484
sos@juaneno.com

La Jolla Band of Luiseno Indians
Fred Nelson, Chairperson
22000 Highway 76 Luiseno
Pauma Valley, CA, 92061
Phone: (760) 742 - 3771

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 3512.001 South Laguna Fuel Modification Project, Orange County.

Native American Heritage Commission
Native American Contact List
Orange County
9/22/2020

Pala Band of Mission Indians
Shasta Gaughen, Tribal Historic Preservation Officer
PMB 50, 35008 Pala Temecula Rd. — Cupeno, Luiseno
Pala, CA, 92059
Phone: (760) 891 - 3515
Fax: (760) 742-3189
sgaughen@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

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 Luis Rey Band of Mission Indians
1889 Sunset Drive — Luiseno
Vista, CA, 92081
Phone: (760) 724 - 8505
Fax: (760) 724-2172
cjmojado@slrmissionindians.org

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820 — Cahuilla
Anza, CA, 92539
Phone: (951) 659 - 2700
Fax: (951) 659-2228
lsaul@santarosacahuilla-nsn.gov

Soboba Band of Luiseno Indians
Scott Cozart, Chairperson
P. O. Box 487 — Cahuilla, Luiseno
San Jacinto, CA, 92583
Phone: (951) 654 - 2765
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487 — Cahuilla
San Jacinto, CA, 92581 — Luiseno
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

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

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed 3512.001 South Laguna Fuel Modification Project, Orange County.

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Anthony Morales,
Gabrieleno/Tongva San Gabriel Band of Mission Indians
P.O. Box 693
San Gabriel, California 91778

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Morales,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Gabrieleno/Tongva San Gabriel Band of Mission Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

Figure 1

South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Andrew Salas,

Gabrieleno Band of Mission Indians- Kizh Nation
P.O. Box 393
Covina, California 91723

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Salas,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Gabrieleno Band of Mission Indians-Kizh Nation was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Charles Alvarez,
Gabrielino-Tongva Tribe
23454 Vanowen Street
West Hills, California 91307

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Mr. Alvarez,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Gabrielino-Tongva Tribe was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Fred Nelson
La Jolla Band of Luiseno Indians
22000 Highway 76
Pauma Valley, California 92061

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Nelson,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the La Jolla Band of Luiseno Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Joseph Ontiveros
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, California 92583

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Mr. Ontiveros,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Soboba Band of Luiseno Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Joyce Perry
Juaneno Band of Mission Indians Acjachemen Nation-Belardes
4955 Paseo Segovia
Irvine, California 92603

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Tribal Manager Perry,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Juaneno Band of Mission Indians Acjachemen Nation-Belardes was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Lovina Redner
Santa Rosa Band of Cahuilla Indians
P.O. Box 391820
Anza, California 92539

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Tribal Chair Redner,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Santa Rosa Band of Cahuilla Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Matias Belardes
Juaneno Band of Mission Indians Acjachemen Nation-Belardes
4955 Paseo Segovia
Irvine, California 92603

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Belardes,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Juaneno Band of Mission Indians Acjachemen Nation-Belardes was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Robert Dorame
Gabrielino Tongva Indians of California Tribal Council
P.O. Box 487
San Jacinto, California 92583

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Dorame,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Gabrielino Tongva Indians of California Tribal Council was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Scott Cozart
Soboba Band of Luiseno Indians
P.O. Box 487
San Jacinto, California 92583

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Cozart,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Soboba Band of Luiseno Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Sandonne Goad,
Gabrielino/Tongva Nation
106 ½ Judge John Aiso St., #231
Los Angeles, California 90012

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Goad,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Gabrielino/Tongva Nation was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Shasta Gaughen
Pala Band of Mission Indians
PMB 50, 35008 Pala Temecula Road
Pala, California 92059

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear THPO Gaughen,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Pala Band of Mission Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Mr. Temet Aguilar
Pauma Band of Luiseno Indians
P.O. Box 369
Pauma Valley, California 92061

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Aguilar,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Pauma Band of Luiseno Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

Figure 1

South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Teresa Romero
Juaneno Band of Mission Indians Acjachemen Nation-Romero
31411-A La Matanza Street
San Juan Capistrano, California 92675

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Romero,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Juaneno Band of Mission Indians Acjachemen Nation-Romero was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

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South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Heidi Lucero
Juaneno Band of Mission Indians Acjachemen Nation-Romero
31411-A La Matanza Street
San Juan Capistrano, California 92675

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Cultural Resources Director Lucero,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Juaneno Band of Mission Indians Acjachemen Nation-Romero was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

Figure 1

South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

Ms. Sonia Johnston
Juaneno Band of Mission Indians
P.O. Box 25628
Santa Ana, California 92799

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear Chairperson Johnston,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the Juaneno Band of Mission Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

Figure 1

South Laguna Fuels Modification Project Location Map

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

September 28, 2020

San Luis Rey Tribal Council
San Luis Rey Band of Mission Indians
1889 Sunset Drive
Vista, California 92081

RE: South Laguna Fuels Modification Project- Tribal Outreach

Dear San Luis Rey Tribal Council,

On September 16, 2020, Aspen Environmental Group (Aspen) requested the Native American Heritage Commission to conduct a Sacred Lands File search for the South Laguna Fuels Modification Project (Project), located in Orange County, California.

The City of Laguna Beach (City) maintains Fuel Modification Zones (FMZs) as part of a wildland fire prevention program. The City and the Laguna Beach Fire Department (LBFD) are proposing the following protocols for fuel modification treatments for FMZ 20 (South Laguna) and FMZ 21 (Sunset). All fuel modification will be limited to areas that are within approximately 100 feet of the property line of any inhabited structure. The primary methods for vegetation management shall consist of goat grazing or hand crew modification. Fuel modification conducted by hand crews will occur using chainsaws, brush-cutters, and other hand tools.

On September 22, 2020, Aspen received the results of the file search for the Project. The results were negative. The NAHC provide a list of interested Native Americans who might provide additional information on cultural resources or sacred tribal areas within the Project area. As the San Luis Rey Band of Mission Indians was included in the NAHC list, I am writing to request any additional information you may be willing to share about important Tribal cultural resource sites and issues related to the Project area. Please let me know if you need any additional information.

If you could provide your comments in writing to my attention via mail, to the address above, or e-mail at ldeoliveira@aspeneg.com , I'll be sure the comments are provided to our client as part of this Project. We would appreciate a response, at your earliest convenience. Please feel free to contact me on my office line, (818) 338-6625, or via e-mail with any questions.

Sincerely,

Lauren DeOliveira, M.S., RPA
Senior Cultural Resources Specialist

Attachment: Figure 1. Project Location Map

Figure 1

South Laguna Fuels Modification Project Location Map

Appendix 2: Project Site Overview Photographs

2020-10-28

Created	2020-10-28 20:25:52 UTC by Michael Macko
Updated	2020-10-28 20:27:20 UTC by Michael Macko
Location	33.5040979370484, -117.738901317212

Management Fields

Site Number	
Date	2020-10-28

Data Fields

Feature Number	Photo of northern survey area view east
Feature Photos	

2020-10-28

Created	2020-10-28 20:00:22 UTC by Michael Macko
Updated	2020-10-28 20:20:16 UTC by Michael Macko
Location	33.5060500281191, -117.743224454818

Management Fields

Site Number	
Date	2020-10-28

Data Fields

Quartz core frag

Artifact Number	1
Artifact Description	

Feature Number	View of west canyon south and view west to area of site P-30-00081. Note no access.
Feature Photos	

2020-10-28

Created	2020-10-28 20:36:21 UTC by Michael Macko
Updated	2020-10-28 20:52:38 UTC by Michael Macko
Location	33.5008222307076, -117.73957838106

Management Fields

Site Number	
Date	2020-10-28

Data Fields

Feature Number	Access Trail and dense coastal sage scrub view north. Hospital and Project area to the south.
Feature Photos	

Appendix E

Geotechnical Reports

Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 20, Northern South Laguna Community Area, Laguna Beach, California

Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program, Zone 21, South Laguna and Sunset Drive Area, Laguna Beach, California

GeoFirm
801 Glenneyre St. • Suite F • Laguna Beach • CA 92651
(949) 494-2122 • FAX (949) 497-0270

October 26, 2018

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

Project No: 72422-20
Report No: 18-8429

Attention: Mr. Michael Rohde

Subject: **Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 20, Northern South Laguna Community 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 base of the slopes ascending from residences in the northern portion of the community of South Laguna in Laguna Beach, toward the boundary with the City of Laguna Niguel. 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 downslope 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 below the properties in Arch Beach Heights along Oro and Nyes Canyon, in Zone 1. This area has been undergoing similar modification for the past several years, and is 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 create 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 Zone 20 above South Laguna, 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 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 – Slope Ratio, Zone 20 Map
Appendix A – References

Site Description

The area of Zone 20 can be characterized as the lower flanks of west side of Niguel Hill, along the community of South Laguna. The area is located on a lower edge of natural slope with ascending natural terrain on the order of 400 to 500 feet in total height. Overall, the majority of the slopes in this area are shallow to moderate, inclined near a 3:1 (horizontal: vertical) ratio and steeper, with localized isolated areas at 1:1 ratio.

Zone 20 is located ascending from residences along West Street, Paseo del Sur, and Mar Vista Avenue. The area is in a largely natural state. No significant fill deposits are believed to be present within Zone 20. The lower slope flanks occupy the majority of the area within 100 feet of the adjacent properties.

Upslope and beyond the influence of the residences, vegetation is variable and similar to most of the hillsides in Laguna Beach. Near the base of the slope the vegetation is an open mix of sparse three to five feet high brush and few very tall trees, including eucalyptus. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the area. Near the residences, denser growths of very mature and tall trees are present.

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. This zone is topographically characterized as a westerly facing slope with minor intervening drainages.

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 area. 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 depths by bedrock strata assigned on the basis of regional geologic mapping to the San Onofre Formation, with local windows of faulted Topanga Formation sandstone near the contact. The San Onofre bedrock typically consists of coarse-grained sandstones, pebble to cobble conglomerate, and cemented angular breccia. Siltstone and claystone beds occur very infrequently. Overall the bedrock underlying the area is resistant and strong. Bedrock is commonly exposed at the surface in isolated slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Landslide deposits are not indicated as being present in Zone 20 based on a review of State maps and aerial photographs. The absence of the ancient landslides is largely due to the favorable structure and competent nature of the underlying rock. The moderate to shallow sloping terrain of the modification area is 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 instability where moderately sloping and if saturated.

Geologic Structure

In general, the regional bedding within the Zone 20 area strikes north-northwest and is inclined 30 to 45 degrees east-southeast. This structure results in a supported condition on most slopes throughout the area. Overall, the potential for deep gross failure of the bedrock is very unlikely in these hillsides owing the lack of weak bedding and the hard and cemented character of the San Onofre Formation.

Fractures and joints are also present in the bedrock. These structures strike mostly northwest and dip to the east inclined 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 Runoff

Within Zone 20 the majority of the fuel modification area is unimproved with regard to drainage, except in areas where isolated drains systems were installed by residents. In other areas, the residual soil, and rock slopes sheet flow to minor tributary drainages, which ultimately collect in the South Laguna community. Reductions in vegetation will not significantly increase the volume of runoff and surface sediment losses from the lower hillsides.

Slope Stability

In Zone 20, the character of the rock and bedding in the San Onofre is not generally prone to gross instability. Accordingly, the California Geological Survey landslide map for Laguna Beach indicates no landslide deposits are known to be present in this area. Confirmation of the presence or absence of landslide features is not within the scope of this investigation.

However, 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 slopes near the residential properties is low to moderate on the lower slopes.

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.

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. No mapped landslides are present on the slopes flanking South Laguna within Zone 20.

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, and where thicker soil or fill materials are present.

5. The potential for debris and/or mudflows from significant fuel modification is very low 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. Sensitive surficial stability areas are indicated in orange on Figure 1.

6. 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 conversations with personnel at Indacochea Ranch, Inc., 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. 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.

LIMITATIONS

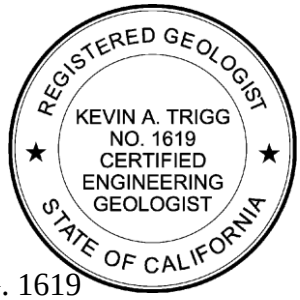
This investigation has been conducted in accordance with generally accepted practice in the engineering geologic and soils engineering field. No further warranty is offered or implied. Conclusions and guidelines presented are based on the conditions encountered and are not meant to imply a control of 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 12-31-18

KAT: np

Distribution: (5) to Addressee

Slope Ratio
Fuel Modification Zone 20

GeoFirm

Project no.:	Date:	Figure:
72422 - 20	10.26.18	1

Slope Ratio Legend

FMZ 20

- > 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- < 1:1
- Lanslide Unit

N

Scale - 1' = 200'

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

1. California Geological Survey, 2006, "Draft-Preliminary Landslide Inventory, Laguna Beach Quadrangle", dated May 8.

2. Geofirm, 1989, "Geotechnical Investigation, Feasibility for Residential Development, 14+ Acre Parcel North of Mar Vista, South Laguna, California", Project No. 89-978-2, dated November 27.

3. Geofirm, 2002, "Geotechnical Update Report, Villa Mar Vista Residence, 31401 Mar Vista, Laguna Beach, California", Project No. 71314-00, Report No. 02-4011, dated August 1.

4. 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.

5. 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.

6. 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.

7. Hollingsworth, R., and Kovacs, G.S., 1981, "Soil Slumps and Debris Flows: Prediction and Protection", AEG Bulletin, Vol. 18, No. 1, pp 17-28.

8. 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.

9. 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)

10. USGS, 2003, " Soil-Slip Stability Map for the Santa Ana 30' x 60' Quadrangle, Southern California", Open-File Report 03-17, Plate 5.

GeoFirm
801 Glenneyre St. • Suite F • Laguna Beach • CA 92651
(949) 494-2122 • FAX (949) 497-0270

October 26, 2018

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

Project No: 72422-21
Report No: 18-8431

Attention: Mr. Michael Rohde

Subject: **Geotechnical Evaluation of Potential Slope Stability Impacts, Proposed Fuel Modification Program Zone 21, South Laguna and Sunset Drive 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 base of the slopes ascending from Sunset Drive and residences in the central portion of the South Laguna community in Laguna Beach, toward the boundary with the City of Laguna Niguel. 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 downslope 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 below the properties in Arch Beach Heights along Oro and Nyes Canyon, in Zone 1. This area has been undergoing similar modification for the past several years, and is 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 create 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 Zone 21 above South Laguna, 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 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 – Slope Ratio, Zone 21 Map
Appendix A – References

Site Description

The area of Zone 21 can be characterized as the lower flanks of west side of Niguel Hill comprising the southern extension from Zone 20, along Sunset Drive and central portion of the community of South Laguna. The area is located on a lower edge of natural slope with ascending natural terrain on the order of 400 to 500 feet in total height. Overall, the majority of the slopes in this area are shallow to moderate, inclined near a 3:1 (horizontal: vertical) ratio and steeper, with localized isolated areas at 1:1 ratio.

Zone 21 is located ascending from residences along Eagle Rock Way, Mar Vista Avenue, Sunset Avenue, and Hillhaven Ranch Way. The area is in a largely natural state. No significant fill deposits are believed to be present within Zone 21. The lower slope flanks occupy the majority of the area within 100 feet of the adjacent properties.

Upslope and beyond the influence of the residences, vegetation is variable and similar to most of the hillsides in Laguna Beach. Near the base of the slope the vegetation is an open mix of sparse three to five feet high brush and some very tall trees, including eucalyptus within the drainages. Limited accumulations of debris comprised of dead vegetation and dry woody materials is scattered throughout the area. Near the residences, denser growths of mature and tall trees are present.

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. This zone is topographically characterized as a westerly facing slope with minor intervening drainages.

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 area. 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 depths by bedrock strata assigned on the basis of regional geologic mapping to the San Onofre Formation, with local windows of faulted Topanga Formation sandstone near the contact. The San Onofre bedrock typically consists of coarse-grained sandstones, pebble to cobble conglomerate, and cemented angular breccia. Siltstone and claystone beds occur very infrequently. Overall the bedrock underlying the area is resistant and strong. Bedrock is commonly exposed at the surface in isolated slopes that are inclined at a 1:1 (horizontal:vertical) ratio or steeper.

Minor surficial landslide deposits are indicated as being present in Zone 21 based on a review of State maps and aerial photographs, confined to the drainages flanking Sunset Avenue. These failures are small slumps in the terrace materials flanking the active drainage courses. The absence of deep ancient landslides is largely due to the favorable structure and competent nature of the underlying rock.

The moderate to shallow sloping terrain of the modification area is mantled at shallow depth with a veneer of residual soil and deeper accumulations of terrace deposits. The terrace deposits consist of mixes of clay to sand with layers of gravel and cobbles exposed throughout the roadcuts and native terrain backing South Coast Hospital. The terrace is weakly cemented while dry, but readily decrepitates when wetted. 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 instability where moderately sloping and if saturated.

Geologic Structure

In general, the regional bedding within the Zone 21 area strikes north-northwest and is inclined 30 to 45 degrees east-southeast. This structure results in a supported condition on most slopes throughout the area. Overall, the potential for deep gross failure of the bedrock is very unlikely in these hillsides owing the lack of weak bedding and the hard and cemented character of the San Onofre Formation. The terrace material is layered essentially flat lying and without structural discontinuity.

Fractures and joints are also present in the bedrock. These structures strike mostly northwest and dip to the east inclined 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 Runoff

Within Zone 21 the majority of the fuel modification area is unimproved with regard to drainage, except in areas where isolated drains systems and catch basins exist along Sunset Avenue. Overall, the residual soil, terrace deposits and rock slopes ultimately collect in the South Laguna community and the more established drainages. Reductions in vegetation will not significantly increase the volume of runoff and surface sediment losses from the lower hillsides.

Slope Stability

In Zone 21, the character of the rock and bedding in the San Onofre is not generally prone to gross instability. Accordingly, the California Geological Survey landslide map for Laguna Beach indicates no bedrock landslide deposits are known to be present in this area. Small Terrace deposit slumps are identified in the drainage above Sunset Avenue. Confirmation of the presence or absence of landslide features is not within the scope of this investigation.

However, 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 slopes near the residential properties is low to high on the lower slopes.

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.

3. The exposed bedrock materials have a very low susceptibility to surficial failure. The residual soil deposits have a low to moderate susceptibility to surficial movement with the current vegetation. No mapped bedrock landslides are present on the slopes flanking Sunset Avenue and central South Laguna within Zone 21.

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 terrace material exposed in steep drainage walls, roadcuts and in residual soils on moderately sloping terrain, and where thicker soil materials are present.

5. The potential for debris and/or mudflows from significant fuel modification is very low 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. Bedrock slopes steeper than a 1:1 ratio do not typically support soil accumulation, and therefore pose a relatively low debris flow potential. Terrace slopes of 2:1 ratio and steeper are potentially unstable when wetted. Sensitive surficial stability areas are indicated in orange on Figure 1.

6. 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 conversations with personnel at Indacochea Ranch, Inc., 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. 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.

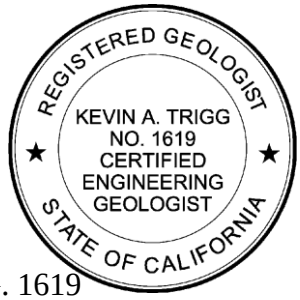
LIMITATIONS

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 12-31-18

KAT: np

Distribution: (5) to Addressee

Slope Ratio
Fuel Modification Zone 21

GeoFirm

Project no.:	Date:	Figure:
72422 - 21	10.26.18	1

landslide

Slope Ratio Legend

FMZ 21

- > 4:1
- 4:1 - 2:1
- 2:1 - 1:1
- < 1:1
- Lanslide Unit

Scale - 1' = 200'

APPENDIX A

REFERENCES

APPENDIX A

REFERENCES

1. California Geological Survey, 2006, "Draft-Preliminary Landslide Inventory, Laguna Beach Quadrangle", dated May 8.

2. Geofirm, 1989, "Geotechnical Investigation, Feasibility for Residential Development, 14+ Acre Parcel North of Mar Vista, South Laguna, California", Project No. 89-978-2, dated November 27.

3. Geofirm, 2002, "Geotechnical Update Report, Villa Mar Vista Residence, 31401 Mar Vista, Laguna Beach, California", Project No. 71314-00, Report No. 02-4011, dated August 1.

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5. 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.

6. 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.

7. Hollingsworth, R., and Kovacs, G.S., 1981, "Soil Slumps and Debris Flows: Prediction and Protection", AEG Bulletin, Vol. 18, No. 1, pp 17-28.

8. 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.

9. 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)

10. 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 Summary for the South Laguna Fuel Modification Project

Aspen environmental group

5020 Chesebro Road, Suite 200
Agoura Hills, CA 91301
(818) 597-3407
www.aspeneg.com

PROJECT MEMORANDUM
FMZ 20/21-SOUTH LAGUNA FUEL MODIFICATION PROJECT

Date: February 1, 2021
To: Mike Rohde, Project Manager
From: Joe Stewart, PhD
Subject: Paleontological Resources Summary for the South Laguna Fuel Modification Project

Purpose and Intent of the Memorandum

This memorandum summarizes the paleontological resources that are present or could be present and potential impacts to these resources within the South Laguna Fuel Modification Project (Project) area, which includes Fuel Modification Zone (FMZ) 20 (South Laguna) and FMZ 21 (Sunset) covering a combined area of 20.4 acres, as shown in Figure 1.

Site Description and Location

Since the 1950s, the City of Laguna Beach has maintained a system of fuel breaks for protection from wildfires. After the 1993 wildfires, the program was expanded, and now the City currently maintains 27 FMZs managed by goat-grazing and hand crews. The City received a grant through a legislative amendment to the State budget. The California Department of Natural Resources awarded the grant to fund fuel modification activities in FMZ 20 and 21. According to the 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 to protect residential and public property. The LBFD would oversee the construction and maintenance of the fuel breaks in FMZ 20 and 21.

FMZ 20, an approximately 7.9-acre stretch of land, predominantly borders the northern portion of the South Laguna residential neighborhood as well as the South Coast Water District office and water reservoir. The homes in this neighborhood are adjacent to large portions of densely vegetated steep hillsides and are susceptible to wildfire hazards. The majority of FMZ 20 is located within Aliso and Wood Canyons Wilderness Park and includes the beginning of Valido Trail. FMZ 20 contains a variety of native and disturbed habitat as well as an intact population of big-leaved crownbeard, a State and federally listed threatened species. Other plant species within FMZ 20 include coastal sagebrush, coastal sage scrub, lemonade berry, laurel sumac, bigpod ceanothus, bush rue, southern maritime scrub, and chamise. According to the City of Laguna Beach's GIS Constraints layers, large portions of FMZ 20 are designated as High/Very High Value Habitat and Seismic Hazard Landslide Areas. Areas categorized as Very High Value Habitat or have had rare plant sightings will be re-surveyed by a qualified biologist in the late winter or early spring and the project design revised to avoid rare plants and minimize vegetation clearance in these areas. Seismic Hazard Landslide Areas would require specific treatment measures to minimize erosion hazards. Plant species in the lower drainage areas include southern willow scrub and non-native ornamental plants.

Figure 1. Project Location Map

Similar to FMZ 20, FMZ 21 is located on steep, densely vegetated slopes that pose the risk of wildfire hazards to nearby structures. FMZ 21 consists of approximately 12.5 acres and is predominantly on the east side of residential single-family homes and Mission Hospital Laguna Beach between Eagle Rock Way to the north and Vista Del Sol to the south. Two portions of FMZ 21 are within High/Very High Value Habitat. The heavily vegetated steep slopes within and above FMZ 21 pose a risk of wildfire damage to adjacent homes, valuable habitat, and homes at the top of Niguel Hill and Monarch Crest. FMZ 21, like FMZ 20, is also moderately impacted by non-native ornamental plants as well as existing fuel breaks likely established by homeowners. The areas with relatively intact native habitat contain bigpod ceanothus, spiny redberry, bush rue, southern maritime scrub, lemonade berry, laurel sumac, toyon, and chamise. The lower portions of existing drainages are largely disturbed and planted with ornamental vegetation, with small amounts of remaining native vegetation including mulefat, elderberry, and giant wild rye. One population of big-leaved crownbeard occurs in and adjacent to the north end of FMZ 21. Additionally, a small population of Coulter's Matilija Poppy (included in the California Native Plant Society Inventory of Rare and Endangered Plants as limited distribution) occurs near 1 Hillhaven Ranch Way. Portions of FMZ 21 that have been categorized as Very High Value Habitat or have had rare plant sightings will be re-surveyed by a qualified biologist in the late winter or early spring and the project design revised to avoid rare plants and minimize vegetation clearance in these areas.

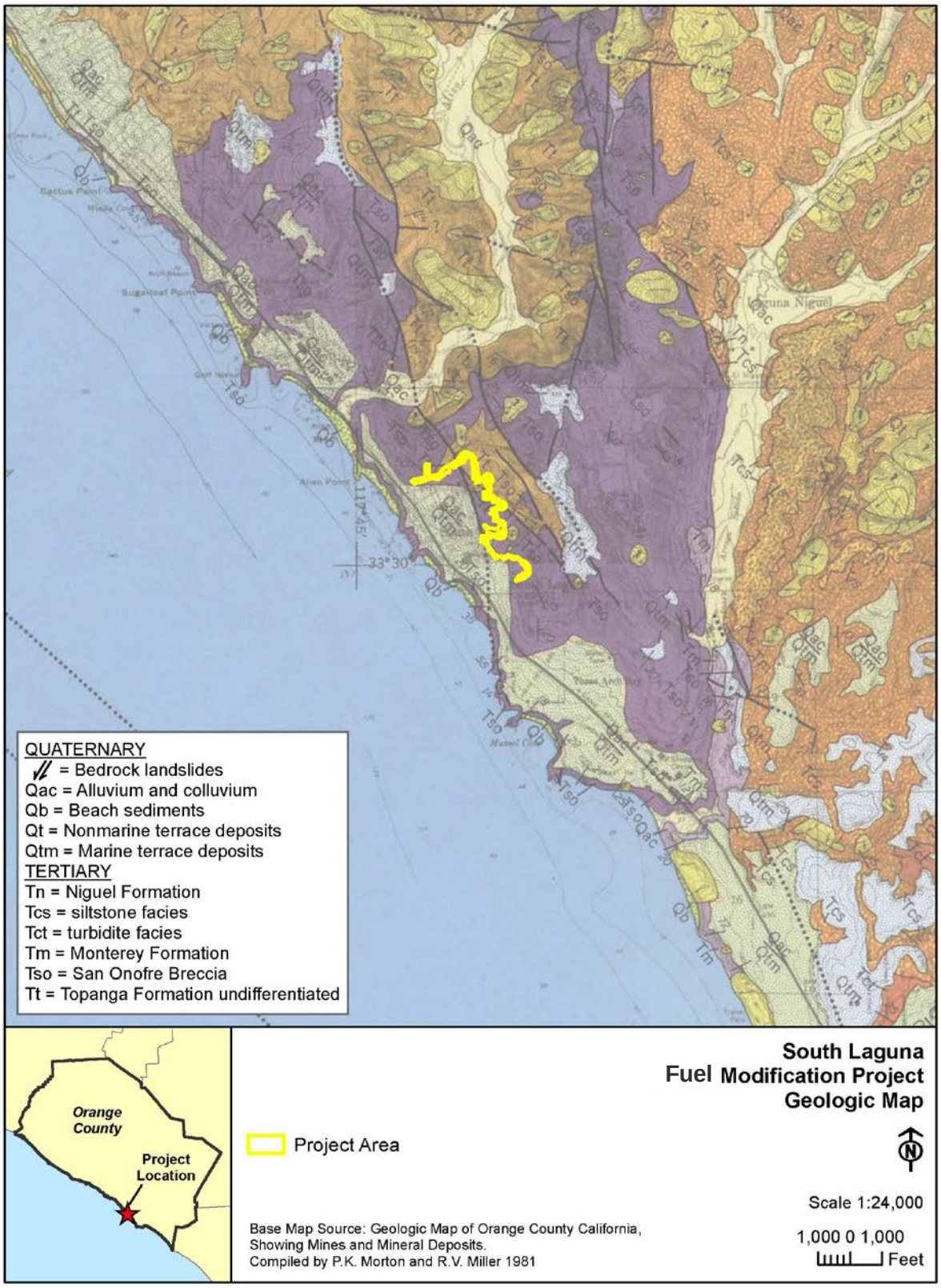
All fuel management activities would be conducted within FMZ 20 and FMZ 21 to reduce available vegetation for potential wildfire ignition within approximately 100 feet of developed structures. Fuel management methods would be implemented exclusively on hand crews utilizing chainsaws, brush-cutters, and other hand tools due to the presence of special-status species and steepness of topography.

Results

Geologic mapping of the area (Morton and Miller, 2006) shows mostly the San Onofre Breccia, and some exposures of the Topanga Formation (Figure 2). The paleontological resources records search done by the Natural History Museum of Los Angeles County for the South Laguna Fuel Modification Project (see Attachment A) covered the area. That records search yielded one known nearby San Onofre Breccia locality (early Miocene), two known nearby Topanga Formation localities (middle Miocene), and one known nearby Pleistocene locality. The San Onofre Breccia locality produced unspecified invertebrate fossils. One Topanga Formation locality produced a specimen of an extinct aquatic mammal known as *Desmostylus*. The other produced mollusk and brachiopod fossils. The single known Pleistocene locality produced a fossil of *Mammuthus* (mammoth). In general, the Topanga Formation produces many more fossils than does the San Onofre Breccia. Pleistocene deposits can produce many or few fossils.

Aspen archaeologist, Michael Macko, M.A., RPA, attempted to survey the Project area on October 28, 2020. Based on his report of the inaccessibility of the Project footprint, no paleontological survey was attempted. Some areas that could be accessed showed bioturbation of the surficial sediments and much plant material worked into the sediments.

Figure 2. South Laguna Fuel Modification Project Geologic Map



Impacts

The South Laguna Fuel Modification Project involves minor ground disturbances to remove and reduce vegetation with a combination of hand brush-cutting and hand-pulling to remove vegetation. Majority of roots of perennial plants would be left in place to minimize erosion. Mulch and other erosion control measures (such as scattered cut brush clippings, straw wattles, straw bales, and/or jute netting) would be installed as necessary for additional erosion protection without being obtrusive. All non-native vegetation waste would be removed from the site and hauled to a green waste recycler.

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 proposed fuel modification activities. There is no clear evidence that the Topanga Formation or the San Onofre breccia will be impacted and would at most be impacted only by pedestrian traffic. The likelihood of impacting significant paleontological resources that are not already disturbed by vegetation is negligible.

Conclusion

Impacts to paleontological resources within the South Laguna Fuel Modification Project area would be negligible. No mitigation is required.

Attachments

Attachment A – Paleontological Resources Records Search
Attachment B – Joe Stewart Resume

References

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.

Attachment A

Paleontological Resources Records Search

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

tel 213.763.DINO
www.nhm.org

Research & Collections

e-mail: paleorecords@nhm.org

September 26, 2020

Attn: Joe Stewart

re: Paleontological resources for Project 3512.001 in the City of Laguna Beach

Dear Joe:

I have conducted a thorough search of our paleontology collection records for the locality and specimen data for proposed development at the Project 3512.001 project area as outlined on the portion of the San Juan Capistrano and Dan Point USGS topographic quadrangle maps that you sent to me via e-mail on Sept 24, 2020. We do not have any fossil localities that lie directly within the proposed project area, but we do have fossil localities nearby from the same sedimentary deposits that occur in the proposed project area, either at the surface or at depth.

The following table shows the closest known localities in the collection of the Natural History Museum of Los Angeles County.

Locality Number	Location	Formation	Taxa	Depth
LACM IP 6997	S slope of ridge adjacent to Laguna RidgeTrail, near end of Seaway Dr	San Onofre Breccia	Invertebrates	Surface
LACM IP 5835	East side of Aliso Creek bank; approximately 1 mile inland from Pacific Coast Highway; on west side of prominent spur trending northwest from Niguel Hill	Topanga Formation (shale)	abundant mollusks and *Glotiddea sp.*	surface
LACM VP 3222	Two miles north of South Laguna; west of Aliso Creek; southeast of Temple Hill	Topanga Formation (brecciated conglomeratic sandstone)	Aquatic mammal (*Desmostylia*)	surface
LACM VP 1115	near Salt Creek Trail in Salt Creek Corridor Regional Park; San Joaquin Hills	Pleistocene terrace deposit	Mammoth (*Mammuthus*)	surface

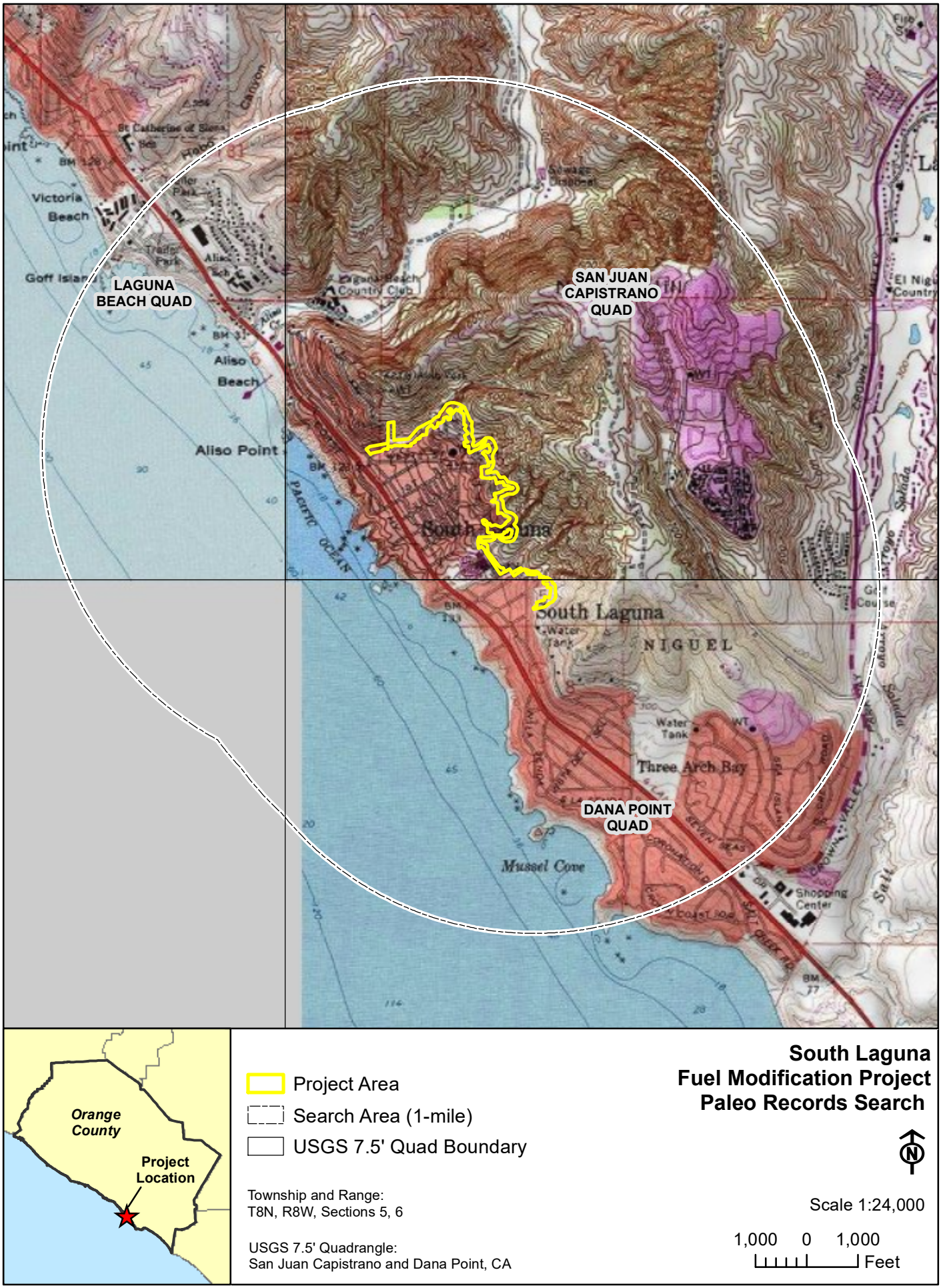
VP, Vertebrate Paleontology; IP, Invertebrate Paleontology; bgs, below ground surface

This records search covers only the records of the Natural History Museum of Los Angeles County ("NHMLA"). It is not intended as a paleontological assessment of the project area for the purposes of CEQA or NEPA. Potentially fossil-bearing units are present in the project area, either at the surface or in the subsurface. As such, NHMLA recommends that a full paleontological assessment of the project area be conducted by a paleontologist meeting Bureau of Land Management or Society of Vertebrate Paleontology standards.

Sincerely,

Alyssa Bell, Ph.D.
Natural History Museum of Los Angeles County

enclosure: invoice


LAGUNA BEACH QUAD
SAN JUAN CAPISTRANO QUAD
DANA POINT QUAD
Victoria Beach
Goff Island
Aliso Beach
Aliso Point
PACIFIC OCEAN
South Laguna
NIGUEL
Water Tank
Three Arch Bay
Mussel Cove
Shopping Center
Orange County
Project Location
Project Area
Search Area (1-mile)
USGS 7.5' Quad Boundary
Township and Range:
T8N, R8W, Sections 5, 6
USGS 7.5' Quadrangle:
San Juan Capistrano and Dana Point, CA
South Laguna
Fuel Modification Project
Paleo Records Search
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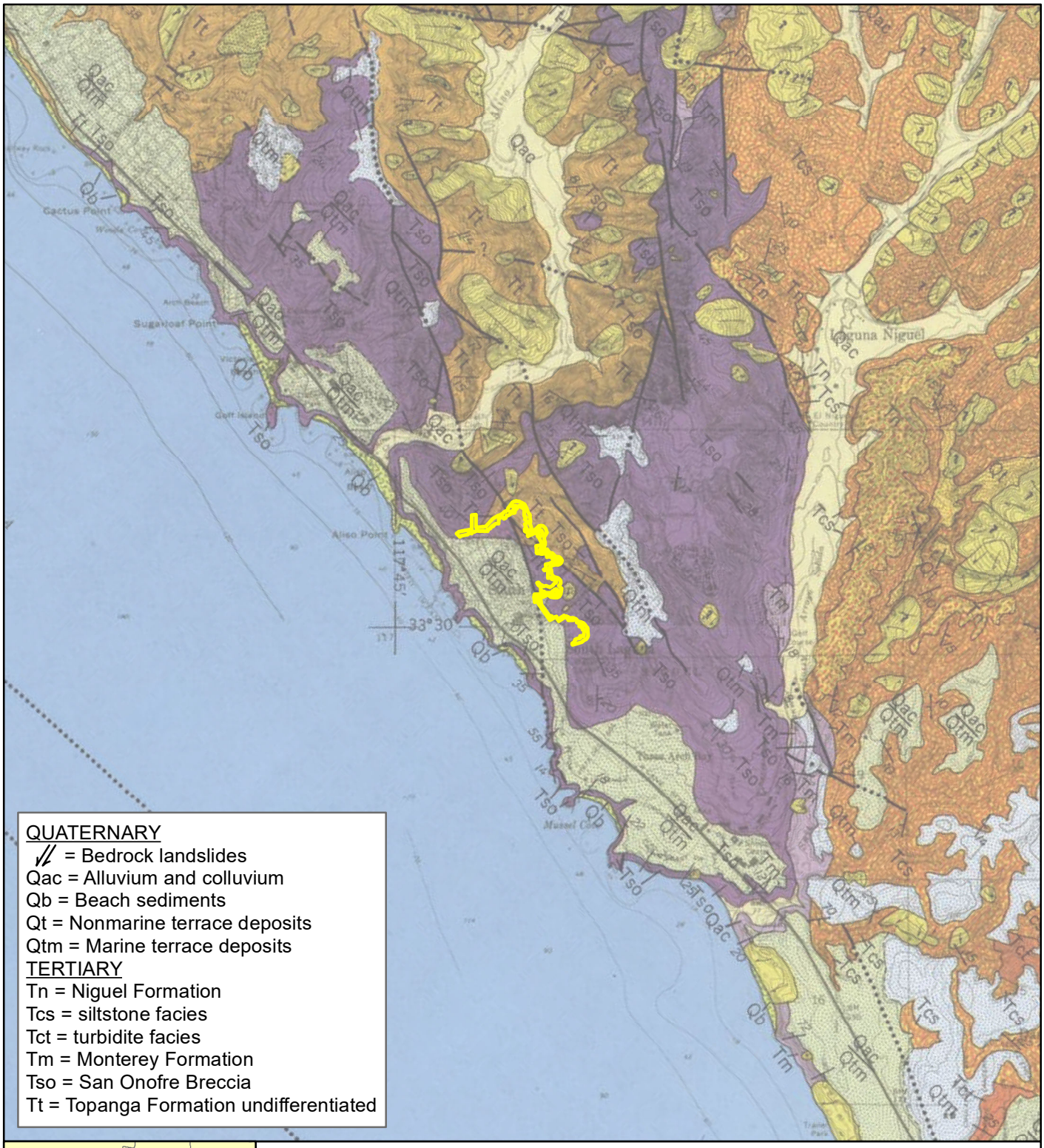
Feet



Project Area

South Laguna Fuels Modification Project Geologic Map

Base Map Source: Geologic Map of Orange County California, Showing Mines and Mineral Deposits. Compiled by P.K. Morton and R.V. Miller 1981

Scale 1:24,000

1,000 0 1,000 Feet

Attachment B

Joe Stewart Resume

Joe Stewart, Ph.D.

PALEONTOLOGIST

EDUCATION

PhD, Systematics and Ecology, University of Kansas, 1984

MA, Systematics and Ecology, University of Kansas, 1979

SUMMARY OF QUALIFICATIONS

Dr. Stewart is a vertebrate paleontologist with over 40 years of experience in paleontology and 33 years with the geology and paleontology of California. His main experience is with the paleontological resources of California, but also has experience with projects in Wyoming, Utah, Colorado, Arizona, Nevada, Idaho, and Nebraska, and a substantial research history in Kansas. Dr. Stewart has extensive experience with permitting projects subject to CEQA and NEPA, and is on the list of approved paleontologist for Orange County. His expertise includes the identification of fish fossils and Pleistocene microvertebrate faunal remains. He recently completed the paleontological mitigation work for a project for the County of Orange on Newport Bay. He directed the paleontological monitoring and mitigation program for Path 15, a major transmission line project, and the paleontological aspects of permitting for the Gateway West transmission line project in Wyoming and Idaho. Joe has multiple BLM permits. He has published over 40 peer reviewed paleontology articles in scientific books and journals. He is also a Research Associate at the Natural History Museum of Los Angeles County.

PROFESSIONAL EXPERIENCE

REVIEW OF IVANPAH-CONTROL PROJECT

California Public Utilities Commission

Reviewed paleontological resource aspects of Southern California Edison's Ivanpah-Control Project environmental assessment filing for California Public Utilities Corporation.

TECHNICAL REVIEW OF ALAMITOS BAY PUMP STATION INITIAL STUDY

Los Angeles County Flood Control District

Reviewed paleontological documents for the Initial Study for the Los Angeles County Flood Control District.

STRAUSS WIND ENERGY PROJECT

Santa Barbara County Planning Dept

Reworking paleontological resource sections of an earlier EIR for Santa Barbara County Planning Department.

Aspen environmental group

PUERCO CANYON CAMP AND TRAILHEAD PROJECT

Mountains Recreation and Conservation Authority

Surveyed the project footprint and wrote the Paleontological Resources Mitigation and Monitoring Plan.

PREVIOUS EXPERIENCE

- ISEC West Solar Project (2013-2016). Dr. Stewart supervised paleontological monitoring on private lands.
- BrightSource Sonoran West Solar Project (2012-2013). Dr. Stewart supervised paleontological survey on BLM and private lands. Worked on AFC and wrote final report when project was terminated.
- TerraGen Project (2012). Dr. Stewart Performed pedestrian paleontological survey of project site and wrote the Paleontological Resources section for the AFC.
- BrightSource Rio Mesa Solar Project (2011-2013). Dr. Stewart supervised paleontological survey on BLM and private lands. Wrote the Paleontological Resources section for the AFC.
- Pio Pico Energy Center (2010-2011). Dr. Stewart supervised paleontological survey and wrote the Paleontological Resources section for the AFC.
- Mesquite Nevada Replacement General Aviation Airport (2009). Dr. Stewart wrote the paleontological Resource Assessment for the Federal Aviation Administration.
- Marsh Landing Generating Station Application for Certification (2008- 2013). Dr. Stewart performed paleontological pedestrian survey of project area in Contra Costa County and wrote the paleontological resource section of the AFC. Served as Paleontological Resource Specialist for construction. Wrote final report.
- Imperial Valley Solar Application for Certification (2008-2010). Dr. Stewart directed paleontological pedestrian survey of project area in San Bernardino County and wrote the paleontological resource section of the AFC.
- Calico Solar Application for Certification (2008-2010). Dr. Stewart participated in paleontological pedestrian survey of project area, edited the paleontology section of the AFC, and am served as Paleontological Resource Specialist.
- Starwood Power-Midway, LLC Peaking Project Construction (2008-2009). Dr. Stewart wrote mitigation plan for paleontological resources, oversaw monitoring for paleontological resources, and wrote final report.
- Calnev Pipeline Project (2008-2009). Dr. Stewart directed paleontological survey of 234-mile long project area in San Bernardino County, California and Clark County, Nevada and wrote the paleontological assessment.
- Willow Pass Generating Station Application for Certification (2008-2009). Dr. Stewart participated in paleontological pedestrian survey of project area in Contra Costa County and wrote the paleontological resource section of the AFC.
- San Joaquin One and Two Application for Certification (2008). Dr. Stewart directed paleontological pedestrian survey of project area in Fresno County and wrote the paleontological resource section of the AFC.
- Carrizo Energy Solar Farm (Ausra) Application for Certification (2007). Dr. Stewart participated in paleontological pedestrian survey of project area and edited the paleontology section of the AFC.
- Starwood Power-Midway, LLC Peaking Project Application for Certification (2007). Dr. Stewart participated in the responses to the CEC Provisional Staff Assessments.

- Path 15 500-kV Power Transmission Line between Los Banos and Gates substations (2003-2005). Dr. Stewart supervised paleontological resource monitoring, excavations, specimen preparation, specimen identification, and report writing for 80-mile power line.

PREVIOUS EMPLOYMENT

- URS Corporation, Principal Paleontologist, San Diego, California, 2007-2015.
- PCR Services Corporation, Principal Paleontologist, Irvine, California, 2005-2007.
- Jones and Stokes, Project Paleontologist, Sacramento, California, 2003-2005.
- Brian F. Smith & Associates, Project Paleontologist, Poway, CA, 2003-2005
- Natural History Museum of Los Angeles County, California, Assistant Curator of Vertebrate Paleontology, 1985-2003.

PROFESSIONAL SOCIETIES/AFFILIATIONS

- Society of Vertebrate Paleontology

SPECIAL CERTIFICATIONS

- Hazardous Waste Operations and Emergency Response 40 Hr.
- General Site Worker
- Certified paleontologist in Orange County
- Certified paleontologist in Riverside County

PUBLICATIONS

- Stewart, J. D., and M. E. Hakel. 2017. First record of vertebrate fossils in the Searles Basin: in another desert paleosol. California State University Desert Symposium Proceedings 2017:341.
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- Kelly, T. S., and J. D. Stewart. 2008. New records of Middle and Late Miocene Perissodactyla and Artiodactyla from the western border of the San Joaquin Valley, Diablo Range, Fresno County, California. Los Angeles County Museum of Natural History Contributions in Science 516:1-29.
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- Stewart, J. D., E. Zaborsky, and M. Hakel. 2006. A new Middle Miocene terrestrial fauna from the Temblor Formation of Central California. New Mexico Museum of Natural History & Science Bulletin 34:40.
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Appendix G

Policy Consistency Analysis Memo

Aspen environmental group

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PROJECT MEMORANDUM

Date: January 29, 2021
To: Mike Rohde, City of Laguna Beach Fire Department Wildland Fire Defense Coordinator
From: Tatiana Inouye, Environmental Planner
Stephanie Tang, Environmental Scientist
Subject: South Laguna Fuel Modification Project

The City of Laguna Beach Fire Department (LBFD) proposes to apply fuel management practices in the South Laguna area within the City of Laguna Beach, California. The project would include two fuel management zones (FMZs) within the City of Laguna Beach. FMZ 20 (South Laguna) measures approximately 7.9 acres and predominantly borders the northern portion of the South Laguna residential neighborhood as well as the South Coast Water District office and water reservoir. FMZ 21 (Sunset) measures approximately 12.5 acres and is predominantly on the east side of residential single-family homes and Mission Hospital Laguna Beach between Eagle Rock Way to the north and Vista Del Sol to the south. Both FMZs would be within the jurisdiction of the City of Laguna Beach and planning boundary for the City of Laguna Beach General Plan, except for the northern section of FMZ 20 which is within the County of Orange's planning area for Aliso and Wood Canyons Wilderness Park.

This technical memorandum demonstrates the proposed project's consistency with the California Coastal Act, City of Laguna Beach Local Coastal Program (City of Laguna Beach, 2021), and Aliso and Wood Canyons Wilderness Park Resource Management Plan (RMP) (County of Orange, 2009) that provide policies for managing and monitoring the lands associated with the proposed 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 (California Coastal Commission, 2021).

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) (California Coastal Commission, 2021).

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 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, except for certain specific lands for which the Coastal Commission retains original permit jurisdiction (City of Laguna Beach, 2020).

The proposed fuel modification activities would primarily occur within the planning boundary of the City of Laguna Beach LCP. Figures 3 and 5 in the Initial Study illustrate the location of specific fuel modification activities within FMZ 20 and FMZ 21.

The entire City of Laguna Beach is encompassed within the coastal zone, except for the Sycamore Hills area (City of Laguna Beach, 2012). The City's LCP constitutes the following planning and policy documents, and any amendments to these documents require Coastal Commission approval as LCP Amendments (City of Laguna Beach, 2012; City of Laguna Beach, 2021):

- Coastal Land Use Plan Technical Appendix
- Laguna Beach General Plan Land Use Map (excluding Blue Lagoon and Three Arch Bay)
- Laguna Beach Zoning Map
- General Plan Land Use and Zoning Map Amendments
- Laguna Beach General Plan Land Use and Open Space-Conservation Elements
- Post-LCP Certification Permit and Appeal Jurisdiction
- Downtown Specific Plan
- Laguna Canyon Annexation Specific Plan
- Treasure Island Specific Plan
- Title 12.08 (Preservation of Heritage Trees Ordinance)
- Title 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 (Laguna Beach Zoning Code, including the Coastal Development Permit Ordinance)
- Shoreline Protection Guidelines (as adopted by Resolution 88.43)
- Design Guidelines- A Guide to Residential Development
- 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 (as adopted by Resolution 89.104)
- 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 and the Aliso and Wood Canyons Wilderness Park RMP 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.

Justification for Fuel Break Activities. The fuel modification activities in FMZ 20 and FMZ 21 would increase protection, reduce fire intensity and flame length, and reduce potential for wildfire to spread to residential, institutional, public, 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) regarding protection of open space.

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 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.

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 Habitat Restoration and Enhancement Plan (HREP) for Natural Community Conservation Plan/Habitat Conservation Plan (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 (HREP) for NCCP/HCP Reserve lands and other approved long-term management plan to locate, monitor, and eradicate exotic plant species. Update the Nature Reserve of Orange County (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., California Department of Fish and Wildlife [CDFW], U.S. Fish and Wildlife Service [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., CDFW, 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 Orange County Fire Authority (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.

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 and preserve 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, 8C, 8G, and 8N), and Aliso and Wood Canyons Wilderness Park RMP (Policy BIO-2).

Some areas within FMZ 20 and FMZ 21 are moderately disturbed by non-native and invasive annual species, rendering removal necessary for both fire protection and invasive management. In these areas, hand crews would completely remove non-native, and in some instances, herbicide may be applied as spot treatments for non-native and/or invasive plants when necessary. Initial reconnaissance-level surveys by professional biologists have been completed to determine prescribed treatments for areas within each FMZ based on the species surveyed, with additional surveys planned for Spring 2021 to

refine treatments areas as needed. 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 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, continuing existing fire control methods, encouraging cooperation among residents, and annually monitoring FMZs would be consistent with Laguna Beach General Plan Policy 2.6 and Aliso and Wood Canyons Wilderness Park RMP Policy BIO-4. Annual monitoring and maintenance of FMZs would involve pruning, weeding, and controlling invasive species, consistent with Aliso and Wood Canyons Wilderness Park RMP Policy BIO-3.

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.

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.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 20 and FMZ 21 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 D to the Initial Study, and exclusion areas in FMZ 20 have been incorporated into the project to avoid impacts to cultural resources. Once vegetation clearing has begun, a qualified archaeologist would determine if modification to the exclusion areas is required to avoid impacts to cultural resources. The exclusion areas in FMZ 20, which would be modified as necessary by a qualified archaeologist during treatment activities, would ensure project consistency with Coastal Act Section 30244, the Laguna Beach General Plan (Policy 12D), and the Aliso and Wood Canyons Wilderness Park RMP (Policies CULT-1 through CULT-3 and CULT-5).

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 landforms, 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.

Justification: The fuel modification project is consistent with Coastal Act Section 30251 and the Laguna Beach General Plan (Policies 3.9 and 7G) regarding compliance with the City's landscape guidelines and

establishment of a proper buffer between existing development and open space. FMZ 20 and FMZ 21 are located directly along the wildland-urban interface along residential, institutional, and public development. Urban structures adjacent to undeveloped land are considered at high risk during fire season due to their proximity to heavily vegetated hillsides and steep slopes. The fuel breaks would provide defensible space for structures in the South Laguna area from heavy-load chaparral fuels, reduce potential wildfire intensity and flame length, and reduce the risk of wildfire from spreading to high value habitat. Fuel modification activities would only occur within their respective zones and be limited to 100-foot widths. Once fuel breaks are established, annual maintenance of approved methods (mowing and hand crew removal in appropriate locations) would occur. Furthermore, consistent with Policy 7G, the proposed project would target full removal of non-native species, with selective thinning of native vegetation and avoidance of sensitive and rare species such as Coulter's Matilija poppy and big-leaved crownbeard.

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 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.

Justification: The project would utilize the treatment protocols listed in Appendix A to the Initial Study, which require that FMZ 20 and FMZ 21 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 E 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.

The proposed project is consistent with the requirements of the Laguna Beach General Plan (Policies 4B and 4C) regarding annual maintenance of the City's fuel modification program and coordinating with local jurisdictions and agencies. FMZ 20 and FMZ 21 would be annually maintained into perpetuity using approved methods to control invasive vegetation. 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) regarding increasing safety from fire hazards and creating defensible space around development. FMZ 20 and FMZ 21 would be located around development that is vulnerable to wildfire hazards, as the surrounding environment consists of heavily vegetated steep topography. FMZ 20 and FMZ 21 would provide defensible space between manmade structures and wildfires, reducing thermal outputs and flame lengths.

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