# Exhibit I



# LOT-SPECIFIC FUEL MANAGEMENT PLAN FEBRUARY 18, 2019





## **DOCUMENT PREPARED IN COORDINATATION WITH:**



# LOT E24 FUEL MANAGEMENT PLAN

92 CHAMISAL PASS; APN: 239-109-027

PREPARED BY CAROL RICE, FIRE ECOLOGIST WILDLAND RES. MGT.

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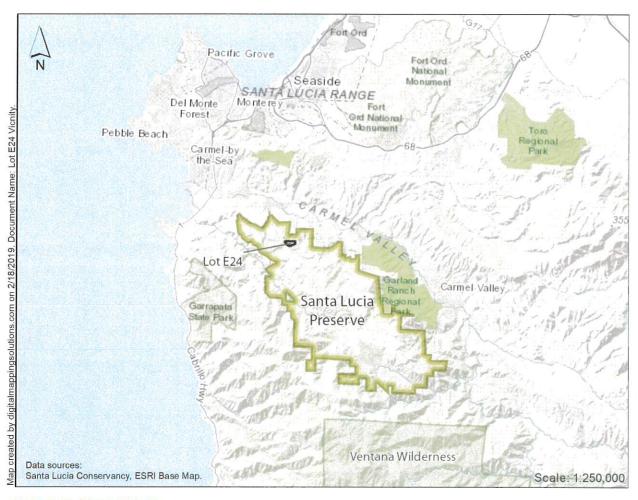
#### LOT E24 FUEL MANAGEMENT PLAN

#### **PURPOSES**

This Lot-Specific Fuel Management Plan ("Plan") has been prepared by Carol Rice, Fire Ecologist for the homeowner, Brian and Lorraine Hoekstra, and has been reviewed and approved by the Santa Lucia Conservancy. The purposes of this Plan are to guide the implementation of vegetation management and to provide for the Owner sufficient defensible space and fire safety around the home and structure on Lot E24, as required by California Public Resources Code 4291, while still maintaining the natural and aesthetic values of the Santa Lucia Preserve. This plan is pursuant to the Fuel Management Plan for the Santa Lucia Preserve as it may be updated from time to time, to implement the vegetation treatments outlined in the Fuel Management Standards for the Santa Lucia Preserve, available from the Conservancy's webpage (http://www.slconservancy.org/), attached hereto and incorporated by reference herein.

The Santa Lucia Conservancy's wildfire related responsibilities are to ensure the protection of the natural values protected by the easements. The Santa Lucia Conservancy reviews and approves all lot-specific fuel management plans, as they are developed and updated from time to time, prior to their implementation. Conservancy staff are also available to offer support and guidance in landowners' efforts to plan and implement fuel management activities.

It is important to note that the creation of a Lot-Specific Fuel Management Plan and subsequent implementation of the prescribed treatments found below do not guarantee that the property will be 100% fire-safe, but it will improve fire-fighter safety and lessen potential structural damage.



### **CURRENT CONDITIONS**

Through an analysis of aerial imagery and during a site visit on January 31, 2019 the following conditions were observed by Carol Rice.





FIGURE 1 PHOTOS OF LOT E24 TYPICAL VEGETATION; PHOTO BY CAROL RICE JANUARY 31, 2019

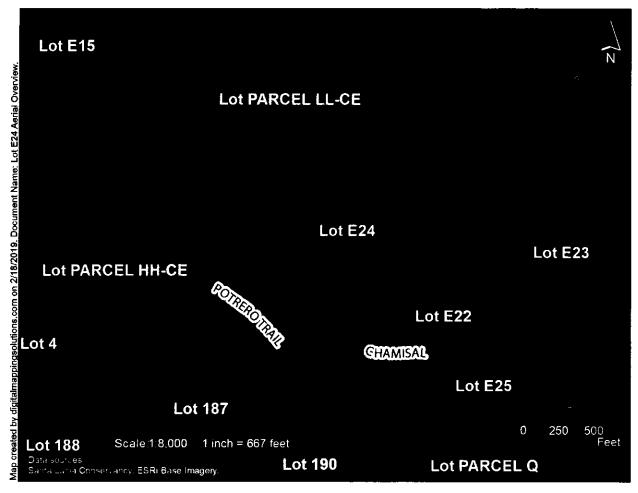


FIGURE 2 AERIAL MAP OF LOT E24. THICK LINES ARE PARCEL BOUNDARIES, THIN LINES ARE HOMELAND BOUNDARIES.

#### STRUCTURES

As of this date, there are no structures on the site. The current building plans include a main residence with a smaller, separate structure and a detached multi-car garage; all occupying the south-western portion of the Homeland. There will also be a pool and expansive hardscaping. All structures are accessed by one driveway. Combined, the structures will roughly represent 3% of the Homeland.

#### LOCATION

Lot E24 is located in the northern portion of The Preserve, east of the Gatehouse. Located off Chamisal Pass Rd. via a long, private driveway, the property can be accessed via Rancho San Carlos Rd. to Chamisal Rd. The nearest fire truck is within The Preserve at the Gatehouse and is approximately 3 miles away on Rancho San Carlos Road (approximately 5 to 10-minute response time). There is a fire station within the Preserve, south of the Ranch Club. However, this is more than 7 miles away (an approximate 20 to 25-minute response time).

Outside The Preserve, two fire stations are available for response. These include the Monterey County Regional Fire Department's Mid-Valley Station at 8455 Carmel Valley Rd. (6-8 miles away with a response time of 12 to 15 minutes via Rancho San Carlos Rd). Also, the Cypress Fire Protection District station at 3775 Rio Rd. in Carmel-By-The-Sea is 6 to 8 miles away with a response time of 14-18 minutes.

The 4.3-acre Homeland is situated on the south-central portion of a 40.9-acre lot. The home structures will be located on the entirety of the Homeland. A majority of the area treated for fuel management will occur on the Openlands, particularly north into the oak/shrub woodland, and along the driveway. Fuel treatment widths are not constrained by property boundaries; in fact .6 acres of treatments is located on Lot E-22. In order for treatments to be performed on the adjacent property, agreements with the owner will need to be in place. This includes areas where the driveway crosses other lots.

**ROADS OR TRAILS** 





FIGURE 3 PHOTOS OF LOT E24'S ACCESS ROUTE; PHOTO BY CAROL RICE JANUARY 31, 2019

Lot E24 is accessed using a long driveway off Chamisal Rd. which can be reached directly off Rancho San Carlos Rd. immediately after the Gatehouse. To exit The Preserve, travel east on the private driveway until driveway terminates at Chamisal Pass Rd.; travel west, north-west on Chamisal Rd. until you reach Rancho San Carlos Rd. Turn right to exit The Preserve.

The private driveway leading to the homesite on Lot E24 approximately 0.5 miles and crosses two lots. Because of its length, the vegetation/terrain it passes through, and predicted flame lengths along this route, this is wider than the standard fuel treatment along the driveway. No other vehicular access exists on the lot.

#### **TERRAIN**

The lot sits on a small ridge west of Saddle Mountain overlooking Potrero Canyon. Elevation ranges from 360 ft. to 880 ft. Because the site occupies a knoll, all aspects are represented on the lot. Terrain on the Homeland does not restrict fuel management. However, slopes south of the Homeland are steep, precluding the use of mechanical equipment to perform fuel management.

The terrain on the property itself is not likely to affect the wind flow during a wildfire. Wind, as guided by terrain, generally flows from the northwest to the southeast under normal conditions, but can be influenced by up or down canyon winds along traversing canyons (to the north). During times of high fire danger, when winds flow from the northeast, Saddle Mountain blocks most of the wind. However, the gaps and canyons north of Lot E24 could be locations where winds would guide wildfire spread to the property.

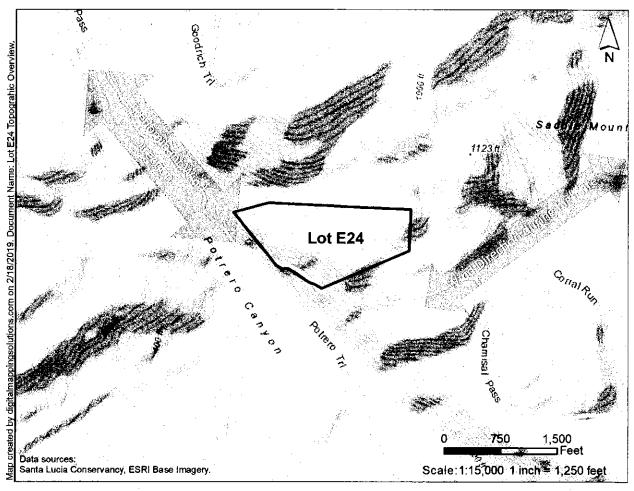


FIGURE 4 TOPOGRAPHIC MAP OF LOT E24. LARGE BLUE ARROWS INDICATE WIND FLOWS AROUND LOT E24, WHICH ARE INFLUENCED BY TERRAIN.

#### **VEGETATION**

There are four main vegetation types mapped on Lot E24: Coast Live Oak (in green), Chamise (in tan, and obscured by the map legend), Coyote bush (in light brown, southwest of the Homeland), and Poison oak (in dark brown). Over seventy percent of the Openlands is classified as Coast Live Oak.

However, there is a distinct difference between CLO that has been mowed and locations where an understory is present. The north-facing slope north of the Homeland has a mixture of shrubs under the canopy of coast live oak. This slope includes coffeeberry, blueblossom ceanothus, currant, coyote bush and poison oak, indicating a more moist growing environment.

The coyote bush stand occupying the south-facing slopes of the parcel are classified as a mixture of coyote bush, chamise and manzanita. It has a rich assemblage of additional species including bush lupine, monkeyflower, sage, and buckwheat. French broom is also present.

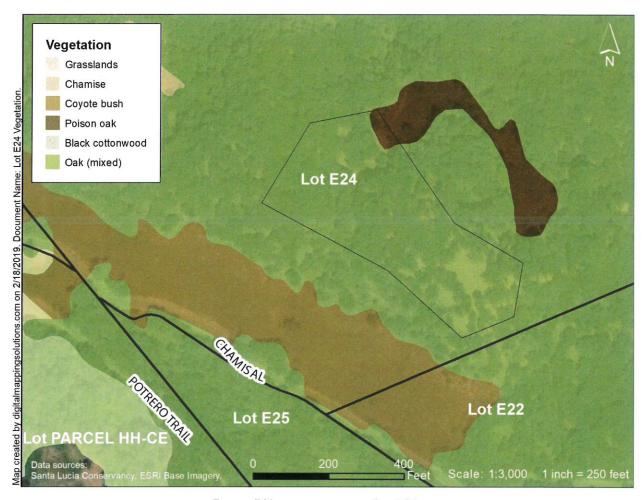


FIGURE 5 VEGETATION MAP OF LOT E24.



FIGURE 6 VEGETATION SOUTH OF HOMELAND LOT E24. SHORT GRASS ON RIGHT IS HOMELAND



FIGURE 7 VEGETATION NORTH OF HOMELAND LOT E24. SHORT GRASS ON LEFT IS HOMELAND

#### FIRE HAZARD

Using current mapped vegetative fuels, fire behavior modeling indicates under current conditions, a wildfire on the property would predominately burn with very long flame lengths (greater than 12 feet) with some scattered areas experiencing less flame lengths, particularly to the east.

However, visits to confirm on-site conditions indicated that the area of the Homeland is in a fire-safe condition. There is ample vertical separation between the tree canopy and a sparse grassy understory. This would actually produce flames shorter then 2 feet. The fuels classification of the area outside the Homeland is correct, and would product dramatic flames under pre-treatment conditions.

If a fire were to develop in the oak woodland outside the Homeland, longer flame lengths could be produced and possibly cause the trees to torch the oak and threaten the structures on the property from both flame contact and ember intrusion. Flames adjacent to the driveway are similarly long, and could prevent safe evacuation and possibly prevent emergency response.

A fire starting on Chamisal Pass Rd. is likely to spread up the brush-covered slope, which currently has ~30% dead material in it, with potential to spread to the structures. However, the management of scrub and oak woodlands is likely to calm the fire behavior.

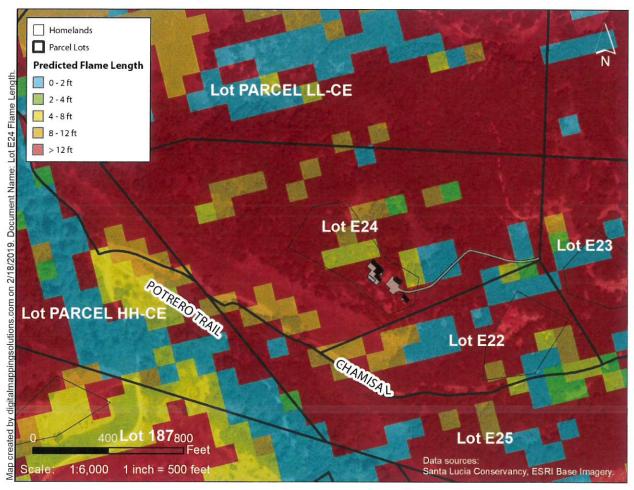


FIGURE 8 MAP OF PREDICTED FLAME LENGTHS ON LOT E24 (WITHOUT TREATMENT).

If a fire were to develop in the oak woodland, longer flame lengths could be produced and possibly cause the trees to torch the oak and threaten the structures on the property. Fuel management on the site will be needed to maintain a low level of understory shrubby growth and low dead debris on the forest floor, and to prune the bottom branches of trees to limit the possibility of torching. This is especially important in those wooded areas to the north and south of the structures.

#### **FUEL MANAGEMENT**

Fuel management on the site will be needed to maintain short understory shrubby growth and small amounts of dead debris on the forest floor, and to prune the bottom branches of trees to limit the possibility of torching. This is especially important in those wooded areas to the north and south of the structures, and along the driveway. In addition, all French broom will need to be removed.

If the treatments described below are implemented, two-foot flames are expected throughout Lot E24's Homeland and along the driveway in the Openlands. Fuels that produce a two-foot flame length and prevent ember production are the result of fuel mitigation treatments in five zones of varying actions and distances from the structure and pavement edge, based on existing vegetation and terrain in and around Lot E24. In each zone, the distance is constrained by the distance to the property

boundary; in no case does this fuel management plan authorize the landowner to take fuel management actions beyond the property boundary.

After initial treatments, minor amounts of management will be needed to maintain the short height of understory growth and the low level of dead debris.

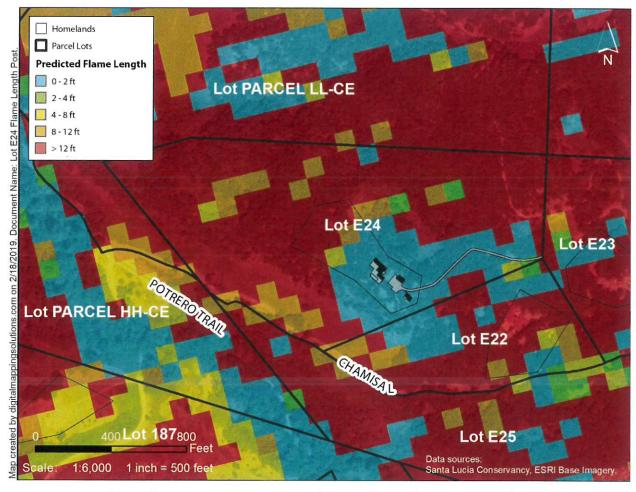


FIGURE 9 MAP OF PREDICTED FLAME LENGTHS ON LOT E24 (WITH TREATMENT).

Each zone has a unique set of standards by which compliance will be gauged. Treatments in each zone are fully described in the Fuel Management Standards and repeated here. Unless specified here, treatments must be consistent with the Standards. *Exceptions and additional actions are noted in bold, underlined italics.* 

The fuel management zones are:

- 1. Non-combustible Zone, for a width of 5 feet from structure
- 2. Landscaping Zone, per landscaping plans
- 3. Driveway Zone, for a width of 30 feet from edge of pavement
- 4. Grassland Zone, for a width of 150 feet from structure
- 5. Oak Woodland Zone, for a width of 150 feet from structure
- 6. Oak/Shrub Woodland Zone, for a width of 200 feet from structure

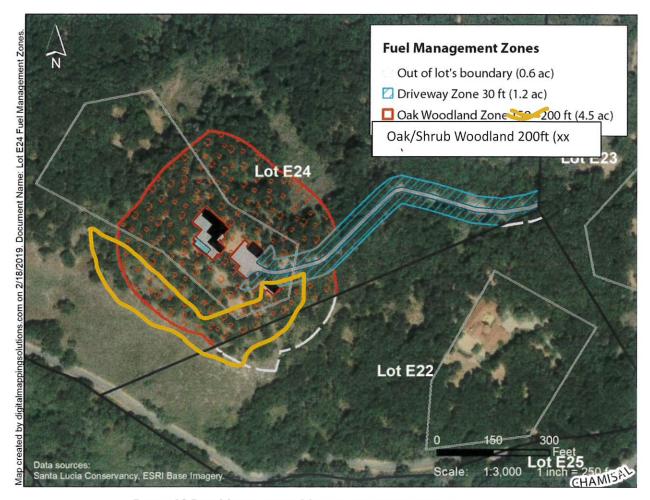


FIGURE 10 FUEL MANAGEMENT MAP WITH ZONES DELINEATED.

For reference, here are the fuel management standards for the zones on Lot E24.

NON-COMBUSTIBLE ZONE - TO A DISTANCE OF 5 FEET

A non-combustible zone should be maintained within in a 5-foot buffer around structures.

Hardscape surfaces (such as patios, gravel, and bare soil), and landscape materials (such as lawn and succulent herbaceous plants) are examples of non-combustible surfaces. Wood mulch is not considered non-combustible. Landscape architects are encouraged to make liberal use hardscaping within 5 feet of structures. Care should be taken in the design phase to ensure there is adequate room within the Homeland for such treatments.

Firewood currently near the house should be moved more than 5 feet from structures and enclosed.

LANDSCAPING ZONE - WITHIN ENTIRE LANDSCAPED AREA

Approved landscaping must be designed and maintained to minimize flammability. All landscaping occurs within the Homeland area.

Ornamental landscaping often results in large amounts of shrubby flammable vegetation being planted near structures. Many commonly used landscape plants, such as conifers, flammable woody shrubs, and tall ornamental grasses, should be avoided because they may create a fire threat to a home that would otherwise be fire safe. All plant material that is removed from the landscaping must be

composted within the Homeland or removed from the Preserve and disposed of properly. In no case can material from the Landscaping Zone be left in the Openlands, and must be processed if it will remain in the Homeland. The spacing between landscaping plants and volume of landscaping biomass should mimic the Oak Woodland Zone (see below).

DRIVEWAY ZONE - 30 FEET FROM EDGE OF DRIVEWAY PAVEMENT

Safe ingress and egress must be maintained along the driveway.

The Driveway Zone is important to allow for safe passage and to provide a location where firefighter resources can travel and engage in fire response. The treatments required correspond to vegetation type.

- a. Grassland, and the understory of all Oak Savanna, and Oak Woodland vegetation should be mowed within 30 feet from the pavement edges, according to the recommendations in the Grassland Zone.
- b. All Chaparral, Coastal Scrub, and Oak/Shrub Woodland vegetation should be treated to 30 feet from the pavement edge, according to their respective recommendations.
- c. All tree branches extending over driveway surfaces should be pruned to ensure 15 of vertical clearance. Whenever possible, healthy overhanging branches higher than 15 feet should be left in place to shade driveway areas and thereby reduce weed and understory growth.
- d. Every residential structure shall have a dedicated fire hydrant and a hammerhead or other safe turnaround for fire equipment access as detailed in the Santa Lucia Preserve Design Guidelines. Vegetation around these facilities must be maintained as needed to ensure visibility and access, vegetation must be cleared three feet around fire hydrant.

A minimum 3-foot radius from each fire hydrant shall be free of vegetation.

OAK WOODLAND ZONE - TO A DISTANCE OF 150 FEET

Understory plants shall be kept short, and small lower tree branches must be removed.

The understory of oak woodland habitat includes shade tolerant shrubs and grasslands. The goal of this standard is to maintain an existing oak woodland with a short-statured understory of herbaceous plants and shrubs, and a tree canopy at least 8 feet above the ground. An initial treatment will be required to prune smaller branches of trees up to 8 feet above the ground and to reduce density and stature of understory shrubs. This has already been accomplished for the entirety of this zone. After the initial treatment, annual periodic maintenance of an interval of 3-5 years will be needed to cut back shrub sprouts in order to maintain a maximum height of 2.5 feet.

#### Prescriptions for understory maintenance:

- a. Within 30 feet from structures, at the beginning of each summer, ensure that the herbaceous understory is maintained at a maximum height of 4 inches.
- b. Understory vegetation should not be completely removed. Instead, selectively remove flammable species like coyote bush, and prune-back and remove dead branches from less-flammable desirable species such as coffeeberry, currant and wild rose.
- c. Native understory shrubs are to be kept free of dead branches and no more than 2.5 feet in height.
- d. Leaf litter depth should be kept to no greater than 4 inches.

#### Prescriptions for removing dead wood on the ground:

- a. Throughout the Fuel Management Zones, removal all dead branches on the ground smaller than 6-inch diameter.
- b. Large dead material located within the fuel management zone may be removed or relocated as recommended by a Lot-Specific Plan. Dead limbs larger than 8 inches in diameter, in the Fuel Management Zones within the Openlands, should remain on the site if isolated from dead material that is smaller than 4-inches in diameter, if not under a tree canopy, or if moved at least 100 feet from the structure. Large woody material by itself does not ignite readily and does not produce long flames. Retaining these features in open areas serves a beneficial purpose of retaining soil moisture and supports important wildlife, including native pollinators. Once dead logs become rotted through and friable, they should be removed or scattered in the general area to avoid a concentration of lighter fuels.

#### Prescriptions for tree pruning:

- a. All branches, living or dead, less than 3 inches diameter in width and less than either 8 feet from the ground or three times the height of any understory shrubs whichever is greater, shall be removed (Figure 11).
- b. Living branches that are greater than 3 inches in diameter but lower than 8 feet in height can be retained, provided that the area within the drip-line of trees is maintained Oaks with live limbs resting on the ground need not be removed, but all ground debris around and beneath the limbs must be removed to reduce fire risk.
- c. Dead limbs less than 8 feet in height shall be removed.

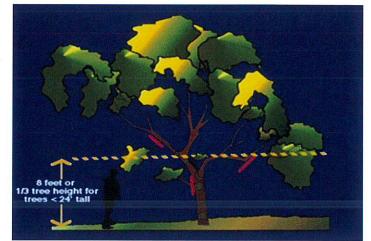


FIGURE 11 CREATE VERTICAL SPACING UNDER LOWER TREE BRANCHES BY REMOVING SMALL TREE BRANCHES FROM THE BOTTOM 8 FT OF THE TREE OR FROM THE BOTTOM ONE-THIRD OF THE TREE, WHICHEVER IS LESS.

- d. In landscaped areas, healthy tree branches less than 3 inches in diameter or 8 inches diameter if split or diseased, should be removed to provide vertical clearance of 3 times the height of the understory plants, or 8 feet above understory plants, whichever is greater.
- e. For trees shorter than 24 inches in height, remove lower 1/3 of branches smaller than 3 inches in diameter, or alternatively, treat as a shrub grouping.
- f. Once initial pruning is accomplished, tree pruning is likely to be needed infrequently, on an interval of about once every 3 to 5 years.
- g. <u>Do not thin or prune the tree canopy</u>, as this will promote more understory shrub growth as well as lower parts of the tree, and will result in increased risk that fire will spread to the tree canopy.

Sometimes small trees may need to be cut to the ground in order to achieve the separation of the ground level from the tree canopy, or because mowing equipment cannot avoid the small trees. **In all** 

circumstances, removal of seedlings and saplings of black oak, valley oak, or blue oak in the Openlands requires prior approval from the Santa Lucia Conservancy.

#### OAK/SHRUB WOODLAND ZONE - TO A DISTANCE OF 200 FEET

The goal is to create a fuel arrangement where oaks are widely separated from shrubs, and that a matrix of shrubs of different species persists in a short, low-fuel-volume condition

Coastal scrub is comprised of a diverse mixture of native shrub species including coyote bush, native sage, blackberry, coffeeberry, and poison oak. Like most chaparral shrubs on the Santa Lucia Preserve, shrub species growing within coastal scrub habitat will stump-sprout vigorously when mowed or burned, so coastal scrub zones will need to be retreated on a regular basis.

Plants under oaks must be kept short, and small lower tree branches must be removed.

Native understory shrubs are acceptable, if maintained to a maximum height of 2.5 feet, and if kept free of dead branches. Woody non-native weeds such as French broom should be vigorously suppressed.

Prescriptions for shrub-oak separation:

- a. In open areas away from trees, within 200 feet of structures, change the pattern into discontinuous groups of shorter, younger, more succulent shrubs and ensure the distance between groups of shrubs is at least 2 times the height of the shrub patch (see Figure 3).
- b. Shorten shrub height
- c. Remove one-third of small coast live oak in the Openlands so the rich mixture of shrubs and overstory of oaks in the Openlands can persist.
- d. Treatments would not be whole-sale removal of all shrubs, but thinning the scrub into small clumps, retaining the lupine, monkeyflower, even occasional manzanita.
- e. In coyote brush- or chamise-dominated stands, if other shrub species are present, retain them at the expense of coyote brush or chamise. Retain less-flammable desirable shrubs, such as ceanothus, shrub lupine, currant, coffeeberry, native rose, and sticky monkey flower.
- f. Remove all dead branches from less-flammable desirable shrubs, such as ceanothus, currant, coffeeberry, native rose, and sticky monkey flower.
- g. Large trees should be protected by removing shrubs from within an area around the tree as shown below (Figure 12, below):
  - When the tree is shorter than 6 feet high, all shrubs should be removed from within a distance of 3 feet from the tree's drip line.
  - When a tree is taller than 6 feet high, all shrubs should be removed from within a distance of 6 feet from tree crown edge.

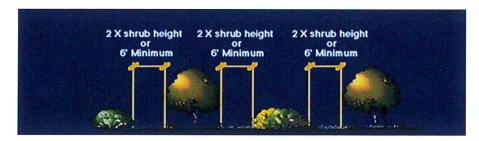


Figure 12. Create horizontal spacing between trees and shrubs, by removing shrubs from around trees within a radius that extends 3 feet from the tree's drip line. For trees taller than 6 feet, remove shrubs within a distance of 6 feet from the tree's drip line.

### Prescriptions for understory maintenance:

- a. Understory vegetation should not be completely removed. Instead, selectively remove all French broom and flammable native species like coyote bush, and prune-back and remove dead branches from less-flammable desirable species such as coffee berry and wild rose.
- b. Shorten shrubs under and within 6-ft of the canopy of an oak tree to a height of 2.5 feet
- c. Remove chamise, a highly flammable dense-growing native (Adenostoma fasciculatum), under tree canopies. Where chamise is found outside of tree canopies, mow chamise at ground level, or create shrub groupings, according the recommendations in the Coastal Scrub Zone. If other shrub species are present with the chamise, retain them at the expense of the chamise.

Prescriptions for tree pruning:

Follow prescription for the Oak Woodland Zone.

#### ACKNOWLEDGE, RELEASE, AND HOLD HARMLESS AGREEMENT

In consideration of the Santa Lucia Conservancy's preparation of this Plan, by signing below, the undersigned acknowledge and agree that:

- 1) Owner has read this Plan;
- 2) The current conditions described in this Plan generally characterize the existing conditions of Lot E24;
- 3) Owner is solely responsible for implementing and maintaining vegetation consistent with this Plan. Any duty for wildfire protection or suppression on the part of the Santa Lucia Conservancy to Owner is limited to approval of the plan of action embodied in this Plan;
- 4) Owner is aware that living adjacent to natural habitats found in the Openlands and Wildlands in the Preserve involves inherent risks, including risks of serious bodily injury or death/harm or injury of any type or degree arising from or in connection with wildfire;
- 5) Owner assumes all risks of any manner or degree arising from or in connection with wildfire and hereby waives, releases and forever discharges the Santa Lucia Conservancy and its officers, directors, agents, employees and other representatives from any and all liability arising from or in connection with the preparation this Plan or its implementation by any person or entity;
- 6) Owner shall indemnify, defend and hold harmless the Santa Lucia Conservancy from any and all loss, liability, damage or expense that may arise from or in connection with the preparation this Plan or its implementation by any person or entity;
- 7) In the event of any dispute arising out of this agreement, the prevailing party shall be entitled to collect its reasonable attorneys' fees, costs and expenses from the other party.

Executed at Carmel, California and effective as of the latest date set forth opposite the signatures below.

**HOMEOWNER** 

By

| Brian and Lorraine Hoekstra, Owners<br>Lot E24, 92 Chamisal Pass<br>Santa Lucia Preserve, Carmel, California | Date |
|--|------|
| Reviewed and approved by:  |      |
| SANTA LUCIA CONSERVANCY  |      |
|  |      |
| *  |      |
| Ву   |      |
| Christina Fischer  | Date |
| Its Executive Director   |      |

## PHOTOS OF LOT E24



































