

DEFENSIBLE SPACE GUIDELINE FOR EXISTING STRUCTURES IN THE VERY HIGH FIRE HAZARD SEVERITY ZONE



FIRE PREVENTION DIVISION
505 FOREST AVE, LAGUNA BEACH, CA 92651

AUGUST 2021



1. INTRODUCTION

The City of Laguna Beach's topography, ecology, and Mediterranean climate create an environment that is conducive to the spread of a fast-moving wildfire. Defensible space is essential to reducing risk of structure ignition during a wildfire and providing adequate safety for firefighters protecting the structure. Defensible space refers to the buffer area between a building and the property line where the vegetation has been modified to reduce the fuel load and decrease both flame length and radiant heat from a wildfire.

2. SCOPE

The purpose of this Guideline is to provide the minimum defensible space requirements for existing structures, in accordance with Public Resource Code Section 4291 and Government Code Sections 51175-51189, for properties situated in the Very High Fire Hazard Severity Zone (VHFHSZ). The VHFHSZ is designated by California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) and is depicted on a FRAP map for the City (available on the Fire Department webpage). Parcels designated as VHFHSZ are determined to be in an area of exceptionally high fire risk due to vegetation types, moisture levels, topography, and wind patterns. State codes require that all properties in the VHFHSZ on which there is a building maintain defensible space of 100 feet from each side and from the front and rear of the structure but not beyond the property line (see Diagrams #2 and #3). While adherence to this Guideline does not guarantee a structure's survival during a wildfire, it does increase the probability.

3. STATE CODES FOR VHFHSZ PROPERTIES

Public Resources Code Section 4291 and Government Code Section 51182 state that a person who owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining a mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or land that is covered with flammable material in a VHFHSZ, shall maintain defensible space of 100 feet from each side and from the front and rear of the structure, with an ember-resistant zone being required within five feet of the structure (see Diagrams #2 and #3). If the property does not extend 100 feet, vegetation shall be maintained to the property line. Fuels (vegetation) around the structure shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure.

4. EXCLUSIONS

- This Guideline shall not be used for buildings undergoing new construction or "major remodel" (as defined by the Laguna Beach Municipal Code).
- Projects constructed in compliance with the Laguna Beach Fire Department Landscape/Fuel Modification Standards and Maintenance Program (L/FMSMP) must have the landscape maintained in accordance with the approved fuel modification plans. The L/FMSMP requires more stringent fuel management than the Defensible Space Guideline and greatly increases the survivability of a structure during a wildfire.

5. DEFENSIBLE SPACE ZONES

ZONE ZERO (0-5 FEET) - EMBER RESISTANT

Embers are a leading cause of structure loss during wildfires. Embers can settle under decks and pile against wood fences and building siding. This often leads to ignition of the home, even after the fire has passed. To improve the survivability of your home from embers, the following actions shall be taken.

VEGETATION

- Ornamental and native shrubs shall be thinned, relocated or removed to provide no more than 50% density and/or coverage and shall be positioned to limit plant continuity and inhibit fire progression.
- Remove all dead vegetation, including dead portions of live vegetation. This includes all dead or dying grass, plants, shrubs, branches, leaves, and weeds.
- Maintain grasses at a maximum height of four inches.
- Maintain large shrubs and hedges exceeding 6 feet in height such that limbs are not within 4 feet of the ground or 1/3 of its height (whichever is less).
- Vines are to be limited on the structure.
- Vegetation under windows shall be kept below 18 inches.
- Consideration shall be given to properties with more fire-resistive construction, lower flammability plant species, and frequent irrigation.

TREE MAINTENANCE

- Trees shall be maintained (i.e., cleaned, thinned, raised) to reduce the spread of fire. Trees shall be trimmed to achieve a 30% canopy reduction from an unmaintained condition.
- Tree branches shall have six feet of clearance above roofs, combustible fences, and combustible structures. Tree branches shall be trimmed to limit fuel continuity as per the vertical spacing requirements in Diagram #1.
- Dead trees shall be removed. Sick, diseased, or dying trees shall be assessed for potential removal and the removal permitted by the Community Development Department (CDD). A licensed arborist evaluation and recommendation may be required prior to obtaining a CDD permit/approval. Contact the CDD for more information.

BALCONIES, OVERHANGS, AND PORCHES

- The underside of balconies, overhangs, and porches shall be kept clear of combustible vegetation.

ORGANIC WOOD CHIPS AND MULCH

- Organic mulch and wood chip application is prohibited. Only non-combustible materials shall be used in the VHFHSZ. Examples include concrete walkways, gravel, and decomposed granite.

FIREWOOD

- Firewood shall not be stored in unenclosed spaces beneath buildings or structures, on decks or under eaves, canopies or other projections and overhangs. Firewood shall be removed from Zone Zero.

CHIMNEYS

- All chimneys shall have a spark arrestor installed.
- Keep all branches a minimum of ten feet from chimneys, stovepipes, and heater outlets.

PROPANE TANKS

- Remove all dead vegetation within a ten-foot radius around propane tanks.

ROOFS AND GUTTERS

- Maintain the roof and gutters free of leaves, needles, or other vegetation.

FIREFIGHTER ACCESS

- Remove hazardous items that would hinder existing firefighter access to all sides of the structure.

ZONE ONE (5-30 FEET) – HIGHER INTENSITY FUEL REDUCTION

The purpose of Zone One is to reduce the risk of direct flame impingement and limit radiant heat exposure to the structure and windows. This also creates a space for firefighters to conduct suppression operations.

VEGETATION

- Ornamental and native shrubs shall be thinned, relocated, or removed to provide no more than 50% density and/or coverage, and positioned to limit plant continuity and inhibit fire progression.
- Remove all dead vegetation, including dead portions of live vegetation. This includes all dead or dying grass, plants, branches, leaves, and weeds.
- Maintain all grasses at a maximum height of four inches.
- Maintain shrubs and hedges exceeding 6 feet in height such that limbs are not within 4 feet of the ground or 1/3 of its height (whichever is less).
- Consideration shall be given to properties with more fire-resistive construction, lower flammability plant species, and frequent irrigation.

TREE MAINTENANCE

- Trees shall be maintained (i.e., cleaned, thinned, raised) to reduce the spread of fire. Trees shall be trimmed to achieve a 30% canopy reduction from an unmaintained condition.
- Tree branches shall have six feet of clearance above roofs, combustible fences, and combustible structures. Tree branches shall be trimmed to limit fuel continuity as per the vertical spacing requirements in Diagram #1.
- Dead trees shall be removed. Sick, diseased, or dying trees shall be assessed for potential removal, and the removal permitted by the CDD. A licensed arborist evaluation and recommendation may be required prior to obtaining a CDD permit/approval. Contact the CDD for more information.

ORGANIC WOOD CHIPS AND MULCH:

- Organic mulch and wood chips shall be kept to a depth of 3 inches.

PROPANE TANKS

- Remove all dead vegetation within a ten-foot radius around propane tanks.

FIREFIGHTER ACCESS

- Remove hazardous items that would hinder existing firefighter access to all sides of the structure.

ZONE TWO (30-100 FEET) – LOWER INTENSITY FUEL REDUCTION

The purpose of Zone Two is to cool and slow the wildfire by strategically thinning and reducing vegetation.

VEGETATION

- Ornamental and native shrubs shall be thinned, relocated, or removed to provide no more than 60% density and/or coverage, and positioned to limit plant continuity and inhibit fire progression.
- Remove all dead vegetation, including dead portions of live vegetation. This includes all dead or dying grass, plants, shrubs, branches, and weeds.
- Maintain all grasses at a maximum height of 18 inches.
- Maintain shrubs and hedges exceeding 6 feet in height such that limbs are not within 4 feet of the ground or 1/3 of its height (whichever is less).
- Consideration shall be given to properties with more fire-resistive construction, lower flammability plant species, and frequent irrigation.

TREE MAINTENANCE

- Trees shall be maintained (i.e., cleaned, thinned, raised) to reduce the spread of fire. Trees shall be trimmed to achieve a 30% canopy reduction from an unmaintained condition.
- Tree branches shall have six feet clearance above roofs, combustible fences, and combustible structures. Tree branches shall be trimmed to limit fuel continuity as per the vertical spacing requirements in Diagram #1.
- Dead trees shall be removed. Sick, diseased, or dying trees shall be assessed for potential removal, and the removal permitted by the CDD. A licensed arborist evaluation and recommendation may be required prior to obtaining a CDD permit/approval. Contact the CDD for more information.

ORGANIC WOOD CHIPS AND MULCH

- Organic mulch and wood chips shall be kept to a depth of 3 inches, and may include fallen leaves or needles, twigs, bark, cones, and small branches.

PROPANE TANKS

- Remove all dead vegetation within a ten-foot radius around propane tanks.

FIREFIGHTER ACCESS

- Remove hazardous items that would hinder existing firefighter access to all sides the structure.

NOTE: The Fire Department may require additional fuel modification measures to be taken by a property owner when unusually hazardous vegetation conditions are found to be present.

6. DEFENSIBLE SPACE DIAGRAMMS

Diagram #1

VERTICAL SPACING

REMOVE ALL TREE BRANCHES AT LEAST 6 FEET FROM THE GROUND.

IF SHRUBS ARE UNDER TREES, ADDITIONAL VERTICAL SPACE IS NEEDED. LACK OF VERTICAL SPACE CAN ALLOW A FIRE TO MOVE FROM THE GROUND TO THE SHRUBS TO THE TREETOPS LIKE A LADDER.



6 FOOT MINIMUM CLEARANCE

MINIMUM VERTICAL SPACING BETWEEN TREES AND SHRUBS

TO DETERMINE THE PROPER VERTICAL SPACE BETWEEN SHRUBS AND THE LOWEST BRANCHES OF TREES, USE THE FORMULA BELOW.

EXAMPLE:
A FIVE FOOT SHRUB IS GROWING NEAR A TREE

$3 \times 5 = 15$ FEET CLEARANCE NEEDED BETWEEN THE TOP OF THE SHRUB AND THE LOWEST TREE BRANCHES.

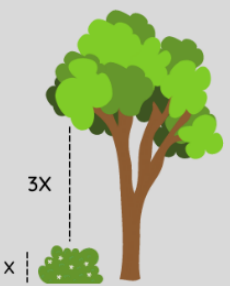


Diagram #2

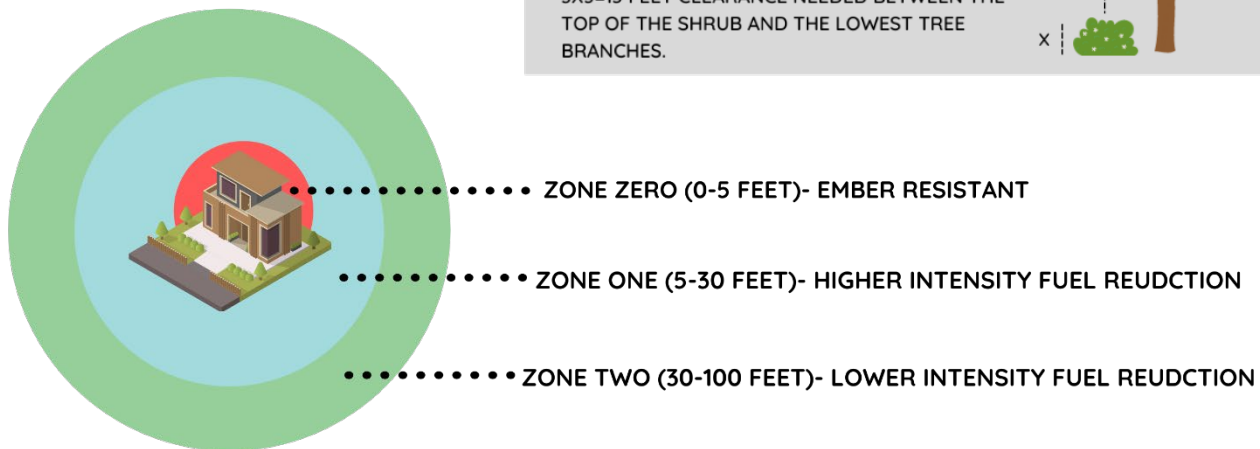


Diagram #3

