



STANDARD 515 DEFENSIBLE SPACE AND FUEL MODIFICATION ZONES

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CHAPTER 1 – ADMINISTRATION

1.1 Purpose. Defensible space and fuel modification zone (FMZ) provisions are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures. Furthermore, the intent is to prevent fires from spreading to wildland fuels that may threaten to destroy life, overwhelm fire suppression capabilities, or result in large property loss. Proper installation, spacing, and maintenance of plants and landscape is one of the key elements in the survivability of a structure during a wildfire. For information regarding Prohibited Plants, Plant Reference Guide, Defensible Space, and the Fire Hazard Reduction Program (FHRP), please visit VCFHRP.org. For questions regarding this standard, please contact the Fire Department's Fire Hazard Reduction Program Unit at 805-389-9759 or FHRP@ventura.org.

1.2 Scope. This standard provides the general requirements for the installation, maintenance, and spacing for plants, trees, other vegetation and combustible items within a defensible space and fuel modification zone (FMZ) required by Ventura County Fire Code and state law.

1.3 Applicability. Defensible Space and Fuel Modification Zones (FMZ) located within a State Responsibility Area (SRA), Very High Fire Severity Zone (VHFSZ) in the Local Responsibility Area (LRA), Hazardous Fire Area (HFA), or any property as determined by Fire Department. Maps of SRA and LRA VHFSZ can be viewed at CAL FIRE website.

1.4 Responsibility. Any person owning, leasing, controlling, operating, or maintaining any building in, upon, or adjoining any Hazardous Fire Area, and any person owning, leasing, or controlling any land adjacent to such buildings shall provide around and adjacent to such building an effective defensible space FMZ for a distance not less than 100-feet from all portions of the building. Distances may be increased by the Fire Department because of a site-specific analysis, based on local conditions and, when required, based on a Fire Protection Plan. Reference: Public Resource Code (PRC) 4291, Government Code (GC) 51182, and current Ventura County Fire Code.

1.4.1 Clearance Area. Property owners are required to maintain only the portion of the defensible space zone that falls upon their property. If the required defensible space zone crosses property lines, then each affected property owner is responsible only for the portion that occurs on their property, regardless of which property the building is located upon. Reference: Ventura County Fire Code.

1.4.2 Required Clearance. All fuels and vegetation within the 0-100 foot FMZ are subject to defensible space laws and regulations and shall comply with this standard. This includes ornamental plants, cultivated landscape plants, native plants, trees, shrubs, grasses, weeds, and wildland vegetation. Cutting brush, plants, and trees all the way down to dirt is not required.

CHAPTER 2 – DEFINITIONS

Combustible Material. Includes seasonal and recurrent weeds, stubble, brush, dry leaves, mulch, tumbleweeds, rubbish, recyclable material, litter, or flammable materials of any kind.

Deck. A flat surface capable of supporting weight, similar to a floor, constructed outdoors and attached to or located within five (5) feet of a Structure, including porches, balconies, and stairs. A Patio on grade constructed of concrete, stone or similar materials is not a deck.

Defensible Space / Fuel Modification Zone (FMZ). An area, either natural or man-made, where material capable of allowing a fire to spread unchecked, or expose structures to excessive radiant heat and embers, has been treated, cleared, or modified to slow the rate, intensity, and ignition from embers of an advancing wildfire, to create an area for fire suppression operations to occur, and to minimize the spread of a structure fire to the wildlands or surrounding areas.

Fire Hazard Severity Zones (FHSZ). Geographical areas designated pursuant to California Public Resources Code, Sections 4201 through 4204, and classified as Very High, High, or Moderate in State Responsibility Areas (SRA) or as Local Responsibility Agency Very High Fire Hazard Severity Zones (LRA VHFHSZ) designated pursuant to California Government Code, Sections 51175 through 51189.

Fuel. Any combustible material, including petroleum-based products, cultivated landscape plants, grasses, weeds, Ornamental Landscape, and wildland vegetation.

Fuel Modification. A method of modifying fuel load by reducing the amount of flammable vegetation or altering the type of vegetation to reduce the fuel load.

Fuel Mosaic. A Fuel Modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of Fuel Modification.

Hazardous Fire Area (HFA). Land which is covered with grass, grain, brush, or forest, whether privately or publicly owned, which is so situated or is of such inaccessible location that a fire originating upon such land would present an abnormally difficult job of suppression or would result in great and unusual damage through fire or resulting erosion and includes any location within 500 feet of a forest or brush, grass, or grain covered land, exclusive of small individual lots or parcels of land

located outside of a brush, forest grass, or grain covered area. Such areas are designated by the Fire Code Official. The Fire Code Official is authorized to utilize, as references, the definition of Wildland-Urban Interface Fire Area, State SRA maps, and Local Agency Fire Hazard Severity Zone Maps designated pursuant to California Government Code, Sections 51175 through 51189, and the International Wildland-Urban Interface Code.

Ornamental Landscape. All grasses, plants, trees, and other vegetation installed by a property owner. This is usually for aesthetic purposes or privacy screening.

CHAPTER 3 – REQUIREMENTS

3.1 Zone 0

3.1.1 Purpose and Location. Zone 0 reduces the likelihood of structure ignition by reducing the potential for direct ignition of the structure from flame contact, by embers that accumulate at the base of a wall, and/or indirect ignitions when embers ignite vegetation, vegetative debris or other combustible materials located close to the structure that result in either a radiant heat and/or a direct flame contact exposure to the structure.

Zone 0 is the horizontal area within the first five feet around the structure, any outbuildings, and attached decks, and stairs. Zone 0 is measured from the edge of a structure, attached decks, patio covers, balconies, and floor projections above grade, The zone also includes the area under attached decks and stair landings.

3.1.2 Requirements and Allowable Items. This should be a “lean” or no planting zone.

- a. Ground cover not exceeding 3-inches high.
- b. Non-woody small herbaceous or succulent plants not exceeding two (2) feet high. Plants shall be spaced a minimum of 2x the height from other plants.
- c. Plants shall have a minimum clearance of 2x the plant height below and adjacent to windows or other openings into the structure, including vents.
- d. All ground cover and plants shall be set back from structures and decks 1x the height of the plant or 12-inches, whichever is greater.
- e. Vines and climbing plants are not allowed on structures, including decks, patio / shade structures, and any fences within 5 feet of a building.
- f. No combustible landscape mulch or wood chips. Use clear soil, rocks, gravel, or concrete.
- g. No Trees. See Section 3.2.2a regarding tree canopy setback from structures.
- h. Firewood is prohibited in Zone 0.

- i. Vegetation is prohibited underneath any deck.
- j. Other fuels underneath decks may be limited and shall not cause an ignition due to embers.
- k. Vegetation on decks shall meet the requirements of this zone regardless of the distance to the structure.
- l. VCFD highly recommends no combustible fences and gates within five (5) feet of a structure or deck. The new State Zone 0 Regulations currently under development may prohibit these in 2023 and also may require removal for existing installations starting in 2024.

Note: As required by State Law, regulations for Zone 0 are under development by the State Board of Forestry and are scheduled to take effect January 1, 2023, for all new buildings and January 1, 2024, for all existing buildings. Any State regulation more restrictive than this standard will apply.

3.2 Zone 1

3.2.1 Purpose and Location. Zone 1 reduces the likelihood of fire burning directly to the structure. This is accomplished by modifying fuels and creating a discontinuity between planting groups that limits the pathways for fire to burn to the structure and reduces the potential for near-to-building ember generation and radiant heat exposures. An additional purpose of this zone is to provide a defensible area for fire personnel to stage and take direct action.

Zone 1 is the area within 5-30 feet of structures and decks with slopes not greater than 20 percent; 5-50 feet from buildings and decks when slopes are greater than 20 percent.

3.2.2 Requirements and Allowable Items. This is a minimal planting zone and very limited trees of a fire-resistive type and additional spacing.

- a. Trees shall be spaced to allow a minimum 10-feet of clearance next to a structure.
- b. Firewood shall be relocated outside Zone1 unless completely covered in a secured, fire-resistant enclosure or covered with a secured, fire-resistant material, and not exceeding1000-cubic feet.
- c. See Table 3 - Fire Department FMZ Spacing.

3.3 Zone 2.

3.3.1 Purpose and Location. Zone 2 is designed to reduce the potential behavior of an oncoming fire in such a way as to drop an approaching fire from the crown of trees to the ground, reducing the flame heights, and the potential for ember generation and radiant heat exposure to structures. Additional benefits of the Zone 2 include facilitating direct defense actions and improving the function of Zones 0 and 1. Zone 2 is the area from the outer edge of Zone 1 to 100-feet from structures and decks.

3.2.2 Requirements and Allowable Items. Zone 2 is a reduced fuel zone. Follow Table 3 – Fire Department FMZ Spacing.

3.4 Zone 3.

3.4.1 Purpose and Location. Zone 3 is considered a thinning zone and is any FMZ greater than 100-feet from structures and decks. When provided, either by conditions of development, voluntary by the property owner, or required by the Fire Department, this zone is more of a progressive thinning zone to lessen spread of fire as it approaches the primary FMZ adjacent to structures. The amount of fuel reduction and removal should take into consideration the type and density of fuels, aspect, topography, weather patterns, and fire history.

Table 3 – Fire Department FMZ Spacing

Type of Vegetation	Zone	Maximum Height	Maximum Area /diameter	% of Slope / Minimum horizontal Spacing*
Ground Cover	1 & 2	6-inches	Not Applicable	Not Applicable
Mosaic Grouping of Ground Cover (GC)	1	12-inches	Groupings shall not exceed 200 sq. ft. without minimum spacing to next grouping	<20%: 2 x GC height 20%-40%: 4 x GC height >40%: 6 x GC height
	2	18-inches	Groupings shall not exceed 500 sq. ft. without minimum spacing to next grouping	<20%: 2 x GC height 20%-40%: 4 x GC height >40%: 6 x GC height
Single Shrub	1	4-feet	4-foot diameter	<20%: 2 x shrub height 20%-40%: 4 x shrub height >40%: 6 x shrub height
	2	6-feet	4-foot diameter	<20%: 2 x shrub height 20%-40%: 4 x shrub height >40%: 6 x shrub height
Grouping of shrubs	1	Not Allowed	Not Applicable	<20%: 20-feet 20%-40%: 40-feet >40%: Not Allowed
	2	4-feet	Groupings shall not exceed 50 sq. ft. without minimum spacing to next grouping	<20%: 20-feet 20%-40%: 40-feet >40%: Not Allowed

Single Tree	1	Not Applicable	Tree canopy at full maturity not allowed within 10-feet of any structure	<20%: 20-feet 20%-40%: 30-feet >40%: 40-feet
	2	Not Applicable	Not Applicable	<20%: 10-feet 20%-40%: 20-feet >40%: 30-feet

* Table 3 Spacing Notes:

- a. Spacing is measured canopy to canopy at maturity.
- b. Ground cover up to 3-inches high, when approved, may be installed within the required spacing between groups.
- c. Ground cover under tree canopies: When approved, the vertical clearance to the lowest branch of the tree canopy shall not be less than three times the height of ground cover or shrub. The horizontal clearance shall be 3-feet from the trunk of the tree.
- d. Slopes greater than 20%, For grouping of ground cover and shrubs over 6-inches high, the maximum horizontal distance running with the slope shall not exceed 10-feet before spacing is required to the next grouping.
- e. Use Zone 1 Tree Spacing for trees located between and or overlapping Zone 1 and 2.
- f. Spacing of vegetation and trees at the outer edge of Zone 2 shall be based upon the height of the vegetation within Zone 2 or the adjacent area beyond the 100-foot zone, which ever provides for the greater spacing. This may require clearance outside the 100-foot zone or setting back vegetation and trees within Zone 2 away from the 100-foot line.

3.5 Additional Requirements all Zones.

3.5.1 Prohibited and Invasive Plants. Plants and trees listed in Fire Department Guideline 410 – Prohibited Plant List or identified as “*Target” (undesirable) plants and trees in Fire Department Guideline 417 – Plant Reference Guide shall not be planted within any zone. No new invasive plants shall be installed, and it is highly recommended that any existing invasive plants be removed.

3.5.2 Grasses. Natural or annual grasses shall be mowed to a maximum height of 3-inch stubble with clippings removed.

3.5.3 Chimney Clearance. The horizontal and vertical clearance to any chimney outlet or heat-producing device shall not be less than 10-feet.

3.5.4 Ground Clearance of Trees. Trees exceeding 6-feet in height shall be limbed up from the ground 6-feet or 1/3 the height of the tree, whichever is less. Exception: Fruit trees when approved.

3.5.5 Maintenance. All plants and trees, including dried palm fronds, shall be maintained free of dead and dying wood, leaves, and limbs that can increase ability to ignite and/or carry fire.

3.5.6 Tree Litter. Tree litter shall not exceed 2-inches in depth underneath tree canopies.

3.5.7 Roof Clearance. The vertical clearance distance above any roof shall not be less than 3-feet.

3.5.8 Roofs and Gutters. Roofs and gutters on buildings shall be maintained free of any leaves, needles, or other vegetative materials.

3.5.9 Mulch and Wood Chips. Mulch and wood chips shall comply with Fire Department Standard 517 and are not allowed within 5-feet of structures.

3.5.10 Firewood. All exposed firewood and lumber piles must have a minimum of 10-feet of clearance, down to bare mineral soil in all directions and shall not exceed 1000 cubic feet.

3.5.11 Continuous Tree Canopies.

3.5.11.1 New Structures. Continuous tree canopies are not allowed. Tree spacing shall be in accordance with Table 3 of this standard.

3.5.11.2 Existing Structures Prior to April 19, 2019. Continuous tree canopies may be allowed as determined by the Fire Code Official but will require the complete removal of any understory and smaller trees to meet requirements for a shaded fuel zone. Any remaining trees shall be limbed up a minimum 12 feet from the ground or 1/3 the tree height, whichever is less. The intent is to not allow a crown (canopy) fire to spread unchecked to a structure and to bring any crown fire down to the ground level prior to Zone 1.

3.5.12 Other Agency Permits. Any permits required from other regulatory agencies shall be obtained prior to installation and work within the FMZ.

3.6 General Requirements for Entire Parcel.

3.6.1 Vertical Clearance. Provide a minimum 13-foot 6-inch vertical clearance above all roads, driveways, turnouts, and turnarounds providing fire department access to buildings.

3.6.2 Hydrants. Provide a minimum 3-foot clearance around all fire hydrants and fire department water supply outlets.

3.6.3 Spark Arrestor. Provide an approved spark arrestor or screen on all chimney outlets.

3.6.4 Electrical Line Clearance. The vertical clearance from vegetation and trees underneath overhead electrical facilities shall in accordance with the Ventura County Fire Code. No new vegetation shall be planted under or adjacent to energized power lines that, at maturity, will grow within 10-feet (3 048 mm) of the energized conductors.

3.6.5 Special Requirements. See Ventura County Fire Code for special clearance requirements regarding detached accessory buildings, prefabricated sea cargo/metal storage containers, LPG tanks, hazardous material storage, fire protection equipment and utilities.

3.7 Modifications. Modifications to this standard may be allowed on a case-by-case basis after review and approval of a planting and maintenance plan. Requests shall be submitted to the Fire Prevention Bureau – FHRP Unit manager.

CHAPTER 4 – EXISTING FMZ INSTALLATIONS

4.1 Compliance. There is no “grandfathering” or exemptions for existing defensible space zones. When required by the Fire Department or State Law, existing defensible space/FMZs shall require retrofitting, including thinning and or removal of plants, trees, and vegetation, to meet this standard and or State Law. Also see note listed in Section 3.1.2 for Zone 0. When new buildings or additions to existing building are constructed on the parcel with existing buildings, the full 100-foot FMZ (or to property line if less than 100-feet) shall be brought into full compliance with this standard prior to final approval of the building construction.

4.1.1 Timing. Upon notification by the Fire Department, work to bring an existing defensible space and FMZ into compliance with this standard may be done over a four-year period. First year, an initial 30-feet from structure(s), then an additional 25-feet for each subsequent year.