

Humboldt Bay Municipal Water District

To: Board of Directors
From: John Friedenbach
Date: October 28, 2020

Re: Ruth Lease Lot Fire Defensible Space Policy

Background / History

As the Board is aware, the District owns property adjacent to Ruth lake. Typically, this property is referred to as the "Buffer Strip". The Buffer Strip has been subdivided into lots that are leased through the Ruth Lake Community Services District (RLCSD) to individuals for recreational use. RLCSD and our District have developed policies and procedures regarding use and improvements to the Lease Lots.

Since the District is the owner of the underlying property, the trees growing on the property are legally District property. Consequently, there are strict policies regarding tree removal implemented via the HBMWD Dead, Dying, and Diseased Tree removal policy/procedure dated April 2020 and RLCSD Policy Number 6350.

Discussion

Given the widespread wildfire devastation to Lease Lot holder structures at Ruth Lake from the August Complex fire, staff recommends that the Board consider implementation of a fire defensible space policy on the Buffer Strip. The California Public Resources Code (PRC) Section 4291 (a) requires that persons who own, lease, control, operate, or maintain a building or structure in, upon, or adjoining a mountainous area, forest-covered land, brush-covered land, grass-covered land, or land that is covered with flammable material, shall at all times do all of the following:

1. Maintain a defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2)...
2. A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation...

PRC 4291 (b) goes on to say: "A person is not required under this section to manage fuels on land if that person does not have the legal right to manage fuels, nor is a person required to enter upon or to alter property that is owned by any other person without the consent of the owner of the property."

FEMA, Cal Fire, and Readyforwildfire.org as well as others have developed guidance for the creation of a fire defensible space. (See attached) As seen in these guidance documents, a fire defensible space is not entirely void of vegetation. Rather, vegetation is strategically managed in such a manner as to reduce the potential for fire migration. Factors such as soil erosion, slope grade and stability, and others are considered when creating a defensible space. Staff suggests that all factors be evaluated on a case by case basis for each Lease Lot to achieve a defensible space while minimizing erosion and maintaining the high water quality of Ruth Lake. With the unfortunate widespread loss of structures on the Lease Lots, there is an opportunity to remove remaining trees without risk of damage to those prior structures.

Proposed New Procedure

Staff proposes that the Board adopt the attached draft policy for Fire Defensible Space for the Buffer Strip Lease Lots to facilitate the creation of defensible space around approved structures on Lease Lots at Ruth Lake. For Lease Lots that have burned from the August Complex fire, staff recommends that these Lease Lots receive priority for the creation of fire defensible space so that these Lease Lots are prepared prior to re-construction of structures.

**HUMBOLDT BAY MUNICIPAL WATER DISTRICT
POLICY
Fire Defensible Space for Buffer Strip Lease Lots**

Cancels:

See Also: HBMWD Timber Removal Policy-April 2020 & RLCSD Policy 6350

Approved by: John Friedenbach, General Manager

A. Background and Policy:

- a. The Board of Directors of the Humboldt Bay Municipal Water District finds and declares that the protection of District Property and Ruth Lake against the hazards of fires is critically important and that person leasing District Property in and around Ruth Lake bear the primary responsibility to maintain their lease premises against the hazards of fire, including maintaining defensible space.
- b. California Public Resources Code Section 4291 requires, in part, that: "persons 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, shall at all times do all of the following:
 1. Maintain a defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2)...
 2. A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation..."
- c. The District acknowledges that creating a fire defensible space around Lease Lot structures surrounding Ruth Lake in the area known as the Buffer Strip reduces the threat of wildfire to people and property.
- d. The District acknowledges that FEMA and Cal Fire have created guidelines for individuals to create a fire defensible space.
- e. Accordingly, Lease Lot holders shall at no expense to the District, without prior written authorization, create a fire defensible space around their structures at Ruth Lake in accordance with the guidelines published by FEMA and Cal-Fire, copies of which can be obtained from the District, and in accordance with the California Public Resources Code section 4291 et seq. Notwithstanding the foregoing, to the extent maintaining defensible space requires the removal of any timber from the leased premises, the leaseholder shall obtain prior written approval from the District before any such trees are removed. Any trees removed with or without the permission of the District shall be and remain the property of the District.
- f. In determining which trees to remove to create a fire defensible space, the District will use the guidance provided by FEMA, Cal Fire and other appropriate resources on a case by case basis factoring in topography, erosion potential, impacts to water quality, and any other relevant site-specific conditions.



State of California

PUBLIC RESOURCES CODE

Section 4291

4291. (a) 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, shall at all times do all of the following:

(1) Maintain defensible space of 100 feet from each side and from the front and rear of the structure, but not beyond the property line except as provided in paragraph (2). The amount of fuel modification necessary shall take into account the flammability of the structure as affected by building material, building standards, location, and type of vegetation. Fuels shall be maintained in a condition so that a wildfire burning under average weather conditions would be unlikely to ignite the structure. This paragraph does not apply to single specimens of trees or other vegetation that are well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a structure or from a structure to other nearby vegetation. The intensity of fuels management may vary within the 100-foot perimeter of the structure, the most intense being within the first 30 feet around the structure. Consistent with fuels management objectives, steps should be taken to minimize erosion. For the purposes of this paragraph, "fuel" means any combustible material, including petroleum-based products and wildland fuels.

(2) A greater distance than that required under paragraph (1) may be required by state law, local ordinance, rule, or regulation. Clearance beyond the property line may only be required if the state law, local ordinance, rule, or regulation includes findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. Clearance on adjacent property shall only be conducted following written consent by the adjacent landowner.

(3) An insurance company that insures an occupied dwelling or occupied structure may require a greater distance than that required under paragraph (1) if a fire expert, designated by the director, provides findings that the clearing is necessary to significantly reduce the risk of transmission of flame or heat sufficient to ignite the structure, and there is no other feasible mitigation measure possible to reduce the risk of ignition or spread of wildfire to the structure. The greater distance may not be beyond the property line unless allowed by state law, local ordinance, rule, or regulation.

(4) Remove that portion of a tree that extends within 10 feet of the outlet of a chimney or stovepipe.

(5) Maintain a tree, shrub, or other plant adjacent to or overhanging a building free of dead or dying wood.

(6) Maintain the roof of a structure free of leaves, needles, or other vegetative materials.

(7) Prior to constructing a new building or structure or rebuilding a building or structure damaged by a fire in an area subject to this section, the construction or rebuilding of which requires a building permit, the owner shall obtain a certification from the local building official that the dwelling or structure, as proposed to be built, complies with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code, and shall provide a copy of the certification, upon request, to the insurer providing coverage of construction insurance coverage for the building or structure. Upon completion of the construction or rebuilding, the owner shall obtain from the local building official, a copy of the final inspection report that demonstrates that the dwelling or structure was constructed in compliance with all applicable state and local building standards, including those described in subdivision (b) of Section 51189 of the Government Code, and shall provide a copy of the report, upon request, to the property insurance carrier that insures the dwelling or structure.

(b) A person is not required under this section to manage fuels on land if that person does not have the legal right to manage fuels, nor is a person required to enter upon or to alter property that is owned by any other person without the consent of the owner of the property.

(c) (1) Except as provided in Section 18930 of the Health and Safety Code, the director may adopt regulations exempting a structure with an exterior constructed entirely of nonflammable materials, or, conditioned upon the contents and composition of the structure, the director may vary the requirements respecting the removing or clearing away of flammable vegetation or other combustible growth with respect to the area surrounding those structures.

(2) An exemption or variance under paragraph (1) shall not apply unless and until the occupant of the structure, or if there is not an occupant, the owner of the structure, files with the department, in a form as the director shall prescribe, a written consent to the inspection of the interior and contents of the structure to ascertain whether this section and the regulations adopted under this section are complied with at all times.

(d) The director may authorize the removal of vegetation that is not consistent with the standards of this section. The director may prescribe a procedure for the removal of that vegetation and make the expense a lien upon the building, structure, or grounds, in the same manner that is applicable to a legislative body under Section 51186 of the Government Code.

(e) The department shall develop, periodically update, and post on its Internet Web site a guidance document on fuels management pursuant to this chapter. Guidance shall include, but not be limited to, regionally appropriate vegetation management suggestions that preserve and restore native species that are fire resistant or drought tolerant, or both, minimize erosion, minimize water consumption, and permit trees near homes for shade, aesthetics, and habitat; and suggestions to minimize or eliminate

the risk of flammability of nonvegetative sources of combustion such as woodpiles, propane tanks, decks, and outdoor lawn furniture.

(f) As used in this section, "person" means a private individual, organization, partnership, limited liability company, or corporation.

(Amended by Stats. 2018, Ch. 641, Sec. 7. (AB 2911) Effective January 1, 2019.)

Defensible Space



FEMA

Home Builder's Guide to Construction in Wildfire Zones

Technical Fact Sheet No. 4

Purpose

To provide information about creating a defensible space to reduce the potential for damage to homes from wildfires. Guidance pertains to both new and existing buildings.

Background

A defensible space is an area around a building in which vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire to and from the building. Information about local vegetation, weather, and topography is used to determine the Fire Severity Zone of an area, which can help determine the most effective design of a defensible space.

A defensible space is one of the most cost-effective ways to protect a building from a wildfire and can often be created by the property owner.

Key Issues

- Wildland vegetation such as grass, brush, and timber can be extremely combustible. The vegetation can burn with great intensity and produce firebrands and burning embers that can become wind-driven hazards.
- Landscape vegetation can be as combustible as wildland vegetation.
- Combustible plants have these characteristics:
 - Volatile resins and oils (generally aromatic when crushed)
 - Narrow leaves or long, thin needles such as conifer needles
 - Waxy or fuzzy leaves
 - An accumulation of dead leaves and twigs on and under the plant
 - Loose or papery bark
- A wildfire can move horizontally from shrub to shrub and tree to tree.
- A wildfire can also travel vertically from the ground up into the treetops, resulting in a catastrophic crown fire (a fire that can travel at an incredible pace through the top of a forest). Figure 1 shows a fire that is spreading vertically from grasses to shrubs to low branches.
- Accessory buildings and structures and other items commonly found in yards that are made



Figure 1. Fire spreads vertically through vegetation (Anchor Point Group, Boulder, CO).

of combustible materials can also put an otherwise fire-resistant building at risk of ignition and destruction.

- Combustible vegetation and materials around a building (see Figure 2) can:
 - Increase the risk of building ignition
 - Restrict the space necessary to provide firefighters a relatively safe place to protect a building
 - Increase the chance that a building on fire will ignite adjacent wildlands

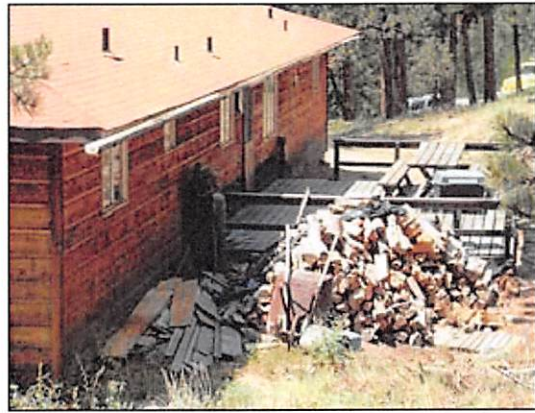


Figure 2. Combustible materials adjacent to a building create a hazard (Anchor Point Group, Boulder, CO).

Guidance

- Assess both the horizontal and vertical aspects of vegetation when designing the defensible space.
- To prevent the horizontal spread of wildfire, thin shrubs and trees so the crowns do not intersect and there is space between individual shrubs and trees.
- To prevent the vertical spread of wildfire, keep the lowest tree branches pruned and trimmed to maintain vertical separation from the top of shrubs and grasses to the lowest tree branches. The vertical distance needed will vary significantly, depending on the species of tree and composition of the understory.
- Create three concentric zones around the building (see Figure 3). Zone 1, the zone closest to the building, normally has the greatest need for fuel modification with progressively less modification in the other two zones. The higher the Fire Severity Zone, the larger the concentric zones should be. Consult the local or state fire agency for assistance. The three zones are discussed further below.

Zone 1

- Eliminate all combustible materials in Zone 1 (within 30 feet of the home) such as fire-prone vegetation, firewood stacks, combustible patio furniture, umbrellas, and dimensioned lumber decking (see Figure 4). Desirable substitutions include irrigated grass, rock gardens, stone patios, metal patio furniture, and noncombustible decking (see Fact Sheet #13, Decks and Other Attached Structures).
- Before fire season begins, remove combustible litter on roofs and gutters and trim tree branches that overhang the roof and chimney (see Fact Sheet #9, Gutters).

Zone 2

- Ensure that Zone 2 includes only individual and well-spaced clumps of trees and shrubs and/or a few islands of vegetation that are surrounded by areas with noncombustible materials.

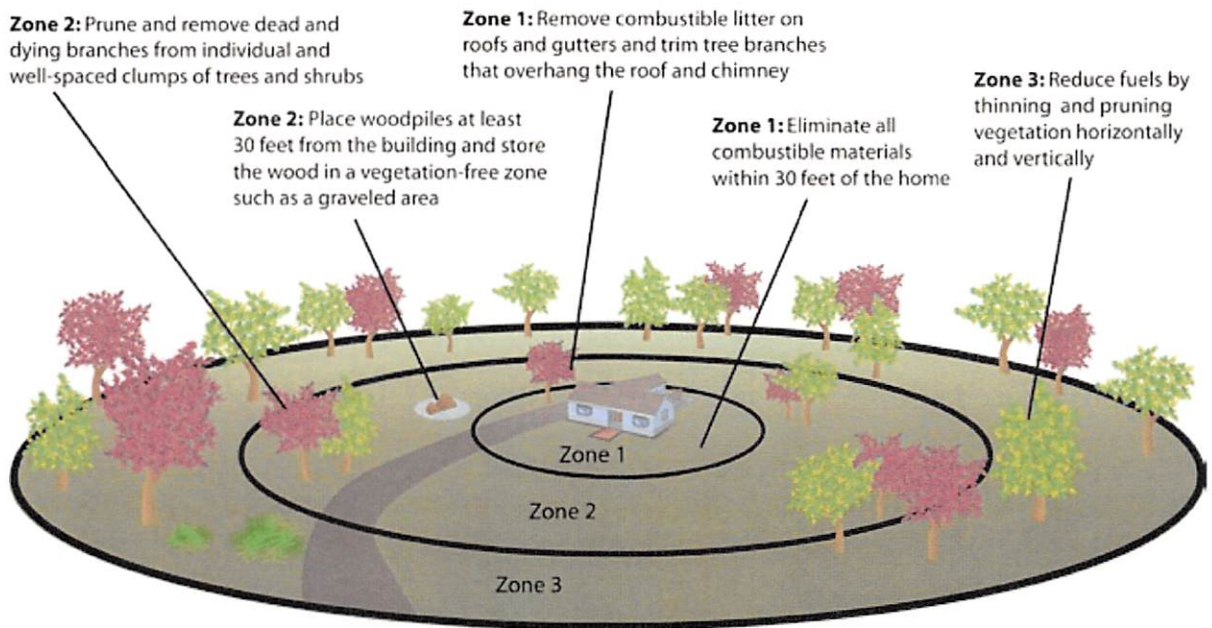


Figure 3. The three concentric zones of defensible space.

- Use hardscape features such as driveways and paved or gravel walkways or patios to create firebreaks throughout the yard.
- Plant fire-resistant, low-volume vegetation that retains moisture well and needs minimum maintenance such as pruning and removing dead and dying branches.
- Separate auxiliary structures such as a detached garage, pump house, pergola, and utility shed from the home by at least 50 feet. Increase the distance if the structure is used for the storage of combustible materials.
- Comply with recommended construction practices related to fire resistance for auxiliary structures. See Fact Sheets #5 to #16 for guidance on planning and designing a structure in a wildfire zone.
- Ensure that patio furniture is either made of noncombustible material such as metal or is at least 30 feet away from the building. Store patio furniture in a location that is protected from ignition by a wildfire.
- Place woodpiles at least 30 feet from the building and store the wood in a vegetation-free zone such as a graveled area.
- Store fuel tanks away from a structure at the minimum distance that is required by code or greater (see Fact Sheet #16, Utilities) and place underground or on a noncombustible pad.

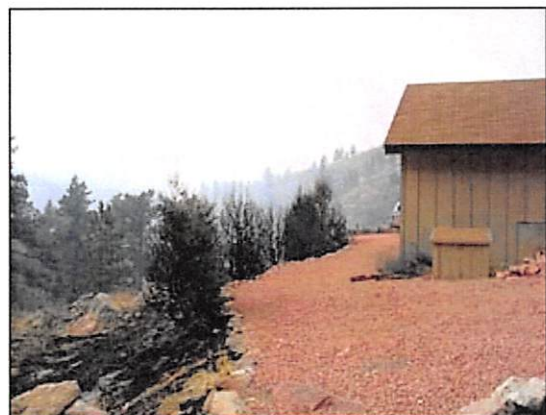


Figure 4. A noncombustible ground cover in Zone 1 helped this home survive a wildfire (Anchor Point Group, Boulder, CO).

Zone 3

Reduce fuels that are farther than 100 feet from the building by thinning and pruning vegetation horizontally and vertically as discussed above. Thinning and pruning in Zone 3 can be more limited than in Zone 2. The goals in Zone 3 are to improve the health of the wildlands and help slow an approaching wildfire. Zone 3 is also an aesthetic transition between the more heavily modified Zone 2 and the unmodified surroundings.

Considerations

- Consult the local or state fire agency or qualified fire management specialist about codes, requirements, and standards related to defensible space. Codes, requirements, and standards normally represent the minimum that should be done. Consideration should be given to providing enhanced protection measures beyond the minimum recommended or required.
- Maintaining a defensible space requires routine maintenance of vegetation, which includes pruning and removing dead branches and leaves. Characteristics of low-maintenance plants are:
 - Drought-resistant
 - Pest-resistant
 - Native to the area
 - Noninvasive
 - Slow-growing
 - Wind-resistant
 - Sustainable without supplemental fertilization
- Vegetation modification must be performed in compliance with local, state, and federal environmental regulations.

Effectiveness

All mitigation measures listed in this Fact Sheet are effective in all Fire Severity Zones.

Resources

Barkley, Y.C., C. Schnepf, and J. Cohen. 2005. *Protecting and Landscaping Homes in the Wildland/Urban Interface*. Station Bulletin #67. Moscow, Idaho: Idaho Forest, Wildlife and Range Experiment Station. www.treesearch.fs.fed.us/pubs/22257.

Firewise Communities Program. www.firewise.org/newsroom/faq.htm.

National Fire Protection Association (NFPA) 1144: Standard for Reducing Structure Ignition Hazards from Wildland Fire. 2008. <http://dnrc.mt.gov/forestry/Fire/Prevention/documents/WUrewrite/NFPA1144.pdf>.

National Wildfire Coordinating Group. www.nwccg.gov.

MAINTAIN DEFENSIBLE SPACE

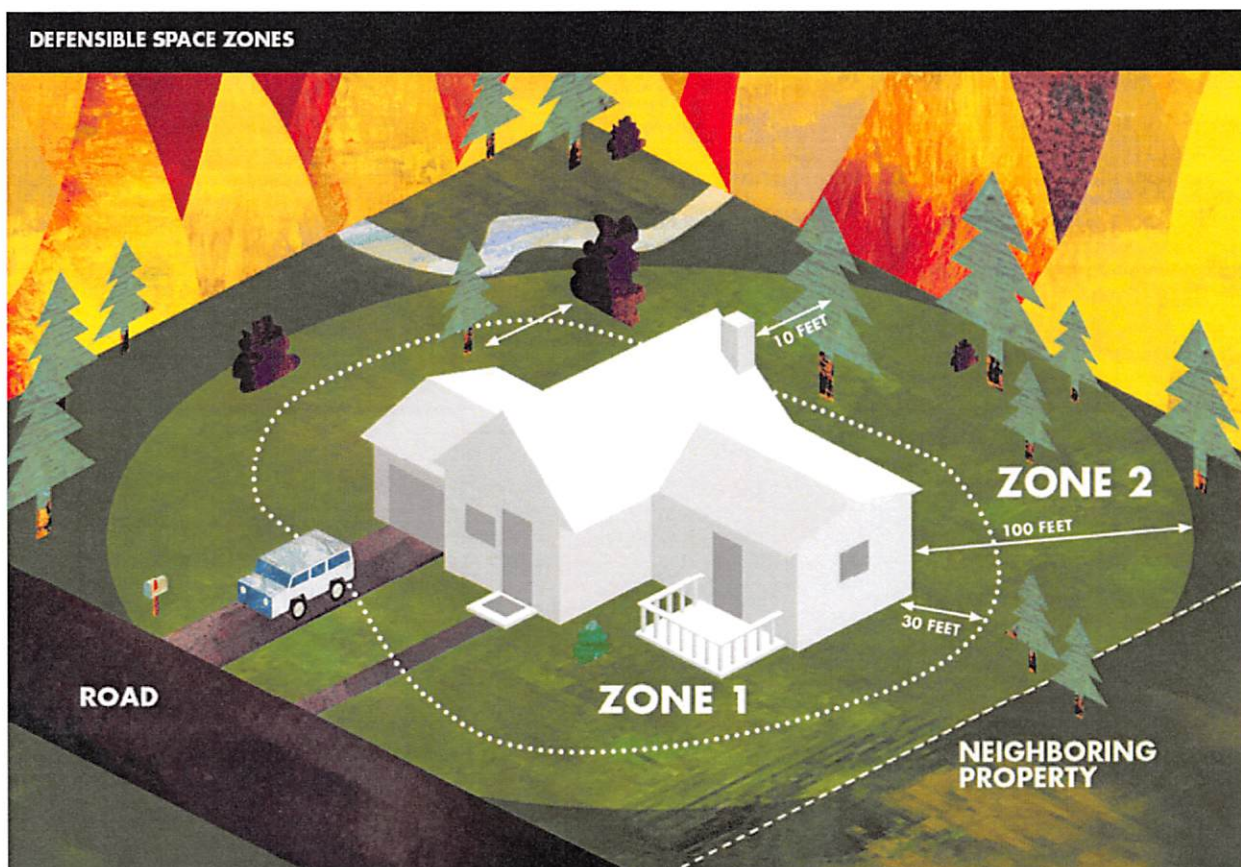
readyforwildfire.org

Keep your property lean and green to help protect your family and home.

Defensible space is essential to improve your home's chance of surviving a wildfire. It's the buffer you create between a building on your property and the grass, trees, shrubs, or any wildland area that surround it. This space is needed to slow or stop the spread of wildfire and it helps protect your home from catching fire—either from direct flame contact or radiant heat. Defensible space is also important for the protection of the firefighters defending your home.

Defensible Space Zones

Two zones make up the required 100 feet of defensible space.



Zone 1

Zone 1 extends 30 feet* from buildings, structures, decks, etc.

- Remove all dead plants, grass and weeds (vegetation).
- Remove dead or dry leaves and pine needles from your yard, roof and rain gutters.
- Remove branches that hang over your roof and keep dead branches 10 feet away from your chimney.
- Trim trees regularly to keep branches a minimum of 10 feet from other trees.
- Relocate wood piles to Zone 2.
- Remove or prune flammable plants and shrubs near windows.
- Remove vegetation and items that could catch fire from around and under decks.
- Create a separation between trees, shrubs and items that could catch fire, such as patio furniture, wood piles, swing sets, etc.

Zone 2

Zone 2 extends 100 feet out from buildings, structures, decks, etc.

- Cut or mow annual grass down to a maximum height of 4 inches.
- Create horizontal space between shrubs and trees. (See diagram)
- Create vertical space between grass, shrubs and trees. (See diagram)
- Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches.

* San Diego County requires 50 feet of clearance in Zone 1. Check with your local fire department for any additional defensible space or weed abatement ordinances.

Plant and Tree Spacing

The spacing between grass, shrubs, and trees is crucial to reduce the spread of wildfires. The spacing needed is determined by the type and size of brush and trees, as well as the slope of the land. For example, a property on a steep slope with larger vegetation requires greater spacing between trees and shrubs than a level property that has small, sparse vegetation.

Vertical Spacing

Remove all tree branches at least 6 feet from the ground.

Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush to the treetops like a ladder.

To determine the proper vertical spacing 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 of clearance needed between the top of the shrub and the lowest tree branch.

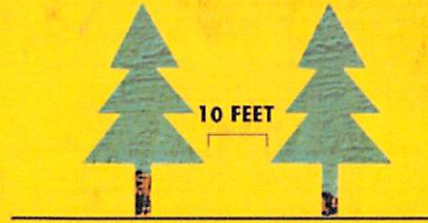
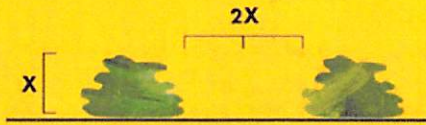
Horizontal Spacing

Horizontal spacing depends on the slope of the land and the height of the shrubs or trees. Check the chart below to determine spacing distance.

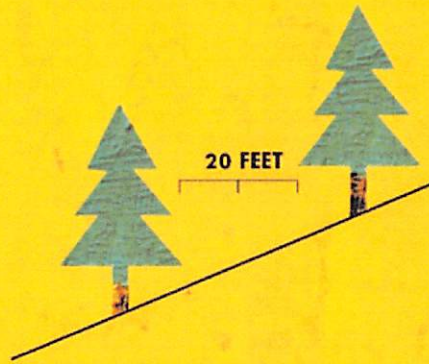
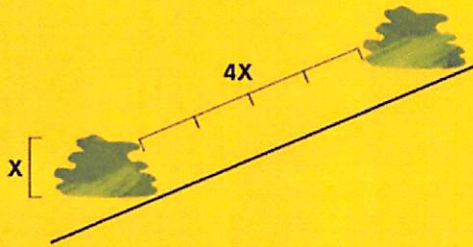
MINIMUM HORIZONTAL CLEARANCE

SHRUBS

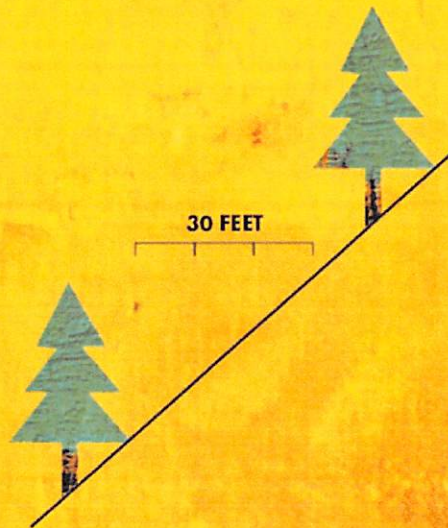
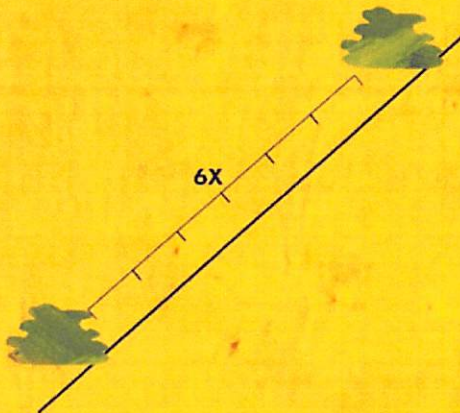
TREES



FLAT TO MILD SLOPE (LESS THAN 20%)



MILD TO MODERATE SLOPE (20%-40%)



MODERATE TO STEEP SLOPE (GREATER THAN 40%)

Fire-Resistant Landscaping

Fire-resistant landscaping isn't necessarily the same thing as a well-maintained yard. This type of landscaping uses fire-resistant plants that are strategically planted to resist the spread of fire to your home.

The good news is that you don't need to spend a lot of money to make your landscape fire-resistant. And fire-resistant landscaping can increase your property value and conserve water while beautifying your home.

