DEFENSIBLE SPACE
HOMEOWNER GUIDE

OREGON STATE FIRE MARSHAL

2024

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ABOUT THIS GUIDE

Welcome to this comprehensive guide on defensible space, crafted by the Oregon State Fire Marshal. In this technical manual, we dive into crucial strategies and practices to safeguard properties against the threat of wildfires. Discover a wealth of actionable insights and expert advice to fortify your home and property and protect your community from the ever-present danger of wildfire in Oregon.

WHAT IS DEFENSIBLE SPACE

Defensible space is the buffer you create between your home or business and the grass, trees, shrubs, or any wildland area that surrounds it. Proper defensible space can slow or stop the spread of wildfire and help protect your home or business.

Defensible space can offer protection from embers that can travel several miles from the fire front. Studies show that well-maintained defensible space can increase a structure's chances of surviving a wildfire, providing protection even if firefighters cannot reach it.


OREGON

DEFENSIBLE SPACE FOR HOMEOWNERS & RENTERS

MORE INFORMATION

This guide provides more detail about the recommendations in the **Oregon defensible space assessment tool** and can help you get started on creating defensible space on your property or in your community.

If you want personalized expert advice, the Oregon State Fire Marshal and fire service partners provide free defensible space assessments to Oregonians. During an assessment, a fire service member will walk with you around your property and provide recommendations to become better prepared for wildfire.

TO SCHEDULE A FREE ASSESSMENT, SCAN THE QR CODE.

EMBERS

According to the Insurance Institute for Business & Home Safety, embers, or firebrands, cause up to 90% of structural ignitions during wildfires. Flying embers can travel several miles ahead of the wildfire. When creating defensible space, it is important to think about these embers and how they may ignite things on or near your home or business during a wildfire.

THE ROOF

Your roof is an integral part of your defensible space plan. Embers and radiant heat are the primary culprits in roof ignitions during wildfires. A well-maintained roof, free from debris and constructed with fire-resistant materials, serves as a vital barrier against ember intrusion. By paying attention to your roof—its materials, condition, and maintenance—you significantly increase your property's resilience and reduce the likelihood of fire spreading and causing extensive damage to your home and surroundings.

Regularly remove leaves, needles, and other debris from the roof and gutters, especially before and during summer months.

Check your roof at least once a year and keep it maintained. Consider applying treatments to prevent moss from growing on the roof and inside the gutters.

Pay special attention to areas where materials can gather on the roof, especially under eaves or against walls.

Covering your gutters with metal covers to keep leaves and needles out.
If the gutters are covered, the gutters still need to be checked once a year.

OTHER CONSIDERATIONS

Install a fire-resistant or noncombustible roof made of asphalt, metal, clay tile, slate, or concrete products.

FIRST FIVE

The first **five feet** around your home is the front line in defending against wildfire. This space is important because it's the closest to your house. Clearing this area from things that can catch fire, like dry leaves, plants, or firewood, makes a big difference. By creating this buffer zone, you reduce the chances of a fire reaching your house. It's like giving your home a protective shield, making it safer and more secure.

Make sure flammable vegetation is removed from directly under the eaves. A minimum of **five feet** from the structure is recommended.

Remove vegetation and mulch from within **five feet** of the building.

Install a **5-foot** non-flammable buffer around the building, using materials like river rock, gravel, paver stones, or concrete.

Consider using fire-resistant plants in your landscaping at least **five feet** away from the home. Allow space between each plant so they don't touch each other. If one plant catches fire, this prevents the flames from transferring to other plants.

VENTS

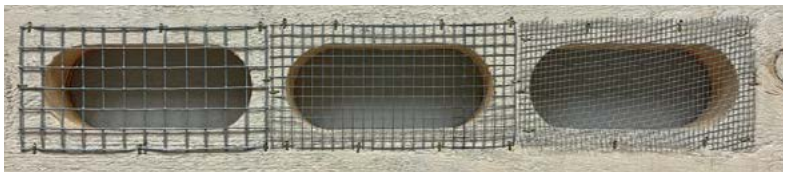
Embers can enter openings into the home, including through small vent spaces . Most homes are built with wire mesh covering attic and soffit vents. However, most of this wire mesh is **1/2" to 1/4"** wide, may be plastic, and is installed mainly to prevent critters from entering the home.

To prevent embers from entering your home, it's recommended **1/8"** wire mesh is installed over any vent openings and/or the top of any preexisting wire mesh.

Exterior attic vents, soffit vents, and areas below decks and patios should be covered.

Research shows that embers are less likely to get through **1/8"** wire mesh. Wire mesh is inexpensive and easy to install.

MESH SIZE EXAMPLES



1/2" **1/4"** **1/8"**

SIDING

Make sure siding and skirting around the building is in good condition. Rotting or missing siding and skirting can give flames and embers a place to catch the side of a building on fire. Well-maintained siding—even made of wood—can be fire-resistant if maintained and far from flammable vegetation or material.

OTHER CONSIDERATIONS

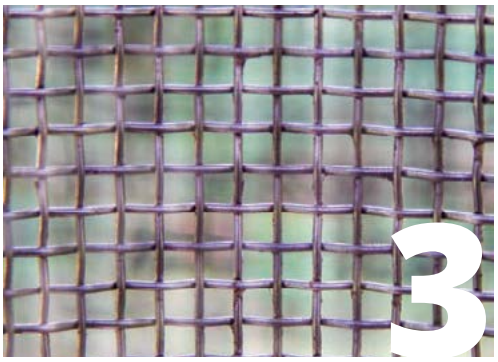
Install noncombustible or ignition-resistant siding such as brick, stone, fiber, cement, plaster, or metal.

DECKS

Keep decks and patios clean of leaves, conifer needles, wood, bark mulch, and other debris. This flammable material should be removed from the surface, around, and under decks. Even for fire-resistant decks and fences, it is important to clear away flammable material that might end up on the surface of or below decks and fences.

Pay special attention to places and pockets where material can gather against the side of the building.

Consider using non-flammable patio furniture and/or bring inside flammable materials— like chair cushions or umbrellas—when not home or during an evacuation.



Consider installing **1/8"** wire mesh below deck openings. Closing these openings can stop flammable materials and embers (and critters!) from collecting under your deck and reduce maintenance.

Make sure spaces between deck boards are clear of debris, especially during summer.

FENCES

Fence attachments touching the structure should be made of a noncombustible alternative like metal.

Wood and other flammable fences can act like a wick and carry fire from the fence to the side of your building. Replacing the entire fence with noncombustible material can be expensive, but simply replacing the first **five feet** of a fence from your building with noncombustible material can stop fire from traveling to the side of your building.

If you cannot replace the first **five feet** of your fence with noncombustible material and you need to evacuate because of wildfire, open the gate and secure it when you leave to break up the wick to your home.

OTHER CONSIDERATIONS

Install a **5-foot** fire-resistant buffer, like metal fencing or other non-flammable material, when replacing fencing within **five feet** of a home or structure.

PROPANE

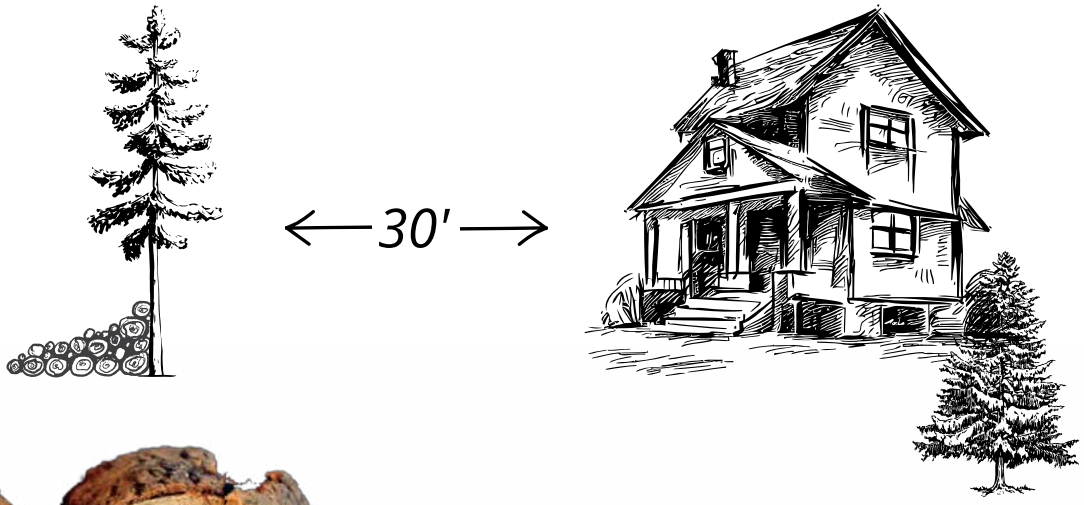
Keep combustible vegetation **10 feet** away from permanent propane tanks. These tanks will vent when overheated and aren't typically at risk of exploding during a wildfire. It is important not to create an environment where a tank could have a direct flame on it. Keep all vegetation cleared **10 feet** away from them. Do not completely cover or surround the propane tank with anything, like a wall or roof, as this will prevent vented gases from dispersing into the air properly and cause a safety hazard.

Small BBQ tanks can vent when overheated. They are smaller and cannot take as much heat as the large, permanent propane tanks. Make sure your empty or partially used BBQ tanks are stored **30 feet** from your structure, placed in an outbuilding, or brought to a recycling center.

FIREWOOD

Keeping wood piles away from your home is a smart move for defensible space. Wood piles are fuel during a wildfire—they can ignite quickly and spread to your house. Keeping them at a distance reduces the risk. It creates a safe zone around your home, making it harder for a fire to get close and cause damage.

- Keep firewood piles and lumber at least **30 feet** from any structure or enclose the wood pile in a shed or building.

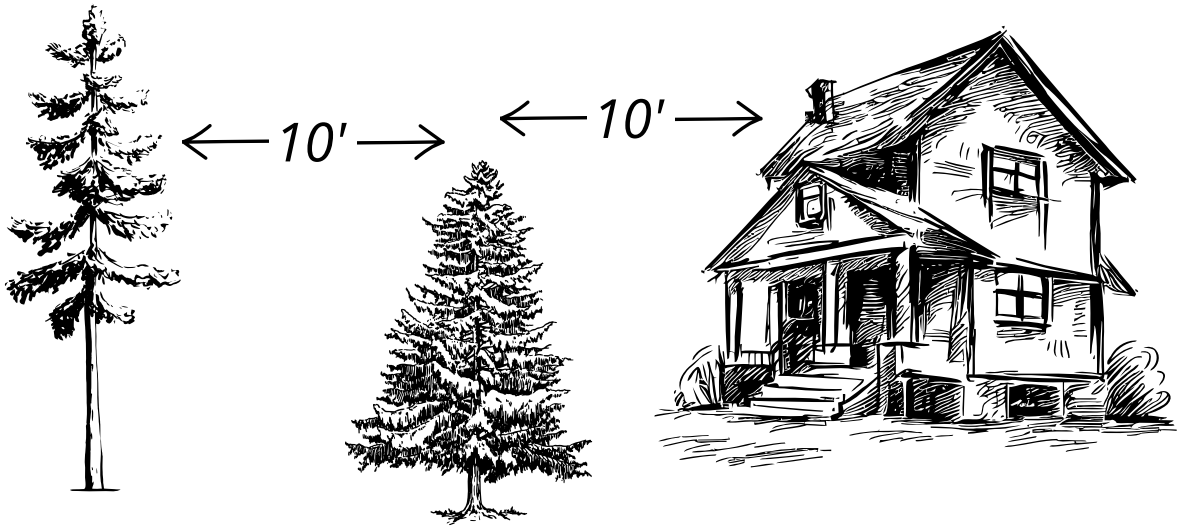


TREES

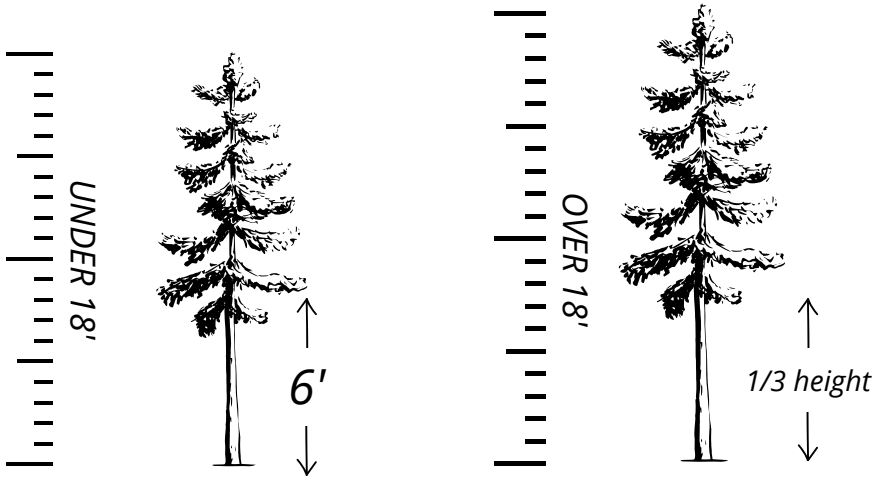
Trees are an essential part of a property's defensible space. Many trees in Oregon have experienced fire for hundreds of years and are well-adapted to the fire ecosystem. Trees can provide shading around homes and businesses, helping keep moisture high and flammability low around buildings.

Trees can become a problem if fire can move from branches and/or the canopy to your home or business.

For the first **100 feet** from buildings, it is recommended to maintain a **10-foot** spacing between individual tree crowns and a **10-foot** spacing from buildings and powerlines.

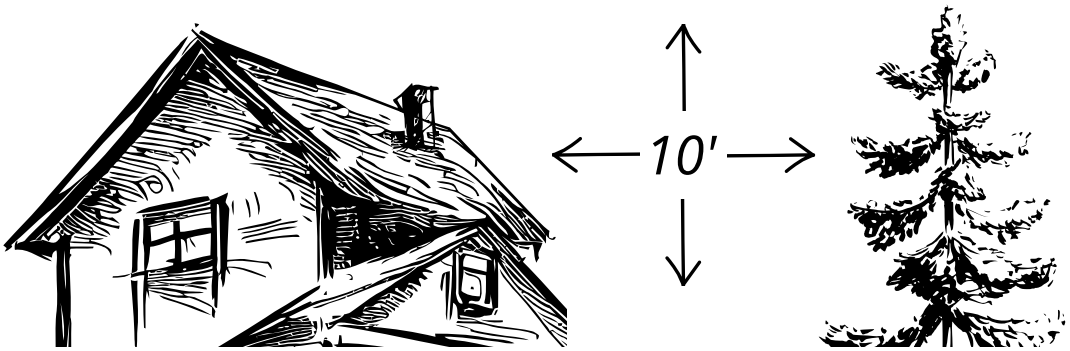


It is recommended to limb trees up **six feet** (for trees greater than **18 feet** tall) or up **1/3** the tree height (for trees less than **18 feet** tall).



TREES

Tree removal can be time-consuming and dangerous. Please consult a professional tree service or arborist when considering removing trees near your home or business. Tree removal can also be expensive. Where cost-prohibitive, consider limbing trees near your home or business so branches are not touching the side or roof of your building. Maintain **10 feet** of vertical and horizontal spacing from chimneys.



Consider the tree species when modifying your defensible space. Deciduous trees, which shed their leaves in the fall—like bigleaf maple and quaking aspen hold their moisture in the summer and can reduce heat, slow fire spread, and block embers. Coniferous trees—like Ponderosa pine and western larch—grow thick bark and naturally prune their lower limbs, making them fire-resistive. Ensure leaves and needles are raked away from your home to remove fuels and prevent fire from spreading.

For more information about tree species, see the fire-resistant plant guide on the ***resource page***.

If considering the wildfire preparedness of your privately-owned forested acres beyond the first **100 feet** from your home or business, please contact your local Oregon Department of Forestry office to speak with a community wildfire forester or stewardship forester.

PLANTS

Thinking about the plants near your home in a defensible space plan matters. When plants are too close to your house, they can catch fire easily during a wildfire. This fire can then spread to your home.

By keeping plants farther away and choosing fire-resistant ones, you create a safer zone around your house. It makes it harder for a fire to reach your home and helps protect it from getting damaged or destroyed during a wildfire.


CAROL MACKIE


LILY OF THE VALLEY


LAVENDER

Make sure fire-resistive plants are spaced within the designated defensible space area. Keep grass mowed to less than **four inches**.

No plant is entirely fireproof, but some plants are more resistant to catching fire than others. The key characteristics of fire-resistive plants are:

- Plants that have a high moisture content and/or are drought-tolerant so they hold onto their moisture during the dry season.
- Plants that require little maintenance, mainly because they accumulate little to no dead vegetation every year.
- Plants that are nonresinous and have little flammable chemical component.

DEBRIS

Remove leaves, conifer needles, wood, bark mulch, and other debris from within **100 feet** of the structure or to the property line. These materials can spread fire from wildlands to your home or business.

This recommendation does not require you to moonscape your property for **100 feet**; instead, it suggests breaking up the material around your building so fire cannot travel from wildlands to your home.

Rake leaves and remove dead materials that could spread fire to your home or business.

Chip, compost, or take debris to a recycling center. If burning yard debris, follow local regulations.

Defensible space requires ongoing maintenance. Make sure you check around your home and property regularly to remove debris that has accumulated.

Find the closest recycling or compost center in your area.

Your local fire agency is the best contact to learn about yard debris burning regulations.

DRIVEWAY

Ensure your driveway is accessible to first responders. It should be clear of debris and obstructions; meet local height and width requirements; and have clearly marked road signs, bridges, and culverts.

During a wildfire, first responders may need to access your property to fight the fire. It is important that emergency vehicles can drive onto your property.

- Make sure any trees or bushes along your driveway are cut back to meet local height and width requirements (typically a height of **13 feet, 6 inches** and a width of **20 feet**).
- Make sure any bridges or culverts are properly marked with their weight limit. Consider upgrading bridges and culverts for standard emergency vehicle weight limits (**75,000 pounds**).

ADDRESS

Make sure the home has an address sign at the entrance to the property visible from the road.

For firefighters to be able to fight a fire at your property, they must be able to find your location quickly. Having a clear, legible address sign at the entrance of your property will help first responders find you quickly.

- Ensure address signs are legible from both directions of a road.
- Consider installing reflective signs so they are easier to see at night.
- Ask your local fire agency if they have an address sign program to provide a sign for your property.

TO DO LIST

WHEN TO DO PROJECTS

Spring and fall are ideal times for defensible space projects because the weather is often mild. In these seasons, it's easier to work outside without extreme heat or cold. During spring, plants are starting to grow, making it a good time for clearing debris before they become fire hazards. In fall, you can prepare for winter by cleaning up dead plants and leaves that could fuel fires. This is also a good time to prune trees.

Summer can be risky for defensible space work because it's hotter and drier, increasing fire danger. Winter might have snow or icy conditions, making outdoor work challenging or unsafe. So, tackling defensible space projects in spring and fall allows you to prepare your property without facing extreme weather conditions and reduces the risk of fire-related accidents.

SPRING/EARLY SUMMER

- [ ] Install **1/8-inch** wire mesh over/behind vent openings on buildings and under your deck
- [ ] Clean debris from your gutters, roof, and deck
- [ ] Remove leaves and debris from within **100 feet** of buildings
- [ ] Check the condition of your roof, siding, and fencing for maintenance needs
- [ ] Replace vegetation in your landscaping with fire-resistant plants
- [ ] Keep your firewood and lumber piles **30 feet** from your building
- [ ] Install a **5-foot** noncombustible buffer on fencing attached to your building
- [ ] Keep combustible vegetation **10 feet** away from permanent propane tanks

TO DO LIST

SUMMER

- [ ] Store empty or partially used BBQ tanks **30 feet** away from buildings or in an enclosed outbuilding
- [ ] Keep your gutters, roof, fencing, and deck free from debris
- [ ] Keep **five feet** from your building and deck clear of leaves, needles, and debris
- [ ] Keep firewood and lumber piles **30 feet** away from buildings

FALL/WINTER

- [ ] Trim vegetation and prune tree branches growing within **five feet** of your building, deck, and fencing
- [ ] Limb tree branches up **six feet** or **1/3** of the tree height
- [ ] Trim or remove understory vegetation growing under your trees
- [ ] Trim vegetation and tree branches encroaching on your driveway
- [ ] Ensure your address and road signs are visible

RESOURCES

Scan the QR code to access each resource

OSU Fire-Resistant Plants for Home Landscapes

Oregon Defensible Space Assessment Sign Up

Building Codes
bcd.firehardening@dcbs.oregon.gov
503-378-4133

Oregon Wildfire Hazard Map

Department of Financial Regulation: Wildfire and Insurance
1-888-877-4894

OSU Extension Service: Fire Program

Local Burn Restrictions
Contact local fire agency

Department of Land Conservation and Development: Wildfire Adapted Communities

Disclaimer: The purpose of this document is to serve as a guide for property owners about wildfire preparedness including ways to limit property loss or damage during a wildfire. These recommendations are based on best practices developed by industry professionals using their experience and research. The Oregon State Fire Marshal and its affiliates disclaim all warranties and guarantees concerning the information in this document and assume no liability or responsibility for loss or damage caused to any person or property by using these recommendations. The Oregon State Fire Marshal and its affiliates disclaim all warranties and guarantees concerning putting these recommendations into practice and the survivability of a structure during a wildfire event. Local jurisdictions may have codes for vegetation management and building materials. Check with your local code authority before making any modifications to your property.

OSFM DEFENSIBLE SPACE PROGRAM

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