



# Introduction to Defensible Space



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Radiant  
Heat

Tennessee Division of  
Forestry



Wind-blown  
Embers

Insurance Institute for Business & Home  
Safety



Flame  
Contact

Novato Fire Protection  
District

# How do homes burn in a wildfire?

Slide courtesy of Steve  
Quarles



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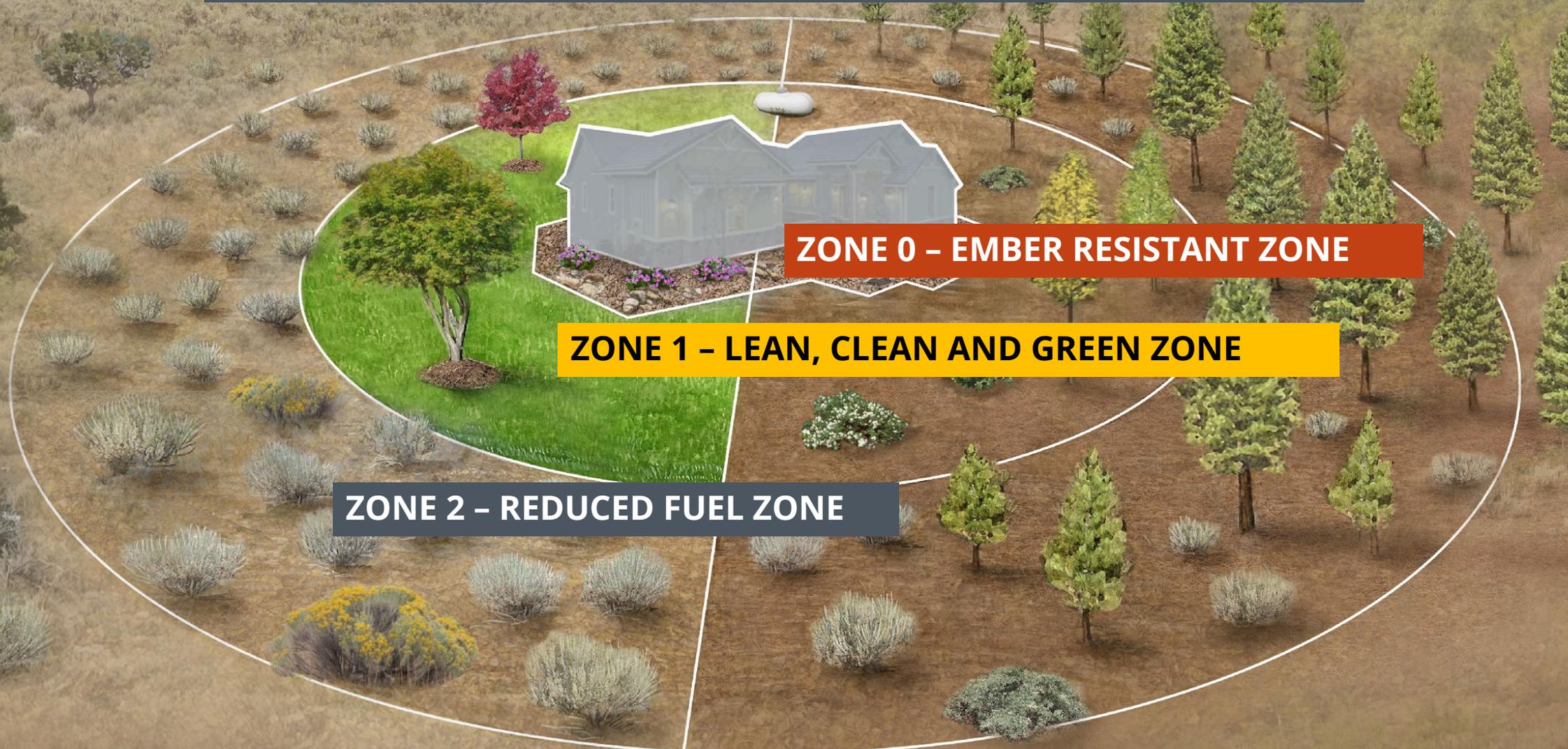


# Defensible Space

An area around the home where the vegetation has been managed to reduce the wildfire threat and to allow the firefighters to safely defend the house.



# DEFENSIBLE SPACE ZONES



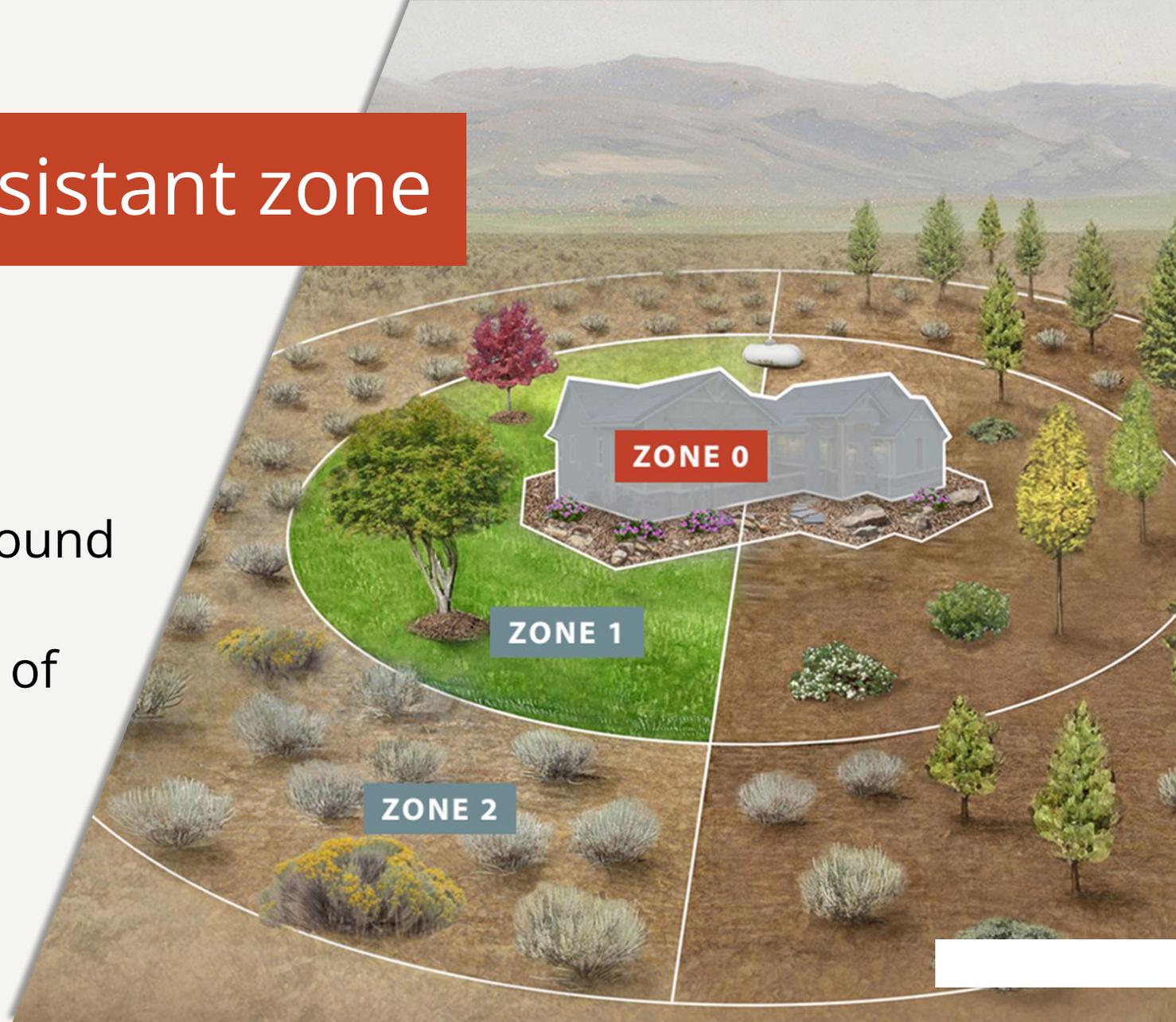
**ZONE 0 – EMBER RESISTANT ZONE**

**ZONE 1 – LEAN, CLEAN AND GREEN ZONE**

**ZONE 2 – REDUCED FUEL ZONE**

# Zone 0 – Ember-resistant zone

- 0-5 ft around the home
- The goal of this zone is to be **ember-resistant**
- Includes the area under and around any attached deck
- Be sure to keep this zone clean of any woodpiles, wood mulch, or flammable vegetation



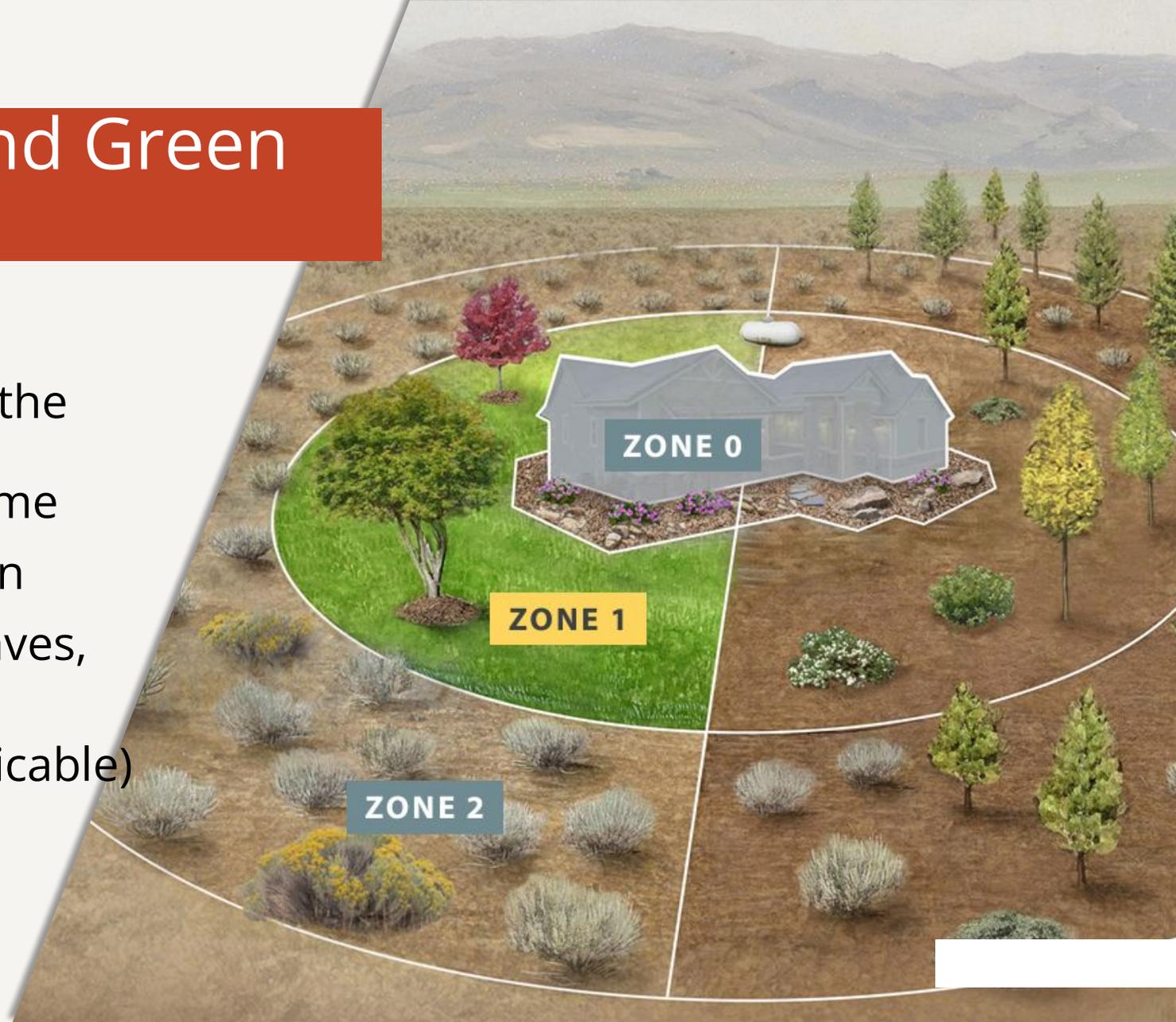
# Zone 0 - The Ember-resistant zone

- No such thing as a “fire-proof” plant
- Use irrigated, herbaceous, low-growing plants
- Use gravel, a concrete or brick walkway, or another hardscape feature
- No shrubs under first story windows, open eaves, foundation vents or in corners
- Do not store firewood in this zone – keep it >30 ft from the house



# Zone 1 - Lean, Clean and Green Zone

- 5-30 ft from the home
- The goal of this zone is to reduce the risk of fire spreading from the surrounding vegetation to the home
- Lean = Small amount of vegetation
- Clean = No dead vegetation or leaves, needles, twigs
- Green = Live and irrigated (if applicable)

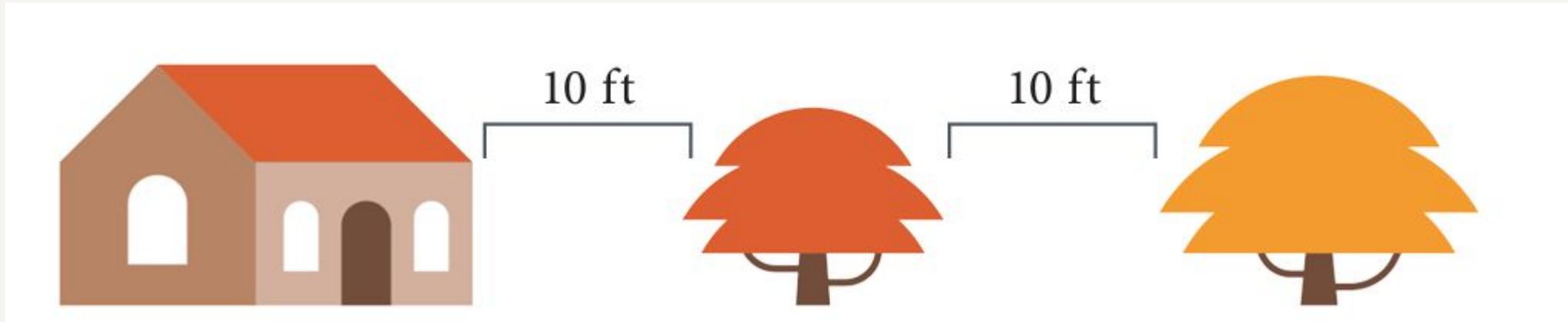


# Examples of Zone 1



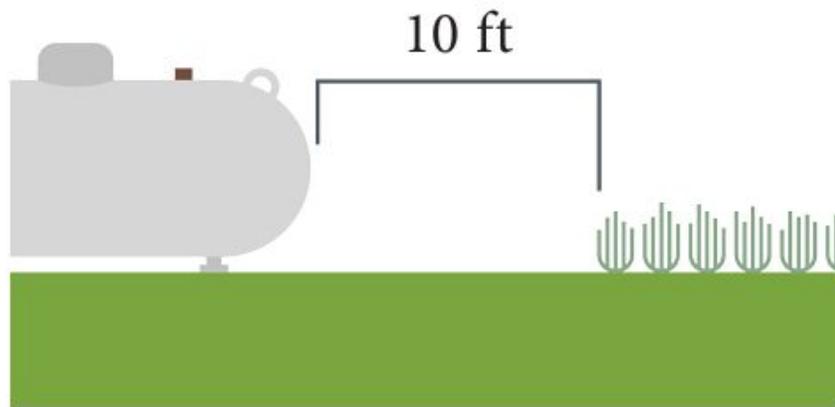
# Tree choice and spacing

- Deciduous trees are preferred over evergreens
- Place trees 10 ft from house and 10 ft between trees
- Limb trees within 10 feet from home



# Propane tanks

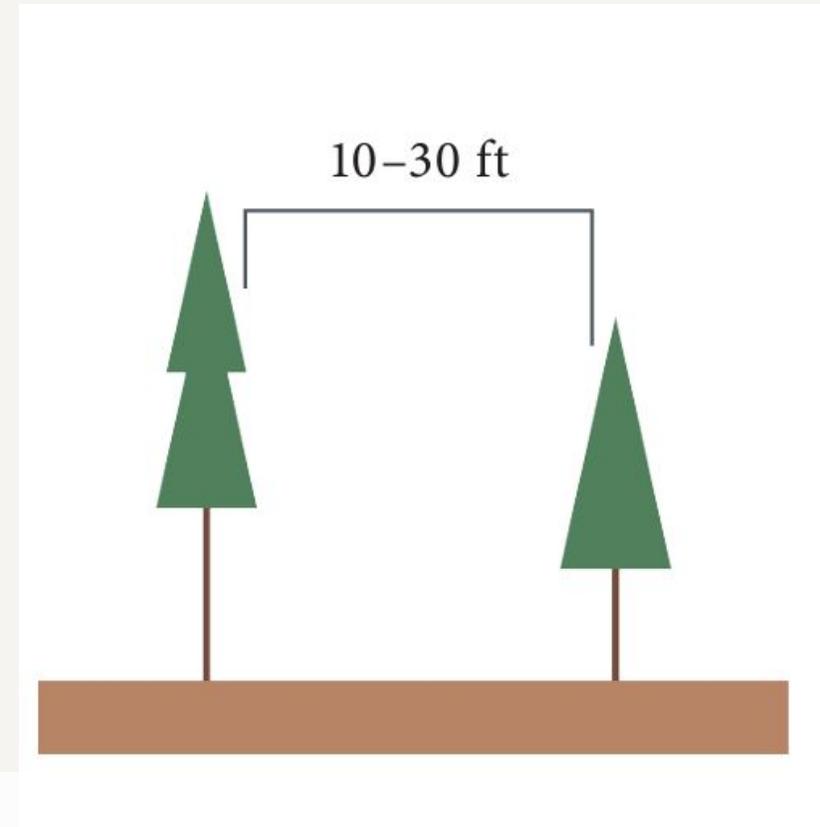
- Clear weeds and flammable plants 10 feet from propane tanks



↑ 10 feet from weeds or flammable plants

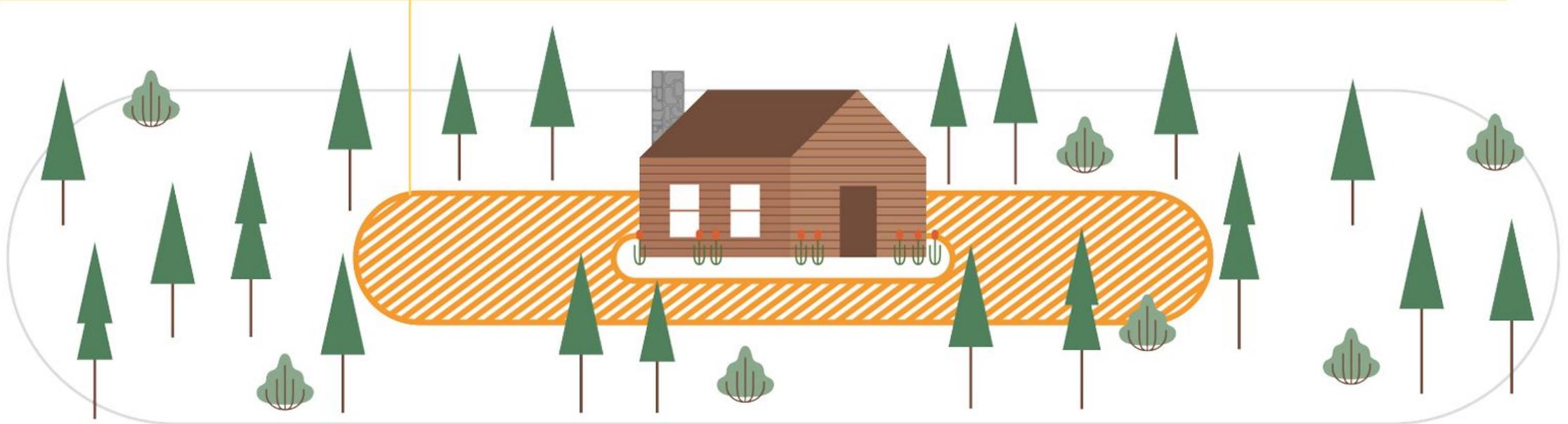
# Pine-dominated ecosystems

- Space individual trees or clumps of trees by 10-30 ft
- Reduce height of or remove shrubs
- Leave shrub roots in place
- Use low-growing shrubs (<18")

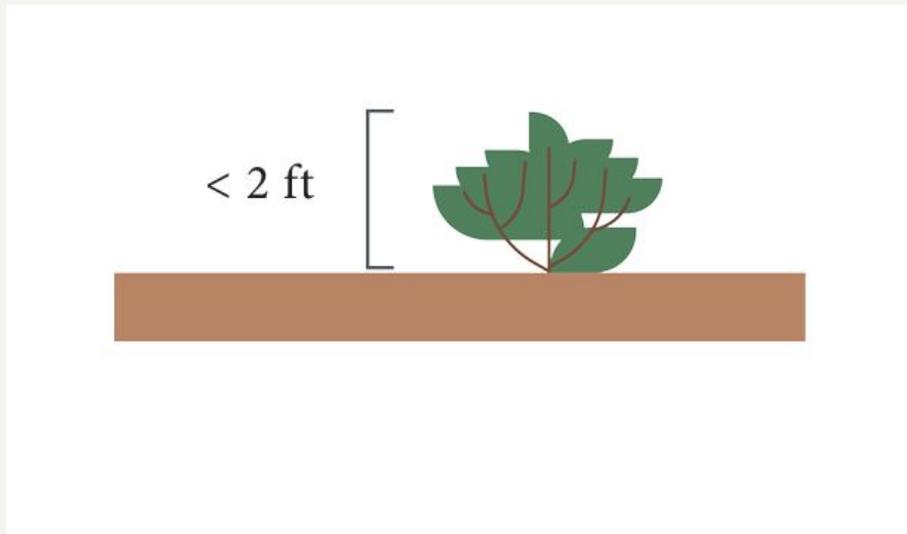


# Pine-dominated ecosystem

**Routinely remove pine needles once every spring and as needed to keep Zone 1 clean and lean**



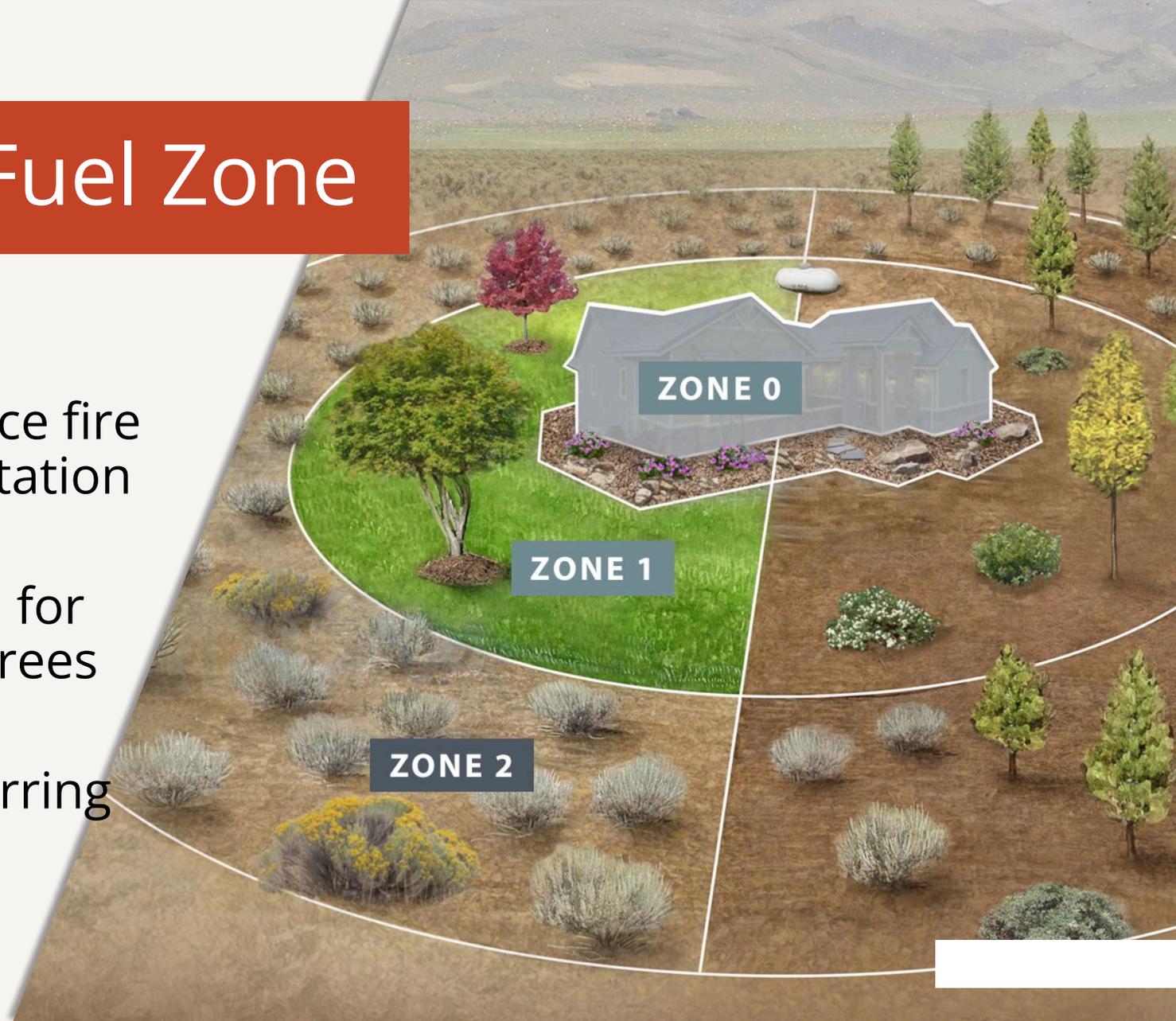
# Sagebrush-dominated ecosystem



- Use green, herbaceous, low-growing plants (< 2 feet)
- Ensure native vegetation is well-spaced and free of dead vegetation
- Prune lower branches and space into discontinuous islands
- Clear all cheatgrass within 30 feet of the home

# Zone 2 - Reduced Fuel Zone

- 30-100+ feet
- The goal of this zone is to reduce fire spread from surrounding vegetation to the home
- Need to decrease the potential for fire to spread into the tops of trees and shrubs
- Usually includes naturally occurring vegetation



# Examples of Zone 2

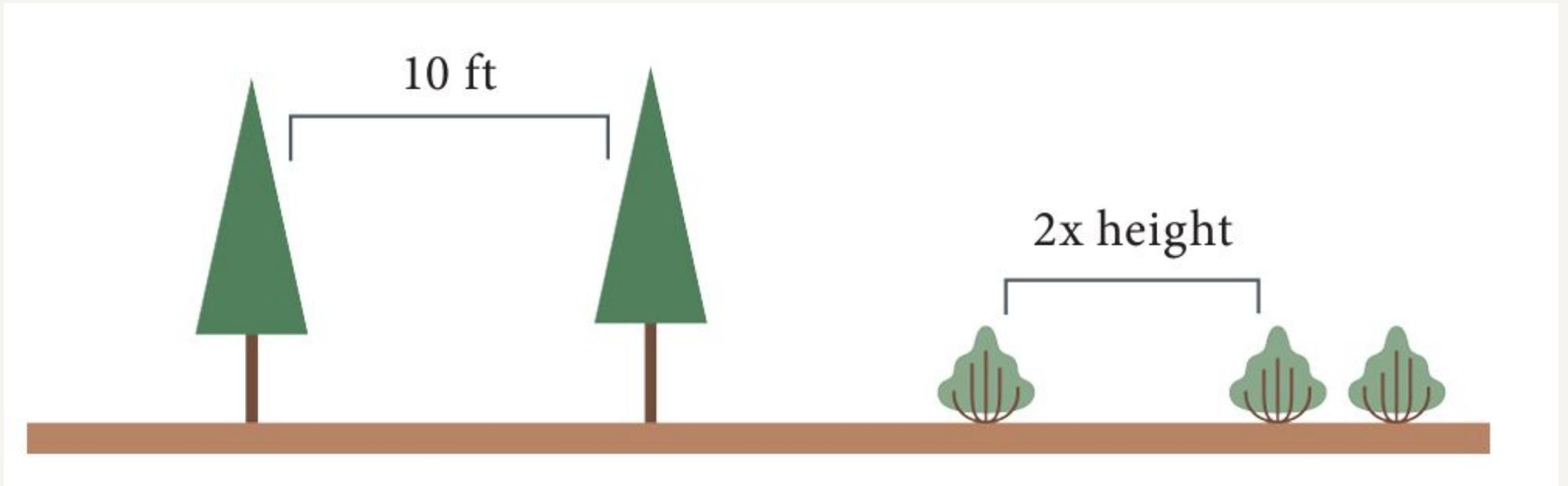


# How far do you need to extend Zone 2?

## RECOMMENDED DEFENSIBLE SPACE DISTANCE

	Flat to Gently Sloping 0–20%	Moderately Steep 21–40%	Very Steep > 40%
Grass, Dry Grass ( <i>cheatgrass and weeds</i> )	100 feet	100 feet	100 feet
Shrubs & Woodland ( <i>sagebrush, pinyon and juniper</i> )	100 feet	200 feet	200 feet
Trees ( <i>ornamental or forest trees</i> ) <i>If there's substantial shrub understory, use those values stated above</i>	100 feet	100 feet	200 feet

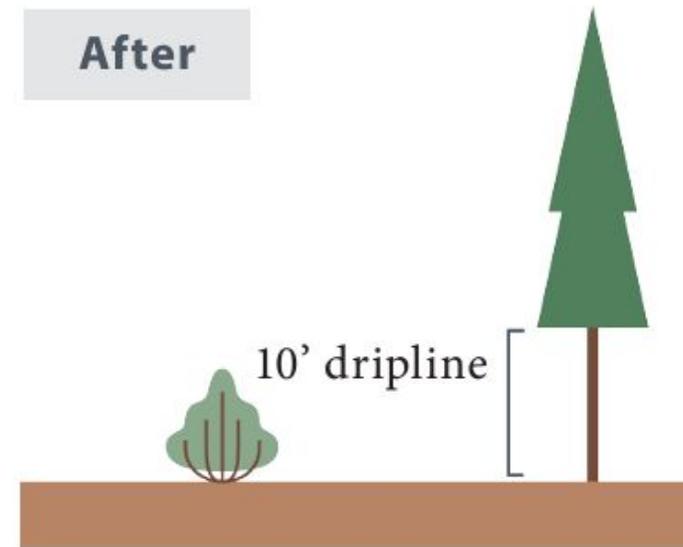
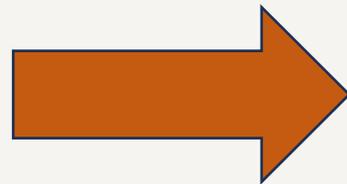
# Create separation between trees and shrubs



# Remove ladder fuels



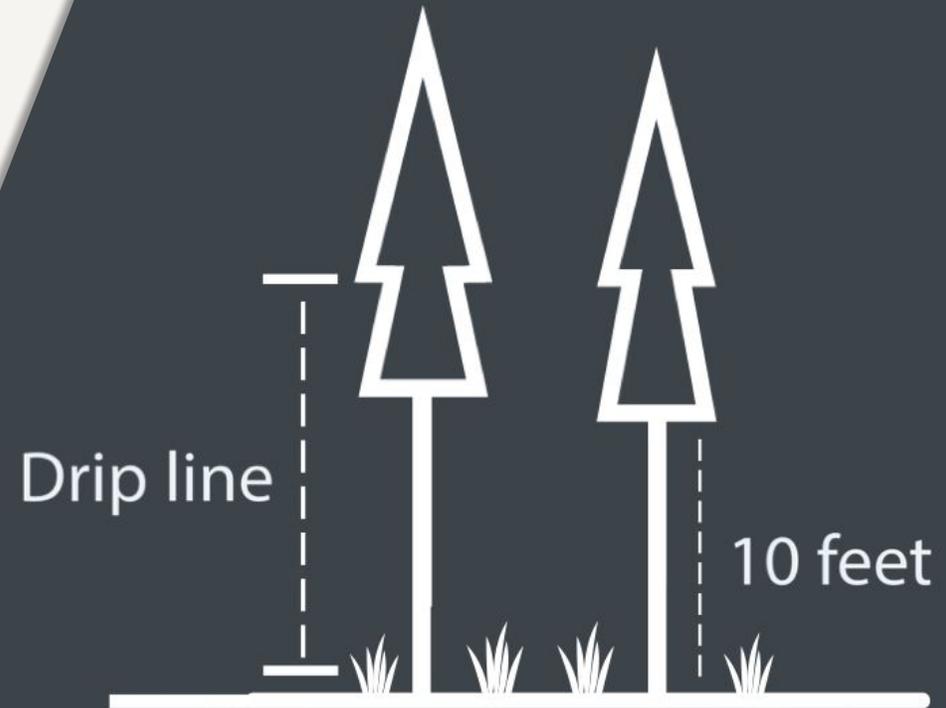
Ladder fuels are low-growing vegetation that promote the movement of fire from the ground to the crowns or tops of trees.



After managing the vegetation, ladder fuels are gone.

# Tree maintenance

- Remove weak, dead or dying trees
- On live trees, prune the lower tree branches to 10 ft from ground
- Don't remove  $> 1/3$  of the tree's total height
- Remove shrubs and trees under the drip line



# Remove ALL dead vegetation in all zones



- Weeds
- Dead & dying trees and shrubs
- Dried cheatgrass & weeds
- Dead branches
- Dead needles & leaves
- Dead twigs that are still attached to plants

# Ornamental Junipers

- Extremely flammable
- Popular landscape shrub
- High resinous composition
- Dead leaves/branchlets inside



# Questions?

# LivingWithFire.com



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