

## Your Defensible Space Slideshow



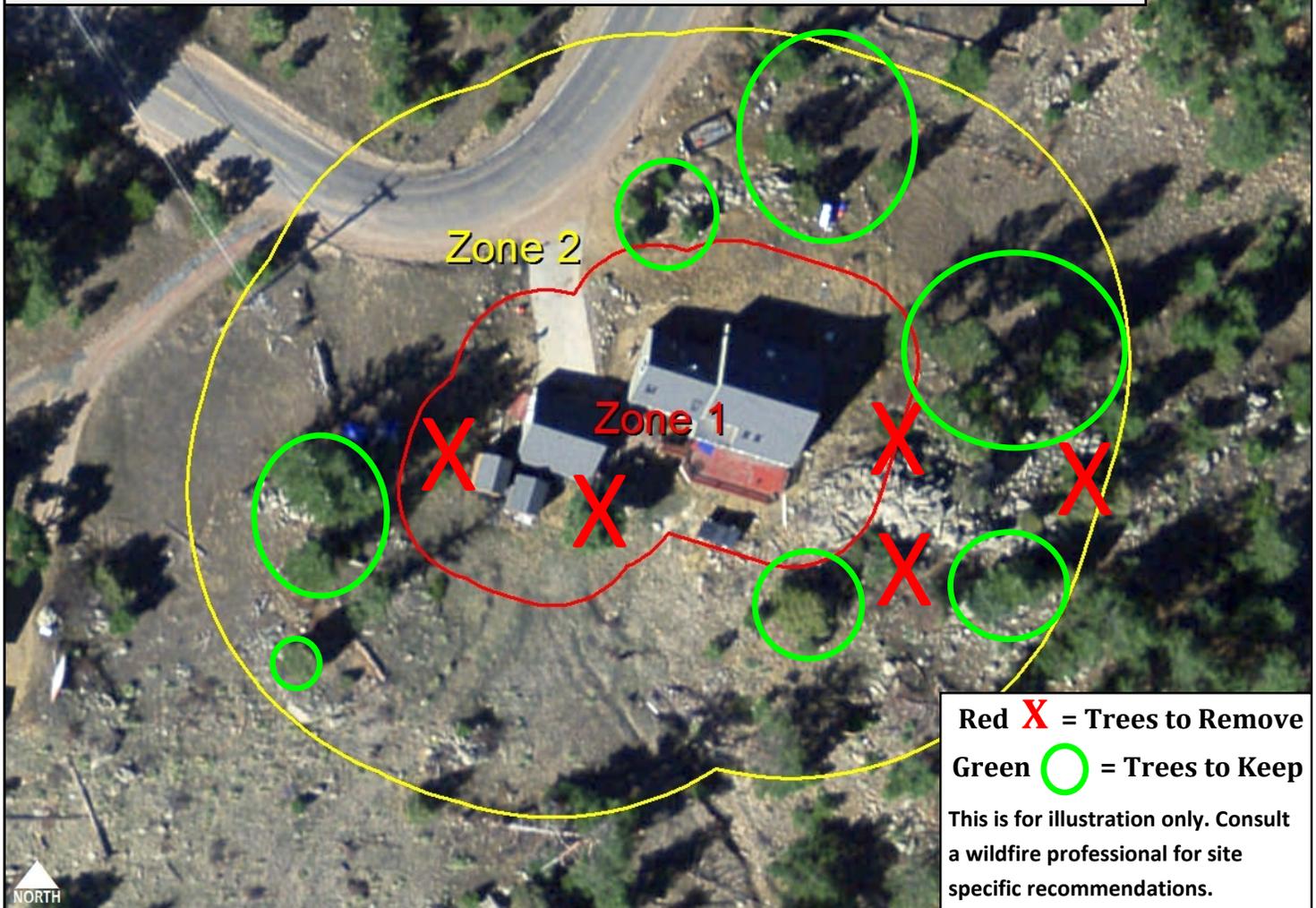
### Your Defensible Space Slideshow

- This slideshow was created to highlight actions you can take to dramatically improve the chances of your home surviving the next wildfire.
- On each of the slides you will see red Xs and green circles depicting options for thinning. These markings are only “virtual forestry” and should be checked on the ground before actions are taken.
- Your building footprints are approximate, as a result your Zones 1 and 2 are not precise.
- The recommendations described on the following slides will give firefighters a much better chance to protect your home from an approaching wildfire.
- Your defensible space Zones 1 and 2 are an area of fuels reduction designed to diminish the intensity of an approaching fire.
- It is your personal responsibility to protect your life, family, animals, and property from wildfires.
- We always recommend homeowners call wildfire professionals to help them develop a comprehensive wildfire mitigation plan.

### **“They Didn’t Build Rome in a Day”**

Many homes have far too many conifers in Zones 1 and 2. Don’t be overwhelmed by the task at hand. Instead, start small and work incrementally toward your final goals. Forest management is a long-term endeavor. With a bit of effort, everyone can create effective wildfire mitigation.

# # 1 - Characteristics of an Effective Defensible Space



## Characteristics of Effective Defensible Space — Tree Density and Spacing

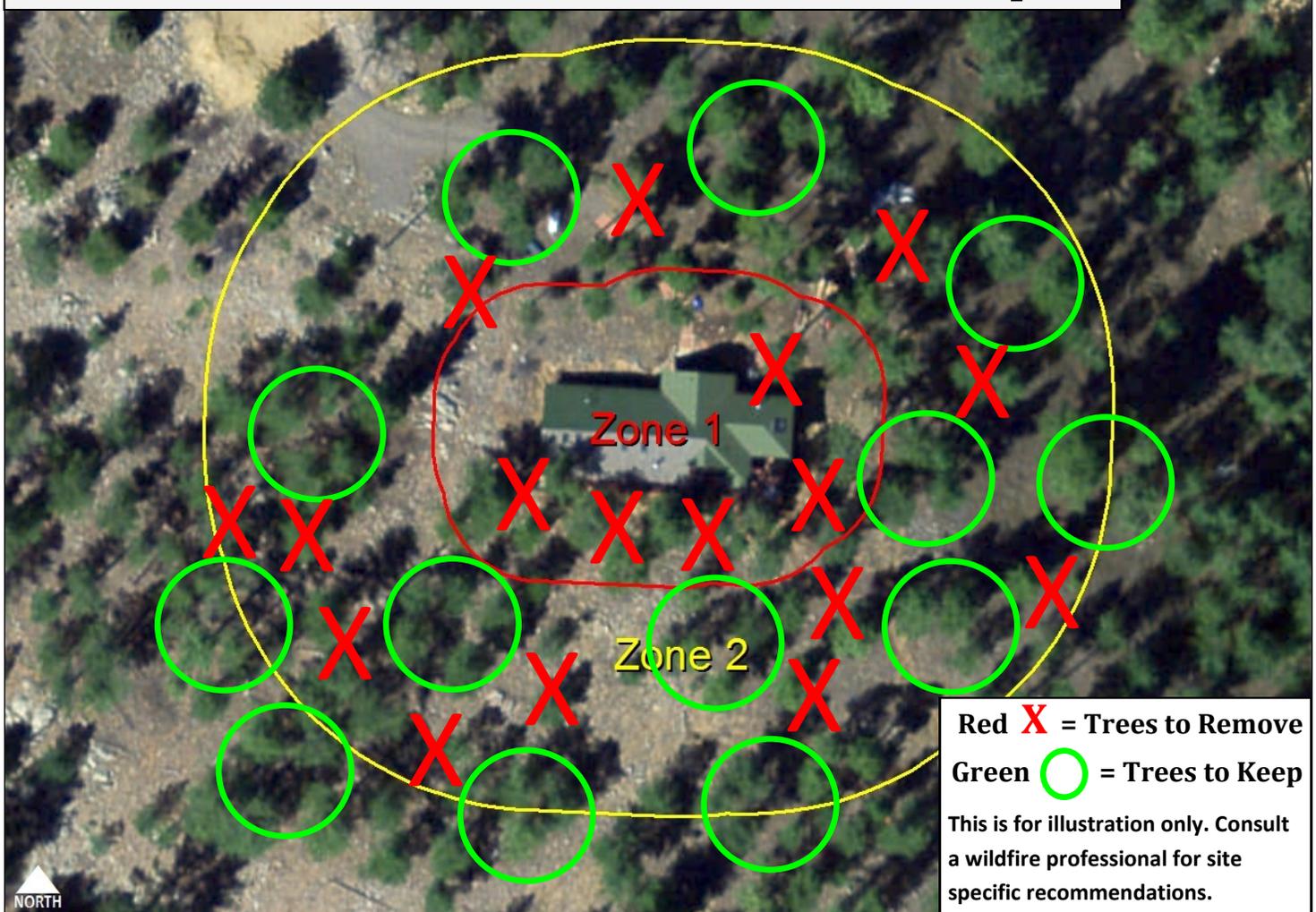
### **Zone 1 - Mitigation Recommendations:** (within 30 ft. of all structures)

- Ideally, remove all conifers from this zone. If aspens are present, encourage them in this area.
- If a select prize tree remains, isolate it from other trees, remove its lowest branches so they are 10 ft. from the ground, remove all ladder fuels under it, and make sure no branches overhang the roof or are within 10 ft. of the chimney.
- For this example home, we recommend the removal of the two conifers remaining in this zone. Taking this action would help reduce potential radiant heat exposure to this home.

### **Zone 2 - Mitigation Recommendations:** (30 to 100 ft. or more from structures)

- Selectively thin conifers so small clumps/islands of 2-3 trees remain with large 20-30 ft. openings between remaining clumps.
- Low limb most remaining conifers in this zone so lowest limbs are 6-10 feet from the ground or 1/3 the height of the tree, whichever is less.
- Remove most ladder fuels from underneath remaining trees.
- For this example home, we recommend the removal of a few trees on the east side of the home . This thinning creates better clumping in the forest and breaks up the continuous/closed tree canopy.

## #2 - How to Create More Effective Defensible Space



### How to Create More Effective Defensible Space

- This home's existing tree density and spacing would make it difficult for firefighters to safely protect it.
- Fortunately, with a bit of work this homeowner can greatly improve the effectiveness of her d-space and improve forest health.

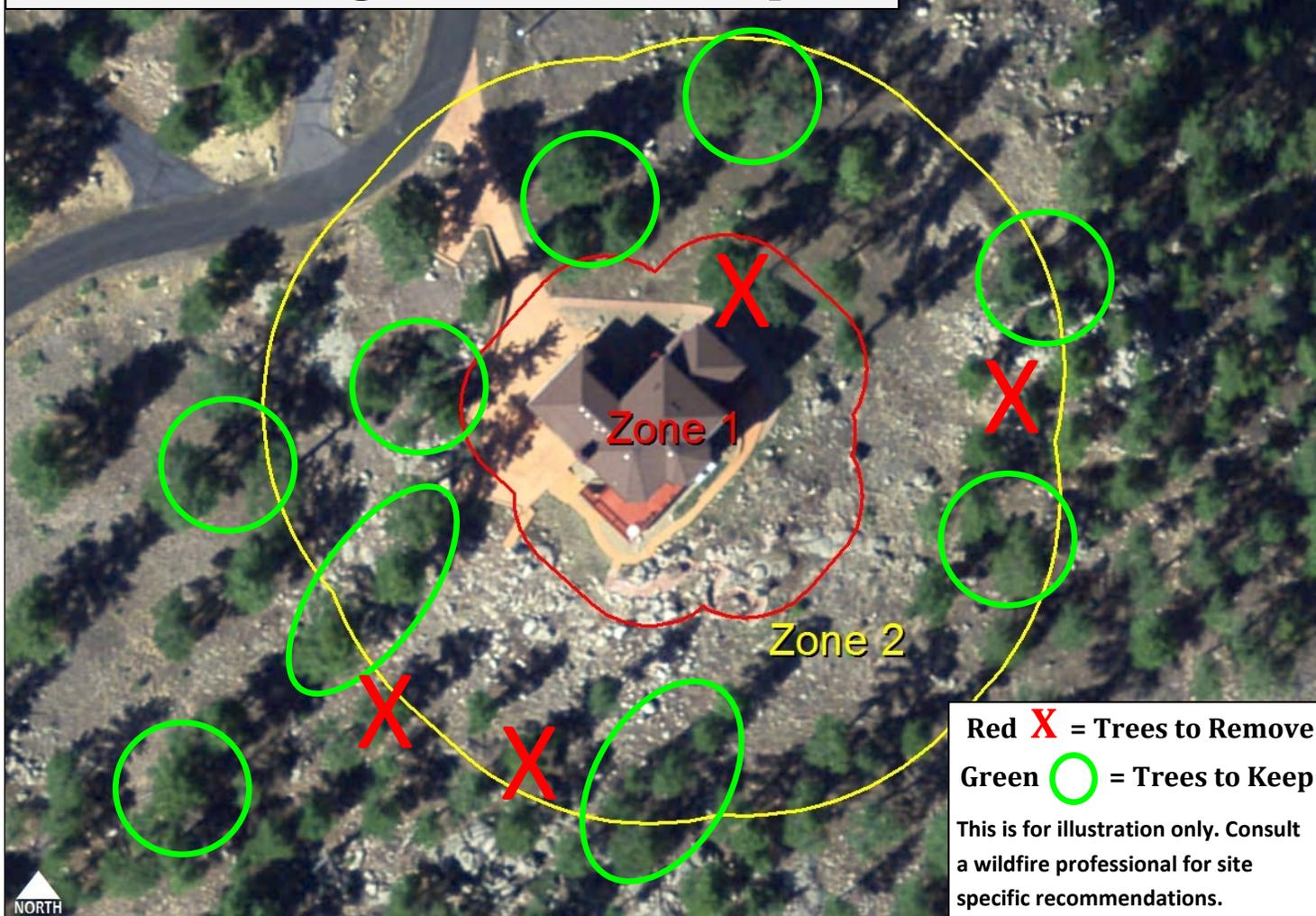
#### **Mitigation Actions to Improve the Effectiveness of Zone 1:** (within 30 ft of all structures)

- The tree density on the north side of this home looks good with few trees remaining. This homeowner should focus on removing most of the remaining trees on the south side of the home.
- Always keep in mind, the more trees you remove from Zone 1, the safer your home will be.

#### **Mitigation Actions to Improve the Effectiveness of Zone 2:**

- In this zone, we recommend this homeowner focus on creating more well defined clumps of 2-3 trees.
- Currently the forest is too dense, and it is easy to imagine a crown fire moving from tree top to tree top.
- By clumping your trees with large 20 to 30 feet gaps between clumps, it is more difficult for a crown fire to move through the forest.
- If this homeowner takes action, she has the ability to dramatically improve the chances of her home surviving the next wildfire.

## #3 - Maintaining Your Defensible Space



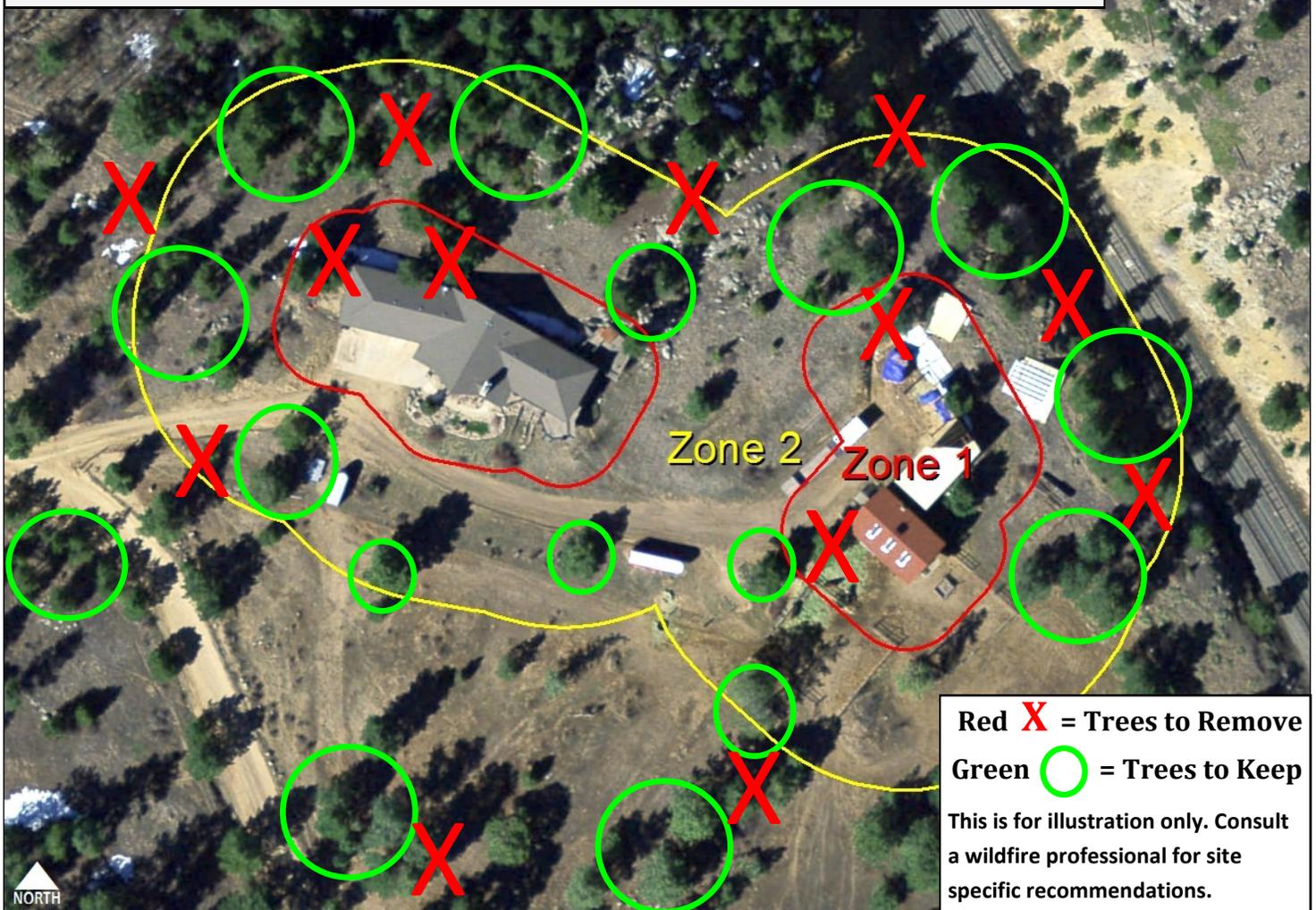
### Maintaining Your Defensible Space

- Keeping your home safe from wildfires is not a one-time effort—it requires ongoing maintenance.
- Many homes are lost in wildfires because simple actions are overlooked. A rake, weedwhip, ladder, and gloves are the main tools needed to keep your defensible space in good shape.

#### **Ongoing Wildfire Mitigation Maintenance Tips...**

- Create and maintain a 3-5 ft. non-combustible “vegetation free” perimeter around all structures.
- In this aerial photo, it is easy to see how decorative patios and walkways can be incorporated into your defensible space to increase its effectiveness.
- Always store firewood piles, propane tanks, scrap lumber and other flammable debris at least 30 feet from all structures.
- Keep all wildland grasses cut to a max height of 6 in. within 30 ft. of structures.
- Be sure all gutters and rooflines are always kept clear of all pine needles and leaves.
- Make sure the top and underside of decks and porches are always kept clear of pine needles and other flammable debris.
- Screen all attic, roof, soffit and foundation vents with 1/8 metal screening.
- Create a schedule and plan to do regular maintenance of your property. The actions described above should be taken at least once each spring and fall and continually during times of elevated fire danger.

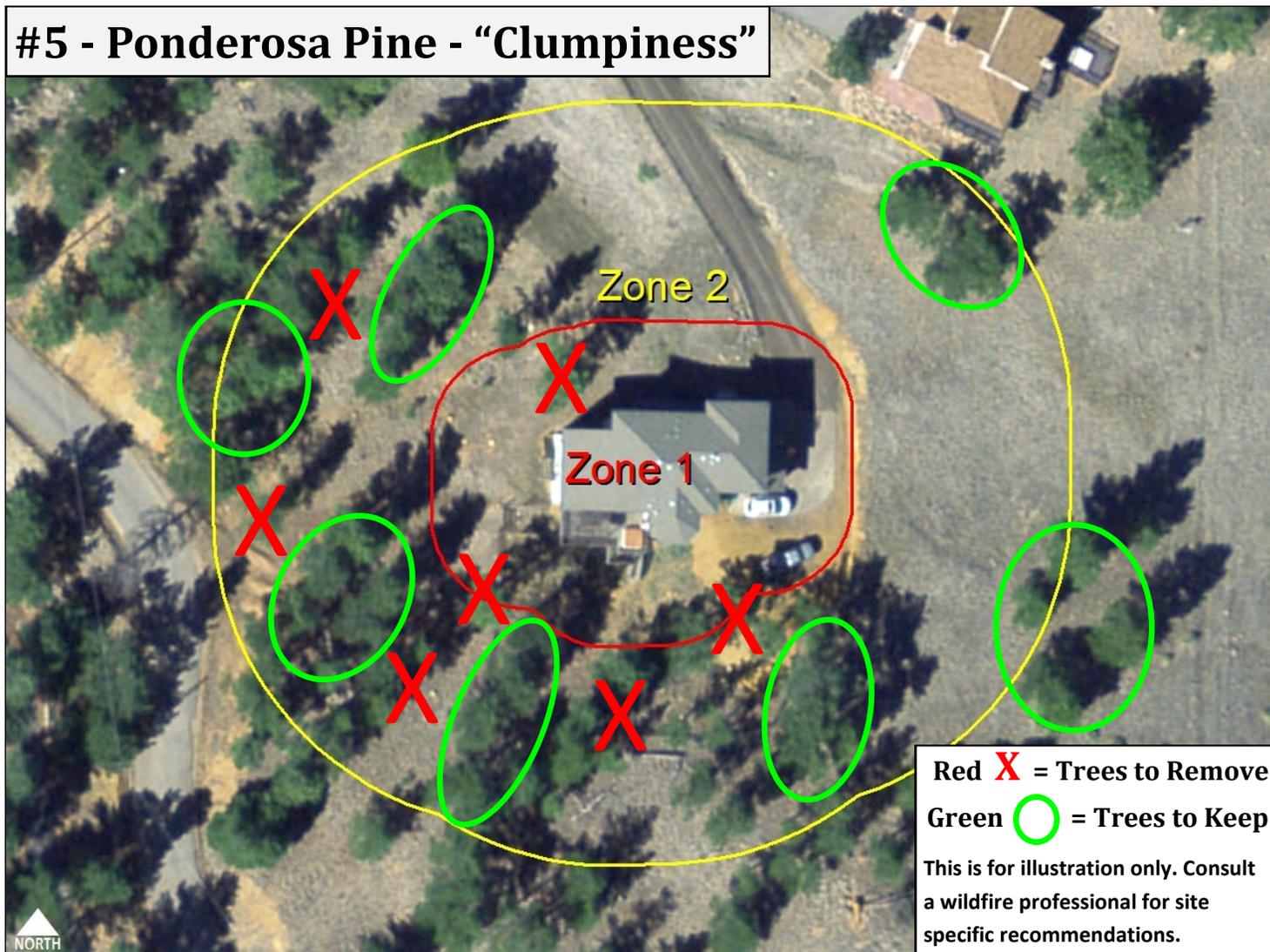
## #4 - Low Limbing, Ladder Fuels, and Surface Fuels



### Low Limbing, Ladder Fuels, and Surface Fuels

- **Low Limbing and Ladder Fuel** removal helps prevent a fire from burning from ground level up into the branches and crowns of larger trees.
- Most conifers remaining in Zones 1 and 2 should be low limbed so their lowest limbs are 6-10 feet from the ground.
- Try not to remove more than 1/3 the height of the tree because it could jeopardize the trees health.
- Make sure to feather your low limbing so that it blends naturally into your Zone 3. Try to create a mosaic of slightly different branch heights so your forest looks more natural.
- **Ladder Fuels** are defined as smaller trees and brush that provide “vertical continuity” or a “ladder” for fire to climb into tree tops. Ladder fuels can be small trees, shrubs (ground junipers), lower branches on mature trees, and even tall wildland grasses.
- In Zone 1, you should remove all ladder fuels. In Zone 2, most ladder fuels should be removed.
- All **slash and logs** within Zone 1 should be removed, they act as ladder fuels and increase the intensity of approaching wildfires.
- High value trees in Zone 1 and 2 should have deep (greater than 2 inches) layers of pine needles raked away from the base of the tree. This helps increase the chances of these trees surviving the next fire.

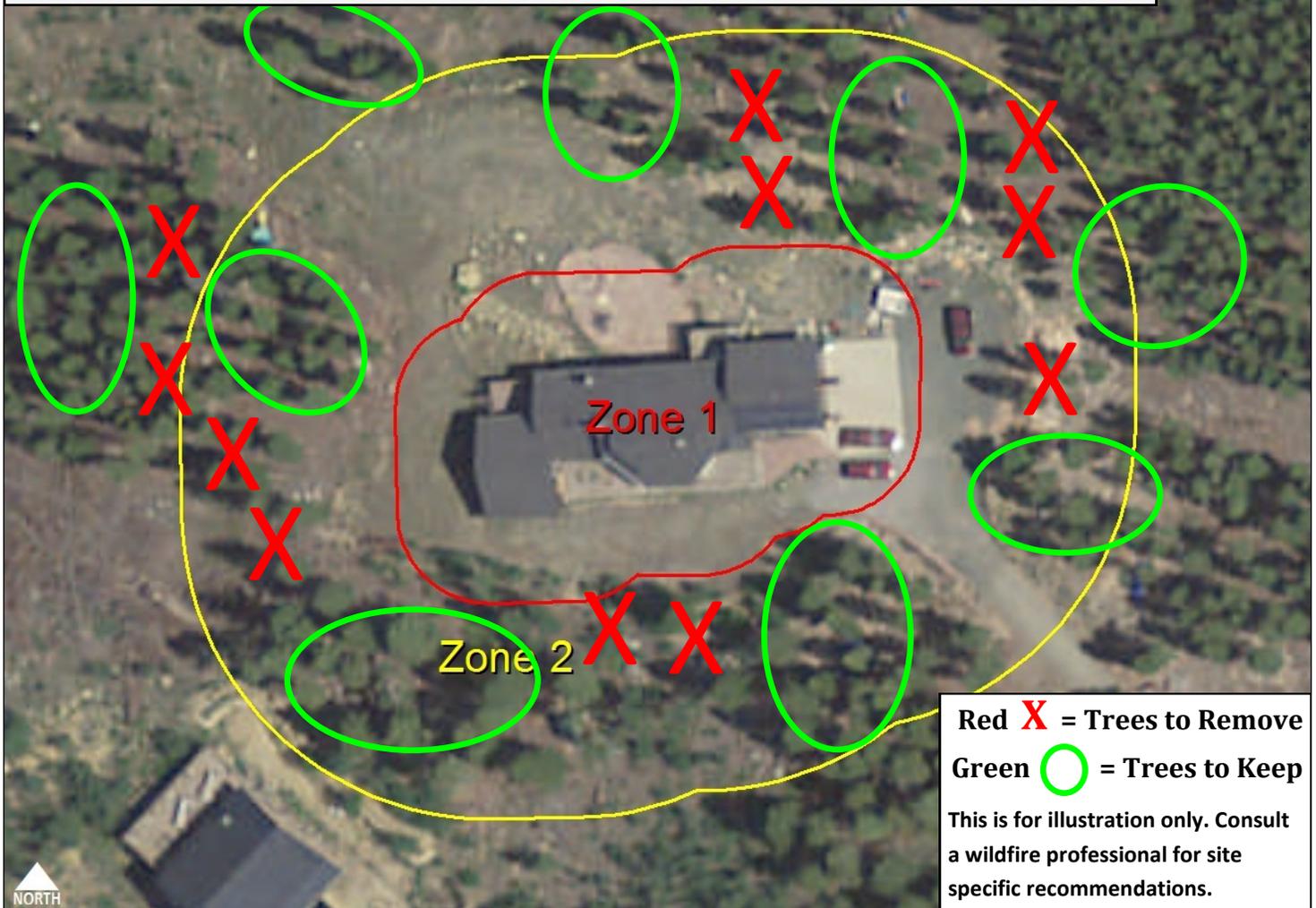
## #5 - Ponderosa Pine - "Clumpiness"



### Ponderosa Pine Forest Restoration - Focus on "Clumpiness"

- A majority of landowners in Boulder County live in the lower foothills (5,900-8,000ft.) in forests dominated by Ponderosa Pine and Douglas-fir.
- Historically, very frequent and mainly low intensity fires burned during the hot, dry summers maintaining an open park like forest of mature well-spaced clumps of Ponderosa Pine, with Douglas-fir found mainly in moist drainages or on northerly slopes.
- For more than 100 years, our national policy of fire suppression has changed the look, feel and health of our Ponderosa Pine forests. Historically, these forests contained as few as 10-30 mostly mature trees per acre. In addition, perhaps 1/3 of the landscape had large meadows with no trees.
- If you live in Ponderosa Pine dominated forests, you should focus on restoring the health of your forest by creating small clumps/islands of Ponderosa Pine in your Zones 1, 2 and 3.
- By clumping your trees into islands, you not only provide effective wildfire mitigation for your home but also create a healthier forest ecosystem that is more resilient against future wildfires.
- Creating clumps of trees breaks up the continuous/closed canopy of your forest and encourages a crown fire to drop out of the trees and into the grasses.
- For this example home, we recommend the creation of more well defined clumps of 2-3 trees. They should selectively remove trees to create larger 20-30 ft. openings between clumps.

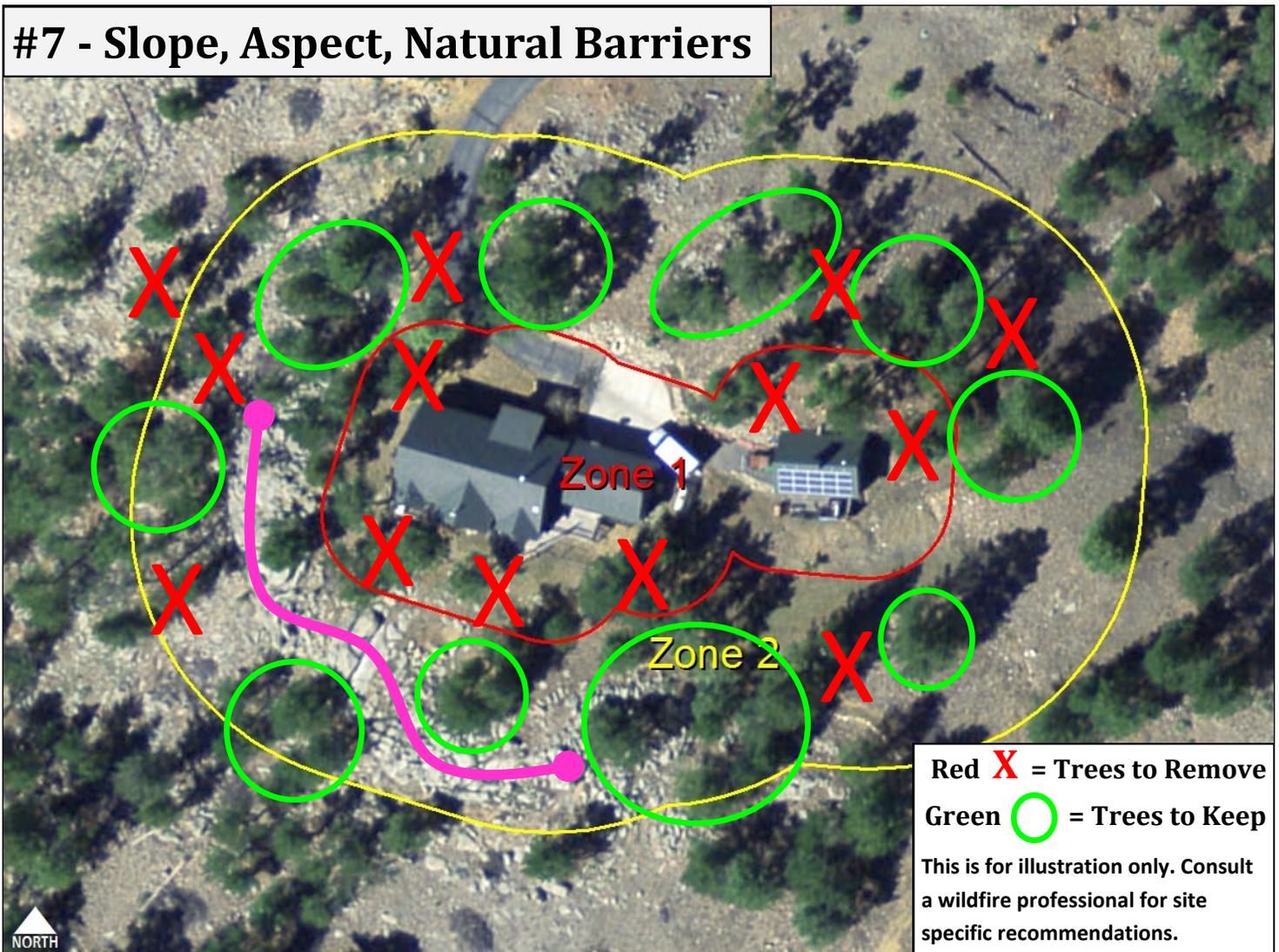
## #6 - Lodgepole Pine Forest Management - Patch Cuts



### Lodgepole Pine Upper Montane Forest Management

- Implementing effective wildfire mitigation in higher elevation Lodgepole Pine dominated forests is a more difficult task than in lower elevation Ponderosa Pine dominated forests.
- Lodgepole Pine are an extremely weak rooted species that often topple in high winds if they are heavily thinned.
- Older Lodgepole Pine do not respond well to selective thinning and the creation of small clumps. Instead, they respond better to the removal of all trees over a defined area to allow healthy forest regeneration.
- Normally, it is best to develop fuels management strategies that are informed and guided by the ecology of tree species. This is not the case in Lodgepole Pine forests.
- Patch cutting is a type of management strategy we often recommended in Lodgepole Pine forests.
- If you live in a Lodgepole Pine dominated forest, make sure to call a professional forester for the best advice on how to properly manage the health of your forest.
- Aspen is often present in Lodgepole Pine forests and should be encouraged in your d-space.

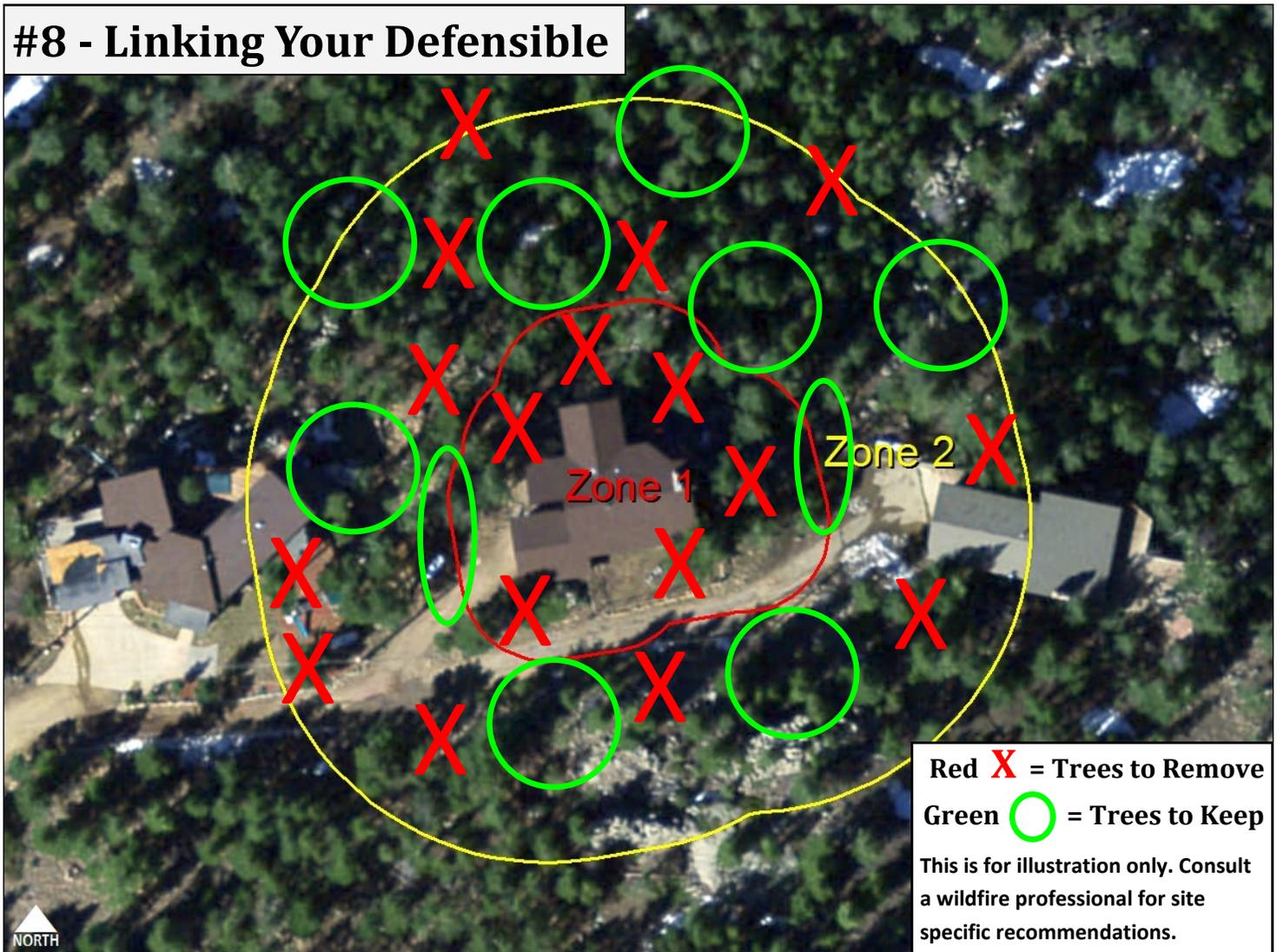
## #7 - Slope, Aspect, Natural Barriers



### Topography, Slope, Aspect, Barriers

- The **percent slope** below your home influences the size and shape of your zones of defensible space.
- Wildfires spread more quickly uphill and build intensity as they move up slopes. If your home sits on a steep slope or at the crest of a slope make sure to greatly increase the distance of your zones of defensible space on the downhill side.
- **Aspect** also influences fire behavior and forest type. South facing slopes typically burn in higher frequency than north facing slopes.
- As you design the shape and size of your defensible space, make sure to take **natural barriers** (see pink line) into consideration. Rock outcrops, streams, ponds, roads and even open meadows can limit fire spread and should be considered in your design.
- Your defensible space aerial photo only shows Zones 1 and 2. Zone 3 was not drawn because it has no specified width. Zone 3 extends from the edge of Zone 2 to your property lines. This zone provides an opportunity for you to improve the health of your forest through proper management.

## #8 - Linking Your Defensible



### Linking Your Defensible Space with Neighbors

- For wildfire protection, community action—not just individual responsibility—is essential for success.
- Your home’s defensible space may extend onto neighboring property. If this is the case, you need to work cooperatively with your neighbors to create and maintain effective defensible space for everyone involved.
- There are no regulations requiring your neighbors to act. It is up to you to work together. Never cut trees that aren’t on your property without first gaining permission.
- Even if your defensible space does not extend onto a neighboring property, there are many advantages to linking multiple, individual defensible space efforts together.
- In this example photo, we highly recommend this cluster of homes work together to link their defensible space.
- The 2012 Waldo Canyon Fire in Colorado Springs highlighted the need for neighbors to work together and link defensible spaces. Specifically, homes and outbuildings located within 15-30 ft. of one another caused a significant number of home losses due to building to building ignitions.

# Boulder County Wildfire Mitigation Quick Checklist

## On-going Maintenance Tips...

- Create a 3-5 ft. non-combustible “vegetation free” perimeter around all structures.
- Store firewood piles, scrap lumber and other flammable debris at least 30 ft. from all structures.
- Always keep wildland grass cut to a max height of 6 in. within 30 ft. of all structures.
- Be sure gutters and rooflines are always clear of pine needles and leaves.
- Make sure the top and underside of decks and porches are always clear of pine needles and other flammable debris.
- Screen all attic, roof, soffit and foundation vents with 1/8 in. metal screening.

## Tree Thinning & Spacing Tips...

- Zone 1** (within 30ft. of structures): Ideally remove all conifers from this zone. If a select prize tree remains make sure no branches overhang the roof or are within 10 ft. of the chimney.
- Zone 2** (30-100 ft. or more of structures): Selectively thin conifers so small clumps of 2-3 trees remain with large 20 to 30 ft. openings between clumps.
- If your home is located on steep slopes increase the size of Zone 1 and 2 on downhill side.
- Low limb most remaining conifers in Zones 1 and 2 so lowest limbs are 6-10 ft. from the ground or 1/3 the height of the tree, whichever is less.
- Remove most ladder fuels in Zone 1 and 2 from underneath remaining trees.

## Wildfire Preparedness Tips...

- Sign-up your primary phone and cell phone for emergency 911. Sign-up at [www.boulderoem.com](http://www.boulderoem.com)
- Prepare a “grab and go” disaster supply kit. To learn more visit: [www.ready.gov/wildfires](http://www.ready.gov/wildfires)
- Develop a fire evacuation plan and practice family fire drills. To learn more about wildfire preparedness visit: [www.boulderoem.com](http://www.boulderoem.com)
- Install a property address marker with white reflective lettering on a non-flammable post at the edge of your driveway.
- Check your homeowners insurance to ensure you have proper coverage. To learn more visit: [www.BoulderMountainResources.org/resources/insurance/](http://www.BoulderMountainResources.org/resources/insurance/) or [www.uphelp.org](http://www.uphelp.org)
- Join Boulder County’s Forest Health Outreach eNewsletter to receive timely action oriented forestry tips of the day. Sign-up at [www.BoulderCounty.org/ForestHealth](http://www.BoulderCounty.org/ForestHealth)

For additional information visit:

[www.BoulderCounty.org/WildfireMitigation](http://www.BoulderCounty.org/WildfireMitigation)

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