

# **WILDFIRE MITIGATION PLAN**

For: Paul Sink  
1287 Pine Glade Road, Nederland, CO  
Docket: SPRW - 09 - 0007  
Inspection date: 9/21/2009

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## **Prepared for:**

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## **PURPOSE OF A WILDFIRE MITIGATION PLAN**

The purpose of a Wildfire Mitigation Plan is to give guidelines for reducing wildfire hazards around a home or other structures through fuels reduction. It is a document to inform urban interface home owners of the dangers and responsibilities of living in the interface. This plan will help outline initial and ongoing fuels reduction needed to create and maintain an effective wildfire defensible space. However, having a wildfire mitigation plan, implementation of a defensible space thinning, and following all the recommendations as outlined in this plan **does not guarantee that your home will survive a wildland fire; however, in combination they will give your home the best potential probability to survive a wildland fire.**

## **SITE LOCATION AND PROPERTY DESCRIPTION**

The property is located in Section 14, Township 1S, Range 72W, Boulder County. The local fire department is High Country Fire Protection District. The lot is 2.6 acres in size and has a modest ~5-10 percent slope with an east aspect. The site is at ~8,200 feet in elevation and located mid-slope which is relatively dry. There are no natural barriers that may help slow the spread of a surface fire on the site.

## **CURRENT AND FUTURE PLANS FOR THE SITE**

A 1,100 sq. ft. addition to the main structure is proposed for the site. There are Two existing structures located on the site at this time.

## **CONSTRUCTION DESIGN AND MATERIALS**

The proposed addition and main structure will have a moderately complex design with a moderately complex roofline and will be oriented with an east aspect. Buffer material around the structure is of crushed gravel. **The overall design of the structure greatly influences how it will withstand a wildfire. Complex building forms create heat traps, areas where the walls and roof members intersect with one another creating eddies where hot air and embers from a fire can collect. It is important to keep these areas clear of combustibles such as needles and brush.**

The roofing material will consist of Class A asphalt shingles. Soffit material will be of 3/4" plywood. **Falling embers and fire brands from a wildfire can land on a roof and ignite the roof, either by directly heating the roofing material, or by igniting light fuels (pine needles) that have collected on the roof. It is recommended to place screening over gutters and/or make a yearly check to keep gutters and roofs clear of leaves and needles.**

The exterior wall material is to be fire resistant wood or cement board. The entire structure will have 12 medium sized windows. Windows are double glazed with Low E-coating and tempered glass where required. Frames are made of wood. Exterior doors are fire-rated, and made of solid core composite that is not less than 1-3/4 inches thick. There are no window wells present on this structure. **All operable windows must be provided with screening that is constructed of either aluminum, galvanized steel, copper or of an approved material that when exposed to flame for 15 seconds, will not burn through or melt, and remains intact. Windows are one of the weakest parts of a structure with regards to wildfire. They often crack and fail before the structure itself ignites, providing a direct path for embers and radiant heat to reach the interior. It is best to minimize the number of windows, especially on the downhill side of the structure. Fire typically burns uphill faster and will create a great deal of radiant heat.**

An existing deck is constructed of wood decking material with timber posts. The deck is open overhead and underneath. The deck has a buffer material of crushed gravel. **Decks must be kept clean and free of combustible materials. Keep debris such as pine needles, wood, and vegetation away from deck. Each year rake pine needles and other combustible material from underneath decks and overhangs.**

## **UTILITIES**

There is no propane tank on the property. Utilities for the property are buried from a pole located east of the structure. The septic field is located ~200 feet to the northwest of the. A well is located ~15 feet to the south of the structure.



## **DEFENSIBLE SPACE MANAGEMENT**

There are three defensible space zones to be created around the structure(s) on the site. Please note that it is possible that one or more of these zones will cross over the subject property onto adjacent properties. Property boundaries must be respected; mitigation work is not required beyond immediate boundaries. However, landowners are encouraged to contact and work with neighbors if property lines limit the ability to mitigate within the prescribed area. **Defensible space is a benefit, not only to the individual but also to the community as a whole.**

**Zone 1** - Starts at the foundation and extends out 15 feet in all directions from the outside edge of the structure(s). Zone 1 is broken down into three segments:

**Zone 1A** - Consists of the structure(s) and the area immediately adjacent to and surrounding the structure(s) on all sides. **A five-foot wide, non-flammable strip must be created using over a weed barrier material. This strip will also extend back under, and out to, two feet past the drip line of any decks.**

**Zone 1B** - Extends out from Zone 1A to 10 feet from the structure. **In this zone, all highly flammable vegetation such as ground juniper should be removed.** Ground juniper contains a high oil content. This in combination with the dead material that builds up underneath the shrub produces very flammable vegetation. Any large dead woody material on the ground must also be removed. Firewise plants should be used for landscaping and re-vegetation. Grasses should be irrigated when possible and mowed to a maximum height of 6 to 8 inches twice per growing season to a distance of 30 feet from the structure.

**Zone 1C** - This zone extends out from Zone 1B to 15 feet from the structure. **All understory trees (ladder fuels) must be removed as marked.** These are small seedling and sapling size trees that can be ladders for fire to get in the crowns of the larger trees. A few of the larger, healthy trees can to be retained for screening. All remaining trees in this zone must be pruned to a height of 10 feet. They must be well spaced so that the crowns are not touching (10 foot minimum crown spacing). No trees should overhang the house or decks, unless approved by Boulder County or CSFS as "part of the structure" with additional fuels reduction around those trees to insure the defensible space integrity. **Trees should be at least 15 feet away from the house on all sides, and a minimum of 20 feet from chimneys.**

**Zone 2** - This zone extends out from Zone 1C, and acts as a transition zone between the heavily thinned areas near the house to the existing forest setting. It extends down slope between 100-170 feet depending upon slope steepness. Zone 2 also extends on either side of the structure a minimum of 100 feet and behind the house between 70-100 feet assuming no boundary restrictions. Tree spacing begins as in Zone 1C and gradually decreases as you approach the outer edge of the zone. Thinning and crown spacing becomes greater in areas of steep slopes. Ladder fuels and poor quality, suppressed and/or diseased trees, 6 to 8 inches in diameter, make up the majority of the removals. The remaining mature trees must be pruned to a height of 10 feet at the intersection of Zones 1 and 2 with limbing reduced in height to 6 feet as you approach Zone 3. If there are any questions pertaining to slope and the changes in thinning spacing and distance regulations please refer to <http://www.ext.colostate.edu/pubs/natres/pubnatr.html> and find the *Quick Facts 6.302 Creating Wildfire Defensible Space*.

**Zone 3** - This zone extends out from Zone 2 to the edge of the property. It may extend out to areas that are not part of the immediate mitigation efforts. In this zone, a few thicker clumps of trees are acceptable, as well as some unpruned trees near the outer edge. Thinning in this zone adds some protection, but is aimed more at forest health. Trees that are of poor quality or form, or have insect or disease infestations, should be removed retaining the larger, healthier trees. Snags, 2 to 4 per acre, can be retained for wildlife. Slash in this zone can be lopped and scattered and/or piled for wildlife use. Large amounts of slash should be disposed of by chipping, hauling to an approved site, or burning. Burn permits can be obtained from Boulder County.





## **Annual Fire Safety Checklist**

- Thin trees and brush properly within defensible space.
- Remove trash and debris from defensible space.
- Remove needles and pine cones from window wells.
- Clear leaves and debris from the roof and gutters of structures.
- Remove branches that overhang a chimney or roof.
- Stack firewood uphill from a home or on a contour at least 30 feet away from structures.
- Clear weeds and grass from around wood piles.
- Check and maintain screens on soffit vents, roof vents, and attic openings.
- Remove any combustibles from under decks, porches or entrances ways.
- Clear vegetation from around fire hydrants, cisterns, propane tanks, etc.
- Make sure that an outdoor water supply is available with a hose, nozzle and pump.
- Make sure address signs are still clearly visible from the street or road.
- Make sure that driveways are wide enough for fire trucks and equipment.
- Practice a family fire drill and evacuation plan.

## **Evacuation Tips**

- If a wildfire is threatening your area, listen to the radio for updated reports and evacuation information.
- Confine pets to one room and make plans to take care of them in the event of evacuation.
- Arrange for temporary housing with a friend or relative whose home is outside the threatened area. Leave a note in a prominent place in your home that says where and how you can be contacted.
- If your home is threatened by wildfire, you will be contacted and advised by law enforcement officers to evacuate. If you are not contacted or you decide to stay and help defend your home, evacuate pets and family members who are not needed to protect your home.
- Remove important documents, mementos, etc. from the possible fire area.
- Choose an evacuation route away from the fire if possible. Watch for changes in the speed and direction of the fire and smoke.

Take a disaster supply kit containing:

- Drinking water.
- A change of clothing and footwear for each family member.
- Blanket or sleeping bag for each person.
- First-aid kit and prescription medications.
- Emergency tools including a battery-powered radio, flashlight and extra batteries.
- Extra set of car keys and credit cards, cash or traveler's checks.
- Extra pairs of eyeglasses or other special items for infants, elderly or disabled family members.



### Calculations Assuming No Slope and No Wind

<u>Flame Heights</u>	<u>Distance separation</u>	<u>Area in Acres</u>
10 feet	40 feet	1/10 acre
20 feet	80 feet	1/2 acre
50 feet	200 feet	3 acres
75 feet	300 feet	7 acres
100 feet	400 feet	12 acres
200 feet	800 feet	50 acres

**Note:** Distance separation is the radius from the center of the safety zone to the nearest fuels. When fuels are present that will allow the fire to burn on all sides of the safety zone this distance must be doubled in order to maintain effective separation in front, to the sides, and behind the person.

Area in Acres is calculated to allow for distance separation on all sides for a three person family and a vehicle. One acre is approximately the size of a football field or exactly 208 feet x 208 feet.








**Example:** Given a fire with 10 foot flame heights (no wind or slope). You would need a minimum of 40 feet between you and the flames. So your total safety zone should be 80 feet x 80 feet. If you are settled into the middle of the safety zone you will have a minimum distance of 40 feet to each edge of the zone.



Property Map  
Paul Sink  
1287 Pine Glade Road  
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Legend

-  Zone 1
-  Zone 2
-  Driveway
-  Large leave trees
-  Well
-  Septic field
-  Addition





**DIRECTIONS FOR FILLING OUT FORM:**

Any **Bolded** categories will be filled in by the CSFS representative at the time of initial site visit and tree marking for the defensible space. If you have any questions about this form please contact Nicole Palestro at 303-823-5774.

**Wildfire Mitigation Plan**  
FIELD DATA FORM

**Inspection Date:** \_\_\_\_\_

**Landowner name:** \_\_\_\_\_

**Mailing address:** \_\_\_\_\_

**City, State, Zip:** \_\_\_\_\_

**Site address:** \_\_\_\_\_

**Phone number:** \_\_\_\_\_

**Road access:** \_\_\_\_\_

(Directions from main access road)

**Docket Number:** \_\_\_\_\_

(SPR, LU, Etc.)

**Section:** \_\_\_\_\_

**Township:** \_\_\_\_\_

**Range:** \_\_\_\_\_

**Elevation:** \_\_\_\_\_

(feet)

**Lot size (acres):** \_\_\_\_\_

(Acres)

**Driveway length:** \_\_\_\_\_

(Actual length in feet from road to home)

High Country Fire 303-582-5768 - 8200  
448 Pine Drive Rollinsville CO 80403 Roger Overham



Driveway trees removed: NO (few/many/none)

Number of Structures: 3 (All structures to be present)

Existing Structures: 3 (House/barn/garage/etc.)

New Structure: \_\_\_\_\_ (House/Barn/new addition/etc..)

Structure aspect: \_\_\_\_\_ (Main entrance direction)

Structure SQR. FT.: 1700 sq ft (Total square feet of structure)

House design: Simple (simple/complex)

Home buffer material: \_\_\_\_\_ (Stone/crushed gravel/decorative stone)

Roof Design: Simple (simple/complex)

Roof material: asphalt shingles (Asphalt shingles/concrete tiles/metal)

Soffits type: plywood (Plywood/hardboard/cement board)

Siding material: fire resistant / Cement board (Cement/hardboard/log/stucco/stone/wood)

Windows (#): 12 (approximate number of windows)

Windows Size: Medium (On average: small/medium/large)

Windows Frames: wood (Wood/aluminum/aluminum clad)

Window Construction: \_\_\_\_\_ (Tempered glass/e-coating/etc.)

Window wells: NA (Number and location if present)

Door Material: Composite (Wood/steel/fiberglass/composite)

Deck material: wood (Wood/composite materials)

Deck Description: open (Enclosed/open underneath or overhead)

Deck support type: timber posts (Timber posts/logs/steel/concrete/stone)

Deck buffer material: \_\_\_\_\_ (Crushed rock/gravel)

Deck weed barrier: \_\_\_\_\_ (Fiberglass/polyester)



Garage if detached: NA (Total square feet)

Utility Location: East (Pole/buried: Direction from structure)

Leach field: 200' N-W (Distance from house, and direction)

Cistern size: NA (gallons)

Cistern: NA (Distance from house, and direction)

Cistern Type: NA (Domestic Cistern or Fire Cistern)

*Fire Dept*  
Making a donation to community cistern : N ( Yes or No)

Have you talked to the local fire department : N ( Yes or No)

Are you required to have a sprinkler system : N ( Yes or No)

Water supply: Well (Well or main line)

Well (if applicable): 15' South (Distance from house, and direction)

*no*  
Propane or natural gas: NA

Propane Tank location: NA (Distance from house and direction)

Slash disposal: Chipped (Chipped/hailed/burned/lop-scatter)

Can you provide a copy of a map with locations : \_\_\_\_\_ (Yes or No)

**This part will be filled out by the inspecting forester**

**FPD:** \_\_\_\_\_

**Dominant fuel type:** \_\_\_\_\_ (Grass/forbs/shrubs/slash/etc)



**Dominant overstory:** \_\_\_\_\_

**Co-dominant overstory:** \_\_\_\_\_

**Fuel model type:** \_\_\_\_\_

**Aspect:** \_\_\_\_\_ (Direction of slope)

**Slope:** \_\_\_\_\_

**Building site:** \_\_\_\_\_ (Chimney/saddle/valley/ridge/mid-slope)

**Site moisture:** \_\_\_\_\_

**Natural fire barrier:** \_\_\_\_\_

**Insect & Disease Diagnosis:** \_\_\_\_\_