APPENDIX D
Wildcat Hills Community Wildfire Protection Plan

Community Wildfire Protection Plan
For the
Wildcat Hills Estates
Wildcat Hills
Gering, NE
2008

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Prepared by

Nebraska Forest Service

In cooperation with

Wildcat Estates Homeowners Association

Sanitation Improvement District #10

Gering Volunteer Fire Department

Nebraska Game & Parks Commission

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The following plan has been mutually agreed upon by the following entities:
(original signatures on file)

Wildcat Estates HOA

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Name Date Title

Sanitation Improvement District #10

George Stuhr 8-16-08 SID President

Name Date Title

Gering Volunteer Fire Department

James D Templer 4-7-08 Fire Chief

Name Date Title

Nebraska Game & Parks Commission

Samuel M Keiter III 07-10-08 Supt WCA/NCP

Name Date Title

Nebraska Forest Service

9/16/08 Director

Name Date Title

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Collaboration

The Wildcat Hills Estates Home Owners Association (WHEHOA), the Sanitation Improvement District #10 (SID), the Nebraska Game & Parks Commission (NG&PC) and the Gering VFD, in consultation with the Nebraska Forest Service (NFS) have collaboratively developed the Wildcat Hills Estates Community Wildfire Protection Plan (WHECWPP).

Background Information

The Wildcat Hills Estates are located eight miles south of the city of Gering, in Scottsbluff County, along Highway 71. It consists of fifty-five (55) homes and 548 acres.
Bordering the estates on the north, east and west are privately owned lands, and to the south are the Wildcat Hills State Recreation Area and Wildlife Management Area owned by the Nebraska Game and Parks Commission (NG&PC). The WHEHOA recognizes the SID #10 and has designated the responsibilities for roads, water and new construction to them.
The area consists of numerous canyons with steep and varied terrain throughout the estates. The vegetation type (fuel) in the area consists of grasses, shrubs, ponderosa pine and rocky mountain juniper. The area has lacked forest management since 1972, largely in part to the WHEHOA covenants which stated "*there shall be no tree cutting permitted except within the building site".* It has since been determined that this does not apply to fuels reduction work and has been addressed.

Gering Volunteer Fire Department

The Gering Volunteer Fire Department (GVFD) was established in 1914 and is responsible for fire protection for 128 square miles which include the WHEHOA and the city of Gering (pop. 7751). The GVFD has thirty-five professional volunteers manning a total of eight fire apparatus. The GVFD has a total response capability of one engine (type 1), two tenders (type 3), two tenders (other) and two brush trucks (type 6).
The GVFD are members of the Scottsbluff Mutual Aid Association consisting of the following community fire departments: Banner Co.,

Henry, Lyman, McGrew, Minitare-Melbata, Mitchell, Morrill, Scottsbluff city, and Scottsbluff RFD, Scottsbluff Co. airport, Torrington, WY and the US Fish and Wildlife Service. These departments can be called upon for mutual aid during any major fire or natural disaster within their area. This agreement is valid and in accordance with Nebraska state statute 35-518.

Risk of wildfire occurrence

The current condition of the lands surrounding the Wildcat Hills Estates poses an extreme risk of catastrophic wildfire. Wildcat Hills Estates is threatened by the likely possibility of a crown fire sweeping into the community, or by embers falling on the community from an adjacent wildfire. Due to prevailing winds, the greatest risk is from the south and southwest. However, strong winds can push fires from the north and northwest.
Wildfire could start within the community or in any of the forested / grassland areas adjacent to and / or surrounding the community. In either case, with a fire of any significance, it would be difficult to assemble the resources necessary to adequately address all of the fire and life safety issues that would arise in the early stages of emergency operations. This puts the community and population at greater risk as timelines are compressed due to the swiftness with which such a fire would impact the community.

Infrastructure at risk

The community currently has fifty-five homes with some being occupied only seasonally. Its total assessed value as of 2007 was $ 8.4 million.

Hazard reduction recommendations

1st priority for fuel treatment must be directed at Hwy 71. It could become a safe, wide and very defensible fuel break up and over the Wildcat Hills. It needs major fuel break widening work on both the east and west sides. The east side is dominated by NG&PC ownership and the west side is private. The ponderosa pine canopies will need pruning with all juniper removed. This fuelbreak will need to be at least ¼ of a mile wide or more all the way through the hills.

2nd priority goes to the Wildcat Hills Nature Center (see Firewise Plan for the Nature Center). This is a public facility and readily available / visible for the private homeowner to see what fuel treatment work is all about. This could serve as a demonstration project.

3rd priority goes to the widening of Old Stage Hill road fuelbreak. This road traverses up and over the Wildcat Hills and runs parallel to Hwy 71. Fireproofing this road should take precedence over treating people's homes; without safe harbor for firefighters on this road, trying to save homes buried back in the hills surrounded by a powder keg is a moot point.

4th priority goes to creating Firewise zones around the homes in the WUI. Living in the WUI comes with the inherent responsibilities including taking the necessary steps to make your home safe.

The treatment of fuels in these areas will consist of the removal of the juniper, thinning of the ponderosa pine to increase spacing, and pruning up trees to reduce the fire ladders. Because of the terrain, fuel removal will be labor intensive and costly.

Adjoining properties

The Wildcat Hills Nature Center / State Recreation and Wildlife Management Areas lie directly south of the WHEHOA and are part of their WUI. Their proximity to WHEHOA makes their fuels treatment and maintenance of interest to the WHEHOA.
In the spring of 2007, a Firewise plan was developed by Tandy Wheeler of the NFS/NRCS in Gering for the Nature Center (estimated value $3 million). As of March of 2008, no work has been done due to the lack of funds. It was estimated that the work necessary to accomplish the plan would cost $10,000.

Action plan

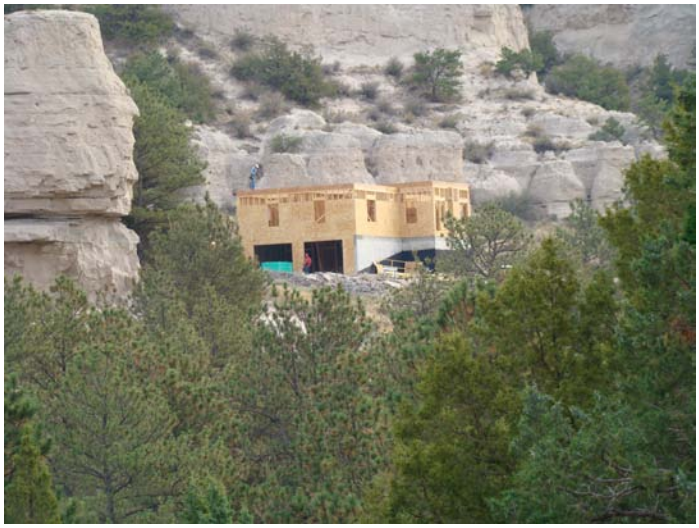
WHEHOA will meet with their District Forester from the NFS to discuss our CWPP and the implementation of the priorities in our WUI in the most expeditious manner. In addition, we will seek funding for fuels reduction projects through the NFS.

Additional recommendations

1. Educate, educate, educate. Living in the WUI, has its inherent dangers. Through education, these dangers can be mitigated thus reducing any potential loss by wildfire. Home risk assessments should be done for each home and passed on to the homeowner. This information will not only inform the homeowner of what work needs to be completed to mitigate potential fire loss but will also inform them, if necessary, that their home could be classified as “indefensible” by the fire department.
2. Ingress / egress. The roads throughout the community are one way in / out. This can become hazardous for both the firefighters and the residents in case of a wildfire. “No Outlet” signs need to be placed along the roads to inform all emergency responders, not familiar with the area, that the road dead ends. All roads should have a minimum width of 20 feet and an overhead clearance of 13.5 feet. A turnaround should be established at the end of the dead-end roads with a minimum inside turning radius of not less than 30 feet and a minimum outside turning radius of not less than 45 feet. Additional turnarounds should be established along all roads, to include driveways, which are more than 200 feet long.
3. All roads / streets should have proper identification signs at the intersections and should be free of obstructions.
4. All buildings should have a permanately posted address placed at the end of each driveway entrance and be visible from both directions of travel.

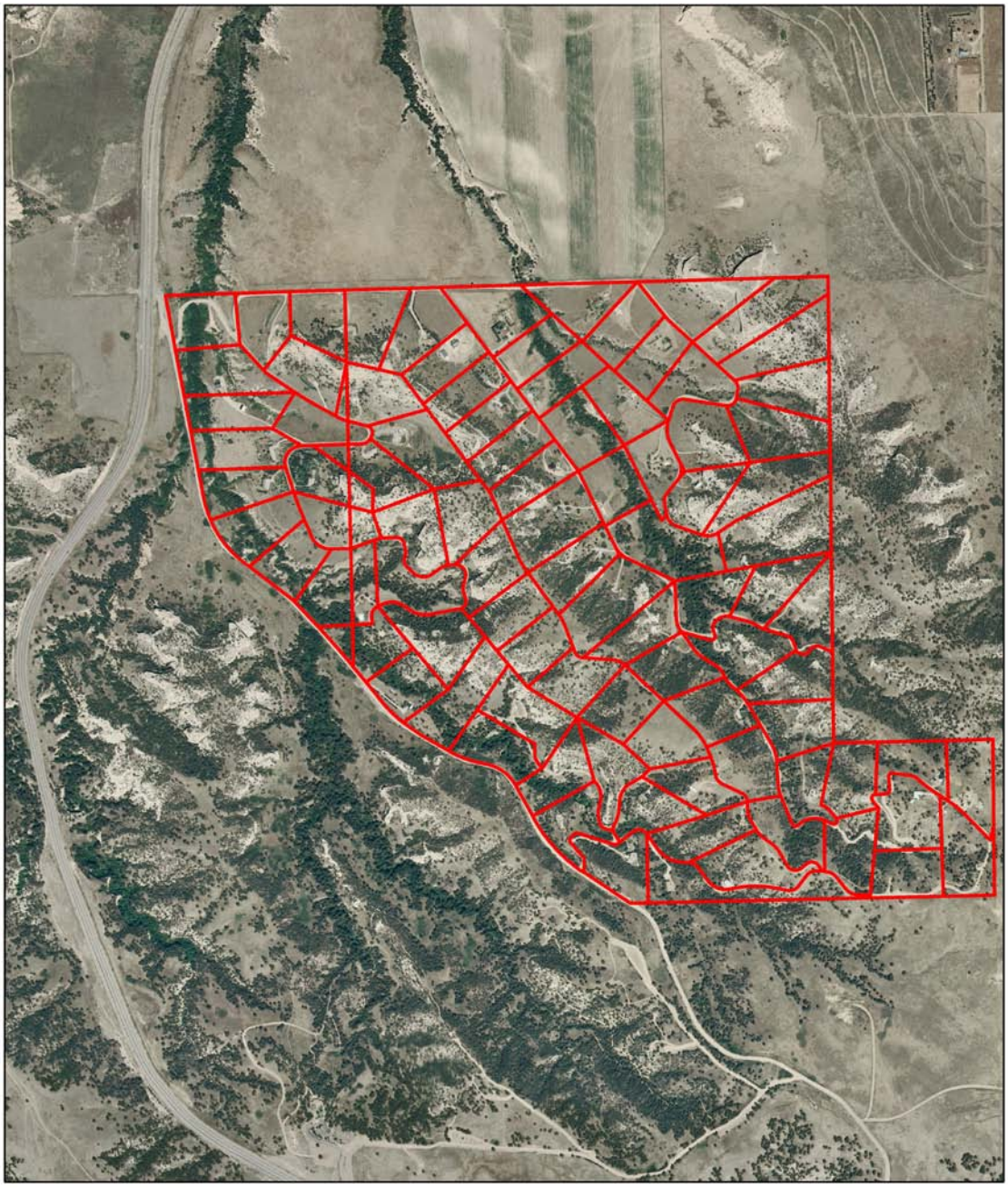
(*the additional recommendations are in accordance with the International Wildland-Urban Interface Code dated 2006)*

Homes in the Wildcat Hills Estates

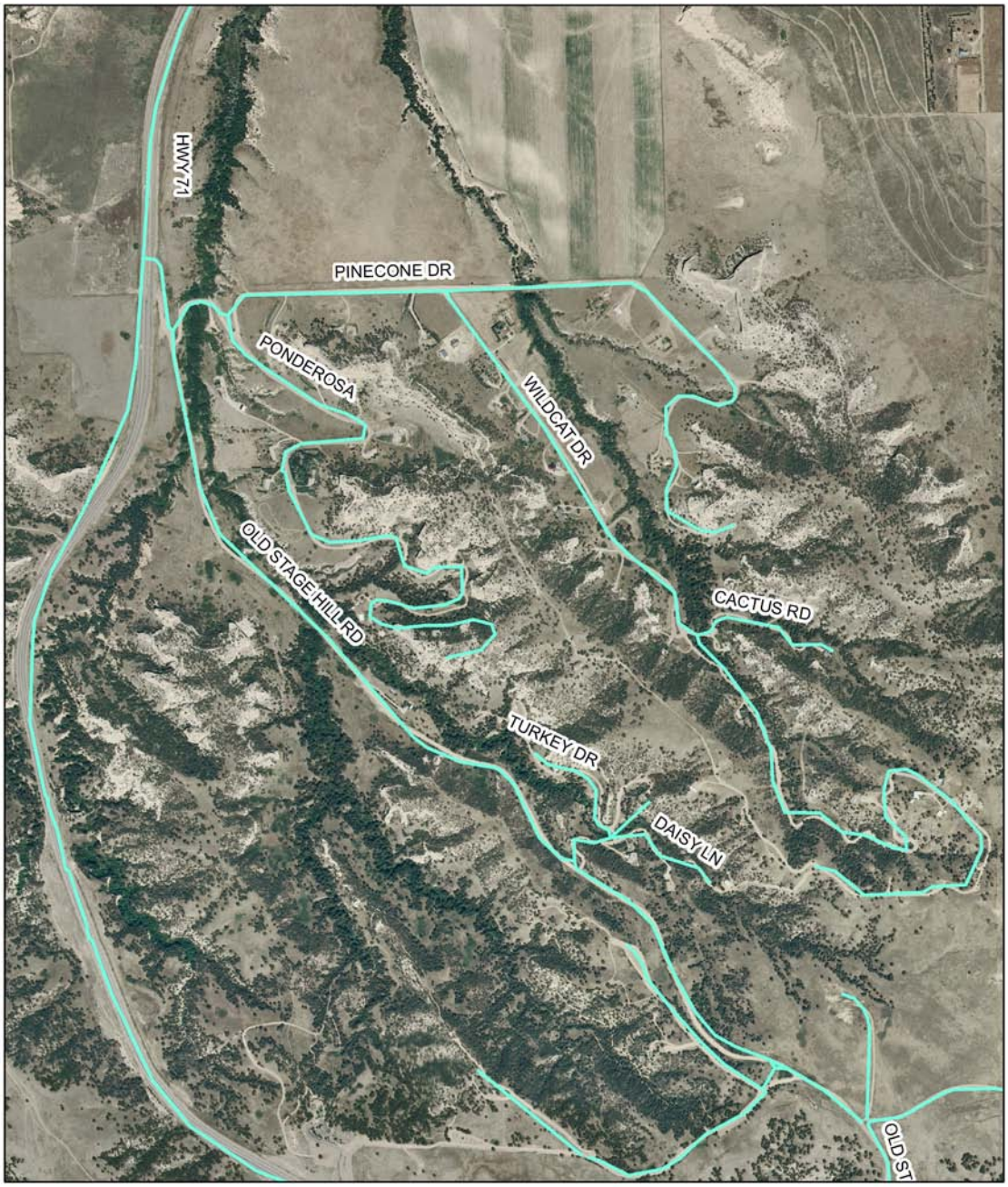


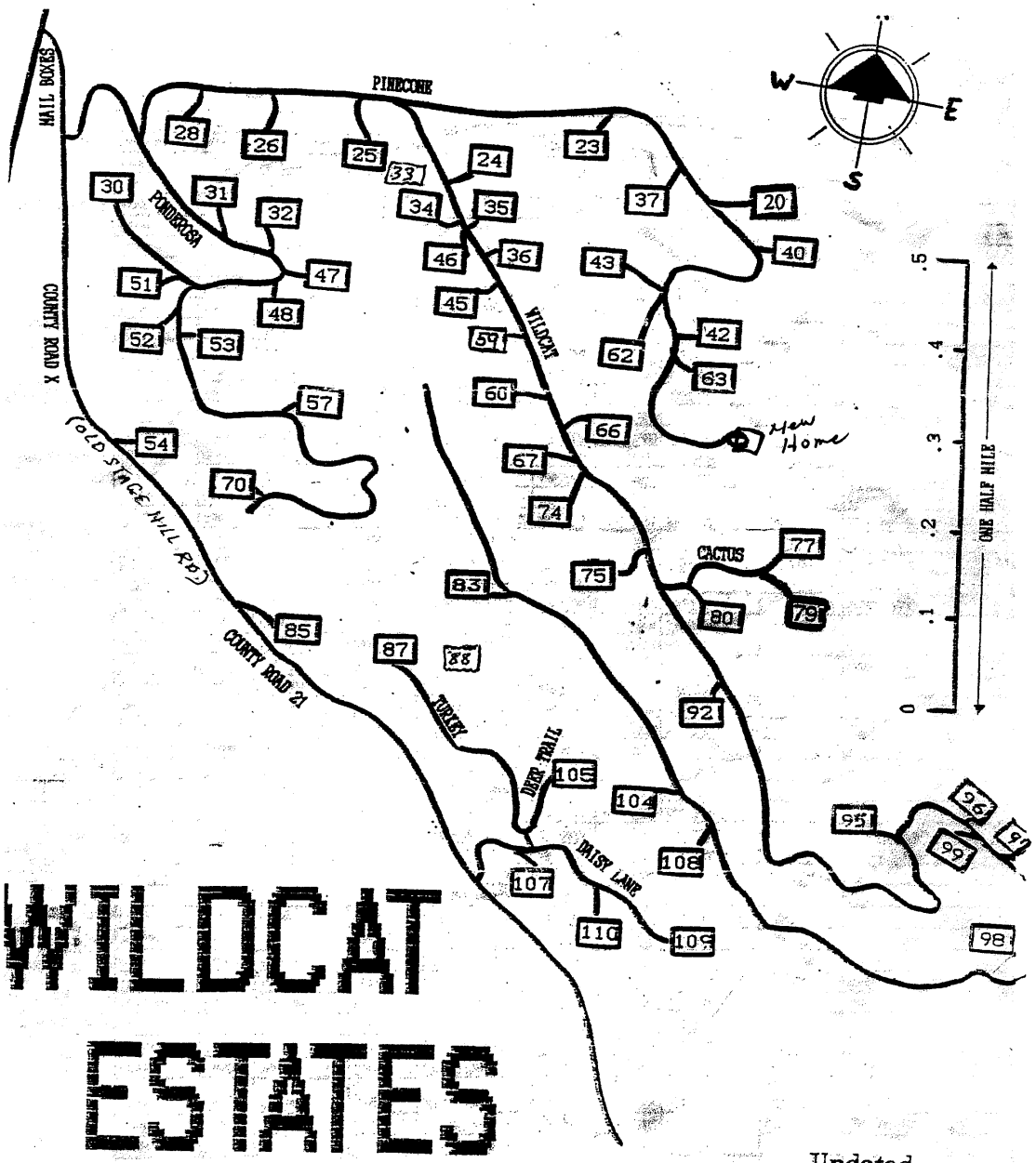
Wildcat Hills Estates
Wildland Urban Interface

Wildcat Hills Estates
Individual Lots



Wildcat Hills Estates

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ESTATES
Updated
~~July 2000~~
APRIL 2007
MAIL BOXES
PINECONE
PONDEROSA
WILDCAT
COUNTY ROAD X
(OLD STAGE HILL RD)
COUNTY ROAD 21
TURKEY
DEER TRAIL
DAISY LANE
CACTUS
New Home
ONE HALF MILE
W
E
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28
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Wildcat Hills Nature Center Firewise Plan
(as mentioned in Adjoining Properties section)

The recent high damage forest wildfires in western Nebraska are the result of years of fire suppression, drought and a lack of forest management on private and public land. Numerous homes and buildings have been lost due to these fires. Some of these losses might have been prevented if a defensible space had been established around the homes. The establishment of a defensible space is accomplished through manipulation of the vegetation (live and dead) surrounding the structure. This creates a buffer zone that contains less fuel and gives firefighters room to protect the structure. At the request of the Nature Center staff, a site visit was made to determine the size of the defensible space area, fuels within the defensible space, and vegetation management needed to establish the defensible space.

The key factors in determining the size of the defensible space are the topography and vegetation type (fuel) of the area. The varied and steep terrain around the Center, can allow a fire to travel faster and hamper firefighting abilities. The Centers physical location atop a small ridge provides wonderful views, but also makes the Center vulnerable to a wildfire moving upslope. The vegetation of the area consists of an understory mixture of grass, shrubs, juniper, and pine regeneration with an overstory of ponderosa pine. This hazardous vegetation mixture is especially dense on the north-facing slope of the ridge. When this vegetation mixture is dense, it provides a continuous vertical fuel (ladder fuels) from the ground to the tree crowns which provide a continuous horizontal fuel. Due to the above conditions, the size of the defensible space needs to extend 300 feet from the Center. About half of the 6.5 acre defensible space is forested and the rest consist of grass and parking area. The defensible space is divided into two zones. Zone 1 needs to extend at least 35-40 feet from the Center. This zone will contain the heaviest treatment and most maintenance. Zone 2 will extend from Zone 1 outward to the defensible space boundary.

There are three primary influences on fire behavior: fuel, weather, and topography. Fuel (vegetation) is the only one of these factors that can be managed or manipulated to reduce fire hazard. The amount of

vegetation removed is dependent upon the steepness of the terrain. The greater the slope, the more vertical and horizontal spacing is needed between fuels. Vegetation management is accomplished through a combination of methods consisting of removal, reduction, and replacement. Removal (thinning) is the cutting of an entire tree or shrub and moving out of the defensible space. The table below shows the minimum horizontal spacing, based on slope percent, between canopies needed for an effective defensible space.

Slope %	Shrub/Clump spacing (ft)	Tree spacing (ft)
< 20%	2X shrub height	10
20 – 40%	4X shrub height	20
> 40%	6X shrub height	30

Reduction is removing parts of plants from defensible space by pruning or mowing to reduce fuel height and amount. Trees should be pruned to a minimum of 10 feet above ground but no more than half of the tree height. Tree and shrub pruning includes removal of both dead and live material attached to stem. Ladder fuels will be broken up by pruning 3X the height (3xH) of the shrub layer. For example, a 4-foot tall shrub next to a pine tree would need a vertical separation of 12 feet (3x4 = 12) from shrub top to lower pine branches. This spacing can be accomplished by pruning the pine branches or pruning the shrub or a combination of both. Replacement involves replacing flammable vegetation (i.e. conifer) with less flammable vegetation (i.e. deciduous tree). These methods will reduce fire hazard by breaking up the “ladder fuels” that connect a ground fire to the tree crowns and by decreasing the amount of flammable material that can carry an intense fire. In the event of a fire, these measures will allow firefighters easier access and control for structure protection.

Zone 1 Treatment

This zone should contain only a small amount of flammable vegetation (conifers, evergreen shrub/ground cover, etc.), no dead vegetation accumulations (needles, branches, cones, leaves, firewood, etc.), and vegetation that is kept green and healthy. The north and south portions of this zone conform to the needed requirements by having a maintained lawn and a few widely spaced

trees. The west and east ends of the Center are of primary concern in this zone due to the ponderosa pine, juniper, and mountain mahogany mix being within 15 feet of the Center. There should be none of this vegetation within 15 feet of the Center walls or wooden deck. Vegetation in the remainder of Zone 1 should be reduced to consist of isolated, widely scattered individuals, clumps of 2 or 3, or combination of both. All junipers within Zone 1 need to be removed. Vegetation throughout the zone will need to be pruned according to guidelines previously mentioned. Any dead vegetation, standing or on the ground, should be removed. Needle accumulations need to be kept no more than two inches deep. The area below the wood retaining wall is a concern here. Accumulations of any dead, woody or grass, material should not occur in Zone 1. The grass, trees, and shrubs in this zone should be maintained green and healthy through proper watering, insect/disease prevention, pruning, and mowing. Any replacement of a removed tree should be with a deciduous.

Zone 2 Treatment

The treatments in this zone will reduce the intensity of an approaching fire through thinning and pruning. The horizontal spacing guidelines provided shall be used to determine appropriate spacing of trees to be left. Trees may be left individually or in small groups according to spacing requirements, slope position, height, health, surrounding vegetation, recreational/education use. Recommend removing all junipers due to their high flammable nature. Cut trees and brush need to be removed from the defensible space. Only 1-2 wildfire snags per acre may be kept, if they are not located within falling distance of a road, trail, or structure. Groups of dead trees or shrubs need to be removed and thick accumulations of dead material on the ground need to be reduced. Trees should be pruned 10-feet above ground unless surrounding vegetation requires using the 3XH guideline. The area within 75 feet of the Zone 2 outer boundary shall be used as a transition zone from the defensible space to present vegetation for aesthetic purposes. This area will receive little or no pruning and thinning intensity will gradually decrease closer to the outer boundary.

Maintenance

A little maintenance will be required to keep the effectiveness of the defensible space at its best. Dead, dying, and unhealthy trees should

be removed as they occur. Do not let dead material build up. Pruning may be required to control ladder fuels. Ponderosa pine regeneration will need to be controlled through cutting, herbicide, or prescribed fire. Where possible, roads and trails should be maintained through removal, pruning, and mowing along the sides for an effective firebreak.

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