



**WOODSIDE PARK
PINE COLORADO**

FIREWISE COMMUNITY ASSESSMENT

Prepared by

***Bill McLaughlin
Fire Chief***

***Elk Creek Fire Protection District
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1) INTRODUCTION

The Firewise Communities/USA program is designed to provide an effective management approach for preserving property, lives and the natural environment by creating fire adapted communities. The program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum protection from wildland fire. The following community assessment is intended as a resource to be used by the Woodside Park's residents for creating a wildfire safety action plan. The plan developed from the information in this assessment should be implemented in a collaborative manner, and updated and modified as needed.

2) SITE DESCRIPTION

Community

Woodside Park is a community, consisting of 6 subdivisions. It straddles both Jefferson and Park Counties just north of Highway 285 in Pine, Colorado. The community can be accessed by Mt. Evans Boulevard from Pine Junction, and by Nova Road from the Mountain View Lakes community to the Northeast.

Five of the six units chose to be included in this assessment. These units comprise approximately 300 parcels, with approximately 300 homes with lots that are 2 acres or larger in size.

Several paved roads serve the community, however most side roads are dirt. Roads are accessible year round.

Topography

The topography of the community is rolling hills at elevations varying from 8000' to 9200'. The community is a broad valley bottom, with steeper mountains in all directions around it. Small streams drain into Elk Creek from the community.

Vegetation

The community is a mix of ponderosa pine forest, mixed conifer forests, lodgepole forest and open meadows. The ponderosa pine forest type predominates, with over 60% of the community being that ecotype. Within the mixed conifer forest the common species include ponderosa pine, Douglas fir, lodgepole pine and Engelmann spruce. The lodgepole forests are relatively small patches, however most of the trees in those patches are single age class, indicating past fire or other forest disruption.

Virtually 100% of the forests in the community are overgrown. Where ponderosa pine forests in a natural state would likely have about 25 to 50 trees per acre, the forests of Woodside typically have from 80 to 500 trees per acre. Much of that overgrowth is very young, with reproduction pines of 5 to 20 years very common. That overcrowding is causing significant stress on the forest.



Overgrown forest showing signs of drought stress.

There is considerable evidence of drought and parasite stress in the community. Trees of all types are showing drought stress, and many are dying. Trees with little or no new growth and scant clusters of needles are indicators of drought stress. Healthy trees tend to have robust clusters of needles and spring growth.

Several large patches of ponderosa pine infected with dwarf mistletoe were noted. This parasite usually affects only the ponderosa pine, and is a slow killer. Once infected, there is no way to remove it from an individual tree. The only way to stop the spread of the parasite throughout the forest is to remove all limbs carrying the mistletoe, or to remove the entire infected trees. While the mistletoe is a natural part of the ponderosa environment, it can increase the fire danger by leaving extensive areas of dead trees.



Mistletoe infested pine.

Spruce bud worm infestation was also noted. Spruce bud worms infest Douglas fir, Engelmann and blue spruce; along with other trees to a lesser degree. Spruce-fir pockets generally occur on North slopes and in drainages in the community. As with dwarf mistletoe, spruce bud worm can leave significant areas of standing dead timber, and eventually contribute to “dead and down” accumulations of fuel on the forest floor. Spruce bud worm is currently on an explosive increase in Colorado.

Two of the largest fires in Colorado’s history have occurred in the past two years, and both spread rapidly and intensely through insect killed forest. The High Park Fire in 2012 burned acres and destroyed homes. The West Fork Fire in 2013 has destroyed 106,000 acres as of this date and is still uncontained.

In the Community Wildfire Protection Plan prepared in 2004, the community was rated as “Moderate” risk for wildfire loss. Since that time, the procedures used to evaluate risk have improved. The new Colorado Wildfire Risk Assessment Portal (CO-WRAP) now evaluates communities on a finer scale. Under that assessment, the community varies from moderate risk in the open meadows to extreme risk in the overgrown ponderosa pine forests.

The community bears remarkable similarity to the Black Forest neighborhood near Colorado Springs, which was the site of Colorado’s worst wildfire disaster. Over 400 homes were lost in a 15,000 acre. Both Black Forest and Woodside Park are overgrown ponderosa pine forests in rolling hills. Both are at similar altitudes. Both have had decades of fire suppression, leading to excessive fuel loading.

Ponderosa pine forests typically have a “fire return interval” of 5 to 50 years. That regular return of fire allows the forest to self-clean smaller trees, brush, downed needles

and logs. As mature ponderosa pines are highly fire resistant, the mature trees would thrive from the reduced competition and nutrients returned to the soil.

When that cycle is interrupted, the accumulation of fuel in the forest changes the typical fire from a low intensity surface fire to a high intensity stand replacing fire.



One area of the community that is closer to “native” Ponderosa pine forest conditions.

The mixed conifer forest typical of higher elevations, moister locations and North facing slopes has a fire return interval that is much longer. Fewer fires typically occurred, but the fires were more likely to be stand replacing events. These high intensity fires tend to cause catastrophic damage to neighborhoods.

Continuous stands of lodgepole pine are typically early to mid-successional forests following a stand replacing forest fire. Lodgepole quickly colonizes burned over areas due to the serotinous cones that open and disperse seeds when heated.



Aspens are highly fire resistant and should be encouraged.

Fire Protection

The community is served by Elk Creek Fire Department, a combination fire department serving portions of Park and Jefferson County. There is one volunteer fire station located less than one mile from the community.

The community does not have hydrants, but does have several cisterns and ponds for water supply. Roads are generally accessible, and there is good compliance with address marking.

There is only one way in and one way of the community. Three other two-track “escape routes” have been identified in the past, but have not been maintained and no easements or agreements to use them have been established. Recent evacuations in other communities nearby have been characterized by congestion and difficulty in accessing the fire by incoming fire resources.

Weather

The Front Range Foothills are classified as “semi-arid”. The area has experienced a drought over the past three years, and historical evidence indicates the area goes through cycles of wetter and drier periods. The area is prone to very low humidities, and it is not unusual to see relative humidity drop to less than 5%. Winds are frequent.

Severe fire weather is characterized by strong winds and very low humidities. This area is subject to those conditions periodically. During the Lower North Fork fire, winds were gusting over 70mph and relative humidity was 3%.

Recent Fires

There have been several significant fires within a 10 mile radius of the community in the past 20 years. These include the Hi Meadow, Buffalo Creek, Lower North Fork, Schoonover, Lime Gulch and Bluebell fires. Collectively, nearly 100 homes and several lives were lost in those fires. The closest of these, the Hi Meadow fire, burned to within 3 miles of the community.

Construction and Defensible Space

The majority of the homes in Woodside Park are built from combustible materials and have features that increase the likelihood of ignition. While combustible roofs are rare, wood decks, steps, fences, outbuildings and wood walls are all common.

Some homes in the community are well mitigated, but the majority do not have the recommended separation from flammable vegetation.

Conclusion

In the event of a significant fire in the community, the probability of losing multiple structures is high. A repeat of fires like the Black Forest Fire would cause significant number of homes to be lost.

6) IMPORTANT CONSIDERATIONS

The Firewise Communities/USA program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a Wildland Urban Interface (WUI) setting.

Homeowners here already balance their decisions about fire protection measures against their desire to live in a wooded setting. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their homes during a wildfire as well as survival of the very forest they choose to live in.

Because the community shares the forest, each member of the community bears some of the responsibility for maintaining a natural environment. By excluding fire, we create an unhealthy forest. Mitigation measures are designed to not only make homes safer to live in, but to reduce the likelihood of complete loss of the forest. Trees in a well thinned

forest are far more likely to survive and thrive after a fire, while overcrowded forests are more likely to be completely burned.

2) DEFINITION OF THE HOME IGNITION ZONE

The Woodside Park subdivision is located in a wildfire environment. Wildfires will happen -- exclusion is not a choice. The majority of fires in the area are caused by lightning, which we cannot control.



Maintaining clearance around power lines will reduce threat of fire.

The variables in a fire scenario are when the fire will occur, and where. This assessment addresses the wildfire-related characteristics of the Woodside Park Subdivisions. It examines the area's exposure to wildfire as it relates to ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.

A house burns because of its interrelationship with everything in its surrounding home ignition zone -- the house and its immediate surroundings. To avoid a home ignition, a homeowner must eliminate the wildfire's potential relationship with his/her house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing a home ignition zone is an easy-to-accomplish task that can result in avoiding home loss. To accomplish this, flammable items such as dead vegetation must be removed from the area immediately around the structure to prevent flames from contacting it. Also, reducing the volume of live vegetation will affect the intensity of the wildfire as it enters the home ignition zone.

Included in this assessment are observations made while visiting the Woodside Park Subdivision. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of affected residents. The Woodside Park Subdivision residents can reduce their risk of destruction during a wildfire by taking actions within their home ignition zones. This zone principally determines the potential for home ignitions during a wildland fire; it includes a house and its immediate surroundings within 100 to 150 feet.

The result of the assessment is that wildfire behavior will be dominated by the residential characteristics of this area. The good news is that by addressing community vulnerabilities, residents will be able to substantially reduce their exposure to loss. Relatively small investments of time and effort will reap great rewards in wildfire safety.



3) DESCRIPTION OF THE SEVERE CASE WILDLAND FIRE CHARACTERISTICS THAT COULD THREATEN THE AREA

Fire intensity and spread rate depend on the fuel type and condition (live/dead), the weather conditions prior and during ignition, and the topography. Generally the following relationships hold between the fire behavior and the fuel, weather and topography.

- Fine fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and the higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels.
- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. The lower the relative humidity and the greater the sun exposure, the lower will be the fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.
- Wind speed significantly influences the rate of fire spread and fire intensity. The higher the wind speed, the greater the spread rate and intensity.
- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles and so forth can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity.

The Woodside Park Subdivision sits just west of Staunton State Park. The local fire history includes: the 1996 Buffalo Creek Fire (11,853 Acres); the 2000 Hi Meadow Fire

(10, 761 acres); the 2002 Black Mountain (250 acres), Hayman (138,114 acres), Schoonover (3,472 acres), and Snaking Fires (2,500 acres); the 2012 Lower North Fork Fire (4100 acres) and the 2013 Lime Gulch Fire (511 acres).

A fire under similar conditions would move through the entire subdivision.



Homes with non-combustible siding and good defensible space.

7) OBSERVATIONS AND RECOMMENDATIONS

During our assessment visits we made the following observations and recommendations:

- Conforming defensible space is recommended for all homes. While many homes have a good start and are doing a great job maintaining, further education and/or assistance is needed for some homeowners. The guidelines for defensible space include a minimum of 30 feet free from flammable vegetation and 100 to 200 feet of thinning and reduction of ladder fuels such as shrubs and small trees.
- Thinning of all forest areas even outside of the immediate defensible space
- Thinning vegetation along the roadways that would be used as escape routes by homeowners and firefighters providing structure protection during an incident.
- Alternate emergency routes need to be researched and developed including possible routes through Stanton State Park.
- Development of shaded fuel breaks around and in the community to provide natural barriers to fire spread.
- Reduction in the flammability of homes by replacement of wood decks, flammable siding and other vulnerable aspects with less flammable alternatives.

8) SUCCESSFUL FIREWISE MODIFICATIONS

When adequately prepared, a house can likely withstand a wildfire without the intervention of the fire service. Further, a house and its surrounding community can be both Firewise and compatible with the area's ecosystem. The Firewise Communities/USA program is designed to enable communities to achieve a high level of protection against WUI fire loss even as a sustainable ecosystem balance is maintained.

A homeowner/community must focus attention on the home ignition zone and eliminate the fire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it.

9) NEXT STEPS

The Woodside Park Community should pursue Firewise Community Status. These steps have been completed to date:

- A local Firewise board has been established as a committee within the Woodside Park Property Owner's Association that will maintain the Woodside Park Firewise Community program and status.
- Elk Creek Fire Protection District's Chief Bill McLaughlin, a Firewise Community Liaison, has completed this assessment for the community.

The next steps are:

- Presentation of the assessment to the community along with education on the Firewise Communities/USA program.
- Commitment of the community to build a safer living environment.
- Invest a minimum of \$2.00 per capita toward reductions in fire threat. This can be in the form of direct investment or "in-kind" volunteer hours; including the cleanup around homes currently being done.
- Submit the application for recognition as a Firewise Community.
- Seek financial support for community wide mitigation efforts such as grants and tax incentives.
- Investigate alternative emergency evacuation routes.

- Continue to work on conforming home defendable space.
- Continue to hold at least one yearly Woodside Park Firewise Community Event (such as a chipping day, or slash collection and hauling).

10) CONCLUSION

Homeowners are reminded that street signs, address signs, road widths and fire hydrants do not keep a house from igniting. Each home owner's proper attention to their own home ignition zones does. Homeowners should identify the things that will ignite their homes and address those. In many cases these are the little things that are easy to do but you must stay diligent.

Weather is, of course, of great concern during wildfire season. Talk with local firefighters and they'll tell you that our fire season is year round. However at such time as fire weather is severe, homeowners should remember not to leave flammable items outside. This includes rattan doormats, flammable patio furniture, firewood stacked next to the house, or other flammables.

11) Simple steps for getting started:

- **START!** Sometimes the task may seem overwhelming but doing something is better than nothing. Start close to the home and work outward, doing a little more each year.
- Clean pine needles and other debris from your gutters and roof top.
- Trim branches that overhang your roof.
- Remove flammable vegetation at least 30 feet from your structures. Single, well pruned specimen trees can be left, if separated from the forest by 30 feet.
- Each home should have a permanently posted, reflective address sign. Placed at the driveway entrance, these signs must be visible from both directions of travel. If you have a common driveway each address should be displayed at the end of the driveway and individual addresses posted as the single driveway splits off.
- Keep grasses mowed to 6 inches or less within 30 feet of your structures.
- Stack firewood at least 30 feet from your structure and keep flammable vegetation at least 15 feet from the wood pile.

- Thin trees to have at least 10 to 12 foot spacing between the crowns within the defensible space (typically 100 feet around your structure on flat land, further on the downhill side). An occasional clumping of 2 or 3 trees is acceptable and helps maintain a natural appearance.
- Remove shrubs and prune lower branches under trees in your defensible space. Typically prune branches up to 10 feet off the ground.
- Remove all slash from your property. Chipping, burning in season with a permit, or using slash removal sites.
- Move propane tanks at least 30 feet from your structures and keep vegetation at least 10 feet from your tank.
- Clean under your decks, do not cover so you can easily clean under the deck and firefighters can see under.
- Replace decking with less flammable alternatives when decking needs replacement.
- Remove dead trees from your property.
- Work with the Firewise Committee to:
 - %L. Educate and convince other neighbors to get involved.
 - %L. Assist those neighbors needing help.
 - %L. Pool resources to accomplish larger tasks.
 - %L. Help establish future Firewise goals for your community