

## Appendix K

### Wildland Urban Interface Fire Protection Plan

#### Red Ridge Village PUD

#### Overview

The proposed Red Ridge Village development encompasses approximately 2,250 acres and will be constructed in multiple phases within McCalls' Wildland Urban Interface (WUI). The conceptual plan organizes development into six distinct residential and mixed-use areas connected by an internal network of roads, trails, and shared amenities. Overall residential density averages approximately 0.3 dwelling units per acre, or roughly one unit per three acres, reflecting a compact, yet low-density development pattern consistent with the surrounding landscape.

The plan allocates approximately 1,400 acres, about 60% percent of the site—to distinct open space, parks and non-developed uses; this does not include buffer areas, trails, and landscaping around developed areas. These preserved lands include a 149-acre central meadow, which remains undeveloped and functions as both an on-site amenity and a broader community asset, as well as areas characterized by steeper slopes, riparian corridors, and existing natural features. Trails within these open space areas will connect internally and, where feasible, integrate with the regional trail network.

Residential development is concentrated around the village center and adjacent neighborhoods, with primary access from West Mountain Road, and includes up to approximately 770 dwelling units at full buildout. This pattern limits disturbance across large portions of the site while maintaining defensible space and fuel management opportunities around developed areas.

This Fire Protection Plan (FPP) was prepared by Colin Chambers, a professional forester and employee of DF Development, LLC. Forest conditions across the property are generally healthy. Some stands are overstocked and would benefit from active management to reduce fuel loads and improve stand health.

The FPP considers these conditions and proposed development scenarios to identify targeted fuel reduction and forest thinning treatments that can reduce wildfire risk and improve long-term resilience for both the project area as well as adjacent properties. The plan recommends treatment buffers around roads, structures, and development areas, including areas outside the project boundary where appropriate. These treatments are intended to occur prior to vertical construction, consistent with best practices for development within the WUI.

# Wildfire Risk Assessment

## Site Description

The project area is approximately 2,250 acres under single ownership and is located approximately 3 miles southwest of downtown McCall, with primary access from West Mountain Road.

The site lies within Township 17 North and Township 18 North, Range 2 East, Boise Meridian, in Valley County, Idaho and is currently zoned Productive Forest Land; it has historically been managed for timber and natural resource extraction. Existing access consists of a primary entrance from West Mountain Road that meets International Fire Code standards, along with an internal network of primitive roads originally constructed for forest management operations.

Future access will utilize West Mountain Road in combination with an upgraded internal road system designed to support phased development. Site elevations range from approximately 5,000 to 6,200' above mean sea level, with timbered and outcropped terrain approaching 50% slope. The property contains several Class II intermittent streams, including Duffner Creek, a tributary to the North Fork of the Payette River.

## Forest Structure and Fuel Hazard Conditions

The proposed development sites are predominantly forested, with approximately 90% of the landscape supporting a mix of coniferous and deciduous species. Timber stands are generally young to mid-seral in age and form a healthy, heterogeneous forest structure across the site.

The property remained under private industrial timber ownership for more than 130 years and reflects a consistent history of active forest management. Over the past 10 years, silvicultural treatments have occurred across the site and have focused on thinning, fuel reduction, and reforestation to improve stand health and reduce wildfire hazard.

A limited portion of the site, approximately 46 acres, consists of an active rock pit operating under a Valley County conditional use permit, with intermittent seasonal production averaging roughly six months per year.

## Fuel and Hazard Conditions

Fuel and wildfire hazard conditions across the proposed development site are generally low to moderate, reflecting a history of active forest management. Management activities

have addressed overstocking, standing dead material, disease, surface and ladder fuels, and tree spacing. The landscape is characterized by low to moderate slopes with a predominantly east-facing aspect, interspersed with open meadows and an existing road network that further reduces fuel continuity.

Forest composition is dominated by ponderosa pine, representing approximately 51% of the overstory, followed by Douglas-Fir and Western Larch at 30%, White Fir and Grand Fir at 14%, and Engelmann Spruce and Lodgepole Pine at approximately 5%. The deciduous component consists primarily of Aspen and Willow. Understory vegetation includes snowberry, ninebark, and huckleberry, with associated grasses and forbs.

Conifer stands average approximately 400 trees per acre (TPA), with a mean diameter of 5.1 inches and an average height of 55 feet. Stand density is reflected by an average basal area of 63 square feet per acre, which represents the total cross-sectional area of tree boles occupying an acre and is commonly used to describe overall stand density and fuel loading.

#### *Understory*

The understory consists of myriad species of trees ranging from approximately 1 to 30 feet in height, with diameters from 0.5 to 4.5 inches, including both naturally regenerated and planted seedlings and saplings. This layer varies across the site, with some areas exhibiting open conditions and well-spaced regeneration, while other areas contain dense clumps and thickets. In localized areas, sapling densities can approach 1,000 stems per acre, while better-spaced areas average closer to 150 saplings per acre.

Overall, this layer typically ranges from 100 to 1,000 seedlings and saplings per acre. Due to its contribution to ladder fuels and competition for resources, the understory represents a primary focus for fuel reduction treatments and long-term forest vigor improvements across the site.

#### *Midstory*

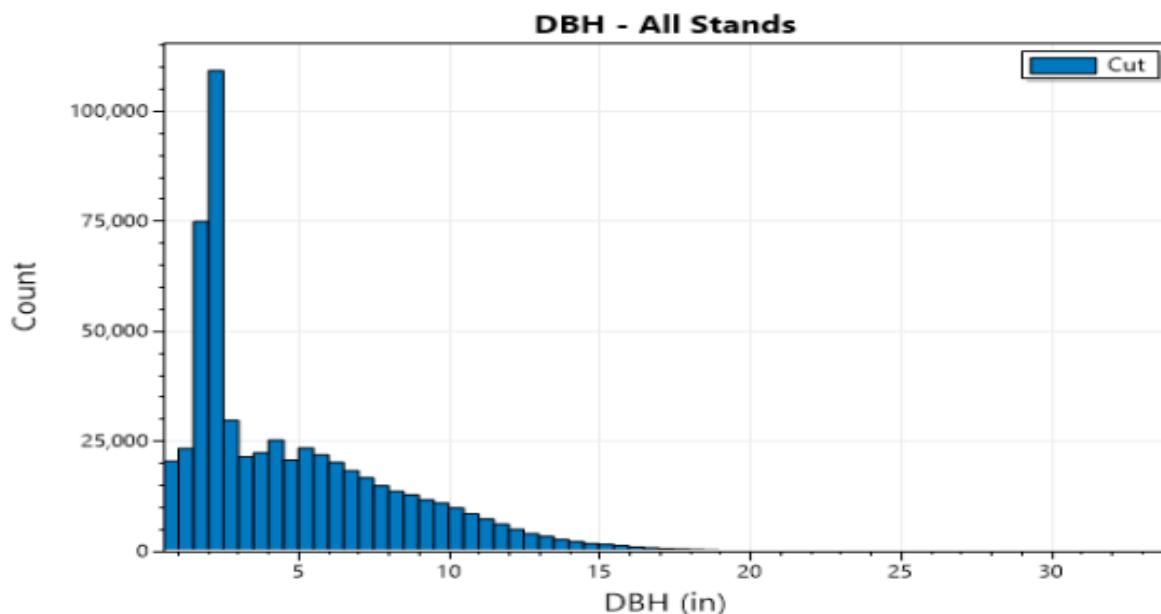
The midstory includes trees of numerous species generally spaced 15 and 30 feet apart, with diameters ranging from approximately 5 to 15 inches DBH and heights between 30 and 60 feet. Trees within this layer typically occupy intermediate crown positions.

Midstory densities range from approximately 100 to 250 trees per acre across forested portions of the site. In combination with the codominant canopy, portions of this layer exhibit localized overcrowding that contributes to ladder fuel continuity. In some stands, approximately 10 years of growth have occurred since the most recent silvicultural treatment, and current conditions now meet thresholds for additional fuel reduction and, where appropriate, commercial thinning treatments.

## Overstory

The overstory contains the largest-diameter and tallest trees and forms the dominant canopy structure across the site. This layer generally consists of trees 16 inches DBH and greater, with heights ranging from approximately 60 to over 100 feet. Overstory densities are relatively low, averaging approximately 10 to 25 trees per acre, and are generally well spaced throughout the forest.

Species composition within this canopy layer is dominated by ponderosa pine and Douglas-fir, with lesser representation of western larch and grand fir. This layer represents the lowest-density component of the forest structure and contributes positively to overall stand stability and fire resilience when maintained with appropriate spacing below.



*Figure 1: Graph showing that most trees on the site are young with small to medium diameters.*

## Forest Health

Forest conditions across the site are generally young, vigorous, and in good overall health, reflecting a history of active management. Disease and insect activity have occurred periodically and have been addressed through targeted treatments. Dwarf mistletoe is present in some lodgepole pine stands and is expressed through branch brooming. This parasitic infection can spread to lower and codominant trees and may increase canopy fuel loading by concentrating fine fuels that can contribute to preheating and ember ignition during wildfire events. Western gall rust is also present in ponderosa pine and lodgepole pine and results in the formation of cankers or large knots that restrict internal

water and nutrient flow. Over time, these infections can cause branch and stem mortality, creating structural weaknesses and contributing to surface and ladder fuels.

Recent insect activity includes impacts from Western Pine Beetles, Ips, and Pine Bark Beetle, which have affected portions of the site and created localized areas of standing dead material and increased ladder fuels. White and Grand Fir stands previously treated through thinning experienced a Fir Engraver Beetle (*Scolytus*) outbreak, which was subsequently controlled through removal of affected trees. These episodic disease and insect events require continued management to remove infected material, maintain overall forest health, and reduce associated risks, including wildfire potential.

#### *Recent Silviculture Treatments*

Over the past decade, the site has undergone 3 commercial thinning projects and 1 fuels reduction project. One thinning treatment primarily targeted diseased trees and poor genetic stock within a white fir stand on an east-facing aspect. A separate treatment area on a west-facing aspect was dominated by Ponderosa Pine and Douglas-Fir, with the east-facing portion of that unit replanted with Western Larch seedlings several years ago, which have demonstrated good survival. Additional thinning projects were implemented to address localized overcrowding, surface and ladder fuels, and minor insect infestation, primarily on east-facing slopes and flatter areas of the site.

These operations achieved desired stocking and spacing objectives without the need for post-harvest reforestation. Thinning prescriptions focused on removing medium- and large-diameter trees while retaining variable spacing, species diversity, and a range of diameter classes across treated stands. Treatments maintained functional midstory and overstory canopy layers consistent with long-term forest health, fuel reduction, and wildfire resilience objectives.

#### **Natural Resource Activities**

The Southern Idaho Timber Protection Association (SITPA), has used portions of the site in recent years for chainsaw and crew training activities. These efforts have contributed to localized fuel reduction by limbing ladder fuels within dense lodgepole pine and fir thickets, particularly in flatter areas near neighboring properties along the eastern edge of the site. Seasonal cattle and sheep grazing also occurs annually and helps manage fine fuels by reducing grasses, forbs, and some seedling regeneration. In addition, portions of the property are used for wildland fire training by the McCall Smokejumpers, providing ongoing disturbance that is compatible with fuel reduction and fire preparedness objectives.

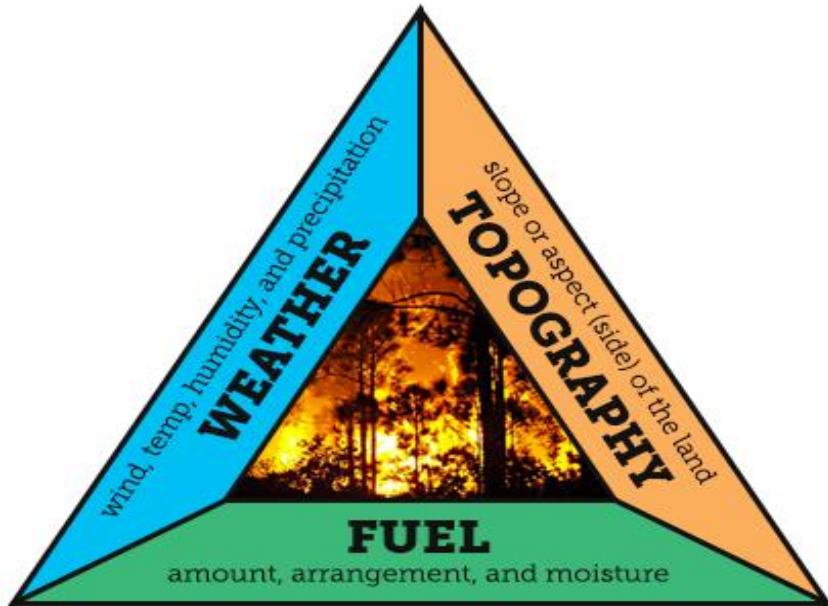
## Fire History and Weather

Fire occurrence on the site has historically been low based on available information from jurisdictional agencies. Primary ignition sources include summer thunderstorms and human activity. As development continues to expand outward from McCall into forested areas within the WUI, overall wildfire risk increases due to a greater concentration of people, structures, and ignition sources.

Typical summer weather conditions from June through August include average daytime temperatures ranging from 70 to 85 degrees, with prevailing winds generally from the south to southwest. Average summer precipitation in the McCall area is approximately 3.1 inches, with the majority occurring in June; August is typically the driest month. Average summer relative humidity is approximately 45 percent. Dead fuel moisture for fuels in the 1- to 3-inch diameter class averages approximately 10.3 percent. Under these conditions, lightning-caused or human-caused ignitions have the potential to result in rapid fire spread and changing fire behavior, increasing risk to both public safety and wildfire response personnel.

## Existing Conditions, Risks, and Fire Behavior Triangle

Wildfire behavior is commonly evaluated using the Fire Behavior Triangle, which illustrates the interaction between weather, topography, and fuel conditions. Changes in any one of these factors can significantly influence fire intensity, rate of spread, and overall behavior. The graphic below provides a framework for understanding how site-specific conditions at Red Ridge Village contribute to wildfire risk and inform mitigation and management strategies within the WUI. Fire Behavior consists of three factors to determine how a fire behaves.



## Fire Behavior Triangle

Figure 2. This graphic of the Fire Behavior Triangle illustrates the three primary factors that influence wildfire behavior: weather, topography, and fuel

### Existing Roads and Bridges

West Mountain Road is a paved County roadway that provides primary access from the west side of McCall to the Red Ridge PUD site. Within the project area, the main internal road corridor is approximately 22 feet wide and surfaced, while secondary roads range from approximately 14 to 22 feet in width and were originally constructed for timber and natural resource operations. The internal road network connects to adjacent subdivisions, including Whitetail and Blackhawk on the Lake, as well as to surrounding private landholdings. All existing egress points are controlled, and no bridges are present within the current road infrastructure.

As development proceeds, internal roads will be constructed or upgraded on a phased basis to meet applicable International Fire Code standards, ensuring adequate access for emergency response and fire suppression throughout the project.

### *Location of Existing Buildings and Estimate of Property Density*

The site currently contains no existing structures. The proposed development organizes growth into 6 distinct development areas with an overall residential density of approximately 0.3 dwelling units per acre, resulting in up to 770 units across the 2,250-acre site. Approximately 1,400 acres will remain as open space. Shaded fuel breaks and fire lines will be established around and between development areas to reduce fuel continuity and improve wildfire mitigation and emergency response conditions.

### *Infrastructure That May Affect Wildfire Risk*

There is currently no on-site infrastructure that contributes to wildfire risk. Existing development adjacent to the project area is limited to residential uses on adjoining parcels to the east of the site, which are considered in the broader Wildland Urban Interface context for wildfire risk and mitigation planning.

### *Description of Existing Features That May Assist in Controlling Wildfire*

Several existing site features support wildfire control and suppression efforts. The established internal road network, combined with a long history of active forest management, provides effective access and breaks in fuel continuity across the landscape. Roads are generally well maintained from lower-elevation meadow areas to ridge tops and ridgelines, allowing them to function as informal fire lines and providing reliable access for suppression resources. Road placement also creates logical anchor points and control lines that can be utilized during wildland fire operations. Active forest management has improved overall stand conditions by reducing surface and ladder fuels, increasing crown spacing, and limiting fuel continuity in operational areas. On-site water availability is limited during summer months and is not sufficient for routine drafting operations. However, the Payette River and Payette Lake are located nearby and can support aerial water drafting, along with several off-site ponds. Ground-based engines are expected to rely on nearby municipal water infrastructure for refilling during fire response activities.

## Current Structural and Wildland Fire Jurisdictional Agencies

McCall Fire is the structural fire response for the site. SITPA protects all timberlands and works in cooperation with McCall Fire in the WUI in this district.

## Effect of Proposed Development on Current Wildfire Risk Within the Development Area and to Adjacent Landowners

A Fire Pathways study commissioned by McCall Fire evaluated potential wildfire behavior and risk in and around the City of McCall using modeled scenarios based on topography, fuels, and weather conditions. One of the modeled scenarios included the Red Ridge Village PUD area. The study results indicate relatively limited wildfire risk to both the proposed development and the city under the modeled conditions.

The fire behavior analysis identified existing regional landscape features—including rivers, meadows, highways, established road networks, and managed open spaces—as effective barriers that limit the potential for wildfire spread toward central McCall. These features already reduce exposure for adjacent landowners by interrupting fuel continuity and moderating fire pathways across the broader landscape.

XyloPlan modeling results further indicate that, if developed with integrated fuel management, internal road networks, and defensible space, Red Ridge Village would not increase wildfire risk to adjacent properties and could function as an additional low-burnability buffer between surrounding wildlands and existing development. Fire pathway modeling shows a low probability of wildfire transmission from the west toward Red Ridge and McCall, as well as a low likelihood of fire spreading through the proposed development area toward the city or neighboring lands. Under the modeled scenarios, the proposed development pattern is expected to maintain or improve existing wildfire risk conditions for adjacent landowners. See Appendix A, Figures 15 and 16 for Idaho Department of Lands Assessed Risk and XyloPlan modeling.

## Wildfire Risk Mitigation

### Implementation of Firewise® Communities USA® Community Design Practices

Firewise USA® emphasizes reducing structure ignition potential through coordinated, neighborhood-scale action focused on the home ignition zone—the home and the surrounding area most vulnerable to ember exposure and radiant heat. For Red Ridge Village, firewise principles will be implemented through project design standards, HOA maintenance requirements, and phased fuel management to reduce wildfire risk at the lot, street, and community scale.

This approach prioritizes a noncombustible Immediate Zone (0–5 feet), targeted vegetation management in the Intermediate Zone (5–30 feet), and reduced stand density and continuity in the Extended Zone (30–100 feet), recognizing that home ignition zones often overlap across property lines and require shared responsibility.

Ongoing effectiveness depends on routine upkeep and documented annual risk-reduction work consistent with Firewise USA participation expectations.

The defensible space framework, which should be applicant through enforceable covenants include:

- Zone 0 (0–5 feet): Maintain a noncombustible area at the structure perimeter by removing combustible materials (e.g., wood piles, flammable mulch, dry leaves) and keeping roofs and gutters clear of debris.
- Zone 1 (5–30 feet): Manage vegetation to limit ladder fuels and reduce continuity by mowing/maintaining fine fuels, pruning lower branches, and spacing shrubs and trees to reduce crown-to-crown fire transmission.
- Zone 2 (30–100 feet+): Reduce density and remove dead/down material to slow fire spread and moderate fire intensity, consistent with the site's broader shaded fuel break and forest management strategy.

## Access- Planned Ingress and Egress Routes

At full buildout, the project area will include up to four ingress and egress routes to support emergency access and evacuation. Three routes will connect directly to West Mountain Road, and one route will provide access to ID55 via internal road network and Whitefield Lane. All new and improved roadways will be constructed to meet or exceed applicable International Fire Code standards to ensure adequate access for emergency response and wildfire suppression.

## Water Supply for Structural and Wildland Fire Response

Water supply strategies for the Red Ridge development will vary by phase based on location and development type. Portions of the project will connect to an internal water system, with fire hydrants installed in accordance with applicable fire code standards. Other areas will utilize on-site wells to supply buried water storage tanks designed and constructed in compliance with local requirements and NFPA 22 standards. These tanks will be strategically located to support efficient water access and distribution during structural or wildland fire response events.

## Estimated Response Time and Distance for Jurisdictional Fire Agencies

Estimated emergency response time for both McCall Fire District and SITPA is approximately 15 minutes or greater. McCall Fire District is located approximately 4.1 miles from the primary entrance to the development site, and SITPA facilities are located approximately 4.7 miles from the site entrance.

## Planned Internal Fire Protection Systems or Equipment

Planned fire protection systems within the Red Ridge development will be implemented in accordance with McCall Fire District requirements and will vary by phase. Internal fire sprinkler systems will be required for individual residences located more than 1,000 feet from an existing fire hydrant. Portions of the development will utilize buried water storage tanks and associated wells to support fire protection needs, while other areas will be served by hydrants connected to community water systems.

Specific locations and configurations of fire protection infrastructure, including tanks, wells, hydrants, and drylines, will be determined during subsequent engineering and design phases.

## Proposed Infrastructure

All road and driveway infrastructure within the Red Ridge PUD will be designed and constructed to meet or exceed applicable Valley County standards, including requirements for road widths, grades, signage, and bridge design where bridges are required.

Electrical distribution is planned to be installed underground throughout the development to reduce ignition risk and improve system reliability. Detailed design of transportation and utility infrastructure, including power systems, will be completed during subsequent engineering phases.

## Evacuation and Pre-Incident Planning and Safety Zones

Pre-incident planning will be required as development occurs, including preparation of an evacuation plan to be incorporated into community covenants or governing documents. The evacuation plan should address available resources, response procedures, designated evacuation routes, safety zones, traffic circulation, and coordination protocols in the event of a wildfire or other emergency.

Periodic review of the plan should be conducted as the development builds out. At intervals, responsible fire protection agencies, in coordination with resident-led working groups and the managing forester, should evaluate changes in development patterns, infrastructure, and forest conditions to determine whether updates to evacuation and pre-incident planning are warranted.

## Planned Live and Dead Fuel Treatment Actions

Fuel treatment measures will be implemented in phases to reduce fuel continuity and support wildfire mitigation across the development area. Buffer treatments will be established around the perimeter of the project and within individual development areas as buildout occurs. These shaded fuel breaks of approximately 100 feet will be created around the outer perimeter of the developed areas to interrupt continuous fuels and reduce fire spread potential.

Internal roads will function as fire lines, with shaded fuel breaks extending approximately 35 feet on each side of the roadway centerline. Red Ridge Road is intended to serve as a primary control line along the ridgeline to support wildfire suppression operations. Driveways will also incorporate shaded fuel breaks extending approximately 35 feet from the centerline.

Additional fuel modification will occur through a combination of commercial and non-commercial treatments, depending on stand conditions and development phase. Commercial thinning may be required in select timber stands to address overcrowding and fuel loading. Pre-commercial thinning and pruning will be conducted using mastication equipment and hand crews where appropriate. On lower slopes ranging from 0 to 30%, residual tree spacing will generally range from 15 to 20 feet, depending on species composition and diameter classes. On steeper slopes exceeding 30%, spacing will generally increase to approximately 30 feet. Residual trees will be pruned to approximately

10 feet above the uphill side of the tree, not exceeding one-third of total tree height, to maintain tree health while reducing ladder fuels.

Commercial thinning operations will utilize whole-tree yarding, with slash transported to designated landings for piling and subsequent burning under controlled conditions to maximize fuel consumption and operational safety. Mastication treatments will chip and mulch residual material within shaded fuel break areas to reduce surface fuel loading. 100ft shaded fuels breaks will be used to break up fuel continuity around the perimeter of the entire development site.

### Long Term Maintenance Schedule to Sustain Fuel Treatment Effectiveness

Long-term effectiveness of fuel treatments within development areas, open spaces, and forested lands will depend on ongoing evaluation and maintenance. Forest conditions and fuel loads should be reviewed on an annual basis through site visits, with treatment needs identified by the managing forester as conditions change. These evaluations should consider potential threats associated with weather events, vegetation growth, and natural resource aging.

Periodic coordination is recommended between the managing forester, jurisdictional fire protection agencies, and the community homeowners' association, once established, to review site conditions and identify priority actions to maintain wildfire risk reduction measures. Large-scale mastication treatments may be required on an approximately 5- to 10-year cycle within open space and community areas, with vegetation reduction implemented as needed. Private landowners within the PUD will be required to maintain their properties in compliance with Firewise principles and adopted community standards. Commercial thinning may be necessary at intervals of approximately 25 to 40 years, depending on forest growth, stand conditions, and development progression.

### Analysis of the Overall Change in Wildland Fire Risk Within the Development and to Adjacent Landowners Once the Planned Mitigation Actions are Implemented

Following implementation of the proposed mitigation measures on a phased basis, overall wildfire risk within the development area and for adjacent landowners is expected to decrease relative to existing conditions. Planned fuel treatments, shaded fuel breaks, expanded defensible space, added water infrastructure, and improved emergency access collectively reduce fuel continuity and improve suppression capability. These measures build upon existing conditions, including generally healthy forest stands and an established internal road network that already functions as partial fuel breaks and access corridors.

Additional treatments associated with development will further moderate fire behavior by reducing surface and ladder fuels, increasing spacing between crowns, and reinforcing strategic buffers between developed areas and surrounding wildlands. Fire behavior modeling prepared by XyloPlan for McCall Fire indicates that the Red Ridge Village PUD functions as a managed fuel landscape rather than an added wildfire risk, and that, under modeled scenarios, the development would not increase wildfire exposure to adjacent properties or the City of McCall. When combined with long-term maintenance and Firewise-based management, the project is expected to improve overall wildfire resilience for both the site and surrounding areas.