

HUGHES PROPERTY SUBDIVISION

4619 Redstone Ridge Road

Monument, CO

WILDFIRE HAZARD REPORT

And

WILDFIRE MITIGATION PLAN

Prepared By

Robert Harvey, CWMS

Rubicon Wildfire Solutions, LLC

719-246-3026

WILDFIRE HAZARD REPORT

Rubicon Wildfire Solutions, LLC of Monument, Colorado was engaged to develop the Wildfire Hazard Report to meet the requirements of El Paso County Planning and Community Development Department. El Paso County requires the development of these reports to reflect the Colorado Wildfire Resiliency Code (Version 1.0 June 2025). This Code was developed and signed into State Law in 2025 to provide a more uniform approach to developing resilience for structures in the wildland and wildland urban interface using other code models that exist to address this problem.

The Hughes property currently consists of a single family structure located at 4619 Redstone Ridge Road in the area known as Red Rocks Ranch on the Palmer Divide, generally west of the incorporated Town of Monument, CO. This area is provided fire protection from the Monument Fire Protection District.

The property owner desires to develop an additional ADU on the property approximately 200 yards from the existing main single family dwelling, positioning the ADU downslope from the current SFDU.

SITE SURVEY

On April 11, 2026 CWMS Bob Harvey conducted an in person site survey to determine the factors to be considered in the Wildfire Hazard Report which is key in assigning the property to the appropriate Mitigation and Structure Hardening Classifications. The property is well mitigated and the efforts and commitment of the property owner is evident. The entire parcel of ownership has appropriate mitigation and in some cases the mitigation effort exceeds the minimum requirements of programs such as Firewise. All of Rubicon Wildfire Solutions surveys are conducted by on site visual collection of information for a ground verification of factors.

FUELS: The observed on site fuels included Gamble Oak that were trimmed to no taller than 8 foot high and in clumps of 8-10 foot in diameter, these were located in the open areas and not directly under the canopies of the Ponderosa Pines, thereby eliminating the sub-canopy or ladder fuels effect. Grasses below the Oak and the Pine were 1.5" in height or less indicating a very low capability for fire ignition or fire carry. The Ponderosa Pine exceeded the minimum recognized spacing for crowns in this fuel type and slope with approximately 16-20 foot separating crowns where 12 feet is the minimum separation on this terrain. No other potential fire spread fuels were observed during the survey. It should be noted that the homeowner has resisted the use of Juniper and Cedar shrubs in the property landscaping, these fuels are highly volatile in threatening a structure.

SURVEY CONTINUED

Topography: While this parcel is located on a slope gradient of approximately 14% rising from East to West the actual building site is situated in a non-slope area with a slope measured at less than 1.5% using a Clineometer (Suunto PM 5/360P) to verify slope factors.

The adjacent properties of neighboring structures are located on slopes in the 15% range. Slope inputs of greater than 10% are used in wildfire behavior calculations so slopes below this threshold are not factored into fire behavior calculations. The relative flat building site for the ADU of greater than 100' surrounding the intended structure eliminates slope as a factor in calculating wildfire intensity and fire behavior surrounding the new structure.

EXISTING BARRIERS TO FIRE: Redstone Ridge Road running along the east perimeter of the property and circling along the north to transition west is a paved public roadway of 24' (approximate) including shoulders. This roadway situated on what is conserved the cusp of the upward slope toward the building site provides an excellent fire break that will never be compromised by unmanaged wildland fuels growth.

The neighboring properties are in a sufficient state of mitigation to reduce the probability of ground and canopy spread of wildfire to the building site, a clear neighborhood effort has been undertaken to reduce the risk of wildfire in this area. One parcel SE and slightly downslope from the building site contains a large deposit of unmitigated Gamble Oak, this is of sufficient distance that a structure on the building site would not be directly impacted by a fire in this site unless strong winds carry embers the approximate 200 yards to the new structure, but Structure Hardening can defeat this type of event.

COLORADO WILDFIRE VIEWER: The Colorado Wildfire Viewer, developed by the Colorado State Forest Service was consulted for possible input on developing this site.

Fire Intensity Scale indicates – Moderate Fire Intensity

Burn Probability Indicates – Moderate Probability of Fues Consumption

Values at Risk Indicates – A Moderate risk to Structures

WUI Risk Due to a Fire Indicates – High Risk

Vegetation Coverage Indicates – Conifer, Dispersed Oak Shrub and Developed parcels.

WUI Structure Population – Class 4 1 house to 10 acres to 1 house for 5 acres.

Canopy Cover Indicates – 30% The canopy in this area is dispersed Ponderosa Pine.

Slope Profile Indicates – Moderate

Buildings Per Acre Indicates – 0.5

Egress Pattern Indicates – Classification 1 or Good

WILDFIRE HAZARD IDENTIFICATION

SURVEY DETERMINATION: After conducting the ground survey and the review of the Colorado Wildfire Risk Viewer it is appropriate to assign the **Classification Moderate Fire Intensity CWRC 303.2.2**. This classification is identified in areas with **Moderate to Heavy Fuel Loads**. **Flame Lengths** in this Classification can exceed 8 feet with fire propagation generated by slope factors and strong winds, both of which accelerate fire spread. Short range spotting (less than 50 yards) is common in this fuel type. Slopes of greater than 30% increase fire spread and intensity. This Classification typically challenges ground forces operating on these slopes in fire suppression.

NOTE: The Hughes property is unique in this classification in that it is situated in a flat plateau of a slope measured at 20% or less. The fuels have been mitigated to the point where they do not match the Classification description. The Moderate Fire Intensity Classification was selected due to the site being positioned on the mid-slope with some parcels of unmitigated fuels below the building site.

Overall the property owner is to be commended for their efforts to position the existing structure and determining to build the ADU in a carefully selected position to resist wildfire impacts as well as their continued efforts at one of the best mitigation efforts this Specialist has seen.

STRUCTURE HARDENING

STRUCTURE HARDENING in **SECTION 404 CLASS 2 STRUCTURE HARDENING** (CWRC) shall be used to utilize construction materials and building methods, exterior coatings and fixtures to resist the possible impact of wildfire generated at a lower elevation than the building site. The four most critical structure factors in this classification are roofing material, siding material, soffit enclosure and proper venting.

Without developing redundancy in this section each Architect, Designer, Builder and Homeowner must be provided a copy of the Colorado Wildfire Resiliency Code. This reduces misunderstanding and improves communication among all parties as to the requirements to build a structure to the safest and most fire resilient level that can be achieved..

Given the distances to wildland fuels being a positive and the well mitigated property items such as vinyl windows would be acceptable on this structure. Caution must be used when utility entry points into the structure may be exposed to collecting embers, in this case if the plastic water service or electrical service extends from the ground into the house the first 12" conduit or pipe should be protected by a metal cladding to prevent the plastic from being ignited.

Pet entry doors and insufficient protection of garage door seals to prevent ember intrusion is a major factor in structure loss and must be a focus of attention by installers for proper fit. The use of pet entry points in directly into the structure should be discouraged as a sufficient ember blocking seal cannot be achieved.

The 1/8" metallic mesh required on vents to prevent intrusion of embers through the exterior vents should be utilized on any wood burning fireplace due to a reverse air flow that happens in wildfires that can introduce embers into the structure, even if the damper is in the closed position.

This ADU will exceed the Safe Structure Distance minimum of 30 feet and built on a continuous foundation so Section 404.10 does not apply of the CWRC.

SITE AND AREA REQUIREMENTS MITIGATION

SECTION 503 CLASS 2 REQUIREMENTS (MITIGATION) CWRC apply to this building site. The Homeowner has previously mitigated to a standard on this site that exceeds the requirements in the CWRC and establishes an exceptional example for those needing to mitigate their own property. **Structure Ignition Zone1 (0-5 feet) known as the Immediate Zone** is a critical zone on this property in that this area must be kept clear of any combustibles that would be ignited by embers in the ember flow from other properties and thereby provide ignition of the structure.

To reduce redundancy and miscommunication each Landscape Designer, Builder, Homeowner and Landscaper involved in the project should have in their possession a copy of the Colorado Wildfire Resiliency Code, this reduces misunderstanding between all parties and improves communication concerning the Code Requirements.

The spacing of the Ponderosa Pine canopies and the small clusters of Gamble Oak creates one of the most wildfire resistive properties in this development.

Cautionary Note: The Homeowner's insurance company should be consulted as to any additional requirements they may have that are not included in the CWRC. This effort should improve the chances continued insurance coverage from the current provider.

Prepared By:

Robert C. Harvey, CWMS

NFPA #1190244-CWMS

Structure Protection Specialist, Branch Director NWCG