

LIONS DEN SUBDIVISION

WILDFIRE HAZARD REPORT

WILDFIRE MITIGATION PLAN

And

FIRE PROTECTION PLAN

The **Lions Den subdivision** is approximately 36.16 acres of land consisting of seven (7) proposed single family residential lots. Located southwest of the Shoup Rd. and Casey Ln intersection in norther El Paso County.

Rubicon Wildfire Solutions, LLC. Of Monument, CO was engaged to develop the Wildfire Hazard Identification report, the Structure Hardening determination, the Site and Area Requirements (Mitigation) plan and the Fire Protection Report for this property.

SITE SURVEY

Rubicon Wildfire Solutions uses a boots on the ground approach to survey the proposed development site and gather information that is more specific than the color coded maps in the Colorado Wildfire Risk Viewer Tool that was produced by the Colorado State Forest Service as an aid to homeowners and Realtors in determining a wildfire risk level to property. The information contained in the CWRV will be included in this report to fulfill requirements of the El Paso County Planning and Community Development Department. The CWRV has not been updated or had program modifications for some time that would impact the findings counter to a ground survey.

The Lions Den subdivision was surveyed on the ground on two occasions to determine existing conditions in relation to wildfire. This subdivision is located between Casey Lane and Donovan Lane on the west boundary of the subdivision and Casey Lane on the East side of the subdivision.

The property line for the Lions Den subdivision (Casey Lane) forms the back boundary line (East) for properties on Donovan Lane. The last aerial survey indicates 7 current single family dwellings on Casey Ln, 9 single family dwellings on Donovan Ln. and 8 single family dwellings on

Glenridge Ln. with a varying amount of ancillary structures in the 200 square foot to 1,500 square foot range.

The survey of the **Lions Den subdivision site shows a highly mitigated parcel (in full) where no sub-canopy of brush class fuels or Ponderosa Pine saplings exist. The ground surface is clear of litter and forest debris that would normally be found in an unmitigated parcel of land. The owner is apparently aware of the need to perform mitigation of the land intended to be sold. Crown separation of Ponderosa Pines indicates an alignment of separating crowns to provide fire involvement separation and aspects of a healthy forest in this region.**

To determine the ability of a property to sustain wildfire resistance it is necessary to observe and note the adjoining property for a minimum of 300 feet, in this case the 500 foot buffer of mitigated land was used as the standard. **The land that would be the west boundary, addressed on Donovan Ln, was surveyed for potential ember producing, low level brush fuels or Ponderosa Pine saplings. These parcels for the entire length of the proposed subdivision were found to be well wildfire mitigated as the Lions Den parcel indicates.**

The single area of concern in the Lions Den acreage is an electric distribution line that runs south from Shoup Rd. through the parcel, if this line will remain active Mountain View Electric will need to conduct mitigation efforts in their right of way easement on a more frequent basis than what it exhibits at this time.

TOPOGRAPHY: The site survey indicated an overall slope of 9% from the high point on Shoup Rd. to the south end of the proposed subdivision. Small runs of 12% were observed and measured but were well below the 100 foot threshold of slope input for fire behavior input/effect when slopes above 10% for greater than 100 foot horizontal are considered a modification to wildfire behavior.

There is a drainage in the development parcel that is devoid of vegetation reducing its fire carrier ability that could be influenced by moderate winds above 15 mph. No saddles, chimneys or terminus depressions were observed on the property

FUELS: proposed development site is **very well mitigated with Ponderosa Pines (mature)** in a **moderately open canopy configuration** that would not be conducive to a canopy or crown run fire. There is no understory of brush or sapling pines, the grass ground cover is separated from the pine canopy to eliminate the crown heating impact these fuels could have if branches were closer to the ground and grasses were showing more continuity in their configuration.

SURVEY CONCLUSIONS: The proposed development site and the adjoining properties display an area that is well mitigated, supporting fire suppression efforts. Movement of personnel and equipment such as wildland fire hose would be easily accomplished for rapid suppression. Even though unlikely the use of aerial delivered retardant or water from fixed wing aircraft or rotary wing assets proves very effective in wildfire suppression in this fuel profile.

The proposed lot size indicates that structures will exceed the minimum Safe Structure Distance (SSD) of 30 feet as indicated by studies conducted by NIST and the IBHS, the proposed lot size in the case of Lions Den subdivision these lot sizes play a crucial role in structure separation with lots 2 acres or larger the building margins create a Safe Structure Distance that far exceeds the 30 foot separation creating a Dispersed WUI rather than a Classic WUI as found in the higher structure compaction environments.

LOCAL FIRE HISTORY: The Black Forest Fire of 2013 was approximately 2.6 miles NW of the Lions Den subdivision and developed into a 2 mile wide fire front very quickly due to sustained winds of the 40-45 mph range. The fire behavior of the Black Forest Fire was compounded by parcel size mitigation with the majority of the land including Black Forest Regional Park in a non-mitigated state, allowing unmitigated neighboring properties to involve the mitigated parcels in fire due to heavy ember flow fire propagation. **The fuels and land of the Lions Den subdivision exhibits no similar characteristics of the Black Forest Fire environment.**

COLORADO WILDFIRE RISK VIEWER:

Fire Intensity – Moderate.

Burn Probability – Moderate (before mitigation occurred).

Values at Risk – Low (Homes could not be seen by aerial survey and few existed).

WUI – Low.

Surface Fuels – Timber Litter (not accurate to current conditions).

Vegetation – Ponderosa Pine.

WUI Indices - #4 1 Home to 10 acres to 1 home to 5 acres.

Canopy Cover – 100% (not accurate at this time 70%).

Slope – Low.

Building Damage Potential – Moderate (before mitigation occurred).

Building Density Factor – Less than 0.5 structures per acre.

Structure Defense Capability – High to Very High.

The Colorado Wildfire Risk Viewer was developed for homeowners, Realtors and the insurance industry to develop a base line understanding in areas where mitigation might be necessary. A fire professional in particular a wildfire trained person cannot glean any usable information from the CWRV to develop fire behavior calculations that would determine a fire suppression

strategy or tactics to be used in suppression. Most insurance companies today conduct surveys through assets such as UAV contractors and analysis companies such as Predictive to assess insurance rates and insurability of a property.

WILDFIRE HAZARD IDENTIFICATION

CWRC Chapter 3

After the completion of the site survey the process requires the assignment of a Wildfire Intensity Classification (CWRC 303.2). The Fire Intensity Classification is determined by expected wildfire behavior (in existing pre-mitigated state) including Flame Length and suppression difficulty and is separated into three classification levels: low, moderate and high. The identified fire intensity classification establishes code requirements for construction and mitigation.

The Lions Den subdivision is a very unique parcel of land in the forested area of the Pikes Peak Region, not often found to be in a highly mitigated state that would be similar to Cathedral Pines subdivision (2 miles north) prior to construction of structures on similar sized lots.

The Lions Den deservedly is classified as a Low Fire Intensity Classification with light surface fuels, such as grasses, shrubs and low -density vegetation. There are no intrusions of shrubs on the forest floor of Gamble Oak or Mountain Mahogany, the two most common shrub or brush class fuels in this region. The Lions Den subdivision is as near to open, park like conditions that can be achieved. In the Low Intensity Classification the description calls for predicted Flame Lengths and Fire Suppression Difficulty, without fuels any greater than dry, seasonal, low load grasses the greatest flame length to be expected in this canopy shaded environment would be 18" to a maximum 24" before total fuel consumption. With no forest litter on the ground there would be no sustained burning one would expect from surface branchwood or trunks above 6" diameter. With the surface completely absent of brush class fuels the suppression effort would include mobile attack with Type VI Engines, short hose lays from the driveway area and the utilization of handtools. Air Attack resources are not likely to be used in fire suppression in this area.

Properties adjacent to the Lions Den subdivision are similarly mitigated to a point that there are no significant ember producing fuel beds within view of the survey, equating to greater than 500 yards from the property. **Short range spotting in this environment with a brush component is approximately 200 yards and can increase with proportional wind speed increases. This spotting component is not present in the Lions Den area of influence.**

STRUCTURE HARDENING

CWRC Chapter 4

The Lions Den subdivision should have structures meeting the Class 1 and Class 2 Structure Hardening Classifications (CWRC 403.1 and 404.1) as a basis for construction. In addition the structures will need to meet the requirements found in the current Building Code used by the Regional Building Department. This level of structure hardening is required is due to the fact the Lions Den is located within the WUI designated boundary and with the constantly changing environment the fire environment changes as well, in particular in the area of ember carry (a component calculation in wildfire behavior) where embers are being carried further and once airborne in the transport winds are exceeding the previous known distances that were anticipated and projected by Fire Behavior Analysis Specialists.

To avoid confusion and redundancy this designation report does not include written copy of the current CWRC dated June 2025. As there might be delay in obtaining Building Permits the adopted version of the CWRC may change between this report and designation point in time for a permit(s). The current copy of the Colorado Wildfire Resiliency Code can be obtained at no cost on the Colorado Division of Fire Prevention and Control website. Each Homeowner, Contractor, Trades Professional and Planner should avail themselves of the applicable code copy at the time of submittal of Building Permit application so that all parties are operating from the same code version as required by RBD at that point in time.

Homeowners, Architects, Designers and Contractors are cautioned to engage with their homeowners insurance company in the design phase of the structure in the case that the insurance carrier may have factors that drive insurance rates or insurability to a structure in this environment. A Certified Wildfire Mitigation Specialist can provide construction suggestions to reduce wildfire threat to a new structure and provide Best Practices concepts that may not be included in the CWRC or Building Code.

Ancillary buildings will need to meet the same Classification Requirements of the primary structure and the Safe Structure Distance of 30 feet minimum should be maintained in the Lions Den subdivision.

SITE and AREA REQUIREMENTS

(Mitigation)

CWRC Chapter 5

The Lions Den subdivision will need to conform to the requirements found in Chapter 5 (Site and Area Requirements) found in the CWRC. While this is one of the most highly mitigated parcels in the region before construction the impacts of ember carry on transport winds must be considered a threat from distances greater than one mile, this area experiences winds that would create the possibility of extreme levels of spot fires due to winds in excess of 60 mph that historically impact the region. The level of mitigation in the Lions Den creates the best advantage possible for property owners to not change the dynamics of using landscaping that would create an opportunity for fire brand ignitions.

The Lions Den subdivision will need to conform to the requirements found in Section 502 Class 1 Requirements and Section 503 Class 2 Requirements of the CWRC. This level of mitigation provides adequate protection for individual properties from a fire within the Lions Den subdivision or those ember producing fuel profiles in the extended distance in relation to the subdivision.

To avoid confusion and redundancy the copy of the current CWRC Section (June 2025) is not printed in this report as at the time of submittal for Building Permits that CWRC may be updated with resulting code requirements changing. Each Homeowner, Landscape Designer, Landscaper and affiliated Trades Professional should have in their possession a copy of the current, applicable CWRC version that work will be conducted under. A Certified Wildfire Mitigation Specialist can be engaged to help develop the landscaping plan and carry out compliance/confidence inspections for the homeowners best interest. A CWMS may be able to provide Best Practices information that will not necessarily be included in the CWRC or Building Code that improves the property survival characteristics.

Homeowners should contact their Insurance Carrier for any requirements they may have that are not part of the CWRC, Building Code or the El Paso County Land Development Code that may impact insurance rates or insurability.

The Wildfire Hazard Identification Report, Wildfire Structure Hardening Classification and Site Area Requirements Classification were developed by Rubicon Wildfire Solutions, LLC. of Monument, CO 80132. Robert (Bob) Harvey is the owner and Primary Consultant in developing these reports based on site survey and analysis. Bob Harvey has been involved in various aspects of wildfire suppression, prevention, mitigation and investigation since 1971 and provided the first Wildfire Hazard analysis to the City of Colorado Springs for a development in 1993 and the first reports for El Paso County in 1993 as well. Mr. Harvey is a retired Fire Officer with 51 years in the fire service and has been deployed as a Structure Protection Specialist, Structure Protection Group Supervisor and Structure Protection Branch Director to numerous wildfire events across the United States, Canada, the United Kingdom and Germany through his career.

Robert C. Harvey

Robert C. Harvey, CWMS

NFPA 1190244-CWMS

NWCG Structure Protection Specialist

NWCG Incident Commander Type III

719-246-3026