

LIONS DEN SUBDIVISION

FIRE PROTECTION PLAN

June 10, 2026

Rubicon Wildfire Solutions LLC. was engaged by Whitehead Engineering LLC. to develop a Fire Protection Plan for the Lions Den subdivision proposal. Lions Den subdivision will be located on currently vacant land with the exception of one (1) dwelling structure that will be included in the development plans. This site is located west of Casey Ln. and the intersection of Shoup Road in the commonly known Black Forest area (unincorporated) of El Paso County, CO.

Full build out of adjacent properties on Donovan Lane (west parallel street) and Glenridge Lane (east parallel street) as well as the built properties on the east side of Casey Lane will show a similar configuration to what the Lions Den subdivision on the west side of Casey Lane will represent. This configuration density is important in the fact it will not significantly change fire service delivery and resource needs by adding 6 structures with each dwelling built on 5 acre lots. With this lot configuration the Safe Structure Distance (30 feet or more) from neighboring structures brings the structure to structure ignition factor to the lowest probability that would exist, more comparable to the Agriculture Rural development configuration.

The Lions Den is a proposed subdivision of approximately 36.16 acres into seven (7) lots for single family dwelling structures. These buildable lots will each contain approximately 5 acres each.

Casey Lane will provide the addressing and access route for all traffic to the development site, including emergency services response. Casey Lane like the other adjoining streets provides single access as well as egress for residents addressed on Casey Lane.

AUTHORITY HAVING JURISDICTION

Black Forest Fire Rescue Protection District is the AHJ for the proposed Lions Den subdivision. Black Forest Fire Rescue Protection District is a combination (career/volunteer) response agency that provides structure firefighting, wildland firefighting, emergency medical services, emergency medical transport of patients and hazardous materials primary response.

BFFR (Black Forest Fire Rescue Protection District) is structured as a **Rural Fire Protection Classification** fire agency which uses NFPA 1720 Standard for the Organization and Deployment of Fire Suppression Operations, Medical Operations and Special Operations to the Public by Volunteer Fire Departments. While the BFFRPD is a Combination (career/volunteer) agency this Standard still applies due to significant differences between the NFPA 1720 Suburban/Rural population densities when compared to the Metropolitan/Urban Classification found in NFPA 1710.

Staffing and Response/Arrival time benchmarks frame the more predominate Rural classification for Black Forest FRPD developing a response time of 14 minutes to a fire incident with 6 staff members 90% of the time. Black Forest Fire Rescue achieves this benchmark with 2 stations in the jurisdiction and nearby mutual/automatic aid partnership with Monument FPD, Colorado Springs FD and Falcon FPD.

As the Black Forest region continues to grow and develop the BFFR operations will be divided between a Rural Classification and a Suburban Classification which calls for an increase in staffing (10) and arrival on scene within 10 minutes instead of 14 minutes with 6 staff.

Currently the AHJ is more closely meeting the Suburban Classification for response and staffing.

WATER SUPPLY

The Black Forest Fire Rescue Protection District faces the same challenges as any other Rural Classification fire protection districts, but the primary challenge is water sources for fire protection needs. Black Forest is primarily a Hauled Water (utilizing water carried on apparatus or specialized water tank trucks known as Tenders) operation to approximately 90% of their protected properties. The remaining 10% of the structures have access to fire hydrants that are owned and operated by the Park Forest Water District.

The Lions Den subdivision is located in the defined Hauled Water Response Zone. This means that the requirements for water in suppression of fires to any development within this subdivision of an earlier division of lands was put into this category at the time of plats filed with El Paso County. The Black Forest VFD (as it was then known) determined that their

response distance to this area from then Station 1 was within an acceptable Engine and Tender Response area. The subsequent movement of Station 1 from Shoup Rd. and Black Forest Rd. to Teachout Rd. (current site) did not significantly change the dynamics of the response time as viewed by the Fire District Board of Directors and the Fire Administration at that time.

There are two challenges in the Hauled Water Evolution, the first being the agencies staff (either volunteer or career) to operate the water tenders to meet the fire flow requirements, if the answer is yes then the next question is location of a water source to reload a Tender after it has supplied a tactical engine. **In answering the first question BFFR has long had a resilient Hauled Water Evolution system in place utilizing a two unit dispatch (Engine and Tender) to respond to a reported structure fire. In addition the Mutual/Automatic Aid group has quickly supported operations with additional Tenders to establish a more than adequate cycle of respond, off load, return to fill and return to fire scene. This configuration was used to maintain the fire flow test at Wolford Elementary School for the ISO Hauled Water Evolution Evaluation which far exceeds the fire flow requirements for a single family dwelling.**

The utilization of the best advantage water source is critical in the rural fire service districts, the choice of a cistern or pond (static water source) with dry hydrants presents additional operational challenges over the pressurized or a gravity feed water source. In the static water source a fire engine with pump and suction capabilities must be used to pull water from the static source and pump it into the Water Tender. As one can imagine this has a severe impact on meeting the NFPA 1720 Standard for staff on the fire scene when a critical apparatus and crew is dedicated to pumping from the static water source. These are the primary reasons why most rural fire agencies will opt for a longer distance between the pressurized water source and the fire scene and use the dry hydrant as a last resort water source. Experienced rural fire officers will typically trade off a drive time factor for Tenders to maintain a second engine on the fireground rather than dedicated to drafting and pumping into a Tender.

The pressurized water source through a fire hydrant is the preferred option as a water source. The hydrant systems also shows a higher level of confidence for fire personnel as they are regulated by NFPA and American Water Works Association Standards, they are not compromised by freezing of the hydrant, have larger volumes of water than a cistern and are managed by an entity such as a Water District instead of an HOA, which has the designated responsibility but has little to no oversight. Cisterns in some areas are the private property of the funding HOA, meaning the water cannot be used for any structure fire that is not in that particular HOA. The old philosophy that water from any source can be used by the fire district for any fire should no longer a standard belief. **In Colorado a cistern is located on private property and the use and distribution of that water is under the control of the HOA who owns the tank, land and water in the cistern.**

PRESSURIZED WATER SOURCE (FIRE HYDRANTS): The nearest pressurized water source (fire hydrants) to the Lions Den subdivision are those hydrants located in the parking lot of the strip mall at 11590 Black Forest Road. At this location 3 fire hydrants are in close proximity with an all weather driving and positioning surface (asphalt) present. Secondary pressurized fill sites exist across Black Forest Road and at the water district fill site south of the intersection of Black Forest Road and Burgess Road.

Travel distance to pressurized water (hydrants) to Lions Den subdivision: 2.46 miles.

These primary and secondary pressurized fill sites (fire hydrants) located near the intersection of Black Forest Road and Burgess Road, are owned, managed, maintained and tested by the Park Forest Water District to meet NFPA and American Water Works Association Standards.

STATIC WATER SOURCES (Cisterns/Dry Hydrants): The nearest static water source that would require a pumping engine to supply water to tenders in a water shuttle operation is cistern number C-109 located at the intersection of New Breed Drive and Meadow Run Circle, which is north off of Shoup Road. C-109 is a 30,000 Gallon cistern installed due to what was considered excessive travel distance from the pressurized fire hydrants on Black Forest Road. In addition to Cistern C-109 a cistern within the Cathedral Pines subdivision, numbered C-111 and containing 30.000 gallons is located on Saxton Hollow Road.

Travel distance to Cistern C-109 from Lions Den subdivision: 1.23 miles.

Travel distance to Cistern C-111 from Lions Den subdivision: 2.4 miles with grade input factor.

There are no other cisterns located along Shoup Road corridor to provide water support for operations as the development in the area was focused on the Hauled Water Evolution with BFFR apparatus and mutual/automatic aid partners.

ACCESS

The Response Route to the Lions Den subdivision would utilize the east/west corridor of Shoup Road which feeds access to Casey Lane and all parallel residential development roads in the area. **Shoup Road** is a two lane, paved roadway with grades not exceeding 4.5% that is maintained by El Paso County Public Works Department. The roadway surface, clear visual distance and lateral vision of side roads and shoulders is considered very good for a roadway in this timbered area of Black Forest and provides safe and adequate response speeds without compromising civilian or firefighter safety.

Snow removal in this region is conducted by the El Paso County Public Works Department with very active clearing of Shoup Road as a major arterial, school bus route and emergency access route. Casey Lane and parallel roads or lanes that may run off of Shoup Road are not plowed until a snow accumulation of greater than 6" occurs. Slight flooding has occurred on Shoup Road after the Black Forest Fire but the County has made great strides in mitigating this type of event.

Casey Lane is a dirt base road without gravel or asphalt that courses south from Shoup Road, there are no secondary access/egress paths from Casey Lane as it was designed before such requirements were codified by El Paso County. **Casey Lane will undergo modification of the turnaround at the end of the lane to meet the turnaround radius required in the El Paso County Land Development Code and Black Forest Fire Rescue Protection District.**

All paths or roadways designated as driveways into the lots of the Lions Den subdivision will meet the requirements of the El Paso County Land Development Code and the requirements of the Black Forest Fire Rescue Protection District to attain proper position of fire apparatus in relation to the structure placement as defined in the applicable International Fire Code at the time of Building Permit issuance. The driveways to access properties shall be of the proper compaction of soils and the proper weight load bearing asphalt or concrete all weather surface to support fire apparatus to within 150' of the furthest corner of the structure. The width of all weather driving surface will be dictated by the El Paso Land Development Code, the International Fire Code and the Black Forest Fire Rescue Protection District. Appropriate pull outs to allow passage of apparatus, turn arounds and hammer head parking and maneuvering surfaces shall be provided if determined necessary to operate fire apparatus on the property with the Code required distances of each driveway.

Since all lots in the Lions Den subdivision have a timber component the access driveways must be maintained clear of any tree, limb or brush to maintain sufficient access as dictated by the applicable code which typically requires 12 feet of horizontal clearance surface and 13'6" of vertical clearance for the movement of fire apparatus. **This must be verified with local Codes and requirements which may require differing measurements.**

It is suggested that the Homeowner coordinate with the Black Forest Fire Rescue Protection District as building plans are developed for compliance of local requirements. The Homeowner should discuss the new structure with their insurance carrier for any requirements that may not be code or fire agency requirements, but may impact their ability to obtain and maintain fire insurance on their property.

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