North Turkey Creek – Plan Unit 4

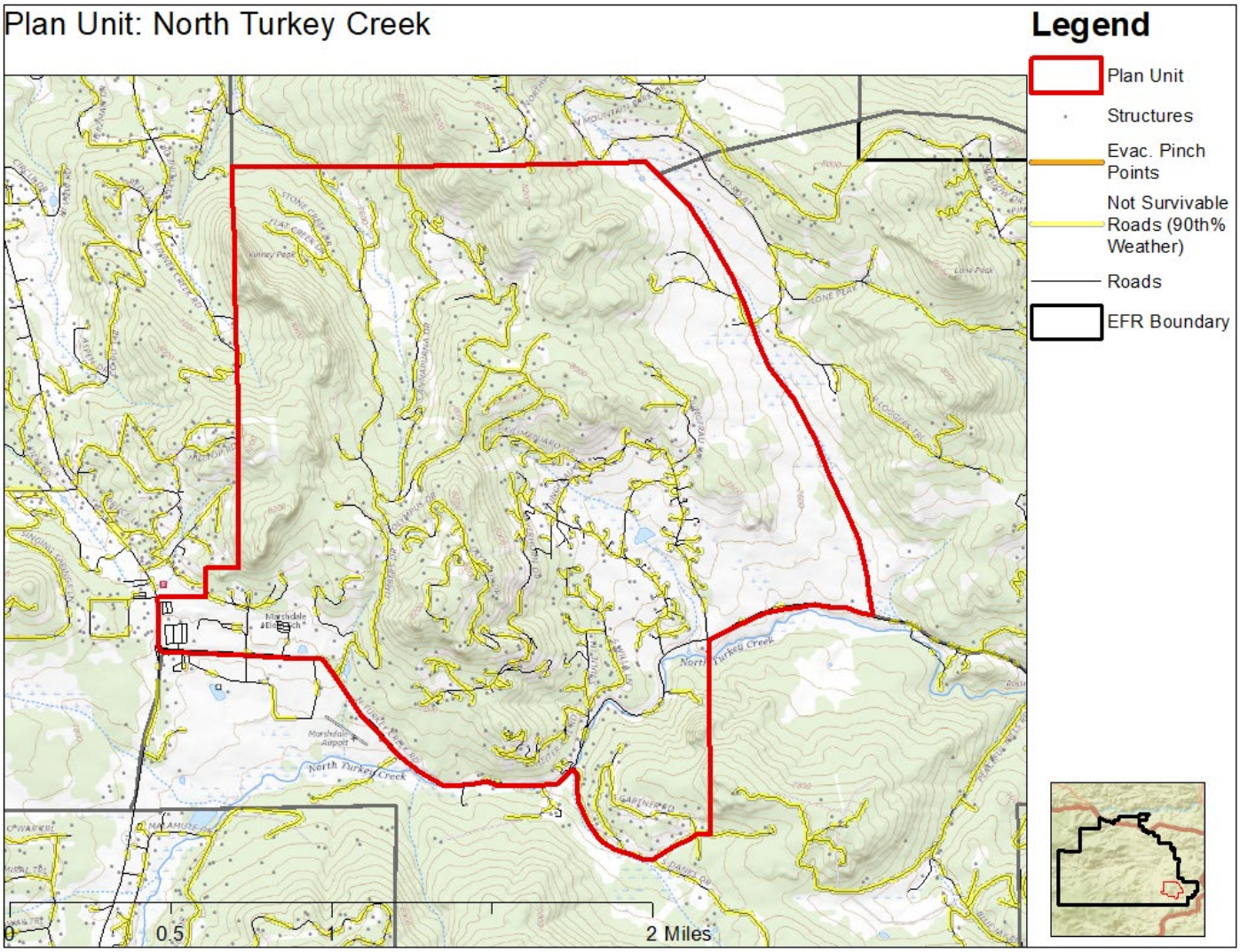
Rating: High

Evacuation Data Summary					
Number of Structures	Number of Cars	Average Time to Evacuate (min)	Median Time to Evacuate (min)	Minimum Time to Evacuate (min)	Maximum Time to Evacuate (min)
425	970	52	51	31	67

In developed areas the defensible space is adequate, many properties show evidence of past and ongoing work due to a strong CWPIP effort. In many areas Ponderosa Pine density and stature is well below hazardous levels. Some denser stands do exist on northern aspects and could be thinned more aggressively further in. Areas of high housing density are situated in meadows and woodlands that are manicured to a level which would limit fire spread.

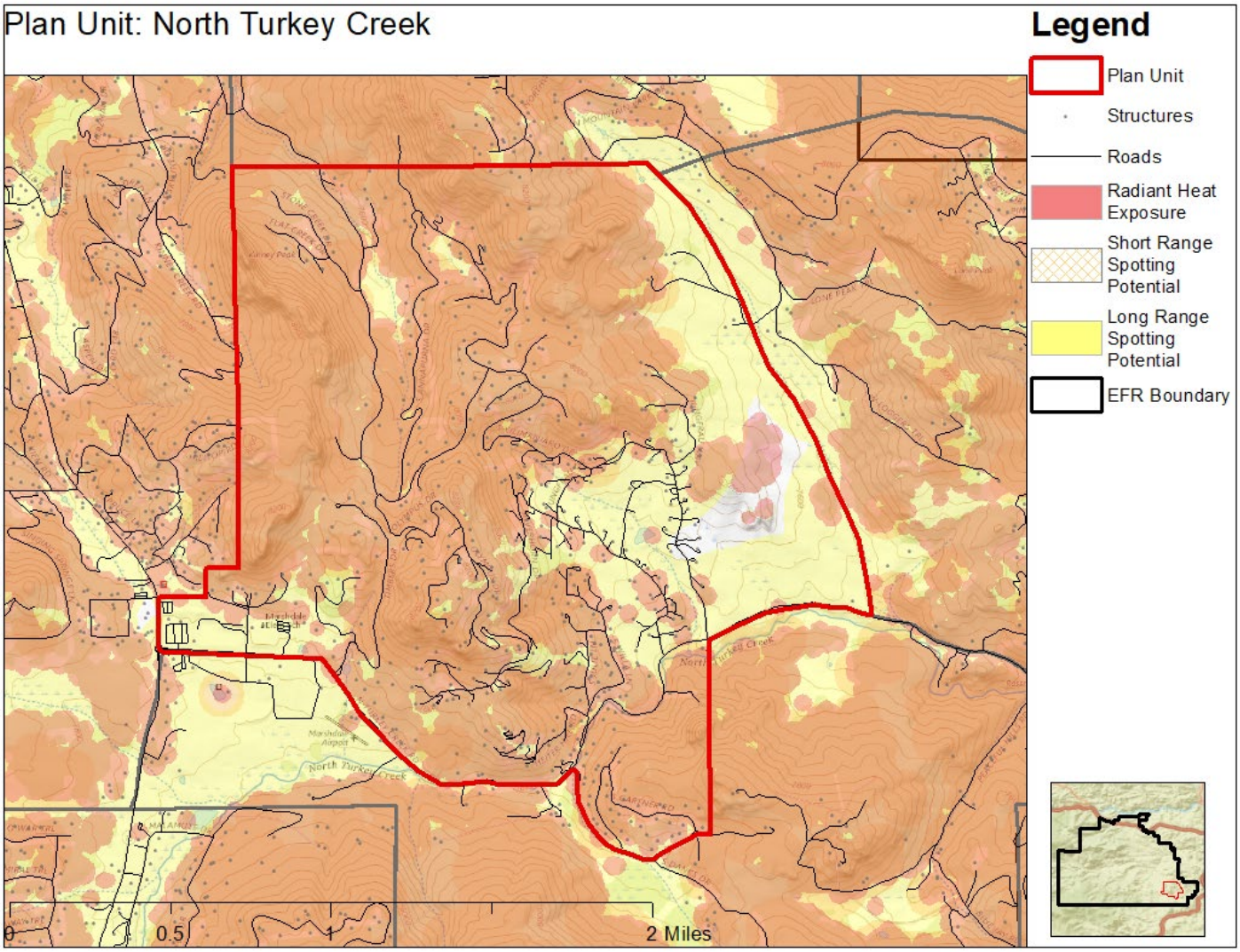
Some areas on north facing slopes and ravines need wildfire mitigation, but home hardening improvements are obvious throughout a lot of North Turkey Creek.

Road network and access are good, but fuels along major ingress/egress routes need to be mitigated further to allow safe evacuation and tactical response.

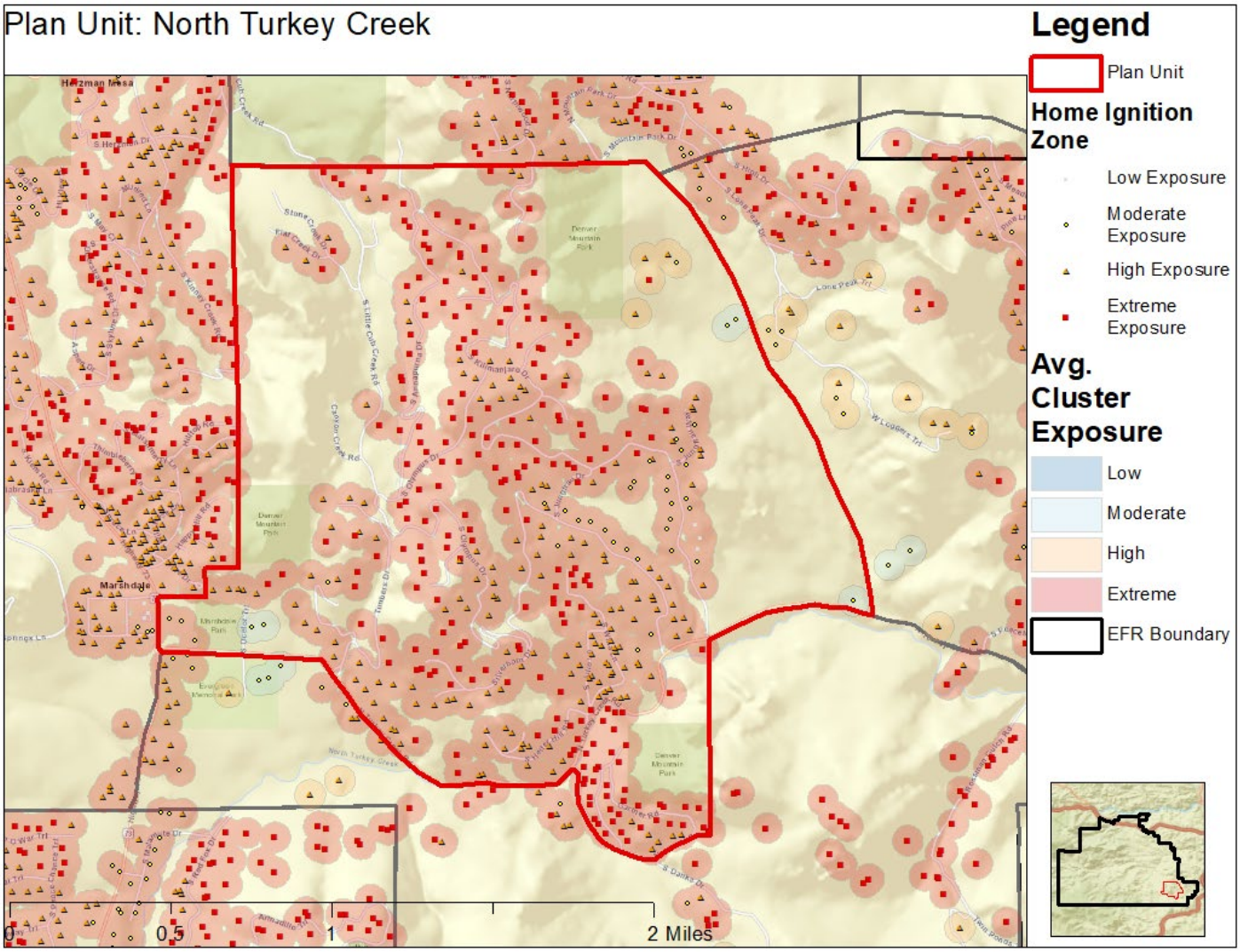


Roadways that overlap with predicted greater than 8 ft flame lengths under 90th percentile fire weather conditions are non-survivable. If the model indicates high evacuation congestion and non-survivable roadway are in the same place, there is a high risk to life safety. These sites are referred to as Evacuation Pinch Points. More information about this analysis can be found in the Roadway Survivability and Evacuation Sections of the CWPP document.

North Turkey Creek has no modeled Evacuation Pinch Points. All major evacuation routes of North Turkey Creek are predominately non-survivable during a wildfire event in 90th percentile conditions. This includes all the exits onto CO Road 64: S Kilimanjaro Drive, Silverhorn Drive, and Willa Way. This community should work from these exit points first, moving towards the north side of the district. Timbers Drive has been treated with a roadway vegetation thinning for 6 acres, with additional work funded already. North Turkey Creek should continue to work on this important corridor.



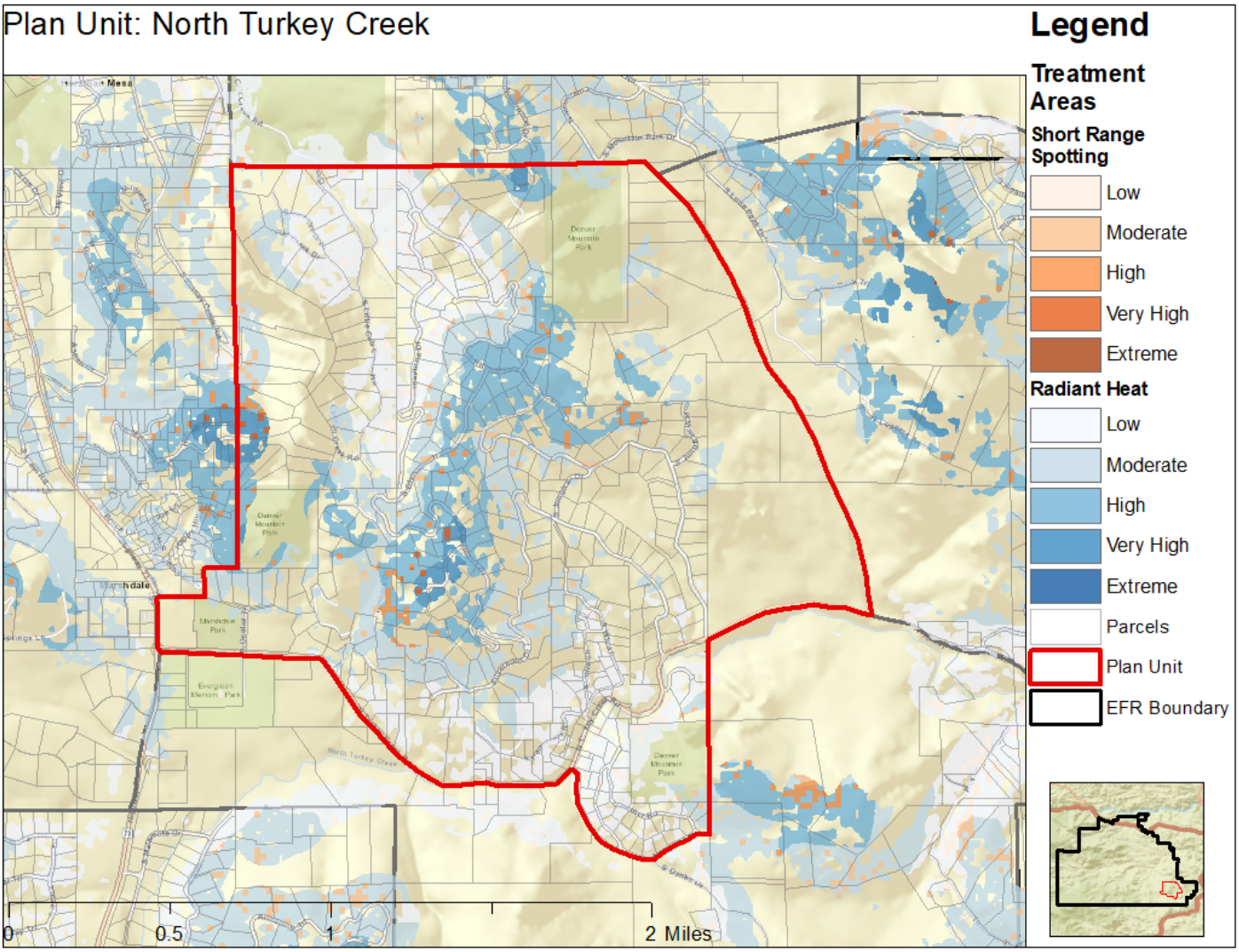
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that is difficult to combat. These ignition risks are present to extreme degrees in Evergreen Fire Protection District. Different visualizations of this data are mapped on the following pages and will give residents a clearer path forward to mitigation.



Ember exposure outputs (radiant heat, short range spotting, and long-range spotting, as seen above) were overlaid with structure points buffered as the Home Ignition Zone (100 ft). Structures in which greater than 50% of the home ignition zone was covered by radiant heat, short range spotting, or long-range spotting were defined as being at risk from that hazard. Extreme exposure means all three factors are present, as the model indicates.

These values were then aggregated at the structure cluster level which are dissolved 100 m buffers of structures. If a structure's 100m buffer intersects a different structure's buffer, they are part of the same cluster. Average exposure to all the structures in the cluster is displayed behind the structure point on the above map. This means that even though some structures may be a lower risk due to the wildland fuels adjacent to their home, they will be still at extreme risk as home to home ignition is extremely likely.

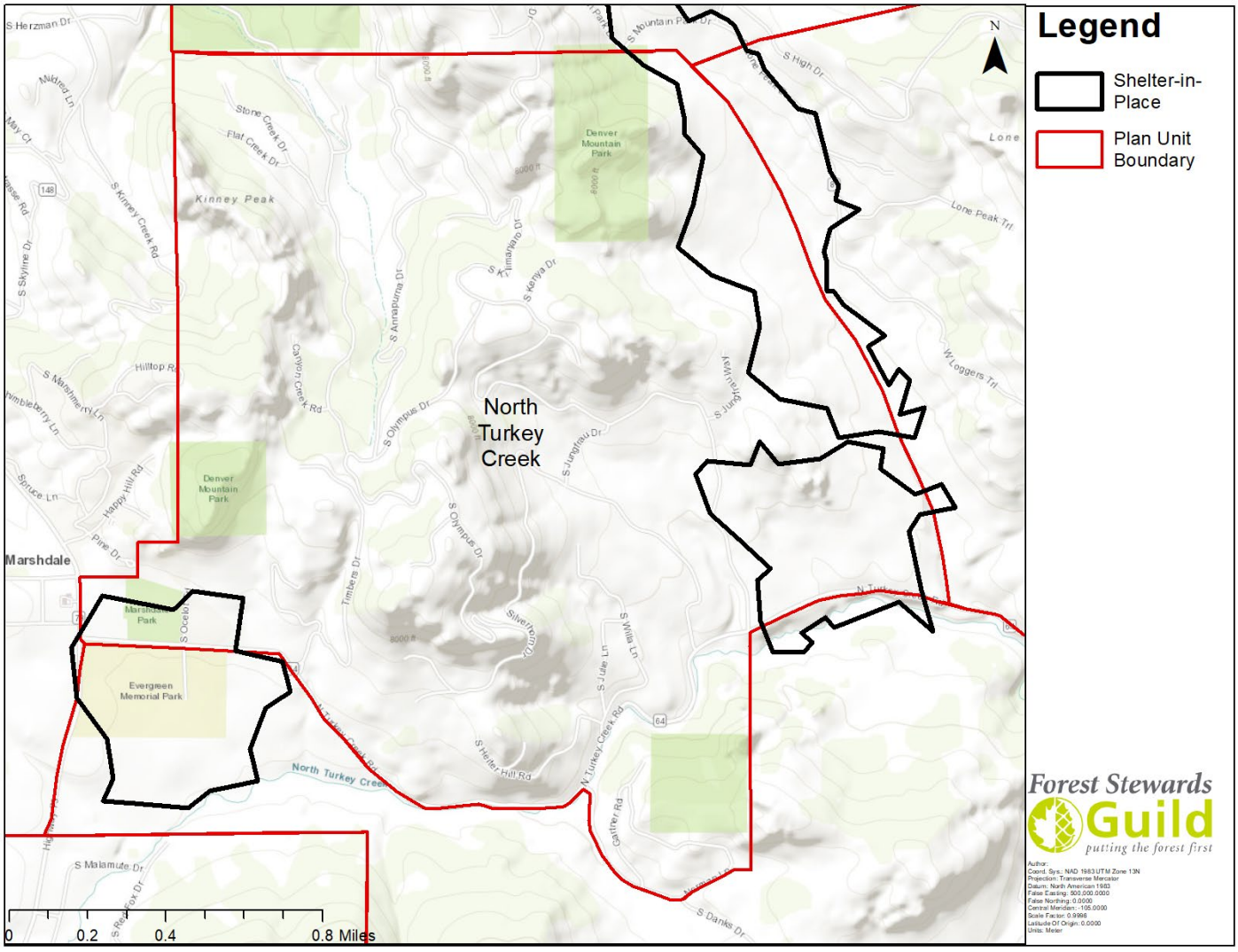
North Turkey Creek has many extreme exposure structures, particularly following the valley along Amanapurna Drive to Timbers Drive, and on the north-facing slope around S Gartner Road. Also for most of North Turkey Creek, the average cluster exposure is extreme, meaning that means homes that are at lower risk from radiant heat & short- and long-range spotting are put at higher risk by their connection to other, higher risk structures. Low and moderate exposure homes located here are at risk of home to home ignition. Starting from the highest risk structures in plan unit and working outwards will better protect this community and create options for firefighters to protect homes.



Radiant heat and short-range ember exposure are displayed and filtered by accessible treatment areas (by slope and distance to a roadway). High to Extreme risk areas displayed in those maps are highest priority to protect from radiant heat and short-range spotting, however, this does not negate the need for defensible space treatment across the landscape.

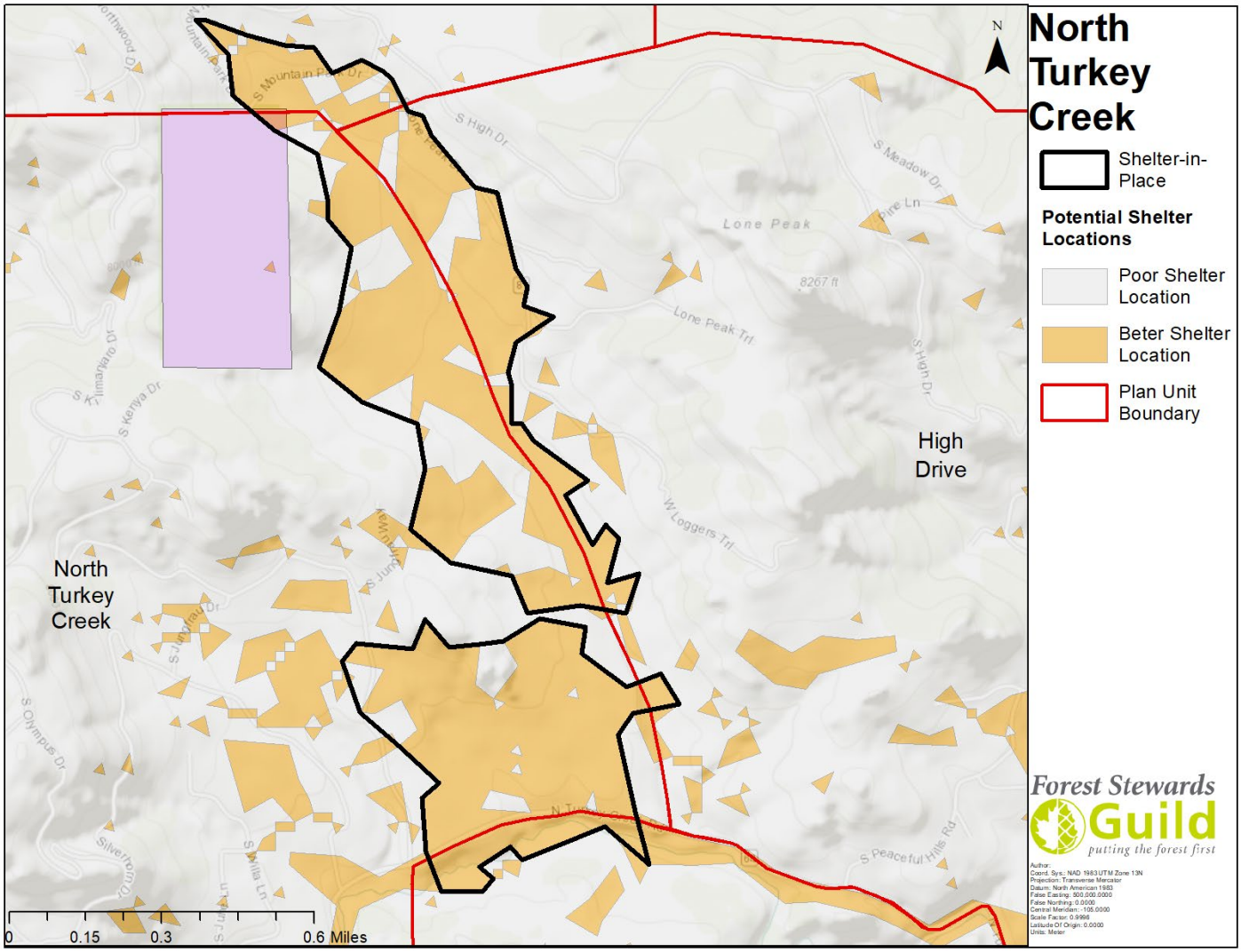
North Turkey Creek is predominately treatable which is a great way to tackle the major risks due to radiant heat and short-range spotting. The area between Timbers Drive and Olympus Drive at the center of the plan unit is at highest risk due to the untreated vegetation there. This poses a risk for evacuation, home survival, and first responders being able to enter the neighborhood at all during a wildfire event. This nucleus has great power to reduce risk in North Turkey Creek overall.

Shelter-in-place



For the purposes of this CWPP, a shelter-in-place location is a location within a neighborhood that residents could drive to and survive the flame front of a wildfire. Shelter-in-place locations are a worst-case scenario option where all other evacuation and rescue efforts have failed. A shelter-in place location is an area where a person can stay safe during a flaming front. No resident should view these locations as a great place to go during a wildfire. If these locations are needed, first responders will direct vehicles in the right direction and determine how many vehicles will be safe during that wildfire event. Evergreen Fire Protection District was modeled for slope and vegetation throughout Evergreen and 20 mph winds using the Butler equation, described in detail in the Shelter-In-Place fuel treatment prescription section.

For North Turkey Creek residents, a few nearby options are viable for shelter as a last resort. Marshdale area around Evergreen Memorial Park is well maintained with many options for access to cars. Then the drainage between S Kilimanjaro Drive and W. Loggers Trail is another option for shelter. There are some pockets of vegetation, like those near Jungfrau Way that need to be mitigated to provide additional protection if this is turned into a shelter-in-place location. This one is on entirely private land and will require landowners there to provide access and allow mitigation to improve this area.



This is a close view of the proposed Shelter-in-place location for North Turkey Creek. This area needs mitigation work to be safe and private landowner engagement to allow access. Poor shelter locations within this boundary are areas where fuel loading is still too high.