Danks Drive – Plan Unit 17

Rating: Extreme

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)
82	212	41	43	31	53

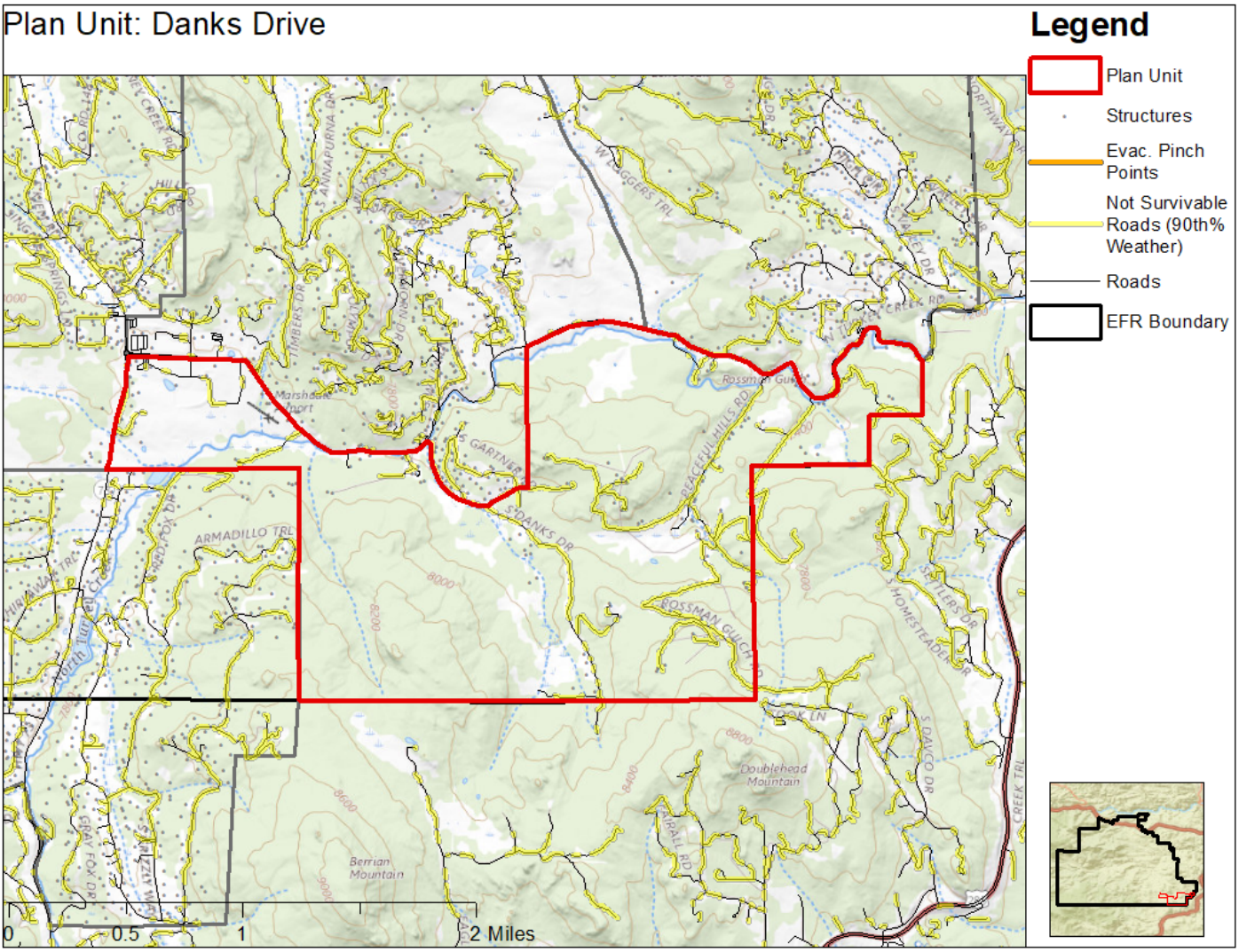
Danks Drive Plan Unit contains two distinct residential areas with different housing stock and wildfire risk. Rossman Gulch is narrow with dense mixed conifer, making this a risky place to be for suppression or evacuation. The area along Danks Drive is much different with large fields and gentle topography.

Rossman Gulch begins with a mix of homes that are older and newer in construction, all with little to no defensible space around homes. Rossman Gulch Road is narrow (>24'), has numerous blind turns, and has a small older bridge at the start of the road which will become congested during an evacuation. All homes would classify as non-defensible, rescue drive-by due to fuel loading and access. Further in, the road is gated and appears to have larger newer homes scattered in the forested hills. It is recommended that aggressive home ignition zone work is done immediately, and thinning projects take place within the Rossman Gulch zone.

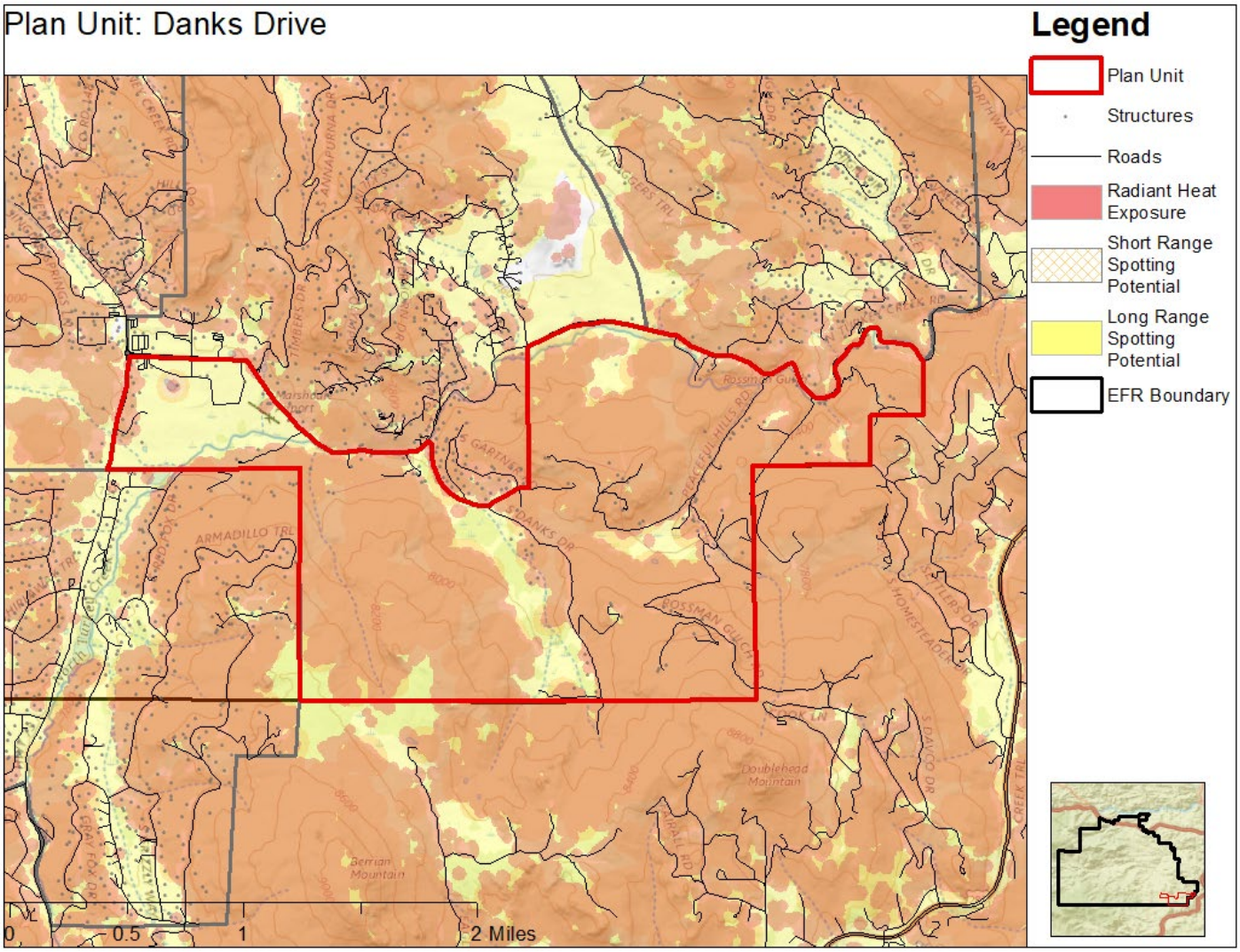
Single point of ingress/egress is a major concern for a neighborhood with such dense vegetation.

Rossman Gulch homes have poor defensible space and topography conducive to quick wildfire spread across narrow canyon walls.

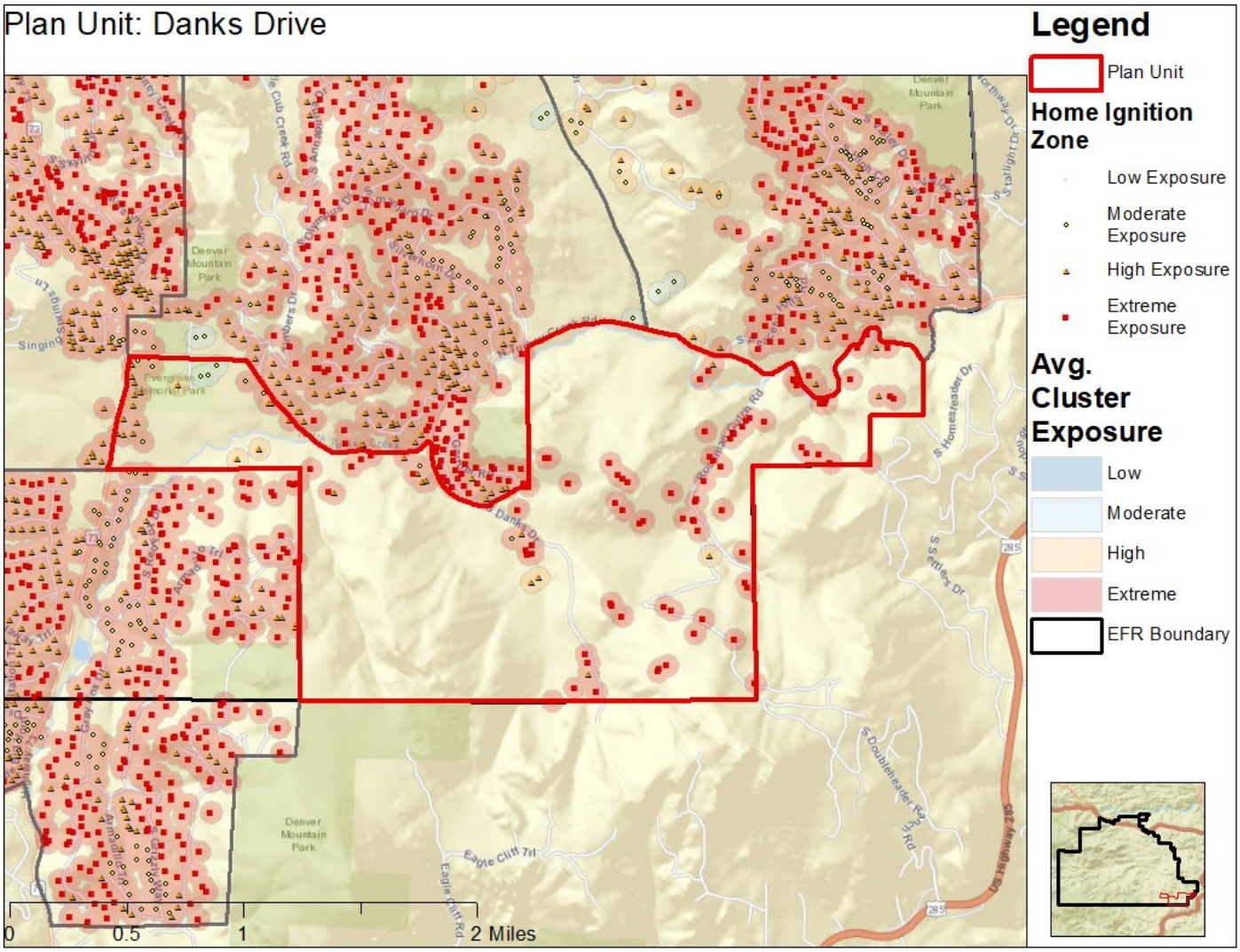
Properties along Danks Drive are large, open fields, well-manicured lawns, and homes with mostly sufficient defensible space. Ponderosa Pine forest stands dominate the adjacent fuel types, with decent crown spacing. Many homes in this area would be defensible, and either standalone or prep and leave/hold.



There are no modeled Evacuation Pinch Points in Danks Drive. Almost all roadways are non-survivable, however, and need to be mitigated for safe evacuation. The two major areas along S. Danks Drive and Rossman Gulch, mentioned above, would be high priority locations to start for the benefit it would bring to evacuation.



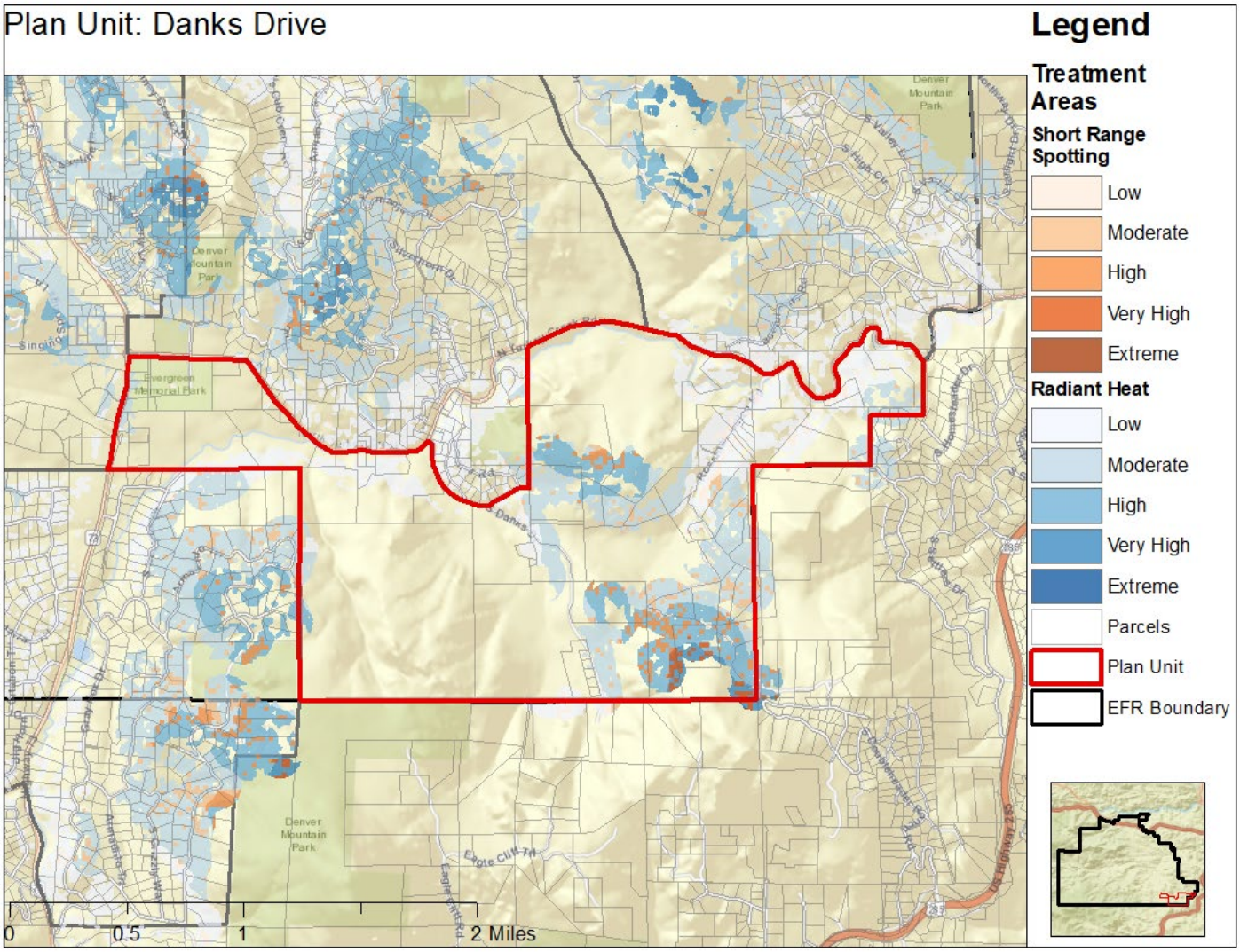
Radiant Heat exposure is designed to show neighborhoods where vegetation will create fire behavior extreme enough to ignite home materials. Short- and long- range spotting is when embers travel a distance from the fire and continue its spread away from the main fire –this can be a deluge of embers that 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.

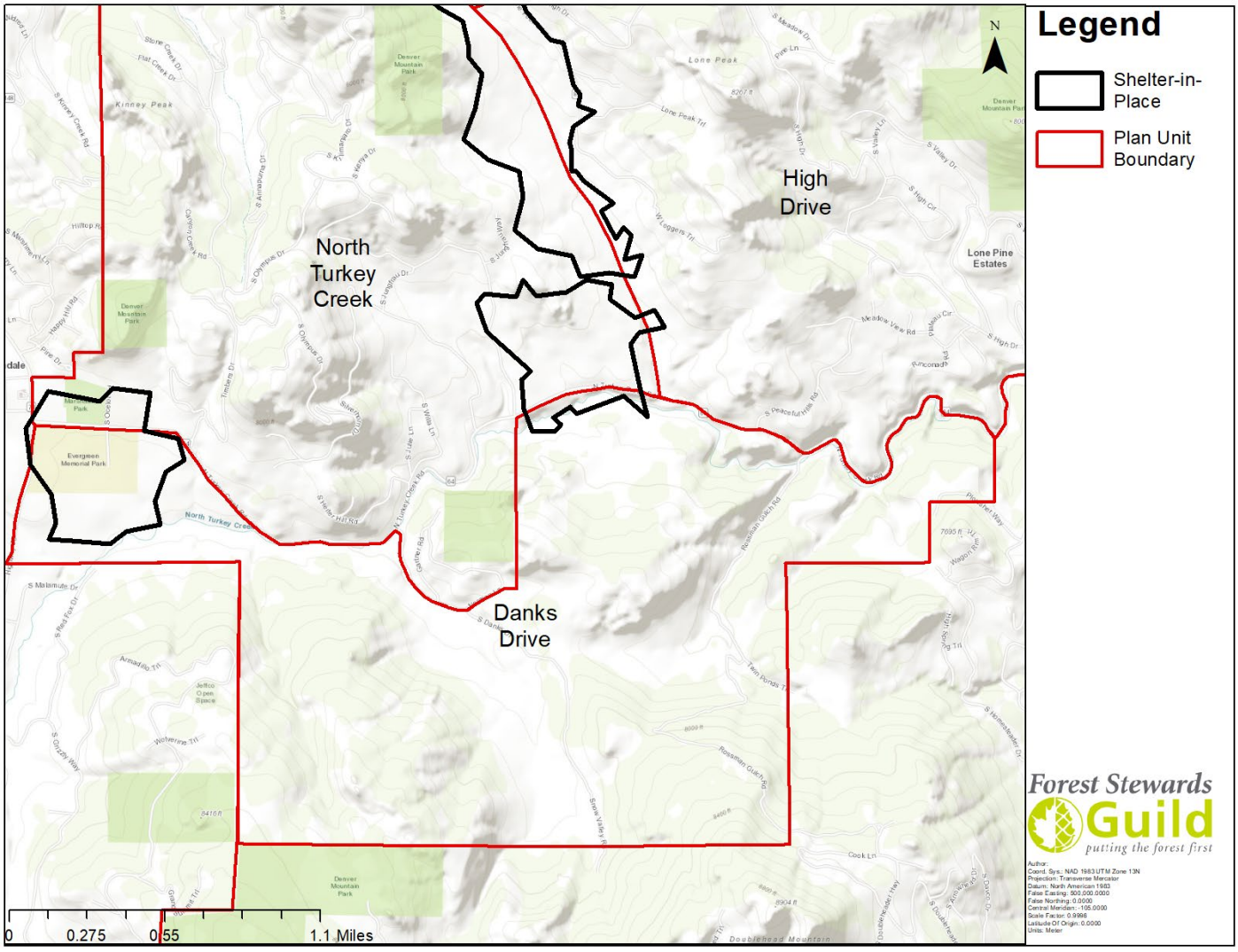
Most structures are at extreme structure exposure, noting the need for improvements in home hardening and defensible space. As the residences here are dispersed, no clear priority cluster of homes emerges for collective action.



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.

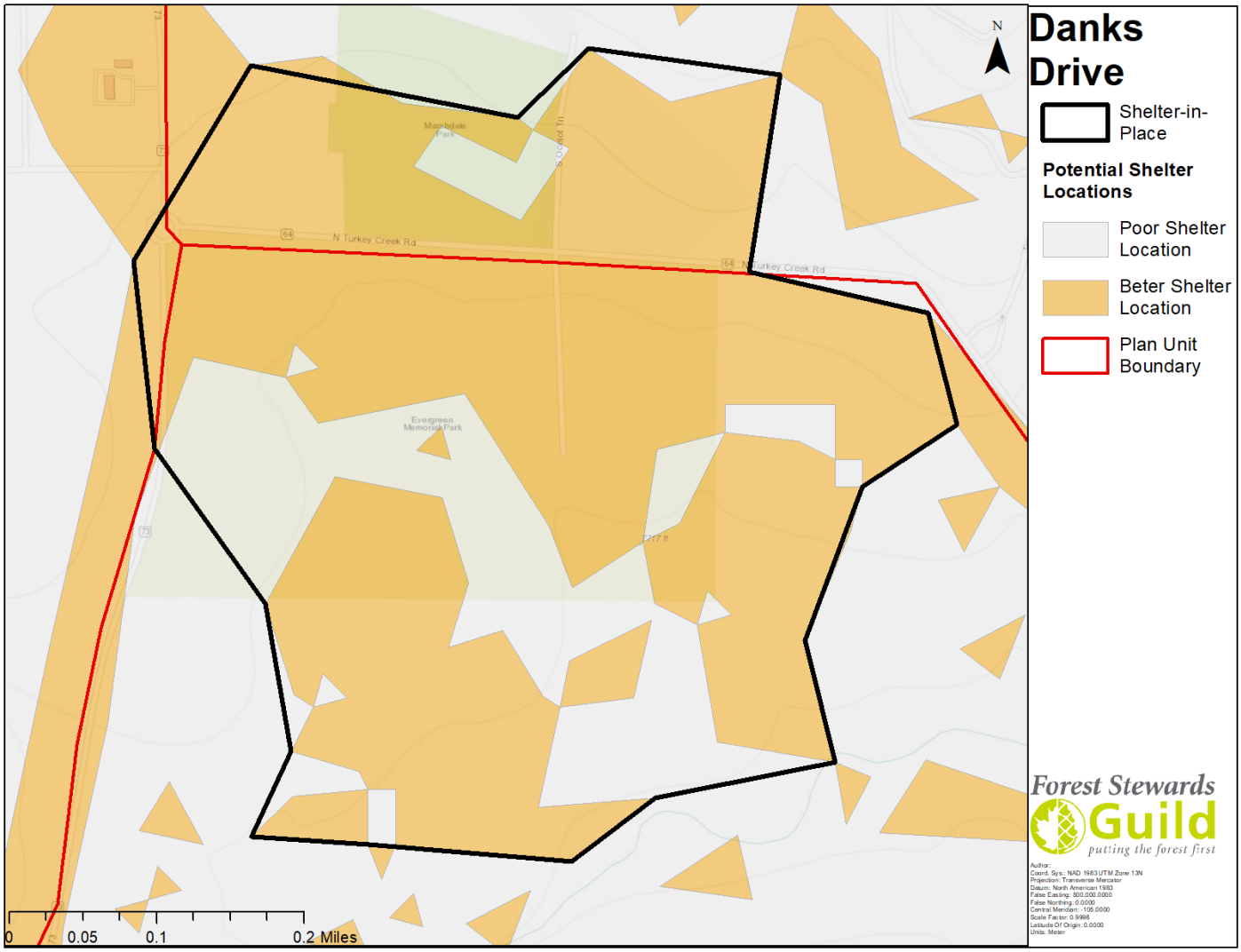
The southwest corner of this district shows up as some of the most at risk of radiant heat and short-range spotting and is accessible for treatment. This area, following Rossman Gulch, could be treated as a tactical fuel treatment. It will be up to the private landowners in this district to mitigate this section with Evergreen Fire Rescue.

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.

The Marshdale area is well maintained with great access. Adjacent wildland fuels need to be mitigated before this area is will be safe to send residents, as well as patched of fuel internal to the unit. This potential shelter-in-place location can be utilized by some Danks Drive residents, depending on their direction of travel. Otherwise, look to the locations in North Turkey Creek.



This is a close view of the proposed shelter-in-place location for Danks Drive. Poor shelter locations within this boundary are areas where fuel loading is still too high. These areas should be mitigated to improve the overall shelter location.