09/20/21, 9/28/21 rev., 9/29/21 rev, 9/29/21 3:55 pm, 9/29/21 4:20-final based on comments from B.Boody

## The Aesthetics of Forest Fuels Reduction and Fuels management at Iron Horse properties

The purpose of this report is to give direction to Forest fuels management contractors to create a desirable and natural appearing forest condtion while striving to reduce the potetial of wildfire spreading in the Iron Horse properties.

**Figure 1 Existing Conditons-general, typical to parts of the Iron Horse subdivision forest**

**Figure 2 Existing Condtions-typical ladder fuels, photo by Pat Thomas**

Photos # 1 and #2 show Typical existing forest conditons similar to parts of Iron Horse forest cover. Photo #1 shows downed woody fuels with rather dense growth, while #2 shows high density new growth understory and ladder fuels which could possibly cause fire spread to over story trees.

Figure 3 Desired Fuels Management stressing random spacing- from a USDA Forest Service report: Social Science to improve Fuels Management-Pamela Jakes, Susan Barro

**Aesthetics of fuels management in a second growth forest similar to that of Iron Horse**.

The Fuels reduction direction shown in the Iron Horse Design guidelines should be refined to fit individual lots and the forest conditions of each lot.

This photo #3 shows **Desired Future Condition** showing reduction of downed woody , ladder fuels and thinning to mitigate possible fire spread. NOTE: some dispersed lower branching remain and the variable tree spacing (not a set measured distance between trees). This photo shows variable spacing and a variety of branching heights. Although this photo does not show retention of downed and woody, the intent of the **Desired Future condition** is to leave approximately 20 to 25% of the downed, woody and scattered understory brush.

If full canopy trees such as Spruce, Grand Fir and Alpine fir are present-the recommended practice is to remove most of those trees due to high ladder fuels spread. Typically, much of understory Grand Fir trees have been stressed due to abnormally hot weather patterns and are generally not healthy trees. See photo #2

Summary of Recommendations:

**1. Thinning**: Strive for a natural appearance by **Random and Variable** spaced thinning-not a set 10 foot spacing between crowns. Maintaining tree species and age diversity will also help achieve the desired future condition. This technique will also help maintain or retain privacy on smaller properties.

**2. Limb Pruning**: Some of the taller over story trees can handle the effects of limb pruning without looking artificial. Examples are Ponderosa Pine, Lodgepole pine and many deciduous species (Birch and Aspen). While some of the trees that look like Christmas trees (Spruce, Grand Fir, Alpine fir and shorter Doug fir) which if pruned in this manner (15' height limbing)

will result in a very UN-Natural appearance. In this case, oftentimes the better procedure would be to remove these species rather than create a UN-natural appearing trees.

**Suggestion for Limb Pruning**: Write the fuels reduction prescription to minimize the artificial look especially as seen from the main subdivision roads and views from the house deck and or picture windows. The individual lot guidelines should be based on the specific native understory and over story trees on each lot.

**3. Direction on removing dead standing trees (snags)**

Snags (dead standing trees) serve as habitat for cavity nesters birds and animals. Removal of all snags will remove homes and safe zones for birds and other cavity nesters such as (woodpecker-black backed and pileated, Hatches, Owls, wrens, squirrels, etc.)

**Suggestion**: Consider retention of snags which could be considered as non-hazard trees and not an issue for fuels reduction.

**4. Down Woody on the forest floor and understory brush**

Leave approximately 20 to 25% of the downed woody and understory brush.

5. **Retain the forest shrub/sub-shrub/groundcover/grass and forb understory as a component of a healthy forest.** In our typically drier conditions, Juniper is becoming a more dominant understory component in the Iron Horse forest. In keeping with the desired future condition and meeting the goals of fuels reduction, Juniper species should be removed. Removal of Juniper can be best accomplished by grapple like forestry equipment.

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Final-approved by Iron Horse DRC 9/29/2021