

6.0 CARSON COLONY – VOLTAIRE CANYON

FUEL HAZARD: MODERATE COMMUNITY RISK: HIGH

The Carson Colony-Voltaire Canyon neighborhood is located to the west of Curry Street, bounded on the north by the Humboldt Toiyabe Carson Ranger District Office and extending south to the Highway 50/Highway 395 Junction.

6.1 INTERFACE CONDITIONS AND FUEL HAZARD

The wildland-urban interface around the Carson Colony-Voltaire Canyon neighborhood has an intermix interface condition. Light fuel densities are present along the Carson Indian Colony wildland-urban interface to the west of the neighborhood. The 2003 Voltaire 2 Fire and the 2004 Waterfall Fire both greatly reduced density and fuel loads. Post-fire rehabilitation efforts appear to have been successful in this area as evidenced by the reestablishment of perennial grasses, dominated by pubescent wheatgrass and Siberian wheatgrass. Occasional Mormon tea and rabbitbrush shrubs, one to two feet in height are widely scattered throughout. Fuel loading is estimated at 0.5 to 0.75 tons per acre and is classified as a **low fuel hazard**.

Fuel density increases on undeveloped lots in the interior of the neighborhood. The moderate fuel density areas are dominated by big sagebrush and rabbitbrush ranging from three to five feet in height with cheatgrass as dominant fine fuel layer. Fuel loading was estimated at 2.0 to 4.0 tons per acre and is classified as a **high fuel hazard**.

The portion of the neighborhood to the south of Voltaire Canyon has a moderate vegetation density dominated by rabbitbrush and sagebrush four to five feet tall with interspersed bitterbrush. The fuel load was estimated at 2.0 to 4.0 tons per acre and a **moderate fuel hazard**.

The terrain along the Carson Colony-Voltaire Canyon interface varies between 20 and 40 percent slopes, with predominantly east-facing aspects. The predominant wind direction is from the south-southwest, with strong afternoon downslope winds during the summer months and on the approach of cold fronts. Downslope afternoon winds along the Eastern Sierra Front commonly spread wildfire into the wildland-urban interface and are the most common factor contributing to structure loss in a WUI for this region. There is a history of lightning strikes and repeated fires south, west, and north of the Carson Colony-Voltaire Canyon assessment area.

Fuel hazard conditions in the wildland-urban interface around the Carson Colony-Voltaire Canyon neighborhood and photographs of representative fuel types are shown in Figure 6.1 and Figure 6.2, respectively, at the end of this chapter.

Table 6-1 summarizes the history of fuels reduction treatments in the vicinity of the Carson Indian Colony-Voltaire Canyon neighborhood.

Table 6-1. Fuels treatment history for the Carson Colony-Voltaire Canyon neighborhood.

Treatment Type	Treatment Area (approximate acres)	Treatment Year	Ownership
Fuelbreak 8,050 x 150'	31	2007	Washoe Tribe USFS Private
Fuelbreak 1,930 x 100'			
Grazing	1,330	2006-2008	State of Nevada USFS
Hand Treatment 44 lots	44	2004	Private Carson City

6.2 NEIGHBORHOOD RISK/HAZARD RATING

Thirty-one residences were evaluated within the Carson Colony-Voltaire Canyon neighborhood that resulted in classifying the community in the **High Hazard** category (61 points). A summary of the values that affect the hazard rating is included in Table 6-2 at the end of this chapter. The primary wildfire risk conditions in the Carson Colony-Voltaire neighborhood were accessibility and construction materials.

6.2.1 Community Design

Throughout most of the Carson Colony-Voltaire Canyon neighborhood, there was no clear line of demarcation between structures and wildland fuels. All of the lots assessed were on parcels of one acre or less and typically had more than three structures per acre. As such, most structures are spaced close together.

- **Interface Condition:** intermix interface condition.
- **Access:** Curry Street is the major transportation route to and from the Carson Colony, though Boyle Street can be used to exit the neighborhood to the North. Curry Street is paved and is at least 24 feet in width. Only one dead-end road in the neighborhood limits the ability for fire suppression equipment to maneuver or turn around. Access to the Voltaire Canyon neighborhood is also via Curry Street. Streets in this neighborhood are steeper than five percent, and the majority of the roads in the interface dead-end at private drives. Access to the homes at the top of Voltaire Canyon is a two mile graded dirt road.
- **Signage:** Street signs were visible on 91 percent of the streets; however, many (35 percent) of the residential addresses were not visible on the homes surveyed. Clear and visible residential addresses are important to aid firefighting personnel in locating homes during low visibility conditions that may occur during wildland fire.
- **Utilities.** All utilities were noted to be above ground, and power lines were properly maintained to minimize the potential for sparking power lines that could start fires in nearby vegetation during windstorms.

6.2.2 Construction Materials

The majority of homes surveyed (84 percent) were constructed using fire resistant composite roofing materials; however, most of the homes (74 percent) in the survey area were built with combustible siding. Nearly half (45 percent) of the homes assessed had unenclosed or unscreened balconies, decks, porches, eaves, or attic vents that create drafty places where sparks and embers can be trapped, smolder, ignite, and rapidly spread fire to the house.

6.2.3 Defensible Space

Of the thirty-one homes evaluated, many (29 percent) did not have landscaping that would meet the minimum defensible space requirement to help protect the home and minimize the potential for damage or loss during a wildfire.

6.2.4 Suppression Capabilities

Wildfire Protection Resources

No formal agreement exists with the Washoe Tribe for structure protection on the Carson Colony tribal land. The Carson City Fire Department has been voluntarily responding to provide these resources. The Bureau of Land Management has a formal agreement with the Bureau of Indian Affairs (BIA) to provide wildfire suppression resources to the 480 acres of Washoe Tribe land in the municipality. The US Forest Service is also responsible for wildfire protection for national forest lands adjacent to the Carson Colony and Voltaire neighborhoods. Ownership and administration of portions of this land will transfer from the USFS to Carson City and to the Washoe Tribe in 2009 or 2010. Fire protection for those lands will become the responsibility of the CCFD and the BIA/BLM.

Water Sources and Infrastructure

Water availability for fire suppression in the Carson Colony-Voltaire Canyon includes 500 gpm hydrants within 500 feet of structures.

6.3 RECOMMENDATIONS

Recommended and planned treatments for Carson Colony-Voltaire Canyon neighborhood are shown on Figure 6-1 and described in Table 6-3.

Table 6-3. Fuels treatments recommended or planned in the vicinity of the Carson Colony-Voltaire Canyon neighborhood.

Treatment Type	Treatment Area (approximate acres)	Ownership
Shrub Thinning and Seeding	13	USFS Private
Hand Treatment 11 parcels and along Voltaire Canyon Road	109	Washoe Tribe USFS Private

Additional recommendations based upon the 2008 assessment are described below.

- Conduct annual defensible space evaluations with residents of the Carson Indian Colony on 20 to 30 parcels on Tribal Land.
- Encourage residents in the Voltaire vicinity to maintain existing defensible space.
- Encourage homeowners to follow the UNR Cooperative Extension's recommendations for fire safe landscaping.
- Distribute copies of *Living With Fire: A Guide for the Homeowner, Eastern Sierra Front Edition* (U of NV Cooperative Extension).
- Continue the defensible space dumpster program to provide homeowners with an easily accessible biomass removal option.
- Expand shrub reduction areas in the vicinity of Voltaire Street at Voltaire Canyon Road and other undeveloped parcels in this neighborhood. (Approximately 16 acres).
- Leave remaining shrubs in a clustered mosaic pattern, with a preference for retaining healthy specimen plants of bitterbrush, Mormon tea, and desert peach.
- If cheatgrass control is necessary, treat the area with a pre-emergent herbicide according to the recommendations from the University of Nevada Cooperative Extension or as approved by the jurisdiction involved.
- If needed, reseed treated areas in the fall of the year (October-November) with a fire-resistant seed mixture. A sample seed mix and specifications for the Carson City interface area is included in Appendix E. Develop site-specific seed mixes in collaboration with the jurisdiction involved.
- If resprouting rabbitbrush becomes excessive use an appropriate herbicide application as recommended by the University of Nevada Cooperative Extension or as approved by the jurisdiction involved.
- Establish a formal agreement between Carson City Fire Department and the Washoe Tribe for fire protection on tribal land.

Table 6.2 Results of the wildfire risk/hazard rating in the Carson Colony - Voltaire neighborhood.

<p>A. Urban Interface Condition 1</p> <p>B. Community Design</p> <p>1. Ingress / Egress <u>1</u> /5</p> <p>2. Width of Road <u>1</u> /5</p> <p>3. Accessibility <u>3</u> /3</p> <p>4. Secondary Road <u>1</u> /5</p> <p>5. Street Signs <u>1</u> /5</p> <p>6. Address Signs <u>5</u> /5</p> <p>7. Utilities <u>1</u> /5</p> <p>C. Construction Materials</p> <p>1. Roofs <u>5</u> /10</p> <p>2. Siding <u>5</u> /5</p> <p>3. Unenclosed Structures <u>3</u> /5</p> <p>D. Defensible Space</p> <p>1. Lot Size <u>5</u> /5</p> <p>2. Defensible Space <u>7</u> /15</p> <p>F. Fire Behavior</p> <p>1. Fuels <u>1</u> /5</p> <p>2. Fire Behavior <u>7</u> /10</p> <p>3. Slope <u>10</u> /10</p> <p>4. Aspect <u>3</u> /10</p> <p>E. Suppression Capabilities</p> <p>1. Water Source <u>1</u> /10</p> <p>2. Department <u>1</u> /10</p>	<p>TALLIES</p> <p>31 Total Houses 11 Residential Streets</p> <p>B5. Street Signs</p> <p><u>1</u> not visible <u>10</u> visible <u>91%</u> visible</p> <p>B6. Address Signs</p> <p><u>11</u> not visible <u>20</u> visible <u>65%</u> visible</p> <p>C1. Roofs</p> <p><u>5</u> combust <u>26</u> not combust <u>84%</u> not combust</p> <p>C2. Siding</p> <p><u>23</u> combust <u>8</u> not combust <u>26%</u> not combust</p> <p>C3. Unenclosed Structures on Lot</p> <p><u>14</u> not enclosed <u>17</u> enclosed <u>45%</u> not enclosed</p> <p>D1. Lot Sizes</p> <p><u>31</u> <1ac <u>0</u> >1ac <10ac <u>0</u> >10ac</p> <p>D2. Defensible Space</p> <p><u>12</u> not adequat <u>19</u> adequate <u>61%</u> adequate</p>
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Community Hazard Score: 61 /128

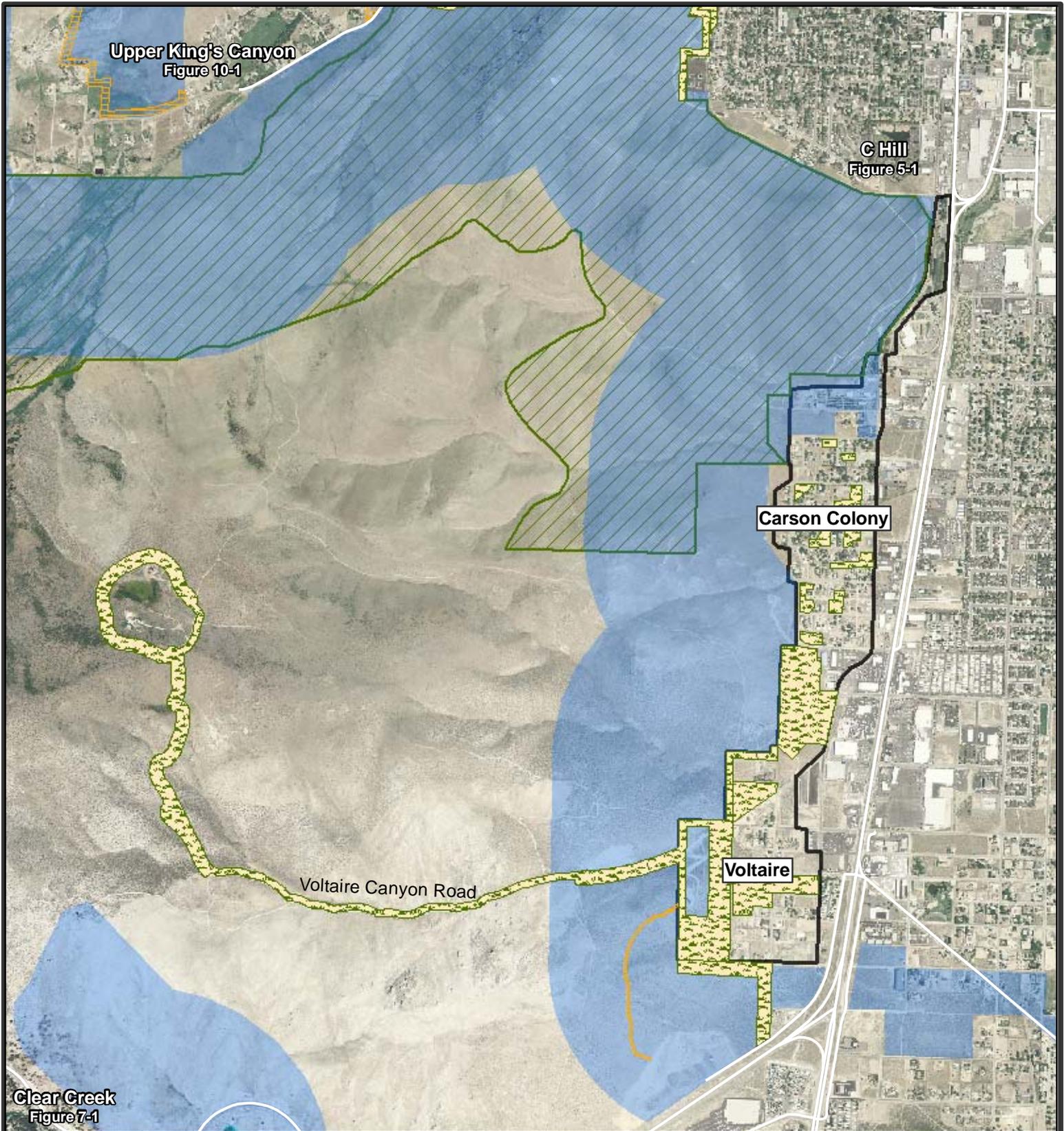


Figure 6-1. Carson Colony-Voltaire Canyon fuel hazard conditions and recommendations for fuel hazard reduction.

Recommended Treatments

-  Thin Shrubs
-  Thin Shrubs & Seed
-  Grazing Treatment

Fuel Hazard Class

-  Moderate
-  Neighborhood Boundary

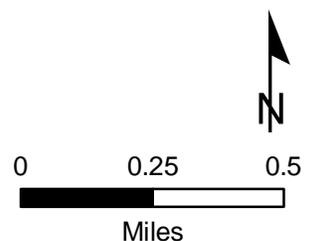


Figure 6-2. Representative fuel types in the wildland-urban interface around the Carson Colony – Voltaire Canyon neighborhood.



Carson Colony 1. UTM 4335505N 260249E. View to North.



Voltaire Canyon 1. UTM 4334816N 260088E. View to West.