Natural Resources Conservation Service

CONSERVATION PRACTICE STANDARD

FUEL BREAK

CODE 383

(ac)

DEFINITION

A strip or appropriately sized block of land on which the vegetation, debris, and litter have been reduced and/or modified to control or diminish the spread of fire.

PURPOSE

Use this practice to accomplish one or more of the following purposes:

- Significantly reduce the spread of wildfire resulting from excessive biomass accumulations.
- Facilitate the management of plant productivity and health with prescribed fire.
- Facilitate the improvement of fish and wildlife habitat and/or livestock forage quality or quantity by facilitating prescribed fire.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies to all lands where protection from wildfire or facilitation of prescribed fire is needed.

CRITERIA

General Criteria Applicable to All Purposes

Design fuel break strips or blocks to be sufficient width and length to contain the fire based on its expected behavior. Locate fuel breaks to minimize risk of unwanted damage to resources and infrastructure from fire and heat. Use natural features or anchor points such as streams, lakes, ponds, rock cliffs, constructed firebreaks, roads, field borders, skid trails, landings, drainage canals, railroads, utility rights-of-way, cultivated land, or other areas to augment fuel breaks for greater efficacy.

Remove ladder fuels (live or dead vegetation and tree branches that can carry a fire burning in low-growing vegetation to taller vegetation) to maintain adequate vertical separation between surface fuels and the tree canopy. Thin the overstory stand sufficiently to reduce the tree canopy and the potential of a crown fire.

Treat or remove slash to minimize fuel loadings and reduce the risk of wildfires, escape of prescribed fires, and incidence of harmful insects and disease. Manage the height, density, arrangement, and/or composition of grasses and forbs to minimize fine fuels in the fuel break.

CONSIDERATIONS

Use decision support tools, such as unmanned aerial vehicles (UAVs), geographic information systems (GIS), and light detection and ranging (Lidar) mapping, to guide the planning and layout of fuel breaks. Locate fuel breaks near ridge crests and valley bottoms, where fuels and topography provide the most effective reduction in fire intensity and/or infrastructure or egress protection. Avoid locating fuel breaks in midslope positions. Locate fuel breaks on the contour, where practicable, to minimize the risk of soil

erosion. Install fuel breaks in a manner that supports vehicle and equipment access, including fire suppression equipment. Determine the expected wind directions and install fuel breaks to the windward (direction from which the wind is blowing) side of the area to be protected.

Reduce air quality impacts by limiting emissions of particulate matter, greenhouse gases, and ozone precursors.

Establish and maintain fire-resistant vegetation, when feasible, to further inhibit fire and prevent soil erosion. Re-establish vegetation using a diverse native plant species mix that meets native wildlife and pollinator needs, when practical. Graze livestock to manage fuels in areas not conducive to mechanical treatments. Locate fencing, water, and minerals in areas to facilitate fuels management with livestock grazing.

Treat and/or arrange slash produced in the establishment of a fuel break to reduce additional threats from wildfire or the potential escape of prescribed fires.

Locate fuel breaks to protect cultural resources, threatened and endangered species, natural areas, riparian areas and wetlands.

PLANS AND SPECIFICATIONS

Prepare specifications for applying this practice for each site including:

- Length, width, and location.
- Residual forest overstory/stocking.
- Extent and timing of slash treatment.
- Treatment of fine fuels.
- Removal of ladder fuels.
- Establishment of fire-resistant vegetation.
- Erosion calculations and erosion control measures.

Record using approved:

- Specification sheets.
- Burn plan, if necessary.
- Plan map.
- Implementation requirements.
- Narrative statems in the conservation plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Mow or graze vegetative fuel breaks to avoid a buildup of excess litter.

Inspect all fuel breaks for woody materials, such as dead limbs or blown down trees, and remove or treat as necessary, especially before conducting a prescribed burn.

Monitor or manage surface and canopy fuels to maintain desired fire behavior.

REFERENCES

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