

NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

FIREBREAK (FEET)

CODE 394

DEFINITION

A strip of bare land or vegetation that retards fire.

PURPOSES

- To prevent the spread of wildfire.
- To control prescribed burns.

CONDITIONS WHERE PRACTICE APPLIES

All land uses where protection from wildfire is needed or prescribed burning is applied.

CRITERIA

General Criteria Applicable to All Purposes

Locate firebreaks along major travel corridors and adjacent to farm facilities, communities, and other structures needing protection.

Firebreaks may be temporary or permanent and shall consist of fire-resistant vegetation, non-flammable materials, bare ground, or a combination of these.

Firebreaks will be of sufficient width and length to contain the expected fire.

Plant species selected for vegetated firebreaks will be noninvasive, comprised of attributes making them capable of retarding fire, and easy to maintain.

Where a bare ground firebreak is used in conjunction with a prescribed burn and there is no need to maintain the firebreak in future years, all disturbed areas must be re-seeded using either Field

Office Technical Guide (FOTG), Section IV–Practice Standards 342–Critical Area Planting, 550–Range Planning, or 512–Pasture and Hayland Planting.

Firebreaks shall be located to minimize risk to the resources being protected, including locating bare soil firebreaks on the contour where practicable to minimize risk of soil erosion.

Where bare soil firebreaks are used, adequate erosion control structures or practices must be designed and maintained.

Erosion control measures shall prevent sediment from leaving the site.

Avoid rill and gully erosion. Roll the grades of the firebreak, out slope the firebreak, and install water bars where necessary to keep slope length as short as possible.

Cropland and other areas of permanent vegetation contain several years of accumulated growth. These fine fuels readily burn once ignited. A level of protection can be provided to land, farm facilities, or other structures by the use of a firebreak.

Fires are a threat to property such as homes, buildings, other structures, and lands (crop, forest). There are vegetative management practices aimed at reducing the fire hazard. The type, amount, and maintenance of the vegetation surrounding the property are critical elements in reducing fire hazards.

Comply with applicable federal, state, and local laws and regulations, during the installation, operation and maintenance of this practice.

Additional Criteria for Open Areas– (Rangelands, Pasturelands, Croplands)

Specifically for firebreaks in idle cropland the Farm Services Agency (FSA) county committee will be contacted for appropriate policies and procedures

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Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard contact the Natural Resources Conservation Service.

NOTE: This type of font (AaBbCcDdEe 123..) indicates NRCS National Standards.
This type of font (AaBbCcDdEe 123..) indicates Montana Supplement.

394-2

for including firebreaks in existing contracts that they manage.

Firebreaks in croplands will be:

1. single bare ground strip (DIAGRAM 1)
2. one or two bare ground strips combined with a mowed area (DIAGRAM 2)

If two bare ground strips are used, the mowed area will separate them (DIAGRAM 2). If one bare ground strip is used, the mowed area will be located between the bare ground strip and the windward side of the cropland (DIAGRAM 3).

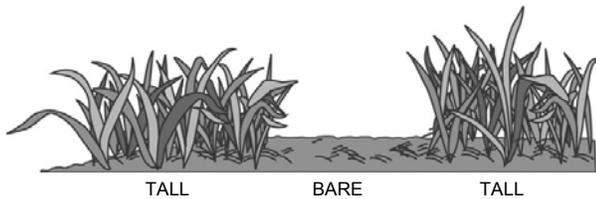


DIAGRAM 1: A single bare ground strip.

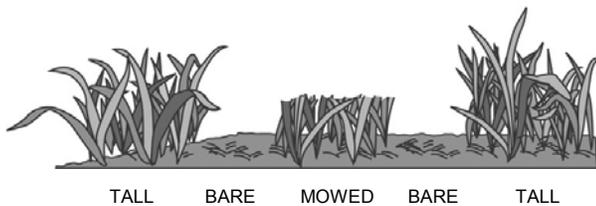


DIAGRAM 2: One or two bare ground strips combined with a mowed area.

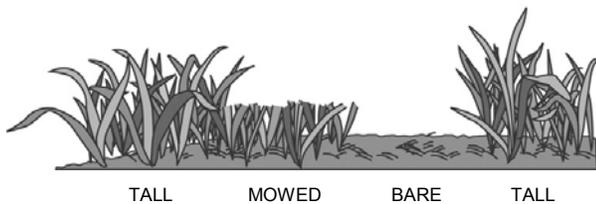


DIAGRAM 3: One bare ground strip.

Additional Criteria for Firebreaks/Hazardous Fuel Reduction Next to Structures

There are two levels of protection for structures:

- 1) Defensible Space, and,
- 2) Survivable Space.

Defensible space refers to the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and provide an opportunity for firefighters to effectively defend the house.

Survivable space is the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat if there is no time to defend against fire.

Vegetation management within the defensible space area will consist of removing, reducing, and replacing vegetation. Removal requires the elimination of entire plants, particularly trees and shrubs, from the site. Examples of removal would be cutting down trees or shrubs. Reduction requires the removal of plant parts, such as branches, which constitutes reduction. Examples are pruning low tree branches or grazing grass. Replacement requires the substitution of flammable plants with less hazardous vegetation. An example would be removing flammable shrubs and planting flower beds.

Create an effective defensible space using the following six steps:

1. Determine the size of the defensible space.
Expressed as a distance extending outward from the sides of the house. This distance varies by the types of wild land vegetation growing near the house and steepness of the terrain. CHART 1 in Montana Firebreaks specification contains the defensible space distances.
2. Remove dead vegetation within defensible space area.
Dead vegetation includes dead trees and shrubs, dead branches lying on the ground or still attached to living plants, dried grass, flowers, and weeds, dropped leaves and needles, and firewood stacks. CHART 2 in Montana Firebreaks specification contains the practice needed for each of the types of dead vegetation.
3. Break up the continuous dense cover of shrubs or trees within the defensible space area.
Break continuous and dense vegetation by providing for a separation between plants or small groups of plants. CHART 3 in Montana Firebreaks specification contains the separation distances needed for shrubs and Rocky Mountain junipers. The separation distance is dependent upon shrub height and steepness of slope. For forested areas, the amount of separation between tree canopies is determined by steepness of slope. Creating the separation between tree canopies is

accomplished through tree thinning. CHART 4 in Montana Firebreaks specification contains the separation distances for trees. When removing shrubs or trees from steep slopes, keep soil disturbance to a minimum.

4. Reduce ladder fuels present.

Vegetation is often present at varying heights, similar to the rungs of a ladder. Under these conditions, shrubs can ignite still higher fuels like tree branches. Vegetation that allows a fire to move from lower growing plants to taller ones is referred to as "ladder fuels."

The ladder fuel problem can be corrected by providing a separation between the vegetative layers. CHART 5 in Montana Firebreaks specification contains the vertical separation distance needed between these fuel layers. This should be accomplished by removing the lower tree branches or removing the shrub.

5. Create a "Lean, Clean, and Green" space surrounding the house.

Within an area extending at least 30 feet from the house the vegetation should be kept lean, clean, and green. "Lean" means only small amounts of flammable vegetation. "Clean" means no accumulation of dead vegetation or other flammable debris. "Green" means plants are healthy and green during the fire season.

6. Maintain the vegetation within the defensible space area.

Annually review these defensible space steps and take action accordingly.

CONSIDERATIONS

The need for a firebreak is dependent upon the value of the resource to be protected. The cost of installation should be weighed against the loss of the resource should a wild fire occur.

Proper functioning of a firebreak is dependent upon establishing an adequate width of bare soil or fire retarding vegetation. Adequate firebreak width is strongly dependent on the height of the surrounding vegetation.

Firebreaks may be installed by plowing, burning, chemical burn back, grazing, mowing or clipping, or through establishment of low growing vegetation that remains succulent throughout most of the growing season.

Topography can be used to improve firebreak effectiveness. Use barriers such as streams, lakes, ponds, rock cliffs, roads, field borders, skid trails, landings, drainage canals, railroads, utility right-of-ways, cultivated land, or other low fuels areas as existing firebreaks.

Attempt to locate firebreaks near ridge crests and valley bottoms. If winds are predictable, firebreaks should be located perpendicular to the wind and on the windward side of the area to be protected.

In remote areas follow grades and topography that will allow the use of firebreaks for equipment travel.

Consider the selection of plant species that will enhance the needs of wildlife in the area.

Select plant species that are adapted to the site short, fire retarding, and possibly provide wildlife forage.

Design and layout should include multiple uses.

Consider cultural resources and environmental concerns such as threatened and endangered species of plants and animals, natural areas, and wetlands.

Consider the effects that a firebreak would have on erosion and the movement of sediment and substances that would possibly be carried by runoff. Locate firebreaks on the contour when possible to minimize risk of water erosion.

Disturbed areas may serve as sites for weed establishment. Follow-up treatment may be needed to control problem weeds.

Disturbed areas created during firebreak establishment that are not part of the firebreak and eroded areas, should be re-seeded by using either FOTG, Section IV—Practice Standards and Specifications, 342—Critical Area Planting, 550—Range Planting, or 512—Pasture and Hayland Planting.

Another measure to consider in reducing fire hazards around structures is to:

- Set up a sprinkler system that can be turned on in the event of a fire.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes, and narrative statements in the conservation plan and the burn plan, or other acceptable documentation.

OPERATION AND MAINTENANCE

Mow or graze vegetative firebreaks to avoid a build-up of excess litter and to control weeds.

Firebreaks will be maintained throughout the summer and fall. The following maintenance will be performed as needed:

1) Mowed strip firebreaks will be re-clipped if the vegetation re-grows and achieves more than approximately eight (8) inches in height.

2) Inspect firebreaks annually and rework by tillage or with chemicals bare ground firebreaks as necessary to keep them clear of flammable vegetation.

Inspect all firebreaks for woody materials such as dead limbs or blown down trees or other combustibles and remove them from the firebreak.

Repair erosion control measures as necessary to ensure proper function.

Access by vehicles or people will be controlled to prevent damage to the firebreak.

Bare ground firebreaks, which are no longer needed, will be stabilized.

These operation and maintenance activities need to be followed for at least the length of the life of the conservation practice. The life span of this practice is 10 years. Following these activities will ensure a healthy, functioning practice.