General nodate

Los Alamos National Lab
Cerro Grande Fire
Burned Area Emergency Rehabilitation Project
(BAER)

HAZARDS AND BAER SPECIFICATIONS

Water Quality and Hydrology Group (ESH-18)

Los Alamos National Lab
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Safety Message

Major Hazards and Risks:

Stump Holes – areas where trees have burnt into the ground. Stump holes can be deep and may still be hot.

Hazard Trees – trees that have been damaged by the fire and may fall without warning. Crews have been removing these, however some may still be present. Be alert for these during windy conditions.

Rolling Rock – be alert for rocks rolling down slope. Avoid working in areas with crews uphill from you.

Back injuries – when lifting straw bails and wattles, lift with your legs not your back. Keep heavy loads close to your body.

Hydration – drink plenty of water and mix in gatorade for electrolytes. If you feel thirsty you are starting to become dehydrated. Caffeine is a hydration killer, try to avoid drinks with caffeine while working.

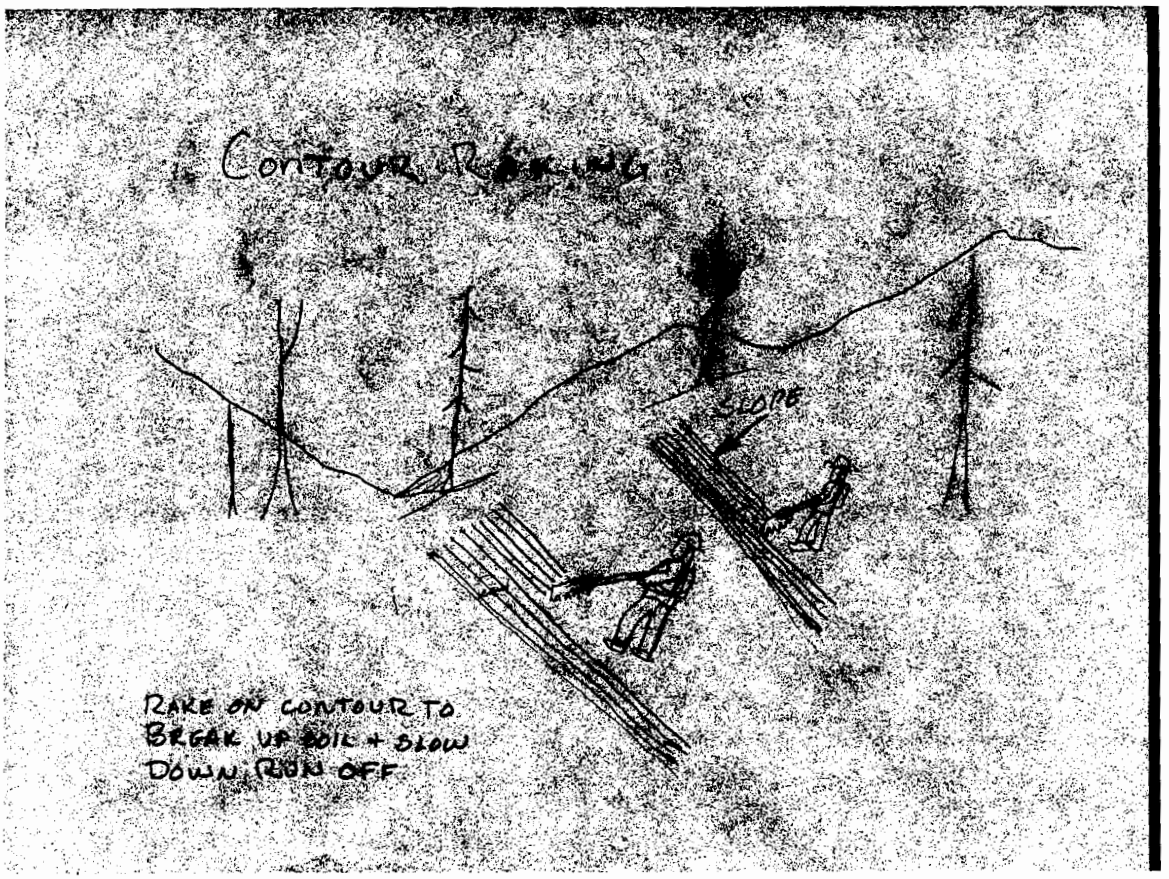
Weather – Watch the Weather! If there is a lighting storm move to a safe area. If there is a measurable amount of rain move everyone to higher ground and stay out of the canyon bottoms.

BAER Specifications

Contour Raking – Diagram 1.

Description.
A hand rake or McCloud is used to break up hydrophobic soils to increase precipitation infiltration. Construct grooves on the contour with rake to trap surface runoff. Raking will also allow for better seeded grass establishment.

Contour is perpendicular to the fall line of the slope. Rake on the contour across the hill slope, not up and down the hill slope.

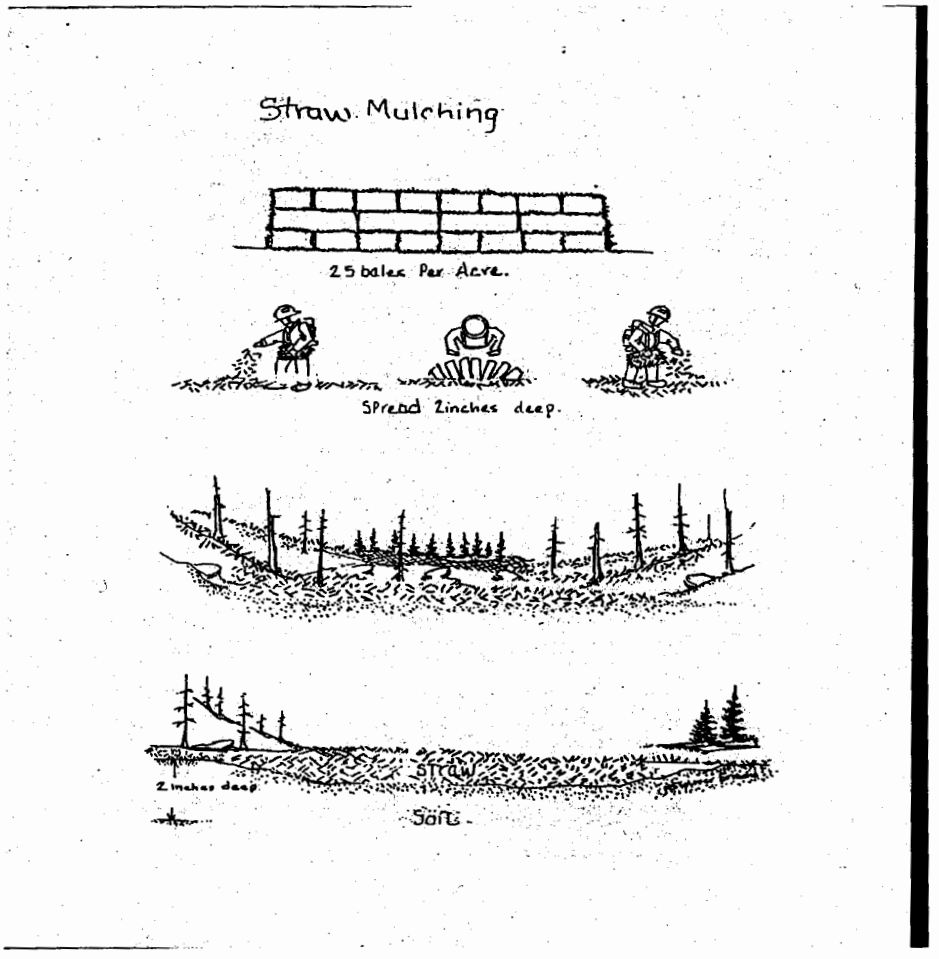


Straw Mulching – Diagram 2

Description.
Straw mulch is applied where the ground cover was consumed by the fire and the expected overland runoff would threaten high values at risk.
Straw mulch helps to:

1. Break the impact of raindrops and prevent soil compaction.
2. Maintain favorable moisture regime for sprouting seeds that are stored in the soil or applied as an emergency treatment.
3. Insulate the topsoil and provide a more favorable temperature range for new plants.
4. Provide a growing medium for soil biological activity.
5. Effectively control sediment loss from a burned area.

The rate of application is a minimum of 25 bales of straw per acre, spread 2 inches deep.



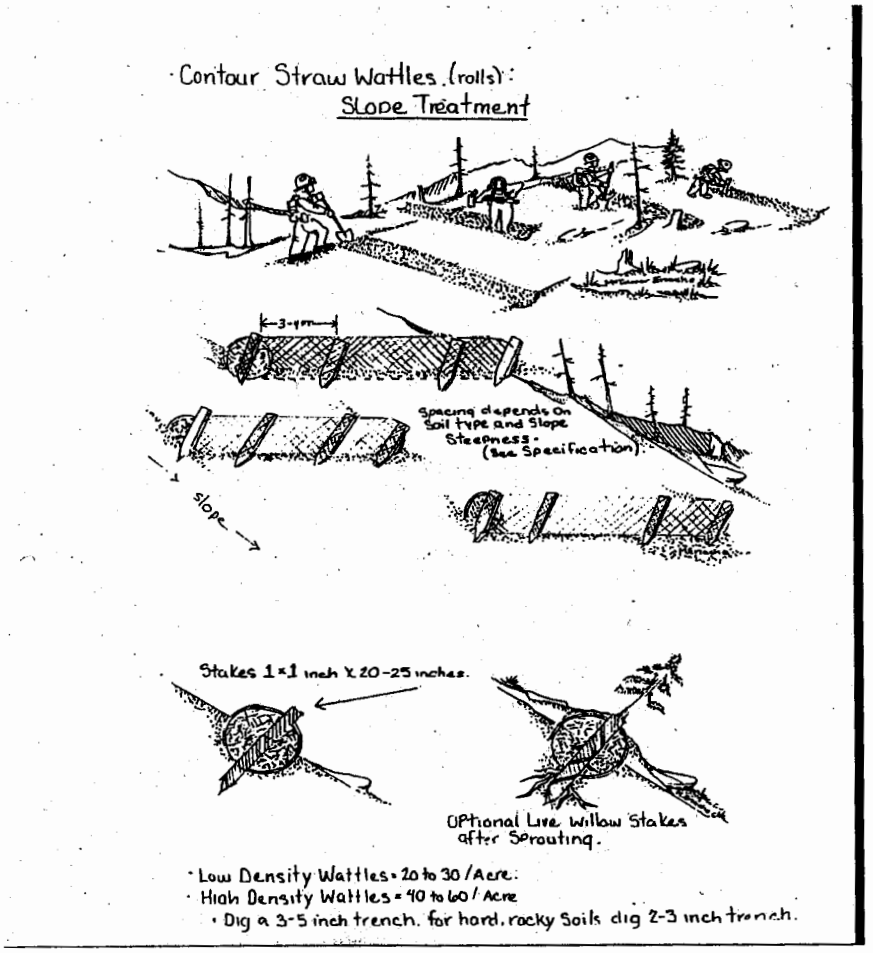
Contour Straw Wattle, slope treatment – Diagram 3

Description.
Straw wattles are used on slopes to act as terraces to prevent slope erosion and facilitate re-vegetation. Wattles are intended to capture and keep sediment on slopes.

Wattles should be installed on contour with a slight downward angle at the end of the row to prevent ponding at mid-section.

Directions.

1. Use a hand tool such as a Polaski to dig a trench 2 to 5 inches deep on the contour.
2. Place the wattle in the trench perpendicular to stream channel.
3. Pack soil from trenching against the wattle on the uphill side. No daylight should be seen under the wattle.
4. Place 5 wooden stakes evenly distributed across and through wattle.
5. Space wattles 20 feet apart in the vertical and horizontal direction.



Stream grade control treatment – Diagram 4

Description.
Install various types of stream channel control structures using rock or straw wattles in 0 and 1st order streams. The purpose of these structures is to reduce the water velocity and capture sediment in the stream flow.

1. Rock Structures – rock structures are constructed by digging a trench into the stream channel and embedding the stones into the trench in a semi-circle, pointing downstream. The rocks should extend up onto the side slopes of the channel to prevent the water from moving around the structure. A notch should be left in the center of the structure to create a low point for the water to flow through. A splash rock should be placed on the downstream side of the notch to dissipate the energy of the water.
2. Straw Wattle – Dig a shallow trench 3 to 5 inches deep across the stream channel. Make sure the wattle extends out of the stream channel to prevent the water from moving around the structure. No daylight should be seen under the wattle. Pack soil from trenching against the wattle on the uphill side. Place wooden stakes evenly across and though wattle.