

ROAD MAINTENANCE SPECIFICATIONS

SECTION T-803A - SNOW REMOVAL (02/04/2002)

1. DESCRIPTION OF WORK

This work consists of removing snow from roads to provide safe travel for low and/or high clearance vehicles, to protect adjacent resource values and road investments, and to prevent damage to roads during use by Purchaser.

2. MAINTENANCE REQUIREMENTS

a. The traffic Control Plan is pursuant to B(T) 6.33 Safety and shall be amended as necessary for snow removal operations under b(10) (a) or (b).

b. If Purchaser's operations require removal of snow, the following requirements shall be met:

(1) Signs required by the amended Sign Plan shall be erected prior to beginning snow removal operations.

(2) Work shall be performed in a manner to preserve and protect roads and appurtenances and to prevent erosion damage to roads, streams, and other Forest values.

(3) Banks shall not be undercut nor shall gravel or other surfacing material be bladed off the road.

(4) Roadbed drainage ditches, drain dips, and culverts shall be functional when needed during operations and upon completion of operations.

(5) Snow removal shall be controlled to identify the usable traveled way having roadbed support. Over-width plowing shall be reshaped as necessary to define the usable width.

(6) Drainage holes shall be constructed at agreed locations in the snow berm or dike during snow removal operations. Drainage holes shall be maintained as necessary for functional drainage.

(7) When shown in C(T)5.12# or the Road Rules document, roads shall be effectively closed to wheeled vehicles at times and in the manner specified.

(8) Upon seasonal completion of Purchaser's Operations, the road shall be effectively blocked by a snow barricade, unless otherwise agreed.

(9) Snow markers shall be placed to identify effective roadbed width, cattleguards and other structures. The roadbed snow markers shall be spaced at a 200 foot (61m) interval, unless agreed otherwise.

SECTION T-803A - SNOW REMOVAL CONTINUED (02/04/2002)

(10) Snow shall be removed for either public access or project use as shown in the Road Listing Schedule to meet the following requirements:

(a) Removal for Public Access (Method JU) - Snow shall be removed from all of the traveled way, including turnouts, for safe and efficient use for both timber transportation and the public. Intruding windfalls, debris, or slough and slide material shall be removed for the full width of the traveled way and be disposed of out of drainages at agreed upon locations.

(b) Removal for Project Use (Method TS) - Snow shall be removed from all of the traveled way, including sufficient turnouts for safe and efficient use for both timber transportation and Forest Service administration. Intruding windfalls, debris or slough and slide material shall be removed for the full width of the traveled way and be disposed of out of drainages at agreed locations.

(11) Upon notice Purchaser shall replace in kind, within 60 days after June 1 of each year, any surfacing material which has been bladed off the road, unless otherwise agreed. Forest Service will notify Purchaser in writing the cubic yard (cubic meter) equivalent of bladed off material.

(12) Under Public Access (Method JU) roads should be plowed when the cumulative depth of snow and/or ice exceeds 4 inches (100mm) above the road surface. Project Use (Method TS) roads should be plowed when the cumulative depth of snow and/or ice exceeds 6 inches (150mm) above the road surface.

(13) Cattleguard object markers that swing, shall be either removed or locked down in a horizontal direction before snow plowing begins and shall be reinstalled or unlocked prior to June 1 of each year.

(14) Purchaser may remove cattleguard wings on (Method TS) roads to prevent damage during snow plowing. If they are removed, the edge of the cattleguard decks shall be identified. Wings shall be re-installed by June 1 of each year.

3. EQUIPMENT

Purchaser may use any type of equipment to remove snow, providing:

a. Type or use of equipment is not restricted in the C(T)5.12# or the Road Rules document.

b. Equipment is of the size and type commonly used to remove snow and will not cause damage to the road.

c. The use of dozers to remove snow requires written approval by the Sale Administrator (SA) or Maintenance Engineer Representative (MER). Dozers shall be equipped with shoes or runners to keep the dozer blade a minimum of 2 inches (50mm) above the road surface, unless agreed otherwise.

4. ICE CONTROL

Ice control may be performed by Purchaser when approved in writing by SA or MER. Such approval will include ice control materials, application rates, and any specific requirements of use.

SECTION T-811A - SURFACE BLADING AND SHAPING (02/04/2002)1. DESCRIPTION OF WORK

This work consists of prehaul, recurrent, and post haul surface blading and shaping to provide safe travel for low clearance vehicles, to protect adjacent resource values and road investments, and to prevent damage to roads during use by Purchaser.

2. MAINTENANCE REQUIREMENTS

a. Timing

Prehaul surface blading and shaping prior to haul or after a period of inactivity shall be performed unless the road already meets the requirements stated in the description of work and the maintenance level shown in the Road Listing Schedule. During haul and after haul is completed additional surface blading and shaping may be necessary to ensure the road meets these requirements.

b. Blading and Shaping

(1) The traveled way and shoulders, including turnouts, shall be bladed and shaped to produce a surface which is uniform, consistent to grade, and cross-sloped as indicated by the character of the surface to at least 1/2 inch per foot (40mm per meter) of width. Aggregate shall be thoroughly loosened to the depth of potholes or corrugations. Do not scarify deep enough to cause contamination of the surfacing.

(2) When necessary to prevent aggregate segregation and for compaction, water shall be applied in accordance with the Road Maintenance Specification, T-891A Water Supply and Watering, during surface blading operations.

(3) Existing native or aggregate surfaced drainage dips shall be shaped to divert surface runoff to existing outlet

(4) Aggregate surfacing shall be protected and thoroughly mixed during blading and shaping operations.

(5) Roadway back slope shall not be undercut.

(6) Upon completion of surface blading and shaping, no disturbed rock shall protrude more than 2 inches (50mm) above the adjacent surface unless otherwise provided in the contract. Remove and place outside the roadbed material not meeting those dimension so as not to obstruct drainage ways or structures. This material may be scattered off the roadbed if there is free drainage.

SECTION T-811A - SURFACE BLADING AND SHAPING (Continued)

(7) Roadbed width in excess of the specified dimension shall be shaped to provide drainage away from the traveled way.

c. Compaction

Compaction shall commence immediately following blading and shaping operations and shall be performed by one of the following methods included in the Road Listing Schedule.

Compaction Method A: By breaking tracks while operating hauling equipment on the traveled way so the full width is covered a minimum of 2 times.

Compaction Method B: By operating an 8-10 ton (7-9 metric ton) pneumatic, steel or equivalent vibrating roller on the traveled way so the full width is covered a minimum of 2 times.

d. Intersections

(1)At intersections, the roadbeds of side roads, which are not closed or restricted from vehicular use, shall be bladed to assure a smooth transition.

(2)Field evidence of closure or restrictions shall be considered to be signing, cross ditching in the road surface (traveled way), earth berms, or other devices placed to discourage or eliminate use by low clearance vehicles.

e. Cleaning of Structures

Excess materials resulting from blading and shaping operations shall not be allowed to remain on or in structures (i.e. bridges, culverts, cattle guards, or drainage dips).

f. Berms

Existing drainage berms shall be maintained to the condition of adjacent segments. New berms (windrows) shall not be created.

g. Smooth Blading

If agreed to by the Forest Service, in writing, smooth blading may be used as an interim measure to remove loose surfacing materials from the wheel paths and store removed materials in a recoverable windrow until blade processing is feasible.

(1) Watering will not be required for smooth blading. Accomplish smooth blading without distorting the existing cross-slope or crown of the traveled way.

SECTION T-811A - SURFACE BLADING AND SHAPING (Continued)

(2) Loose surfacing materials shall be removed and stored on the high side of the road except in crowned sections where the material may be stored on either side. Stored materials shall be placed to provide not less than 11 feet (3.4m) of smoothed traveled way on one-segments or 20 feet (6m) of smoothed traveled way on two-lane or segments with turnouts.

(3) Cut holes through windrows, which may collect water on the road, for drainage at least every 500 feet (150m). Do not block open intersections with windrows.

(4) Windrows formed by smooth blading shall be removed and the materials incorporated into the traveled way surface by blade processing at the start of seasonal rain or runoff periods.

SECTION T-812A - DUST ABATEMENT (02/04/2002)

1. DESCRIPTION OF WORK

This work consists of prehaul and recurrent abatement of dust, as required by the Road Rules, to provide safe travel for low and/or high clearance vehicles, to protect adjacent resource values and road investments, and to prevent damage to roads during use by Purchaser.

2. MATERIALS

The dust abatement materials shall be as shown in the Road Listing Schedule unless shown as Option (OPT) for Purchaser's election from the following materials.

a. Water (H₂O) for dust abatement shall comply with the Road Maintenance Specification T-891A Water Supply and Watering.

b. Lignin Sulfonate (LIG S) shall be the chemical residue produced as a by-product of the acid sulfite pulping process, and supplied as a water solution. The base solution shall be ammonia, calcium, or sodium and shall be water soluble to allow field dilution. Purchaser shall provide certification that:

(1) Solids determination has been made in accordance with the modified Technical Association of the Pulp and Paper Industry Standard T629-M53 or by a specific gravity/percent solid versus temperature graph that correlates with the Standard.

(2) The pH of the delivered material is at 4.5 minimum as determined by AASHTO-T200.

c. Magnesium Chloride (MGCL₂) shall be the liquid residue of evaporative mineral recovery processes. Purchaser shall provide certification that:

(1) The chemical analysis meets the following requirements:

Chemical	Percent by Weight of Brine
Magnesium (Mg)	7.0 minimum
Chloride (Cl ₂)	20.4 minimum
Sulfate (SO ₄)	3.5 maximum
Nitrate	5.0 maximum

The pH shall be between 4.5 and 10.0

(2) Solids determination shall be made from suppliers provided graph of specific gravity/percent solids versus temperature.

d. Petroleum derivatives shall be used in accordance with the Road Maintenance Specification, T- 892A Dust Abatement with Bituminous Products.

Changes in dust abatement materials shown in the Road Listing Schedule to meet on the ground conditions, requires Forest Service written approval.

SECTION T-812A - DUST ABATEMENT (Continued)3. SPECIAL METHODS

Special methods may be used for abating dust in lieu of commercial dust palliatives or water shown in the Road Listing Schedule if approved in writing prior to use by Forest Service. Special methods may include: reducing the number of loads hauled per day; changing the time of day loads are hauled; reduce speed; or other options that will reduce or eliminate the need for dust abatement.

4. EQUIPMENT

a. Equipment used for spreading dust abatement materials shall be designed, equipped, maintained, and operated so that the material is uniformly applied at rate and traveled way width shown in the Road Listing Schedule.

b. Dilution of dust abatement materials shall be accomplished within the application vehicle. The water sources shall be protected from contamination.

5. MAINTENANCE REQUIREMENTS

a. Prior to beginning haul or resuming haul after a period of inactivity and during haul, dust shall be abated by using commercial dust palliatives, water, or special methods to meet the requirements stated in the description of work and Road Listing Schedule. Dust shall be abated at times and conditions specified in the Road Rules.

b. Application of dust abatement materials or special methods shall control dust to prevent loss of road materials and so vehicles using the road are visible within the stopping sight distance. The average safe user speed for that section of road shall be used to determine the stopping sight distance.

c. Water application shall be varied as needed but shall be low enough to avoid forming rivulets. Frequency of applications shall be sufficient to accomplish the abatement without saturating and softening the traveled way. Compacted or glazed road surface or wheel tracks shall be loosened as needed for water penetration.

d. Commercial dust palliative application shall be varied as needed to accomplish the abatement without causing puddles or runoff and at times agreed by Forest Service. The Road Listing Schedule shows the expected average application rate which may be varied by agreement to meet field conditions. The commercial dust palliative shall not be applied when it is raining or expected to rain, on or across bridges, or in a manner that spatters adjacent trees or other structures. The traveled way surface shall be lightly bladed and rolled with a smooth-wheeled roller immediately before application. The top inch (25mm) of the surface shall be slightly damp.

SECTION T-812A - DUST ABATEMENT (CONTINUED)

- (1) Lignin Sulfonate rates of application are **1st 0.35** or **2nd 0.25** gallons per square yard of undiluted product at 50 percent solids or per manufacturer's recommendation as agreed to in writing by the Forest Service.

- (2) Magnesium Chloride rates of application shall be per manufacturer's recommendation as agreed to in writing by the Forest Service.

SPECIAL T-854-A HAZARD TREATMENT AND CLEANUP

(8/03)

854.01

Description

This work consists of treatment and disposal of marked hazards such as danger trees, rocks, and stumps.

854.02

Maintenance Requirements

A. Treatment of trees includes the felling and subsequent handling of danger trees designated by the Government. Designated trees are marked with paint at breast height.

1. Fall dangerous, or unstable live trees, outside the roadway, which are tall enough to reach the roadbed when marked by the Government. Stump heights must not exceed 12 inches (304.8 mm), or 1/3 the stump diameter, whichever is greater, measured on the side adjacent to the highest ground.

2. Limb trees and snags felled away from, and at right angles to, the road center line and resting entirely beyond the roadside limits of 5 feet (1.5 meters) beyond roadway slopes to provide ground contact over two-thirds (2/3) or more of its length. When the ground contact condition cannot be met, additional bucking will be done to achieve the two-thirds (2/3) contact control. Limb and buck trees and snags falling cross slope into manageable lengths, and reorient at right angles to the road centerline.

3. Limb, buck, and deck trees or snags falling into the roadway, and move to sites off the roadbed. Scatter limbs beyond the top of the cut or toe of the fill.

4. All materials remain the property of the Government unless otherwise provided in the contract or agreed to.

5. Woody debris and slash in excess of 12 inches (304.8 mm) in length, or 3 inches (76.2 mm) in diameter, shall not remain in ditches, drainage channels, or on back slopes, traveled way, shoulders, or turnouts. Hand pile or scatter, materials, down slope from the roadbed, avoiding any concentrations or drainages.

B. Remove marked rocks and stumps.

1. Backfill resulting holes outside the roadbed with native materials and mounded to drain after settlement.

2. Haul removed rocks and stumps to the disposal site designated in the contract.

SECTION T-891A - WATER SUPPLY AND WATERING (02/04/2002)

1. DESCRIPTION OF WORK

This work consists of providing facilities to furnish an adequate water supply, hauling, and applying water for surface blading and shaping, dust abatement, and surfacing of roads as necessary to provide safe travel for low and/or high clearance vehicles; to protect adjacent resource values and road investments; and to prevent damage to roads during use by Purchaser.

2. MATERIALS

Suitable and adequate water sources and use restrictions are shown on the Sale Area Map with a W. If the Purchaser elects to provide water from other than the designated source, Purchaser shall be responsible to obtain the right to use the water and pay any royalty involved. Forest Service shall be furnished a copy of any agreement obtained by the Purchaser.

3. EQUIPMENT

a. Mobile watering equipment shall have water tight tanks of known capacity when used for mixing dust abatement materials. The tank capacity shall be measured prior to use.

b. An air gap, or positive anti-siphon device, shall be provided between the water source and the vehicle being loaded if: (1) the vehicle has been used for other than water haul, (2) the source is a domestic potable water supply, (3) or the water is used for tank mixing with any other materials.

c. Designated water sources may require some work prior to their use. Such work may include cleaning ponding areas, installing temporary weirs or sandbags, pipe repair, pump installation or other items appropriate to Purchaser's operation. Flowing streams may be sandbagged on a temporary basis or a weir placed to pond the water. Water draw shall not be more than 1/3 of the stream flow. Pumping shall not result in no or negligible stream flow below site. Work within flowing streams will require review and approval by a Forest Service Fish or Hydrology Specialist.

d. Foot valves on pumps will be screened with screens that meet National Marine Fishery Services standards. NMFS developed criteria for pump intake screens will be used on all water pump intakes as described in the "Addendum, Juvenile Fish Screen Criteria For Pump Intakes" (NMFS, May 9, 1996).

Intake hose screen mesh openings shall not exceed 3/32 inch (2.29mm) woven wire or perforated plate screens, or 0.0689 inch (1.75mm) for profile wire screens, with a minimum 27% open area. If fry size salmonids are never present at the site, screen size opening shall not exceed ¼ inch (6.35mm) for woven wire, perforated plate screens, or profile wire screens, with a minimum of 40% open area.

Trucks will be maintained to prevent oil leaks. Loading is done in a manner to prevent overflowing and discharge of wash into stream.

Standard operating practice shall be to protect the stream bank, riparian area, and provide maintenance for the access road.