

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

DIVISION C.1 - GENERAL REQUIREMENTS

C.1.1 Background.

This proposal combines several processes that have historically been accomplished by numerous individual contracts. In the past, contracts have been awarded for logging, fuel reduction, precommercial thinning, and road reconstruction in the same general area. Each of these was designed to meet the management objectives for a narrow range of resources. Fuel reduction was for fire management goals, logging and thinning were for timber and fire management goals, and road maintenance for all the above plus soils and hydrological stabilization goals. This proposal combines all of these operations into one contract to take advantage of the efficiencies of having one larger operation to meet multiple objectives.

This “goods for services” proposal, which allows the value of goods (timber) to offset the cost of services (logging and thinning). The proposal is authorized under Pilot Stewardship Authority.

The Environmental Assessment (EA) for this project is available for review at the Peaks Ranger Station at Flagstaff, Arizona.

C.1.2 Scope of Contract.

The purpose of this contract is to secure a complete set of services to accomplish stand treatments (both commercial and non-commercial) related to the reduction of standing and down fuel loadings, thinning of smaller damaged, suppressed, or trees with poor crowns, and removal of trees infected with dwarf mistletoe, insects, or other diseases, while retaining the largest healthiest trees. This contract also provides for erosion control activities necessary for soil and water resource protection. The contractor shall take given sets of resource objectives, develop a plan to accomplish these objectives, and organize and direct all of the equipment and personnel needed to accomplish the work. The contractor shall furnish all technical expertise, labor, equipment, supervision, transportation, operating supplies, and incidentals necessary to complete the work required.

C.1.3 Location and Description.

C.1.3.1 - Location. The project is located on the Peaks Ranger District of the Coconino National Forest, in all or portions of T22N, R7E., S. 18 G&SRB&M, Coconino County, Arizona. See Vicinity and Operating Area Maps in Section J.

C.1.3.2 - Description. Planned treatment areas are on slopes that are generally less than 20 percent. Ground based equipment will be used. The project area consists of one Operating Unit totaling 200 acres. Within Operating Unit #1, is one cutting unit, #30. **Cutting Unit #30, totaling 200 acres** contains approximately **917 ccf** (hundred cubic feet) of material in trees 9.0 inches dbh (diameter breast height) to 15.9 inches dbh, and approximately **671 ccf** of material in trees between 5.0 and 8.9 inches dbh which must be removed from the project area.

C.1.3.3 – Access. The access to the project area, from Flagstaff, go northwest on Fort Valley Road (Hwy 180) six miles to Snowbowl Road (FR 516) for approximately two miles, then right on Freidlein Prairie Road (FR 522) for approximately one mile (see maps).

C.1.3.4 - Boundaries. A map is attached as Section J, Operating Area Map, showing the location of the Cutting Unit boundary. Cutting Unit is delineated on the ground with exterior boundaries marked with two orange painted bands and cutting unit number (#30) facing into the unit.

C.1.3.5 - Access. Access to all units will be provided by the existing transportation system or by Forest Service approval of temporary road construction. See Operating Area map in Section J.

C.1.3.6 - Maps. The size, shape, and location of the contract units were traversed in the field with GPS units and corrected. A Geographic Information System was used to generate the area map. Positions of the features shown on the maps are approximate.

C.2.1 - Desired End Result (Resource Management Objectives)

The desired end result of this project is to achieve the following:

1. Restore the more natural ecosystem functions related to fire, water cycling, animal movement and reproduction/rearing, late successional forests, and the relationships between overstories (trees) and understories (grasses, forbs and shrubs).
2. Offset the costs of restoration by utilizing the value of thinning byproducts, and combining numerous restoration services into one contract.
3. Reduce intensities of wildfires and resulting damages to natural resources, urban areas and other improvements located in the Fort Valley area of the Coconino National Forest.
4. Improve firefighter safety and their capabilities during fire suppression efforts by reducing fuel loading and canopy closure that contributes to fire intensities.
5. Return fuel profiles to a state where reintroduction of fire will be possible and produce lower intensity burning resulting in increased survivability of fire resistant species.

C.2.2 - Detailed Requirements of Desired End Result

The successful offeror's technical proposal will be incorporated as part of the resultant contract. It shall describe how the work will be accomplished to comply with the Work Standards and Resource Protection Standards. This will allow the successful offeror to help design the details of project implementation that best suits both the project and the operator's needs.

The Fort Valley project is part of the Greater Flagstaff Forests Partnership effort to demonstrate ecological health restoration that is ecologically based, socially acceptable, and economically viable. Therefore, the most desirable result after thinning is a landscape that is impacted the least, while being treated in the most efficient manner possible. When replying to the Work Standards and Resource Protection Standards, technical proposals might consider the following:

1. How the harvest system contemplated will meet soil and water quality Resource Protection Standards.
2. How the harvest system contemplated affects soil compaction and soil disturbance.
3. How the harvest system contemplated utilizes/requires skidding patterns and landings.

4. If and how the harvest system contemplated utilizes small material.
5. How the equipment completing slash requirements will meet the various machine piling objectives.
6. How the Contractor intends to close temporary roads.
7. Describe the timeliness and length of operations.

A proposed operating plan shall be prepared by the Contractor and reviewed and approved by the Government before starting work. The proposed operating plan should include information on what tasks will be used to meet resource management objectives, what equipment will be used, any access needs currently not on site, what measures will be used to protect specific features, and a schedule of work. The proposed operating plan should also discuss any proposed changes to the resource objectives, and boundaries or exclusions due to new information discovered during a field reconnaissance.

C.2.2.1 Definitions

CCF – Cubic foot volume X 100. For example 1 ccf = 100 cubic feet.

Crown Ratio - The ratio (expressed in percent) of live, healthy crown to the total height of a tree. For example, a 70-foot tall tree with 35 vertical feet of healthy crown would have a Crown Ratio of 50 percent.

Cutting Unit – A subdivision within Operating Units

Damaged Trees – Any tree less than 16.0” DBH with one or more of the following injuries:

1. Any tree that has bark cut or removed to the cambium from more than 30% of the circumference of the bole.
2. Any tree that has a broken or dead top above a live crown showing declining vigor.
3. Any tree that has had 25% or more of the live limbs or branches broken or removed by any operation.
4. Defects that include sweeps in the bole or crooked boles.

DBH – Diameter at Breast Height - Diameter of a tree measured outside of the bark at a height of 4.5 feet above ground level on the uphill side of the tree.

Deferred Areas – Areas designated by Forest Service that must be avoided or protected due to resource or improvement concerns.

Logging Equipment - includes all logging machinery except for log trucks, chip vans, pickup trucks, cars, or other vehicles primarily of transport of personnel.

Landings – Area selected for sorting, decking, loading logs and piling of unutilized material/slash.

Leave Tree – Conifers designated to leave by orange paint or by description (16.0” DBH and larger) in leave tree mark units, unmarked trees in cut tree units, orange painted boundary trees, and any hardwood species.

Normal Operating Season – May 1 through November 30

Operating Area – Areas where contract work will be completed that are delineated on the Operating Area Map found in Section J.

Skid Trail – Area in which equipment operates to harvest and remove products to a landing or decking area.

Slash – All vegetative material including, but not limited to, cull logs, blasted or pushed-out stumps, chunks, broken tops, limbs, branches, rotten wood, damaged brush, damaged or destroyed reproduction, saplings or poles, which is created or disturbed as a result of Contractor's operations, including construction of temporary roads and landings, or other improvements under this contract.

Temporary Road – Access route to an area to be treated, in which the location is proposed by the contractor, approved by the Forest Service, and obliterated by the contractor upon completion of use.

C.2.3 - Work Standards

C.2.3.1 – Selection of Trees

- a) Leave Tree Mark Unit (Cutting Unit 30) - All unmarked trees 5.0 – 15.9” DBH are designated for cutting and shall be removed except that in no instance shall trees 16.0” DBH and larger be cut regardless of presence or absence of paint. Trees designated for cutting shall be removed from National Forest and utilized if at least 30% sound fiber. Leave trees are designated in yellow or orange paint and are not to be cut.

C.2.3.2 – Slash Treatment

Vegetative debris larger than 1 inch in diameter and 3 feet long resulting from Contractor's Operations, is slash. In areas of Temporary Road construction all trees smaller than the minimum d.b.h. over 3 feet in height and damaged beyond recovery by Contractor's Operations shall be cut and treated as Slash. Measures to be taken by Contractor for treatment of Slash are set forth below and on the Operating Area Map unless otherwise agreed in writing. Forest Service and Contractor shall jointly develop a schedule for completion of slash treatment on the various portions of Operating Area prior to Contractor's Operations.

SLASH TREATMENT PLAN:

- All slash will be Machine Piled through out the unit and at landings, (Mpile)
- Lopping will be allowed on approximately 30 acres in areas where machine piling may not be feasible (rocky areas). (Lop)
- “Fell” all damaged stems and treat as slash, as specified in the table below in all Operating Areas.

Operations. Specified slash treatment methods shall be shown on the Operating Area Map and listed in the attached tables by the following symbols:

Slash Treatment Methods

Symbol	Method	Definition and Specifications
Fell	"Felling damaged trees"	<p>(a) Damaged or destroyed trees are trees substandard because of size, which are over 3 feet in height, and/or species not included on page 1 of the contract over 3 feet in height, knocked down or damaged to the extent that mortality or serious deterioration will occur, and such trees partially pushed over so as to result in permanent lean and visible damage to the root system, all as a result of the Contractor's operation. Such damaged or destroyed trees shall be felled and further treated by the slash treatment method specified for the area. Maximum stump height shall be that specified in Sec.C.2.3.3. If damaged trees are over 12 inches dbh, consult with COR prior to felling. (Such trees may be retained to serve as potential snags).</p>
Lop	"Lopping"	<p>Slash shall be treated by limbing or severing, or both, and scattered as necessary to place slash within two feet of the ground over the entire specified area. Occasional slash which exceeds the maximum height, not to exceed 5 percent of slash to be lopped and scattered is acceptable.</p>
Mpile	"Machine Piling"	<p>Concentrations of logging slash, excluding scattered individual pieces, shall be machine piled by tractor equipped with brush rake in accordance with the following specifications.</p> <p>Acceptable Equipment. Piling will be accomplished with a crawler tractor not to exceed overall width of <u>10</u> feet. Tractor will be equipped with a brush blade having teeth extending a minimum of 11 inches below the frame. The teeth shall number at least <u>5</u> and no more than <u>10</u>. The teeth shall be of sufficient size and strength so that they shall not bend or break through normal slash piling.</p> <p>Location of Piles. Piles shall be so located that burning will not damage standing live trees or physical improvements such as fences, poles, buildings, signs, tables, grills and cattleguards. If conditions make such pile placement impractical, a space shall be cleared in a location designated by the Forest Service.</p> <p>The minimum spacing between piles shall be equivalent to one and one-half the diameter of the adjacent pile.</p> <p>Slash within partial cut areas shall be moved to take advantage of previously constructed or natural clearings in order to minimize the construction of new clearings.</p> <p>Slash shall not be moved more than 120 feet to achieve the location requirement. Piles shall not be made on permanent</p>

		<p>roads, in drainage ditches, below high water marks or live streams, and in intermittent streamcourses.</p> <p>CONSTRUCTION OF PILES. Machine piles shall be compacted by pushing slash from all sides towards the center of the pile. All slash which protrudes 4-feet or more from outer edge of the pile shall be bucked off and placed on pile.</p> <p>Piling shall be accomplished in a manner that will prevent the accumulation of dirt in the piles.</p>
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C.2.3.3 Utilization and Volumes –

All trees designated for cutting 5.0” DBH and larger shall be removed from the contract area.

The minimum piece size required for removal for trees greater than 9.0 inches dbh is 8 feet long, and 6 inches DIB (diameter inside bark) at the small end. The minimum piece size required for removal for trees between 5.0 inches and 8.9 inches dbh is 10 feet long, and 4 inches DIB at the small end.

Operating Unit	Acres	Average CCF per Acre	Total CCF		
			CCF Roundwood*	CCF Sawtimber**	CCF Total
1	200	7.9	671	917	1,588
Totals	200	7.9	671	917	1,588

*Roundwood are logs 5.0 – 8.9 inches dbh

**Sawtimber are logs 9.0 inches dbh plus

Stump height shall not exceed 12 inches measured from the ground on the uphill side, or 4 inches above natural obstacles (boulders, wildlife logs, etc.) for trees 9.0”+ DBH, and 6 inches for trees smaller than 9.0” DBH. All limbs below the cutting point shall be severed flush with the stump.

After award of the contract, the Contracting Officer may agree to the designation of additional trees that may need to be cut for landing, skid trail and temporary road installation or that may be accidentally damaged during the operation. Any additional trees that are agreed to and designated after award will be paid for at the rates shown in **G. 3 Additional Timber Pay Rates**. The Contractor shall not cut this timber until the Contracting Officer has determined the volume and designated the trees for cutting. The value of additional timber will be deducted from payments to the contractor.

C.2.3.4 USE OF TIMBER (7/01)

(a) This contract is subject to the Forest Resources Conservation and Shortage Relief Act of 1990, as amended (16 USC 620, *et seq.*).

(b) Unprocessed Included Timber shall not be exported from the United States nor used in direct or indirect substitution for unprocessed timber exported from private lands by the Contractor or any person as defined in the Act (16 USC 620e).

(c) Timber in the following form will be considered unprocessed:

(i) Trees or portions of trees or other roundwood not processed to standards and specifications suitable for end product use;

(ii) Lumber, construction timbers, or cants intended for remanufacturing not meeting standards defined in the Act (16 USC 620e); and

(iii) Aspen or other pulpwood bolts exceeding 100 inches in length.

(d) Unless otherwise agreed in writing, unprocessed Included Timber shall be delivered to a domestic processing facility and shall not be mixed with logs intended for export.

(e) Prior to award, during the life of this contract, and for a period of 3 years from Termination Date, The Contractor shall furnish to the Contracting Officer, upon request, records showing the volume and geographic origin of unprocessed timber from private lands exported or sold for export by the Contractor or affiliates.

(f) Prior to delivering unprocessed Included Timber to another party, the Contractor shall require each buyer, exchange, or recipient to execute an acceptable agreement that will:

(i) Identify the Federal origin of the timber;

(ii) Specify domestic processing for the timber involved;

(iii) Require the execution of such agreements between the parties to any subsequent transactions involving said timber;

(iv) Require that all hammer brands and/or yellow paint must remain on logs until they are either legally exported or domestically processed, whichever is applicable; and

(v) Otherwise comply with the requirements of the Act (16 USC 620d).

(g) No later than 10 days following the execution of any such agreement between the Contractor and another party, the Contractor shall furnish to Forest Service a copy of each such agreement. The Contractor shall retain, for 3 years from Termination Date, the records of all sales, exchanges, or dispositions of all Included Timber.

(h) For breach of this provision, Forest Service may terminate this contract and take such other action as may be provided by statute or regulation, including the imposition of penalties.

C.2.4 Removal methods and standards-

The Contracting Officer or designee and the Contractor shall agree on the location and clearing limits for all landings, temporary roads, and skid trails prior to felling operations or their construction. The clearing or excavated size of such construction sites shall not exceed that needed for the contractor's safe and efficient operations.

Directional falling shall be required to minimize soil impacts and protect residual trees using normal mechanical or hand felling practices, i.e., wedging, jacking, or lining as needed. Such directional felling shall not be required when the Contractor and Contracting Officer agree that it is unsafe to do so.

Skid trails will not be located in ephemeral drainage bottoms and will not cross ephemeral draws on average of more than once every 200 feet of linear distance. Skid trails shall be approved by the Forest Service, unless otherwise agreed in writing.

C.2.5 Road Opening and Installation of Temporary Roads

To provide normal logging access to accomplish the removal portion of this proposal, opening of existing roads and installation of temporary roads may be required. The anticipated work may require but not necessarily limited to:

- (a) Opening roads that have become overgrown with brush and trees as well as removing barriers. Slash that is created from this activity on all roads will be treated according to utilization standards (C.2.3.2 & C.2.3.3).
- (b) Installation of temporary roads may require installation of drainage structures. Type and installation method shall be approved by the Contracting Officer prior to installation. Temporary roads shall have a maximum surface width of 12 feet. Slash that is created from the installation shall be treated according to utilization standards (C.2.3.2 & C.2.3.3).
- (c) Reconstruction of roads shall be as shown in the plans and drawings found in Sec. C3.8. Forest Service specifications for Constructions of Roads and Bridges (August 1996) apply to reconstruction activities and should be considered included in this contract.
- (d) All required road work and prehaul maintenance shall be completed prior to product removal. (Sec. C.3.6 and C.3.8)

All temporary road locations shall be approved by the Contracting Officer or designee prior to installation.

All temporary roads within the project area will be obliterated at the completion of harvest activities and put back into production. Obliteration may include re-contouring, scarification, and seeding, as ground dictates. Temporary stream crossings such as culverts shall be removed upon completion of use. (see specifications C.3.)

C.2.6 Log Accountability

C.2.6.1 Branding and Painting

Contractor shall, before logs are transported on trucks from the loading site:

- Brand, plainly and legible, one end of all logs which are at least 10 inches inside diameter on the small end with an assigned hammer brand. The Forest Service will supply the contractor with information regarding the brand to be assigned for use on this contract.
- Brand, plainly and legibly, all products from trees 9.0”DBH and larger on one end with the assigned hammer brand.
- Paint the last 3 digits of the Log Removal Receipt (R3-FS-2400-46) on one log in the center of the rear of the truck with black paint.
- Brand, plainly and legibly a minimum of 50% of all logs from trees 5.0-8.9”DBH with the assigned brand.
- All branding and painting shall be done prior to the time the logs leave the landing site. This requirement may be revoked or changed by Forest Service during the term of this contact, if necessary.

C.2.6.2 – Log Removal Receipts

Contractor shall:

- Obtain Log Removal Receipt, R3-FS-2400-46, from the Forest Service to be used for removal of products from this project.
- Require truck drivers to sign form R3-FS-2400-46, Log Removal Receipt, when hauling products

- Assign an individual at the landing to fill out and issue load tickets as per instructions in R3-FS-2400-46, Log Removal Receipt Book.
- Require truck drivers to stop at agreed upon locations for accountability checks, if requested by the Forest Service, when products are in transit from the Project Area to delivery points.
- Inform truck drivers of the designated route(s) of haul, the method of alerting drivers of an impending stop, and the fact that loads may be inspected at other locations where it is safe and possible to do so.
- Insure that the Woods Receipt attached to each load of logs shall remain attached to its original log until decked at the delivery point.

C.2.7 Hauling

C.2.7.1 Forest Service and Contractor shall agree upon the haul route(s) prior to use. All products removed from project area shall be transported over the designated route of haul.

The following are prohibited roads for log haul:

<u>Road #</u>	<u>Miles</u>	<u>Termini</u>	<u>Map Symbol</u>
Pipeline Road (FR 9003W)	All lengths		P

Operations will cease when roads turn muddy and/or rutting occurs, resulting in sediment transportation. Drainage structures (water bars, grade dips) will be kept in a functional condition, and daily operations will be managed to minimize sediment transport from roads.

C.3 RESOURCE PROTECTION STANDARDS

C.3.1 Soil Quality –

Soil erosion is directly related to the amount of cover that is left intact to reduce the impact of rainfall. Logs, litter, duff and rock are effective in reducing soil displacement from raindrop impact.

The Contractor's activities shall be executed in a manner to retain the natural contour of the ground. Any mounding up of soil should be returned to the natural contour as part of the work process.

The Contractor's activities shall be executed to minimize disturbing the duff layer.

Soil compaction also has a direct effect on soil erosion and site productivity. Soil moisture content, equipment ground pressure and number of passes are related to soil compaction. For soil productivity, a minimum of 80% of an activity area will be in a non-compacted, non-puddled, and/or non-displaced condition.

C.3.2 Water Quality -

The following measures shall be observed to protect stream courses:

- (a) Contractor's operations shall be conducted to prevent debris from entering stream courses. Contractor shall remove such debris as soon as practicable, but not to exceed 48 hours, and in an agreed manner that will cause the least disturbance to stream courses.
- (b) Wheeled or track-laying equipment shall not be operated in stream courses except at crossings designated by Forest Service as essential to construction or removal of culverts and bridges.

Activities with the greatest potential impact are road-building, landing and skid trail construction, soil disturbance and vegetation removal.

Contractor shall:

- Avoid constructing landings in wet or difficult to drain areas, in depressions, or near ephemeral streams.
- Protect permanent and seasonal wet areas from mechanical disturbance.
- Minimize disturbance of surface vegetation.
- Wheeled or track-laying equipment will not be operated in meadows.

C.3.3 Erosion Control –

Adequate erosion control measures will be taken on all roads, skid trails, landings and temporary roads as directed by the Forest Service. Measures may include water-barring, placement of slash, or out sloping. Erosion control measures must be in place before seasonal periods of precipitation, run-off, or cease of operations in the project area.

Areas disturbed as a result of the contractors operations will be seeded. The seed mixture will be as shown in the table below with an application rate of 8 pounds per acre. Seed will be certified weed free.

Seed Species	Pounds per Acre
Western Wheatgrass	3.6
Arizona Fescue	0.8
Blue Grama	1.2
Regreen	2.4
Total	8.0

C.3.4 Other Resource Protection

All of the activities associated with this project shall be conducted in such a manner that there shall not be any adverse impact to the following resources listed.

- land survey corners,
- post markers,
- bearing trees,
- above ground utility lines,
- underground utility lines,
- ditches,
- fences,
- and other improvements.

If such improvements are damaged by Contractor's operations under this contract, Contractor shall restore them immediately to condition existing immediately prior to logging. When necessary, Forest Service may require Contractor to move any such telephone lines or fences from one location to another. All roads and trails, designated by Forest Service as needed for fire protection or other purposes, shall at all times be kept free of logs, brush, and debris resulting from Contractor's operations. Contractor shall promptly restore roads or trails damaged through such use. Contractor's use of existing roads may be restricted as indicated on unit maps.

Protection of Protected Species - The location of areas needing special measures for protection of plants or animals listed as threatened or endangered under the Endangered Species Act of 1973, 16 U.S.C. 1531, et seq., or a sensitive species identified by the Regional Forester have been identified on-the-ground by the Forest Service prior to award of this contract and these locations are shown on the project area map. If the Contracting Officer determines that protection measures are inadequate, if other such areas are discovered, or if new species are listed on the Endangered Species List, Contracting Officer may either cancel, in whole or in part, or unilaterally modify this contract to provide additional protection regardless of when such facts become known. Discovery of such areas by either party shall be promptly reported to the other party. This provision and any protections listed pursuant to this provision do not constitute a warranty of any kind, either express or implied, including, but not limited to, implied warranties of merchantability or fitness for a particular purpose. Contractor is on notice that special protection measures not currently listed may be required at any time.

Protection of Cultural Resources - Locations of known historic or prehistoric sites, buildings, objects, and properties related to American history, architecture, archaeology, and culture, such as settler or Indian artifacts, protected by American Antiquities Act of 1906 (16 U.S.C. 431-433), National Historic Preservation Act of 1966 (16 U.S.C. 470), and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-ll) (36 CFR 296.4 and 36 CFR 261.9(g)), shall be identified on the ground by Forest Service. Forest Service may unilaterally modify or cancel this contract to protect an area, object of antiquity, artifact, or similar object that is or may be entitled to protection under these acts, regardless of when the area, object, or artifact is discovered or identified. Discovery of such areas by either party shall be promptly reported to the other party and operations will be suspended at that location until the significance or potential significance of the site is determined.

In the event of contract modification under this Subsection, Contractor shall be reimbursed for any additional protection required, provided that any work or extra protection required shall be subject to prior approval by Forest Service. Amount of reimbursement shall be determined by Forest Service.

Contractor shall protect all known and identified historic or prehistoric sites, buildings, objects, and properties related to American history, architecture, archaeology, and culture against destruction, obliteration, removal, or damage during Contractor Operations. Contractor shall immediately notify the Forest Service if disturbance occurs to any known site and shall immediately halt operations in the vicinity of the site until Forest Service authorizes the Contractor to proceed. Contractor shall bear costs of evaluation and restoration in accordance with 36 CFR 296.14(c), provided that such payment shall not relieve Contractor from civil or criminal remedies otherwise provided by law.

Wheeled or track-laying equipment shall not be operated within such areas, except on roads, landings, tractor roads, or skid trails approved under C.2.4 and C.2.5. Unless agreed otherwise, trees will not be felled into such areas. Contractor may be required to back-blade skid trails and other ground disturbed by Contractor Operations within such areas in lieu of cross ditching.

C.3.5 Safety –

When Contractor's operations are in progress adjacent to or on Forest Service controlled roads and trails open to public travel, Contractor shall furnish, install and maintain all temporary traffic controls, which provide the public with adequate warning of, hazardous or potentially hazardous conditions associated with Contractor's operations. A specific traffic control plan for each individual project shall be agreed to by Contractor and Forest Service prior to commencing operations. Devices shall be appropriate to current conditions and shall be covered or removed when not needed. Flagmen and devices shall be as specified in the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD).

Protection of Public in Recreation Areas - For protection of National Forest interests and safety of general public, Contractor Operations shall be subject to the following restrictions:

- a. When Contractor Operations are in progress within safety zones, shown on the Operating Area Map, and designated on the ground, Contractor may be required to post warning signs in the area or maintain a watchman whose sole duty shall be to warn and advise public of any hazards present in area as a result of this project.
- b. During periods of general recreation activity within Project Area or vicinity, Forest Service may restrict hauling to days other than Saturdays, Sundays, and National holidays.

A Safety Zone shall be established at the junction of Snowbowl Road (FR 516) and US 180, which is not shown on the Operating Area Map.

C.3.6 Road Maintenance

Commensurate with use, the contractor is responsible for maintaining all roads within the project area. Maintenance shall be performed in a timely manner to; prevent rutting and seasonal weather damage, and safeguarding soil and water quality. Specifications for road maintenance activities listed below can be found in Section J, Exhibit B.

a. Blading

Unless otherwise agreed, Contractor shall maintain the existing road cross section by blading and shaping surface shoulders. Surface material shall not be side cast, but shall be returned onto the traveled way. Banks shall not be undercut. Established berms shall be maintained. Water bars, dips, and overside drains shall be installed as directed by the Forest Service.

b. Surface Protection

While performing ordinary road maintenance work, Contractor shall avoid permanently fouling gravel or asphalt surfaces through covering them with earth or debris from side ditches, slides or other sources. Contractor shall avoid blading Surface Course off road, if present.

c. Slide Disposal

In removing material from slides or other sources, Contractor shall deposit the material which must be moved to locations chosen with the objective that such material will not erode into streams, lakes, or reservoirs. Material shall not be wasted over planted road fills, unless otherwise agreed.

e. Visibility

Contractor shall remove brush or tree growth or other obstructions to visibility as such obstructions develop during the permit period. All treated vegetation will be lopped and scattered within open areas adjacent to the road or as directed by the Forest Service.

f. Normal Seasonal Cleanup

Contractor shall perform a normal amount of seasonal weather cleanup which will include removing bank slough and minor slides and fallen timber, replacing material washed out of fill slopes and cleaning out drainage ditches and culverts.

g. Drainage Maintenance

Contractor shall keep ditches, culverts, water bars and other drainage facilities clear and functioning. Overside drains will be installed and maintained to prevent damage to fill slope. Any erosion channels on fill slopes will be filled with rock or other material and revegetated as directed by the Forest Service.

h. Preventive Maintenance

Contractor shall perform preventive maintenance at end of Contractor's use each season to minimize weather damage during the non-use period. Work will consist of blading to remove ruts or other surface irregularities, cleaning of ditches and culverts and any other work that would prevent excessive erosion or bank slough. Damage resulting from Contractor's use or failure to perform required preventive maintenance shall be repaired by Contractor. See Road Maintenance Specifications in Section J, Exhibit C.

i. Snow Removal

Snow removal shall be done in a manner to preserve and protect the roads, to the extent necessary, to insure safe and efficient transportation of timber and to prevent erosion damage to roads, streams, and adjacent lands.

1. Description. Snow removal work by Contractor shall include:

- a. Removal of snow from entire road surface width including turnouts.
- b. Removal of snow slides, earth slides, fallen timber, and boulders that obstruct normal road surface width.
- c. Removal of snow, ice, and debris from ditches and culverts so that the drainage system will function efficiently at all times.

2. Performance.

All items of snow removal shall be done currently as necessary to ensure safe, efficient transportation. Work shall be done in accordance with the following minimum standards of performance. Waivers of standards will not be given where circumstances will cause unacceptable and unavoidable damage to the road or other resource.

- a. Removal of material. All debris, except snow and ice, that is removed from the road surface and ditches shall be deposited away from stream channels at agreed locations.
- b. During snow removal operations, banks shall not be undercut nor shall gravel or other selected surfacing material be bladed off the roadway surface.
- c. Ditches and culverts shall be kept functional during and following roadway use.
- d. Snow berms shall not be left on the road surface unless written waivers are made

for specific locations for traffic safety. Berms left on the shoulder of the road shall be removed following hauling completion and/or drainage holes shall be opened and maintained. Drainage holes shall be spaced as required to obtain satisfactory surface drainage without discharge onto erodible fills.

- e. Dozers shall not be used to plow snow on system roads without written approval of Forest Service.
- f. Snow shall not be removed to the road surface. A minimum two-inch depth must be left to prevent loss of surfacing and protect the road bed during snow removal operations. Written waivers may be made by Forest Service for specific locations where snow may be completely removed during plowing for traffic safety. Locations receiving a waiver will have a written agreement prepared prior to plowing that prescribes the timing and method of damage repair or surface replacement.

C3.7. Noxious Weeds

3.7.1 Cleaning of Equipment

Contractor shall insure all logging equipment moved onto National Forest is free of soil, seeds, and vegetative matter or other debris that could contain or hold seeds. Contractor shall employ whatever cleaning methods are necessary to insure compliance, and shall notify Forest Service prior to moving each piece of logging equipment onto National Forest. Notification will include identifying the location of the equipment's most recent operations. Arrangement will be made for Forest Service to inspect each piece of equipment prior to being moved onto National Forest.

C.3.8. Road Construction and Maintenance Specifications

See specifications in Section J, Exhibit B