

PART III: EXHIBITS

State Timber Sale Contract
No. 341-05-86
Shingle Mill Road

EXHIBIT B

Page 1 of 3
629-Form 341-203
Revised 06/97

OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date Received by STATE: _____

(5) State Brand Information (complete):



(1) Contract No.: 341-05-86

(2) Sale Name: Shingle Mill Road

(3) Contract Expiration Date: 10-31-06

Project Completion Dates: 10-31-06

(4) Purchaser: _____

(6) Purchaser Representatives:

Projects: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Projects: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Projects: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Projects: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Logging: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Logging: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Logging: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

Logging: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

(7) State Representatives:

Projects: _____

Phone: (503) 325-5451

Cell/Other

Phone: _____

Home: _____

Logging: _____

Phone: _____

Cell/Other

Phone: _____

Home: _____

(8) Name of Subcontractors & Starting Dates:

Projects: No(s) _____ - _____

Date: _____

Phone: _____

No(s) _____ - _____

Date: _____

Phone: _____

No(s) _____ - _____

Date: _____

Phone: _____

No(s) _____ - _____

Date: _____

Phone: _____

Logging: Felling _____

Date: _____

Phone: _____

Yarding: _____

Date: _____

Phone: _____

(9) Comments: _____

(10) Operations Map: Attach a copy of timber sale Exhibit A or other suitable map which plainly shows the items listed on the instruction sheet.

EXHIBIT B

INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN TO STATE

Operations shall be limited to the work shown in the plan until a revised plan or supplemental plan is submitted covering additional work. Compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act. If STATE has prepared a required Forest Practices Act (FPA) "Written Plan" for operations, PURCHASER shall comply with all provisions of the Written Plan.

Item No. (from Page 1)

- (5) All sales require you to use a brand furnished by STATE. If the State brand has not been assigned when the plan is submitted, it will be furnished and assigned later. Complete drawing. If more than one brand is assigned to the sale, complete both drawings.
- (6) The contract requires you to have a designated representative available on the sale area or work location who is authorized to receive in your behalf any notice or instruction given by STATE and to take action in regard to performance under the contract. If logging and project work is widely separated, a representative is required for each.
- (7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.
- (8) Show names of subcontractors to be used for any or all phases of the operations. If subcontractors are not known, or are changed later, give notification to the STATE representative prior to commencement of work by subcontractor.

Show projected dates for commencement of both projects and logging. If projected dates need to be changed at a later date, notification must be given to the STATE representative by supplemental plan or otherwise, prior to commencement of such operations.

- (10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:
 1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
 2. Locations of spur roads planned for construction, other than those required by the timber sale contract. Provide spur road specifications.
 3. Location of proposed tractor yarding roads. Show if and how marked on the ground.
 4. Location of temporary stream crossings.
 5. List the sequence of performing project work.
 6. Location of rock sources - attach pit development plans.



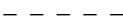



	Cable landing, with numbers for sequence.
	Tractor landing with alphabetical sequence.
	Approximate setting boundary.
	Spur truck roads.
	Tractor yarding roads.
	Temporary stream crossings.

EXHIBIT B
OPERATIONS PLAN

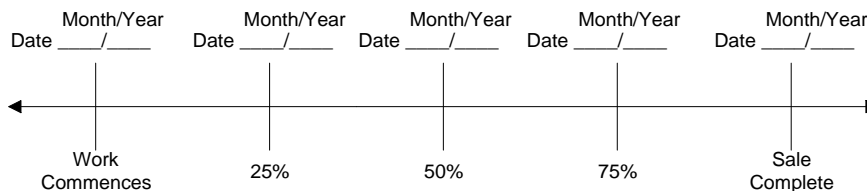
Completion Timeline

Indicate on the appropriate timeline below, the dates by which you plan to complete the work as required under this contract. The purpose of this section is to develop a plan that will ensure you complete the work as required, and meet the interim completion date(s) and contract expiration date. This plan is incorporated and made a part of the contract. When, in the opinion of STATE, operations are not commencing in a manner that meets the intent of this plan, you may be placed in violation of contract and your operations suspended until an amended plan is submitted and approved by STATE.

Projects



Harvest & Other Requirements



The Federal Endangered Species Act (ESA) prohibits a person from taking any federally listed threatened or endangered species. Taking under the federal ESA may include alteration of habitat. STATE's approval of this plan does not certify that PURCHASER's operation under the plan is lawful under the federal ESA. As provided in the timber sale contract, PURCHASERS must comply with all applicable state, federal, and local laws.

PURCHASER's compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act.

APPROVED: Date: _____

SUBMITTED BY:
PURCHASER

STATE OF OREGON - DEPARTMENT OF FORESTRY

Title _____

Title _____

Original: Salem
cc: District File
Purchaser
Sunset Unit

EXHIBIT C

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER _____ ☐ Date _____
CANCELLATION ☐ Date _____

(2) TO: _____
(Third Party Scaling Organization)

(3) FROM: Astoria (04) Phone (503) 325-5451
(State Forestry District)
Address 92219 Hwy. 202, Astoria, OR 97103

(4) PURCHASER: _____
Address _____

(5) MINIMUM SCALING SPECIFICATIONS			CLASS		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
All Conifers	--	10	X		
All Hardwoods	--	10	X		

* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.
** Sum (if indicated): see instructions and explain in Item (20).

(6) WESTSIDE SCALE: YES ☒ NO ☐
Actual taper all logs over 40' scaling length

(7) EASTSIDE SCALE: ☐ ☒
*Actual taper butt logs over 40' scaling length

(8) PENCIL BUCK ☐ ☒
back to Minimum Scaling Diameter _____

(9) ADD-BACK VOLUME -- ☒ ☐
Deductions due to delay

(10) APPROVED SCALING LOCATIONS	Species	Yard	Truck

(11) NOTICE OF CANCELLATION OF BRAND:
Effective Date: _____

State Forester's Representative

(12) SALE NAME Shingle Mill Road

COUNTY Clatsop

(13) STATE CONTRACT NUMBER 341-05-86

(14) SCALE: westside ☒ eastside ☐ cubic foot ☐

(15) STATE BRAND REGISTRATION NUMBER _____

(16) BUREAU BRAND CODE NUMBER _____

(17) STATE BRAND INFORMATION:

(COMPLETE) 

(18) PAINT REQUIRED: YES ☒
COLOR Orange

(19) SPECIAL SCALES
PEELABLE CULL (all species)
UTILITY/PULP (all species)
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE
OTHER: _____
OTHER: _____

(20) REMARKS: Any hardwood log that **does not** conform with the grading rules for a No. 4 Alder log or better, and **does not** meet the minimum requirements of 8 inches in gross scaling diameter and contains 20 net board feet, shall be scaled as a utility log.

Operator's Name (Optional inclusion by District): _____

(21) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

Notify the District within one hour when branding or painting is inadequate for quick identification, the receipts are missing, not correctly or completely filled out, and/or when logs presented for scaling are impossible to scale accurately.

Distribution: ORIGINAL: Salem / COPIES: TPSO (4), Purchaser, Operator, District, Sunset Unit

EXHIBIT C

INSTRUCTIONS FOR FORM 343-307 (rev. 5/01)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (21). Complete date.
- (2) Designate Third Party Scaling Organization (TPSO). Send 4 copies to TPSO, 1 to purchaser, 1 to Salem, and keep such copies as to district needs.
- (3) State District office, address and phone.
- (4) Enter Purchaser's business name and address as it appears on the Contract.
- (5) Minimum Scaling Specifications. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (13) thru (17)), and is required to show existence on the sale. **PerM** (per MBF). **SUM** (lump sum material). **SUB** (submerchantable material). SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (PerM) entries. PerM, SUM, and Sub must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. PerM and Sub require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, PERM and/or subspecies will always be scaled.
- (6) Westside -- actual taper segment scale. Check Yes or No. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Westside).
- (7) Eastside -- actual taper/taper table segment scale. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Eastside). Items with * follow U.S. Forest Service Eastside rules.
- (8) Pencil Buck. Check NO if a westside sale, optional for eastside sales.
- (9) Add-Back Volume. Add-Back is normally checked YES. Scaler records deductions (sap rot, weather checks, etc.) caused by an abnormal delay in removal. Enter separately on scale ticket. TPSO provides State with summaries that include this as a net volume by species. Salvage sales and certain other circumstances may require that "NO" be checked.
- (10) Show scaling locations only applicable to TPSO. Not necessary to list markets. If all species are scaled at same location, enter "ALL."
- (11) When logging is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box at top of form, and send to TPSO.
- (12) Enter sale name and county.
- (13) Enter sale Contract number.
- (14) Check Westside or Eastside log scale. Cubic foot refers to Northwest Log Rules Cubic Foot Scale.
- (15) Oregon Forest Products Brand Registry Number (optional).
- (16) DO NOT USE -- TPSO will fill in when applicable.
- (17) Show one brand only. Complete drawing. If more than one brand is assigned to the sale, (1) make separate form for each brand, and (2) on each form, explain and show other brand(s) under REMARKS, Item 19.
- (18) Check YES and designate orange.
- (19) Special Scales. These are the Special Scales that will be applied. If "Other" is indicated, please describe. Give comments in Item (19).
- (20) Use this space to designate weight conversion factors, or any other explanations to clarify scaling requirements. If additional scaling locations are approved, prepare another form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (21) Require purchaser to sign and date completed form.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
16 feet	12 feet	1A to 2A	0+00 to 9+00	Ditch
16 feet	12 feet	1C to 1D	0+00 to 3+80	Ditch
16 feet	12 feet	2A to 2B	0+00 to 30+75	Ditch
16 feet	12 feet	11 to 12	0+00 to 73+00	Ditch
16 feet	12 feet	13 to 14	0+00 to 31+80	Ditch
16 feet	12 feet	15 to 16	0+00 to 28+00	Ditch

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits.

Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 5 feet out from the toe of the fill slope, or as directed by STATE. Clearing debris shall not be placed or Permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

All danger trees, leaners, and Snags outside the clearing limits which could fall and hit the road shall be felled.

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects.

All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed. Grubbing debris shall not be placed or Permitted to remain in or under any road embankment sections. Grubbing debris shall not be left lodged against standing trees. Grubbing classifications are as follows:

New construction - From the top of the cutslope to the toe of the fill.

Improvements and reconstructions - 4 feet back from the shoulder of the subgrade or ditch, whichever is widest, or as marked in the field.

CLEARING AND GRUBBING DISPOSAL. Scatter through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required.

EXCAVATION. Excavation and grading shall not be done when weather and/or ground conditions are such that damage will result to existing subgrade or cause excessive erosion.

Excavation shall conform to STATE-engineered lines, grades, dimensions, and plans when provided.

All suitable excavated material shall be used where possible for the formation of fills, shoulders, and drainage structure backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials. All fills and drainage structure backfills shall be machine compacted according to the specifications in Exhibit D.

Unless road design plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 50 percent, the road shall be on full bench for the width specified.

Excess excavation shall not be sidecast where material will enter a stream course or where material will accumulate in areas deemed a high landslide hazard location by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

ROAD WIDTH LIMITATIONS. PURCHASER shall obtain advance written approval from STATE to construct the road to a greater width than specified. Extra subgrade width shall be required for:

Fill Widening. Add to each fill shoulder 1 foot for fills 3 feet to 6 feet high; 2 feet for fills over 6 feet high.

Curve Widening. Widen the inside shoulder of all curves as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

Ditch. Construct "V" ditch three feet wide and to a depth of 1 foot below subgrade. Subgrade shall be crowned at 4 to 6 percent. Construct ditchouts away from subgrade at locations marked in the field.

Outslope. Road subgrade shall be outsloped at 4 to 6 percent.

TURNOUTS. Increase roadbed width an additional 8 feet for both subgrade and surfacing. Length shall be at least 50 feet, or as staked on the ground, plus 25-foot approaches at each end.

Location: Intervisible but not greater than 750 feet and as marked in the field.

Top of cutslope shall be rounded.

GRADING

	<u>Back Slopes</u>	<u>Fill Slopes</u>
Rock	Vertical to 1/4:1	Not steeper
Common - side slopes 50% and over	3/4:1	than 1½:1
Common - side slopes less than 50%	1:1	
Common - turnpike (level) section	2:1	

LANDINGS. Landings shall be constructed as posted in the field, no less than 50 feet wide and no more than 70 wide. Surface is to be crowned for drainage, with general grade no more than 3 percent. Surface as shown on Exhibit D.

TURNAROUNDS. Increase subgrade width an additional 20 feet for a length of 20 feet at locations listed in Exhibit D, and/or as marked in the field.

SEASONAL WINTERIZATION. All unrocked roads or unfinished subgrades shall be waterbarred in accordance with specifications in Exhibit I, and blocked to vehicular traffic, prior to November 1, annually, and as directed by STATE.

EXHIBIT D

ROAD CONSTRUCTION INSTRUCTIONS

GENERAL ROAD CONSTRUCTION SPECIFICATIONS

- (1) Excavated Material. All suitable excavated materials from the road construction and alignment shall be utilized for road and fill construction, and hauled in where necessary. Surplus excavated material and waste material shall be hauled to waste areas as marked in the field and/or designated on Exhibit A. Surplus excavated materials and waste materials shall be sloped and compacted for drainage. All exposed waste materials shall be mulched with straw mulch, as approved by STATE. Applied straw mulch shall be a minimum of 2 inches deep and provide a uniform cover. Fills shall be thoroughly compacted in accordance with Exhibit D.
- (2) Riprap Rock Use. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with Exhibit G.

ROAD IMPROVEMENT INSTRUCTIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS

- (1) Roadside Brushing. Complete roadside brushing designated in Project No. 3 and as indicated on Exhibit A, Page 1, according to the specifications in Exhibit H.
- (2) Culvert Replacement and Culvert Installation. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with Exhibit D. Crushed rock shall be used for backfilling excavation trenches less than 3 feet deep. STATE may require the use of crushed rock for culvert bedding. Removed culverts shall be hauled to an approved refuse site off of STATE land.
- (3) Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack, or cutting off the culvert end to allow for free passage of water at peak flow levels. Install a culvert marker at each newly installed culvert and at each existing culvert that is missing a marker that could be reached by a grader blade. Markers shall meet specifications in Exhibit E. Excavated materials shall be placed in a stable location, as directed by STATE.
- (4) Subgrade Preparation and Application of New Surfacing Rock.
 - (a) Complete culvert installations, drainage ditches, roadside brushing, and other specified work prior to the application of new surfacing rock.
 - (b) Cut out all chuckholed and/or washboarded sections from the existing surfacing.
 - (c) Apply required base and leveling rock, as directed by STATE.
 - (d) Process (grade and mix) the existing surfacing and added base rock. Provide for a crown of ½ inch per foot, and compact in accordance with Exhibit D.
 - (e) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with specifications in Exhibit D.

EXHIBIT D

ROAD IMPROVEMENT INSTRUCTIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
I1 to I2	0+00	Point I1
	4+60	Gate
	18+50	Construct Ditch Out Left
	52+00	ODF Property Line
	58+55	Culvert Installation. Utilize 20 cubic yards of 1½"-0" crushed rock for culvert backfill.
	60+75	Point 1A
	73+00	Point I2.
I3 to I4	0+00	Point I3
	19+30	ODF Property Line
	23+30	Replace culvert. Utilize 20 cubic yards of 1½"-0" crushed rock for culvert backfill.
	31+80	Point I4
I5 to I6	0+00	Point I5
	12+30	ODF Property Line
	26+10	Point 2A
	28+00	Point I6

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: 1A to 1B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B		0+00 to 9+00		
				Volume (CY) per		Number of		
Base Rock	4"-0" Crushed	0+00 to 9+00	7	station	44	stations	9.00	396
Junctions	4"-0" Crushed	0+00	7	junction	20	junctions	1	20
Turnaround	4"-0" Crushed	7+20	N/A	TA	20	TAs	1	20
Landings	6"-0" Pit-run	3+45, 9+00	N/A	landing	80	landings	2	160
Total Rock for Road Segment: 1A to 1B								596
ROAD SEGMENT: 1C to 1D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	1C to 1D		0+00 to 3+80		
				Volume (CY) per		Number of		
Base Rock	4"-0" Crushed		7	station	44	stations	3.80	167
Junction	4"-0" Crushed	0+00	N/A	junction	20	junction	1	20
Landings	6"-0" Pit-run	3+80	N/A	landing	80	landings	1	80
Total Rock for Road Segment: 1C to 1D								267
ROAD SEGMENT: 2A to 2B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	2A to 2B		0+00 to 30+75		
				Volume (CY) per		Number of		
Traction Rock	3/4"-0" Crushed	0+00 to 1+00	N/A	station	20	stations	1	20
Base Rock	4"-0" Crushed		7	station	44	stations	30.75	1,353
Turnouts	4"-0" Crushed	8+70, 20+20, 27+75	7	turnout	20	turnouts	3	60
Junction	4"-0" Crushed	0+00	N/A	junction	20	junction	1	20
Turnaround	4"-0" Crushed	27+75	N/A	turnaround	20	TAs	1	20
Dissipator	24"-6" Riprap	8+50, 24+60	N/A	dissipator	10	stations	2	20
Landings	6"-0" Pit-run	5+00, 30+75	N/A	landing	40	landings	2	80
Total Rock for Road Segment: 2A to 2B								1,573
ROAD SEGMENT: I1 to I2				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size And Type	Location	Depth of Rock (inches)	I1 to I2		0+00 to 20+00		
				Volume (CY) per		Number of		
Base Rock	1 ½"-0" Crushed	0+00 to 20+00	4	station	25	stations	20	500
Turnouts	1 ½"-0" Crushed		N/A	turnout	20	turnouts	2.00	40
Leveling Rock	1 ½"-0" Crushed		N/A					100
Total Rock for Road Segment: I1 to I2								640

EXHIBIT D
ROAD SURFACING

ROAD SEGMENT: I1 to I2				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2		20+00 to 52+00		
				Volume (CY) per		Number of		
Base Rock	4"-0" Crushed	20+00 to 52+00	6	station	38	stations	32.00	1216
Turnouts	4"-0" Crushed		N/A	turnout	20	turnouts	2	40
Traction Rock	3/4"-0" Crushed	20+00 to 25+00		station	10	stations	5	50
Leveling Rock	4"-0" Crushed		N/A					160
Junctions	4"-0" Crushed	25+00	N/A	junction	30	junctions	1	30
Total Rock for Road Segment:			I1 to I2					1496

ROAD SEGMENT: I1 to I2				ODF		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2		52+00 to 73+00				
				Volume (CY) per		Number of				
Base Rock	4"-0" Crushed	52+00 to 73+00	6	station	38	stations	21.00	798		
Turnouts	4"-0" Crushed		N/A	turnout	20	turnouts	2	40		
Culvert Bedding Rock	3/4"-0" Crushed	58+55		culvert	20	culvert	1	20		
Total Rock for Road Segment:				I1 to I2				858		

ROAD SEGMENT: I3 to I4				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		0+00 to 19+30		
				Volume (CY) per		Number of		
Leveling rock	1 1/2"-0" Crushed	0+00 to 19+30	N/A					200
Turnouts	1 1/2"-0" Crushed		N/A	turnout	10	turnouts	2	20
Junctions	1 1/2"-0" Crushed	I3		junction	30	junctions	1	30
Total Rock for Road Segment:				I3 to I4				250

ROAD SEGMENT: I3 to I4			ODF	POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		19+30 to 31+80		
				Volume (CY) per		Number of		
Leveling rock	1 1/2"-0" Crushed	19+30 to 31+80						100
Turnouts	1 1/2"-0" Crushed		N/A	turnout	20	turnouts	2	40
Turnaround	1 1/2"-0" Crushed	30+50	N/A	turnaround	10	turnaround	1	10
Culvert Bedding Rock	3/4"-0" Crushed	23+30	N/A	culvert	20	culvert	1	20
Total Rock for Road Segment:			I3 to I4					170

EXHIBIT D
ROAD SURFACING

ROAD SEGMENT: I5 to I6				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		0+00 to 12+30		
				Volume (CY) per		Number of		
Base Rock	1 1/2"-0" Crushed	0+00 to 12+30	4	station	25	stations	12.3	308
Turnouts	1 1/2"-0" Crushed		N/A	turnout	10	turnouts	1	10
Junctions	1 1/2"-0" Crushed	I5		junction	30	junctions	1	30
Total Rock for Road Segment:			I5 to I6					348

ROAD SEGMENT: I5 to I6				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		12+30 to 28+00		
				Volume (CY) per		Number of		
Base Rock	1 1/2"-0" Crushed	12+30 to 19+80	4	station	25	stations	7.5	188
Turnouts	1 1/2"-0" Crushed		N/A	turnout	10	turnouts	2	20
Base Rock	4"-0" Crushed	19+80 to 28+00	6	station	32	stations	8.2	262
Turnouts	4"-0" Crushed		N/A	turnout	20	turnouts	2	40
Total Rock for Road Segment:			I5 to I6					510

ROCK TOTALS (CY)	24"-6"	6"-0"	4"-0"	1 1/2"-0"	3/4"-0"
6,707	20	320	4,662	1,595	110

Additional rock for curve widening is required and has been included in the volume estimates.

Roads shall be uniformly graded, compacted and approved by STATE prior to rocking. For typical cross section see Forestry Department Drawing Nos. 351-C and 351-D at the Forestry Department district office.

EXHIBIT D
ROCK ACCOUNTABILITY

PURCHASER shall obtain subgrade approval from STATE prior to rocking. Rocking shall be limited to periods when weather conditions are acceptable to STATE and when sediments will not enter streams.

Rock accountability shall be determined by the following methods, as directed by STATE. STATE shall be given 24 hours' notice prior to rocking.

Rock Checking. All rock spreading shall be done only when a STATE representative is present. STATE shall issue a receipt for each load delivered, and rock shall be measured without allowance for shrinkage or shakedown during hauling. Total truck measure volume for each road segment shall be as shown on Exhibit D. Deliver at least 600 cubic yards per 8-hour shift, unless otherwise approved by STATE. A penalty of \$10 for each 10 cubic yards which are not delivered during a single shift shall be billed, and payment shall be required prior to final acceptance of the project by STATE.

Depth Measurement. Rock shall be spread and compacted according to the depths specified in Exhibit D. Truck measure volumes are given, but shall not limit the amount of rock spread.

Depth shall be determined in the most compacted area of the surface cross section. If additional rock is required because of insufficient depth, it shall be added by truck measure to those areas that were slighted. The conversion from compacted yardage to truck yardage is 1.3 multiplied by the compacted yardage equals truck yardage.

The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in Exhibit D. The average depth for each road segment shall be the specified depth or greater. Surfacing areas that fail to meet these requirements shall be staked by STATE.

Load Records. Notify STATE before spreading the rock and maintain a record of all rock delivered for spreading. Make the record available for STATE inspection. A report listing the amount of rock delivered the prior month must be submitted no later than the 15th of each month.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Subgrade. Subgrade surfaces of the road segments listed below shall be graded and compacted prior to rocking. Compaction shall be accomplished by traveling all surfaces from shoulder to shoulder until visible deformation ceases, or in the case of a sheepsfoot roller, the roller "walks out." At least 3 passes shall be made over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All Road Construction and Road Improvement Segments	1

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases or, in the case of a sheepsfoot roller, the roller "walks out." At least 3 passes shall be made over the entire width and length of each layer. A pass is defined as traveling a fill layer in one direction and then back over that same layer again.

Placing individual rocks or boulders with more depth than the allowed layer thickness shall be Permitted, provided the embankment will accommodate them. Such rocks and boulders shall be at least 6 inches below the subgrade. They shall be carefully distributed and the voids filled with finer material, forming a dense and compacted mass. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All Road Construction and Road Improvement Segments	1 or 2 or 3; and 4

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 8 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All Road Construction and Road Improvement Segments	1

EXHIBIT D

COMPACTION EQUIPMENT OPTIONS

- (1) Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 VPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled and operated at speeds ranging from 0.9 mile to 1.8 miles per hour, as directed by STATE.
- (2) Tampingfoot Compactors. Tampingfoot or sheepsfoot compactors shall exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet. The compactor shall cover a minimum width of 60 inches per pass and weigh a minimum of 16,000 pounds.
- (3) Rubber-Tired Skidders. A rubber-tired skidder weighing a minimum of 20,000 pounds shall be operated over the fill layers so that the entire layered surface comes in contact with the tires. Skidders with oversized tires (high flotation) are not acceptable for compaction.
- (4) Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts. The tamper shoe dimensions shall be a minimum of 10" X 13" and capable of a centrifugal force of 2,250 pounds.

EXHIBIT E

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract. Culverts shall conform to the material and fabricating requirements of Section 2410 and 2420 of the "Standard Specifications for Highway Construction" prepared by the Highway Division of the Oregon State Department of Transportation. All culverts shall be constructed with double-walled polyethylene. Double-walled polyethylene pipe shall meet the requirements of AASHTO M-294-901, Type S. Corrugation types and shapes other than those meeting the above minimum Highway requirements, shall be approved in writing by STATE. This specification applies to high density polyethylene corrugated pipe with an integrally formed smooth interior. Clean reworked material may be used.

Culverts shall be located according to the alignment and grade as shown on the Plan and Profile, and/or as staked in the field, or as stipulated in special instructions.

The STATE Representative shall determine final culvert locations and stake the locations in the field prior to installation.

Culvert grade shall slope away from ditch grade at least 2 percent unless otherwise specified.

The foundation and trench walls for all culverts shall be free from logs, stumps, limbs, stones over 3 inches, and other objects which would dent or damage the pipe during installation or use. The culvert trench shall be excavated 3 pipe diameters wide to permit compaction and working on each side of the pipe. Tamping shall be done in 6-inch lifts, 1 pipe diameter each side of the pipe to 95 percent density or over. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert.

A bedding of granulated material or crushed rock as specified shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the pipe.

Backfill shall consist of granulated material, crushed rock, or job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the pipe.

Transporting of the pipe shall be done carefully. Dragging or allowing free fall from trucks or into trenches shall not be permitted.

Joining shall be done with bands of like material and corrugations. Manufacturers' instructions shall be followed for prefabricated pipe assembly.

Polyethylene joints shall be made with split couplings, corrugated to engage the pipe corrugations, and shall engage a minimum of 4 corrugations, 2 on each side of the pipe joint.

A manufacturer's certification that the product was manufactured, tested, and supplied in accordance with this specification shall be furnished to STATE upon request.

Tamping is required as specified in Exhibit D and shall be done in 8-inch lifts, 1 pipe diameter each side of the pipe to 85 percent density or over, and to the minimum fill height as specified below. Additional fill shall be embankment material.

Fill heights, if not shown on a road plan and profile, shall be in accordance with those in drawing No. 2094, "Fill Height Tables," prepared by the Highway Division of the Oregon State Department of Transportation. Any deviation must be approved by STATE.

EXHIBIT E
CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18" to 36" and 18" for culverts 42" to 96" (add 6" for roads which will not be rocked). Minimum vertical cover for other designs shall be as specified by STATE.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions.

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water. The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with a half round or other approved slope protection device.

All coupling band designs shall be in accordance with the minimum requirements of the Highway Division (Drawing Nos. 2091-A and B), or as approved by STATE.

Polyethylene culverts between 3" to 10" in diameter shall meet the requirements of AASHTO M-252-851. Polyethylene culverts between 10" to 36" in diameter shall be double walled and meet the requirements of AASHTO M-294-901, Type S.

The intake ends of culverts shall be marked by driving white fiberglass posts within 6 inches of the downgrade side. Posts shall be a minimum of 6 feet long, and be a minimum of 2½ inches in width, with the spade driven 2 feet into the ground.

All removed culverts shall be hauled to an approved refuse site off of State land.

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	18	40	1A to 1B	0+00
2	18	30	1A to 1B	7+00
3	18	30	1C to 1D	2+00
4	18	40	2A to 2B	0+00
5	18	30	2A to 2B	2+00
6	18	35	2A to 2B	8+50
7	18	30	2A to 2B	10+00
8	18	30	2A to 2B	16+50
9	18	30	2A to 2B	24+60
10	18	30	2A to 2B	29+20
11	18	30	I1 to I2	58+55
12	18	30	I3 to I4	23+30

EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

- (1) PURCHASER shall schedule and coordinate Hunt Creek Quarry and Stockpile use with other STATE Contracts and planned STATE Contracts requiring quarry and stockpile use.
- (2) PURCHASER shall prepare a written development plan for the pit area. The plan shall be submitted to STATE for approval prior to conducting any operation in the pit area. The plan shall include, but not be limited to:
 - (a) Location of benches and roads to benches.
 - (b) Disposal site for debris and overburden.
 - (c) Time lines for rock quarry use.
 - (d) Erosion Control measures.
- (3) PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that silt, rock, debris, dirt, or clay shall not be washed, conveyed, or otherwise deposited in any stream. All waste shall be deposited at an approved "waste disposal site."
- (4) Clear and grub the rock source area. All woody debris, including stumps and slash shall be disposed of as directed by STATE.
- (5) Benches shall be constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 degrees or less. Said bench shall be easily accessible with tractors.
- (6) Pit face shall be developed in a uniform manner.
- (7) Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be utilized and such measures maintained to protect the watershed and project work, as directed by STATE.
- (8) PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.
- (9) The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Quarry bench access road shall be cleared, water barred and blocked upon completion of quarry use as directed by STATE.
- (10) The quarry site shall be left in a condition free from overburden and debris. Access roads to the quarry, and the quarry floor, shall be cleared at the termination of use. Overburden shall be removed for a distance of 20 feet beyond the developed rock source. All quarry backslopes shall be left in a stable condition.

PIT-RUN AND RIPRAP ROCK SPECIFICATIONS

<u>For 6"-0" Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	65%
<u>For 24"-6" Riprap</u>	A minimum of 50 percent of the material shall measure a minimum of 24 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.		

Control of gradation shall be by visual inspection by STATE.

EXHIBIT G

TYPICAL EMBEDDED ENERGY DISSIPATOR

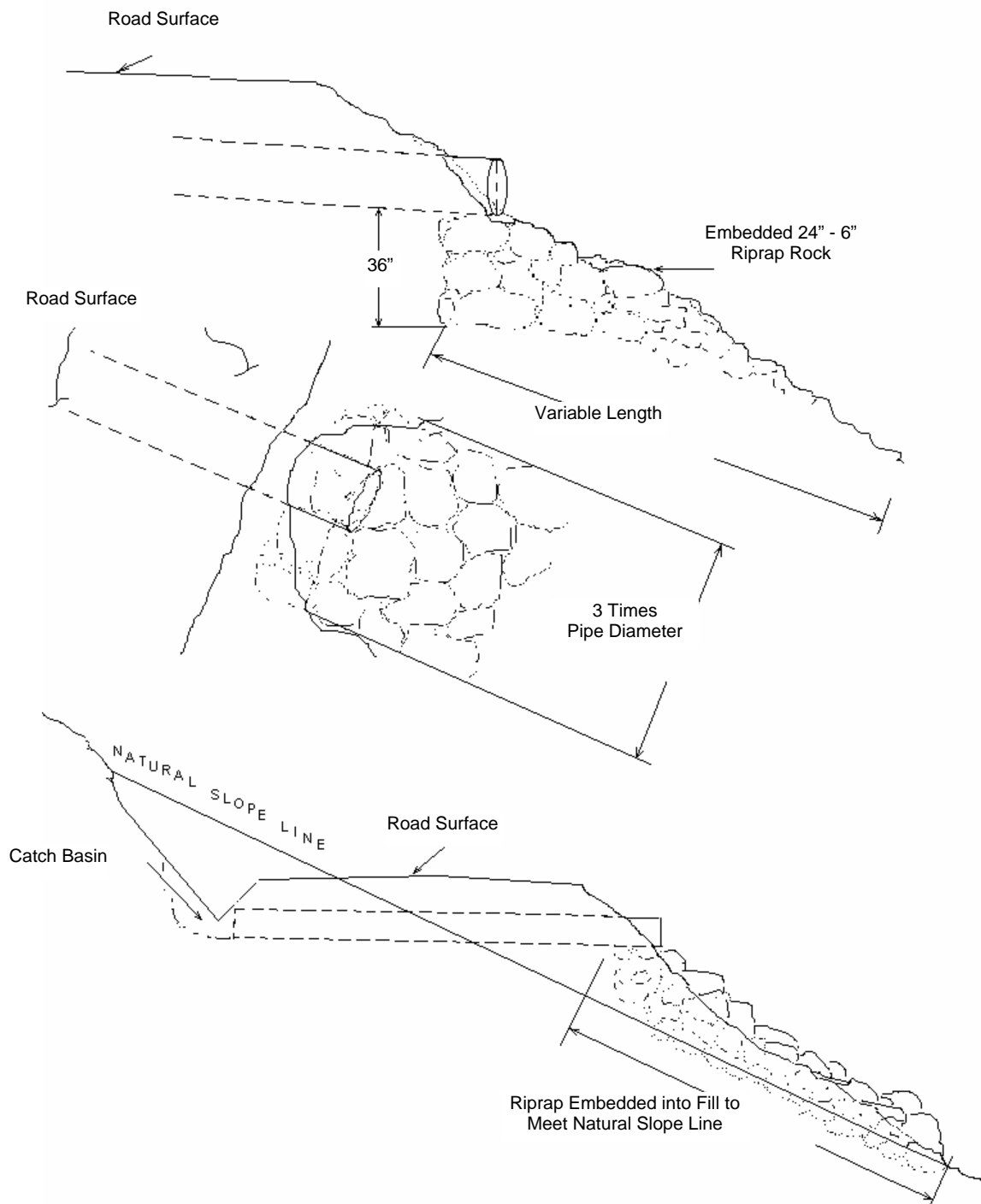
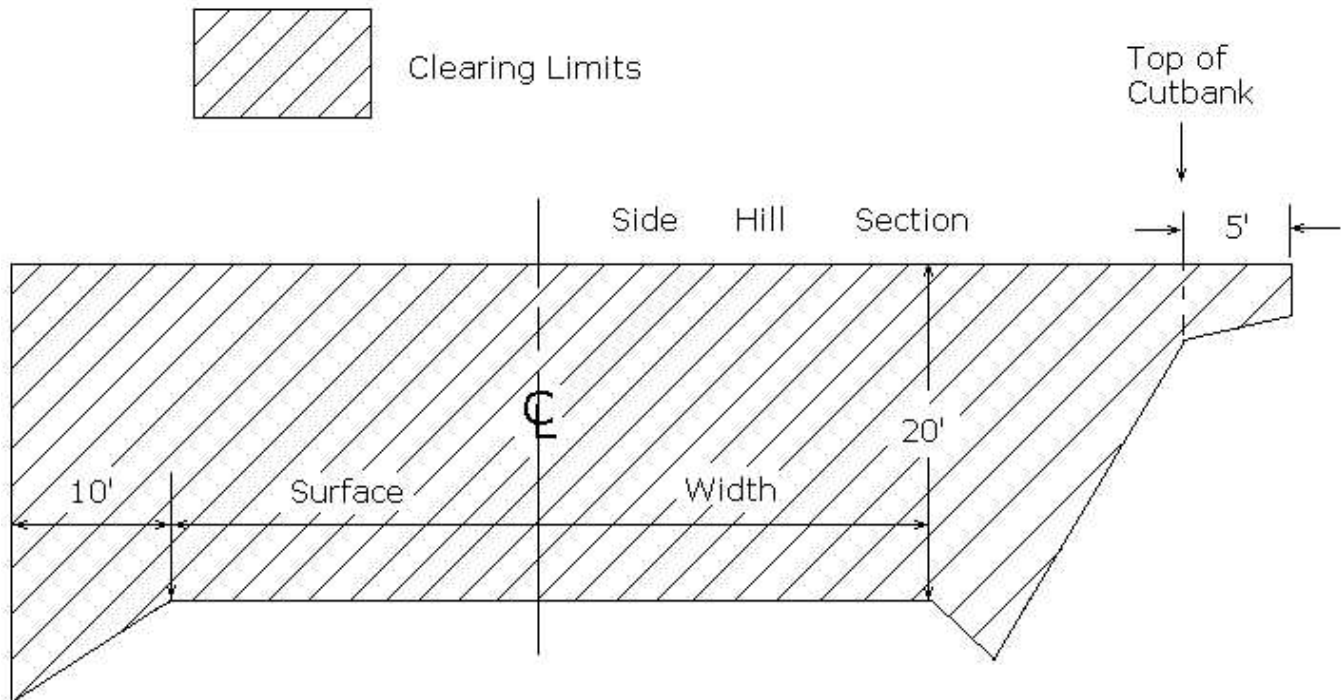


EXHIBIT H

LOGGING ROAD BRUSHING SPECIFICATIONS



REQUIREMENTS

Clear roadside brush on road segments shown on Exhibit A, Page 1.

The minimum height of clearing shall be 20 feet from the road surface, and the minimum width of clearing on the cutslope side(s) of the road shall be 15 feet horizontal distance from the shoulder of the road, 5 feet beyond the top of the cutbank, and 10 feet horizontal on the down slope side from the road shoulder.

Brush and trees shall be cut to a maximum height of 6 inches above the ground surface or obstructions such as rocks or existing stumps. On road surfaces, all brush and trees shall be cut flush to the road surface.

Debris resulting from the brushing operation shall be removed from the roadway, cutslope, ditches, and water courses and may be scattered downslope from the road or placed in other stable locations. Large debris, 6 inches or larger in diameter, shall be cut into lengths of 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

Private Property Specification:

On the following portions of road segments, trees 4 inches in diameter at stump height, located within clearing limits but outside of the ditchline or shoulder, shall not be cut down, but shall be limbed for road visibility:

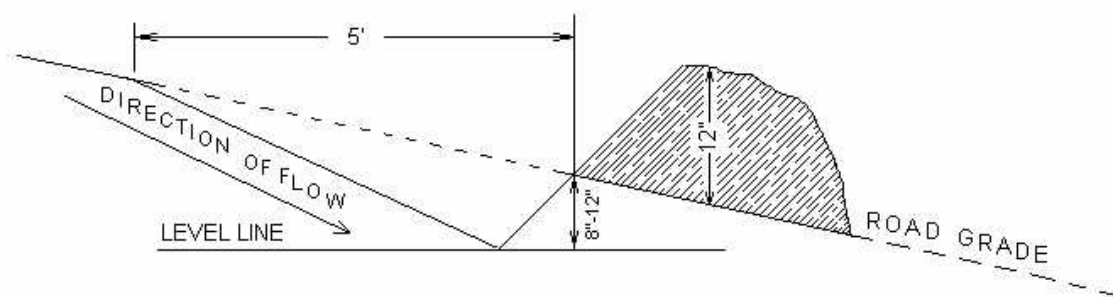
I1 to I2 from 0+00 to 52+00, I3 to I4 from 0+00 to 19+30, and I5 to I6 from 0+00 to 12+30.

ODF Property Specification:

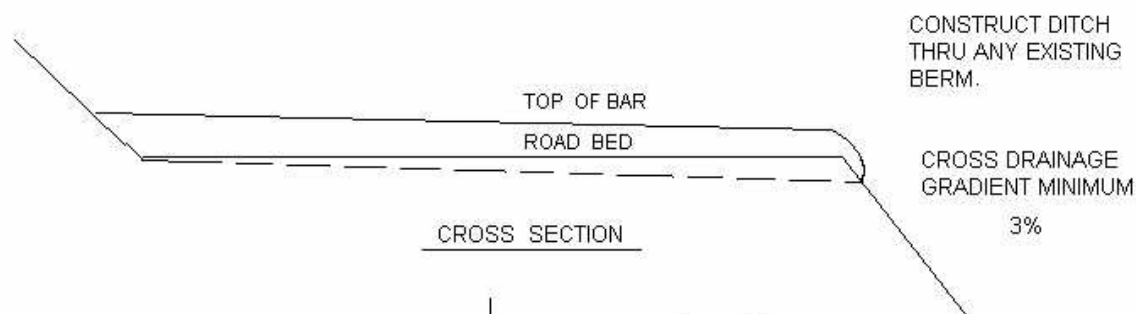
On all other portions of road segments, conifer trees larger than 6 inches in diameter at stump height, located within clearing limits but outside of the ditchline or shoulder, shall not be cut down, but shall be limbed for road visibility.

EXHIBIT I

WATERBAR SPECIFICATIONS



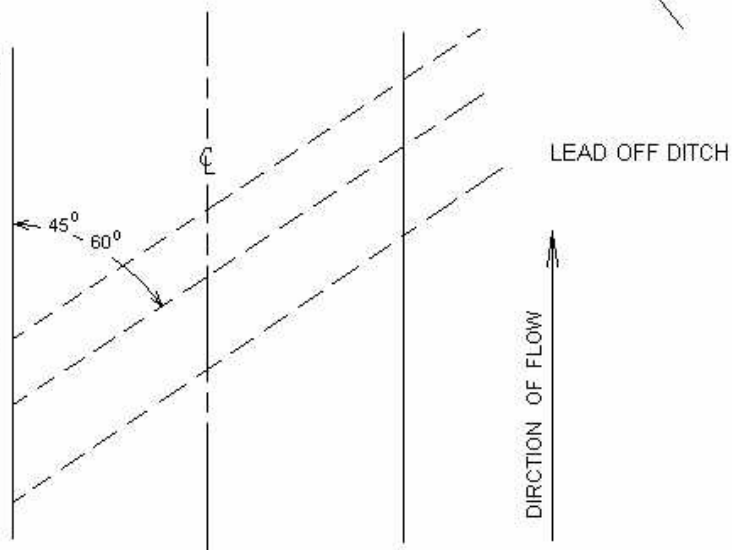
PROFILE



CROSS SECTION

SPACING OF WATERBARS:

ROAD GRADE	DISTANCE
≤ 5%	400'
6-10%	200'
11-15%	150'
16-20% or Greater	100'



PLAN VIEW

WATERBAR SPECIFICATIONS
 FOR CROSS DITCHING #298

EXHIBIT J

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Description of Work To Be Done

Areas designated for work under the contract shall be treated according to the specifications given below:

Clearing - Brush, logging slash, and other debris shall be cleared from planting sites and piled in windrows or piled so that 80 percent or more of the soil organic layer is exposed. All woody vegetation (other than conifer trees) is defined as brush in this exhibit.

Piles - shall be located at least 75 feet apart and shall be no more than 75 feet long. Piles shall be located inside the project area designated for piling and shall be more than 75 feet from any edge or standing conifer tree. Piles shall be built to a height of 3 to 4 feet and then covered to prevent water from reaching the slash. STATE shall supply the materials used for covering the slash. Additional woody debris shall be piled on top of the covered piles to complete the piling, as directed by STATE. Logs and chunks which are suitable for firewood shall be piled separately from slash, near roads and landings and alongside the road in locations designated by STATE.

Conifer Trees - shall be saved, unless otherwise directed by STATE.

Skid Trails - shall be ripped to a depth of 12 inches.

Reserved Material: All trees, Snags, logs, and other Down Wood designated in Sections 2320 through 2350, "Reserved Timber."

Protective Measures - shall comply with applicable Oregon Forest Practice Rules issued per ORS 527.610 to 527.992 and with the terms of this Contract including, but not limited to, Section 2455, "Ground-Based Operations," and Section 2520, "Protection of Watershed." Examples of protective measures are: (1) waterbarring tractor trails where necessary to prevent runoff toward streams; (2) not windrowing in streams or streamways; and (3) leaving stream buffers along designated streams.

Work specifications may be modified or waived only upon written notice from STATE.

EXHIBIT J

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Equipment Type, Equipment Operation, and Conduct of Work

The specifications given below are requirements for equipment type, equipment operation, and conduct of work under the contract.

Shovel - shall be a track-mounted machine with a ground-pressure rating of not more than 6.8 PSI and a net horsepower of 85 or more. The machine shall be capable of a minimum horizontal reach of 26 feet and a minimum vertical reach of 16 feet.

- Excavator-shovel: Bucket shall be a hydraulically controlled, 4 to 5-foot wide, "clamshell-style bucket with rake arms," with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless otherwise approved in writing by STATE. "Clamshell-style bucket with rake arms" shall be hydraulically controlled to operate bucket in a horizontal position (**fixed position: positive control**) for piling slash.
- Log Loader-shovel: Bucket shall be a hydraulically controlled, 4 to 5 foot wide, "clamshell-style bucket with rake arms," with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless other wise approved in writing by STATE. "Clamshell-style bucket with rake arms" shall be hydraulically controlled to operate bucket in a vertical position (**free swinging**) for piling slash.

Equipment	Rate	Hours	Appraised Value
Excavator	\$ 120.00 / hour	44.0	\$ 5280.00
Log Loader	\$ 70.00 / hour	75.4	\$ 5280.00

Operator - must be experienced in operating similar equipment on land clearing operations, be able to operate the equipment proficiently, and pile the debris on the area as directed by STATE.

Support - including transport, other equipment, replacements, supplies, maintenance, and repairs shall be furnished as required to complete work; and shall be furnished without cost to STATE, other than as agreed under the contract terms.

Work Scheduling - work shall be accomplished only during dry weather conditions, and started within 14 calendar days after completion of yarding activities on Areas 3. Operations shall provide for continual operation until contract work is completed, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment to prevent prolonged delays. Piling operation shall not be allowed when operations might damage sites or affect stream flows. Any exception to these instructions must be authorized in writing by STATE.

STATE Representative - shall provide directions for the conduct of work according to specifications.

PART IV: OTHER INFORMATION

FOREST PRACTICES ACT "WRITTEN PLAN" For Harvest of State Timber Shingle Mill Road Timber Sale Portions of Sections 25 and 36, T8N, R7W; Section 31, T8N, R6W; and Section 6, T7N, R6W, W.M., Clatsop County, Oregon.

Landowner: Oregon Department of Forestry
92219 Highway 202
Astoria, Oregon 97103
Phone: (503) 325-5451

Protected Resources:

Gnat Creek – Large, Type F Stream.

Specific Site Characteristics:

Gnat Creek – This stream runs along the western boundary of both Areas 1 and 2 for approximately 4,300 feet. Both Area boundaries are posted more than 100 feet from Gnat Creek. During cable yarding operations, it is anticipated that skylines will cross over Gnat Creek.

Tree and Vegetation Retention:

Vegetation within the buffers consists of a combination of conifers, hardwoods, and shrubs. In both of the specified harvest areas, all trees and shrubs within the RMA of Gnat Creek will be retained.

Resource Protection Practices:

Along all of the above mentioned stream, the following practices are required, under the timber sale contract, to protect the streams and streamside areas:

- No trees will be felled within posted stream buffers (RMA's).
- Trees adjacent to the posted stream buffers (RMA's) will be felled away from or parallel to the streams to prevent trees from entering the aquatic areas.
- When cable logging is conducted nearby the RMA's, logging lines may cross, but will not be lowered into the RMA's during yarding, except during rigging. During rigging the lines must be pulled out of the RMA's when changing corridors.
- Cable corridors must be at least 100 feet apart where they cross the RMA's.
- Trees that fall or slide into Type F RMA's shall not be removed without prior approval from STATE.

I, the undersigned, submit this written plan in compliance with the requirements of the Forest Practices Act, regarding the planned operations to be conducted within 100 feet of Type F streams. I agree to the protection measures listed in this plan.

Submitted by: _____
Operator/ Purchaser

Date: _____

Attachments: Logging Plan Map

Original: Salem

Copies: PURCHASER, Operator, District File, Sunset Unit