PART III: EXHIBITS

State Timber Sale Contract No. 341-18-88 Wildcat WL

EXHIBIT B

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OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date	Received by STATE:	(5) State Brand Infor	rmation (complete):	$ \sim $
(1)	Contract No.: 341-18-88	<u></u>	(
(2)	Sale Name: Wildcat WL			—
(3)	Contract Expiration Date: May 31, 2019	Project Completion Da	ites:	
	Purchaser:			
(4)				
(6)	Purchaser Representatives:		Cell/Other	
	Projects:	Phone:	Phone:	Home:
			Cell/Other	
	Projects:	Phone:	Phone: Cell/Other	Home:
	Projects:	Phone:	Phone:	Home:
			Cell/Other	
	Projects:	Phone:	Phone:	Home:
	T	DI.	Cell/Other	11
	Logging:	Phone:	Phone: Cell/Other	Home:
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	- 66 6:	_	Cell/Other	
	Logging:	Phone:	Phone:	Home:
	Tin	Phone:	Cell/Other Phone:	11
	Logging:	Phone:	Phone:	Home:
(7)	State Representatives:			
	•		Cell/Other	
	Projects:	Phone:	Phone:	Home:
	Logging	Phone:	Cell/Other Phone:	Home:
	Logging:		riiolie.	_ nome.
(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:			
(2)	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.

Explanation of 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.

1	Cable Landing, with numbers for sequence.
A	Tractor Landing with alphabetical sequence.
	Approximate setting boundary.
	Spur truck roads.
	Tractor yarding roads.
X	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.

	ED: Date: F OREGON - DEPARTMENT OF FORESTRY	SUBMITTED BY: PURCHASER	
Title _		Title	
Original:	Salem District File		

Operator
(Purchaser Representative)_____

Unit Purchaser

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EXHIBIT C – SAWMILL GRADE (WESTSIDE SCALE) SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

(1) ORIGINAL REGISTRATION Date REVISION NUMBER Date Date CANCELLATION Date Third Party Scaling Organization) (2) TO: (Third Party Scaling Organization) (3) FROM: Western Lane (03) Phone 541-935-2283 (State Forestry District) Address 87950 Territorial Road Veneta Or 97487 (4) PURCHASER: Mailing Address: Phone Number:				(9) (10) (11) (12)	STATE BRAND REGISTRATION NUMBER:			
(6) (7)	SPECIES Conifers Hardwoods Apply minimum volun WESTSIDE	scale: taper rule. Logs over 40'.	M NET VOL 10 10 Westside		NO		(1 ² PE NC ME AD	PAINT REQUIRED: YES \(\) COLOR: Orange B) SPECIAL REQUESTS (Check applicable) ELABLE CULL (all species) \(\) DEDUCTIONS ALLOWED FOR ECHANICAL DAMAGE DD-BACK VOLUME - Deductions due to delay \(\) THER:
(8)	LOCATIO	ED SCALING NS roved Locations web-site)	Species	Yard	Truck	Weight	(15)	REMARKS

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.

EXHIBIT C – SAWMILL GRADEINSTRUCTIONS FOR FORM 343-307a (rev. 11/11)

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers, date and sign where indicated, write diagonally across page "CANCEL", and send to TPSO.

Pacific Rim Log Scaling Bureau, Inc.

Yamhill Log Scaling & Grading Bureau

P.O. Box 709, Forest Grove, OR 97116

Pacific Log Scaling & Grading Bureau, Inc.

P.O. Box 23939, Portland, OR 97281

Phone: (360) 528-8710

Email: office@prlsb.com

Phone: (503) 359-4474

Phone: (503) 684-5599

Email: yamhill@attglobal.net

Email: PacLogScale@aol.com

8288 28th Court North East, Lacey, WA 98516

Fax: (360) 528-8718

Fax: (503) 359-4476

Fax: (503) 639-4880

(2) Designate Third Party Scaling Organization (TPSO).

Columbia River Log Scaling & Grading Bureau P.O. Box 7002, Eugene, OR 97401

Phone: (541) 342-6007 Fax: (541) 342-2631

Email: services@crls.com

Mountain Western Log Scaling & Grading Bureau

P.O. Box 580, Roseburg, OR 97470

Phone: (541) 673-5571 Fax: (541) 672-6381

Email: info@mwlsgb.com

Northwest Log Scalers, Inc

5526 NE 122nd Ave, Portland, OR 97230

Phone: (503) 254-0600 Fax: (503) 408-0919

Email: info@nwlogscalers.com

(3) State District office, address and phone.

(4) Enter Purchaser's business name, address, and phone number as it appears on the Contract.

(5) Minimum Scaling Specifications.

- (6) Westside Region 6 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) Weight Scale Sample Check box if sale is to be a Weight Scale Sample. All specifics for handling, scaling and processing will be attached or explained in the Remarks section Item (15).
- (8) Show scaling locations only applicable to TPSO. Location name should appear as it does on the ODF Approved Scaling Location web site: http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp Locations with scaling and processing directions specific to their location should be on a separate form. Species should be identified if not capable of receiving "all" species. Check appropriate box for either: yard, truck scale, or weight. Refer to the web site listed above for the locations approval status.
- (9) Enter sale name and county.
- (10) Enter sale Contract number.
- (11) Enter Oregon's State Brand Registry Number (REQUIRED).
- (12) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (15).
- (13) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.
- (14) Special Requests. These are requests that will be applied to ODF timber sales. All boxes applicable to the timber sales designated in the Exhibit C form must be "marked." If "Other" is indicated, it must contain a description and any necessary comments.
- (15) Use this space to designate any weight conversion factors, per load volumes, weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (16) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

 State Timber Sale Contract No. 341-18-88 Wildcat WL Page 3 of 4 629-Form 343-307b Revised 11/11

EXHIBIT C - PULP SORT

PROCESSING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

(1)	ORIGINAL REGISTRATION Date	(9)	SALE NAME: Wildcat WL
	REVISION NUMBER Date CANCELLATION Date		COUNTY: Lane
(2)	TO:(Approved Pulp Processing Facility)	(10)	STATE CONTRACT NUMBER: 341-18-88
(3)	FROM: Western Lane (03) Phone 541-935-2283	(11)	STATE BRAND REGISTRATION NUMBER
(4)	(State Forestry District) PURCHASER:	(12)	STATE BRAND INFORMATION: (COMPLETE BELOW)
(5)	Scaling Bureau (TPSO) Processing Weight receipts:		
	Mailing Address:Phone Number:		
(6)	 STATE Definition of Approved Pulp Sort: Top portion of the tree (tops). All logs with a diameter (Big End) greater than _8 inches marked with blue paint. 	(13)	REMARKS:
(7)	 PULP FACILITY PROCESSING INSTRUCTIONS: Pulp loads shall be weighed in lieu of scaling. One Ton = 2000 lbs (Short Ton). Pulp loads shall have a yellow Log Load Receipt 	Oper	rator's Name (Optional inclusion by District):
	 attached. Gross weight and truck tare weight for each load shall be machine printed on the weight receipt. Weigher shall sign the weight receipt. 	(14)	SIGNATURES:
	 Weigher shall record the Log Load Receipt number on the weight receipt. Weigher shall attach the Weight receipt to the Load Receipt and mail them weekly to the 		Purchaser or Authorized Representative Date
(0)	TPSO processing the Weight receipt.		State Forester Representative Date
(8)	 TPSO PROCESSING INSTRUCTIONS Mail to ODF weekly. Convert to mbf using 10 tons per mbf. 		State Forester Representative PRINT NAME

Notify the District within one hour when branding is inadequate for quick identification, the logs are marked with orange paint, the receipts are missing, not correctly or completely filled out, and/or logs do not meet the specifications of the STATE definition of Approved Pulp Sort.

Distribution: ORIGINAL: Salem / COPIES: TPSO, Approved Pulp Processing Location, Purchaser, District, Mgmt. Unit

EXHIBIT C - PULP SORT

INSTRUCTIONS FOR FORM 343-307b (rev. 11/11)

- (1) Must Complete. Check appropriate box. REVISION NUMBER requires comments in the Remarks Section (13). CANCELLATION requires logging and hauling to be complete, recall branding hammers, date and sign where indicated, write diagonally across page "CANCEL", and send to TPSO.
- (2) **Must Complete.** Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location http://www.odf.state.or.us/DIVISIONS/management/asset management/ScalingLocation.asp
- (3) Must Complete. State Forestry District and District Phone Number.
- (4) **Must Complete**. Purchaser's business name as it appears on the Contract.
- (5) **Must Complete.** Third Party Scaling Organization that will be processing the weight tickets, mailing address, and phone number.

Columbia River Log Scaling & Grading Bureau P.O. Box 7002, Eugene, OR 97401

Phone: (541) 342-6007 Fax: (541) 342-2631

Email: services@crls.com

Mountain Western Log Scaling & Grading Bureau

P.O. Box 580, Roseburg, OR 97470

Phone: (541) 673-5571 Fax: (541) 672-6381

Email: info@mwlsgb.com

Northwest Log Scalers, Inc . 5526 NE 122nd Ave, Portland, OR 97230 Phone: (503) 254-0600 Fax: (503) 408-0919

Email: info@nwlogscalers.com

Pacific Rim Log Scaling Bureau, Inc.

8288 28th Court North East, Lacey, WA 98516

Phone: (360) 528-8710 Fax: (360) 528-8718

Email: office@prlsb.com

Yamhill Log Scaling & Grading Bureau P.O. Box 709, Forest Grove, OR 97116

Phone: (503) 359-4474 Fax: (503) 359-4476

Email: yamhill@attglobal.net

Pacific Log Scaling & Grading Bureau, Inc. P.O. Box 23939, Portland, OR 97281

Phone: (503) 684-5599 Fax: (503) 639-4880

Email: PacLogScale@aol.com

- (6) **Must Complete.** Big end log not to exceed _____ inches. Big end of log is not to exceed 2 inches greater than the minimum removal specifications in the contract. Example: Minimum removal specifications 6 inches and 20 board feet, then the Big end of log not to exceed 8 inches. When conifer and hardwood removal specifications are different, use the smaller removal diameter to determine this specification.
- (9) **Must Complete**. Enter sale name and county. If more than one county write in all the counties that the sale is located in.
- (10) Must Complete. Enter sale Contract number.
- (11) Must Complete. Enter Oregon's State Brand Registry Number (REQUIRED).
- (12) **Must Complete**. Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (13).
- (13) Use this section to list any special instructions or the reason for any revisions in section item (1).
- (14) **Must Complete.** Purchaser required to sign and date completed form in addition to State Forester Representative, sign <u>and</u> print name on the form.

Salem Distribution Instructions: Original will be mailed to Salem after it is electronically scanned and placed in the Salem transfer drive \\WPODFFILL01\Transfer\ScalingInstructions or e-mailed directly to scaling@odf.state.or.us. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

EXHIBIT D FOREST ROAD SPECIFICATIONS

ROAD	SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
Cemetery Forest Road	16	12	A to C	0+00 to 105+60	Ditched
Spur 1	14	12		0+00 to 8+30	Ditched
Spur 2	16	12	B to D	0+00 to 26+50	Ditched
Spur 3	14	12		0+00 to 28+00	Ditched / Outsloped
Spur 3a	14	12		0+00 to 2+00	Outsloped
Spur 3b	14	12		0+00 to 1+50	Outsloped
Spur 4	14	12		0+00 to 14+50	Ditched / Outsloped

<u>CLEARING</u>. 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 cut slope and 10 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.

<u>GRUBBING</u>. 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 cut slopes 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 CLASSIFICATION.

New construction - from the top of the cut slope 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.

<u>CLEARING AND GRUBBING DISPOSAL</u>. Scatter in stable locations through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required. In areas where end-haul is required, clearing and grubbing debris shall be fully contained and hauled to a designated waste area. Clearing and grubbing debris shall be left in a stable location, and not left lodged against standing trees.

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EXHIBIT D

FOREST ROAD SPECIFICATIONS

<u>EXCAVATION</u>. 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-specified lines, grades, dimensions, and plans when provided.

Unless road 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.

Suitable excavated material shall be used 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.

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Sidecast shall not be placed where it will enter a stream course. Leaving sidecast below the road is only permissible if specifically allowed in "Full Bench and End Haul Requirements" in this Exhibit.

All fills shall be machine compacted according to the "Compaction and Processing Requirements" in this Exhibit.

<u>ROAD WIDTH LIMITATIONS</u>. 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.

<u>Curve Widening</u>. Widen the inside shoulder of all curves as specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

<u>Subgrade</u>. Subgrade shall be crowned or outsloped at 4 to 6 percent as shown on the "Forest Road Specifications" table in this Exhibit.

Ditch. Construct "V" shaped ditch 3 feet wide and to a depth of 1 foot below subgrade.

Ditchouts. Construct ditchouts to drain away from subgrade at locations marked in the field or as directed by STATE.

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

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

<u>SLOPES</u>	<u>Back Slopes</u>	<u>Fill Slopes</u>
Solid Rock	Vertical to 1/4:1	
Fractured Rock	1⁄2:1	
Soil - side slopes 50% and over	³ ⁄ ₄ :1	1½:1
Soil - side slopes less than 50%	1:1	1½:1

Top of cut slope shall be rounded.

<u>LANDINGS</u>. Landings shall be constructed as posted in the field, no less than 50 feet wide and no more than 70 feet wide unless otherwise approved by STATE. Surface is to be outsloped for drainage with general grade no more than 3 percent. Surface as shown in the "Road Surfacing" table in this Exhibit.

TURNAROUNDS. Increase subgrade width an additional 20 feet for a length of 20 feet at locations marked in the field.

<u>SEASONAL WINTERIZATION</u>. All unsurfaced roads or unfinished subgrades shall be waterbarred in accordance with the specifications in Exhibit I, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

- (1) <u>Timber Removal</u>. Remove all trees within posted right-of-way boundary, as directed by STATE, and as specified in Section 2210, "Designated Timber."
- (2) <u>Excavated Materials</u>. Excavated materials shall be utilized for road construction and hauled in where necessary. Surplus excavation materials shall be hauled to the 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. Fills shall be thoroughly compacted in accordance with this Exhibit.
- (3) <u>Fill Armor and Energy Dissipator Construction</u>. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill. 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.
- (4) Cross Drain culverts shall be installed as directed by STATE and in accordance to Exhibit G. The location of the culverts shall be marked by STATE. A STATE representative will mark the location after the completion of the subgrade. Rocking shall not occur until all culverts have been installed unless otherwise approved in writing by STATE.
- (5) All outlets of cross drains shall be armored with rock. Install energy dissipater as outlined in Exhibit G.
- (6) Each culvert shall be backfilled with some crushed rock, crusher reject, or provided extra surfacing rock allocated over the culvert on the running surface, or compact the soil with a tamping device. Operator shall provide adequate support around the culvert.
- (7) Subgrade Preparation and Application of Surfacing Rock.
 - (a) Complete culvert installations, drainage ditches, ditchouts, fill construction, and other specified work prior to the application of surfacing rock.
 - (b) Subgrade shall be crowned or outsloped at 4 to 6 percent.
 - (c) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with specifications in the "Compaction and Processing Requirements" in this Exhibit. Final road surface shall be crowned or outsloped at 3 to 6 percent.

The subgrade shall be approved by STATE prior to the application of rock.

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Spur 1 (Stationing 0+00 to 8+30)

Subgrade instruction:

0+00 to 8+30

Clear and grub. 30 feet of clearing and grubbing anticipated. Clearing debris shall be

scattered in openings and gaps or piled in conical piles to facilitate burning.

The subgrade construction shall be balanced cut and fill.

Additional subgrade width shall be provided for off tracking around horizontal curves.

The subgrade shall be crowned at 3 to 6 percent unless otherwise approved by STATE.

Maximum grade shall be 18%.

0+00 Install an 18" ditchline culvert at intersection.

0+00 to 1+50 Switchback intersection.

The grade through the switchback should build out closer to 16%.

Excess generated material shall be placed at the inside corner or outside corner of the

switchback.

1+30 A 5 ft. cut at centerline is anticipated to establish grade.

6+30 to 8+30 Construct an empty truck turn around where the opportunity exists.

8+30 Construct a landing. Landing shall be a minimum 50 ft. by 50 ft.

Rocking instructions for Spur 1:

0+00 to 8+30 Apply a compacted depth of 6" of 3"-0" base rock.

Apply a compacted depth of 2" of 11/2"-0" cap rock.

Apply 40 Cu. Yds. Of Jaw run rock at landing.

Apply 10 Cu. Yds. 3" - 0" base rock at empty truck turn around.

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Spur 3a and 3b "jump spurs off Spur 3"

Subgrade instructions:

Clear and grub. 30 feet of clearing and grubbing anticipated. Clearing debris shall be scattered in openings and gaps or piled in conical piles to facilitate burning.

Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cut slope and 10 feet out from the toe of the fill slope, or as directed by STATE.

Where Right-of-Way limits have not been marked, the cutting limits shall extend no greater than 10 feet from top of cut and 15 feet from toe of the fill, or as directed by STATE.

The subgrade construction shall be balanced cut and fill. Excess material shall be drifted forward and incorporated into the landing or utilized as clean fill in the road prism unless otherwise approved by STATE.

The subgrade shall be outsloped at 3 to 6 percent unless otherwise approved by STATE.

Maximum grade shall be 15%.

Landings shall be a minimum 50 ft. by 50 ft.

Rocking instructions:

Apply a compacted depth of 8" of Jaw Run base rock.

Apply 40 Cu. Yds. of Jaw run rock per landing.

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

- (1) <u>Timber Removal</u>. Remove all trees within posted Right-of-Way Boundary, as directed by STATE, and as specified in Section 2210, Designated Timber.
- (2) Roadside Brushing. Conduct roadside brushing as specified in Exhibit H.
- (3) <u>Excavated Materials</u>. Excavated materials shall be utilized for road and fill construction and hauled in where necessary. Surplus excavation materials shall be hauled to a waste area approved by STATE. Waste materials shall be sloped and compacted for drainage. Fills shall be thoroughly compacted in accordance with Exhibit F.
- (4) <u>Bank Slough Removal</u>. Dig out all bank slough. Bank slough material 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.
- (5) <u>Drainage Ditches</u>. Restore or construct ditch lines, 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.
- (6) <u>Fill Armor and Energy Dissipator Construction</u>. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill. 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.
- (7) Cross Drain culverts shall be installed as directed by STATE and in accordance to Exhibit G. The location of the culverts shall be marked by STATE. A STATE representative will mark the location after the completion of the subgrade. Rocking shall not occur until all culverts have been installed unless otherwise approved in writing by STATE.
- (8) All outlets of cross drains shall be armored with rock. Install energy dissipater as outlined in Exhibit G.
- (9) Each culvert shall be backfilled with some crushed rock, crusher reject, or provided extra surfacing rock allocated over the culvert on the running surface, or compact the soil with a tamping device. Operator shall provide adequate support around the culvert.
- (10) Subgrade Preparation and Application of Surfacing Rock.
 - (a) Complete culvert installations, drainage ditches, fill reconstruction, ditchouts, and other specified work prior to the application of new surfacing rock.
 - (b) Cut out all potholes and/or washboard sections from the existing surfacing.
 - (c) Apply required patching and leveling rock, as directed by STATE.

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS:

Cemetery Forest Road Points (A to C, 2 miles):

- Conduct roadside brushing between points A and C.
- Remove bank slough, and clean out culvert inlets and outlets.
- Remove any berms on the outside edge of the road.
- Waste material in locations approved by STATE.
- Establish proper drainage.
- Clear and grub landings and prepare for surfacing.
- Construct and surface 4 empty truck turnouts between A and C as directed by STATE.

Cemetery Forest Road rocking instructions:

- Apply a 3" compacted lift of surfacing between points (A to B, 68 stations).
 - o 3"-0" rock may be used on grades less than 10%.
 - o 1 ½"-0" rock shall be used on grade greater than 10%.
- Apply the allocated spot rock between points (B to C).
- Apply 40 Cu. Yds. of Jaw run rock per landing.

Spur 2 Points (B to D, 26.5 stations):

- Conduct roadside brushing between points B and D.
- Remove bank slough, and clean out culvert inlets and outlets.
- Remove any berms on the outside edge of the road.
- Waste material in locations approved by STATE.
- Establish proper drainage.
- Construct landings and prepare for surfacing.

Spur 2 rocking instructions:

- Apply the allocated spot rock between points (B to D).
- Apply 40 Cu. Yds. of landing rock per landing.

Spur 3 (28.0 stations):

- Clear, grub, and prepare for surfacing.
- The subgrade shall be outsloped from stations 0+00 to 5+00, and 23+00 to 28+00.
- The subgrade shall be crowned from stations 5+00 to 23+00.
- Subgrade width after ditch construction equals approximately 14 feet.
- Remove bank slough, and reestablish ditchlines. Ditchlines shall be a 2'x1' v shaped ditch.
- Remove any berms on the outside edge of the road.
- Waste material in locations approved by STATE.
- Establish proper drainage.
- Install cross drains as directed by STATE.
- Construct an empty truck turn around where feasible around stationing 8+50.
- Construct a turnout/small landing at 9+00 on the fill slope side of the road.
- Construct a landing and prepare for surfacing at stations 23+00.

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Spur 3 rocking instructions:

- Apply a compacted depth of 6" of 3"-0" base rock between stations 0+00 to 23+00.
- Apply a compacted depth of 2" of 1½"-0" cap rock between stations 0+00 to 23+00.
- Apply a compacted depth of 8" of Jaw Run base rock between stations 23+00 to 28+00.
- Apply 40 Cu. Yds. of Jaw run rock at landing.
- Apply 20 Cu. Yds. of Jaw Run base rock at 9+00 for a turnout.
- Apply allocated empty truck turnaround rock.

Spur 4 (14.50 stations):

- Clear and grub and prepare for surfacing.
- Subgrade shall be outsloped from stations 0+00 to 8+00, and 11+50 to 14+50.
- Subgrade shall be crowned from stationing 8+00 to 11+50.
- Remove bank slough, and reestablish ditchlines and ditchouts. Ditchlines shall have a 2'x1' Ditch.
- Remove any berms on the outside edge of the road.
- Waste material in locations approved by STATE.
- Establish proper drainage.
- Install cross drain as directed by STATE.
- Construct landings and prepare for surfacing.

Spur 4 rocking instructions:

- Apply a compacted depth of 8" of Jaw Run base rock between stations 0+00 to 8+00.
- Apply a cap of 1 ½"-0" traction rock at the intersection of Spur 4 and Cemetery Forest Road for 2 stations.
- Apply a compacted depth of 6" of 3"-0" base rock between stations 8+00 to 11+50.
- Apply a compacted depth of 2" of 1½"-0" cap rock between stations 8+00 to 11+50.
- Apply a compacted depth of 8" of Jaw Run base rock between stations 11+50 to 14+50.
- Apply 40 Cu. Yds. of Jaw run rock per landing.

FULL BENCH AND END-HAUL REQUIREMENTS

Full Bench and End-Haul Areas General Requirements

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Material shall not be sidecast unless specified above.

Containment/Sidecast

- (1) Full bench is required on slopes greater than 50%.
- (2) 1 foot of incidental sidecast is allowed on slopes greater than 50%.

Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

Waste Area Location

As approved by STATE.

Waste Area Treatment

- (1) Deposit at waste area, spread evenly and provide adequate drainage.
- (2) Pile woody debris separate from other waste material.

EXHIBIT E ROAD SURFACING

ROAD	Rock Type	SIZE OF ROCK	COMPACTED DEPTH	LOOSE TRUCK Cu. Yds./Sta.	STA. TO STA. OR POINT TO POINT	TOTAL LOOSE TRUCK VOLUME
Cemetery Forest Road	Сар	1½"-0" or "3"-0"	3"	17	A to B	1160
Spur 1	Base	3"-0"	6"	33	0+00 to 8+30	270
Spur 1	Сар	1 ½"-0"	2"	11	0+00 to 8+30	90
Spur 3	Base	3"-0"	6"	33	0+00 to 23+00	760
Spur 3	Сар	1 ½"-0"	2"	11	0+00 to 23+00	250
Spur 3	Base	Jaw Run	8"	40	23+00 to 28+00	200
Spur 3a	Base	Jaw Run	8"	44	0+00 to 2+00	90
Spur 3b	Base	Jaw Run	8"	44	0+00 to 1+00	40
Spur 4	Base	Jaw Run	8"	44	0+00 to 8+00 11+50 to 14+50	480
Spur 4	Base	3"-0"	6"	33	8+00 to 11+50	120
Spur 4	Сар	1 ½"-0"	2"	11	8+00 to 11+50	40
TURNOUTS:				NO. OF T.O.	Location	
Cemetery Forest Road	Base	3"-0"	4"	4	Determined by STATE	40
Spur 3	Base	Jaw Run	6"	1	9+00	20
TURNAROUNDS:				NO. OF T.A.		
Spur 1	Base	3"-0"	4"	1	Approx. 7+00	10
Spur 3	Base	3"-0"	4"	1	Approx. 8+50	10
LANDINGS A				NO. OF LDGS.	Locations	
Cemetery Forest Road	Lndg.	Jaw Run	6"	2	As marked in the field	80
Spur 1	Lndg.	Jaw Run	6"	1	8+30	40
Spur 2	Lndg.	Jaw Run	6"	3	As marked in the field	120
Spur 3	Lndg.	Jaw Run	6"	1	23+00	40
Spur 3a	Lndg.	Jaw Run	6"	1	2+00	40
Spur 3b	Lndg.	Jaw Run	6"	1	1+50	40
Spur 4	Jnct	3"-0"	2"	1	0+00 to 2+00	20
Spur 4	Lndg.	Jaw Run	6"	2	As marked in the field	80

EXHIBIT E ROAD SURFACING

MISCELLANEOUS: Spot, Curve Widening, Riprap			AMOUNT	POINTS	LOCATIONS	
Cemetery Forest Road	Spot	3"-0"	100	10	Determined by STATE	100
Spur 1	Widening	3"-0"	30	1	0+00 to 1+50	30
Spur 2	Spot	3"-0"	50	5	Determined by STATE	50
Spur 3	Rip Rap	24"-0"	30	3	Culvert Outlets	30
Spur 4	Rip Rap	24"-0"	10	1	Culvert Outlet	10

ROCK TOTALS	1 ½"-0" or 3"-0"	1 ½" -0"	3"-0"	Jaw Run	(Rip Rap)
Loose Truck Cu. Yds.	1160	380	1410	1270	40

Lndg = Landing

Jnct = Junction

Roads shall be uniformly graded, shaped and approved by STATE prior to rocking.

LOOSE TRUCK Cu. Yds. are rounded to the nearest 10 Cu. Yds. in the table shown.

Depth Measurement shall be used to determine contract compliance.

The STATE shall reserve the right to approve the rock source.

EXHIBIT E

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 sediment will not enter streams. Additional surfacing needed because of construction season or construction practice is not included in the preceding ROAD SURFACING table, and shall be furnished at PURCHASER expense.

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

<u>Depth Measurement</u>. Rock shall be spread and compacted according to the depths specified in Exhibit D and E. 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. The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in the "Road Surfacing" table in Exhibit D. The average depth for each road segment shall be the specified depth or greater. If additional rock is required because of insufficient depth, the locations and volumes to be added shall be determined by STATE.

<u>Load Records</u>. 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 must be submitted weekly. However depth measurement shall be used to determine contract compliance.

EXHIBIT E

DURABLE CRUSHED ROCK SPECIFICATIONS

Grading Requirements

For 1½"-0"	Passing Passing Passing Passing Passing Passing Passing	2" sieve 1½" sieve 3/4" sieve 1/4" sieve No. 10 sieve No. 40 sieve	100% 90-100% 60-90% 30-50% 15-30% 7-15%
For 3"-0"	Passing Passing Passing Passing Passing Passing Passing	4" sieve 3" sieve 1½" sieve 3/4" sieve 1/4" sieve No. 10 sieve	100% 90-100% 60-90% 40-60% 20-40% 5-20%

JAW-RUN, PIT-RUN, RIPRAP ROCK SPECIFICATIONS

For Jaw-Run	Passing	6" sieve	100%
	Passing	3" sieve	45-65%
For 6"-0" Pit-Run	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	1/4" sieve	0-20%

<u>For 24"-0" Riprap / Pit-Run</u> A minimum of 50 percent of the material shall measure a minimum of 24 inches, measured in one dimension.

Control of gradation shall be by visual inspection by STATE.

EXHIBIT F

COMPACTION AND PROCESSING REQUIREMENTS

<u>Moisture Content</u>: Compaction must take place when moisture content of the materials being compacted is favorable for effective compaction as determined by STATE.

<u>Compaction Pass</u>: A pass is defined as traveling a road section forward and then backward over that same section.

<u>Subgrade</u>. 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 the surface is smooth and hard and visible deformation ceases. At least 3 passes shall be made over the entire width and length of the road. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Subgrade shall be crowned or outsloped at 4 to 6 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS	
All road segments that require rock surfacing	(1) Vibratory Rollers	

<u>Crushed Rock</u>. 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 uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 6 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 until the surface is smooth and hard and visible deformation ceases. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Rock shall be compacted and processed during the same project period it is spread, unless otherwise approved in writing by STATE.

Rock shall be crowned or outsloped at 4 to 6 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS		
All road segments requiring crushed rock.	(1) Vibratory Rollers		

- (1) <u>Vibratory Rollers</u>. 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 miles to 1.8 miles per hour, as directed by STATE.
- (2) D 7 Cat or equivalent as approved by STATE.

EXHIBIT G

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract.

Culverts shall be constructed of corrugated aluminized (Type 2) steel.

Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-031.

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 specified in special instructions.

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

Cross drain culverts on road grades in excess of 3 percent shall be skewed at least 30 degrees from perpendicular to the road centerline, except that cross drain culverts at the low point of dips in roads shall not be skewed.

Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3 percent or greater than 10 percent.

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

A bedding of 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 culvert for stream crossing culverts.

Backfill shall consist of, crushed rock, rock crusher reject, or clean job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the culvert.

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

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".

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 an energy dissipator. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

All culverts scheduled for replacement shall become property of the PURCHASER and be removed from STATE land and hauled to an approved refuse site in the same project period in which replacement occurred.

EXHIBIT G

CULVERT SPECIFICATIONS

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving steel posts within 6 inches of the downgrade side. Posts shall be painted with a rust-resistant paint and be a minimum of 5 feet long, with the spade driven 2 feet into the ground.

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

Following are the minimum standard gauges for steel culvert and coupling bands. Some culverts may require different gauges and may be found in the culvert listing.

	Steel Culvert	<u>Thickness</u>			Band Widths (")	
<u>Dia.</u>	<u>Gauge</u>	<u>Uncoated</u>	Coated	Band Gauges	<u>Annular</u>	<u>Helical</u>
12-15	16	(0.0598")	(0.064")	16	7	12
18-24	16	(0.0598")	(0.064")	16	12	12
30-36	16	(0.0598")	(0.064")	16	12	12
42	14	(0.0747")	(0.079")	16	12	12

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	GAUGE	ROAD SEGMENT POINT TO POINT	STATION
1	18"	40'	ACSP	16	Intersection of Spur 1	0+00
2	18"	30'	ACSP	16	Before intersection of Spur 3a	10+00
3	18"	30'	ACSP	16	Before intersection of Spur 3b	17+00
4	18"	30'	ACSP	16	Spur 3 Before Landing	22+00
5	18"	30'	ACSP	16	Spur 4	11+50

ACSP = Aluminized, CPP = Polyethylene, GCSP = Galvanized

EXHIBIT G

TYPICAL EMBEDDED ENERGY DISSIPATOR

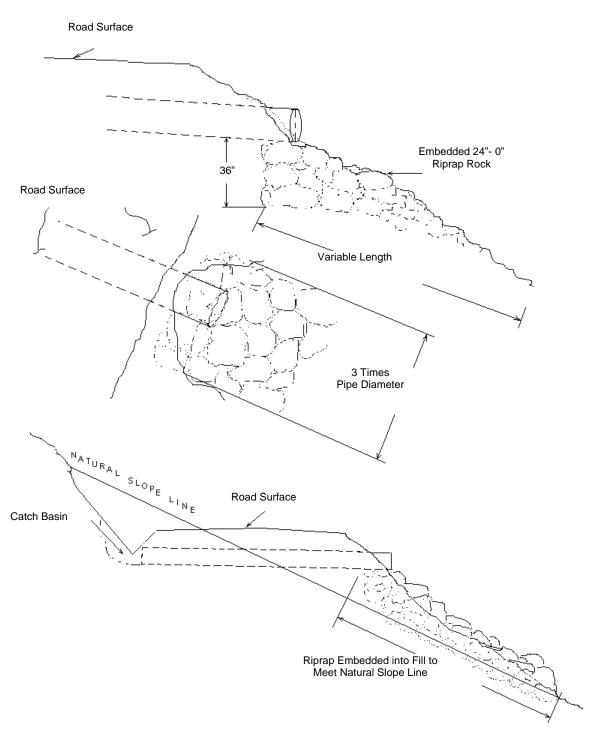
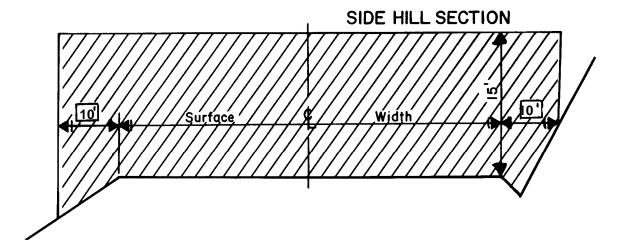


EXHIBIT H

ROAD BRUSHING SPECIFICATIONS





REQUIREMENTS:

Brush Cemetery Forest Road and Spur 2 between points A and C, and B and D.

The minimum height of clearing shall be 15 feet from the road surface, and the minimum width of clearing on the cut slope side of the road shall be 10 feet horizontal distance from the shoulder of the road and 10 feet horizontal on the down slope side from the road shoulder.

Brush shall be cut to a maximum height of 12 inches and trees shall be cut to a maximum height of 6 inches above the ground surface or obstructions such as rocks or existing stumps.

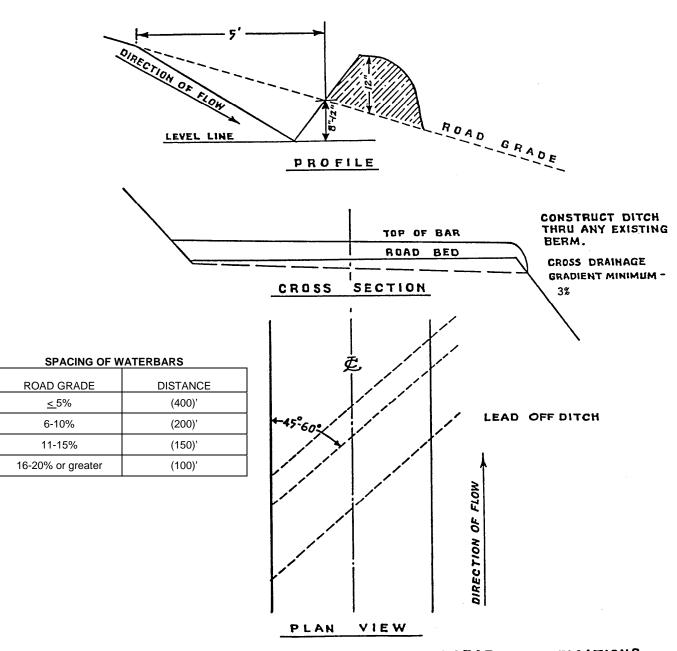
Debris resulting from the brushing operation shall be removed from the roadway, cut slope, ditches, water courses, culvert inlets and outlets and sediment catching basins.

Trees larger than 6 inches in diameter at stump height, located within clearing limits but outside of the ditch line or shoulder, shall not be cut down, but shall be limbed for road visibility. Planted or established conifers, located within brushing limits but outside of the ditch line or shoulder, shall not be cut down, but shall be limbed for road visibility unless otherwise directed by STATE.

Existing debris on the roadway, cut slope, ditch line, or catch basin shall be removed and treated. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large non-merchantable debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

<u>CULVERT AND ROAD MARKER DAMAGES</u>. Culvert and road markers damaged, or any portion of a marker damaged from PURCHASER activities shall be assessed a damage fee of \$25 per marker.

EXHIBIT I WATERBAR SPECIFICATIONS



WATERBAR SPECIFICATIONS FOR CROSS DITCHING #298 State Timber Sale Contract No. 341-18-88 Wildcat WL

EXHIBIT J

GATE SPECIFICATIONS

Background: The current gate just passes over the existing road surface. After the application of 3 inches of aggregate surfacing, the existing gate will not be able to pass over the aggregate surface.

Instructions:

The operator shall maintain proper functionality of the gate by leaving it in equal or better condition.

The operator shall be required to, reconstruct the gate by improving the existing geometry, replacing any necessary parts to make it functional, or install a new gate according to the specifications below:

New Gate Specifications:

Gate shall be a heavy duty cattle gate type that is a minimum 50" tall, made from 1 5/8" steel pipe with a 16ga thickness, and has welded hinges.

Gate shall be installed as specified by STATE.