

# PART III: EXHIBITS

State Timber Sale Contract  
No. 341-17-48  
King Wolf

EXHIBIT B

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

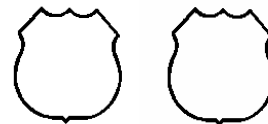
## OREGON DEPARTMENT OF FORESTRY

### TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)

Date Received by STATE: \_\_\_\_\_

(5) State Brand Information (complete):



(1) Contract No.: 341-17-48

(2) Sale Name: King Wolf

(3) Contract Expiration Date: October 31, 2018

Project Completion Dates: Project Nos. 1 & 2, A to B, 2I to 2J, I1 to I2, and I11 to I12: October 31, 2017.

(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: \_\_\_\_\_

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.

**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.

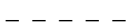
- (10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:
  1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings 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.



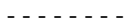
Cable Landing, with numbers for sequence.



Tractor Landing with alphabetical sequence.



Approximate setting boundary.



Spur truck roads.



Tractor yarding roads.



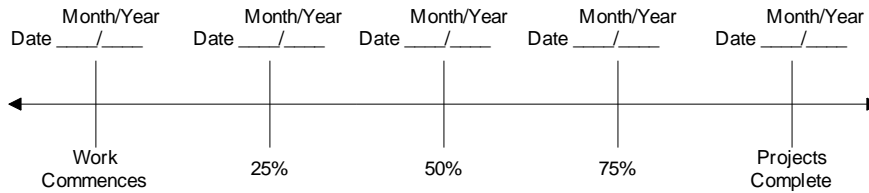
Temporary stream crossings.

EXHIBIT B  
OPERATIONS PLAN

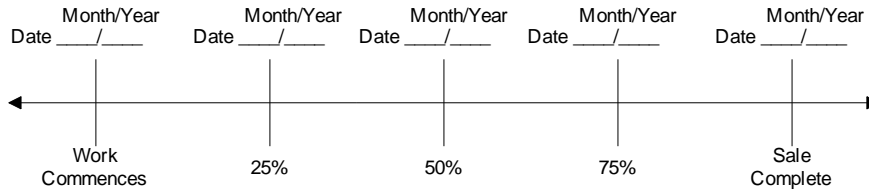
**Completion Timeline**

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 \_\_\_\_\_

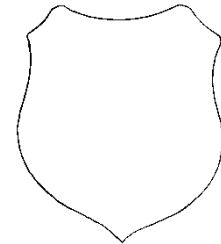
Original: Salem  
cc: District File  
Unit  
Purchaser  
Operator  
(Purchaser Representative) \_\_\_\_\_

**EXHIBIT C – SAWMILL GRADE (WESTSIDE SCALE)**

**SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION**

- (1) ORIGINAL REGISTRATION  Date \_\_\_\_\_  
 REVISION NUMBER \_\_\_\_\_  Date \_\_\_\_\_  
 CANCELLATION  Date \_\_\_\_\_
- (2) TO: \_\_\_\_\_  
 (Third Party Scaling Organization)
- (3) FROM: West Oregon (01) Phone (541) 929-3266  
 (State Forestry District)  
 Address 24533 Alsea Highway, Philomath, OR 97370-9112
- (4) PURCHASER: \_\_\_\_\_  
 Mailing Address: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_

- (9) SALE NAME: King Wolf  
 COUNTY: Lincoln
- (10) STATE CONTRACT NUMBER: 341-17-48
- (11) STATE BRAND REGISTRATION NUMBER: \_\_\_\_\_
- (12) STATE BRAND INFORMATION (COMPLETE):



- (13) PAINT REQUIRED: YES   
 COLOR: Orange

(5) MINIMUM SCALING SPECIFICATIONS	
SPECIES	MINIMUM NET VOLUME
Conifers	10
Hardwoods	10

\* Apply minimum volume test to whole logs over 40' Westside

- (6) WESTSIDE SCALE: YES  NO   
 Use Region 6 actual taper rule. Logs over 40'.
- (7) Weight Scale Sample

(14) SPECIAL REQUESTS (Check applicable)	
PEELABLE CULL (all species) .....	<input checked="" type="checkbox"/>
<b>NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE</b> .....	<input checked="" type="checkbox"/>
ADD-BACK VOLUME - Deductions due to delay .....	<input checked="" type="checkbox"/>
OTHER:	

(8) APPROVED SCALING LOCATIONS <small>(as shown on the ODF Approved Locations web-site)</small>	Species	Yard	Truck	Weight

- (15) REMARKS \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Operator's Name (Optional inclusion by District): \_\_\_\_\_

- (16) SIGNATURES:
- \_\_\_\_\_  
 Purchaser or Authorized Representative Date
- \_\_\_\_\_  
 State Forester Representative Date
- \_\_\_\_\_  
 State Forester Representative PRINT NAME

**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 (See specific instructions on pg. 2): ORIGINAL: Salem / COPIES: TPSO, Approved Scaling Location, Purchaser, District, Mgmt. Unit

**EXHIBIT C – SAWMILL GRADE**  
INSTRUCTIONS 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.
- (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](mailto:services@crls.com)

Pacific Rim Log Scaling Bureau, Inc.  
8288 28<sup>th</sup> Court North East, Lacey, WA 98516  
Phone: (360) 528-8710 Fax: (360) 528-8718  
Email: [office@prlsb.com](mailto:office@prlsb.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](mailto:info@mwlsgb.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](mailto:yamhill@attglobal.net)

Northwest Log Scalers, Inc  
5526 NE 122<sup>nd</sup> Ave, Portland, OR 97230  
Phone: (503) 254-0600 Fax: (503) 408-0919  
Email: [info@nwlogscalers.com](mailto:info@nwlogscalers.com)

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](mailto:PacLogScale@aol.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](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.

**Salem Distribution Instructions:** Original will be mailed to Salem after it is electronically scanned and placed in the Salem transfer drive <\\WPODFILL01\Transfer\ScalingInstructions> or e-mailed directly to [scaling@odf.state.or.us](mailto:scaling@odf.state.or.us). Scaling instructions for each brand should be scanned separately, for each approved TPSO.

**Distribution (See specific instructions on pg. 2): ORIGINAL: Salem / COPIES: TPSO, Approved Scaling Location, Purchaser, District, Mgmt. Unit**

**EXHIBIT C – PULP SORT**

**PROCESSING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION**

(1) ORIGINAL REGISTRATION  Date \_\_\_\_\_  
REVISION NUMBER \_\_\_\_\_  Date \_\_\_\_\_  
CANCELLATION  Date \_\_\_\_\_

(2) TO: \_\_\_\_\_  
(Approved Pulp Processing Facility)

(3) FROM: West Oregon (01) Phone (541) 929-3266  
(State Forestry District)

(4) PURCHASER: \_\_\_\_\_

(5) Scaling Bureau (TPSO) Processing Weight receipts:  
\_\_\_\_\_  
\_\_\_\_\_

Mailing Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_

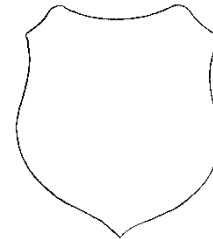
(9) SALE NAME: King Wolf

COUNTY: Lincoln

(10) STATE CONTRACT NUMBER: 341-17-48

(11) STATE BRAND REGISTRATION NUMBER \_\_\_\_\_

(12) STATE BRAND INFORMATION: (COMPLETE BELOW)



**(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: "Mule Train" loads require a load ticket for each set of bunks.  
\_\_\_\_\_  
\_\_\_\_\_

- (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 attached.
  - Gross weight and truck tare weight for each load shall be machine printed on the weight receipt.
  - Weigher shall sign the weight receipt.
  - Weigher shall record the Log Load Receipt number on the weight receipt.
  - Weigher shall attach the Weight receipt to the Log Load Receipt and mail them weekly to the TPSO processing the Weight receipt.

Operator's Name (Optional inclusion by District):  
\_\_\_\_\_

- (8) TPSO PROCESSING INSTRUCTIONS**
- Mail to ODF weekly.
  - Convert to mbf using 10 tons per mbf.

(14) SIGNATURES:

\_\_\_\_\_  
Purchaser or Authorized Representative Date

\_\_\_\_\_  
State Forester Representative Date

\_\_\_\_\_  
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](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](mailto:services@crls.com)

Pacific Rim Log Scaling Bureau, Inc.  
8288 28<sup>th</sup> Court North East, Lacey, WA 98516  
Phone: (360) 528-8710 Fax: (360) 528-8718  
Email: [office@prlsb.com](mailto:office@prlsb.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](mailto:info@mwlsgb.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](mailto:yamhill@attglobal.net)

Northwest Log Scalers, Inc.  
5526 NE 122<sup>nd</sup> Ave, Portland, OR 97230  
Phone: (503) 254-0600 Fax: (503) 408-0919  
Email: [info@nwlogscalers.com](mailto:info@nwlogscalers.com)

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](mailto: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 and 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 \\WPODFILL01\Transfer\ScalingInstructions or e-mailed directly to [scaling@odf.state.or.us](mailto:scaling@odf.state.or.us) . Scaling instructions for each brand should be scanned separately, for each approved TPSO.

EXHIBIT D  
 FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
16 feet	12 feet	A to B	0+00 to 3+30	Ditch
16 feet	12 feet	1A to 1B	0+00 to 1+30	Outslope
16 feet	12 feet	2A to 2B	0+00 to 9+40	Ditch
16 feet	12 feet	2C to 2D	0+00 to 0+65	Ditch
16 feet	12 feet	2E to 2F	0+00 to 4+50	Ditch
14 feet	N/A	2G to 2H	0+00 to 3+00	Outslope
14 feet	N/A	2I to 2J	0+00 to 17+70	Outslope
16 feet	12 feet	I1 to I2	0+00 to 103+00	Ditch
16 feet	12 feet	I3 to I4	0+00 to 55+10	Ditch
16 feet	12 feet	I5 to I6	0+00 to 38+10	Ditch
16 feet	12 feet	I7 to I8	0+00 to 4+70	Ditch
14 feet	N/A	I9 to I10	0+00 to 19+30	Outslope
16 feet	12 feet	I11 to I12	0+00 to 134+60	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 CLASSIFICATION.**

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 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.



EXHIBIT D

FOREST ROAD SPECIFICATIONS

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-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.

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 specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

Subgrade. 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.

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 apart and as marked in the field.

SLOPES

Solid Rock

Fractured Rock

Soil - side slopes 50% and over

Soil - side slopes less than 50%

Back Slopes

Vertical to ¼ :1

½:1

¾ :1

1 :1

Fill Slopes

1½:1

1½:1

Top of cutslope shall be rounded.

LANDINGS. 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 crowned 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.

SEASONAL WINTERIZATION. All unsurfaced roads or unfinished subgrades shall be waterbarred in accordance with the specifications in Exhibit G, and blocked from vehicular traffic prior to October 1, annually and as directed by STATE.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

- (1) Timber Removal. Remove all trees within posted right-of-way boundary, as specified in Section 2210, "Designated Timber."
- (2) Excavated Materials. 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) 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 at 4 to 6 percent or outsloped at 3 to 4 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 at 4 to 6 percent or outsloped at 3 to 4 percent.

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
A to B	0+00-3+30	Re-construct and re-align washed out section of Wolf Creek Road. Pull back old road edge to a 1:1 slope for 15 vertical feet or the natural ground contour. Move centerline of road back into the hillside and widen inside of road an additional 6 feet for curve widening. Haul excavated material to designated waste area. Replace old culvert at station 0+38. Utilize 20 cubic yards of jaw run rock to construct a dissipater at the outlet. Backfill culvert with 20 cubic yards of 1½-0" crushed rock and compact in 8 inch lifts. Construct ditch to bypass culvert inlet at the stream crossing.
1A to 1B	0+00-1+30	Construct outsloped road. Construct landing at Pt. 1B.
1C	0+00	Daylight existing road. Construct landing.
2A to 2B	0+00-9+40	Construct road with ditch and ditchouts as needed for drainage. Two turnouts.
2C to 2D	0+00-0+65	Construct spur road off Road 2A to 2B. Use junction at Pt. 2C as a turnaround. Construct landing at Pt. 2B.
2E to 2F	0+00-4+50	Construct road with ditch and ditchouts as needed for drainage. Two turnouts. Install culvert across existing road at station 0+00. Backfill with 20 cubic yards of 1½-0" crushed rock and compact in 8 inch lifts. Construct landing at Pt. 2F.
2G to 2H	0+00-3+00	Construct outsloped, unsurfaced (dirt) road. Construct landing at Pt. 2H.
2I to 2J	0+00-17+70	Construct outsloped, unsurfaced (dirt) road with turnouts and turnaround as marked in field. Construct landing at Pt. 2J. Compact with vibratory roller. Rock the first 100 feet with jaw run rock.

EXHIBIT D  
FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

- (1) Timber Removal. Remove all trees within posted Right-of-Way Boundary or individually marked with an orange "C", as specified in Section 2210, Designated Timber.
- (2) Bank Slough Removal. 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.
- (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.
- (4) 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.
  - (d) Process (grade and mix) the existing surface and added base rock. Provide for a crown of 4 to 6 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

<u>Segment</u>	<u>Station</u>	<u>Work Description</u>
I1 to I2	0+00 -103+00	Re-establish drainage ditches where needed and remove sod. Apply 150 cubic yards of 1½-0" subgrade leveling rock, process and compact with water, mixing old surfacing rock with new rock. Clean out culvert inlets and outlets.
	24+80 -56+80	Apply 40 cubic yards of 3-0" subgrade leveling rock. Apply, process and compact a 4 inch lift of 3"-0" crushed rock.
	40+40	Construct turnout on right. Dig out mud and replace with 30 cubic yards of jaw run rock.
	85+00	Install new culvert. Backfill with 20 cubic yards of 1½-0" rock.
I3 to I4	0+00 -55+10	Cut all trees marked with an orange "C" along right-of-way. There are approximately 5 trees to cut. Remove sod, restore drainage ditches, apply 250 cubic yards of subgrade leveling rock, process and compact surface rock.
I5 to I6	0+00 – 38+10	Re-establish drainage ditches where needed, apply 280 cubic yards of 1½-0" spot rock and turnout rock. Process (mix) existing rock with new rock, water and compact in accordance with compaction requirements on page 10 of this exhibit.
I7 to I8	0+00 -4+70	Clear road surface of debris and alder whips. Shape road with grader and compact surface rock.
I9 to I10	0+00 - 17+70	Re-open outsloped unsurfaced road and landing with dozer or grader.
I11 to I12	0+00 - 134+60	Re-establish drainage ditches where needed and remove sod. Apply 100 cubic yards of 1½-0" subgrade leveling rock and shape with grader. Apply, process and compact a 2 inch lift of 1½-0" crushed rock, mixing existing surface rock with new rock.

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT	(Wolf Creek Rd.)			POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	A to B		0+00 to 3+30			
				Volume (CY) per		Number of			
Base rock	3-0"	0+00 to 3+30	8	44	station	3.3	stations	145	196
Curve widening	3-0"	1+00 to 2+00	8	40	curve	1	curves	40	54
Surface rock	1 1/2-0"	0+00 to 3+30	4	22	station	3.3	stations	72	97
Curve widening	1 1/2-0"	1+00 to 2+00	NA	30	station	1	stations	30	41
Culvert backfill	1 1/2-0"	0+38	NA	20	culvert	1	culverts	20	27
Dissipater	6-12"	0+38	NA	20		1		20	27
Total Rock for Road Segment:								327	442

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	1A to 1B		0+00 to 1+30			
				Volume (CY) per		Number of			
Base rock	jaw run	0+00 to 1+30	8	44	station	1.3	stations	57	77
Juntions	jaw run	0+00	NA	20	junction	1	junctions	20	27
Landing rock	jaw run	1+30	NA	50	landing	1	landings	50	68
Total Rock for Road Segment:								127	

ROAD SEGMENT				POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	1C		0+00			
				Volume (CY) per		Number of			
Landing	jaw run	1C	NA	50	landing	1	landings	50	68

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A to 2B		0+00 to 9+40			
				Volume (CY) per		Number of			
Base rock	3-0"	0+00 to 9+40	8	44	station	9.4	stations	414	559
Turnouts	3-0"		8	30	turnout	2	turnouts	60	81
Junctions	3-0"	0+00	NA	20	junction	1	junctions	20	27
Traction rock	1 1/2-0"	3+00 to 9+00	2	13	station	6	stations	78	105
Landing rock	jaw run	9+40	NA	50	landing	1	landings	50	68
Total Rock for Road Segment:								622	

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2 D		0+00 to 0+65			
				Volume (CY) per	Number of				
Base rock	3-0"	0+00 to 0+65	8	44	station	0.6	stations	26	35
Junctions	3-0"	0+00	NA	20	junction	1	junctions	20	27
Landing rock	jaw run	0.65	NA	50	landing	1	landing	50	68
Total Rock for Road Segment:								96	

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	2E to 2F		0+00 to 4+50			
				Volume (CY) per	Number of				
Base rock	3-0"	0+00 to 4+50	8	44	station	4.5	stations	198	267
Turnouts	3-0"		8	30	turnout	1	turnouts	30	41
Turnarounds	3-0"		NA	20	TA	1	TA's	20	27
Junctions	3-0"	0+00	NA	20	junction	1	junctions	20	27
culvert backfill	1 1/2-0"	0+00	NA	20	culvert	1	culverts	20	27
Landing rock	jaw run	4+50	NA	50	landing	1	landing	50	68
Total Rock for Road Segment:								338	

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	2I to 2J		0+00 to 1+00			
				Volume (CY) per	Number of				
Base rock	jaw run	0+00 to 1+00	8	44	station	1	stations	44	59
Total Rock for Road Segment:								44	

ROAD SEGMENT	(Wolf Creek Rd.)			POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I1 to I2		0+00 to 103+00			
				Volume (CY) per	Number of				
Subgrade leveling	3-0"	0+00 to 56+80	NA	10	load	4	loads	40	54
Base rock	3-0"	24+80 to 56+80	4	25	station	32	stations	800	1080
Turnouts	1 1/2-0"		NA	10	turnout	6	turnouts	60	81
Turnout	jaw run	40+40	NA	30	turnout	1	turnouts	30	41
Culvert backfill	1 1/2-0"	85+00	NA	20	culvert	1	culverts	20	27
Junctions	1 1/2-0"		NA	10	junction	2	junctions	20	27
Spot rock	1 1/2-0"	56+80 to 103+00	NA	10	load	15	loads	150	203
Total Rock for Road Segment:								1,120	

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		0+00 to 55+10			
				Volume (CY) per	Number of				
Spot rock	1 1/2-0"	0+00 to 50+00	NA	10	load	25	loads	250	338
Turnouts	1 1/2-0"		NA	10	turnout	3	turnouts	30	41
Total Rock for Road Segment:								280	
ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		0+00 to 38+10			
				Volume (CY) per	Number of				
Spot rock	1 1/2-0"	0+00 to 50+00	NA	10	load	25	loads	250	338
Turnouts	1 1/2-0"		NA	10	turnout	3	turnouts	30	41
Total Rock for Road Segment:								280	
ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	TOTAL VOLUME (TONS)
Application	Rock Size and Type	(Salmon Creek Rd.)		I11 to I12		0+00 to 134+60			
		Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Subgrade leveling	1 1/2-0"	0+00 to 134+60	NA	10	load	10	loads	100	135
Surfacing rock	1 1/2-0"	24+80 to 56+80	2	13	station	134.6	stations	1,750	2363
Curve widening	1 1/2-0"		2	10	curve	3	curves	30	41
Turnouts	1 1/2-0"		NA	10	turnout	9	turnouts	90	122
Junctions	1 1/2-0"	0+00	NA	10	junction	2	junctions	20	27
Total Rock for Road Segment:								1,990	

Size	3/4-0"	1 1/2-0"	3-0"	jaw-run	pit run
Tons/CY	1.35	1.35	1.35	1.35	1.35

(Conversion factors from Richard Quarry)

**TOTAL ROCK VOLUMES**

Rock Size	1 1/2-0"	3-0"	jaw-run
CY	3,020	1,910	344
Tons	4,077	2,579	464

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 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.

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. 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.

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 must be submitted weekly.



EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

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

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

**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 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 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

**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. At least 3 passes shall be made over the entire width and length of each layer.

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 segments.	1, 2, or 3

**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 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 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

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 miles to 1.8 miles per hour, as directed by STATE.
- (2) 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.
- (3) Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts (and/or bridge approach embankment materials around abutments). 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 be constructed of corrugated double-walled polyethylene.

Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-06, Type S, or ASTM F2648 Culvert.

Polyethylene culverts shall not be used where required culvert diameter is over 24 inches.

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

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 drains shall be skewed to fit the required culvert length to the road prism.

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 or rock crusher reject 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 all culverts.

Backfill shall consist of, crushed rock, rock crusher reject, or 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.

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 an energy dissipater, half round, or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

Culverts 24 inches in diameter or larger shall have 1:1 beveled inlets.

Compaction by tamping utilizing a Vibratory Hand-Operated or Backhoe-Mounted Tamper is required for all culverts.

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.

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving white fiberglass posts within 6 inches of the downgrade side. Posts shall be a minimum of 6 feet long with the end 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.

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	GAUGE	ROAD SEGMENT POINT TO POINT	STATION
1	18	40	CPP		A to B	0+38
2	18	30	CPP		2E to 2F	0+00
3	18	30	CPP		I1 to I2	85+00

CPP = Polyethylene

EXHIBIT F

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock crushed to the required size. The material shall be free from vegetation and lumps of clay.

Rock strength: for rock not produced from STATE quarries, the material from which base material is produced or manufactured shall meet the following test requirement for Aggregate Hardness - Test Method AASHTO T 96 percent Maximum.

DURABLE CRUSHED ROCK SPECIFICATIONS

Grading Requirements

<u>For 1½"-0"</u>	Passing	2" sieve	100%
	Passing	1½" sieve	90-100%
	Passing	¾" sieve	60-90%
	Passing	¼" sieve	30-50%
	Passing	No. 10 sieve	15-30%
	Passing	No. 40 sieve	7-15%
<u>For 3"-0"</u>	Passing	4" sieve	100%
	Passing	3" sieve	90-100%
	Passing	1½" sieve	60-90%
	Passing	¾" sieve	40-60%
	Passing	¼" sieve	20-40%
	Passing	No. 10 sieve	5-20%

JAW & PIT-RUN ROCK SPECIFICATIONS

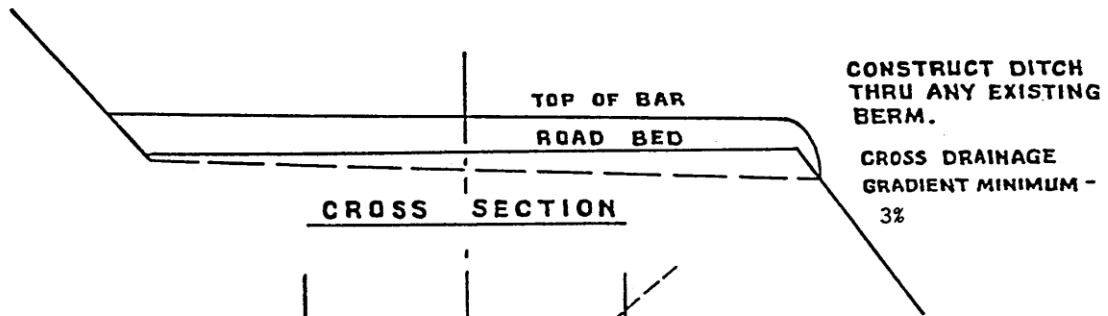
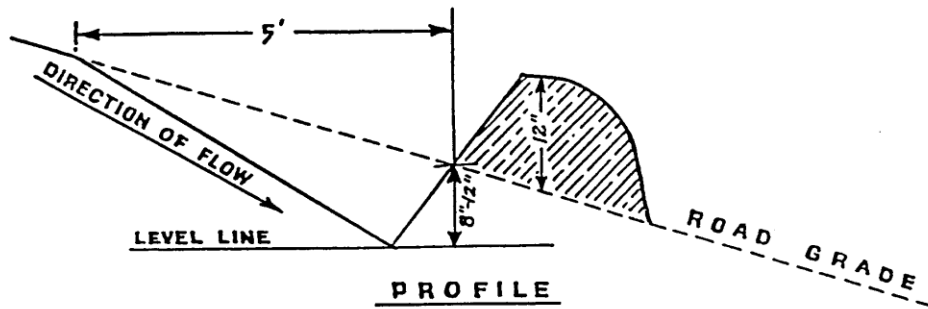
<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%
<u>For 6"-0" Pit-Run</u>	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	¼" sieve	0-20%

For 24"-6" Riprap 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.

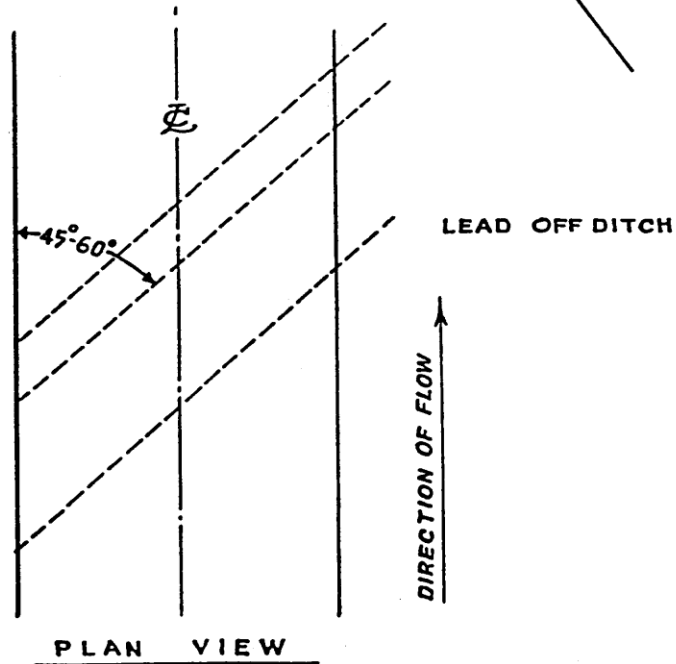
EXHIBIT G

WATERBAR SPECIFICATIONS



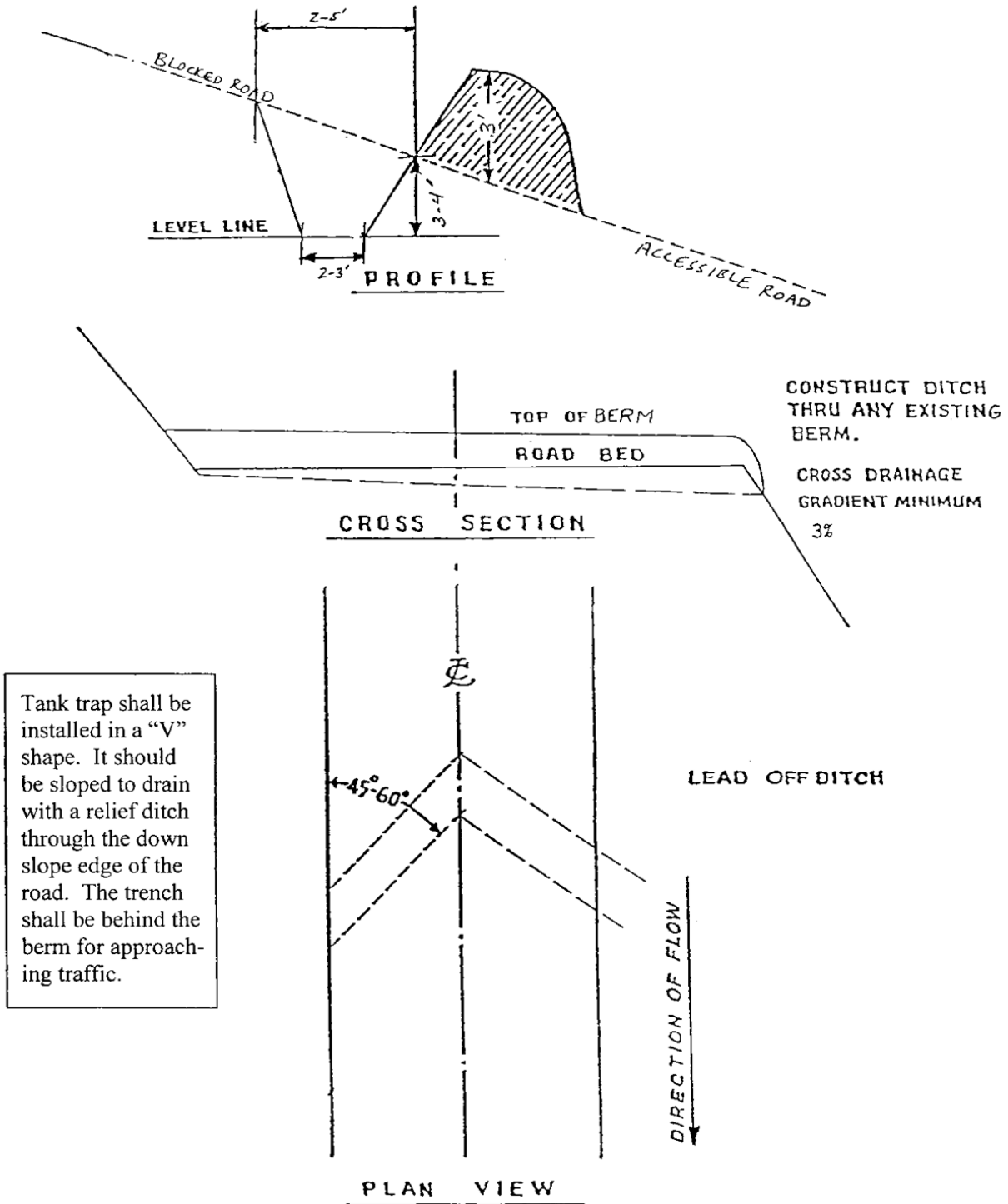
**SPACING OF WATERBARS**

ROAD GRADE	DISTANCE
≤ 5%	(*400)'
6-10%	(*200)'
11-15%	(*150)'
16-20% or greater	(*100)'



**WATERBAR SPECIFICATIONS  
 FOR CROSS DITCHING #298**

EXHIBIT G  
TANK TRAP SPECIFICATIONS



Tank trap shall be installed in a "V" shape. It should be sloped to drain with a relief ditch through the down slope edge of the road. The trench shall be behind the berm for approaching traffic.

TANK TRAP  
SPECIFICATIONS

# **PART IV: OTHER INFORMATION**

State Timber Sale Contract  
No. 341-17-48  
King Wolf

## **FPA Written Plan for Timber Harvest**

### **King Wolf Timber Sale**

**Portions of Section 31, T11S, R08W, and Section 36, T11S, R09W, W.M.,  
Lincoln County, Oregon.**

**Protected Resources:** A small Type F tributary to Wolf Creek, and Wolf Creek (Large Type F).

**Situation:** Approximately 1,200 feet of a small, Type F stream is adjacent to south boundary of Area 1, and approximately 1,300 feet of large Type F stream (Wolf Creek) is adjacent to the northwest boundary of Area 2. The Area 1 boundary is over 100 feet from the stream. The Area 2 boundary has approximately a 200 foot segment which is approximately 75 feet from Wolf Creek. The boundary is posted along Wolf Creek Road which runs along Wolf Creek. The buffer stocking will remain above the standard FPA target. Additionally, skylines may pass over these streams in both Areas 1 and 2.

### **Resource Protection Measures:**

1. The average buffer width on both streams is over 100 feet horizontal distance.
2. Timber adjacent to the stream buffers shall be felled so that it does not enter into the buffer.
3. Skyline cables will not be lowered into streamside vegetation during the yarding cycle.
4. Skyline corridors passing over the stream will be spaced a minimum of 100 feet apart.
5. No yarding will be done over the Type F stream buffers.
6. Where the logging system requires the skyline to pass over the stream, cables will be pulled out of the streamside vegetation prior to rigging the next yarding road.
7. No trees will be cut within 20 feet of the high water mark of streams.

**I, the undersigned, submit this written plan in compliance with the requirements of the Forest Practices Act, regarding operations conducted within 100 feet of Type F streams.**

\_\_\_\_\_  
PURCHASER REPRESENTATIVE

\_\_\_\_\_  
DATE

\_\_\_\_\_  
STATE REPRESENTATIVE

\_\_\_\_\_  
DATE