Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
TIMBER SALE OPERATIONS PLAN

(See page 2 for instructions)

Date Received by State: _____

(1) Contract Number: WL-341-2023-W00784-01

(2) Sale Name: Roughage Final

(3) Contract Expiration Date: 05/31/2024

(4) Purchaser Name: _____

(5) State Brand Information (Complete)

(6) State Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(8) Name of Subcontractors and Start Dates:

Project No.	Subcontractor Name.	Start Date	Completion Date	Cell No.	Alt Phone

Subcontractor Name.	Start Date	Cell No.	Alt 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.

Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN 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.

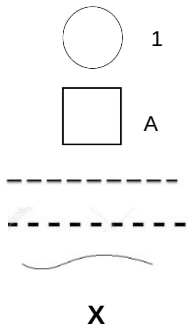
(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(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.

(9) 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 required by the timber sale contract. Provide spur road specifications
3. Locations of proposed tractor yarding roads. Show if and how marked on the ground.
4. Locations 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.

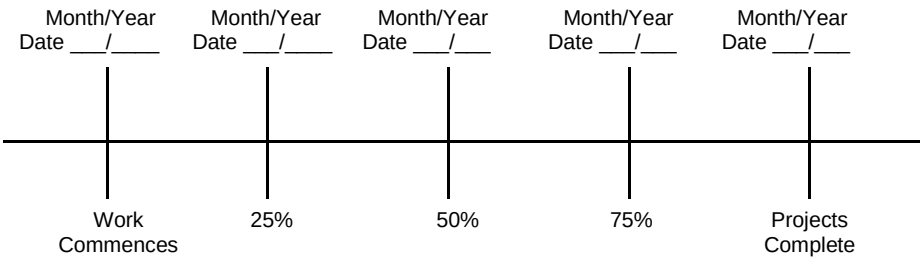
Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
OPERATIONS PLAN

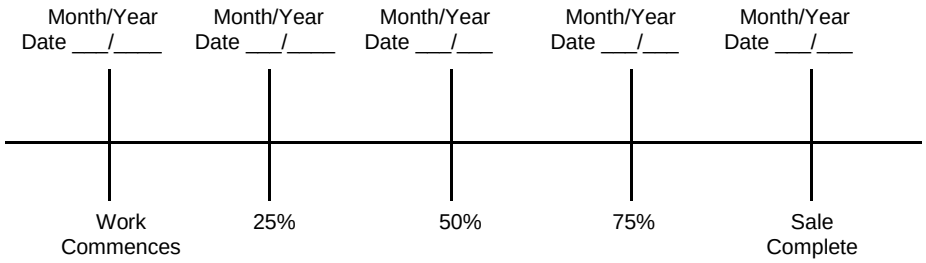
Completion Timeline

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, PURCHASER's 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: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Oregon Department of Forestry

EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
Western Lane - SOA

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER 000 ☐ Date _____
CANCELLATION ☐ Date _____

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

(3) FROM: Western Lane Phone (541) 935-2283
(State Forestry District)
Address: 87950 TERRITORIAL HWY
VENETA,OR 97487-0157

(4) PURCHASER: _____
Mailing Address: _____

Phone Number: _____

(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:
Use Region 6 actual taper rule. Logs over 40'.

	YES	NO
(7) Weight Scale Sample	☐	☑

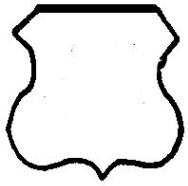
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) **SALE NAME:** Roughage Final
COUNTY: Lane

(10) **STATE CONTRACT NUMBER:**
WL-341-2023-W00784-01

(11) STATE BRAND REGISTRATION NUMBER:

(12) **STATE BRAND INFORMATION:**



(13) PAINT REQUIRED: YES ☑
COLOR: Orange

(14) **SPECIAL REQUESTS** (Check applicable)

PEELABLE CULL (all species)..... ☑
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE..... ☑
ADD-BACK VOLUME - Deductions due to delay... ☑

OTHER :

(15) **REMARKS:**

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

(16)

_____
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.
General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
Western Lane - SOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2)

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.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
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: yamhilllog@frontier.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 specifies 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: https://apps.odf.oregon.gov/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 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. Signatures not required on revisions.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
PROCESSING INSTRUCTIONS - LOCATION APPROVAL
BRAND INFORMATION

Western Lane, SOA

(1) ORIGINAL REGISTRATION ☐ Date _____

REVISION NUMBER 000 ☐ Date _____

CANCELLATION

(2) **(Approved Pulp Processing Facility)**

(3) FROM: Western Lane Phone (541) 935-2283
(State Forestry District)

Address: 87950 TERRITORIAL HWY

VENETA,OR 97487-0157

(4) PURCHASER: _____

(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 9 inches marked with blue paint.

(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.

(8) TPSO PROCESSING INSTRUCTIONS

- Submit data files daily (or each day of activity).
- Mail or deliver scale tickets weekly to ODF Headquarters in Salem.

(9) **SALE NAME:** Roughage Final

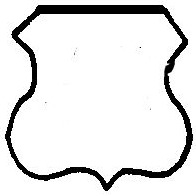
COUNTY: Lane

STATE CONTRACT NUMBER:

WL-341-2023-W00784-01

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION:



(13) **REMARKS:**

Operator's Name (Optional inclusion by District):

(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.

General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
INSTRUCTIONS FOR EXHIBIT C

Western Lane, SOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2) Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location
https://apps.odf.oregon.gov/Divisions/management/asset_management/scalinglocation.asp

(3) State District office, address and phone.

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

(5) 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

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

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

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.com

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
Email: info@nwlogscalers.com

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) 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 (13).

(13) Use this section to list any special instructions or the reason for any revisions in section item (1).

(14) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

Road	Subgrade Width	Surfaced Width	STATION TO STATION	Drainage
Swamp Creek	16'	12'	A to C	Crowned
16-8-10	16'	12'	C to D	Crowned
Spur 1a	16'	12'	0+00 to 13+92	Crowned
Spur 1a	16'	12'	13+92 to 22+86	Outsloped
Spur 1a	16'	12'	22+86 to 31+35	Crowned
Spur 1a	16'	12'	31+35 to 32+94	Outsloped
Spur 1b	16'	12'	0+00 to 7+60	Crowned

Surface width shall be increased to accommodate off-tracking on horizontal curves.

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 10 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. The "Road Brushing Specifications" in Exhibit I shall apply. 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 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.

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.

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.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

EXCAVATION. (cont.) 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, insloped, or outsloped at 4 to 6 percent as shown on the "Forest Road Specifications" table in this Exhibit or as specified by STATE.

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 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.

SLOPES	Back Slopes	Fill Slopes
Solid Rock	Vertical to ¼ :1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	¾:1	
Soil - side slopes less than 50%	1:1	1½ :1

Top of cut slope shall be rounded were specified by STATE.

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 outsloped or crowned for drainage with general grade no more than 3 percent. Surface as shown in the "Road Surfacing" table in this Exhibit.

Roadside Landings. Roadside landings shall be constructed as posted in the field and should widen the subgrade width a minimum of 20ft from the road edge for at least 40ft in length or as directed by STATE. Surface is to be outsloped for drainage with an average 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 J, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION/RECONSTRUCT INSTRUCTIONS:

(1) Roadside Brushing. Conduct roadside brushing as specified in Exhibit H.

(2) Timber Removal. Remove all trees within posted right-of-way, as specified in Section 2210, "Designated Timber."

(3) Bank Slough Removal. Dig out all bank sloughs. 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.

(4) Drainage Ditches. Restore or construct ditch lines, including ditchouts, as directed by STATE. Clean out any plugged culvert inlets and outlets. 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.

(5) 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.

(6) Stream crossings and Cross Drains. 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. Each culvert shall be backfilled with some crushed rock 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, insloped, 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 4 to 6 percent.

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

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS:

Swamp Creek as shown on Exhibit A:

A to C	Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale.
A to B	Grade and shape to re-establish drainage and remove potholes. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism. Grade out berm of organic debris on outside edge to facilitate drainage. Grade out potholes to lowest pothole depth. Prepare surface for spot rocking by rolling the surface prior to application of new rock.
B to C	Grade and shape road surface to remove severe ruts. Grade out ruts to lowest depth, then re-use graded surface material to re-shape surface. Re-establish drainage to a crowned surface after ruts are removed. Prepare the surface for a lift of rock by rolling the surface prior to application of new rock. Re-establish ditch lines. Unplug culvert inlets/outlets.

Rocking Instructions:

A to B	Apply 340 cubic yards of rock as directed by STATE on the Weyerhaeuser portions of A to B.
	Apply 100 cubic yards of rock as directed by STATE on the 3525 portions of A to B.
B to C	Apply a compacted 3" base of 3"-0" rock and a 2" cap of 1 ½"-0" Rock.

16-8-10 as shown on Exhibit A:

C to D	Conduct roadside brushing According to Exhibit H.
	Grade and shape to re-establish drainage and remove potholes. Clean out ditches, re-establish ditch outs, unplug any culvert inlets/outlets, and prepare the surface for a lift of rock by rolling the surface prior to application of new rock. Purchaser is required to maintain during the entirety of sale.
DO	Re-establish ditch outs on both sides at low point through vertical curve.
R1	Construct a roadside landing according to this exhibit. Clear and grub posted ROW to facilitate roadside landing construction. Construct truck turnaround where feasible.
R2	Construct a roadside landing according to this exhibit. Clear and grub posted ROW to facilitate roadside landing construction. Construct truck turnaround where feasible.
C1	Install 18" by 30' cross drain at this location. Install energy dissipator rock around the outlet.
R3	Construct a roadside landing according to this exhibit. Clear and grub posted ROW to facilitate roadside landing construction.
DO	Establish ditch out to facilitate drainage.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD RECONSTRUCTION INSTRUCTIONS

16-8-10 as shown on Exhibit A: continued

Rocking Instructions:

C to D — Apply a compacted 2" Cap of 1 ½"-0" Rock.

Apply allocated roadside landing rock, turnaround rock, and backfill/dissipator rock for each location according to exhibit E.

Spur 1a as shown on Exhibit A:

0+00 to 32+94 — Clear and grub. Approximately 20 feet wide of clearing and grubbing is anticipated. Remove all stumps within the road prism and any stump where the roots are overhanging the cut slope. Scatter stumps in openings and gaps in stable locations. On slopes greater than 50%, stumps shall be hauled to an approved waste area.

Clearing debris shall be piled on stable locations on slopes less than 50%. Clearing debris shall be piled in a manor to facilitate burning. The piles shall be conical in nature. Remove logs and deck them in stable locations on slopes less than 50%.

Conduct sidecast pullback where specified according to exhibit I. Remove any organic debris encountered in the road prism or logs cribbed against fill material. Remove any material associated with stress cracking and slumps.

End-haul waste material to approved sites specified by STATE. Fill depths for waste areas must not exceed 5ft in depth unless otherwise approved by STATE. Waste area capacities for specified locations listed in this exhibit.

Grade out old water bars. Establish a 3'x1' ditch for crowned road sections and where culverts are being installed. Prepare the running surface for a lift of rock by rolling the surface prior to application of new rock. Purchaser is required to maintain during the entirety of sale.

0+00 to 13+92 — Grade and shape subgrade for a crowned road surface.

13+92 to 22+86 — Grade and shape subgrade for an outsloped road surface.

22+86 to 31+35 — Grade and shape subgrade for a crowned road surface.

31+35 to 32+94 — Grade and shape subgrade for an outsloped road surface and final landing.

0+50 — Install culvert according to exhibit G at junction.

2+00 to 3+20 — Conduct sidecast pullback. Remove any organic material associated with slumps on the road edge. Waste material can be hauled to specified locations or as directed by STATE.

4+26 — Install culvert according to exhibit G. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD RECONSTRUCTION INSTRUCTIONS

Spur 1a as shown on Exhibit A: (continued)

4+74	Intersection with Spur 1b
5+82	Construct a roadside landing as directed by STATE to be used as a waste area. Clear and grub brush to facilitate roadside landing construction. Utilize as waste area (800 cubic yard capacity of loose material).
6+30 to 13+26	Cut into bank as needed to construct the adequate crowned subgrade width including the ditch. The existing width is close to 16ft; however, there are spots where slumps and root wads have fallen into the road, the cut bank needs to be re-sloped, and extra room will be needed for the ditch. Make sure cut banks are sloped back ¼:1 to the top of cut and any loose unstable material must be removed, and end hauled to an approved waste area. There are a lot of down trees, bank slough, heavy hemlock regeneration, and root wads throughout.
7+42	Install culvert according to exhibit G. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.
10+10 to 11+00	Conduct sidecast pullback. Remove any organic material associated with slumps on the road edge. Waste material can be hauled to specified locations or as directed by STATE.
10+57	Install culvert according to exhibit G. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.
13+00	This location may be used as a waste area. Do not place more than 300 loose cubic yards at this location.
13+92	Install culvert according to exhibit G. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.
14+22 to 20+03	Cut into bank as needed to construct the adequate outsloped subgrade width. The existing width is approximately 12-14ft, so the road will need to be re-aligned 2-4ft to maintain the 16ft subgrade width.
14+60 to 19+75	Conduct sidecast pullback. Remove any organic material associated with slumps on the road edge. Waste material can be hauled to specified locations or as directed by STATE.
20+03	Install culvert according to exhibit G. Create ditch and catch basin for inlet. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.
20+66	Construct a roadside landing according to this exhibit. Clear and grub brush to facilitate roadside landing construction. Outside edge of landing may be utilized as a waste area (400 cubic yard capacity of loose material).
22+86	Install culvert according to exhibit G. Create ditch and catch basin for inlet. Pullback any sidecast or organic material within 25ft of the outlet location. Install energy dissipator rock around the outlet.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD RECONSTRUCTION INSTRUCTIONS

Spur 1a as shown on Exhibit A: (continued)

24+19	Construct a roadside landing according to this exhibit. Clear and grub brush to facilitate roadside landing construction. Construct empty truck turnaround where feasible. Landing may be used as waste area (400 cubic yard capacity of loose material).
27+08	Install culvert according to exhibit G.
28+10	Logger Option Spur 1e intersection.
29+22	Construct empty truck turnout.
30+00	Install culvert according to exhibit G.
31+35	Construct empty truck turnaround at wide spot. Install culvert according to exhibit G.
32+94	Construct landing. Landing should be a minimum of 50' by 50' but no greater than 70' by 70'. Construct step-up landing on uphill side of the road for yarder to sit on.

Rocking Instructions:

0+00 to 32+94	Apply a compacted 6" Base of 3"-0" and a 2" Cap of 1 ½"-0" Rock. Apply allocated backfill/dissipator rock, landing rock, truck turnout rock, and truck turnaround rock for each location according to exhibit E.

Spur 1b as shown on Exhibit A:

0+00 to 7+60	Clear and grub. Approximately 20 feet wide of clearing and grubbing is anticipated. Remove all stumps within the road prism and any stump where the roots are overhanging the cut slope. Scatter stumps in openings and gaps in stable locations. On slopes greater than 50%, stumps shall be hauled to an approved waste area. Clearing debris shall be piled on stable locations on slopes less than 50%. Clearing debris shall be piled in a manor to facilitate burning. The piles shall be conical in nature. Remove logs and deck them in stable locations on slopes less than 50%. Grade and shape to establish a crowned running surface with ditches where small through cuts are present. Utilize ditchouts to facilitate drainage as needed. Prepare the running surface for a lift of rock. Purchaser is required to maintain during the entirety of sale.
0+00 to 0+90	Utilize right side of road as roadside landing waste area in conjunction with Spur 1a's 5+82.
1+70	Construct truck turnout on right side in accordance with this exhibit. Create ditchouts on both sides of the road at this location and just before the turn out construction to divert water away from turnout.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD RECONSTRUCTION INSTRUCTIONS

Spur 1b as shown on Exhibit A: (continued)

3+90	Construct truck turnout on left side in accordance with this exhibit. Drift out material at this location so turnout meets the same elevation as the road surface.
6+55	Construct empty truck turnaround on right side in accordance with this exhibit. Excavate into old cutbank as needed. Waste generated from TA construction may be placed in a stable location close to TA site. 85 cubic yards estimated.
	Create ditchouts to facilitate drainage where feasible before landing construction.
7+60	Construct landing. Landing should be a minimum of 50' by 50' but no greater than 70' by 70'.

Rocking Instructions:

0+00 to 7+60	Apply a compacted 6" Base of 3"-0" and a 2" Cap of 1 ½"-0" Rock.
	Apply allocated landing rock, truck turnout rock, and truck turnaround rock for each location according to exhibit E.

EXHIBIT D
END HAUL REQUIREMENTS

Road	STA. to STA.	Approx. Waste (yds^3)	Containment Sidecast	Waste Area Location	Waste Area Treatment
Spur 1a	0+00 to 6+30	121	2	1,3	1
Spur 1a	6+30 to 13+92	540	2	1,3	1
Spur 1a	14+22 to 20+03	380	2	1,3	1
Spur 1a	22+86 to 31+35	68	2	1,3	1
	Total	**1109**			

Landing fills shall not be allowed on slopes over 55%

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.

When controlled blasting is required, it shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain material within the road prism.

Containment/Sidecast

(1) Full: No excavated material remains below the road.

(2) Normal/Incidental: The amount of excavated material lost over the outside edge of the road shall not exceed 1 foot in depth.

(3) Sidecast: Material shall be spread evenly below the road so that it does not build up behind trees, snags or other debris, and shall not exceed 3 feet in depth.

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

(1) As described in this exhibit, shown on Exhibit A, Vicinity, and as marked in the field.

(2) Setback from slope break shall be a minimum of 20 feet horizontal measurement.

(3) As directed by STATE.

Waste Area Treatment

(1) Deposit at waste area, spread evenly, compact, and provide adequate drainage. Fill depths greater than one foot must be compacted in 6" lifts. Seed and Mulch exposed waste material.

(2) Pile woody debris separate from other waste material.

Waste Area Capacities

WA Location	Capacity (loose)
5+82	800
13+00	300
20+66	400
24+19	400
Totals	1900

*table values in cubic yards

EXHIBIT E
ROAD SURFACING

ROAD	ROCK TYPE	ROCK SIZE	COMPACTED DEPTH	YDS^3/STA	TOTAL STATIONS	STA. TO STA. POINT TO POINT		APPROX. TOATAL YDS^3
B to C	BASE	3"-0"	3"	17	11.77	B	C	200
B to C	CAP	1 1/2"-0"	2"	11	11.77	B	C	130
16-8-10	CAP	1 1/2"-0"	2"	11	36.40	C	D	400
Spur 1a	BASE	3"-0"	6"	33	32.94	0+00	32+94	1090
Spur 1a	CAP	1 1/2"-0"	2"	11	32.94	0+00	32+94	360
Spur 1b	BASE	3"-0"	6"	33	7.60	0+00	7+60	250
Spur 1b	CAP	1 1/2"-0"	2"	11	7.60	0+00	7+60	80
1C Logger Optional	BASE	3"-0"	6"	33	6.50	0+00	6+80	210
1C Logger Optional	CAP	1 1/2"-0"	2"	11	6.50	0+00	6+80	70
1D Logger Optional	BASE	3"-0"	6"	33	1.00	0+00	1+50	30
1D Logger Optional	CAP	1 1/2"-0"	2"	11	1.00	0+00	1+50	10
1E Logger Optional	BASE	3"-0"	6"	33	4.50	0+00	5+00	150
1E Logger Optional	CAP	1 1/2"-0"	2"	11	4.50	0+00	5+00	50

LANDINGS

ROAD		ROCK SIZE	COMPACTED DEPTH	YDS^3/STA	STATIONS	STATION	APPROX. TOATAL YDS^3
16-8-10		Pit Run	6"	40	3.00	R1, R2, R3	120
Spur 1a		Pit Run	6"	40	4.00	5+82, 20+66, 24+19, 32+94	160
Spur 1b		Pit Run	6"	40	1.00	7+60	40
1C Logger Optional		Pit Run	6"	40	1.00	6+80	40
1D Logger Optional		Pit Run	6"	40	1.00	1+50	40
1E Logger Optional		Pit Run	6"	40	2.00	5+00	80

TRUCK TURN AROUND

ROAD		ROCK SIZE	COMPACTED DEPTH	Yds^3/Point	NO. OF TURN AROUNDS	STATION	APPROX. TOATAL YDS^3
16-8-10		Pit Run	6"	10	2	R1, R2	20
Spur 1a		Pit Run	6"	10	4	5+82, 20+03, 29+22, 31+35	40
Spur 1b		Pit Run	6"	10	3	1+70, 3+90, 6+55	30
1C Logger Optional		Pit Run	6"	10	2	Where feasible	20
1E Logger Optional		Pit Run	6"	10	2	Where feasible	20

CURVE WIDENING/SPOT ROCK

Road		ROCK SIZE	COMPACTED DEPTH	Yds^3/Point	# POINTS	STATION	APPROX. TOATAL YDS^3
A to B		1 1/2"-0"		10	44	directed by STATE	440
16-8-10		1 1/2"-0"		10	2	directed by STATE	20
Spur 1a		1 1/2"-0"		10	10	directed by STATE	100
1C Logger Optional		1 1/2"-0"		10	2	directed by STATE	20
1E Logger Optional		1 1/2"-0"		10	2	directed by STATE	20

Backfill / Energy Disipator

Road		ROCK SIZE	COMPACTED DEPTH	Yds^3/Point	# POINTS	STATION	APPROX. TOATAL YDS^3
16-8-10		1 1/2"-0"		10	1	C1	10
Spur 1a		1 1/2"-0"		10	10	Refer to Culvert Exhibit	100
Dissipator		Pit Run		10	2	Refer to Exhibit D	20

Road shall be compacted, graded, shaped, and approved by STATE prior to rocking.
Approximate yards assumes construction during ideal weather conditions.
Only clean, uncontaminated crushed rock counts towards rock depth measurement.

Rock Totals	Pit Run	3"-0"	1 1/2"-0"
LOOSE TRUCK Cu. Yds	430	1540	1640

(LOGGER OPTIONAL TOTALS BELOW)

Rock Totals	Pit Run	3"-0"	1 1/2"-0"
LOOSE TRUCK Cu. Yds	200	390	170

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.

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 weekly. However, depth measurement shall be used to determine contract compliance.

Grading Requirements

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

JAW-RUN, PIT-RUN, and RIPRAP ROCK SPECIFICATIONS

For Pit Run	Passing	6" sieve	100%
	Passing	3" sieve	45-65%

Control of gradation shall be by visual inspection by STATE.

EXHIBIT F
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 or outsloped at 4 to 6 percent as specified in the "Forest Roads Specifications" table in Exhibit D.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A-C, 16-8-10, 1a, & 1b.	(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 layer's 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
A-C, 16-8-10, 1a, & 1b.	1, 4, & 8

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

EXHIBIT F
COMPACTION AND PROCESSING REQUIREMENTS

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments requiring crushed rock.	1 & 8

Pit-Run Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of pit-run rock shall be moistened or dried to uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 8 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road.

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.

(4) 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.

(8) 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 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 more than 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, 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". 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.

EXHIBIT G
CULVERT SPECIFICATIONS

The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom.

The outlet ends of any culvert which would allow water to erode embankment soil shall be provided with an energy dissipator, or other approved slope protection device. 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.

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.

CULVERT LIST

DIAMETER / PIPE ARCH	LENGTH	MATERIAL	ROAD	STATION
(Inches)	(Feet)			
18	30	CPP	16-8-10	C1
18	30	CPP	Spur 1a	0+50
18	30	CPP	Spur 1a	4+26
18	30	CPP	Spur 1a	7+42
18	30	CPP	Spur 1a	10+57
18	30	CPP	Spur 1a	13+92
18	30	CPP	Spur 1a	20+03
18	40	CPP	Spur 1a	22+86
18	30	CPP	Spur 1a	27+08
18	30	CPP	Spur 1a	30+00
18	40	CPP	Spur 1a	31+35

ACSP = Aluminized, CPP = Polyethylene, GCSP = Galvanized

Culvert Length shown are not the exact lengths. The length may be less or greater based on-site conditions. Operator shall install the appropriate length of culvert to meet the requirements in this Exhibit as stated above and as directed by STATE.

Ditchouts will be utilized to provide ditch relief or as approved or directed by the state.

EXHIBIT H
ROAD BRUSHING SPECIFICATIONS

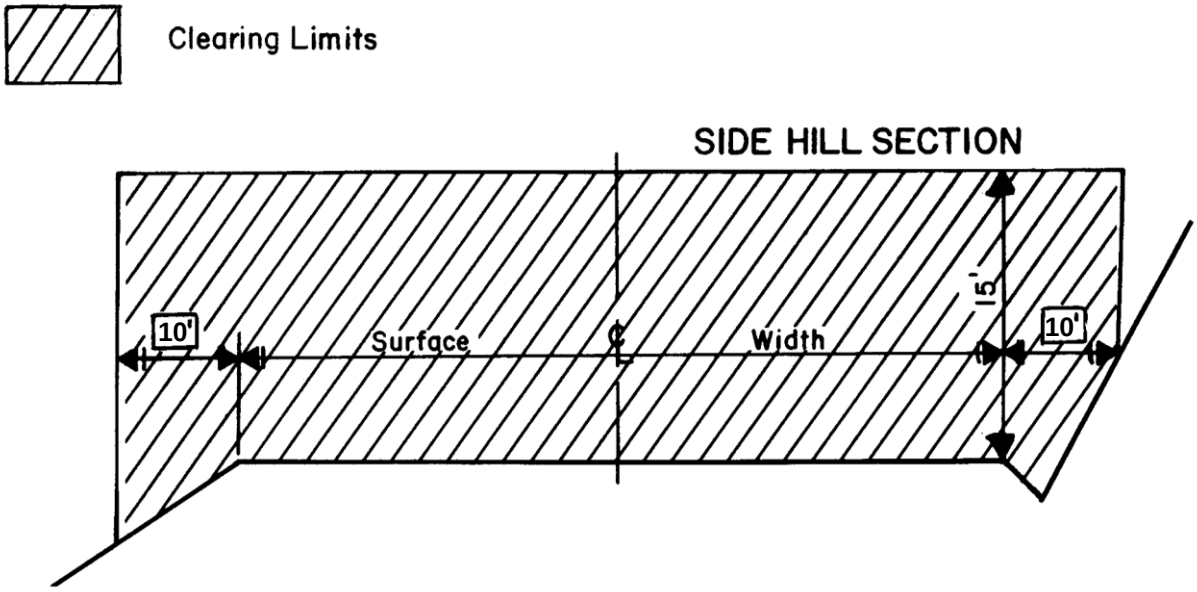


EXHIBIT H
ROAD BRUSHING SPECIFICATIONS

REQUIREMENTS

The minimum height of clearing shall be 15 feet from the road surface, and the minimum width of clearing on the cut slope sides 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. In situations where site distance is an issue brushing height on the cut slope may vary from the drawing, as directed by STATE.

For cuts lopes less than 6 feet in height, brushing shall extend 5 feet beyond the top of cut slope.

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

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. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large 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.

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.

Merchantable blown down trees encountered shall be bucked in lengths as directed by STATE, and placed in locations acceptable to STATE, or pushed out of the road prism.

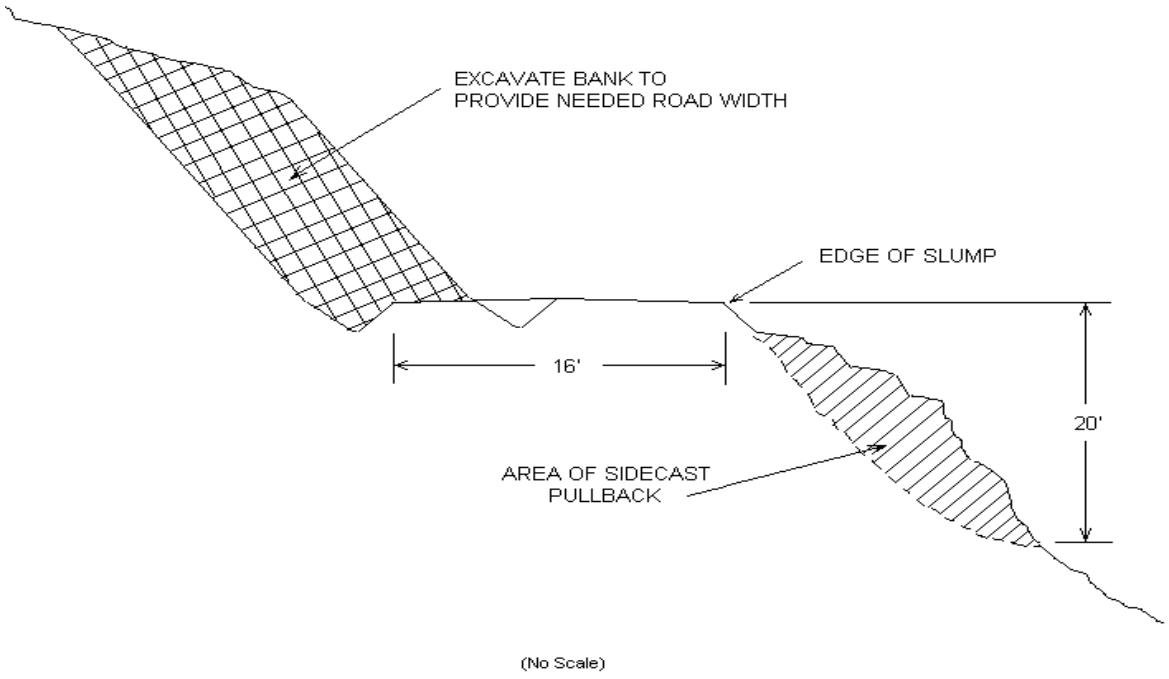
When spur roads to be brushed end with a Landing, the Landing is to be brushed as directed by STATE.

CULVERT AND ROAD MARKER DAMAGES. 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.

State Timber Sale Contract
No. WL-341-2023-W00784-01
Roughage Final

EXHIBIT I
TYPICAL SIDECAST PULLBACK

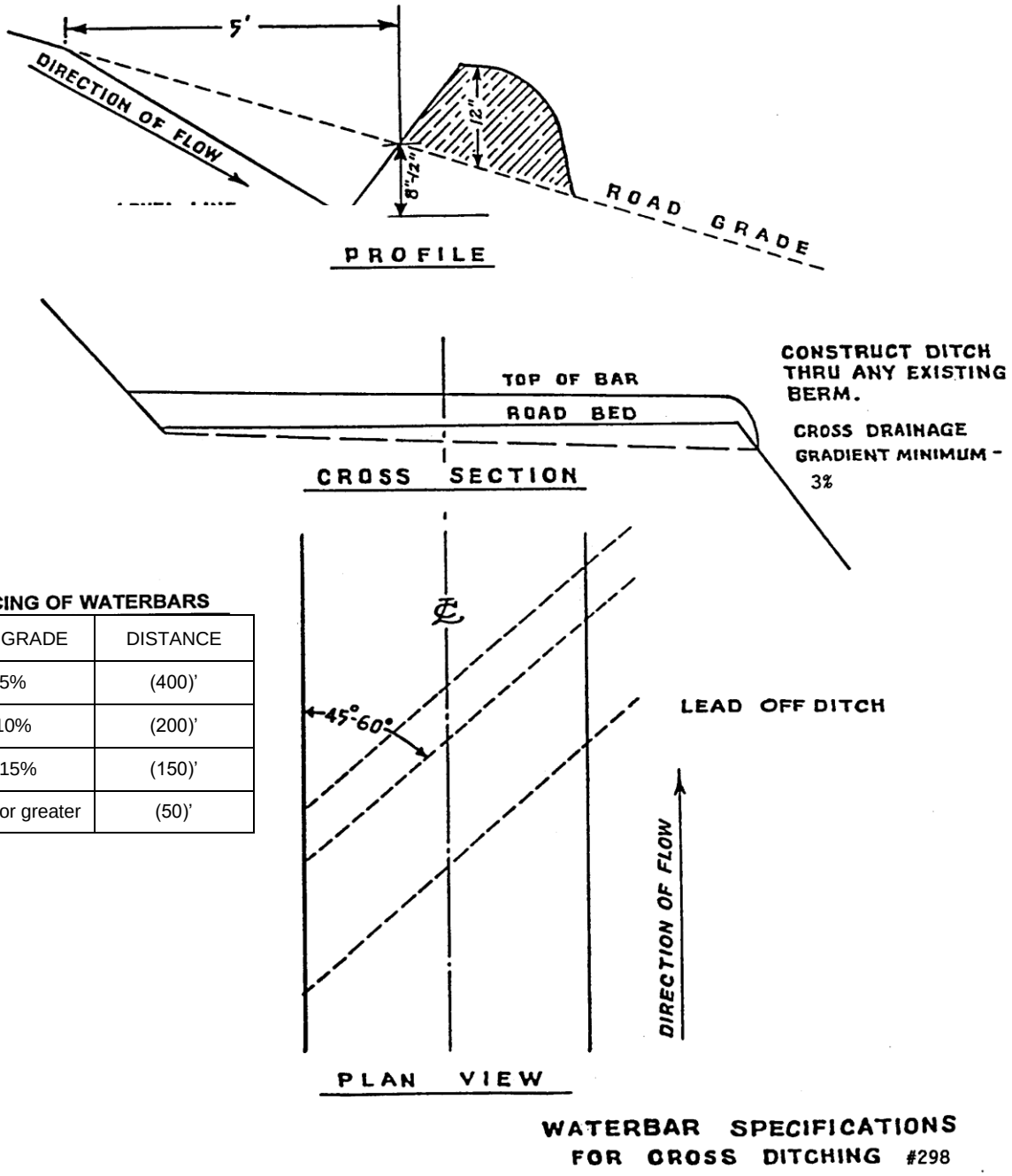
TYPICAL CROSS SECTION VIEW OF SIDECAST PULLBACK AND ROAD REALIGNMENT



(No Scale)

State Timber Sale Contract
No. WL-341-2023-W00784-01
Roughage Final

EXHIBIT J
WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

ROAD GRADE	DISTANCE
≤ 5%	(400)'
6-10%	(200)'
11-15%	(150)'
16-20% or greater	(50)'

WATERBAR SPECIFICATIONS FOR CROSS DITCHING #298

State Timber Sale Contract
No. WL-341-2023-W00784-01
Roughage Final

EXHIBIT K
SEEDING AND MULCHING

This work shall consist of preparing seedbeds and furnishing and placing required seed, fertilizer, and straw mulch. Straw mulch shall consist of straw that is free of noxious weeds. Apply seed, and straw mulch in locations directed by STATE.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31 unless otherwise approved by STATE. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Areas of disturbed soil shall be seeded by the end of the project period in which work was started.

APPLICATION METHODS FOR SEED AND FERTILIZER

Dry Method. Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment shall be used to apply the seed and fertilizer in the amounts and mixtures specified. Hand-operated seeding devices may be used when seed and fertilizer are applied in dry form.

APPLICATION RATES FOR SEED AND FERTILIZER

The seed mixture listed below shall be applied at 100 lbs. per acre. The seed mixture shall be comprised of the following:

SPECIES	MIXTURE	PURE LIVE SEED	GERMINATION
Annual Rye	33%	95%	>90%
Orchard Grass	33%	95%	>90%
Perennial Rye	34%	95%	>90%

Mulching Period. Straw mulch shall be applied within 24 hours of spreading grass seed and fertilizer.

APPLICATION RATES FOR MULCH

Place straw mulch to a reasonably uniform thickness of 0.75 to 1.5 inches. This rate requires 1 tons of dry mulch per acre.

Application Locations:

Road Segment	Location
Spur 1a	5+82
Spur 1a	13+00
Spur 1a	20+66
Spur 1a	24+19

PART IV: OTHER INFORMATION

OREGON DEPARTMENT OF FORESTRY
Western Lane District

Written Plan

Roughage Final Timber Sale
341-2023-W00784-01

Portions of Section 10, T16S, R8W, W.M., Lane County

Protected Waters: Medium Type F (Greenleaf Creek Tributary)

Activity: Cable yarding within 100 feet of a medium Type F stream for approximately 1,500 feet (Greenleaf Creek Tributary).

Protection Measures:

Cable Yarding:

- No cutting will take place within approximately 100 feet of the stream (either side) except for any cable corridors that may be needed or for safety purposes.
- Any tree requiring to be felled for either corridors or safety reasons that is within the stream RMA (beyond the Timber Sale Boundary signs) will be felled away from the stream if safe to do so and left where they fall.
- Corridors through the RMA, if necessary, will be at least 100 feet apart (within the RMA).
- All lines will be re-spooled and then restrung for each new corridor.

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Roads Specialist

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