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: _____

(5) State Brand Information (Complete)

(1) Contract Number: NC-341-2024-GF8623-01

(2) Sale Name: Dry Beard GNA

(3) Contract Expiration Date: 10/31/2026

(4) Purchaser Name: _____

(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
FELLING				
YARDING				

(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 including without limitation PURCHASER'S independent obligation to avoid take of a T&E species and PURCHASER'S obligation to comply with terms and conditions of any incidental take Permit(s) that include required minimization and mitigation measures in any applicable Habitat Conservation Plan. 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.

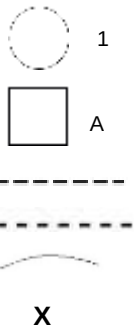
(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(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.

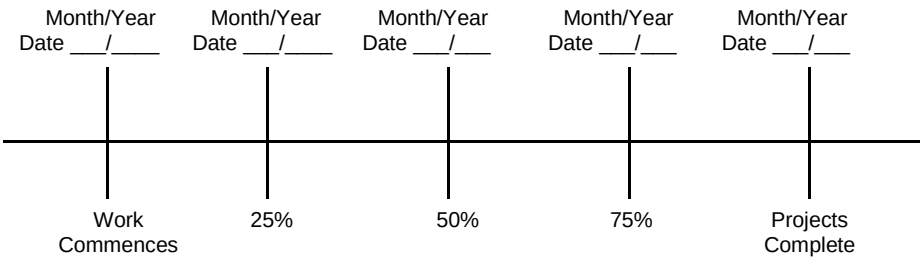
Temporary stream crossings.

Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS
EXHIBIT B
OPERATIONS PLAN

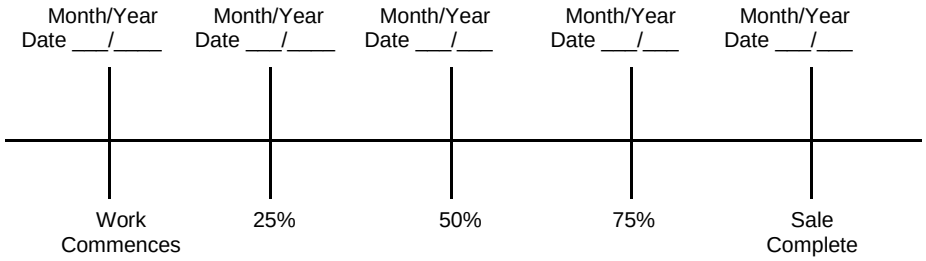
Completion Timeline

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 or that the plan is consistent with the terms and conditions of any applicable incidental take Permit(s) including any required minimization and mitigation measures proposed in the applicable Habitat Conservation Plan. As provided in the timber sale contract, PURCHASER's must comply with all applicable state, federal, and local laws, including without limitation any Permit(s) issued thereunder.

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
North Cascade - NWOA

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

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

(3) FROM: North Cascade Phone (503) 859-2151
(State Forestry District)
Address: 930 W WASHINGTON ST. SUITE 20
STAYTON,OR 97383

(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	☐	☑

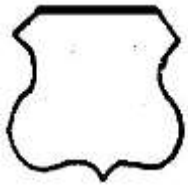
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) **SALE NAME:** Dry Beard GNA
COUNTY: Linn

(10) **STATE CONTRACT NUMBER:**
NC-341-2024-GF8623-01

(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:**

"Mule Trains"
1. Loads are required to have load tickets for each set of bunks.
2. If truck and pup are to be weighed, weigh and process separately for gross and tare weights.

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

Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
North Cascade - NWOA

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

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

Columbia River Log Scaling & Grading Bureau
P.O.Box 7002, Eugene, OR 97401
Phone: (541) 342-6007 Fax: (541) 342-2631
Email: services@crls.com

Mountain Western Log Scaling & Grading Bureau
P.O.Box 580, Roseburg, OR 97470
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mwlsgb.com

Northwest Log Scalers Inc.
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

North Cascade, NWOA

(1) ORIGINAL REGISTRATION ☐ Date _____

REVISION NUMBER 000 ☐ Date _____

CANCELLATION ☐ Date _____

(2) TO: _____

(Approved Pulp Processing Facility)

(3) FROM: North Cascade Phone (503) 859-2151
(State Forestry District)

Address: 930 W WASHINGTON ST. SUITE 20

STAYTON,OR 97383

(4) PURCHASER: _____

(5) Scaling Bureau **(TPSO)** Processing Weight receipts:

Mailing Address: _____

,

Phone Number: _____

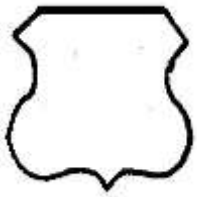
(9) **SALE NAME:** Dry Beard GNA

COUNTY: Linn

(10) **STATE CONTRACT NUMBER:**
NC-341-2024-GF8623-01

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION:



(13) **REMARKS:**

"Mule Trains"

1. Loads are required to have load tickets for each set of bunks.
2. Truck and pup are to be weighed and processed separately for gross and tare weights.

(6) **STATE Definition of Approved Pulp Sort:**

- Top portion of the tree (tops).
- All logs with a diameter (Big End) greater than 7 inches marked with blue paint.

Operator's Name (Optional inclusion by District):

(14) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

State Forester Representative PRINT NAME

(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.

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

North Cascade, NWOA

(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

(6) 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
Rd 017	16'	12'	0+00 to 20+42	Outsloped
Tom Creek Mainline (Rd 1003)	16'	12'	0+00 to 329+12	Crowned
Rd 405	16'	12'	0+00 to 10+43	Outsloped
Rd 305	16'	12'	0+00 to 13+35	Outsloped
Rd 306	16'	12'	0+00 to 29+84	Outsloped
Rd 307	16'	12'	0+00 to 1+06	Crowned
Rd 419	16'	12'	0+00 to 27+66	Outsloped
Rd 420	16'	12'	0+00 to 4+50	Outsloped
Rd 476	16'	12'	0+00 to 7+98	Outsloped
Rd 479	16'	12'	0+00 to 13+54	Outsloped
Rd 416	16'	12'	0+00 to 106+47	Crowned
Rd 480	16'	12'	0+00 to 16+40	Outsloped
Rd 409	16'	12'	0+00 to 16+40	Crowned
Rd 411	16'	12'	0+00 to 60+46	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 G 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, side slopes exceed 50 percent and any stream channel or where material may enter the stream channel. 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.

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 I, and blocked from vehicular traffic prior to October 31, annually and as directed by STATE.

EXHIBIT D
FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

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

(2) 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.

(3) Drainage Ditches. Restore or construct ditch lines, including ditchouts, as directed by STATE. Clean out all 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.

(4) 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.

(5) 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. Activities associated with culvert removal or replacement in streams with active streamflow would be suspended if there is an increase of 10 NTU's (Nephlometric Turbidity Units) below the project area. See Exhibit L for NTU monitoring guidelines.

(6) In-stream work. Any project activity that occurs within a perennial stream channel, such as culvert replacement, shall comply with the Oregon Department of Fish and Wildlife seasonal restriction for in-stream work activities [July 15 – August 31 window] and follow a dewatering plan, unless otherwise approved by STATE.

(7) Live Streams. General road improvement operations will be scheduled and conducted to prevent eroded material from entering any waterway. Lives streams will be diverted from work areas prior to excavation of culverts, or any other stream crossing structure. A stream diversion plan will be developed prior to starting of excavation in live streams.

(8) System Roads. Require system roads used for timber haul to meet minimum design standards to ensure safe haul without road failure. Prohibit timber haul on roads that are failing, or likely to fail, if failure causes direct impacts to stream.

(9) 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) Grade out all potholes and/or washboard sections from the existing surface.

(c) Subgrade shall be crowned, insloped, or outsloped at 4 to 6 percent.

(d) 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:

Tom Creek Mainline (Rd 1003) as shown on Exhibit A:

0+00 to 329+12	Conduct roadside brushing According to Exhibit H. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.
	Grade out and brush wide spots along the entire road system for turnout and turnaround opportunities. Improve landing areas as needed for logging activities if not identified.
0+00 to 235+42	Grade and shape surface to re-establish drainage.
56+49	Replace failing culvert with a 24" x 50' culverts. Place 24 cubic yards of 1 ½" -0" rock from an approved commercial source for bedding and surface replacement. Add rock dissipater to outlet.
79+20	Construct ditch-out on outside edge of road.
82+65	Improve roadside landing area.
86+98	Grade out waste and create landing area.
101+54	Improve roadside landing area.
108+03	Improve roadside landing area.
114+14	Improve roadside landing area.
128+27	Improve roadside landing area.
138+72	Remove fallen rocks and boulders. Improve and re-establish ditch line.
145+02	Construct ditch-out on outside edge of road.
156+15	Remove fallen rocks, boulders, and woody debris. Improve and re-establish ditch line.
160+21	Improve roadside landing area.
174+94	Start rock removal and ditch re-establishment.
181+08	End rock removal and ditch re-establishment.
187+39	Start grading to remove forming ruts and re-establish surface drainage. Remove rocks and re-establish ditch.
192+85	End rock removal and ditch re-establishment.
198+25	Remove fallen boulders and place in stable location.
202+45	Remove fallen rocks and boulders. Improve and re-establish ditch line.
205+21	Improve roadside landing area.

Rd Tom Creek Mainline (Rd 1003) as shown on Exhibit A: Continued

209+64 Improve roadside landing area.

216+76 Improve roadside landing area.

221+24 Improve roadside landing area.

320+27 Improve roadside landing area.

324+18 Improve roadside landing area.

327+32 Improve roadside landing area.

329+12 End improvement.

Rocking Instructions:

0+00 to 235+42 Apply 1,413 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

82+65 to 329+12 Apply 390 CY compacted 6" lift of 6"+ pit run rock for landings.

Rd 405 as shown on Exhibit A:

0+00 to 10+43 Conduct roadside brushing According to Exhibit H. Clear and grub young trees and brush within the road prism. Grade and shape surface to re-establish drainage. Grade out and brush wide spots along the road for turnout and turnaround opportunities.

0+00 Improve two-way junction

10+43 Construct roadside landing area.

End of improvement

Rocking Instructions:

0+00 to 10+43 Apply 31 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

0+00 to 10+43 Apply 30 CY compacted 6" lift of 6"+ pit run rock for landings.

Rd 305 as shown on Exhibit A:

0+00 to 13+35 Conduct roadside brushing According to Exhibit H. Clear and grub young trees and brush within the road prism. Grade and shape surface to re-establish drainage. Grade out and brush wide spots along the road for turnout and turnaround opportunities.

4+16 Improve roadside landing area.

13+35 End improvement.

Rocking Instructions:

0+00 to 13+35 Apply 40 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

0+00 to 13+35 Apply 30 CY compacted 6" lift of 6"+ pit run rock for landings.

Rd 306 as shown on Exhibit A:

0+00 to 29+84 Conduct roadside brushing According to Exhibit H. Clear and grub young trees and brush within the road prism. Grade and shape surface to re-establish drainage. Grade out and brush wide spots along the road for turnout and turnaround opportunities.

0+00 Remove Gate 1 and all of its components.

29+84 End improvement.

Rocking Instructions:

0+00 to 29+84 Apply 90 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

Rd 307 as shown on Exhibit A:

0+00 to 1+06 Grade and shape surface to re-establish drainage.

1+06 End improvement.

Rocking Instructions:

0+00 to 1+06 Apply 3 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

Rd 419 as shown on Exhibit A:

0+00 Remove Gate 2 and all its components.

Rd 420 as shown on Exhibit A:

0+00 to 4+50 Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

4+50 End of roadwork.

Rocking Instructions:

0+00 to 4+50 Apply 14 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

Rd 476 as shown on Exhibit A:

0+00 to 4+50 Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

Rocking Instructions:

0+00 to 4+50 Apply 24 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

Rd 479 as shown on Exhibit A:

0+00 to 13+54	Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

Rocking Instructions:

0+00 to 13+53	Apply 41 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

Rd 416 as shown on Exhibit A:

0+00 to 106+47	Conduct roadside brushing According to Exhibit H. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism. Grade out and brush wide spots along the entire road system for turnout and turnaround opportunities. Improve landing areas as needed for logging activities if not identified.
2+12	Improve roadside landing area.
5+55	Improve roadside landing area.
12+10 or 12+50	Construct empty truck turn around where feasible.
27+70	Start removal of fallen rocks and woody debris. Improve and re-establish ditch line.
32+34	End removal of debris and ditch re-establishment.
36+78	Improve roadside landing area.
42+00	Improve roadside landing area.
50+65	Grade out, brush, and construct landing area.
59+12	Improve roadside landing area.
60+95	Remove fallen root wad and improve ditch line. Place woody material in stable location.
65+65	Improve turn around area.
67+80	Improve roadside landing area.
69+68	Improve roadside landing area.
77+70	Start removal of fallen rocks and woody debris. Improve and re-establish ditch line.
79+99	End removal of debris and ditch re-establishment.
85+83	Grade to remove potholes. Place 10 cubic yards of 1 ½"-0" rock from an approved commercial source to re-establish surface.
102+46	Improve roadside landing area.
106+47	Improve turn around area. End road improvement.

Rd 416 as shown on Exhibit A: Continued

Rocking Instructions:

0+00 to 106+47 Apply 639 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

0+00 to 106+47 Apply 240 CY of compacted 6" lift of 6"+ pit run rock for landings.

Rd 480 as shown on Exhibit A:

0+00 to 16+40 Conduct roadside brushing According to Exhibit H. Clear and grub young trees and brush within the road prism. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

6+50 Improve roadside landing area.

12+20 Widen road for turn out area.

16+40 Construct landing area. End road improvement.

Rocking Instructions:

0+00 to 16+40 Apply 180 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

0+00 to 16+40 Apply 60 CY of compacted 6" lift of 6"+ pit run rock for landings.

Rd 409 as shown on Exhibit A:

0+00 to 70+28 Conduct roadside brushing According to Exhibit H. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

Grade out and brush wide spots along the entire road system for turnout and turnaround opportunities. Improve landing areas as needed for logging activities if not identified.

1+75 Improve roadside landing area.

36+36 Remove fallen rocks and re-establish ditch line.

38+60 Grade to remove potholes. Place 10 cubic yards of 1 ½"-0" rock from an approved commercial source to re-establish surface.

42+09 Improve roadside landing area.

54+02 Improve roadside landing area.

59+19 Construct landing area.

63+10 Construct landing area.

67+07 Improve roadside landing area.

Rd 409 as shown on Exhibit A: Continued

70+28	Improve turn around area. End road improvement.

Rocking Instructions:

0+00 to 70+28	Apply 422 CY of 1 ½"-0" spot rock as needed from an approved commercial source.
0+00 to 70+28	Apply 180 CY compacted 6" lift of 6"+ pit run rock for landings.

Rd 411 as shown on Exhibit A:

0+00 to 60+46	Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism. Grade out and brush wide spots along the entire road system for turnout and turnaround opportunities. Improve landing areas as needed for logging activities if not identified.
0+89	Construct landing area.
2+98	Improve truck turn around area.
8+70	Replace failing culvert with a 24" x30' culvert. Place 24 cubic yards of 1 ½" -0" rock from an approved commercial source for bedding and surface replacement.
9+61	Improve roadside landing area.
17+76	Improve roadside landing area. There is an old road grade near this location that may be used as a temporary spur during operations.
21+99	Improve roadside landing area.
25+74	Improve roadside landing area.
32+58	Improve roadside landing area.
38+47	Grade out water bar.
45+15	Improve turn around area.
48+42	Improve roadside landing area.
51+31	Begin cutting into bank to widen and realign road. Cut into bank approximately 3-4 feet to gain additional subgrade width. Material generated from realignment will be placed at a nearby landing location and designated waste area. Estimating about 335 cubic yards of in-place material.
53+27	Landing and designated waste area. Clear and grub landing area to prep for waste material placement. Waste material must be compacted in lifts and outsloped for drainage.
53+90	End of cutting into bank and road realignment.
56+11	Improve truck turn around area.
60+46	Improve landing area. End road improvement.

Rd 411 as shown on Exhibit A: Continued

Rocking Instructions:

0+00 to 60+46 Apply 387 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

0+00 to 60+46 Apply 153 CY compacted 6" lift of 6"+ pit run rock for landings.

Rd 017 as shown on Exhibit A:

0+00 to 20+42 Conduct roadside brushing According to Exhibit H. Purchaser is required to maintain during the entirety of sale. Grade and shape surface to re-establish drainage. Clean out ditches, re-establish ditchouts, and unplug culvert inlets/outlets. Remove overhanging woody debris and logs within the road prism.

Grade out and brush wide spots along the entire road system for turnout and turnaround opportunities. Improve landing areas as needed for logging activities if not identified.

20+42 Improve landing area. End of roadwork.

Rocking Instructions:

0+00 to 20+42 Apply 225 CY of 1 ½"-0" spot rock as needed from an approved commercial source.

EXHIBIT D
END HAUL REQUIREMENTS

Road	STA. STA.	Approx. Waster (ysd^3)	Containment Sidecast	Waste Area Location	Waste Area Trement
Rd 411	51+31 to 53+90	335.00	1.00	1.00	1.00
	Total	**335.00**			

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.

EXHIBIT E
ROAD SURFACING

Segments	Station	Length	1.5"- 0" Crushed
17	0+00 to 20+42	20+42	225 cy
1003	As needed	235+42	1,437 cy
405	0+00 to 10+43	10+43	31 cy
305	As needed	13+35	40 cy
306	As needed	29+84	90 cy
307	As needed	1+06	3 cy
420	As needed	4+50	14 cy
479	As needed	13+54	41 cy
476	As needed	7+98	24 cy
416	As needed	106+47	639 cy
480	0+00 to 16+40	16+40	180 cy
409	As needed	70+28	422 cy
411	As needed	60+46	387 cy
	Total	**590+15**	**3,531 cy**

Rock Totals	1 1/2"-0" Crushed	Culvert Bedding 1 1/2"-0"	Pit Run 6"+	Other (end haul/soil)
LOOSE TRUCK Cu. Yds.	3,507 cy	48 cy	1,056 cy	48 cy

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.

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%

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	SUBGRADE COMPACTION 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 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	FILLS COMPACTION OPTIONS
All road segments	1, 2, 3, & 4

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to 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	CRUSHED COMPACTION OPTIONS
All road segments requiring crushed rock.	1

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.

(2) Tampingfoot Compactors. Tampingfoot compactors shall exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet. The compactor shall cover a minimum width of 60 inches per pass and weigh a minimum of 16,000 pounds.

(3) 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.

(4) As Approved by STATE.

EXHIBIT G
CULVERT SPECIFICATIONS

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

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

Aluminized (Type 2) steel culverts shall meet the requirements of AASHTO M-36-03[1].

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.

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

	Steel Culvert	Thickness			Band Widths (")	
Dia.	Gauge	Uncoated	Coated	Band Gauges	Annular	Helical
18-24	16	(0.0598")	(0.064")	16	12	12

DIAMETER / PIPE ARCH	LENGTH		MATERIAL	ROAD	STATION
(inches)	(feet)	Guage			
24	30	16	Aluminized Steel	Rd 411	8+70
24	50	16	Aluminized Steel	Tom Creek Mainline	56+49

CULVERT LIST

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

TYPICAL EMBEDDED ENERGY DISSIPATOR

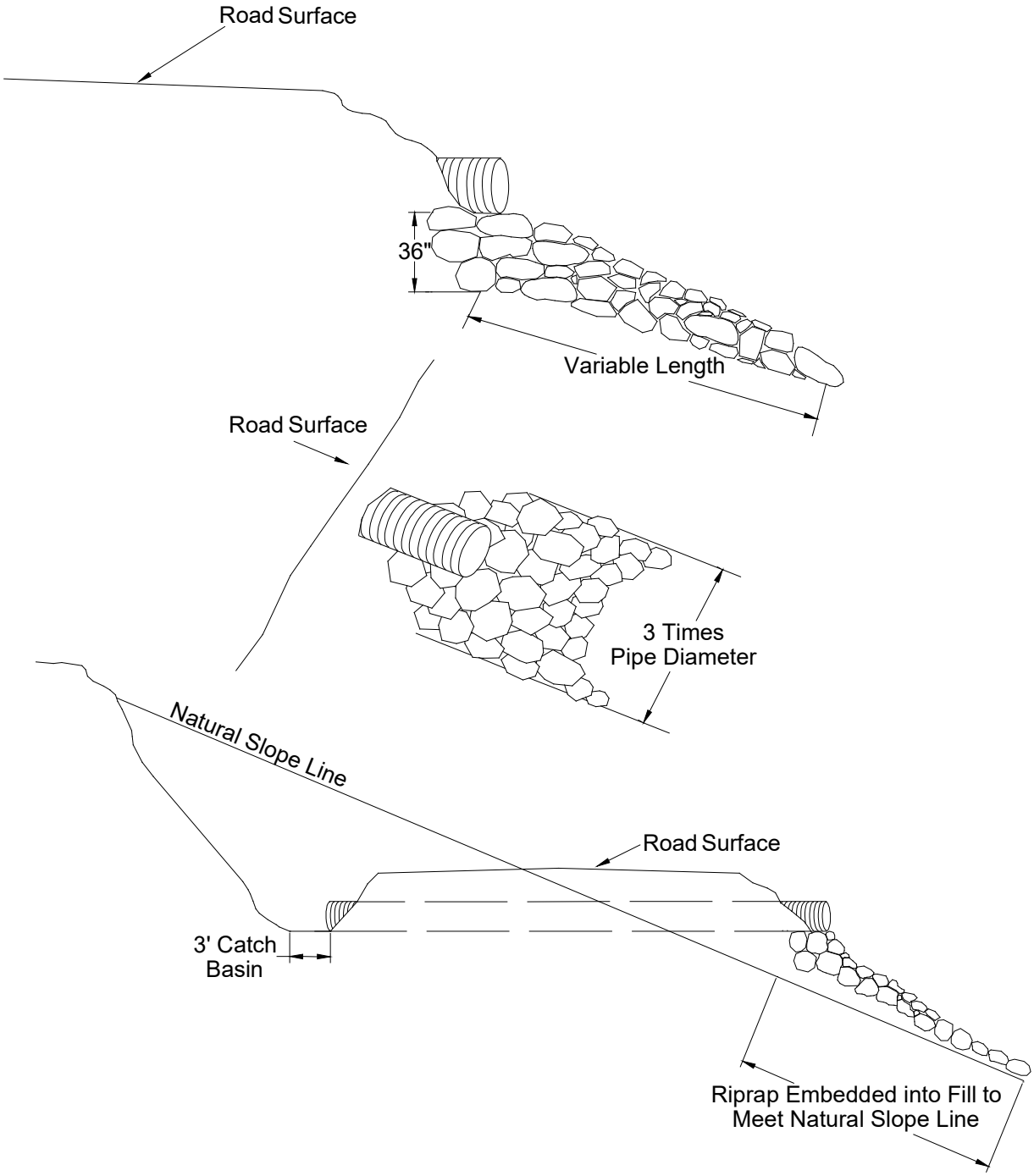


EXHIBIT I

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.

EXHIBIT I

ROAD BRUSHING SPECIFICATIONS

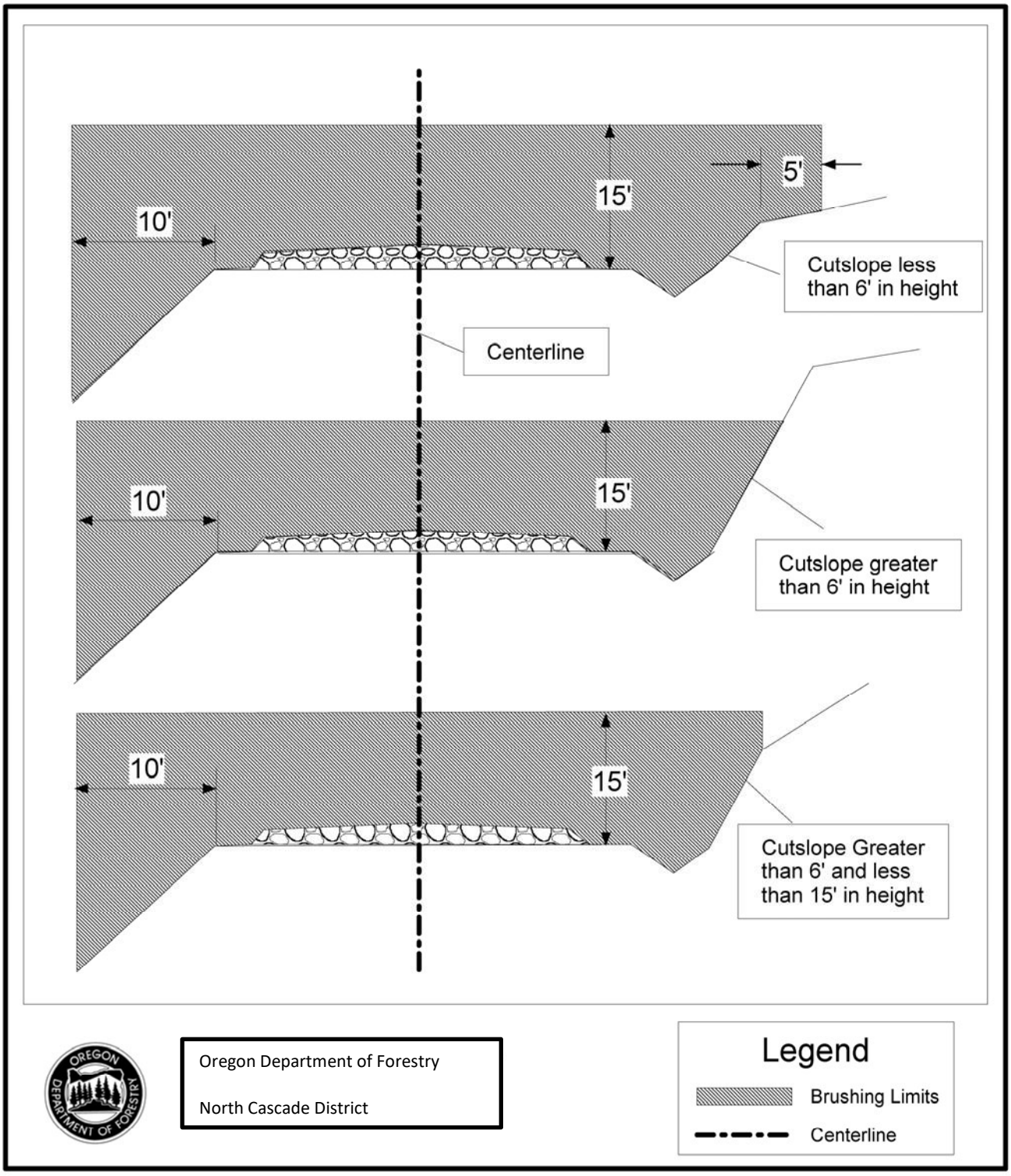
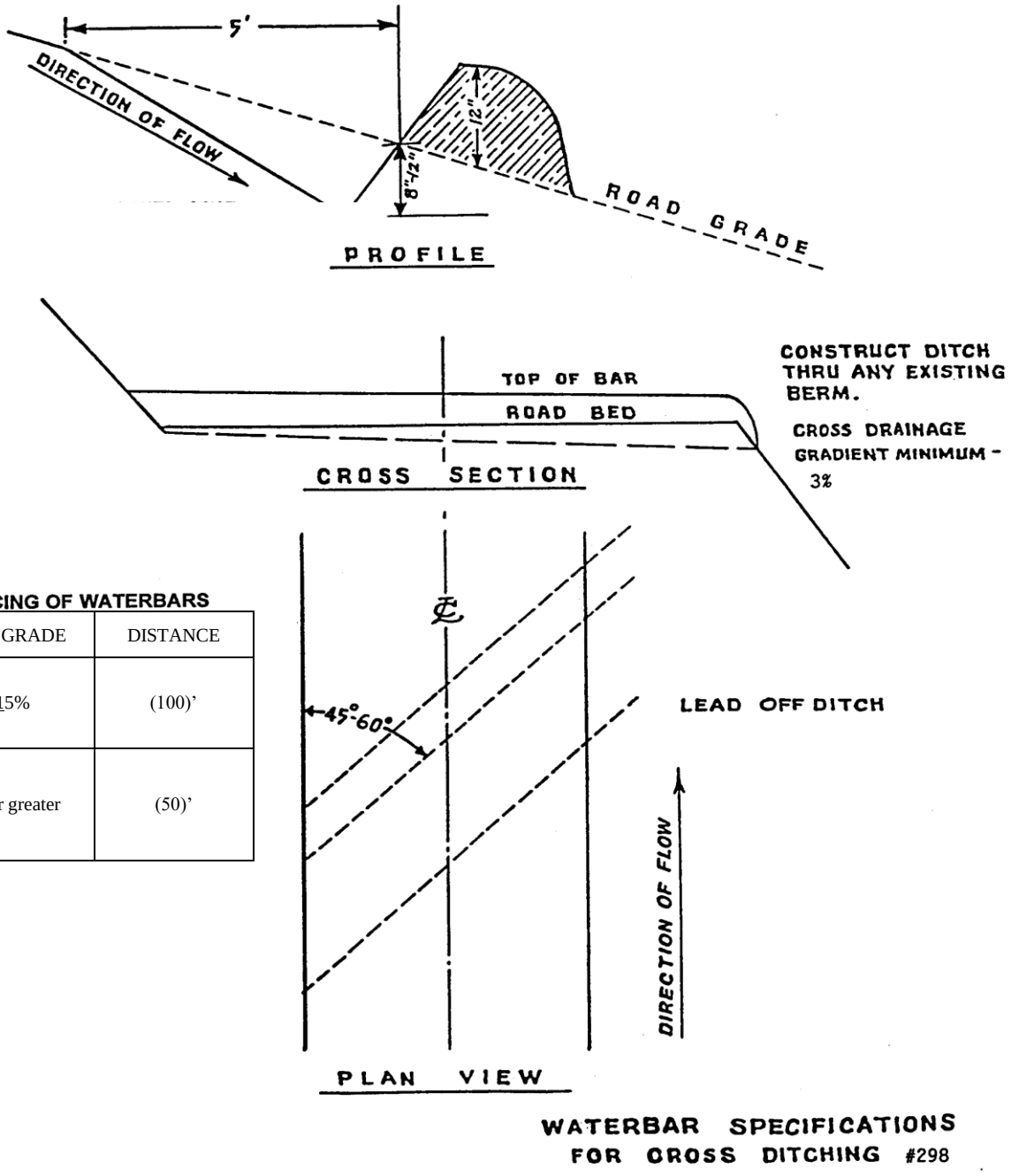


EXHIBIT J
WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

ROAD GRADE	DISTANCE
0-15%	(100)'
16% or greater	(50)'

EXHIBIT K

ROADSIDE SPRAYING SPECIFICATIONS

REQUIREMENTS:

The PURCHASER shall conduct roadside spray treatments on the roads shown on "Spray Map" or Exhibit A, for an estimated total of 8.8 miles for a width of 33' comes out to 42.2 acres to be treated. As directed by STATE representative, the PURCHASER shall apply the prescribed herbicide mix to all foliage vegetation on the road surface within ten (10) horizontal feet from the road edge, vehicle turnouts, and landings. The maximum height of spraying shall be 15 vertical feet from the road surface. The application shall be made to wet all the foliage, but not to the point of significant runoff.

PURCHASER shall provide one (1) Application Truck with a pesticide applicator licensed with the forest category endorsement and the right-of-way endorsement in the State of Oregon, (2) Driver support ground personnel, (3) With all facilitating equipment for roadside spray treatments on forest roads, (4) A spray truck with a minimum 500 gallon tank to hold the mixed chemical. Additional equipment and support personnel may be utilized with written approval from STATE.

Spraying is to be conducted the year after the completion of roadside brushing and between July 1 through September 30, during dry weather periods, unless otherwise approved in writing by STATE.

Buffer Zones. A buffer strip ten (10) feet wide shall be left unsprayed along each side of all live streams and open water or in other areas. A buffer strip sixty (60) feet wide shall be left unsprayed along ESA listed streams as directed by STATE. STATE may change minimum buffer requirements to meet Willamette National Forest Application Rules. All buffers to be marked with flagging approved ahead of time by the STATE.

Notify the STATE at least 15 days before spraying begins and the approximate time it will actually be sprayed.

INSPECTION: Satisfactory work shall be determined from visual reconnaissance by STATE, once die-off has begun. If greater than 10 untreated plants per mile of road side are identified then the work is deemed unsatisfactory. PURCHASER shall be required, without cost to STATE, to re-treat areas that are not treated according to specifications in this exhibit.

SPRAY EQUIPMENT: PURCHASER shall furnish the application truck with a minimum 100 gallon mix tank that shall have at least one spray gun or wand connected to a minimum of 50 feet of hose or a backpack sprayer with at least a two (2) gallon capacity. All vehicles shall have the power to negotiate roads in the contract area with a full load. PURCHASER shall furnish all equipment necessary to prepare the specified chemical mixtures. Quantities shall be measured as accurately as possible using calibrated dip sticks or other approved means of measuring liquids. The application truck shall be equipped with an agitation system capable of keeping the herbicide evenly distributed in the tank. Each application truck shall be equipped with a pump capable of rapid filling and mixing. Any deviation from the above specifications must be approved by STATE in writing.

a. The spraying equipment shall be capable of disseminating the liquid chemical mixture at a measured rate and swath width.
b. Handgun, wand type, or any other spray systems shall be designed to receive spray nozzles with changeable orifices and shall operate under controllable pressure to the spray nozzle. The system must be leak proof with the nozzles equipped with diaphragm check valves or equivalent to assure positive shutoff.
c. Nozzles shall be maintained free of plugs to assure a uniform application of sprayed mixture. Replacement nozzles and diaphragms shall be kept with each application truck for use whenever a nozzle is determined to be leaking.

EXHIBIT K

ROADSIDE SPRAYING SPECIFICATIONS (continued)

d. The spraying equipment shall be capable of operating at an even nozzle pressure (between 20 and 40 psi). The lowest nozzle pressure recommended by the nozzle manufacturer shall be used to reduce potential off-target drift.

REQUIREMENTS: (continued)

e. Equipment shall be maintained to operate efficiently and to prevent leakage of chemicals, carriers, or spray mixture.
f. Contractor shall furnish portable pumps with necessary suction hose to supply the application truck with water from streams. This unit will be used for water only. An air gap separation or suitable back-flow preventer shall be provided where mixing water is obtained by direct connection to a domestic water supply or where water is taken from streams or ponds. The opening of the screen must not exceed 3/32 of an inch in any direction. Portable pumps shall be equipped with a fish screen that complies with Section 2415. "Protection of Watershed" of this contract and the Oregon Department of Fish and Wildlife Small Pump Screen Self-Certification Form.
g. Equipment shall be maintained to prevent leakage of chemicals, carriers, or spray mixture.

SPECIFICATIONS OF APPLICATION:

Refer to "Spray Map" for locations of application and Table 1 for spray mixtures and target species.

a. Treat all target species ten (10) horizontal feet from the road edge.

b. Treat all target species 15 vertical feet from the road edge.

c. Herbicide shall not significantly damage conifers beyond ten (10) feet of road edge.

e. In areas designated by STATE, horizontal and/or vertical specifications will be decreased.

LIMITS OF APPLICATION:

a. Weather Conditions. The spray material will be applied under weather conditions which will protect non-target forest resources and comply with the product label requirements and the Forest Practices Act. Permission to commence or suspend operations with respect to this item will rest with STATE representative and that decision will be final.

b. Stream Protection.

1. Spray equipment shall not be washed nor wash water discharged where any waterway will be contaminated.

2. Mixing sites will be located a minimum of 250 feet from any stream.

3. A separate portable pump shall be required when water is to be taken from streams or waterholes and this pump shall not be used for chemicals.

c. Buffer Zones. A buffer strip ten (10) feet wide shall be left unsprayed along each side of all live streams and open water or in other areas as directed by STATE.

WEATHER RECORDS: PURCHASER's applicator is required to maintain a daily weather record when spraying. PURCHASER's applicator must have equipment available to accurately determine wind speed, direction, temperature and relative humidity. Documentation of the beginning and end of daily weather condition will be on a form provided by STATE. Weather records shall be readily available for inspection by STATE's representative.

EXHIBIT K

ROADSIDE SPRAYING SPECIFICATIONS (continued)

TRACKING RECORDS:

a. The Purchaser's applicator is required to record areas of herbicide application in GIS as polygons. Any gap of treatment more than 200 ft should be recorded as separate polygons. Data must be submitted as a shapefile. Mapped polygons must include the following information: all species sprayed within the site, date of application, and unique ID that will be put on the daily treatment form.

CHEMICALS:

a. PURCHASER shall furnish the herbicide chemicals listed in the Spray Mixture Table with the exception of Element 4 which will be supplied by STATE. All chemicals shall be registered and applicable for forest and right-of-way uses.

b. STATE reserves the right to add surfactants or drift control chemicals to enhance spray and brush contact or protect streams and private property. All chemicals shall be registered and applicable for forest and right-of-way uses.

c. Water shall be the basic carrier.

d. All chemicals and carriers shall be transported to mixing or project site by PURCHASER. Mixtures shall be transported from mixing sites to project sites and from area to area by PURCHASER.

e. PURCHASER shall be responsible for chemical storage, decontamination treatment, and transportation of empty chemical containers to an authorized disposal site.

f. SPRAY MIXTURES: Refer to Exhibit A for location of application areas and PUP 2023_Willamette NF document for spray mixtures. Generic equivalents may be substituted as approved by STATE.

TABLE 1

Target Vegetation	Miles	Acres	Chemicals
Robert's geranium, false brome, Scotch broom less than or equal to 15 feet in height	8.80 miles plus 7 acres of spot spraying Spray width is 33'	42.20	Chemicals and rates shall be determined at pre-operations meeting and must meet NEPA Standards

Calculation is 8.80 miles x 5,280' = 46,467' x 33' wide = 1,533,411 sq. ft. / 43,560' = 35.20 acres (roadside)

EXHIBIT K

ROADSIDE SPRAYING SPECIFICATIONS (continued)

PENALTIES FOR NON-COMPLIANCE WITH CONTRACT SPECIFICATIONS

SUSPENSION OR PENALTY. Should CONTRACTOR fail to make reasonable effort to comply with the terms and conditions of this contract, STATE shall deliver written notice to CONTRACTOR'S representative to correct the deficiencies within 24 hours of the time notice is delivered. If CONTRACTOR fails to correct the deficiencies within 24 hours, STATE may, with written notice, suspend operations or impose the penalty of $400.00 per day until the deficiencies have been corrected.

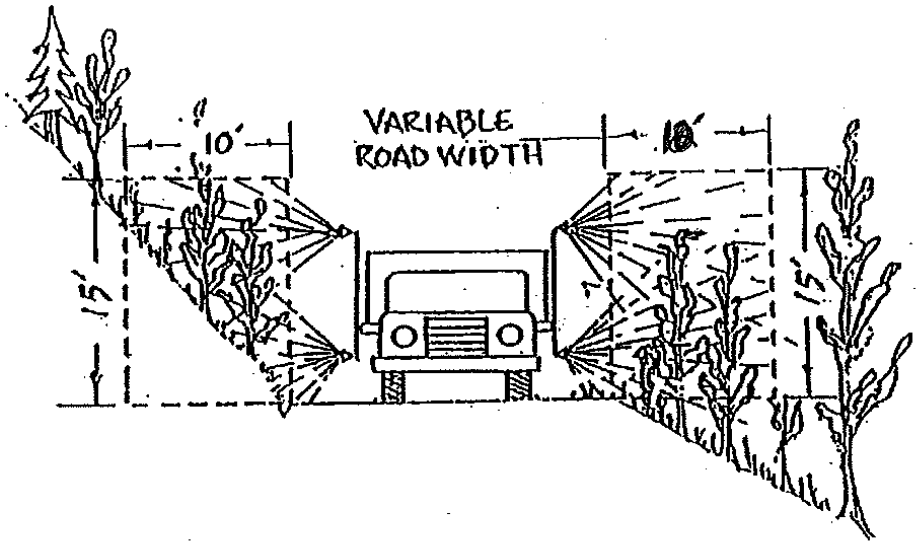
MECHANICAL BREAKDOWN. Should any tanker or other essential facilitating equipment breakdown for any reason and cause stoppage or delay of the spray operation, that equipment shall be repaired or replaced in order to proceed with the contract at the beginning of the working day following the breakdown.

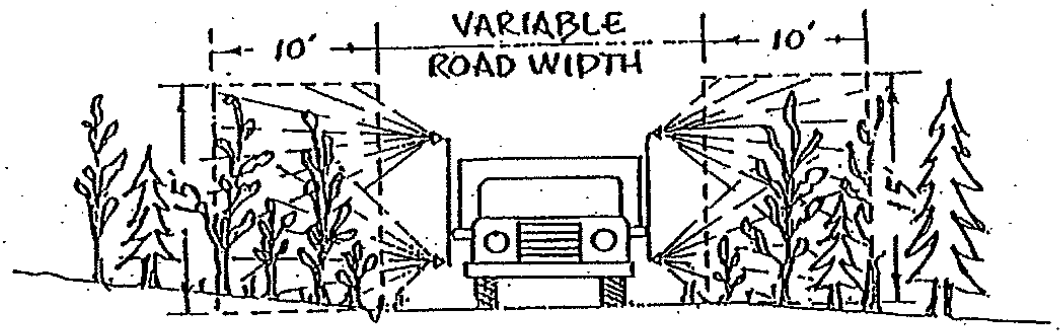
TERMINATION OF OPERATIONS. If within 48 hours after delivery of the written notice the deficiencies have not been corrected, STATE reserves the right to obtain personnel, equipment, material, and supplies from other sources, and to hold CONTRACTOR responsible for costs occasioned thereby in completing the contract.

LOSS OF CHEMICALS. In the event of loss of chemicals or mixtures from leakage, spills, or dumps, CONTRACTOR shall carry out procedures to contain and neutralize such losses and shall immediately notify STATE of any such incident. CONTRACTOR shall be responsible for all costs of containment, neutralization and other measures as may be required. CONTRACTOR shall have available a shovel, bucket and absorbent to clean up minor spills, should they occur.

EXHIBIT K

ROADSIDE SPRAYING SPECIFICATIONS (continued)





"Stewardship in Forestry"

HERBICIDE TREATMENT RECORD

Initial Treatment Record (to be completed by Applicator)

***Site Number(s) (corresponds to polygon ID):** _____ ***Treatment Date:** ____/____/_____
MM/DD/YYYY

_____

***Target Species Treated:** _____

_____

Office Use
Date entered: ____/____/____ By: _____
FY: _____
Infestation:

Acres Treated: _____ Stage of Plant: _____

***Distance to water:** **If < 100ft.:** _____ **feet or if > 100 ft. check here:** _____

DON'T SPRAY WITHIN 3 FEET OF WATER!!

24 hour weather Forecast: _____ Wind Speed: _____

Temp: _____ Wind direction: _____

Road or site:

_____

_____

GPS coordinates: Projection:

For more extensive descriptions, maps, lat/long, etc. attach on separate sheet.

***Equipment:** **Hand spray (711)_____, Back pack (712)_____, Injector (716)_____, Mobile ground sprayer (721)_____**

(Hand srpay is small hand held bottle. Mobile ground sprayer is anything using a motorized unit eg. boom or hose and handgun.)

***Trade Name of Herbicide Applied:** _____ ***Product rate:** _____ **(ounces/acre)**

EPA registration #: _____ **Percent solution**: _____

Tank Mix:

***Volume Applied:** _____ **GAL** ***Calibrated Volume:** _____ **Gal/acre**

***Dilutant if other than water** _____

***Adjuvant Product Name:** _____

***Rate applied :** _____ **ounces /acre** **Percent solution**: _____

***Second Adjuvant Product Name:** _____

***Rate applied:** _____ **ounces /acre** **Percent solution**: _____

***Applicator/s:**_____/_____									
Applicator License number: _____									