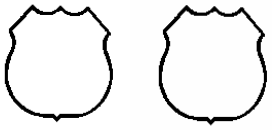
PART III: EXHIBITS

OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN
(See Page 2 for instructions)

Date Received by STATE: _____

(5) State Brand Information (complete):



(1) Contract No.: 341-12-08

(2) Sale Name: Carlson Corner

(3) Contract Expiration Date: October 31, 2014

Project Completion Dates: _____

(4) Purchaser: _____

(6) Purchaser Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(7) State Representatives:

Projects: _____	Phone: _____	Cell/Other Phone: _____	Home: _____
Logging: _____	Phone: _____	Cell/Other Phone: _____	Home: _____

(8) Name of Subcontractors & Starting Dates:

Projects: No(s) _____-_____	Date: _____	Phone: _____	
No(s) _____-_____	Date: _____	Phone: _____	
No(s) _____-_____	Date: _____	Phone: _____	
No(s) _____-_____	Date: _____	Phone: _____	
Logging: Felling _____	Date: _____	Phone: _____	
Yarding: _____	Date: _____	Phone: _____	

(9) Comments: _____

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

EXHIBIT B

INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN TO STATE

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

Explanation of Item No. (from Page 1)

(5) All sales require you to use a brand furnished by STATE. If the State brand has not been assigned when the plan is submitted, it will be furnished and assigned later. Complete drawing. If more than one brand is assigned to the sale, complete both drawings.

(6) The contract requires you to have a designated representative available on the sale area or work location who is authorized to receive in your behalf any notice or instruction given by STATE and to take action in regard to performance under the contract. If logging and project work is widely separated, a representative is required for each.

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

(8) Show names of subcontractors to be used for any or all phases of the operations. If subcontractors are not known, or are changed later, give notification to the STATE representative prior to commencement of work by subcontractor.

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

(10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:

1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
2. Locations of spur roads planned for construction, other than those required by the timber sale contract. Provide spur road specifications.
3. Location of proposed tractor yarding roads. Show if and how marked on the ground.
4. Location of temporary stream crossings.
5. List the sequence of performing project work.
6. Location of rock sources - attach pit development plans.

Cable Landing, with numbers for sequence.

Tractor Landing with alphabetical sequence.

_ _ _ _ _ Approximate setting boundary.

- - - - - - - - Spur truck roads.

Tractor yarding roads.

X Temporary stream crossings.

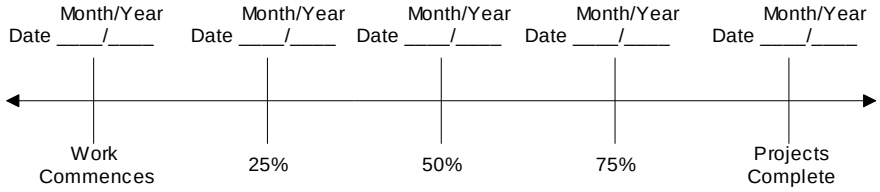
EXHIBIT B

OPERATIONS PLAN

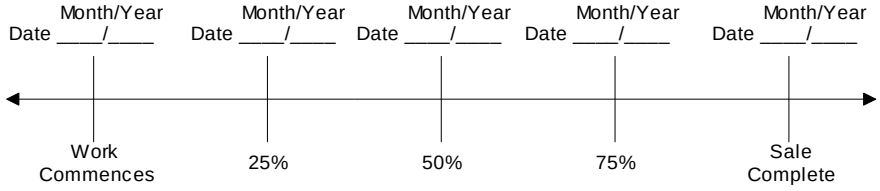
Completion Timeline

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

Projects



Harvest & Other Requirements



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

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

APPROVED: Date: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Original: Salem
cc: District File
Purchaser

EXHIBIT C – SAWMILL GRADE (WESTSIDE SCALE)

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Forest Grove (05) Phone (503) 357-2191
(State Forestry District)
Address 801 Gales Creek Road
Forest Grove, OR 97116

(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: YES ☒ NO ☐
Use Region 6 actual taper rule. Logs over 40'.

(7) Weight Scale Sample ☐ ☒

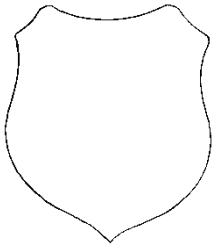
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) SALE NAME: Carlson Corner
COUNTY: Washington

(10) STATE CONTRACT NUMBER: 341-12-08

(11) STATE BRAND REGISTRATION NUMBER:
_____

(12) STATE BRAND INFORMATION (COMPLETE):



(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) SIGNATURES:

_____
Purchaser or Authorized Representative Date

_____
State Forester Representative Date

_____
State Forester Representative PRINT NAME

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

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

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

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

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

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

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

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

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

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

Pacific Log Scaling & Grading Bureau, Inc.
P.O. Box 23939, Portland, OR 97281
Phone: (503) 684-5599 Fax: (503) 639-4880
Email: PacLogScale@aol.com

(3) State District office, address and phone.

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

(5) Minimum Scaling Specifications.

(6) Westside – Region 6 actual taper segment scale. Check Yes or No. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Westside).

(7) Weight Scale Sample – Check box if sale is to be a Weight Scale Sample. All specifics for handling, scaling and processing will be attached or explained in the Remarks section Item (15).

(8) Show scaling locations only applicable to TPSO. Location name should appear as it does on the ODF Approved Scaling Location web site: http://www.odf.state.or.us/DIVISIONS/management/asset_management/ScalingLocation.asp Locations with scaling and processing directions specific to their location should be on a separate form. Species should be identified if not capable of receiving "all" species. Check appropriate box for either: yard, truck scale, or weight. Refer to the web site listed above for the locations approval status.

(9) Enter sale name and county.

(10) Enter sale Contract number.

(11) Enter Oregon's State Brand Registry Number **(REQUIRED)**.

(12) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (15).

(13) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.

(14) Special Requests. These are requests that will be applied to ODF timber sales. All boxes applicable to the timber sales designated in the Exhibit C form must be "marked". If "Other" is indicated, it must contain a description and any necessary comments.

(15) Use this space to designate any weight conversion factors, per load volumes, weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.

(16) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form.

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

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

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
	14 feet (Match Existing Surface)	A to B	0+00 to 121+50	Ditch
16 feet	12 feet	C to D	0+00 to 8+00	Ditch
16 feet	12 feet	E to F	0+00 to 15+55	Ditch
16 feet	12 feet	G to H	0+00 to 18+60	Ditch
16 feet	12 feet	I to J	0+00 to 5+60	Ditch
16 feet	12 feet	K to L	0+00 to 22+80	Ditch
16 feet	12 feet	M to N	0+00 to 13+80	Ditch
16 feet	12 feet	O to P	0+00 to 25+50	Ditch
16 feet	12 feet	Q to R	0+00 to 6+20	Ditch
16 feet	12 feet	S to T	0+00 to 12+00	Ditch
16 feet	12 feet	T to U	0+00 to 5+90	Ditch

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

Where clearing limits have not been marked, the clearing limits shall extend 10 feet back of the top of the cutslope and 5 feet out from the toe of the fill slope, or as directed by STATE. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

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

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

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

GRUBBING CLASSIFICATION.

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

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

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

EXHIBIT D

FOREST ROAD SPECIFICATIONS

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

Excavation shall conform to STATE-specified lines, grades, dimensions, and plans when provided. Plans are available by request at the Forest Grove District Office, between points O to P 9+40 – 15+00.

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

Suitable excavated material shall be used for the formation of fills, shoulders, and drainage structure backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials.

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

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

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

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

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

DRAINAGE

Subgrade. Subgrade shall be crowned at 4 to 6 percent as shown on the "Forest Road Specifications" table in this Exhibit.

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

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

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

Location: Intervisible but not greater than 750 feet apart.

SLOPES	Back Slopes	Fill Slopes
Solid Rock	Vertical to ¼:1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	½ :1	1½:1
Soil - side slopes less than 50%	¾1 :1	1½:1

Top of cutslope shall be rounded.

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

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

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

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

1. 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.

2. 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.

   Subgrade shall be crowned at 4 to 6 percent.

   (b) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with specifications in the "Compaction and Processing Requirements" in this Exhibit. Final road surface shall be crowned at 4 to 6 percent.

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

Segment	Station	Work Description:
C to D	0+00	Point C. Begin road construction; crown road, begin ditch.
	6+75	Construct roadside Landing to left.
	8+00	Point D. End road construction. Construct Landing.
E to F	0+00	Point E. Begin road construction; crown road, begin ditch.
	6+00	Install Culvert No. 7 (18" x 30').
	8+20	Construct roadside Landing to right.
	11+70	Construct roadside Landing to right.
	13+90	Point G. Junction to left, surface junction.
	15+55	Point F. End road construction. Construct Landing.
G to H	0+00	Point G. Begin road construction; crown road, begin ditch.
	3+50	Construct roadside Landing to left.
	5+40	Construct roadside Landing to right.
	9+20	Construct roadside Landing to right.
	12+00	Point I. Junction to left, surface junction.
	13+90	Construct 100' spur with Landing to right.
	18+60	Point H. End road construction. Construct Landing.
I to J	0+00	Point I. Begin road construction; crown road, begin ditch.
	5+60	Point J. End road construction. Construct Landing.
K to L	0+00	Point K. Begin road construction; crown road, begin ditch.
	6+00	Install Culvert No. 8 (18" x 30').
	10+25	Install Culvert No. 9 (18" x 30').
	10+50	Point M. Junction to left, surface junction.
	16+80	Install Culvert No. 10 (18" x 30').
	22+80	Point L. End road construction. Construct Landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS

Segment	Station	Work Description:
M to N	0+00	Point M. Begin road construction; crown road, begin ditch.
	4+00	Install Culvert No. 11 (18" x 30').
	13+80	Point N. End road construction. Construct Landing.
Q to R	0+00	Point Q. Begin road construction; crown road, begin ditch. Install Culvert No. 18 (18" x 40'). Begin drift back from 2+00 to construct junction.
	2+00	End drift.
	6+20	Point R. End road construction. Construct Landing.
T to U	0+00	Point T. Begin construction; crown road, begin ditch.
	5+90	Point U. End road construction. Construct Landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

1. Excavated Materials. Excavated materials shall be utilized for road and fill 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. Waste materials shall be sloped and compacted for drainage. Fills shall be thoroughly compacted in accordance with this Exhibit.

2. Bank Slough Removal. Dig out all bank slough. Bank slough material shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. Waste materials shall be seeded and mulched in accordance with specifications in Exhibit H.

3. Culvert Replacement, Culvert Installation, Fill Reconstruction, and Fill Removal. Existing culvert geometry shall be modified to provide for optimum drainage and culvert performance. Modifications may include, skewing the culvert and/or installing the culvert at gradients equal to or exceeding the drainage or ditch gradient. Where fill reconstruction or culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. All waste materials shall be hauled to nearby waste areas and shall be uniformly sloped and compacted for drainage. Waste materials shall be seeded and mulched in accordance with specifications in Exhibit H. Fill reconstruction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this Exhibit. Crushed rock shall be used for backfilling excavation trenches less than 3 feet deep. STATE may require the use of crushed rock for culvert bedding. Removed culverts shall be hauled off of STATE land.

4. Drainage Ditches. Restore or construct ditchlines, including ditchouts, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall not be pulled across existing surfacing rock, but shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE. Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack, or cutting off the culvert end to allow for free passage of water at peak flow levels. Install a culvert marker at each newly installed culvert and at each existing culvert that is missing a marker that could be reached by a grader blade.

5. Energy Dissipator Construction. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with Exhibit E.

6. Equipment. All excavation and riprap placement shall be performed using a minimum 1½ cubic yard, track-mounted excavator.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT INSTRUCTIONS:

7. Subgrade Preparation and Application of Surfacing Rock.

(a) Complete culvert installations, drainage ditches, fill reconstruction, ditchouts, and other specified work prior to the application of new surfacing rock.

(b) Cut out all potholes and/or washboard sections from the existing surfacing.

(c) Apply required patching and leveling rock, as directed by STATE.

(d) Process grade and mix the existing surface and added base rock. Provide for a crown of 4 to 6 percent, and compact in accordance to the "Compaction and Processing Requirements" in this Exhibit.

(e) Upon completion of above required work, apply, process, and compact surfacing rock in accordance to this Exhibit.

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Segment	Station	Work Description:
A to B	0+00	Point A. Begin road improvement; crown road, clean ditches, begin spot rocking. Install Culvert No. 1 (18" x 48').
	0+50	Surface junction to left.
	52+80	Live stream. Remove existing culvert and install Culvert No. 2 (42" x 50'). Point K. Junction left, surface junction.
	58+10	Live stream. Remove existing culvert and install Culvert No. 3 (24" x 40').
	58+50	Remove existing culvert and install Culvert No. 4 (18" x 30').
	68+65	Live stream. Remove existing culvert and install Culvert No. 5 (42" x 46').
	79+50	Remove existing culvert and install Culvert No. 6 (18" x 38').
	104+30	Junction with Old Carlson Creek Road, end spot rocking. Begin 8" lift of 3" - 0".
	105+75	Surface junction.
	110+90	Point C. Junction right, surface junction.
	121+50	Point B. End road improvement.
O to P	0+00	Point O. Begin road improvement; crown road, reconstruct ditches. Improve all corners and grade to accommodate pole trucks. Install Culvert No. 12 (18" x 30').
	2+90	Install Culvert No. 13 (18" x 50') in existing fill.
	8+25	Live stream. Install Culvert No. 14 (18" x 60') in existing fill, with 20 cubic yards of riprap at outlet.
	9+40	Begin corner improvement.
	11+50	Live Stream. Install Culvert No. 15 (24" x 34').
	12+80	Live stream. Install Culvert No. 16 (24" x 44'), with 20 cubic yards of riprap at outlet.
	15+05	End corner improvement.
	17+00	Point Q. Junction right, surface junction.
	18+50	Begin grade improvement.
	19+90	Live stream. Install Culvert No. 17 (18" x 40').
	20+00	Begin using suitable excess material from stations 9+40 to 15+05 to raise the elevation of the road and reduce the grade.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT INSTRUCTIONS

Segment	Station	Work Description:
O to P	22+50	End grade improvement.
(cont.)	23+00	Construct roadside Landing on right.
	25+50	Point P. End road improvement. Construct Landing.
S to T	0+00	Point S. Begin road improvement; crown road, clean ditches.
	6+25	Install Culvert No. 19 (18” x 30).
	12+00	Point T. End road improvement. Construct junction. Install Culvert No. 20 (18” x 30).

EXHIBIT D

FULL BENCH AND END-HAUL REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT - SIDECAST	WASTE AREA LOCATION	WASTE AREA TREATMENT
O to P	9+40 to 15+04	1	1, 2	1, 2, & 3

Full Bench and End-Haul Areas General Requirements

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

Clearing and grubbing debris shall be end-hauled.

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) Normal/Incidental: The amount of excavated material lost over the outside edge of the road shall not exceed 1 foot 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 shown on Exhibit A and as marked in the field.

(2) O to P stations 20+00 to 22+50.

Waste Area Treatment

(1) Deposit at waste area, spread evenly, compact, and provide adequate drainage.

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

(3) Mulch and seed all waste areas in accordance with Exhibit H.

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: A to B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				A to B		0+00 to 121+50		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Spot Rock	**1½"-0"**	A to B	Varies					500
Surfacing	**3"-0"**	104+30-121+50	8	Station	31	Stations	7.2	722
Turnouts	**3"-0"**		8	Turnout	16	Turnouts	2	28
Junctions	**1½"-0"**	0+50	3	Junction	20	Junctions	1	20
Junctions	**3"-0"**	104+30	10	Junction	88	Junctions	1	88
Junctions	**3"-0"**	Point C, Point E, Point K	10	Junction	20	Junctions	3	60
Landings	**3"-0"**	Point B	8	Landing	150	Landings	1	150
Culvert Beddings	**Reject**	52+80 & 68+65	Varies	Culvert Bedding	40	Culvert Beddings	2	80
Culvert Beddings	**Reject**	0+00, 58+10, 58+50, & 79+50	Varies	Culvert Bedding	20	Culvert Beddings	4	80
Total Rock for Road Segment:			A to B					1,728

ROAD SEGMENT: C to D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				C to D		0+00 to 8+00		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number Of		
Base Rock	**3"-0"**	C to D	10	Station	53	Stations	8	424
Turnarounds	**3"-0"**		10	Turnaround	18	Turnarounds	2	16
Roadside Landings	**3"-0"**	6+75	10	Roadside Landing	80	Roadside Landings	1	80
Landings	**3"-0"**	Point D	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			E to F					670

ROAD SEGMENT: E to F				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				E to F		0+00 to 15+55		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Base Rock	**3"-0"**	E to F	10	Station	53	Stations	15.55	824
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	2	36
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Junctions	**3"-0"**	Point G	10	Junction	20	Junctions	1	20
Roadside Landings	**3"-0"**	8+20 & 11+70	10	Roadside Landing	80	Roadside Landings	2	160
Landings	**3"-0"**	Point F	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			E to F					1,206

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: G to H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				G to H		0+00 to 18+60		
Application	Rock Size And Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number Of		
Base Rock	**3"-0"**	G to H	10	Station	53	Stations	18.6	986
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	2	36
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Junctions	**3"-0"**	Point I	10	Junction	20	Junctions	1	20
Roadside Landings	**3"-0"**	35+0, 4+00 & 9+20	10	Roadside Landing	80	Roadside Landings	3	240
Landings	**3"-0"**	13+90 & Point H	10	Landing	150	Landings	2	300
Approach to Landings	**3"-0"**	13+90	10	Approach to Landing	53	Approach to Landings	1	53
Total Rock for Road Segment:			G to H					1651

ROAD SEGMENT: I to J				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				I to J		0+00 to 5+60		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Base Rock	**3"-0"**	I to J	10	Station	53	Stations	5.6	297
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Landings	**3"-0"**	Point J	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			I to J					463

ROAD SEGMENT: K to L				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)
				K to L		0+00 to 22+80		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Base Rock	**3"-0"**	K to L	10	Station	53	Stations	22.8	1,208
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	2	36
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Junctions	**3"-0"**	Point M	10	Junction	20	Junctions	1	20
Landings	**3"-0"**	Point L	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			K to L					1,430

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: M to N				POINT TO POINT		Sta. to Sta.		
				M to N		0+00 to 13+80		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		TOTAL VOLUME (CY)
Base Rock	**3"-0"**	M to N	10	Station	53	Stations	13.8	731
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	1	18
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Landings	**3"-0"**	Point N	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			M to N					915

ROAD SEGMENT: O to P				POINT TO POINT		Sta. to Sta.		
				O to P		0+00 to 25+50		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		TOTAL VOLUME (CY)
Base Rock	**3"-0"**	O to P	10	Station	53	Stations	25.5	1,352
Curve Widening	**3"-0"**	9+40 – 15+05	10	Curve Widening	10	Curve Widening	5	50
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	3	54
Junctions	**3"-0"**	Point O, Point Q	10	Junction	20	Junctions	2	40
Landings	**3"-0"**	Point P	10	Landing	150	Landings	1	150
Roadside Landings	**3"-0"**	23+00	10	Roadside Landing	80	Roadside Landings	1	80
Culvert Beddings	**Reject**	11+50, 12+80 & 19+90	Varies	Culvert Bedding	20	Culvert Beddings	3	60
Outlet Riprap	**24"-6"**	Culvert No. 14 & Culvert No. 16	Varies	Outlet Riprap	20	Outlet Ripraps	2	40
Total Rock for Road Segment:			O to P					1,826

ROAD SEGMENT: Q to R				POINT TO POINT		Sta. to Sta.		
				Q to R		0+00 to 6+20		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		TOTAL VOLUME (CY)
Base Rock	**3"-0"**	Q to R	10	Station	53	Stations	6.2	329
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Landings	**3"-0"**	Point R	10	Landing	1	Landings	150	150
Total Rock for Road Segment:			Q to R					495

EXHIBIT D

ROAD SURFACING

ROAD SEGMENT: S to T				POINT TO POINT		Sta. to Sta.		
				S to T		0+00 to 12+00		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		TOTAL VOLUME (CY)
Base Rock	**3"-0"**	Q to R	10	Station	53	Stations	12	636
Turnouts	**3"-0"**		10	Turnout	18	Turnouts	1	18
Junctions	**3"-0"**	Point Q	10	Junction	20	Junctions	1	20
Total Rock for Road Segment:			Q to R					674
ROAD SEGMENT: T to U				**POINT TO POINT**		**Sta. to Sta.**		
				S to T		0+00 to 5+90		
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		TOTAL VOLUME (CY)
Base Rock	**3"-0"**	T to U	10	Station	53	Stations	5.9	313
Turnarounds	**3"-0"**		10	Turnaround	16	Turnarounds	1	16
Landings	**3"-0"**	Point U	10	Landing	150	Landings	1	150
Total Rock for Road Segment:			T to U					479

STOCKPILES	Location	Approximate Dimensions (L x W x H)	Volume (Stockpile Measurement, CY)
Crushed 1½"-0"	1½"-0" Stockpile Site	90' x 76' x 20'	2,500
Crushed 3"-0"	3"-0" Stockpile Site	125' x 106' x 20'	6,000

ROCK TOTALS (CY)	24"-6"	3"-0"	1½"-0"	Reject
	40	16,757	3,020	220

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

EXHIBIT D

ROCK ACCOUNTABILITY

PURCHASER shall obtain subgrade approval from STATE prior to rocking. Rocking shall be limited to periods when weather conditions are acceptable to STATE and when sediment will not enter streams. Additional surfacing needed because of construction season or construction practice is not included in the preceding ROAD SURFACING table, and shall be furnished at PURCHASER expense.

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

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

Depth shall be determined in the most compacted area of the surface cross section. The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in the “Road Surfacing” table in Exhibit D. The average depth for each road segment shall be the specified depth or greater. If additional rock is required because of insufficient depth, the locations and volumes to be added shall be determined by STATE.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

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

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

Subgrade. Subgrade surfaces of the road segments listed below shall be graded and compacted prior to rocking. Compaction shall be accomplished by traveling all surfaces from shoulder to shoulder until the surface is smooth and hard and visible deformation ceases. At least 3 passes shall be made over the entire width and length of the road. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

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

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments.	1

Fills. Embankments and fills shall be placed in horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases. At least 3 passes shall be made over the entire width and length of each layer.

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

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All road segments.	1, 2 & 3

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 6 inches in depth. When more than 1 layer is required, each shall be shaped and compacted before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road until the surface is smooth and hard and visible deformation ceases. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

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

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

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

EXHIBIT D

COMPACTION EQUIPMENT OPTIONS

(1) Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 VPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled and operated at speeds ranging from 0.9 miles to 1.8 miles per hour, as directed by STATE.

(2) 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. The tamper shoe dimensions shall be a minimum of 10" X 13" and capable of a centrifugal force of 2,250 pounds.

EXHIBIT E

CULVERT SPECIFICATIONS

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

Culverts shall be constructed of corrugated double-walled polyethylene or corrugated aluminized (Type 2) steel.

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

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

Polyethylene culverts shall not be used where required culvert diameter is over 36 inches.

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

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

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

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

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

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

A bedding of rock crusher reject as specified shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the culvert for all replacement and stream crossing culverts.

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

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

EXHIBIT E

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18” to 36” and 18” for culverts 42” to 96”. Minimum vertical cover for other designs shall be as specified by STATE.

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

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water.

The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with an energy 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.

Culverts 36 inches in diameter or larger shall have 1:1 beveled inlets.

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

All culverts scheduled for replacement shall become property of the PURCHASER and be removed from STATE land 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.

Energy Dissipators shall be installed within 72 hours of culvert installation, unless otherwise approved in writing by STATE.

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
42	14	(0.0747")	(0.079”)	16	12	12

Culverts larger than 60” in diameter shall have 3” x 1” corrugations.

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	MATERIAL TYPE	ROAD SEGMENT POINT TO POINT	STATION
1	18	48	CPP	A to B	0+00
2	42	50	ACSP	A to B	52+80
3	24	40	CPP	A to B	58+10
4	18	30	CPP	A to B	58+50
5	42	46	ACSP	A to B	68+65
6	18	38	CPP	A to B	79+50
7	18	30	CPP	E to F	6+00
8	18	30	CPP	K to L	6+00
9	18	30	CPP	K to L	10+25
10	18	30	CPP	K to L	16+80
11	18	30	CPP	M to N	4+00
12	18	30	CPP	O to P	0+00
13	18	50	CPP	O to P	2+90
14	18	60	CPP	O to P	8+25
15	24	34	CPP	O to P	11+50
16	24	44	CPP	O to P	12+80
17	18	40	CPP	O to P	19+90
18	18	40	CPP	Q to R	0+00
19	18	30	CPP	S to T	6+25
20	18	30	CPP	S to T	12+00

ACSP = Aluminized, CPP = Polyethylene

EXHIBIT E

TYPICAL EMBEDDED ENERGY DISSIPATOR

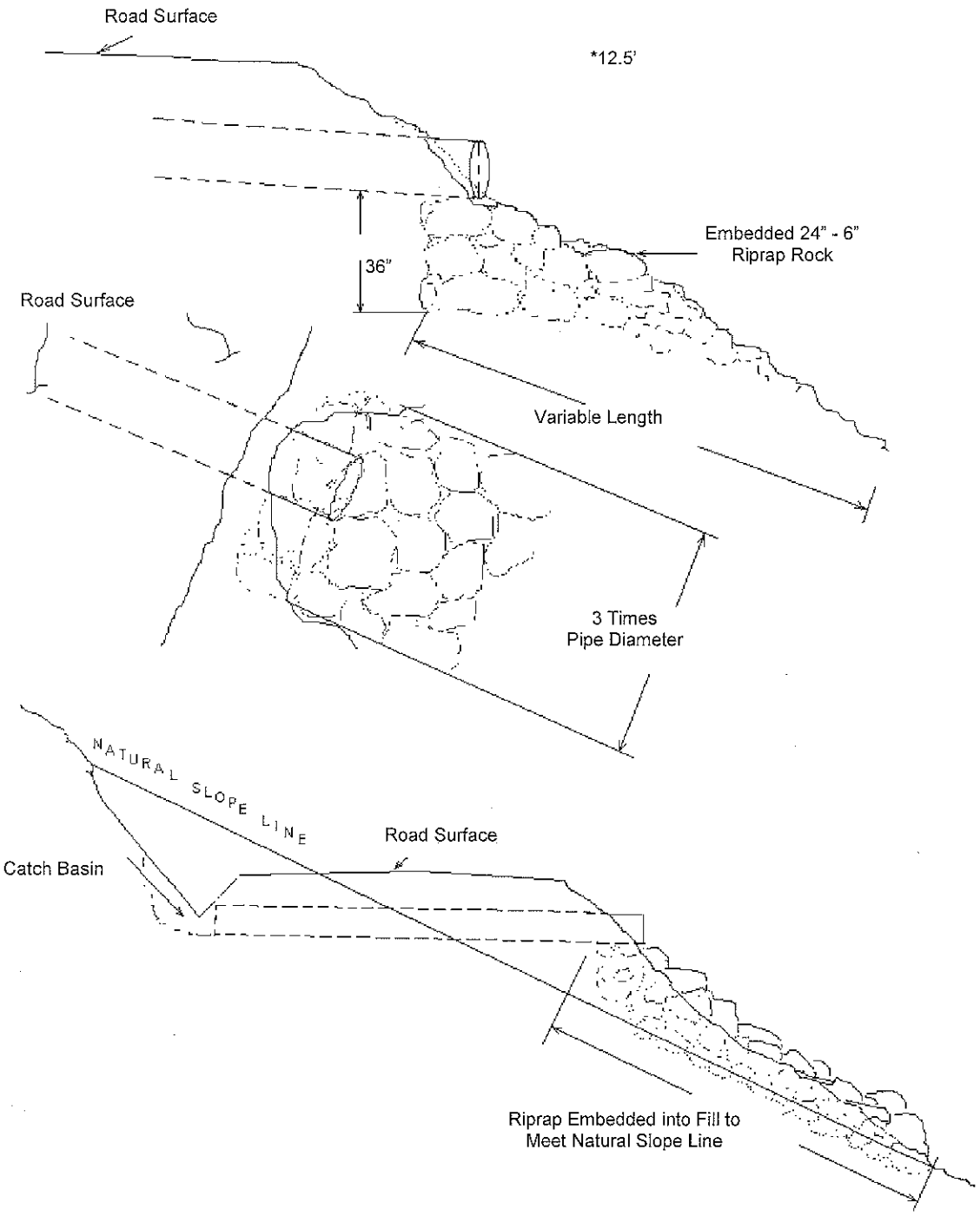


EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

1. PURCHASER shall prepare a written development plan for the quarry area. The plan shall be submitted to STATE for approval prior to conducting any operation in quarry area. The plan shall include, but not be limited to:

   (a) Location of benches and roads to benches.
   (b) Disposal site for woody debris, overburden and reject material.
   (c) Time lines for rock quarry use.
   (d) Erosion Control measures.

2. PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned activity requiring quarry or stockpile usage. PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.

3. The quarry site shall be left in a condition free from overburden and debris. Access roads to the quarry, and the quarry floor, shall be cleared at the termination of use. Overburden shall be removed for a distance of 20 feet beyond the developed rock source.

4. All overburden and reject material shall be hauled to the designated waste area as directed by STATE.

5. PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that sediment, rock, or debris shall not be washed, conveyed, or otherwise deposited in any stream.

6. Controlled blasting techniques shall be utilized for any blasting operations, and shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain as much material as possible within the quarry development area. PURCHASER shall maintain a comprehensive blasting log that contains all pertinent data for all blasting operations. The blasting log shall be submitted to the STATE after the completion of all blasting activity. The blasting log is intended for STATE record keeping purposes only.

7. PURCHASER shall develop and utilize the “Rock Outcrop” portion of the “Rock Development Area”.

8. Benches shall be maintained/constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 percent or less. There shall be a minimum of one bench with an access road to it. Said bench shall be easily accessible with tractors.

9. Quarry face shall be developed in a uniform manner. All quarry backslopes shall be left in a stable condition.

10. Oversized material that is produced shall be piled in a designated area adjacent to the pit. It shall not be wasted.

EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

11. The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Quarry access roads shall be cleared and blocked upon completion of quarry use as directed by STATE.

12. Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be constructed and maintained to protect the watershed and Project Work, as directed by STATE.

13. Apply seed and mulch to the waste area, as specified in Exhibit H.

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock crushed to the required size. The material shall be free from vegetation and lumps of clay. STATE may require screening and/or rejecting of materials utilized for production of crushed rock for the purpose of removing excess fine material. Excess fines are present, when greater than 5 percent of a total rock sample weight, passes a #200 sieve. Rock crushing shall be limited to periods when weather conditions are acceptable to STATE.

Quality and Grading Requirements. The base material shall be rock. River gravel shall not be used. Crushed rock shall meet the grading requirements that follow.

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

For the purpose of crushing rock specified under the projects in Section 2610, “Project Work,” PURCHASER shall utilize a three-stage rock crusher, or equivalent, unless otherwise approved by STATE.

The rock crusher shall be calibrated to produce rock as specified in this exhibit. Prior to the commencement of production crushing, PURCHASER shall sample, test, and provide rock test results meeting STATE specifications. STATE may then sample and test crushed rock for approval to proceed. PURCHASER shall take one sample of each 2,000 cubic yards of crushed rock material produced thereafter, using approved AASHTO sampling procedures. PURCHASER shall submit samples to a certified laboratory or shall perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample, with proper identification, available for testing by STATE. Each sample and the results of PURCHASER testing shall be made available to STATE within 24 hours of sampling. Any rock crushed prior to STATE approval to proceed shall not be credited to the required rock quantity. Any subsequent rock tests not meeting STATE specifications shall be reason for rejection of that portion of crushed rock produced after that test and shall not be credited to the required rock quantity. STATE may sample the crushed rock at any time during the operation. Results of STATE’s tests shall prevail over all other test results.

EXHIBIT F

DURABLE CRUSHED ROCK SPECIFICATIONS

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%

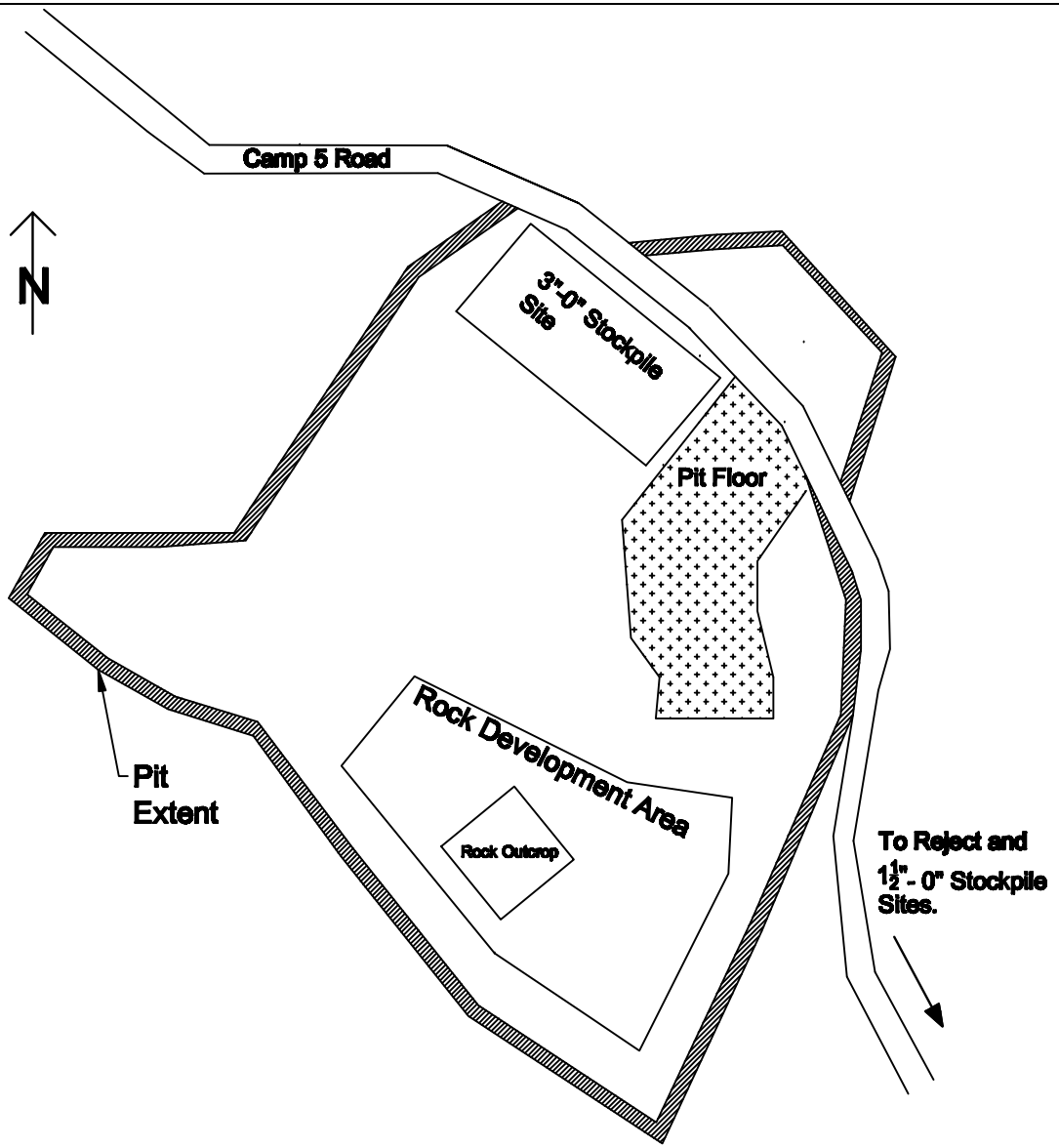
RIPRAP ROCK SPECIFICATIONS

For 24"-6" Riprap A minimum of 50 percent of the material shall measure a minimum of 24 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

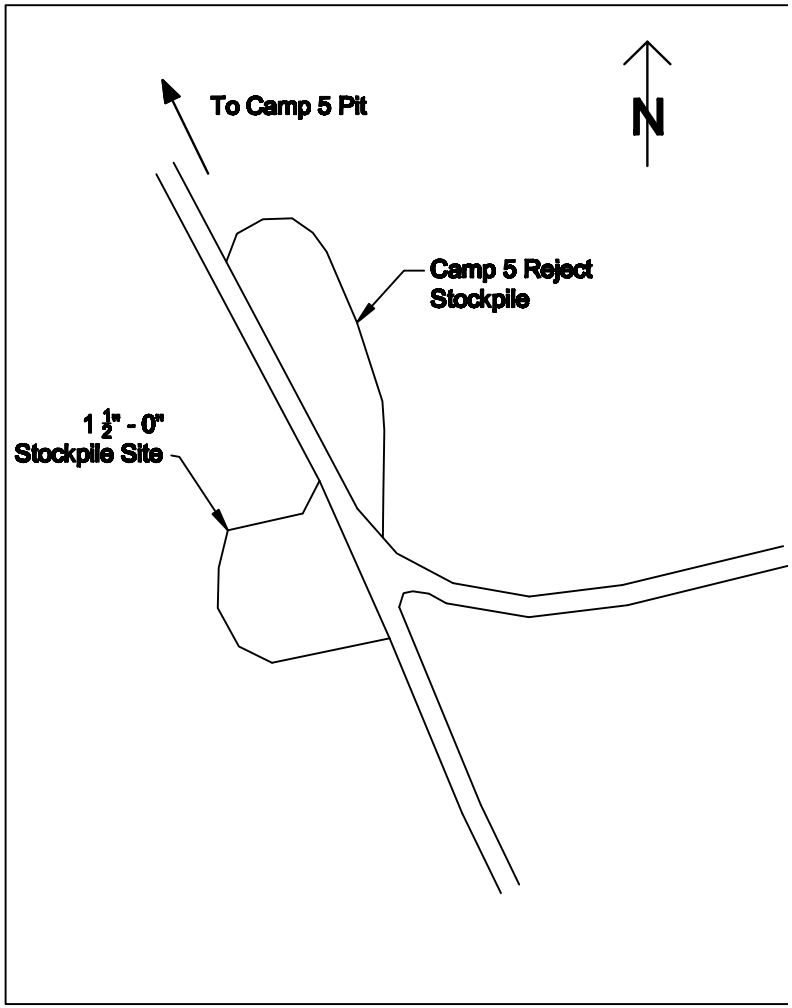
Control of gradation shall be by visual inspection by STATE.

Carlson Corner, No. 341-12-08

Exhibit F
Quarry Development Plan



Crusher reject material shall be hauled to the existing Camp 5 Reject Stockpile 0.4 miles to the south on Camp 5 Road.

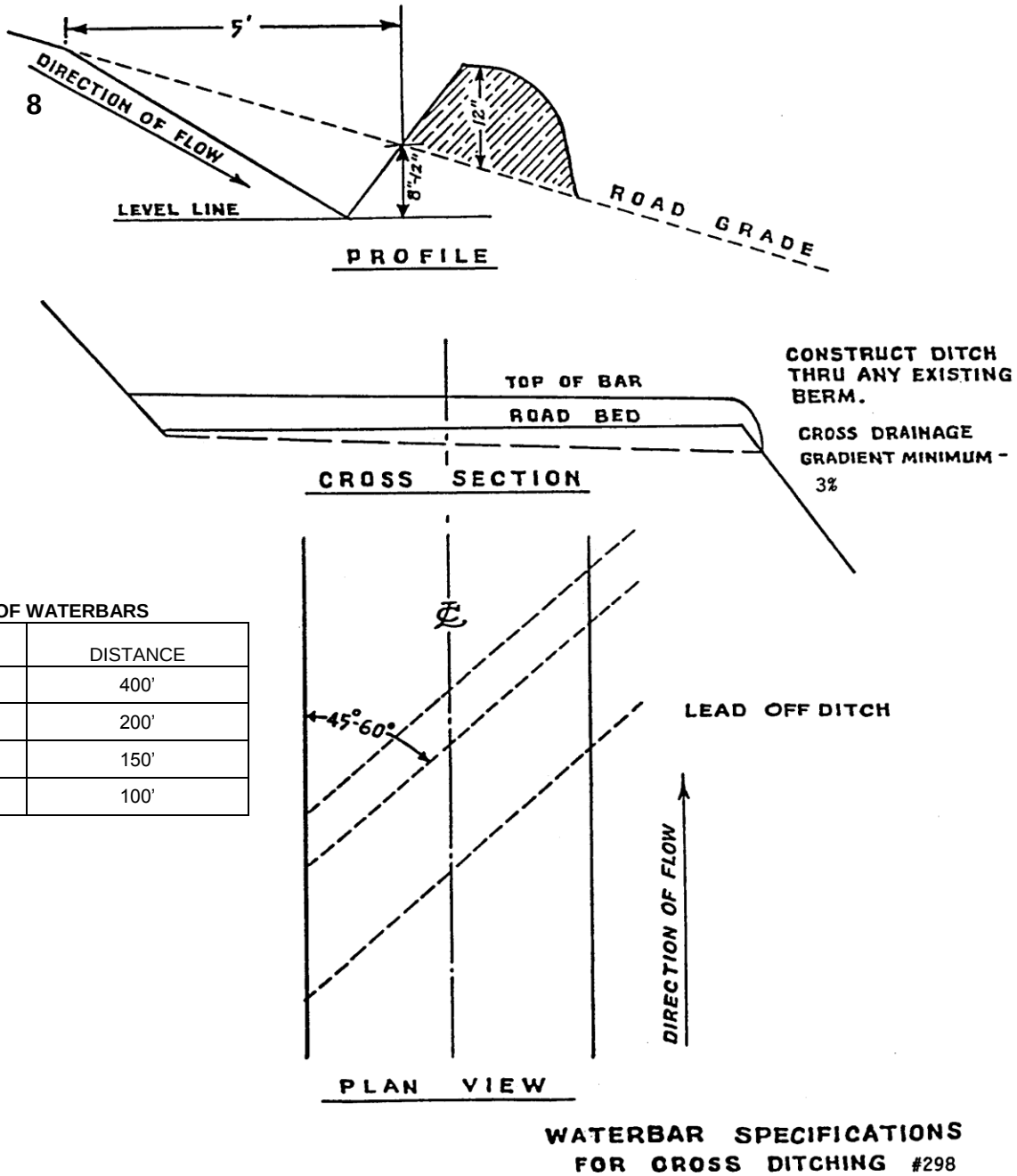


Oregon Department of Forestry
Forest Grove District

Not to Scale
T3N, R6W, Sec. 10, Tillamook County

EXHIBIT G

WATERBAR SPECIFICATIONS

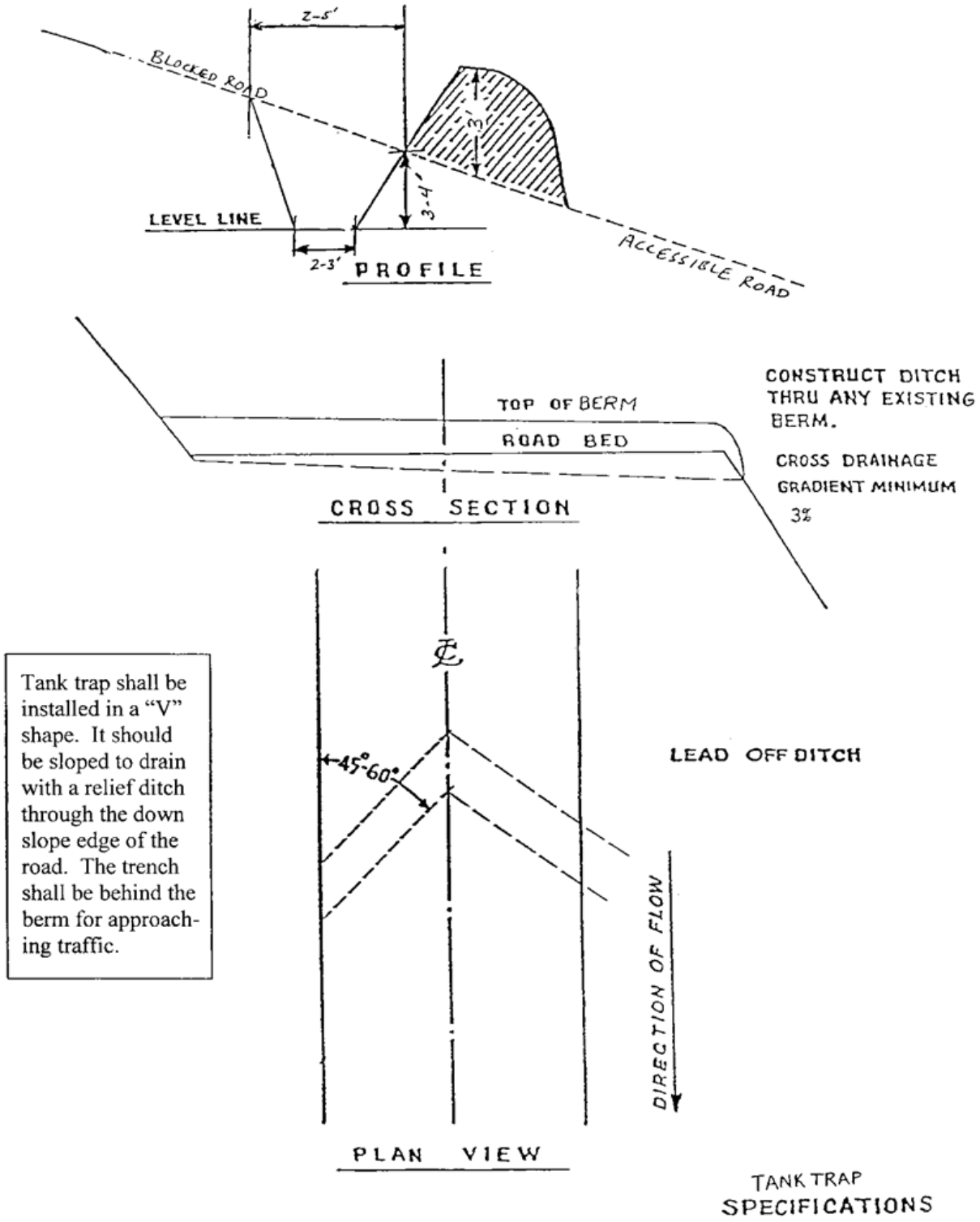


SPACING OF WATERBARS

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

EXHIBIT G

TANK TRAP SPECIFICATIONS



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

EXHIBIT H

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, fertilizer, and straw mulch to all waste areas, and bare soils resulting from Project No. 1.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31. 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%

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 200 pounds per acre. Fertilizer shall not be applied within 100 feet of streams.

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 1½ to 2½ inches. This rate requires between 2 and 3 tons of dry mulch per acre.

Application Locations:

Road Segment	Location	Road Segment	Location
A to B	Culvert No. 2	O to P	Culvert No. 15
A to B	Culvert No. 3	O to P	Culvert No. 16
A to B	Culvert No. 5	O to P	Culvert No. 17

PART IV: OTHER INFORMATION

State Timber Sale Contract
No. 341-12-08
Carlson Corner

NOTICE OF TRANSFER OF STATE TIMBER

Instructions **629:-Form-301-010**

Complete Section 1. Mark the box which applies to you/your company in Section 2. Complete Section 3 and obtain signatures.

SECTION 1

On _____, state timber sale purchaser (Transferor)

_____, sold, exchanged or otherwise transferred to

_____, (Transferee) state timber originating from State

Timber Sale Contract No. _____.

Transferee hereby certifies that they:

(a) Will not export the unprocessed state timber which is the subject of this transaction;

(b) Will not sell, transfer, exchange or otherwise convey the unprocessed timber which is the subject of this transaction to any other person without first obtaining a like certification from that person; and

(c) Are not prohibited by OAR's 629-31-005 through 045 from purchasing state timber or logs directly from the State Forester, or this is a sale of Western Red Cedar for domestic processing.

SECTION 2

☐ Have not exported unprocessed timber originating from private lands in Oregon in the last 24 months.

☐ This is a sale of hardwood logs for domestic processing.

☐ This is a sale of Western Red Cedar for domestic processing.

☐ This is a sale of pulp logs or cull logs processed at domestic pulp mills, domestic chip plants or other domestic operations for the purpose of conversion of the logs into chips.

SECTION 3

The parties understand that falsely entering into this certification, or failure to comply with the terms of this certification is a violation of the Forest Conservation and Shortage Relief Act of 1990 and OAR Chapter 629, Division 31, and is subject to any and all penalties contained therein.

Transferor:	Transferee:
_____	_____
Signed	Signed
_____	_____
Title	Title
_____	_____
Dated	Dated

[Note: For the purpose of this form, the definition of unprocessed timber is the same as in OAR 629-31-005]

Mail To: State Forester
2600 State Street
Salem, OR 97310

Written Plan for Carlson Corner Timber Sale: 341-12-08

Timber Harvest

LEGAL DESCRIPTION: The Carlson Corner Timber Sale is located in Portions of Sections 19, 20, 29, and 30, T3N, R5W, W.M., Washington County, Oregon.

PROTECTED RESOURCE: Lousignont Creek (Large Type F), Unnamed tributary to Lousignont Creek (Medium Type F)

DESCRIPTION OF THE AREA: Cable logging adjacent to the streams.

PROTECTION MEASURES: When cables pass through or over the Stream Buffers, all necessary precautions shall be taken to protect all Stream Buffer Components.

Reviewed by: _____
Erik Marcy; Unit Forester Date

Prepared by: Peter Stone
3/22/12