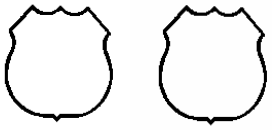
PART III: EXHIBITS

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.: 341-12-03

(2) Sale Name: Cookie Tin

(3) Contract Expiration Date: June 30 , 2015

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.

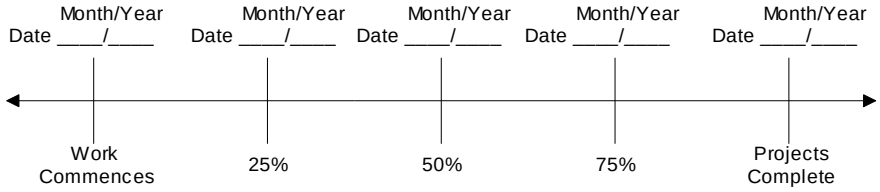
EXHIBIT B

OPERATIONS PLAN

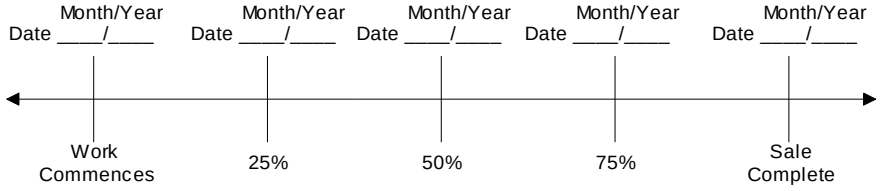
Completion Timeline

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**

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Tillamook (06) Phone (503) 842-2545
(State Forestry District)
Address 5005 3rd St., Tillamook, OR 97141

(4) PURCHASER: _____
Mailing Address: _____
Phone Number: _____

(5) **MINIMUM SCALING SPECIFICATIONS**			**CLASS**		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
Conifers	---	10	x		
Hardwoods	---	10	x		

* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.
** Sum (if indicated): see instructions and explain in Item (19).

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

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

(8) Weight Scale Sample YES ☐ NO ☒
(6) – (8), pink log load receipts

(9) Weight Sale YES ☐ NO ☒

(10) Per Load YES ☐ NO ☒
(9) and (10), yellow log load receipts

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

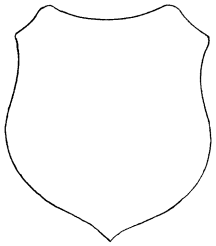
(12) NOTICE OF CANCELLATION OF BRAND:
Effective Date: _____

(13) SALE NAME: Cookie Tin
COUNTY: Tillamook

(14) STATE CONTRACT NUMBER: 341-12-03

(15) **STATE BRAND REGISTRATION NUMBER** _____

(16) STATE BRAND INFORMATION (COMPLETE):



(17) PAINT REQUIRED: YES ☒
COLOR: Orange

(18) **SPECIAL REQUESTS** (Check applicable)

PEELABLE CULL (all species) ..... ☐
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE ..... ☒
PENCIL BUCK..... ☐
ADD-BACK VOLUME - Deductions due to delay ..... ☒
OTHER:

(19) **REMARKS** _____

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

(20) 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 343-307 (rev. 01/09)

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.

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

(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. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable material). SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF and SUB require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, Per MBF and/or subspecies will always be scaled.

(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) Eastside – Region 6 actual taper/taper table segment scale. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Northwest Log Rules Eastside). Items with * follow U.S. Forest Service Eastside rules.

(8) 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 (19).

(9) Weight Sale – Check box if sale is to be sold as a weight sale. Processing procedures from approved locations to TPSO's will be explained in the Remarks section of Item (19).

(10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).

(11) 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.

(12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.

(13) Enter sale name and county.

(14) Enter sale Contract number.

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

(16) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (19).

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

(18) 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.

(19) 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.

(20) 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 e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. Scaling instructions for each brand should be scanned separately, for each approved TPSO.

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

EXHIBIT C – **PULP SORT**

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Tillamook (06) Phone (503) 842-2545
(State Forestry District)
Address 5005 3rd St., Tillamook, OR 97141

(4) PURCHASER: _____
Mailing Address: _____
Phone Number: _____

(5) **MINIMUM SCALING SPECIFICATIONS**			**CLASS**		
SPECIES	SCALING DIAMETER INCHES	*NET SCALE VOLUME	PER MBF	** SUM	SUB
Conifer Pulp	By Weight				X
Hardwood Pulp	By Weight				X

* Apply minimum volume test to whole logs over 40' Westside; 20' Eastside.
** Sum (if indicated): see instructions and explain in Item (19).

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

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

(8) Weight Scale Sample YES ☐ NO ☒
(6) – (8), pink log load receipts

*(9) Weight Sale YES ☒ NO ☐

*(10) Per Load YES ☐ NO ☒
(9) and (10), yellow log load receipts

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

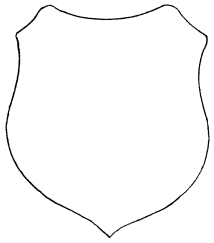
(12) NOTICE OF CANCELLATION OF BRAND:
Effective Date: _____

(13) SALE NAME: Cookie Tin
COUNTY: Tillamook

(14) STATE CONTRACT NUMBER: 341-12-03

(15) **STATE BRAND REGISTRATION NUMBER** _____

(16) STATE BRAND INFORMATION: (COMPLETE BELOW)



(17) PAINT REQUIRED: YES ☒
COLOR: Blue

(18) **SPECIAL REQUESTS** (Check applicable)	
PEELABLE CULL (all species)	☐
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE	☒
PENCIL BUCK.....	☐
ADD-BACK VOLUME - Deductions due to delay	☐
OTHER: Convert weight to MBF, using a factor of 10 tons per MBF.	

(19) SPECIAL PROCESSING INSTRUCTIONS: Pulp loads shall be weighed in lieu of scaling. Tons shall be short tons or 2,000 lbs. (1) Weigher shall attach a machine-printed weight ticket to the Scaler Receipt part of the STATE Weight Load Receipt and mail them weekly to the approved Third-Party Scaling Organization (TPSO). (2) The TPSO shall notify the Tillamook District office immediately if the above requirements are not met.

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

(20) 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– **PULP SORT**
INSTRUCTIONS FOR FORM 343-307 (rev. 01/09)

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (12). Complete date.

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

(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. Review Section 2040 or 2045, "Log Removal," of the Contract. Species, or combined species can be separate entries. Information serves as a basis for scaling (see also Items (16) thru (18)), and is required to show existence on the sale. **SUM** (lump sum material). **SUB** (sub-merchantable material). SUB, as used by the State, references that material containing at least 10 bf (net) but less than the lower merchantable net volume limit or grade requirements for other merchantable (Per MBF) entries. Per MBF, SUM, and SUB must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. Per MBF and SUB require scaling therefore complete specifications. SUM need not be scaled, hence no specifications. Loads containing only SUM are to be ticketed if so instructed in Item (19). Mixed loads of SUM, Per MBF and/or subspecies will always be scaled.

(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) Eastside – Region 6 actual taper/taper table segment scale. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs -- All Species -- State Forestry Department Scaling Practices (Northwest Log Rules Eastside). Items with * follow U.S. Forest Service Eastside rules.

(8) 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 (19).

(9) Weight Sale – Check box if sale is to be sold as a weight sale. Processing procedures from approved locations to TPSO's will be explained in the Remarks section of Item (19).

(10) Per Load – Check box if volumes on sale are per load. Specific instructions for handling and processing will be fully explained in the Remarks section of Item (19).

(11) 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.

(12) When logging and hauling is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box in Item (1), and send to TPSO.

(13) Enter sale name and county,

(14) Enter sale Contract number.

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

(16) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (19).

(17) Check yes for Paint required and designate color being used. Non-required removal volumes may *sometimes* require blue paint.

(18) Special Requests. These are requests that will be applied to ODF timber sales but are *not* applicable to non-scale materials. Special requests boxes must be "marked" if they apply to the timber sale, designated in the Exhibit C scaling instructions form. If "Other" is indicated, it must contain a description and any necessary comments.

(19) 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.

(20) 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 e-mailed directly to the State Forests Program/Asset Management Unit to both Timber Revenue Specialists. 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

SUBGRD WIDTH	SURF WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE	DITCH TOP WIDTH (Feet)	DITCH BOTTOM WIDTH (Feet)	DITCH CONFIG (U, V, TRAPA-ZOID)	DITCH DEPTH FROM SUBGRD (Feet)
15 ft	12 ft	A to B	0+00 to 5+90	Outslope	---	---	---	---
15 ft	12 ft	A to B	5+90 to 6+90	Ditch	3	0	V	1
15 ft	12 ft	A to B	6+90 to 14+50	Outslope	---	---	---	---
15 ft	12 ft	A to B	14+50 to 15+15	Ditch	3	0	V	1
15 ft	12 ft	A to B	15+15 to 51+50	Outslope	---	---	---	---
14 ft	---	C to D	0+00 to 17+90	Outslope	---	---	---	---
15 ft	12 ft	E to F	0+00 to 6+10	Outslope	---	---	---	---
14 ft	---	E to F	6+10 to 20+90	Outslope	---	---	---	---
14 ft	---	G to H	0+00 to 12+75	Outslope	---	---	---	---
16 ft	12 ft	I to J	0+00 to 40+20	Outslope	---	---	---	---
16 ft	12 ft	I to J	40+20 to 40+80	Ditch	3	0	V	1
16 ft	12 ft	I to J	40+80 to 47+20	Outslope	---	---	---	---
15 ft	12 ft	K to L	0+00 to 5+50	Outslope	---	---	---	---
15 ft	12 ft	K to L	5+50 to 6+20	Ditch	3	0	V	1
15 ft	12 ft	K to L	6+20 to 21+20	Outslope	---	---	---	---
15 ft	12 ft	K to L	21+20 to 21+50	Ditch	3	0	V	1
15 ft	12 ft	K to L	21+50 to 23+50	Outslope	---	---	---	---
14 ft	---	M to N	0+00 to 3+20	Outslope	---	---	---	---
15 ft	12 ft	O to P	0+00 to 5+45	Outslope	---	---	---	---
15 ft	12 ft	Q to R	0+00 to 36+85	Outslope	---	---	---	---
15 ft	12 ft	Q to R	36+85 to 37+65	Ditch	3	0	V	1
15 ft	12 ft	Q to R	37+65 to 40+35	Outslope	---	---	---	---
15 ft	12 ft	Q to R	40+35 to 41+10	Ditch	3	0	V	1
15 ft	12 ft	Q to R	41+10 to 41+90	Outslope	---	---	---	---
16 ft*	12 ft*	S to T	0+00 to 1+00	Ditch	3	0	V	1
16 ft	12 ft	V to W	0+00 to 178+00	Ditch	3	0	V	1

*Additional width required for fill (See Exhibit O)

EXHIBIT D

FOREST ROAD SPECIFICATIONS

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, clearing limits shall be as follows:

Improvements and reconstructions -- 10 feet back from the shoulder of the subgrade or the ditch, whichever is widest.

Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Trees outside the clearing limits shall not be felled unless approved in writing by STATE.

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. Where grubbing limits have not been marked, the grubbing limits shall be as follows:

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 the ditch, whichever is widest.

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.

CLEARING AND GRUBBING DISPOSAL. Clearing and grubbing debris shall not be left lodged against standing trees. Clearing and grubbing debris may be scattered through openings in the timber outside of the cleared right-of-way, except for the following areas, where debris shall be fully contained and hauled to a designated waste area.

- Where end-haul is required.
- On side slopes exceeding 60 percent.
- On unstable areas.
- In any stream channel (Type F, N or D) or where material may enter the stream channel.

Clearing and grubbing disposal shall be completed prior to subgrade approval.

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.

All suitable excavated material shall be used where possible 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. All fills and drainage structure backfills shall be machine compacted according to the specifications in Exhibit E.

Unless road design plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 60 percent, the road shall be on full bench for the width specified.

Excess excavation shall not be sidecast where material will enter a stream course or where material will accumulate in areas deemed a high landslide hazard location by STATE.

Bank excavation and sidecast pullback on a project road segment shall be completed prior to subgrade approval.

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 follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE

Ditch. Construct ditch as specified in Exhibit D. Subgrade shall be crowned at 4 to 6 percent. Construct ditchouts away from subgrade at locations marked in the field.

Outslope. Road subgrade shall be outsloped at 4 to 6 percent.

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.

GRADING	Back Slopes	Fill Slopes
Rock	Vertical to 1/4:1	Not steeper
Common -	3/4:1	than 1 ½:1

Top of cutslope shall be rounded.

LANDINGS. Construct landings at points D, F, H, N, P and R as posted in the field, no less than 50 feet wide and no more than 70 feet wide. Surface shall be crowned for drainage.

TURNAROUNDS. Increase subgrade width an additional 30 feet for a length of 16 feet with 20’ radius returns at locations marked in the field.

EXHIBIT D

ADDITIONAL ROAD IMPROVEMENT INSTRUCTIONS

Q to R

- Remove logs from subgrade and reconstruct fills at stations 18+00, 37+25 and 40+70, according to the specifications in Exhibit E. Place logs in stable location parallel to slope.
- Cut large stumps below subgrade at 32+90, 39+25, and 39+60 and place in stable location.

S to T

Install Type F stream culvert No. 21 according to the specifications in Exhibits G and O.

V to W

Widen road 5 feet at station 80+00 to allow low-boy traffic over bridge. Transition extra width smoothly into existing road width. Endhaul material to waste area and compact. Surface new subgrade with a base of pit-run rock and cap with crushed when V to W is rocked, according to the specifications in Exhibit E.

ADDITIONAL ROAD RECONSTRUCTION INSTRUCTIONS

A to B

- Remove logs from subgrade and reconstruct fills between stations 6+55 and 6+75, 13+30 and 13+55, 19+50 and 20+00, 22+30 and 22+60, 41+65 and 41+95, 42+65 and 43+15, and 49+20 and 49+80, according to the specifications in Exhibit E. Place logs in stable location parallel to slope.
- Pullback sidecast material between stations 15+20 and 15+70, 19+00 and 19+70, 21+15 and 22+20, 27+80 and 28+60, 29+40 and 29+90, 43+55 and 44+55, and 47+00 and 47+85, according to the specifications in Exhibit K and as marked in field. Endhaul to waste area and compact.

K to L

- Remove logs from subgrade and reconstruct fills at station 4+10 and 15+55, according to the specifications in Exhibit E. Place logs in stable location parallel to slope.
- Outslope subgrade through throughcut and construct ditch left from station 5+50 to 6+20.
- Construct ditchout at station 6+20.
- Pullback sidecast material and move centerline right 10 feet between stations 7+35 and 7+90, according to the specifications in Exhibit K and as marked in field. Endhaul to waste area.
- Construct turnaround at station 23+25.
- Construct tank trap to block road and provide drainage at point L according to the specifications in Exhibit J.

O to P

- Move centerline right between stations 1+00 and 3+35 as marked in field.

EXHIBIT D

END-HAULING REQUIREMENTS

POINT TO POINT	STA. TO STA.
A to B	0+00 to 51+50
C to D	0+00 to 1+00
E to F	0+00 to 6+80
G to H	4+30 to 11+40
I to J	0+00 to 47+20
K to L	0+00 to 2+20
K to L	6+20 to 7+90
K to L	11+10 to 14+90
K to L	21+20 to 23+00
O to P	0+00 to 5+45
Q to R	0+00 to 41+90

End-Haul Areas General Requirements

Material shall not be intentionally side cast.

Clearing and grubbing debris shall be end-hauled.

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

Containment

Full containment: The amount of material lost over the outside edge of the road shall not exceed 6 inches in depth measured perpendicular to the natural ground slope. Pioneer excavation shall be removed by digging, loading, and hauling rather than by pushing or scraping methods.

Tree bases and stumps may have up to 12 inches of material directly above them. Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

Waste Area Location

As shown on Exhibit A and as marked in the field.

Waste Area Treatment

Deposit at waste area, spread evenly, compact, and provide adequate drainage. Pile woody debris separate from other waste material.

EXHIBIT E

ROAD SURFACING

ROAD SEGMENT:	A to B				STATIONS:	0+00	to	51+50			
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**	
Road Rock	Crushed	4"-0"	0+00	to 51+50	8 "	station	41.748	51.50	100	2,250	
Base Rock	Pit-Run	6"-0"	5+65	to 6+90	9 "	station	48.000	1.25	10	70	
Turnouts	Crushed	4"-0"	A to B		8 "	TO	20	7		140	
Turnarounds	Crushed	4"-0"	A to B		8 "	TA	30	1		30	
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**						
Culvert Backfill	Pit-Run	6"-0"	51+40		20						
Landing Rock	Crushed	4"-0"	51+50		80						
Energy Dissipators	Riprap	24"-12"	A to B		40						
Base Rock	Pit-Run	6"-0"	29+40		30						
Leveling	Pit-Run	6"-0"	25+20		60						

ROAD SEGMENT:	I to J				STATIONS:	0+00	to	47+20			
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**	
Road Rock	Crushed	4"-0"	0+00	to 47+20	6 "	station	30.720	47.20	70	1,520	
Turnouts	Crushed	4"-0"	I to J		6 "	TO	20	7		140	
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**						
Junction Rock	Crushed	4"-0"	0+00		30						
Junction Rock	Crushed	4"-0"	47+20		50						
Energy Dissipator	Riprap	24"-12"	40+50		5						
Leveling	Pit-Run	6"-0"	I to J		120						

ROAD SEGMENT:	K to L				STATIONS:	0+00	to	23+50			
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**	
Road Rock	Crushed	4"-0"	0+00	to 23+50	8 "	station	42.128	23.50	50	1,040	
Turnouts	Crushed	4"-0"	K to L		8 "	TO	20	4		80	
Turnarounds	Crushed	4"-0"	23+25		8 "	TA	30	1		30	
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**						
Energy Dissipators	Riprap	24"-12"	K to L		15						

EXHIBIT E

ROAD SURFACING

ROAD SEGMENT:	O to P				STATIONS:	0+00	to	5+45			
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**
Road Rock	Pit-run	6"-0"	0+00	to 5+45	12 "	station	51.376	5.45	20	300
Turnouts	Pit-run	6"-0"	O to P		12 "	TO	30	1		30
Turnarounds	Pit-run	6"-0"	O to P		12 "	TA	40	1		40
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**					
Landing Rock	Pit-Run	4"-0"	5+45		100					
Junction Rock	Pit-Run	4"-0"	0+00		20					

ROAD SEGMENT:	Q to R				STATIONS:	0+00	to	41+90			
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**
Road Rock	Crushed	4"-0"	16+50	to 41+90	8 "	station	41.732	25.40	50	1,110
Turnouts	Crushed	4"-0"	Q to R		8 "	TO	20	4		80
Turnarounds	Crushed	4"-0"	Q to R		8 "	TA	30	1		30
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**					
Landing Rock	Crushed	4"-0"	41+90		80					
Reconstruct Fills	Pit-Run	6"-0"	18+00,37+25,40+70		600					
Energy Dissipators	Riprap	24"-12"	Q to R		15					
Leveling	Pit-Run	6"-0"	Q to R		150					

ROAD SEGMENT:	S to T				STATIONS:	0+00	to	1+00			
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**					
Culvert Backfill	Crushed	2 1/2"-0"	0+50		80					
Surfacing	Crushed	2 1/2"-0"	0+00 to 1+00		50					
Fill Armor & Streambed	Riprap	24"-12"	0+50		70					

EXHIBIT E

ROAD SURFACING

ROAD SEGMENT:	V to W				STATIONS:	0+00 to 178+00				
Application	**Rock Size and Type**		**Location**		**Compacted Depth**	**Volume (CY) per**		**Number of Units**	**Curve Widen (CY)**	**Approx. Total (CY)**
Road Rock	Crushed	2 1/2"-0"	0+00 to 178+00		5 "	station	25.337	178.00	210	4,720
Turnouts	Crushed	2 1/2"-0"	V to W		5 "	TO	10	24		240
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**					
Base Rock	Pit-Run	6"-0"	80+00		10					
Energy Dissipator	Riprap	24"-12"	107+00		10					

ROAD SEGMENT:	Point X				
Application	**Rock Size and Type**		**Location**		**Approx. Total (CY)**
Stockpile	Crushed	2 1/2"-0"	0+00		1500
Stockpile Pad	Pit-Run	6"-0"	0+00		150

TOTAL ROCK	2 ½"-0" CRUSH	4"-0" CRUSH	6"-0" PIT-RUN	24"-12" RIPRAP	1-CY BOULDERS*
15,150 CY	6,590	6,690 CY	1,700 CY	155 CY	15 CY

*See Exhibit N

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

Additional rock for curve widening is required and has been included in the volume estimates.

Turnouts, turnarounds, landings and junctions shall be rocked concurrently with the road.

End-dumping of riprap shall not be allowed, unless otherwise approved in writing by STATE.

Any additional turnarounds or turnouts created during any operation associated with this timber sale shall be rocked at PURCHASER's expense and as instructed by STATE.

For typical cross section, turnout and turnaround see Forestry Department Drawing Nos. 351-C, 351-D and TOTA-1 at the Forestry Department district office.

EXHIBIT E

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be well graded and consistent, free of vegetation and lumps of clay. For Project No. 7, STATE requires screening and/or rejection of materials utilized for production of crushed rock for the purpose of removing excess fine material. Excess fines are present when greater than 5% of a total rock sample weight passes a #200 sieve. STATE may require screening for portions of Project No. 2, if excess fines are present. Rock crushing shall be limited to periods when weather conditions are acceptable to STATE.

Quality and Grading Requirements. The stone base materials shall be crushed rock. River gravel shall not be used.

If material is specified as durable, it must meet the following test requirements:

Hardness - Test Method AASHTO T 96: 30% Maximum

Durability - Test Method ODOT TM 208
Passing No. 20 Sieve: 30% Maximum

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

The rock crusher shall be calibrated to produce rock as specified in Exhibit E. 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 1,000 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 E

CRUSHED ROCK SPECIFICATIONS

For Crushed Rock

	4”-0”	2.5”-0”
Sieve Size	Percent Passing	Percent Passing
4	95-100	100
3	--	100
2 1/2	--	95-100
2	70-90	--
1 1/4	--	55-75
1	50-80	--
1/4 or #4	30-50	30-55
#10	20-40	Of the fraction passing the ¼” sieve, 40 to 60% shall pass the No. 10 sieve.
#40	5-15	--

For 6"-0" Pit-Run	Passing	10" sieve	100%
	Passing	6" sieve	60-85%
	Passing	3" sieve	30-50%
	Passing	¼ " sieve	10% maximum

For 24"-12" Riprap — 50 percent or more of the rock shall measure at least 24 inches in one dimension. 100% of the rock shall be at least 12 inches in one dimension.

Control of riprap and pit-run gradation shall be by visual inspection by STATE. Pit-run shall be reasonably free of organic material and shall not contain an excessive amount of oversized (cobbles or boulders) or undersized (clay, silt or sand) particles.

The referenced sieve shall have square openings as set forth in AASHTO M 92, Woven Cloth Series. The determinations of size and gradings shall be as set forth in AASHTO T 27.

EXHIBIT E

ROCK ACCOUNTABILITY

PURCHASER shall obtain STATE approval for subgrades prior to rocking. Rocking must be done only when weather conditions are acceptable to STATE, and must be suspended when muddy water could enter streams.

Rock accountability shall be determined by depth measurement. STATE shall be given 24 hours' notice prior to rocking.

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

Depth shall be determined in the most compacted area of the surface cross section. If additional rock is required because of insufficient depth, it shall be added by truck measure to those areas that were slighted. The conversion from compacted yardage to truck yardage is 1.3 multiplied by the compacted yardage equals truck yardage.

The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in Exhibit E. The average depth for each road segment shall be the specified depth or greater.

Turnouts shall have a surfaced area of at least 44 square yards each at the depths shown in Exhibit E.

Turnarounds shall have a surfaced area of at least 73 square yards each at the depths shown in Exhibit E.

Landings shall have a minimum surfaced area of at least 220 square yards each at the depths shown in Exhibit E.

Curve Surfacing. Extra surface width shall be required for the inside of all curves as follows: 400 divided by the radius of the curve equals the amount of extra width to be surfaced at the depths shown in Exhibit E.

EXHIBIT E

COMPACTION AND PROCESSING REQUIREMENTS

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 visible deformation ceases, or in the case of a sheepsfoot roller, the roller "walks out." At least 3 passes shall be made over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using the approved equipment listed below or others approved by STATE.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
All Road Segments	Vibratory Roller

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases or, in the case of a sheepsfoot roller, the roller "walks out." At least 3 passes shall be made over the entire width and length of each layer. A pass is defined as traveling a fill layer in one direction and then back over that same layer again.

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 the approved equipment listed below or others approved by STATE:

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
S to T	Sheepsfoot Roller
Fills at culvert #7 (A to B) and #15 (Q to R)	Sheepsfoot Roller
All Other Road Segments	Crawler Tractor

Pit-Run Rock. Pit-run surfacing rock shall be spread on roads with a crawler tractor and continuously walked-in. Rock spreading shall begin at nearest point from the rock source and progress toward the end of the project, unless otherwise approved in writing by STATE. Compaction shall be accomplished by using the approved equipment listed below or others approved by STATE:

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

Rock shall be outsloped at 4 to 6 percent unless otherwise specified.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A to B (Base Rock), I to J (Base Rock), O to P, Q to R (Base Rock) and Point X	Vibratory Roller

EXHIBIT E

COMPACTION AND PROCESSING REQUIREMENTS

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 a uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 6 inches in depth. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road. A pass is defined as traveling a road section in one direction and then back over that same section again. Compaction shall be accomplished by using the approved equipment listed below or others approved by STATE:

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 unless otherwise specified.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
A to B, I to J, K to L, Q to R and V to W	Vibratory Roller
S to T	Rock Trucks

COMPACTION EQUIPMENT OPTIONS

Crawler Tractors. D-7 Caterpillar or equivalent or larger.

Rock Trucks. Rock spreading shall begin at the nearest point to the rock source and progress toward the end of the project. Rock trucks shall be routed over the entire cross section of rock layers.

Rubber-Tired Skidders. A rubber-tired skidder weighing a minimum of 20,000 pounds shall be operated over the fill layers so that the entire layered surface comes in contact with the tires. Skidders with oversized tires (high flotation) are not acceptable for compaction.

Sheepsfoot Compactors. Sheepsfoot or 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.

Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts 36” in diameter and larger. The tamper shoe dimensions shall be a minimum of 10" X 13" and capable of a centrifugal force of 2,250 pounds.

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.

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EXHIBIT F

ROCK PIT DEVELOPMENT AND USE

(1) PURCHASER shall conduct the Operations relative to the disposal of waste material in such manner that silt, rock, debris, dirt, or clay shall not be washed, conveyed, or otherwise deposited in any stream. All waste shall be deposited at an approved "waste disposal site."

(2) Where overburden removal limits have not been marked, they shall extend for a distance of at least 20 feet beyond the developed rock source. Overburden removal limits, when marked, are designated by orange right-of-way boundary tags. Overburden and woody debris shall be hauled to a designated waste area. All merchantable timber shall be felled and decked. Overburden shall be spread evenly, grass seeded, and compacted at the waste area and woody debris stacked separately. Prior to drilling or rock removal, completion of overburden removal shall be approved in writing by STATE.

(3) The rock pit floor shall be developed to provide drainage away from the rock pit. Rock pit drainage ditches shall be developed and maintained. Benches shall be 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 degrees or less. There shall be a minimum of 1 bench with an access road to it. All benches shall have an access road to them. Said benches shall be easily accessible with tractors. All accesses and benches shall be left free and clear of unused shot rock material and dirt. Unused shot rock material shall be piled in pit area designated by STATE. Dirt (overburden) shall be hauled to designated waste area.

(4) The STATE shall be notified two working days prior to the beginning of drilling operations. Working days shall be defined as Monday through Friday, 6:00 a.m. to 2:30 p.m.

(5) 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 all material in the rock pit prism (full containment). Each low intensity shot shall be shot into the previous shots' void in order to contain all the material in the rock pit prism. Each shot shall also have a "tattle-tale" end cap so that it is known if all charges were detonated. The purchaser shall detonate or remove all non-detonated explosives from STATE LANDS. PURCHASER shall maintain a comprehensive 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.

(6) Pit face shall be developed in a uniform manner.

(7) Oversized material that is produced shall be piled in the vicinity of the pit. It shall not be wasted.

(8) PURCHASER shall prepare a written development plan for the pit area. The plan shall be submitted to STATE for approval prior to conducting any operation in the pit area.

The plan shall include, but not be limited to:

(a) Location of benches and roads to benches.

(b) Disposal site for debris and overburden.

(c) Time lines for rock quarry use.

(d) Erosion control measures.

(e) Oversized material location.

(9) PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned STATE contracts requiring quarry and stockpile usage.

(10) PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.

(11) Upon completion of use, the pit site and access roads shall be left in a condition free from overburden and debris. Rock pit roads shall be waterbarred to provide drainage as specified in Exhibit I and blocked as directed by STATE.

EXHIBIT G

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract. Culverts smaller than 36 inches in diameter shall be constructed of corrugated polyethylene. Culverts 36 inches in diameter and larger shall be constructed of corrugated aluminized steel. Culverts shall conform to the material and fabricating requirements of the "Standard Specifications for Highway Construction" prepared by the Highway Division of the Oregon State Department of Transportation. Polyethylene culverts shall also be double walled and meet the requirements of AASHTO M-294-901, Type S. Corrugation types and shapes other than those meeting the above minimum Highway requirements shall be approved in writing by STATE.

Watertight joints with gaskets are required for the 150” x 96” culvert. Required gasket materials shall be in accordance with the minimum requirements of the Oregon Department of Transportation Drawing RD 326, or as approved in writing by STATE.

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 stipulated in special instructions.

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

Culvert grade shall slope away from ditch grade at least 5 percent unless otherwise specified.

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 pipe. The culvert trench shall be excavated 3 pipe diameters wide to permit compaction and working on each side of the pipe. Tamping shall be done in 6-inch lifts, 1 pipe diameter each side of the pipe to 95 percent density or over. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert. Minimum bedding depth shall be 6 inches.

A bedding of granulated material or 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 pipe.

Backfill shall consist of granulated material, crushed rock, or job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the pipe.

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

Joining shall be done with bands of like material and corrugations. Manufacturers' instructions shall be followed for prefabricated pipe assembly.

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

When joints are employed, the longest length of pipe shall be placed at the outlet end.

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

EXHIBIT G

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” in diameter (add 6" for roads which will not be rocked). Minimum vertical cover for 150” x 96” arch pipe shall be as specified in Exhibit O.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions. The shortest culvert section length shall be placed at the inlet end.

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 approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

Following are the minimum standard gauges for pipe and coupling bands.

	Aluminized		Band Widths (")			Hugger Band Widths (")	
Dia.	Steel Pipe Gauge	Band Gauges	Annular	Helical	Dimpled	Annular	Helical
150 x 96	10	16	26	26	NA	NA	NA

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

EXHIBIT G

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	24	46	A to B	6+65
2	24	46	A to B	13+40
3	18	34	A to B	14+80
4	24	40	A to B	19+80
5	24	60	A to B	22+45
6	24	36	A to B	25+50
7	30	44	A to B	41+80
8	24	48	A to B	42+90
9	18	40	I to J	40+50
10	18	36	K to L	4+10
11	24	36	K to L	9+65
12	18	34	K to L	21+20
13	18	34	O to P	0+00
14	24	34	Q to R	37+25
15	30	38	Q to R	40+70
16	150 x 96	58	S to T	0+50
17	24	34	V to W	0+00

The intake end of culverts 36 inches in diameter and smaller shall be marked by installing a 5 foot long, painted steel fence post two feet into the ground, within 6 inches of the inlet on the downgrade side.

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

Tamping is required on all culverts. Backfills on culverts 36 inches in diameter and larger shall be compacted with a vibratory hand-operated or Backhoe mounted tamper.

All culverts scheduled for replacement, except on segment S to T, shall become property of PURCHASER and be removed from State land in the same project period in which replacement occurred.

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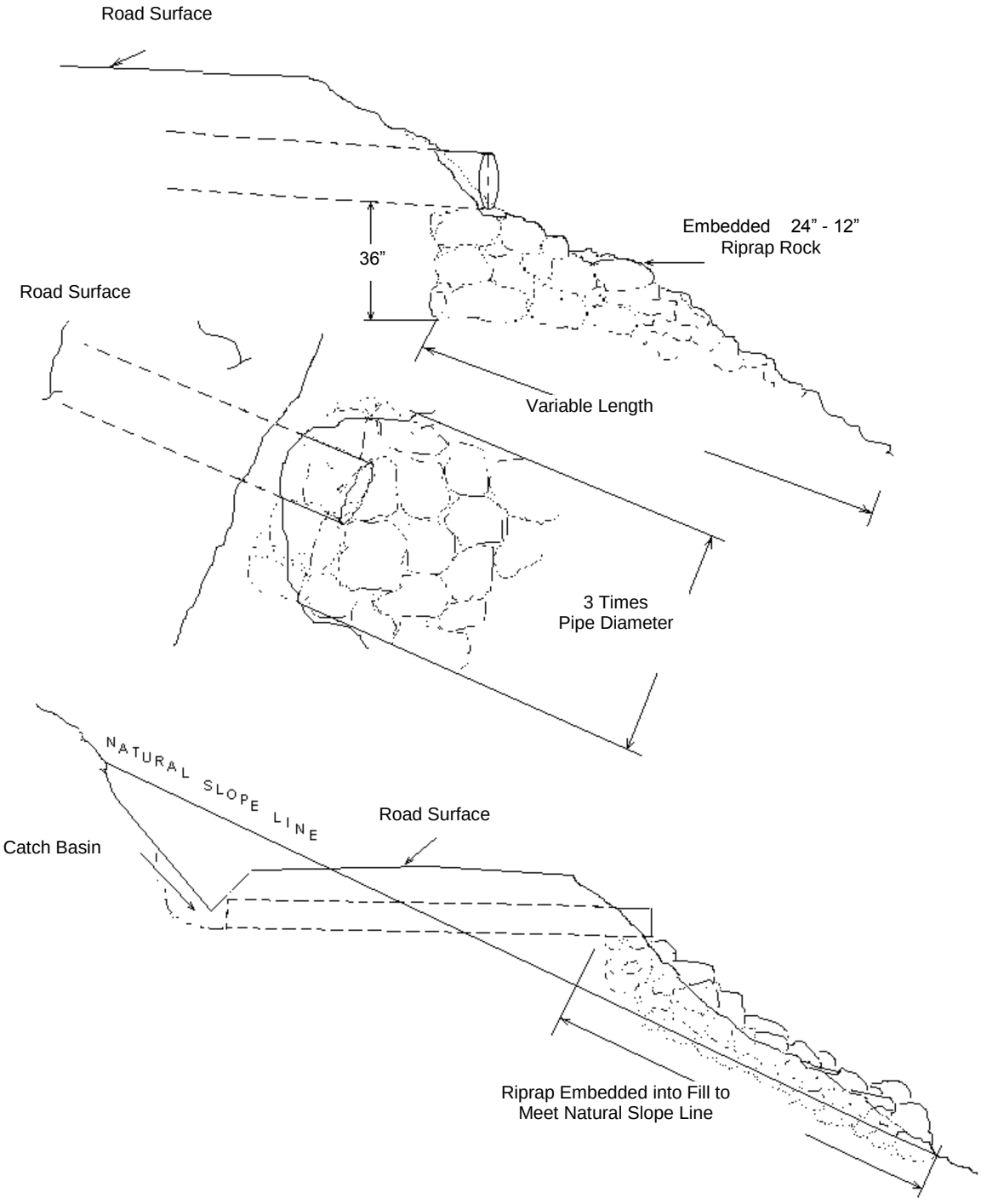
EXHIBIT H

TYPICAL EMBEDDED ENERGY DISSIPATOR



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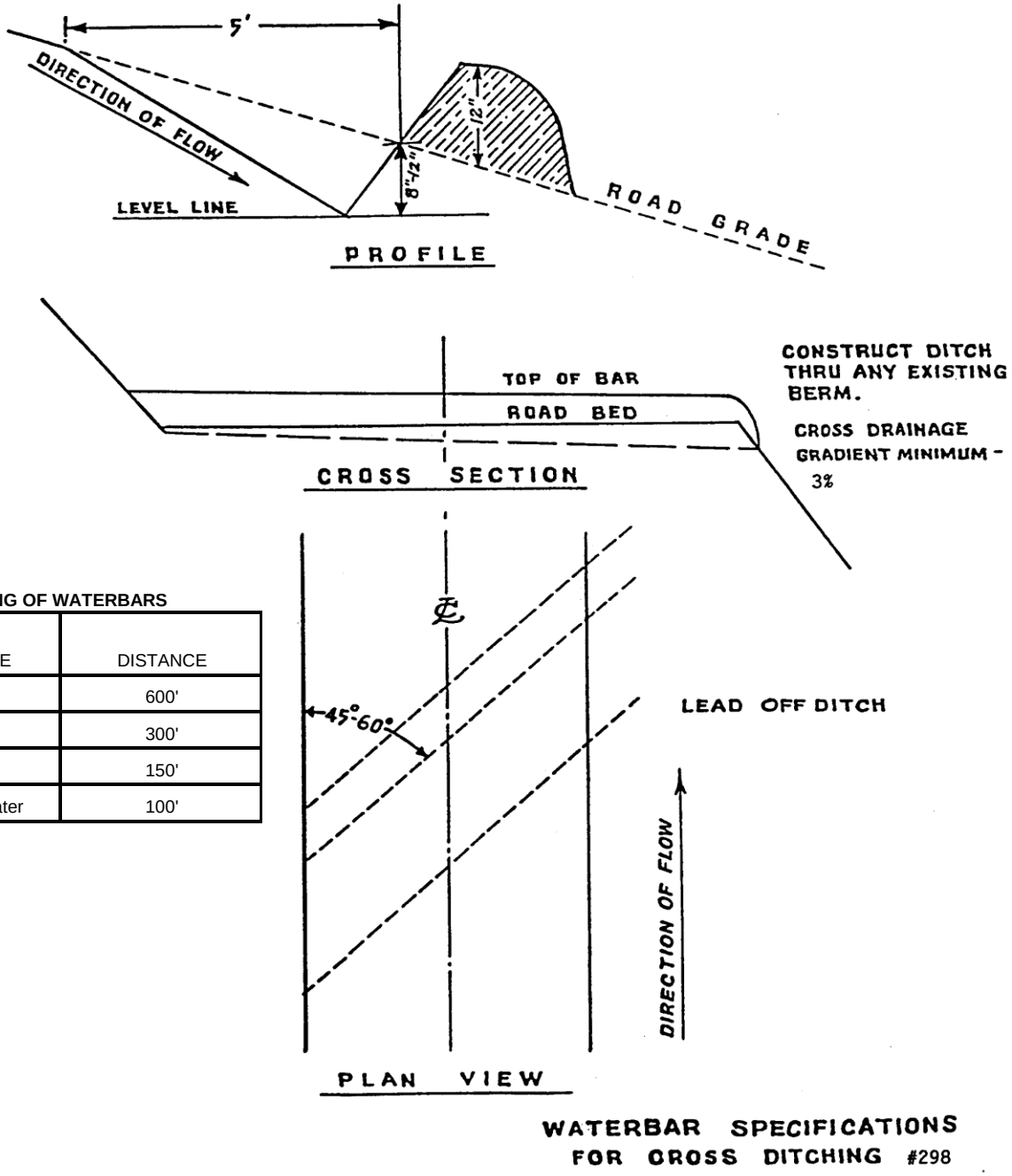
No. 341-12-03
Cookie Tin

EXHIBIT I

WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

ROAD GRADE	DISTANCE
≤ 5%	600'
6-10%	300'
11-15%	150'
16-20% or greater	100'

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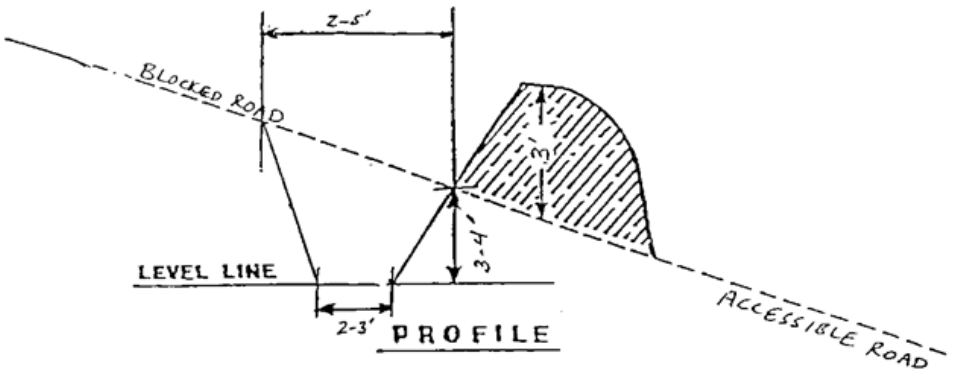
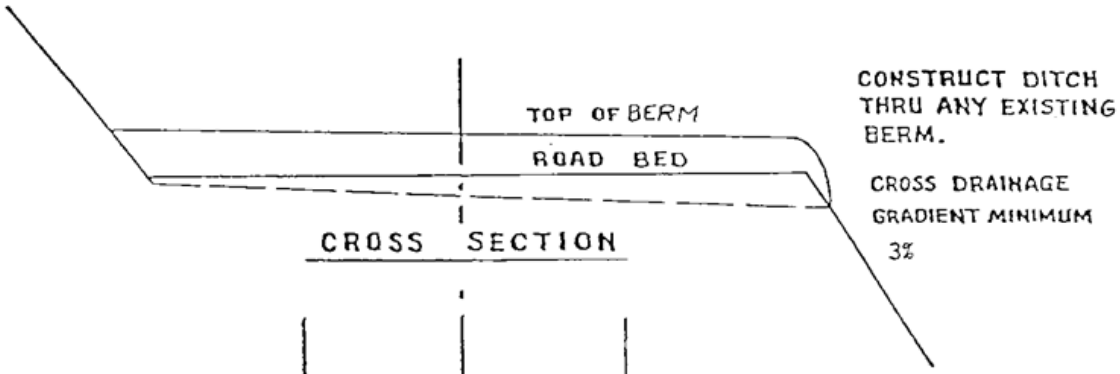
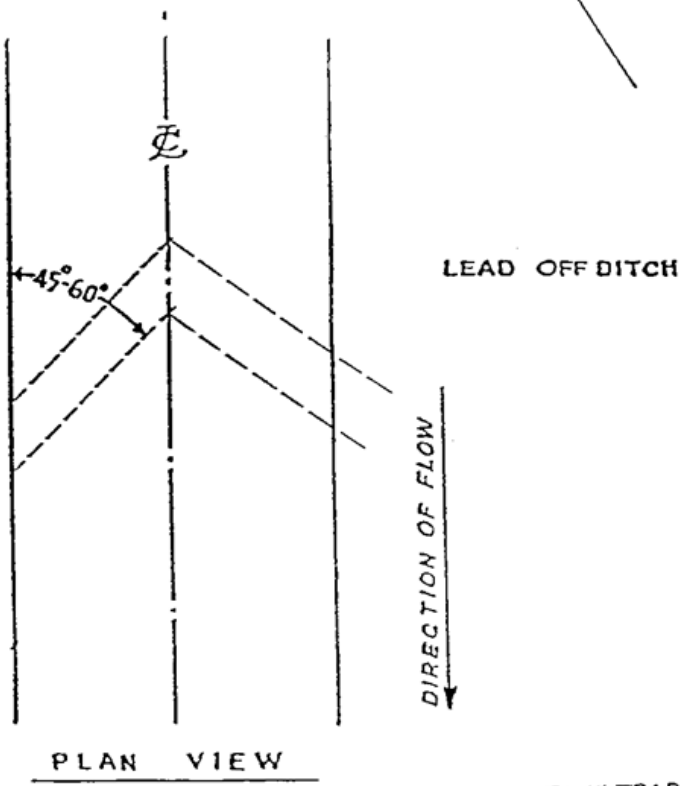
EXHIBIT J

TANK TRAP SPECIFICATIONS





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



TANK TRAP SPECIFICATIONS

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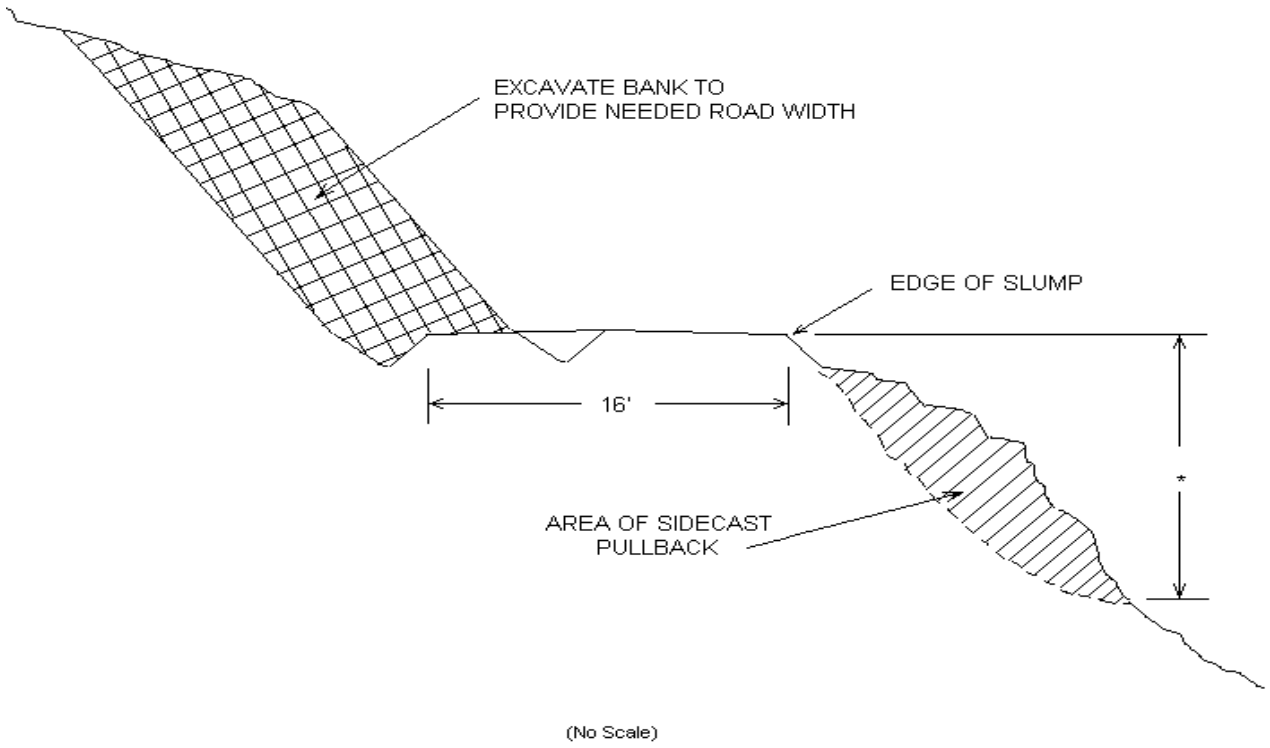
Cookie Tin

EXHIBIT K

TYPICAL CROSS SECTION VIEW OF SIDECAST PULLBACK AND ROAD REALIGNMENT



(No Scale)

* As marked in field

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EXHIBIT L

SEEDING AND FERTILIZING

This work shall consist of preparing seedbeds and furnishing and placing required seed and fertilizer.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 15. 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. PURCHASER shall notify STATE 24 hours prior to seeding.

Soil Preparation. Areas to be seeded that have been damaged by erosion or other causes shall be restored prior to seeding. All areas to be seeded shall be finished and then cultivated to provide a reasonably firm, but friable seedbed. A minimum of 1/2 inch of surface soil shall be in a loose condition.

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

Seed listed below shall be applied at the following rates per acre:

Species	Lb./Acre	Mixture	Pure Live Seed	Poison and/or Repellent
Fine Fescue	12	40%	98%	0
Annual Ryegrass	6	20%	98%	0
Perennial Ryegrass	9	30%	98%	0
White Dutch Clover	3	10%	98%	0

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 300 pounds per acre. No fertilizer shall be applied on segment S to T or at Point U.

Seeding will be considered acceptable when all other specified requirements in Exhibits L and M have been completed and a healthy, uniform, close stand of grass has been established, unless otherwise approved in writing by STATE.

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EXHIBIT M

MULCHING

This work shall consist of furnishing and placing required mulch. Mulch shall consist of straw that is free of noxious weeds.

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 3/4 to 1 ¼ inches. This rate requires between 1 and 1½ tons of dry mulch per acre.

EXHIBIT N

HOEVET CREEK STREAM ENHANCEMENT INSTRUCTIONS

General Instructions:

(a) Work shall be conducted only during periods of low water flows and between July 1 and September 15, annually unless otherwise approved in writing by STATE. STATE shall be notified a minimum of 48 hours prior to beginning work. STATE has prepared the required FPA "Written Plan" for this work.

(b) Stream crossings will be limited to those necessary to access the sites and whenever possible equipment will operate from the banks to minimize stream disturbance. Turbidity shall not exceed 10% above natural stream turbidities as a result of work. The turbidity may be exceeded for a limited duration (per OAR 340-41), provided all practicable erosion control measures have been implemented. Oil spill response materials will be on site before work begins.

(c) Materials for this project are old puncheon culvert logs stockpiled on the first spur road off of Clammer Road, (2N 9W S1). These logs are of various sizes 24 to 36 inches in diameter and 40 to 60 feet in length. Logs will be distributed at the sites so that each site receives at least two of the largest logs. In addition, 10 whole trees with attached root wads at least 45 feet long and 22 inches DBH will be used. These trees may be obtained near the waste area at MP 11.0 of Cook Creek Road and are painted with a blue "F". Fifteen boulders at least one cubic yard in size will also be utilized.

(d) Access routes will be selected to minimize disturbance to the riparian area, and equipment transporting trees to the sites will take care to avoid damage to existing in-stream logs, riparian or other trees**.** Trees that are cleared to gain access will be placed in the creek or used to block access trails.

(e) A minimum 1½ cubic-yard, track-mounted excavator shall be used for all placement.

(f) All areas of bare or disturbed soils shall be seeded with an approved grass seed mix. Fertilizer shall not be used. All access trails will be thoroughly blocked using large woody debris or boulders, then water barred, de-compacted, and mulched upon completion, as directed by STATE.

(g) Excavated materials will be transported to an established waste area.

Specific Instructions:

Location	Work Description
Site No. 1	Materials: Eight logs from the Clammer Road stockpile, four whole conifer trees with attached root wads at least 22 inches DBH and 45 feet long, and five large boulders at least one cubic yard in size. Logs will be placed into the stream as directed by the STATE to simulate natural log jams. Where possible wedge the top of the trees into riparian trees to increase stability. Boulders will be placed on or about the logs to achieve additional stability.
Site No. 2	Materials: Five logs from the Clammer Road stockpile, and three whole conifers trees with attached root wad at least 22 inches DBH and 45 feet long, and five large boulders at least one cubic yard in size. Logs will be placed into the stream as directed by the STATE to simulate natural log jams. Where possible wedge the top of the trees into riparian trees to increase stability. Boulders will be placed on or about the logs to achieve additional stability.
Site No. 3	Materials: Five logs from the Clammer Road stockpile, and three whole conifers trees with attached root wads at least 22 inches DBH and 45 feet long, and five large boulders at least one cubic yard in size. Logs will be placed into the stream as directed by the STATE to simulate natural log jams. Where possible wedge the top of the trees into riparian trees to increase stability. Boulders will be placed on or about the logs to achieve additional stability.

Block entrance to Hoevet Road at Cook Creek Road and at site 150 feet up Hoevet Road with large boulders. Scarify all access trails and Hoevet Road between Cook Creek Road and site 3. Mulch all disturbed soils with straw or other material approved by the State.

EXHIBIT N

HOEVET CREEK STREAM ENHANCEMENT INSTRUCTIONS

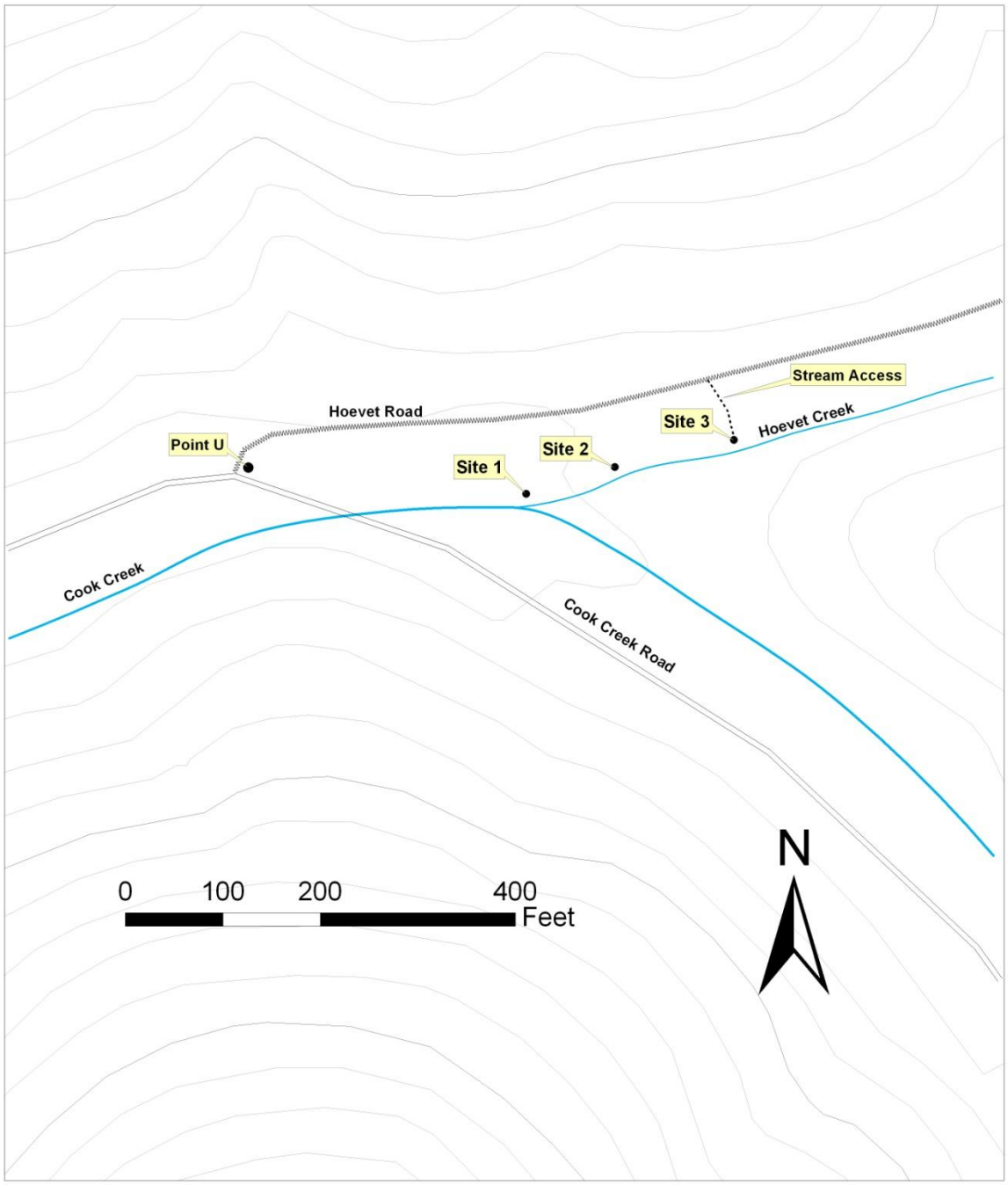

EXHIBIT O

PIATT CREEK ARCH PIPE INSTRUCTIONS

PURCHASER shall install a 150" x 96" x 58' aluminized steel arch pipe Type F structure.

GENERAL TYPE F CONSTRUCTION SPECIFICATIONS

(a) Work shall be conducted only during periods of low water flows and between July 1 and September 15, annually. STATE shall be notified a minimum of 72 hours prior to beginning the work. STATE has prepared a FPA "Written Plan" for this work.

(b) Remove the existing embankment and culvert to accommodate the work area for stream crossing construction. Existing embankment(s) shall be excavated to the natural stream course level. All woody debris or logs encountered during excavation shall be removed.

(c) Excavated debris and materials unsuitable for embankment construction shall be end hauled to the designated waste area, as directed by STATE. The existing removed culvert shall be retained on site, as directed by STATE.

(d) Waste materials shall be sloped for drainage and stability, as directed by STATE. All exposed excavation areas and waste materials shall be seeded and mulched with straw. Fertilizer shall not be used. Applied mulch shall be a minimum of 2 inches deep and provide a uniform cover. Any large woody debris shall be redistributed over the waste area after all waste materials have been hauled.

(e) Oil spill response materials shall be on site before the work begins.

(f) A minimum 2 cubic-yard, track-mounted excavator shall be used for all excavation, stream channel development, and riprap placement.

(g) De-watering of the work site shall be accomplished according to PURCHASER's STATE approved plan and prior to the removal of any additional fill material for the development of the culvert bed, footing pad, and stream channel. The work site shall be de-watered by the use of cofferdams, pumps, temporary diversion ditches and/or drainage structures.

SPECIFIC INSTALLATION SPECIFICATIONS

(a) Type "F" stream fill reconstruction and culvert installation must allow free passage of fish as provided in the Oregon Forest Practice Rules.

(b) The new culvert bed will **NOT** be the same location as the existing culvert bed. The new culvert inlet elevation shall be 94.9 feet with an outlet elevation of 94.3 feet, relative to the benchmark elevation of 100 feet. Culvert gradient shall not exceed 1%. The top of the new road fill shall be 4 feet higher than the existing road surface and 3.2 feet above the top of the new culvert, transitioning smoothly into the existing road grade. Drawing available at Department of Forestry district office.

(c) Develop the stream channel for a distance of 30 feet upstream of the inlet of the culvert and 15 feet downstream of the outlet, as directed by STATE. The stream channel width will be 12 feet and stream channel banks shall be sloped at 1½:1.

EXHIBIT O

PIATT CREEK ARCH PIPE INSTRUCTIONS

(d) Native (excavated) stream sediment material shall be placed in the culvert barrel to simulate and form the stream bed, as directed by STATE. Utilize 24”-12” riprap rock as streambed retention material, placed and embedded at the outlet of the new culvert to establish the stream channel elevation and allow additional stream sediment materials to settle in the barrel of the pipe.

(e) Fill reconstruction backfill shall consist of select materials and 2”-0” crushed rock as directed by STATE. Backfill shall be compacted as specified in Exhibit G. Riprap rock fill armor shall be placed and tamped at a 1½:1 slope for a minimum thickness of 2 feet beginning at the toes.

(f) Utilize 80 cubic yards of 2”-0” crushed rock for culvert bedding and backfill material as specified in Exhibit E.

(g) Utilize 70 cubic yards of 24”-12” riprap rock for fill armor and streambed retention material as specified in Exhibit E.

(h) Finished fill subgrade width is 20 feet. Finished fill surfaced width is 16 feet. Utilize 50 cubic yards of 2”-0” crushed rock as specified in Exhibit E to provide for a smooth and uniform transition from the existing roadway across the fill. Applied crushed rock shall be processed and compacted as specified in Exhibit E.

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EXHIBIT P

SPECIFICATIONS FOR LANDING SLASH PILING

Piling Slash/Covering Piles: All piles shall be as compact as possible. Piles shall be built to a minimum height of 3 to 4 feet and then covered to prevent water from reaching the Slash. STATE shall supply the materials for covering. Additional woody debris shall be piled on top of the covered piles to complete the piling, as directed by STATE.

Placement of Piles: Piles shall be placed in a location to minimize damage from burning to standing green trees and Snags. Piles shall be placed as follows:

(a) No less than 30 feet from any Snags or green trees, unless otherwise approved by STATE.

(b) Cull log segments suitable for firewood shall be piled separately from Slash at a distance of no closer than 20 feet from the Slash piles.

PART IV: OTHER INFORMATION

State Timber Sale Contract
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Cookie Tin

WRITTEN PLAN

Piatt Creek Arch Pipe Installation

Protected Waters: Piatt Creek, a stream with fish presence, and a tributary of Cook Creek in the Lower Nehalem Watershed.

Location: NE ¼,SE ¼, Sec. 6, T2N, R8W, W.M.

Activities: Replacement of a non-fish passable culvert with an arch pipe to allow fish passage.

Protection Measures: No in-stream activity will be conducted prior to July 1 or after September 15 without prior approval from the Oregon Department of Fish and Wildlife. Work will be done only during dry weather periods and low water stream flows. Machine activity in the streams shall be kept to a minimum. Disturbance of existing vegetation shall be kept to a minimum. All practical erosion control measures shall be taken to minimize sedimentation in the waters of the State.

A 150" x 96" x 58' arch pipe has been sized for a 100-year event using Peak Flow. Fill material will be placed in 8-inch lifts and compacted with a tamper. Fill slopes will be constructed at a 1½ to 1 fill width–to-height ratio. The fill will be protected around the pipe with riprap. All areas of disturbed soil resulting from project work, including fill slopes, cut banks, access trails and waste areas will be grass seeded and mulched. Fertilizer shall not be used.

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WRITTEN PLAN

Hoevet Creek Fish Habitat Enhancement

Protected Waters: Hoevet Creek, a stream with fish presence, and a tributary of Cook Creek in the Lower Nehalem Watershed.

Location: SE¼, Sec. 35, T2N, R8W, W.M.

Activities: Fish and stream habitat enhancement by placing whole trees, boulders and logs in the RMA.

Protection Measures: No in-stream activity will be conducted prior to July 1 or after September 15 without prior approval from the Oregon Department of Fish and Wildlife. Work will be done only during dry weather periods and low water stream flows. Machine activity in the streams shall be kept to a minimum. Disturbance of existing vegetation shall be kept to a minimum. All practical erosion control measures shall be taken to minimize sedimentation in the waters of the State.

Stream crossings will be limited to those necessary to access the sites and whenever possible equipment will operate from the banks to minimize stream disturbance. Turbidity shall not exceed 10% above natural stream turbidities as a result of work. The turbidity may be exceeded for a limited duration provided all practical erosion control measures have been implemented. Oil spill response materials will be on site before work begins. All areas of bare or disturbed soils shall be seeded and mulched. Fertilizer shall not be used. All access trails will be thoroughly blocked using large woody debris or boulders, water barred, de-compacted and mulched upon completion, as directed by STATE.

State Timber Sale Contract
No. 341-12-03
Cookie Tin

"STEWARDSHIP IN FORESTRY"

WRITTEN PLAN

SALE NAME: **Cookie Tin** 341-12-03

PROTECTED WATERS: The South Fork of the Salmonberry River, a medium Type F and a small Type F tributary of it. A medium Type F and a small Type F tributary of Cook Creek.

Definitions: Stream buffer: at least 100 feet horizontal distance from the high water mark on each side of the stream.

LOCATION: Portions of Section 6, T2N, R7W, and Portions of Section 1 T2N, R8W, W.M., Tillamook County, Oregon.

ACTIVITY: Cable lines across stream.

Protection measures:

- All trees in the RMA are reserved from cutting.
- Cable yarding lines will be pulled out of the RMA prior to rigging the next yarding road.
- If trees or logs fall or slide into a stream channel they will not be limbed, bucked, or removed without prior approval from ODF.
- Cable lines will be an average of at least 100 feet apart where they extend over or through the Type F stream.

Date: 12/07/2010

Prepared by: David Luttrell

State Timber Sale Contract
No. 341-12-03
Cookie Tin

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