

PART III: EXHIBITS

State Timber Sale Contract
No. 341-06-64
Cougar Divided

EXHIBIT B

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

OREGON DEPARTMENT OF FORESTRY

TIMBER SALE OPERATIONS PLAN

(See Page 2 for instructions)



Date Received by STATE: _____

(5) State Brand Information (complete):

(1) Contract No.: 341-06-64

(2) Sale Name: Cougar Divided

(3) Contract Expiration Date: October 1, 2008

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.

Item No. (from Page 1)

- (5) All sales require you to use a brand furnished by STATE. If the State brand has not been assigned when the plan is submitted, it will be furnished and assigned later. Complete drawing. If more than one brand is assigned to the sale, complete both drawings.
- (6) The contract requires you to have a designated representative available on the sale area or work location who is authorized to receive in your behalf any notice or instruction given by STATE and to take action in regard to performance under the contract. If logging and project work is widely separated, a representative is required for each.
- (7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.
- (8) Show names of subcontractors to be used for any or all phases of the operations. If subcontractors are not known, or are changed later, give notification to the STATE representative prior to commencement of work by subcontractor.

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

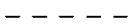
- (10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:
 1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
 2. Locations of spur roads planned for construction, other than those required by the timber sale contract. Provide spur road specifications.
 3. Location of proposed tractor yarding roads. Show if and how marked on the ground.
 4. Location of temporary stream crossings.
 5. List the sequence of performing project work.
 6. Location of rock sources - attach pit development plans.



Cable landing, with numbers for sequence.



Tractor landing with alphabetical sequence.



Approximate setting boundary.



Spur truck roads.



Tractor yarding roads.



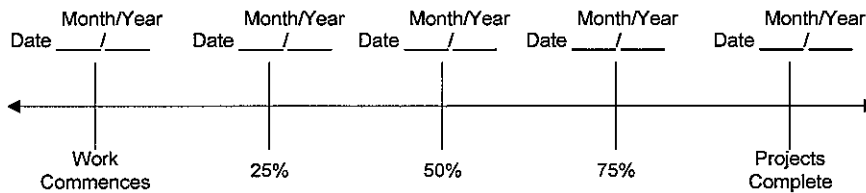
Temporary stream crossings.

EXHIBIT B
OPERATIONS PLAN

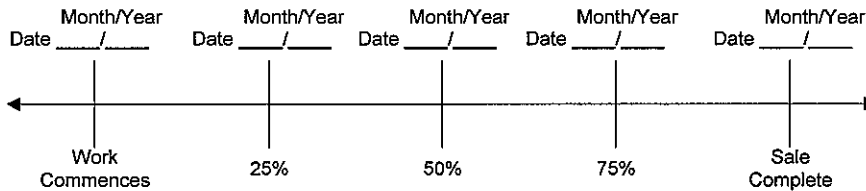
Completion Timeline

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

Projects



Harvest & Other Requirements



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

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

APPROVED: Date: _____

SUBMITTED BY:
PURCHASER

STATE OF OREGON - DEPARTMENT OF FORESTRY

Title _____

Title _____

Original: Salem
cc: District File
Purchaser

EXHIBIT C

SCALING INSTRUCTIONS -- LOCATION APPROVAL -- BRAND INFORMATION

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

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

(3) FROM: Coos (07) Phone 541-267-4136
 (State Forestry District)
 Address 63612 Fifth Rd., Coos Bay, OR 97420

(4) PURCHASER: _____
 Address _____

(12) SALE NAME Cougar Divided

COUNTY Coos/Douglas

(13) STATE CONTRACT NUMBER 341-06-64

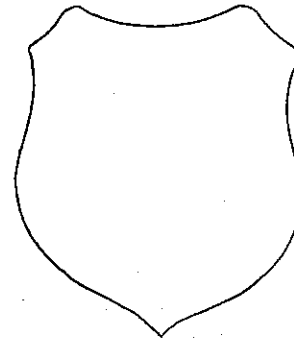
(14) SCALE: westside eastside cubic foot

(15) STATE BRAND REGISTRATION NUMBER _____

(16) BUREAU BRAND CODE NUMBER _____

(17) STATE BRAND INFORMATION:

(COMPLETE) 



(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 (20).

(6) WESTSIDE SCALE: YES NO
 Actual taper all logs over 40' scaling length

(7) EASTSIDE SCALE: YES NO
 *Actual taper butt logs over 40' scaling length

(8) PENCIL BUCK YES NO
 back to Minimum Scaling Diameter _____

(9) ADD-BACK VOLUME -- YES NO
 Deductions due to delay

(18) PAINT REQUIRED: YES
 COLOR Orange

(19) SPECIAL SCALES
PEELABLE CULL (all species)
UTILITY/PULP (all species)
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE
OTHER: _____
OTHER: _____

(10) APPROVED SCALING LOCATIONS	Species	Yard	Truck

(20) REMARKS: Loads consisting of only hardwood logs shall be verified by species and may be scaled by the load at 3.5 MBF/load.

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

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

 State Forester's Representative

(21) SIGNATURES:

 Purchaser or Authorized Representative Date

 State Forester Representative Date

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: ORIGINAL: Salem / COPIES: TPSO (4), Purchaser, Operator, District, Mgmt. Unit

EXHIBIT C

INSTRUCTIONS FOR FORM 343-307 (rev. 5/01)

- (1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires Item (21). Complete date.
- (2) Designate Third Party Scaling Organization (TPSO). Send 4 copies to TPSO, 1 to purchaser, 1 to Salem, and keep such copies as to district needs.
- (3) State District office, address and phone.
- (4) Enter Purchaser's business name and address 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 (13) thru (17)), and is required to show existence on the sale. **PerM** (per MBF). **SUM** (lump sum material). **SUB** (submerchantable 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 (PerM) entries. PerM, SUM, and Sub must be indicated by checking the appropriate column. Species with the same specifications and value are combined into one entry. PerM 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, PERM and/or subspecies will always be scaled.
- (6) Westside -- 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 -- 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 (Eastside). Items with * follow U.S. Forest Service Eastside rules.
- (8) Pencil Buck. Check NO if a westside sale, optional for eastside sales.
- (9) Add-Back Volume. Add-Back is normally checked YES. Scaler records deductions (sap rot, weather checks, etc.) caused by an abnormal delay in removal. Enter separately on scale ticket. TPSO provides State with summaries that include this as a net volume by species. Salvage sales and certain other circumstances may require that "NO" be checked.
- (10) Show scaling locations only applicable to TPSO. Not necessary to list markets. If all species are scaled at same location, enter "ALL."
- (11) When logging is complete, recall branding hammers, date and sign where indicated, check CANCELLATION box at top of form, and send to TPSO.
- (12) Enter sale name and county.
- (13) Enter sale Contract number.
- (14) Check Westside or Eastside log scale. Cubic foot refers to Northwest Log Rules Cubic Foot Scale.
- (15) Oregon Forest Products Brand Registry Number (optional).
- (16) DO NOT USE -- TPSO will fill in when applicable.
- (17) Show one brand only. Complete drawing. 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) under REMARKS, Item 19.
- (18) Check YES and designate orange.
- (19) Special Scales. These are the Special Scales that will be applied. If "Other" is indicated, please describe. Give comments in Item (19).
- (20) Use this space to designate weight conversion factors, or any other explanations to clarify scaling requirements. If additional scaling locations are approved, prepare another form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.
- (21) Require purchaser to sign and date completed form.

EXHIBIT D
 FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
14 feet	12 feet*	A to B	0+00 to 7+65	Outslope**
14 feet	12 feet	D to E	0+00 to 6+80	Ditch
14 feet	12 feet*	E to F	0+00 to 8+25	Outslope**
14 feet	12 feet	I to J	0+00 to 16+60	Outslope
14 feet	12 feet*	J to K	0+00 to 5+00	Outslope**
14 feet	12 feet*	K to L	0+00 to 5+15	Outslope**
14 feet	12 feet	N to O	0+00 to 5+30	Ditch
14 feet	12 feet*	O to P	0+00 to 27+40	Outslope**
14 feet	12 feet*	Q to R	0+00 to 2+00	Outslope**

*Surfaced width only applies if "WINTER AND WET WEATHER OPTION" is chosen.

**Drainage shall be changed to Ditch if "WINTER AND WET WEATHER OPTION" is chosen.

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 "Road Brushing Specifications" in Exhibit D shall apply. Clearing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing debris shall not be left lodged against standing trees.

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

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

All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging 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 classifications are 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 ditch, whichever is widest, or as marked in the field.

CLEARING AND GRUBBING DISPOSAL. Scatter through openings in the timber outside of the cleared right-of-way, except areas where end-haul is required.

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-engineered 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 F.

Unless road design 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.

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.

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 "V" ditch 3 feet wide and to a depth of 1 foot below subgrade. 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: As marked in the field.

GRADING

Rock

Common - side slopes 50% and over

Common - side slopes less than 50%

Common - turnpike (level) section

Back Slopes

Vertical to 1/4:1

3/4:1

1/2:1

2:1

Fill Slopes

Not steeper

than 1½:1

Top of cutslope shall be rounded.

LANDINGS. Landings shall be constructed as Directed by STATE. Surface is to be crowned for drainage, with general grade no more than 3 percent.

EXHIBIT D

ADDITIONAL ROAD IMPROVEMENT/CONSTRUCTION INSTRUCTIONS

- A to B – This road shall be reopened. The brush shall be removed and a culvert installed at Station 2+55. The road shall be bladed to achieve a smooth running surface.
- C – A Landing pad shall be excavated adjacent to the 7000 Road at this point. The material excavated shall be put on a large bench below the 7000 Road to the southeast of the Landing area. The 7000 Road shall receive a layer of 1½"-0" rock after the construction is finished.
- D to E – The roadside brush shall be removed. The ditch shall be pulled with a grader and the road shall be bladed to achieve a smooth running surface.
- E to F – The existing Landing at Point F shall be cleared and shall be made larger by removing a portion of the ridge behind the Landing. This material shall be hauled to Point G. The road shall be bladed to achieve a smooth running surface.
- G – The material endhauled from the enlargement of the Landing at Point F shall be placed around the outside edge of this existing Landing.
- H – A Landing shall be constructed at this point. Some of the material shall be used onsite to build the Landing. Any excess material shall be hauled to Point G.
- I to J – The road shall be bladed to achieve a smooth running surface.
- J to K – This road shall be reopened. The brush shall be removed and the road shall be bladed to achieve a smooth running surface.
- K to L – This is a road to be constructed. A small amount of the endhaul material shall be used in the road construction. The remaining endhaul material shall be hauled to Point M. Excess material shall be placed on the existing Landing west of Point K.
- M – A Landing shall be constructed at this point. A portion of the cutbank behind the Landing shall be excavated to make a Landing. The end-haul material from this and from Points K to L shall be placed on a large bench below the road at this point and used for the Landing area also.
- N to O – The ditch shall be pulled by a grader and the road shall be bladed to achieve a smooth running surface.
- O to P – This road and Landing shall be reopened. Between Station 6+40 to 8+40 a series of road slumps shall be pulled back and the road shall be widened by going into the cutbank. The portion between Station 6+40 and 7+55 will require some drilling and shooting. Small slides shall be removed along the entire road. The material removed shall be taken to Point Q. One 18" x 40' culvert shall be installed at Station 9+85.
- Q to R – A short spur shall be constructed here. Material taken from the improvement between Points O to P shall be placed here, and used for the road construction.

ADDITIONAL ROAD IMPROVEMENT/CONSTRUCTION INSTRUCTIONS
(WINTER AND WET WEATHER OPTION ONLY)

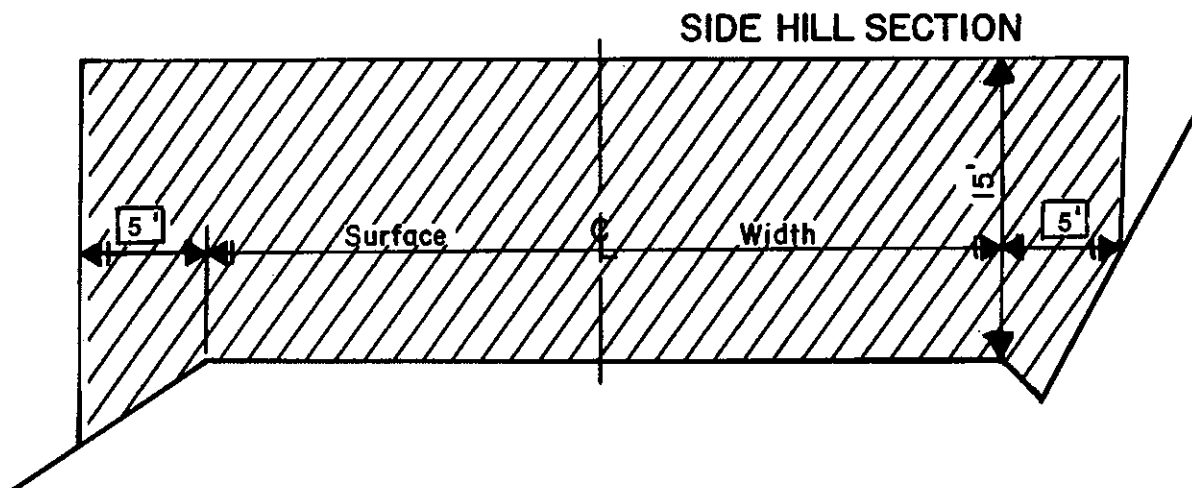
If the "WINTER AND WET WEATHER OPTION" is chosen, drainage shall be changed according to Exhibit D, "Forest Road Specifications," all road segments shall receive crushed rock according to the specifications in Exhibit E, "Rocking Specifications," and culverts shall be added according to the specifications in Exhibit G, "Culvert Specifications."

If the "WINTER AND WET WEATHER OPTION" is chosen, all Landings shall receive a layer of jaw-run rock according to the specifications in Exhibit E, "Rocking Specifications."

EXHIBIT D
ROAD BRUSHING SPECIFICATIONS



Clearing Limits



REQUIREMENTS

Unless otherwise approved in writing by STATE, brush and trees shall be cut to a height of 6 inches or less above the ground surface or obstructions such as rocks or existing stumps.

PURCHASER is required to **either** clear up to the designated clearing height as shown on the above diagram or clear the designated distance past the top of the cutbank as shown on the above diagram.

Debris resulting from the brushing operation shall be removed from the roadway, cutslope, ditches, and water courses within 72 hours and may be scattered downslope from the road or placed in other stable locations, unless otherwise approved by STATE.

EXHIBIT D
END-HAULING REQUIREMENTS

POINT TO POINT	STA. TO STA.	CONTAINMENT	WASTE AREA LOCATION	WASTE AREA TREATMENT
C	--	Full	(1)	(1, 2, 3)
E to F	0+00 to 8+25	Full	(2)	(1, 2, 3)
K to L	0+00 to 5+15	Full	(3)	(1, 2, 3)
O to P	6+40 to 8+40 13+00 to 13+40	Full	(4)	(1, 2, 3)

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 as much material as possible 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.

Waste Area Location

- (1) Outside edge of 7000 Rd, below Point C
- (2) Point G
- (3) Point M
- (4) Point Q

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) See Exhibit D, "Additional Road Improvement/Construction Instructions."

EXHIBIT E
 ROAD SURFACING

TYPE OF ROCK	SIZE OF ROCK	COMP. DEPTH	YDS/ STA	TONS/ STA	POINT TO POINT	STATION TO STATION	APPROX. TOTAL TRUCK MEASURE VOLUME	
Hard Crushed Quarry	1½"-0"	To be placed after construction			7000 Road below Point C		54 CY	71.82 Ton
Hard Crushed Quarry	1½"-0"	To be placed after logging			7000 Road below Point C		72 CY	95.76 Ton

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

ROAD SURFACING
 (WINTER AND WET WEATHER OPTION ONLY)

TYPE OF ROCK	SIZE OF ROCK	COMP. DEPTH	YDS/ STA	TONS/ STA	POINT TO POINT	STATION TO STATION	APPROX. TOTAL TRUCK MEASURE VOLUME	
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	A to B	0+00 to 7+65	360 CY	478.80 Ton
Hard Crushed Quarry	2½"-0"	3"	17.2	22.86	D to E	0+00 to 6+80	108 CY	143.64 Ton
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	E to F	0+00 to 8+25	396 CY	526.68 Ton
Hard Crushed Quarry	¾"-0"	2"	11.3	15.09	I to J	0+00 to 10+45	108 CY	143.64 Ton
Hard Crushed Quarry	2½"-0"	3"	17.2	22.86	I to J	10+45 to 16+60	108 CY	143.64 Ton
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	J to K	0+00 to 5+00	234 CY	311.22 Ton
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	K to L	0+00 to 5+15	252 CY	335.16 Ton
Hard Crushed Quarry	2½"-0"	3"	17.2	22.86	N to O	0+00 to 5+30	90 CY	119.70 Ton
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	O to P	0+00 to 27+40	1,314 CY	1,747.62 Ton
Hard Crushed Quarry	2½"-0"	8"	48.1	64.04	Q to R	0+00 to 2+00	90 CY	119.70 Ton
LANDINGS:			YDS/ LND	TONS/ LND	NO. OF LNDGS.	POINTS		
Hard Crushed Quarry	6" Jaw-Run	6"	54	71.82	9	B, C, F, G, H, M, L, R, P	486 CY	646.38 Ton

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

EXHIBIT E

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock or other hard, durable particles crushed to the required size and a filler of finely crushed stone, sand, or other finely divided mineral matter. The material shall be free from vegetation and lumps of clay.

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

The material from which base material is produced or manufactured shall meet the following test requirements:

Hardness - Test Method AASHTO T 96 35% Maximum

Durability - Test Method ODOT TM 208
Passing No. 20 Sieve: 30% Maximum
Sediment Height: 6" Maximum

<u>For 1½"-0"</u>	Passing	2" sieve	100%
	Passing	1½" sieve	95-100%
	Passing	¾" sieve	55-75%
	Passing	¼" sieve	35-50%

Of the fraction passing ¼" sieve, 40% to 60% shall pass the No. 10 sieve.

(WINTER AND WET WEATHER OPTION ONLY)

<u>For ¾"-0"</u>	Passing	1" sieve	100%
	Passing	¾" sieve	90-100%
	Passing	⅜" sieve	55-75%
	Passing	¼" sieve	40-60%

Of the fraction passing ¼" sieve, 40% to 60% shall pass the No. 10 sieve.

<u>For 2½"-0"</u>	Passing	3" sieve	100%
	Passing	2½" sieve	95-100%
	Passing	1½" sieve	55-75%
	Passing	¾" sieve	30-45%

Of the fraction passing ¼" sieve, 40% to 60% shall pass the No. 10 sieve.

<u>For Jaw-Run</u>	Passing	6" sieve	100%
	Passing	3" sieve	45-65%

EXHIBIT E

ROCK ACCOUNTABILITY

The rock shall meet the quality and size specifications in Exhibit E. A sample of the rock shall be supplied to STATE for testing and approval prior to rocking. 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 sediments will not enter streams.

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

Load Records. Notify STATE before spreading the rock and maintain a record of all rock delivered for spreading. Make the record available for STATE inspection. A report listing the amount of rock delivered the prior month must be submitted no later than the 15th of each month.

EXHIBIT F

COMPACTION AND PROCESSING REQUIREMENTS
 (WINTER AND WET WEATHER OPTIONS)

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:

Subgrade shall be crowned at 4 to 6 percent unless otherwise specified.

ROAD SEGMENT	COMPACTION EQUIPMENT OPTIONS
K to L, O to P, Q to R	Vibratory Roller

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. 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. 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, D to E, E to F, I to J, J to K, K to L, N to O, O to P, Q to R	Vibratory Roller

COMPACTION EQUIPMENT OPTIONS

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.

EXHIBIT G

CULVERT SPECIFICATIONS

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract. Culverts shall be constructed of corrugated galvanized or aluminized steel. Corrugated polyethylene may be used for sizes up to 36 inches in diameter. All 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. Corrugation types and shapes other than those meeting the above minimum Highway requirements, shall be 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 2 percent unless otherwise specified.

Culverts less than 36 inches in diameter shall be installed with the lock seam on the inlet end placed within 45 degrees of the bottom of the trench.

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.

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.

A manufacturer's certification that the product was manufactured, tested, and supplied in accordance with this specification shall be furnished to the Project Engineer 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" and 18" for culverts 42" to 96" (add 6" for roads which will not be rocked). Minimum vertical cover for other designs shall be as specified by STATE.

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

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water. The intake end of relief culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with a half round or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

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

Dia.	Steel Pipe Gauge	Band Gauges	Band Widths ("")			Hugger Band Widths ("")	
			Annular	Helical	Dimpled	Annular	Helical
12-15	16	16	7	12	12	13 1/8	10 1/2
18-24	16	16	12	12	12	13 1/8	10 1/2
30-36	16	16	12	12	12	13 1/8	10 1/2
42	14	16	12	12	NA	13 1/8	10 1/2
48	14	16	24	24	NA	13 1/8	10 1/2
54	14	16	24	24	NA	13 1/8	10 1/2
60	12	16	24	24	NA	13 1/8	10 1/2
66-72	12	16	24	24	NA	13 1/8	10 1/2
78	12	16	24	24	NA	13 1/8	10 1/2
84	12	16	24	24	NA	14 3/4	10 1/2
90-120	12	16	26	26	NA	NA	NA

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

Polyethylene culverts shall be double walled and meet the requirements of AASHTO M-294-901, Type S.

EXHIBIT G
 CULVERT LIST

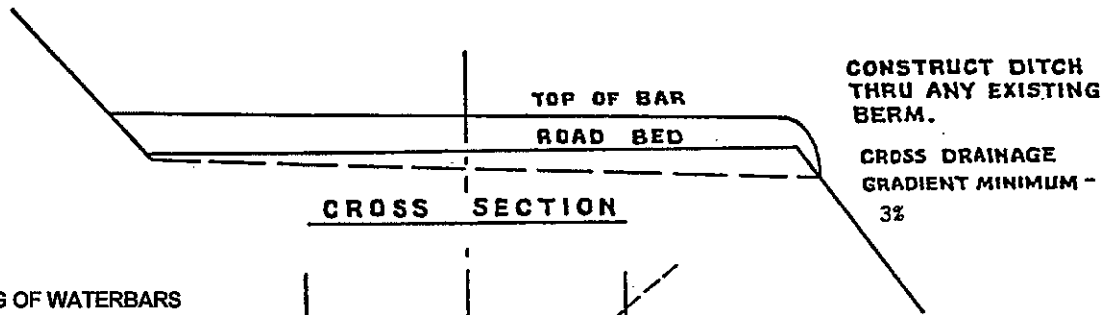
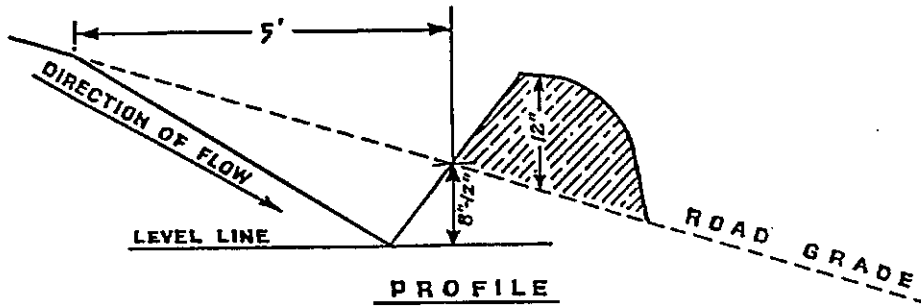
CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	18	30	A to B	2+55
2	18	40	O to P	9+85

All culverts shall be constructed of corrugated, double-walled polyethylene.
 Tamping is required.

CULVERT LIST
 (WINTER AND WET WEATHER OPTION)

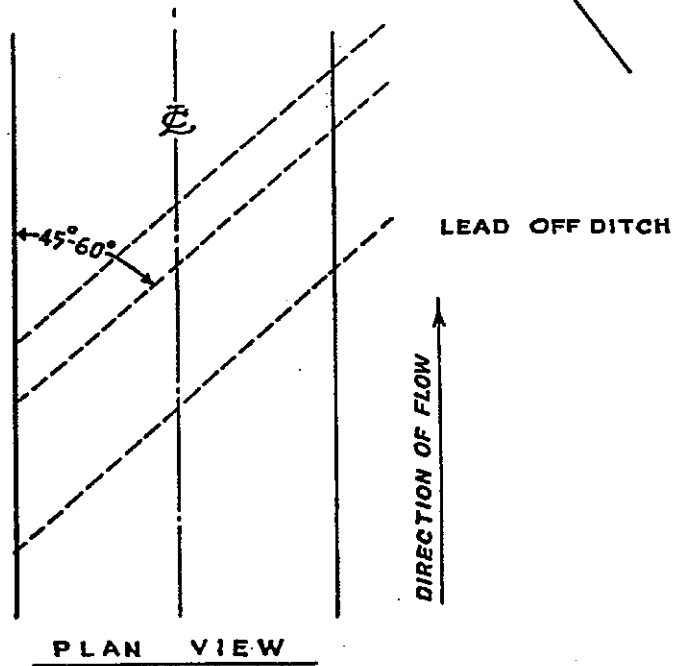
CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
3	18	30	A to B	As Directed
4	18	40	C	--
5	18	30	E to F	0+00
6	18	30	E to F	As Directed
7	18	30	J to K	As Directed
8	18	30	K to L	As Directed
9	18	30	O to P	17+60
10	18	30	O to P	As Directed
11	18	30	O to P	As Directed
12	18	30	O to P	As Directed

EXHIBIT H
 WATERBAR SPECIFICATIONS



SPACING OF WATERBARS

ROAD GRADE	DISTANCE
≤ 5%	300'
6-10%	200'
11-15%	100'
16-20% or greater	50'



WATERBAR SPECIFICATIONS
 FOR CROSS DITCHING #298

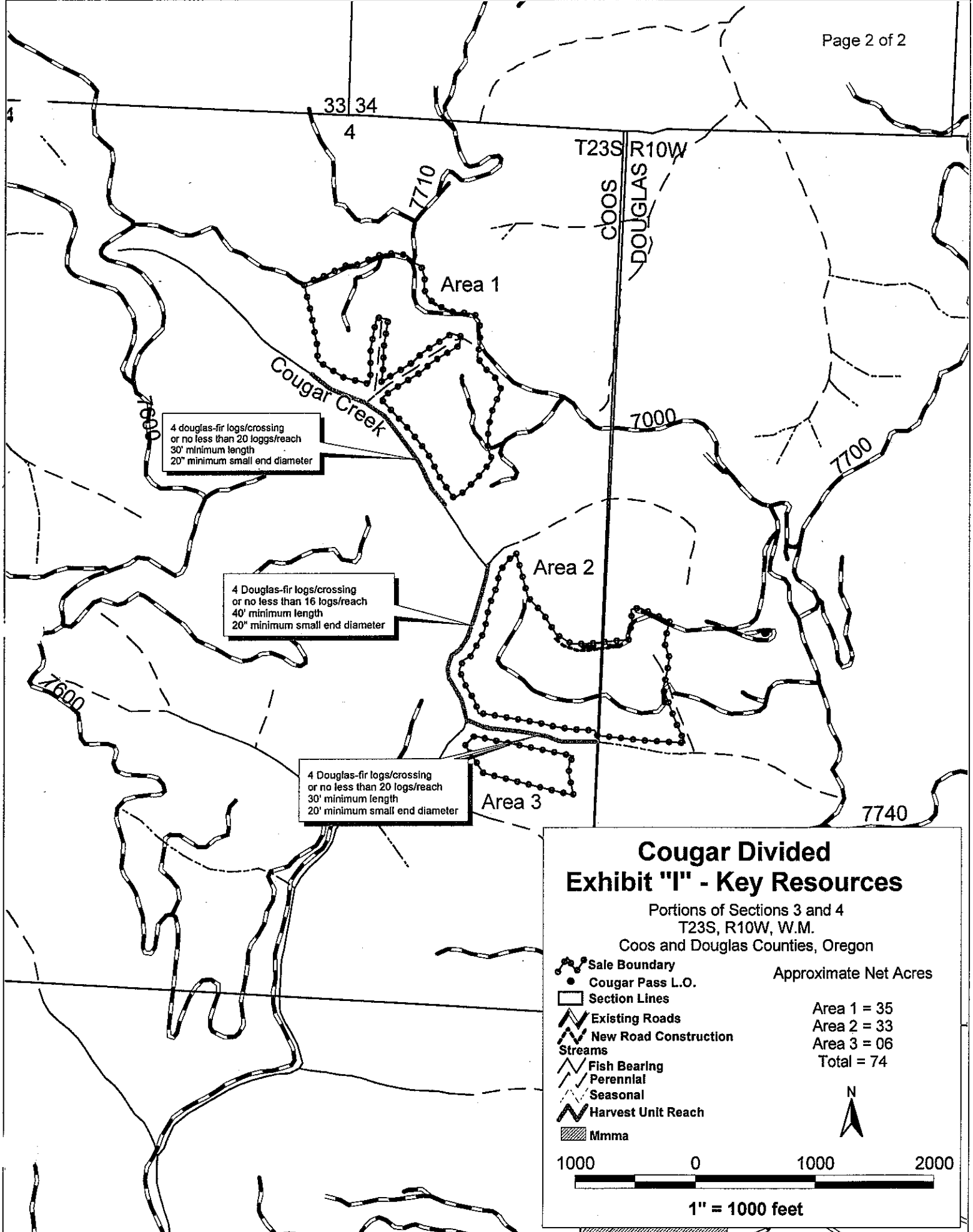
EXHIBIT I

SPECIFICATIONS FOR LOG PLACEMENT IN STREAMS

Tree Selection Criteria. PURCHASER shall select trees for felling and placement in the stream channel according to the following specifications. Trees shall be obtained from within the posted boundaries of Areas I, II, and III and shall be felled, bucked, and yarded concurrent with normal felling and yarding operations. Trees shall not be obtained from Stream Buffers or Green Tree Retention Areas. Logs must meet the size specifications below.

Log Placement Specifications. Logs shall be placed in the streams in groups averaging 4 logs per group. Groups shall be placed where cable roads cross the stream in the course of normal logging activities and as indicated on the Exhibit I map. The large end of each log shall be placed in the active stream channel. Orientation of logs in the stream shall be determined by PURCHASER; however, the objective is to place as much of the log within the active channel to provide for in-stream habitat.

Log Size Specifications. Within Area I, there shall be no less than 20 logs at least 20 inches in diameter on the small end with a minimum log length of 30 feet, totaling about 10.4 MBF. Within the western stream of Area II (Cougar Creek), there shall be no less than 16 logs at least 20 inches in diameter on the small end and at least 40 feet in length, totaling about 11.2 MBF. Within the southern tributary of Area II, there shall be no less than 20 logs at least 20 inches in diameter on the small end and 30 feet in length, totaling about 10.4 MBF. Branches and tops may be left on the logs, but do not count towards the total length of the log. PURCHASER may select low quality or deformed standing live trees as a source of logs. Down wood or snags shall not be used as the source for logs. Total in-stream volume for the entire sale shall be approximately 32 MBF.



4 douglas-fir logs/crossing
or no less than 20 logs/reach
30' minimum length
20" minimum small end diameter

4 Douglas-fir logs/crossing
or no less than 16 logs/reach
40' minimum length
20" minimum small end diameter

4 Douglas-fir logs/crossing
or no less than 20 logs/reach
30' minimum length
20" minimum small end diameter

Cougar Divided Exhibit "I" - Key Resources

Portions of Sections 3 and 4
T23S, R10W, W.M.

Coos and Douglas Counties, Oregon

- Sale Boundary
- Cougar Pass L.O.
- Section Lines
- Existing Roads
- New Road Construction
- Streams
- Fish Bearing Perennial
- Seasonal
- Harvest Unit Reach
- Mmma

Approximate Net Acres

Area 1 = 35
Area 2 = 33
Area 3 = 06
Total = 74



1000 0 1000 2000



1" = 1000 feet

