



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Cost Summary East Deep Creek Sale 341-02-21

District: Astoria

Date: 4/8/02

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$3,042,551.79	\$21,754.05	\$3,064,305.84
		Project Work	(\$347,106.00)
		Advertised Value	\$2,717,199.84



Timber Sale Appraisal Timber Description East Deep Creek Sale 341-02-21

"STEWARDSHIP IN FORESTRY"

District: Astoria

Location: Portions of Sections 12 & 13, T5N, R6W. W.M., Clatsop County, OR.

Date: 4/8/02

Stand Stocking: 100%

Species	Avg. DBH	Amortized%	Recovery%
Douglas - Fir	19	0	97
Western Hemlock / Fir	11	0	97
Alder (Red)	11	0	95

Volume by Grade	Douglas - Fir	Western Hemlock / Fir	Alder (Red)	Total
SM	624	0	0	624
2S	4,420	27	0	4,447
3S	1,576	39	4	1,619
4S	550	31	81	662
Total	7,170	97	85	7,352

Comments: Pond Values Used: 1st Quarter 2002

Log Markets: Mist, Clatskanie, Tillamook, Longview

Costs With P&R:

100% Branding and Painting Logs--\$2 /MBF x 7352 = \$14,704

Total Costs With P&R = \$14,704

Costs Without P&R

Shovel Piling of 5 Landings @ \$130/Ldg = \$650

Total Cost Without P&R = \$650



Timber Sale Appraisal Logging Conditions East Deep Creek Sale 341-02-21

"STEWARDSHIP IN FORESTRY"

Combination#: 1	Douglas - Fir	7.00%	
	Western Hemlock / Fir	7.00%	
	Alder (Red)	7.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding No
Logging System:	Cable: Medium Tower >40 - <70		Process: Manual Delimiting
Tree Size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
Loads/Day:	10		Bd. Ft./Load: 4,000
Cost/MBF:	\$82.92		
Machines:			
	Log Loader (A)		
	Tower Yarder (Medium)		
Combination#: 2	Douglas - Fir	52.00%	
	Western Hemlock / Fir	52.00%	
	Alder (Red)	52.00%	
Yarding Distance:	Short (400 ft)		Downhill Yarding Yes
Logging System:	Shovel		Process: Manual Delimiting
Tree Size:	Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF		
Loads/Day:	10		Bd. Ft./Load: 4,800
Cost/MBF:	\$48.37		
Machines:			
	Shovel Logger		
Combination#: 3	Douglas - Fir	41.00%	
	Western Hemlock / Fir	41.00%	
	Alder (Red)	41.00%	
Yarding Distance:	Medium (800 ft)		Downhill Yarding No
Logging System:	Cable: Large Tower >=70		Process: Manual Delimiting
Tree Size:	Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF		
Loads/Day:	10		Bd. Ft./Load: 4,000
Cost/MBF:	\$88.75		
Machines:			
	Log Loader (A)		
	Tower Yarder (Large)		



Timber Sale Appraisal Logging Costs East Deep Creek Sale 341-02-21

"STEWARDSHIP IN FORESTRY"

Date: 4/8/02

Operating Seasons: 2.0

Profit & Risk: 15%

Project Costs: \$347,106

Other Costs (P/R): \$14,704

Slash Disposal: \$0

Other Costs: \$650

Miles of Road			
Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Road Maintenance: \$2.83

Hauling Costs

Species	\$/MBF	Trips/Day	MBF/Load
Douglas - Fir	\$0.00	5.0	5.0
Western Hemlock / Fir	\$0.00	2.0	4.0
Alder (Red)	\$0.00	2.0	3.0



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Logging Costs Breakdown East Deep Creek Sale 341-02-21

Costs	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
Logging	67.34	67.34	67.34
Road Maintenance	2.92	2.92	2.98
Fire Protection	0.74	0.74	0.74
Hauling	18.97	59.28	80.84
Other (P/R appl.)	2.00	2.00	2.00
Profit & Risk	13.80	19.84	23.08
Slash Disposal	0.00	0.00	0.00
Scaling	2.00	2.00	2.00
Other	0.09	0.09	0.09
Total	107.86	154.21	179.07

Amortization	0.00	0.00	0.00
Pond Value	529.77	334.18	435.00
Stumpage	421.91	179.97	255.93
Amortized	0.00	0.00	0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Summary

East Deep Creek Sale 341-02-21

Amortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	0.00	0.00	0.00
Value	0.00	0.00	0.00
Total	0.00	0.00	0.00

Unamortized

	Douglas - Fir	Western Hemlock / Fir	Alder (Red)
MBF	7,170.00	97.00	85.00
Value	421.91	179.97	255.93
Total	3,025,094.70	17,457.09	21,754.05

Gross Timber Sale Value

Recovery \$3,064,305.84

Prepared by: Dan Goody

Date: 4/8/02

District: Astoria

Phone: (503) 325-5451

SUMMARY OF ALL PROJECT COSTS

SALE NAME: East Deep Creek

NEW CONSTRUCTION:	PROJECT NO. 1	
<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
1A-1B, 1C-1D	34.9	\$18,794
2A-2B, 2C-2D	48.9	\$12,667
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
TOTALS	83.8	\$31,461

ROAD IMPROVEMENT:	PROJECT NO. 1	
<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
11-12, 12-13,	405.0	\$53,876
13-14, 15-16	_____	_____
_____	_____	_____
TOTALS	405.0	\$53,876

SPECIAL PROJECTS:	<u>Description</u>	<u>Cost</u>
	Road Maintenance (Project Work)	\$6,380
PROJECT NO. 2	E. Fork Hamilton Creek Bridge	\$68,215
PROJECT NO. 3	South County Road Vacating	\$180,000
	TOTALS	\$254,595

MOVE IN:	<u>Equipment</u>	<u>Cost</u>
	D-7 Cat (2)	\$1,120
	Dump Trucks 10-12 cy (2)	\$228
	Dump Trucks 20 cy (6)	\$804
	F E Loader	\$590
	Grader	\$540
	Skidder	\$520
	Vibratory Roller	\$540
	Water Truck	\$132
	Excavator (3)	\$2,700
	TOTAL	\$7,174

GRAND TOTAL **\$347,106**

Compiled By: J. Long *PL* Date: 6/12/01

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SUMMARY OF CONSTRUCTION COSTS

SALE NAME: East Deep Creek
 ROAD: Area 1 roads
 POINTS: 1A-1B (31.6), and 1C-1D (3.25)

NEW CONSTRUCTION: 34.85 STATION 0.66 MILES
 IMPROVEMENT: _____ STATION _____ MILES

CLEARING & GRUBBING

	Method	Acres	x	Rate	=	Cost
1A-1B, 1C-1D	Scatter debris outside of right-of-way. Includes all landings.	3.35	x	\$840.00	=	\$2,814.00
			x		=	
				x		=
1A-1B	End haul clearing debris to waste areas on full bench end haul sections.	0.75	x	\$1,350.00	=	\$1,012.50
			x		=	
SUB TOTAL FOR CLEARING & GRUBBING						\$3,827

EXCAVATION

	Material	Amount	x	Rate	=	Cost
	1A-1B (Common Excavation) \$\$/CY	4,755.00	x	\$1.35	=	\$6,419.25
	1A-1B (Endhaul) \$\$/CY	1,638.00		\$2.75	=	\$4,504.50
	1A-1B (Embankment Compaction) \$\$/C	2,878.00	x	\$0.40	=	\$1,151.20
	Road 1C-1D. \$\$/Sta.	3.25		\$117.00	=	\$380.25
	Landings w/D-7: 5 lds. \$\$/Landing	5.00	x	\$270.00	=	\$1,350.00
	Cut slope rounding all roads \$\$/Sta	16.00	x	\$27.00	=	\$432.00
SUB TOTAL FOR EXCAVATION						\$14,237

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
Other/miscellaneous:						Quantity	Rate	Cost	
Culvert stakes & markers:									
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION									

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: East Deep Creek
 ROAD: Area 2 roads
 POINTS: 2A-2B (13.9), and 2C-2D (35.0)

NEW CONSTRUCTION: 48.90 STATION 0.93 MILES
 IMPROVEMENT: _____ STATION _____ MILES

CLEARING & GRUBBING

Method	Amount	x	Rate	=	Cost
Scatter debris outside of right-of-way includes all road segments and landings.	5.00	x	\$840.00	=	\$4,200.00
		x		=	
		x		=	
		x		=	
		x		=	

SUB TOTAL FOR CLEARING & GRUBBING

\$4,200

EXCAVATION

Material	Amount	x	Rate	=	Cost
2A-2B (Common Excavation) \$\$/CY	1,267.00	x	\$1.35	=	\$1,710.45
2A-2B (Embankment Compaction) \$\$/C	480.00	x	\$0.40	=	\$192.00
Road 2C-2D. \$\$/Sta.	35.00		\$117.00		\$4,095.00
Landings w/D-7: 2 ldg. \$\$/Landing	2.00	x	\$270.00	=	\$540.00
Cut slope rounding all roads \$\$/Sta	5.00	x	\$27.00	=	\$135.00

SUB TOTAL FOR EXCAVATION

\$6,672

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
2C-2D, Sta. 1+90	18" CPP	30	\$11.00	\$330.00					
2C-2D, Sta. 27+90	18" CPP	40	\$11.00	\$440.00					

Other/miscellaneous:	Description	Quantity	Rate	Cost

SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION

\$770

Subgrade prep:

2A-2B, 2C-2D

Description	Stations/amc	x	ate/sta/a	Cost
Grade, outslope \$\$/Sta.	48.90	x	\$11.20	\$547.68
Waterbar subgrades \$\$/sta	48.90	x	\$9.75	\$476.78
		x		

Points:

	Size	Totals	Size	Totals	Size	Totals	Size	Totals
Base:								
Surface:								
Miscellaneous:								
Miscellaneous:								
Miscellaneous:								
Miscellaneous:								

CY CY CY CY

Surfacing rock:	Size/type	Tot. cy	Rate/cy	Cost

Other/misc:	Description	Size/type	Cy	Rate/cy	Cost

Processing:	Description	No. Cy/sta	Rate/cy/st	Cost

SUB TOTAL

\$1,024

SPECIAL PROJECTS

Description	Cost

SUB TOTAL FOR SPECIAL PROJECTS

GRAND TOTAL

\$12,667

Compiled By: J. Long

Date: 5/17/01

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: East Deep Creek NEW CONSTRUCTION: _____ STATIONS _____ MILES
 ROAD: Jones, East Sager Creek, & East Deep Creek Roads IMPROVEMENT: 405.00 STATIONS 7.67 MILES
 POINTS: I1- I2 (66.5), I2 - I3 (202.4), I3 - I4 (106.1),
& I5 - I6 (30.0).

CLEARING & GRUBBING					
Method	Amount	x	Rate	=	Cost
		x		=	
		x		=	
		x		=	
SUB TOTAL FOR CLEARING & GRUBBING					

EXCAVATION					
Method	Hrs./\$\$	x	Rate	=	Cost
C325 excavator for fill reconstructions. \$\$/Hr	45	x	\$115.00	=	\$5,175.00
Rubber tire skidder for fill reconstructions \$\$/Hr	19	x	\$60.00	=	\$1,140.00
Mech. tamper w/operator - fill reconstructions. \$\$/Hr	11	x	\$34.00	=	\$374.00
10-12 cy Dump truck for fill reconstructions \$\$/Hr	24	x	\$57.00	=	\$1,368.00
SUB TOTAL FOR EXCAVATION					\$8,057

* Indicates the cost for materials and delivery only.

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
* I1 - I2 0+00	18" CPP	40	\$7.50	\$300.00					
I1 - I2 7+70	18" CPP	36	\$11.00	\$396.00					
I2 - I3 233+05	18" CPP	30	\$11.00	\$330.00					
I2 - I3 257+70	18" CPP	60	\$11.00	\$660.00					
I3 - I4 276+35	18" CPP	36	\$11.00	\$396.00					
* I3 - I4 279+90	18" CPP	60	\$7.50	\$450.00					
* I3 - I4 285+00	18" CPP	36	\$7.50	\$270.00					
I3 - I4 291+40	18" CPP	36	\$11.00	\$396.00					
I3 - I4 295+90	18" CPP	30	\$11.00	\$330.00					
I3 - I4 309+85	18" CPP	30	\$11.00	\$330.00					
I3 - I4 362+40	18" CPP	32	\$11.00	\$352.00					
* I3 - I4 365+30	18" CPP	40	\$7.50	\$300.00					
						Description	Quantity	Rate	Cost
Other/miscellaneous:									
Culvert stakes & markers: 6 foot long carsonite markers for all surface culverts.						40	\$14.10	\$564.00	
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION								\$5,074	

ROCKING

Subgrade prep:		Description	Stations/amo	x	Rate/sta/am	Cost
11-12		Grade, add leveling rock, Shape, and Compact	66.50	x	\$15.50	\$1,030.75
12-13		Grade, add leveling rock, Shape, and Compact	202.40	x	\$15.50	\$3,137.20
13-14		Grade, add leveling rock, Shape, and Compact	106.10	x	\$15.50	\$1,644.55
15-16		Grade, add leveling rock, Shape, and Compact	30.00	x	\$15.50	\$465.00

Surfacing rock:		Size/type	Tot. cy	Rate/cy	Cost
11-12		3/4"-0"	1,440	\$6.80	\$9,792.00
15-16		3/4"-0"	660	\$6.80	\$4,488.00

Other/misc:		Description	Size/type	Cy	Rate/cy	Cost
11-12		Subgrade leveling	3/4" - 0"	200	\$6.80	\$1,360.00
12-13		Subgrade leveling	4" - 0"	1,200	\$6.80	\$8,160.00
13-14		Subgrade leveling	4" - 0"	400	\$6.80	\$2,720.00
15-16		Subgrade leveling	3/4" - 0"	100	\$6.80	\$680.00
11-12		Curve Widening	3/4" - 0"	60	\$6.80	\$408.00
15-16		Curve Widening	3/4" - 0"	30	\$6.80	\$204.00
11-12		Culvert backfill	1 1/2"-0"	20	\$6.80	\$136.00
12-13		Culvert backfill	1 1/2"-0"	32	\$6.80	\$217.60
13-14		Culvert backfill	1 1/2"-0"	76	\$6.80	\$516.80
11-12		Culvert bedding	1 1/2"-0"	12	\$6.80	\$81.60
13-14		Culvert bedding	1 1/2"-0"	56	\$6.80	\$380.80
11-12		Base Reconstruction	4" - 0"	20	\$6.80	\$136.00
12-13		Base Reconstruction	4" - 0"	20	\$6.80	\$136.00
13-14		Base Reconstruction	4" - 0"	70	\$6.80	\$476.00
12-13		Fill Armor (develop, load, and haul)	24" - 6"	30	\$9.63	\$288.90
13-14		Fill Armor (develop, load, and haul)	24" - 6"	140	\$9.63	\$1,348.20
12-13		Energy dissipators (develop, load, and haul)	24" - 6"	10	\$9.63	\$96.30
13-14		Energy dissipators (develop, load, and haul)	24" - 6"	30	\$9.63	\$288.90

Processing:		Description	No. sta.	Rate/cy/sta	Cost
11-12 & 15-16		Water process and compact crushed rock \$\$/Sta.	97	\$37.00	\$3,570.50

SUB TOTAL FOR ROCKING

\$40,403

SPECIAL PROJECTS

Description	Cost
Haul away old culverts to an approved refuse site.	\$342.00

SUB TOTAL FOR SPECIAL PROJECTS

\$342

GRAND TOTAL

\$53,876

Compiled By: J.Long

Date: 5/17/01

CRUSHED ROCK COST

SALE NAME: East Deep Creek
 PROJECT: No. 1 Road Improvement
 QUARRY: Buster Quarry

ROCK TYPE: Crushed

DATE: 5/17/01
 BY: J.Long

Segment	Stations	Cubic Yards							Total
		Base	Running	Turnout	Turnaround	Junction	leveling	Misc	
I1 - I2	66.50		1,330	80		30	200	112 ✓	1,752
I2 - I3	202.40						1,200	52 ✓	1,252
I3 - I4	106.10						400	202 ✓	602
I5 - I6	30.00		600	40		20	100	30 ✓	790
Grand Total	405.00		1,930	120		50	1,900	396	4,396

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES						Total Haul	
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH		5 MPH
I1 - I2	66.50	1,752			8.00	3.00	0.60		0.10	11.70
I2 - I3	202.40	1,252			6.00	2.50	0.50		0.10	9.10
I3 - I4	106.10	602			5.00	2.50	0.60		0.10	8.20
I5 - I6	30.00	790			8.00	2.50	0.70		0.10	11.30
TOTAL	405.00	4,396								
CUBIC YARD WEIGHTED HAUL		CU. YD.			7.02	2.70	0.59		0.10	AVERAGE HAUL 10.41
Average Round Trip Distance (miles) 20.82										

ROCK HAUL:

Truck type D20 No. trucks: 6
 Delay min. 15 Efficiency: 75%

Ave haul: \$5.40 /cy
 Load: \$0.50 /cy
 Spread: \$0.90 /cy

Truck type D12 No. trucks: 2
 Delay min. 12 Efficiency: 75%

Truck type D10 No. trucks: _____
 Delay min. 10 Efficiency: 75%

Production: cy/day = 763

CRUSHED ROCK HAUL COSTS 1,930 cy @ \$6.80 /cy

RIP RAP ROCK COST

SALE NAME: East Deep Creek
 PROJECT: No. 1 Road Improvement
 QUARRY: Green Mtn.

ROCK TYPE: Rip Rap

DATE: 5/15/01
 BY: J. Long

Segment	Stations	Cubic Yards						Misc	Total
		Dissapator	Armor						
12 - 13	202.40	10	30 40					40	
13 - 14	106.10	30	140					170	
Grand Total	308.50	30	180					210	

Road Segment	Stations	Cubic Yards	ONE WAY HAUL IN MILES						Total Haul	
			50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH		5 MPH
12 - 13	202.40	40			3.00	2.50	0.50		0.10	6.10
13 - 14	106.10	170			3.00	3.30	0.50		0.10	6.90
TOTAL	308.50	210								
	STA./NO.	CU. YD.								
CUBIC YARD WEIGHTED HAUL					3.00	3.15	0.50		0.10	AVERAGE HAUL 6.75
Average Round Trip Distance (miles)									13.50	

ROCK HAUL:

Truck type	<u>D12</u>	No. trucks:	<u>2</u>	
Delay min.	<u>12</u>	Efficiency:	<u>75%</u>	Ave haul: \$5.53 /cy
				Load: \$1.50 /cy
Truck type	<u>D10</u>	No. trucks:	<u>2</u>	Develop: \$2.60 /cy
Delay min.	<u>10</u>	Efficiency:	<u>75%</u>	

Production: cy/day = 330

RIP RAP ROCK HAUL COSTS 210 cy @ \$9.63 /cy

Cost Estimate: Hamilton Creek Road/East Fork Hamilton Creek Bridge

Project No. 2

Type of Structure: Skewed 24' concrete beams with concrete back and wing walls.

Pile type: 10" Steel H-Pile

Caps: 12" I beam

16ft. wide bridge includes 1ft. curbs on each side.

Materials:

Piling:	350 linear ft., 42 lbs. per ft., \$.32 per pound. (14,700 lbs.)	\$4,704
Caps:	40 linear ft., 60 lbs. per ft., \$.43 per pound. (2400 lbs.)	\$1,032
Stiffeners:	13 linear ft., \$5.25 per ft.	\$69
Beams:	4 each, 4'x15"x24', \$28.00 square ft. (384 sq. ft.) (Includes curbs, grout, tie bars and pads.)	\$10,752
Back walls:	(8) 16'x4'x6", \$8.00 square ft. (512 sq. ft.)	\$4,096
	(2) 16'x2'x6", \$8.00 sq. ft. (64 sq. ft.)	\$512
Wing walls:	(8) 10'x4'x6", \$8.00 square ft. (320 sq. ft.)	\$2,560
	(4) 10'x2'x6", \$8.00 sq. ft. (80 sq. ft.)	\$640
Erosion control:	Hay bales, 30 bales @ \$3.50	\$105
	Sub total	\$24,470

Equipment move in costs:

65 Ton Crane (Includes pilot vehicles and support transports.)	\$2,500	
Excavator (2 moves, 1 to quarry, 1 to bridge site)	\$1,000	
Backhoe	\$240	
Dump Truck	\$75	
Vibratory roller	\$241	
Grader	\$241	
Loader	\$370	
	Sub total	\$4,667

Equipment Costs:

65 Ton Crane w/operator: 64 hrs. \$156/ hr.	\$9,984	
Excavator w/operator: 48 hrs. \$110.00/hr.	\$5,280	
Excavation of waste material and reestablish stream channel rip-rap placement and culvert disposal.		
Pile Driver: 32 hrs. \$40.00/hr.	\$1,280	
Backhoe w/operator: 24 hrs. \$48.35	\$1,160	
Bridge site work		
Rip-rap development, loading and hauling: \$9.34 cu. yd (200 cu. yds.)	\$1,868	
Surface course aggregate: 100 cu. yds. @ \$2.65	\$265	
Dump Truck w/operator 40 hrs. @ \$48.53 hr.	\$1,941	
Waste material removal and select backfill.		
Transport w/operator: \$1.90 per/mile (8 trips x 150 miles)	\$2,280	
Back and wing wall delivery and culvert disposal		
Vibratory Roller w/operator: 2hrs \$71.27 hr.	\$143	
Grader w/operator: 2 hrs \$73.25 hr.	\$147	
Hand Tamper: 8 hrs \$1.68 hr.	\$108	
Welder: 32 hrs. \$12.00	\$384	
	Sub total	\$24,839

Labor costs:

Foreman: 80 hrs @ \$36.00/hr	\$2,880
Laborers: 120 hrs. @ \$28.00	\$3,360
	\$6,240

Engineering Fees:

Survey, plans, and administration requirements:	\$8,000
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Total **\$68,215**

COST ESTIMATE

EAST DEEP CREEK

PROJECT NO. 3- ROAD VACATING

1.	Excavators: 2 @ \$105/hour @ 500 hours =	\$105,000
2.	D7 Dozer: 1 @ \$ 95/hour @ 500 hours =	47,500
3.	Moving Costs: 3 moves @ \$500/move =	1,500
4.	Laborers: \$25/hour @ 750 hours =	18,750
5.	Timber Fallers: \$30/hour @ 160 hours =	4,800
6.	Straw Mulch: 200 bales @ \$3/bale =	600
7.	Grass Seed: 40 pounds @ \$2/pound =	<u>80</u>
	TOTAL ESTIMATED PROJECT COST	\$178,230
	ROUND TO--	\$180,000

By: Bill Lecture

Date: May 19, 2000

**Road Maintenance Cost Summary
at Completion of Project Work**

Sale: East Deep Creek
Date: 15-May-01
By: J. Long

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
	Grader			40	\$80	\$3,200
	Dump Truck			40	\$67	\$2,680
	FE Loader			10	\$50	\$500
Total						\$6,380

TIMBER CRUISE REPORT

East Deep Creek FY 2001

1. Sale Area Location: Areas 1, 2, and 3 (In-sale R/W) - Portions of Sections 12 and 13, T5N,R6W; W.M., Clatsop County, Oregon.

2. Fund Distribution:

Fund: BOF – 100%

Tax Code: 100% 8-01.

3. Sale Acreage by Area:

Area	Treatment	Gross Acres	Existing R/W	New R/W	Stream Buffer	Net Acres	Acreage Comp. Method
1	Regeneration Harvest	84.9	---	-4.1	---	80.8	GIS
2	Regeneration Harvest	62.3	-.3	-4.8	---	57.2	GIS
3	In-sale R/W	0	---	---	---	8.9	Length x Width
Total		147.2	-.3	-8.9	---	146.9	

4. Cruisers and Cruise Dates: Cruised by private contractor / Northwest Forestry Service cruisers. Cruised in February 2001.

5. Cruise Method and Computation: Area 1 was cruised using a 40 B.A.F, and plot spacing of 5.3 chains by 5.3 chains. 27 plots were cruised, graded and measured. Area 2 was cruised using a 40 B.A.F and a plot spacing of 4.5 chains by 4.5 chains. 32 plots were cruised, graded and measured. Area 3 (In-sale R/W) volume was calculated by averaging the volume per acre for both areas, and expanding by the right-of-way acres. All cruisers used Corvallis MicroTechnology (CMT) data collectors, which were downloaded to the Atterbury Super A.C.E. program in the Northwest Forestry Service office for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Northwest Forestry Service office as follows:

AREA	CRUISE	CRUISE TYPE
1	LVF/ODF Land Exchange	5N6WSEC12 TYPES: 1, 4, 6, 7, 8
2	LVF/ODF Land Exchange	5N6WSEC12 TYPES: 2, 3, 5

6. Timber Description: Areas 1 and 2 are clearcut units of approximately 68 year old Douglas-fir, of good quality, with a small component of 68 year old Hemlock, and hardwoods. In Area 1, the average DBH is 18", average height is 94 feet to a 6" TCD (I.B), and the projected harvest is approximately 52.8 MBF/acre. In Area 2, the average

DBH is 19", average height is 94 feet to a 6" TCD (I.B), and the projected harvest is approximately 46.0 MBF/acre. Significant signs of old snow break was noted at 60 feet. In Area 3 (in-sale R/W), there is approximately 440 total MBF, which is predominantly Douglas fir.

7. Statistical Analysis and Stand Summary:

Area	Target CV%	Target SE%	Actual CV%	Actual SE%
Areas 1, 2, 3, Combined	50	5	48	5.7

8. Cruised Timber Volumes and Grades (Total MBF of all sale areas)

Species	Avg. DBH	Net MBF	Smil	2 Saw	3 Saw	4 Saw	D&B MBF	Species %
Douglas -fir	19	7,170	624	4,420	1,576	550	420	98
Hemlock	11	97	---	27	39	31	15	1
Hardwood	11	85	---	---	4	81	57	1
Totals		7,352	624	4,447	1,619	662	492	100

9. Approvals:

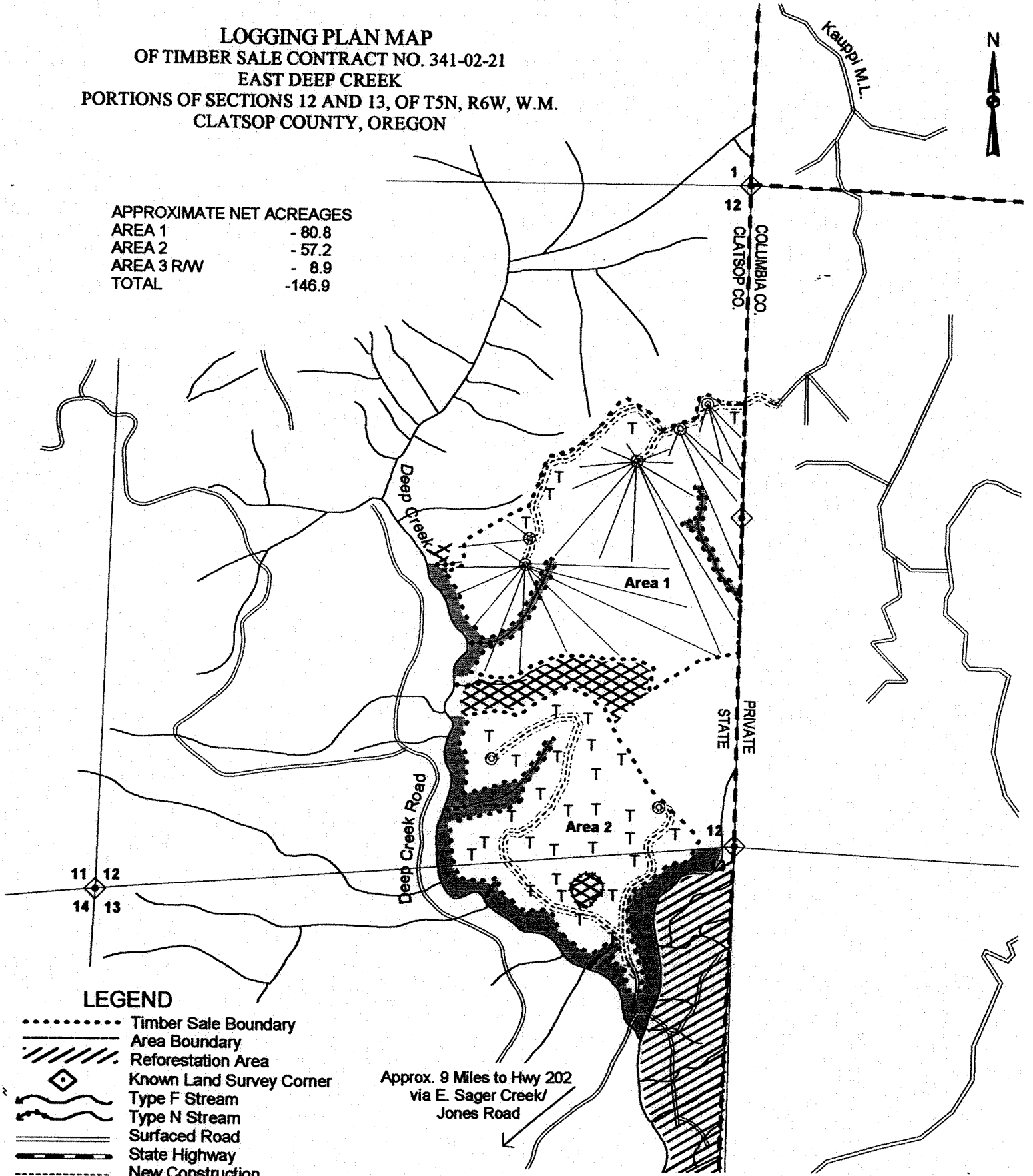
Prepared by: *Ken Zilli* Date: 5/30/01
 Approved by: *Ken Zilli* Date: 5/30/01
 Unit Forester

- Attachments: A) Cruise maps (2 pages)
 B) Volume & Grade Reports (3 pages)
 C) Statistics Report (5 pages)

LOGGING PLAN MAP
OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK
PORTIONS OF SECTIONS 12 AND 13, OF T5N, R6W, W.M.
CLATSOP COUNTY, OREGON



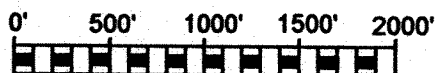
APPROXIMATE NET ACREAGES
 AREA 1 - 80.8
 AREA 2 - 57.2
 AREA 3 RW - 8.9
 TOTAL - 146.9



LEGEND

- Timber Sale Boundary
- Area Boundary
- ////// Reforestation Area
- ◊ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- == Surfaced Road
- State Highway
- New Construction
- State Forest Property Line
- ⊙ Landings to Construct
- ~ Cable Ground
- ~ Tractor Ground
- XXXX GTRA
- █ Stream Buffer

APPROX. SCALE 1"=1,000'



LOGGING BREAKDOWN		
AREA	TRACTOR	CABLE
1	16%	84%
2	100%	0%
3 (RW)	100%	0%

FOREST PRACTICES ACT "WRITTEN PLAN"
For Harvest of East Deep Creek
Timber Sale 341-02-21

Landowner: Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources:

Deep Creek, which is designated as a medium Type F stream, and is located along the western boundary of Areas 1 and 2, and the southwest boundary of Area 2. Length of the affected stream requiring protection is approximately 4,100 feet. Another medium Type F tributary to Deep Creek is located adjacent to the southeast boundary of Area 2. These streams are located in Section 13 of T5N, R6W, W.M., Clatsop County, Oregon.

Specific Site Characteristics:

Deep Creek and Tributary to Deep Creek: The streambed is approximately 12 feet wide, with moderate streambank slopes. Streamside vegetation is dominated by mature alder and brush, with a significant component of conifer trees which are located above the flood plain.

Tree and Vegetation Retention:

Deep Creek and Tributary to Deep Creek: The FPA defines the RMA width of a medium, Type F stream at 70 feet. The timber sale boundary for Areas 1 and 2 is posted a minimum of 100 feet from the stream.

Practices:

Directional felling will be required parallel to the stream to prevent trees from entering the aquatic area. No ground based logging equipment will be permitted inside the posted RMA. Cable corridors may be strung through the RMA and will be located no closer than 100 feet apart. Cable lines will not be lowered into the RMA during yarding.

Attachments: Exhibit A

Submitted: _____
Purchaser/Operator Contract Representative

Date: _____

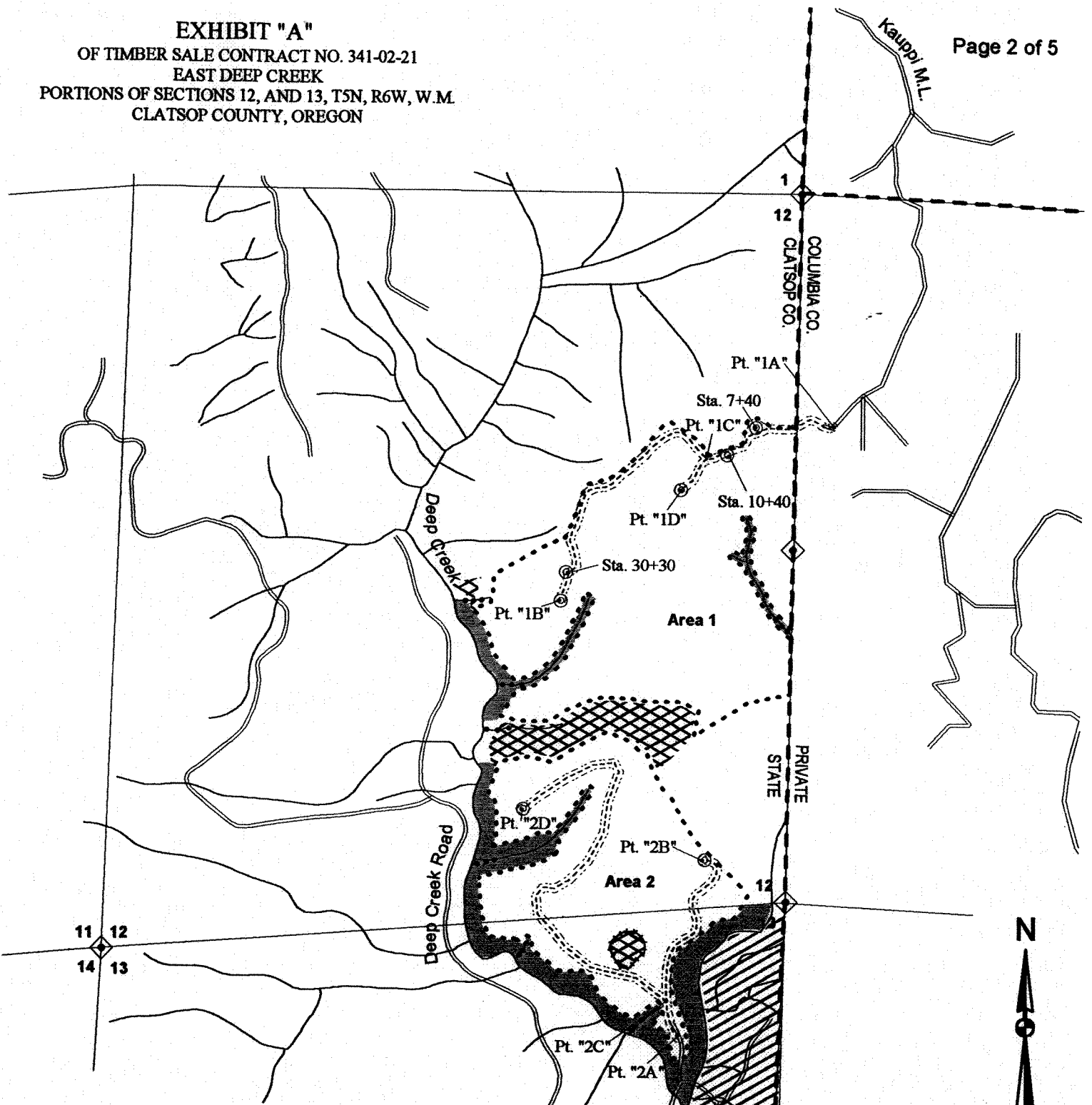
Approved: _____
State Lands Forester

Date: _____

Approved: _____
Forest Practices Forester

Date: _____

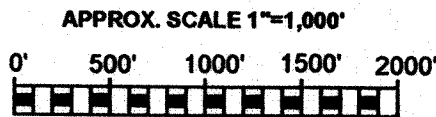
EXHIBIT "A"
OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK
PORTIONS OF SECTIONS 12, AND 13, T5N, R6W, W.M.
CLATSOP COUNTY, OREGON



Approx. 9 Miles to Hwy 202
 via E. Sager Creek/
 Jones Road

LEGEND

- Timber Sale Boundary
- ==== Right Of Way Boundary
- //// Reforestation Area
- ◆ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- ==== Surfaced Existing Road
- New Construction
- Property Line
- Area Boundary
- XXXX GTRA
- POINT "A"
- STA. 0+00
- █ Stream Buffer



APPROXIMATE NET ACREAGE:

AREA 1	- 80.8 ACRES
AREA 2	- 57.2 ACRES
AREA 3 R/W	- 8.9 ACRES
TOTAL	- 146.9 ACRES

FOREST PRACTICES ACT "WRITTEN PLAN"
For the Hamilton Creek Road Bridge
Project No. 2, East Deep Creek Timber Sale No. 341-02-21

Landowner: Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources: East Fork Hamilton Creek, a large type F fisheries resource, located in the NE ¼ of the SW ¼ of Section 28, T6N, R7W, W.M., Clatsop County, Oregon. A written plan is required for any activities within 100 feet of any type F streams.

Situation: A large pipe arch culvert stream crossing located on Hamilton Creek Road is a partial blockage to fish. Resource management objectives for this stream crossing project include providing cost effective long-term access, meeting or exceeding FPA requirements, enhancement of fisheries habitat, and protection of water quality and riparian areas. Current FPA guidelines contained in the Draft Oregon Road/Stream Crossing Restoration Guide: Spring 1999 were used as minimum standards for developing alternative stream crossing solutions.

Drainage Area and Bridge Design: The stream crossing structure will be a concrete slab bridge which provides for a 12-foot wide waterway under the bridge.

Existing Stream Gradient:	2%
Size of Watershed:	920 acres
Minimum Stream Width:	22 feet
Stream Bed Material:	Gravel, Cobble, Boulders
50-Year Peak Flow/Mi. ² :	250 cfs
50-Year Peak Flow:	359 cfs
Flow Capacity of Structure:	1,450 cfs
	133 ft ² wetted cross sectional area
	32.5 ft wetted perimeter (w/ 3 ft clearance)

Resource Protection Measures:

- 1) Machine activity in stream channels will be minimized. All existing fill, existing culvert removal and rip rap rock placement will be performed using a minimum 1½ cubic yard track mounted excavator.
- 2) In stream work, including, excavation, culvert removal, pile driving, riprap rock placement and construction of wing wall and back walls will conducted from July 1 to August 31.
- 3) An erosion control plan will be developed to prevent sediment from entering the stream during construction work.
- 4) Waste materials will be hauled to approved waste areas and left in a stable condition.

Resource Protection Measures, Continued:

- 5) A combination of pre cast bridge components and riprap rock will be used to construct wing walls, back walls, and stream deflectors to protect the structure, road approaches/embankments and stream banks from erosion.
- 6) Use of pre cast concrete bridge components will be preventing contamination of water from mixing and pouring concrete on site.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the operations conducted within 100 feet of Type F streams.

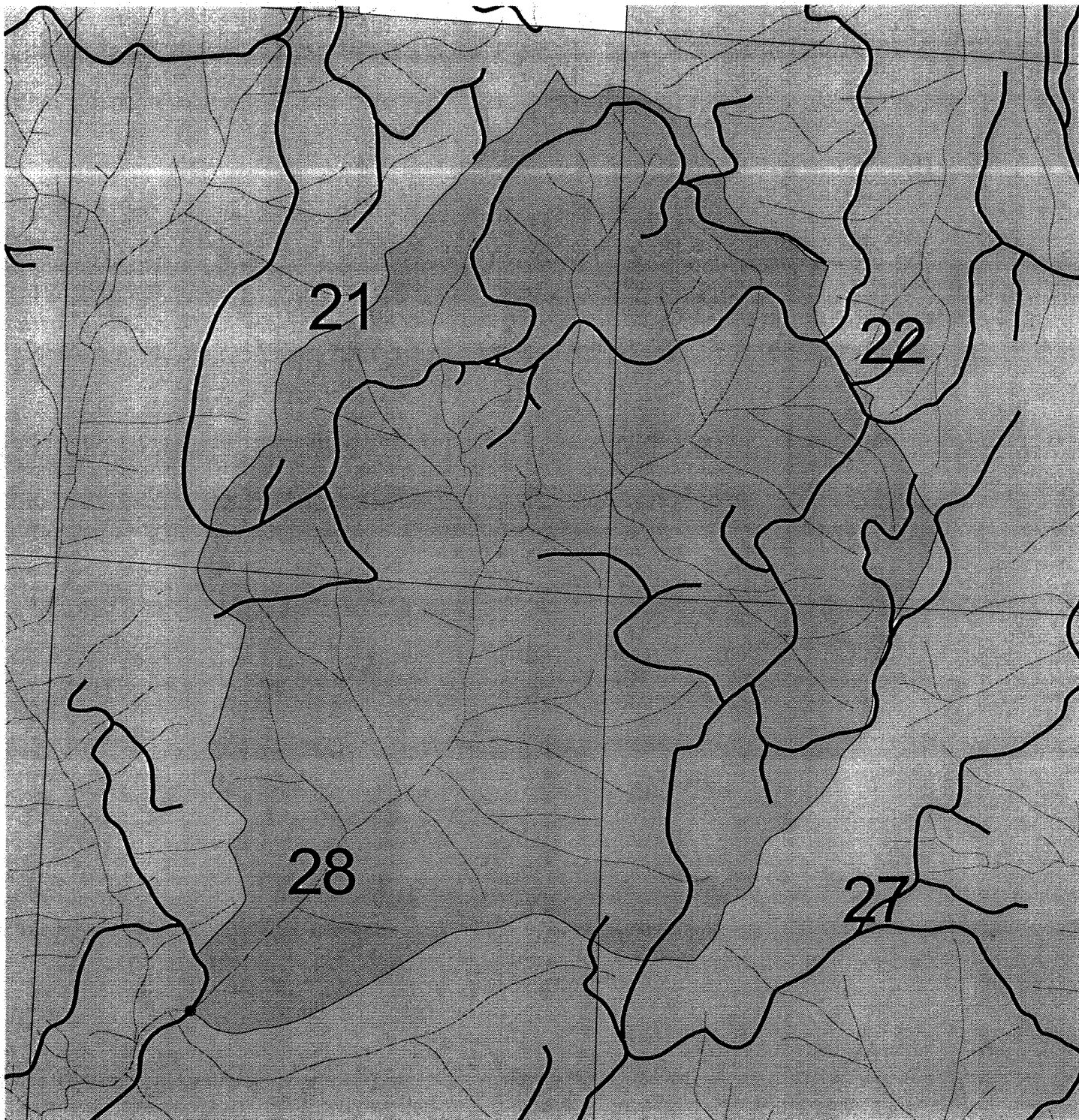
Submitted: _____ Date: _____
Operator

Approved: _____ Date: _____
Landowner

Forest Practices Forester: SW _____ Date: _____

Attachments: Map
Contract Specifications

CC: Operator, contractor, District file, Salem, Eng. Unit, Mgmt. Unit



East Fork Hamilton Creek Drainage Basin

SW1/4, Section 28, T6N, R7W, W.M.
Clatsop County, Oregon



EXHIBIT "F"

BRIDGE CONSTRUCTION SPECIFICATIONS

BRIDGE DESIGN. PURCHASER shall design a pre cast, pre stressed concrete slab bridge with a span long enough to preserve a minimum natural stream channel width of 22 feet under the bridge. The road and bridge location(s), alignment and elevations are shown on Page 3.

PURCHASER is responsible for performing all necessary Site Investigation(s). Site Investigation(s) shall be made prior to any project design and shall include, but not be limited to:

- (1) Sub-surface exploration.
- (2) Determination of the depth and orientation of stream bedload, erodible rock (soft, decomposed or fractured) and scour resistant bedrock foundation materials.
- (3) Determination of the scour potential and bearing capacity of bedrock foundation materials.

The bridge deck running surface width shall be 16 feet. The bridge shall have pre cast back walls, wing walls and one-foot high concrete curbs. The back walls and wing walls shall extend a minimum of 3 feet below the natural stream bottom elevation and be sufficient to retain road/bridge approach embankment(s) and prevent scour of the bridge substructure(s) and/or roadway embankment(s). The wing walls shall be skewed to protect road approach embankments and extend away from the bridge deck for a minimum length of 10 feet. The curbs shall be located on the outside slabs or other retaining structure. The bridge shall be designed for HS25 loads.

BRIDGE PLANS. PURCHASER shall submit bridge plans to STATE for approval, prior to commencement of any work on the project. The plans shall include design calculations, scaled drawings, elevations and section drawings for the structure, including sizes and dimensions of bridge components. The plans shall also include a description of special tools, equipment, the required lifting capacity and the general process to install and connect the bridge components. Plans must contain all information necessary for the administration and inspection of the project by STATE. The plans shall be stamped and signed by a professional engineer licensed in Oregon.

BRIDGE CONSTRUCTION

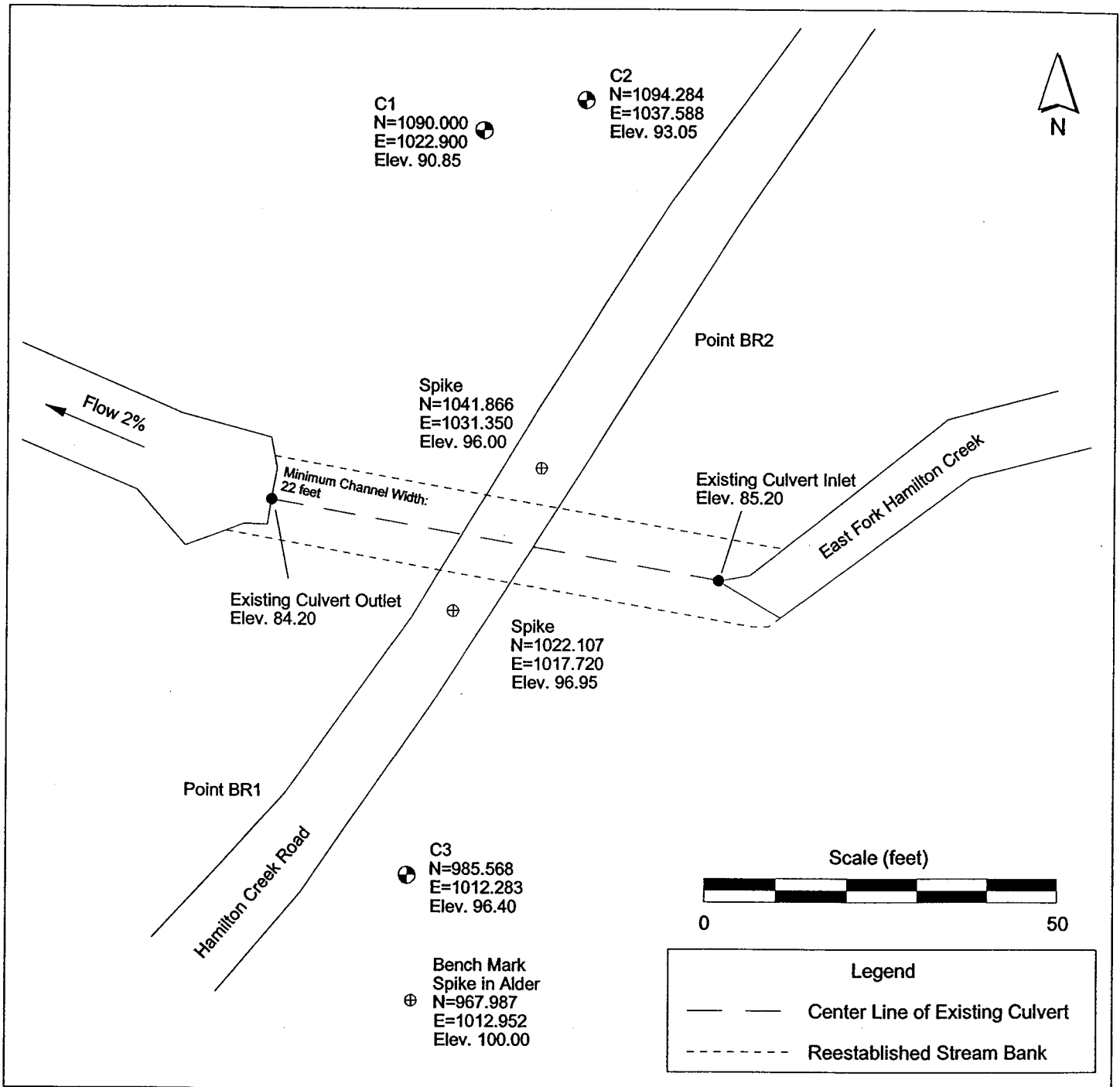
- (1) Work shall be conducted only during periods of low water flows and between July 1 and August 31, annually. STATE shall be notified a minimum of 48 hours prior to beginning work. STATE has prepared the required FPA "Written Plan" for this work.
- (2) Remove existing embankment and culvert to accommodate the work area for bridge construction. Existing embankment(s) shall be excavated to the natural stream course level. All woody debris encountered during excavation shall be removed. Excavated debris and materials unsuitable for embankment construction shall be end hauled to a designated waste area. The existing, removed culvert shall be hauled to an approved refuse site off of STATE land.
- (3) Waste materials shall be sloped for drainage and stability, as directed by STATE. Prior to hauling waste materials, the waste area shall be cleared of large woody debris. The debris shall be piled adjacent to the waste area. All exposed excavation areas and waste materials shall be mulched with straw. Applied mulch shall be a minimum of 2 inches deep and provide a uniform cover. Large woody debris shall be redistributed over the waste area after all waste materials have been hauled.

EXHIBIT "F"

BRIDGE CONSTRUCTION SPECIFICATIONS

- (4) Construct the bridge and the bridge approach embankments in accordance with approved bridge plans. Bridge approach embankments shall consist of select materials, hauled in where necessary, and shall be thoroughly compacted in accordance with Exhibit B.
- (5) Utilize 200 cubic yards of 24"-6" riprap rock for road approach embankment protection and for upstream bank protection, as directed by STATE. Riprap rock shall be placed and tamped at a 1½:1 slope, beginning at the toe(s).
- (6) A minimum 1½ cubic-yard, track-mounted excavator shall be used for all excavation, stream channel development, and rip rap placement.
- (7) Upon completion of the above required work, apply, process, and compact surfacing rock in accordance with Exhibit B. Utilize 100 cubic yards of 1½"-0" crushed rock for bridge approach surfacing base restoration and to provide for a smooth and uniform transition from the existing road surfacing, restored road surfacing and the bridge deck/running surface. Compact crushed rock in accordance with Exhibit B.
- (8) PURCHASER is responsible for scheduling, supervision and certification of the bridge construction work, including, but not limited to:
 - (a) Coordination of the site investigation(s), bridge design and bridge construction work.
 - (b) Performing any necessary field surveys and staking.
 - (c) Scheduling and supervision of construction work.
 - (d) Upon completion of the project, the engineer shall issue written certification that construction work was completed in accordance with the approved Bridge Plans.

EXHIBIT "F"
 BRIDGE CONSTRUCTION SPECIFICATIONS



Oregon Department of Forestry
 Astoria District
 Engineering Unit

Hamilton Creek Bridge Site
 SW1/4, Section 28, T6N, R7W, W. M.
 Clatsop County, Oregon

**FPA "Written Plan" For Road Vacating Project
East Deep Creek Timber Sale 341-02-21
Portions of Sections 13, 14, 22, 24 and 26, T4N, R8W, W.M.**

Landowner: Oregon Department of Forestry
92219 Hwy 202
Astoria, OR 97103
(503) 325-5451

Protected Resources:

- 1) Unnamed Tributaries of the Nehalem River, which are designated as small type F and medium Type F streams, and are located within 100 feet of the road vacating project in portions of Sections 13, 14, 22, 23, 24 and 26, T4N, R8W, W.M., Clatsop County, Oregon. Length of the affected streams requiring protection is approximately 6,200 feet.
- 2) The Nehalem River, which is designated as a Large Type F stream, located in the south portion of the project area and within 100 feet of the road vacating project, in portions of Section 26, T4N, R8W, W.M., Clatsop County, Oregon. Length of the affected stream requiring protection is approximately 2,000 feet.

Situation: Old legacy roads on the old Cougar Mountain Road and old Hopinscratchit Road are failing. In this project legacy roads will be vacated and put to bed, fills will be removed and the stream channel will be restored. At risk sidecast material within 20 feet of the outside edge of the old road prism will be pulled back and resloped as shown in Exhibit H. Further detailed work specifications for this project are included as Project No. 3 of the East Deep Creek Timber Sale Contract shown/described in Exhibits A, G, H, I, and J.

Specific Site Characteristics:

- 1) Unnamed Tributaries of the Nehalem River, The streambeds range from approximately 2 feet wide to 8 feet wide, with moderate to steep streambank slopes. Streamside vegetation is dominated by mature alder, with a minor component of conifer trees which are located within the flood plain.
- 2) Nehalem River: The streambed is approximately 100 feet wide, with moderate to steep stream bank slopes. Streamside vegetation is dominated by mature alder, with a significant component of conifer trees which are located within the flood plain.

Resource Protection Measures:

- 1) Work will be performed only during dry weather periods, low water stream flows, and between July 1 and September 15, annually. There are no posted stream buffers on this stream; however, no harvesting will be allowed within of the stream RMA. The RMA consists mostly of alder, some conifer and various brush species.
- 2) Machine activity in stream channels will be minimized. All excavation and removed fill placement will be performed using a minimum 1 ½ cubic-yard track-mounted excavator.
- 3) De-watering of existing fills and development of the stream channel will be accomplished by use of coffer dams, temporary diversion ditches, or drainage structures and/or damming and pumping.

**FPA "Written Plan" For Road Vacating Project
East Deep Creek Timber Sale 341-02-21
Portions of Sections 13, 14, 22, 24 and 26, T4N, R8W, W.M.**

Resource Protection Measures: (continued)

- 4) Trees needing removal to provide safe operating distances are to be felled away from or parallel to the RMA and left in stable locations.
- 5) Excavated waste materials will be placed in approved waste areas and left in a stable condition.
- 6) Bare soils shall be grass seeded and/or mulched with a straw mulch approved by STATE. Applied mulch shall be a minimum of 3 inches deep and provide a uniform cover.

Aquatic Protection: Debris entering the RMA or aquatic area will be removed by the end of operations each day or as soon as possible and placed in a stable location, unless an alternate practice is approved by STATE.

I, the undersigned, submit this written plan in compliance with the requirements in the Forest Practices Act regarding the operations conducted within 100 feet of Type F streams. I agree to the protection measures listed on this plan:

Submitted: _____ Date: _____
Purchaser/Operator Contract Representative

Approved: _____ Date: _____
State Lands Forester

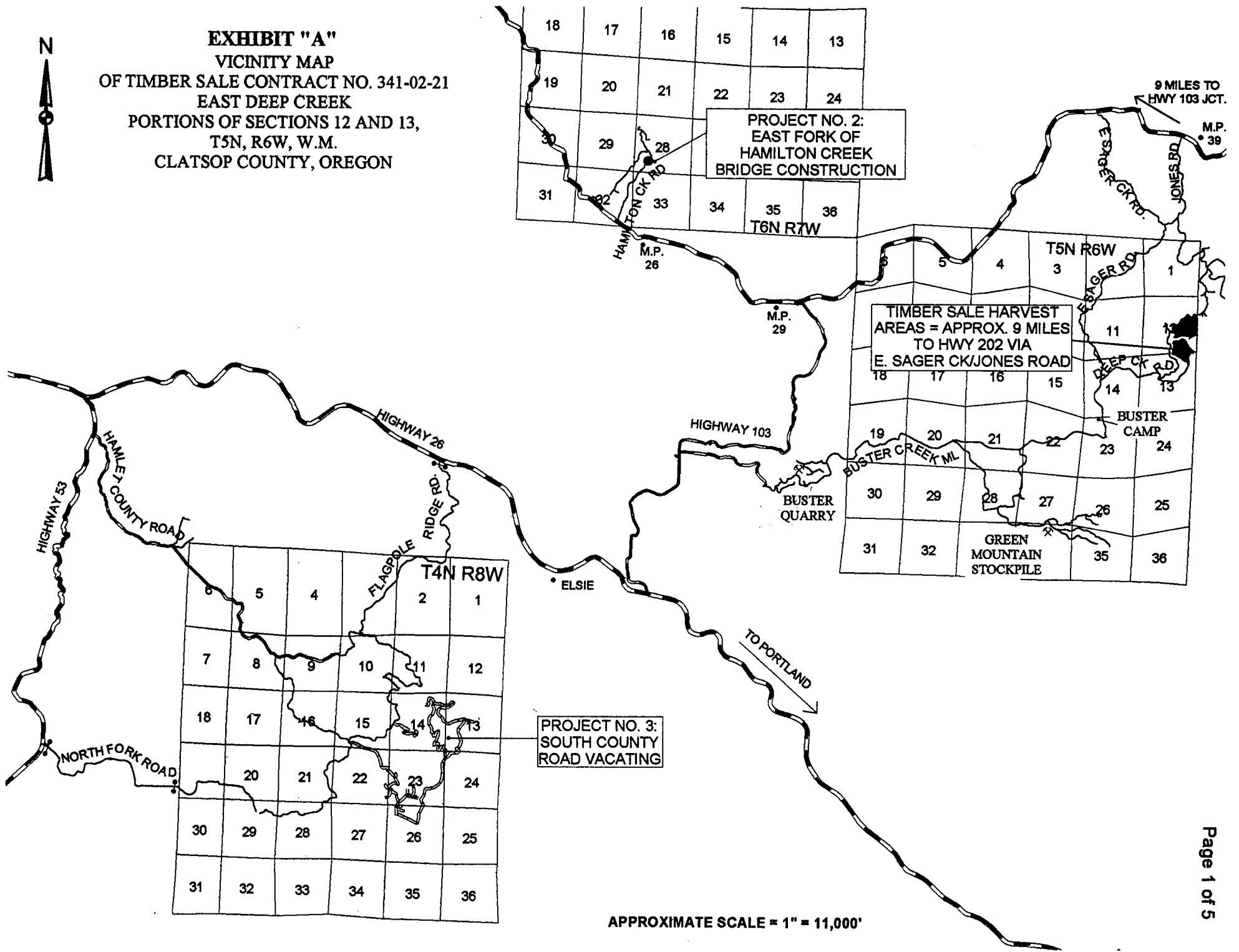
Approved: am _____ Date: _____
Forest Practices Forester

Attachments: Exhibits A, G, H, I, and J

CC: Operator, Purchaser, District file, Salem, Eng. Unit, Jewell Unit

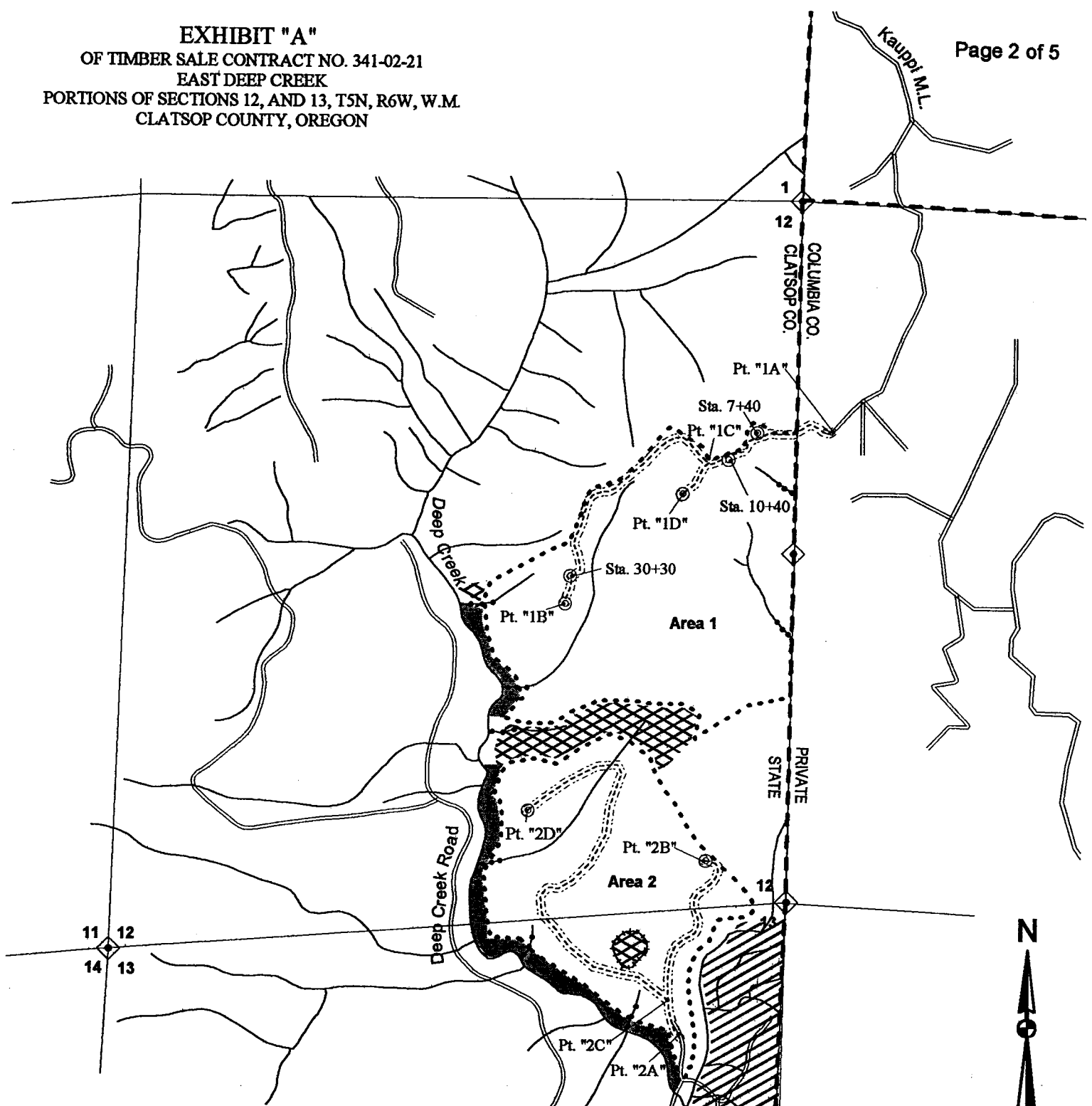


EXHIBIT "A"
VICINITY MAP
OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK
PORTIONS OF SECTIONS 12 AND 13,
T5N, R6W, W.M.
CLATSOP COUNTY, OREGON



APPROXIMATE SCALE = 1" = 11,000'

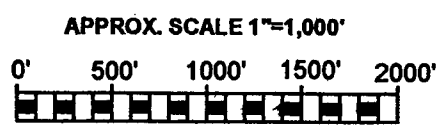
EXHIBIT "A"
OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK
PORTIONS OF SECTIONS 12, AND 13, T5N, R6W, W.M.
CLATSOP COUNTY, OREGON



LEGEND

- Timber Sale Boundary
- ==== Right Of Way Boundary
- //// Reforestation Area
- ◆ Known Land Survey Corner
- ~ Type F Stream
- ~ Type N Stream
- ==== Surfaced Existing Road
- New Construction
- Property Line
- Area Boundary
- XXXX GTRA
- POINT "A" Point for Project Work
- STA. 0+00 Survey Station
- █ Stream Buffer

Approx. 9 Miles to Hwy 202
 via E. Sager Creek/
 Jones Road



APPROXIMATE NET ACREAGE:

AREA 1	- 80.8 ACRES
AREA 2	- 57.2 ACRES
AREA 3 R/W	- 8.9 ACRES
TOTAL	- 146.9 ACRES



T4NR8W

14-
23

14 13
23 24

Exhibit "A"

VACATING MAP

OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK

PORTIONS OF SECTIONS 13, 14, 15, 22, 23, 24,
26 AND 27, T4N, R8W, W.M. CLATSOP COUNTY, OREGON
APPROX. SCALE 1"=1,000'

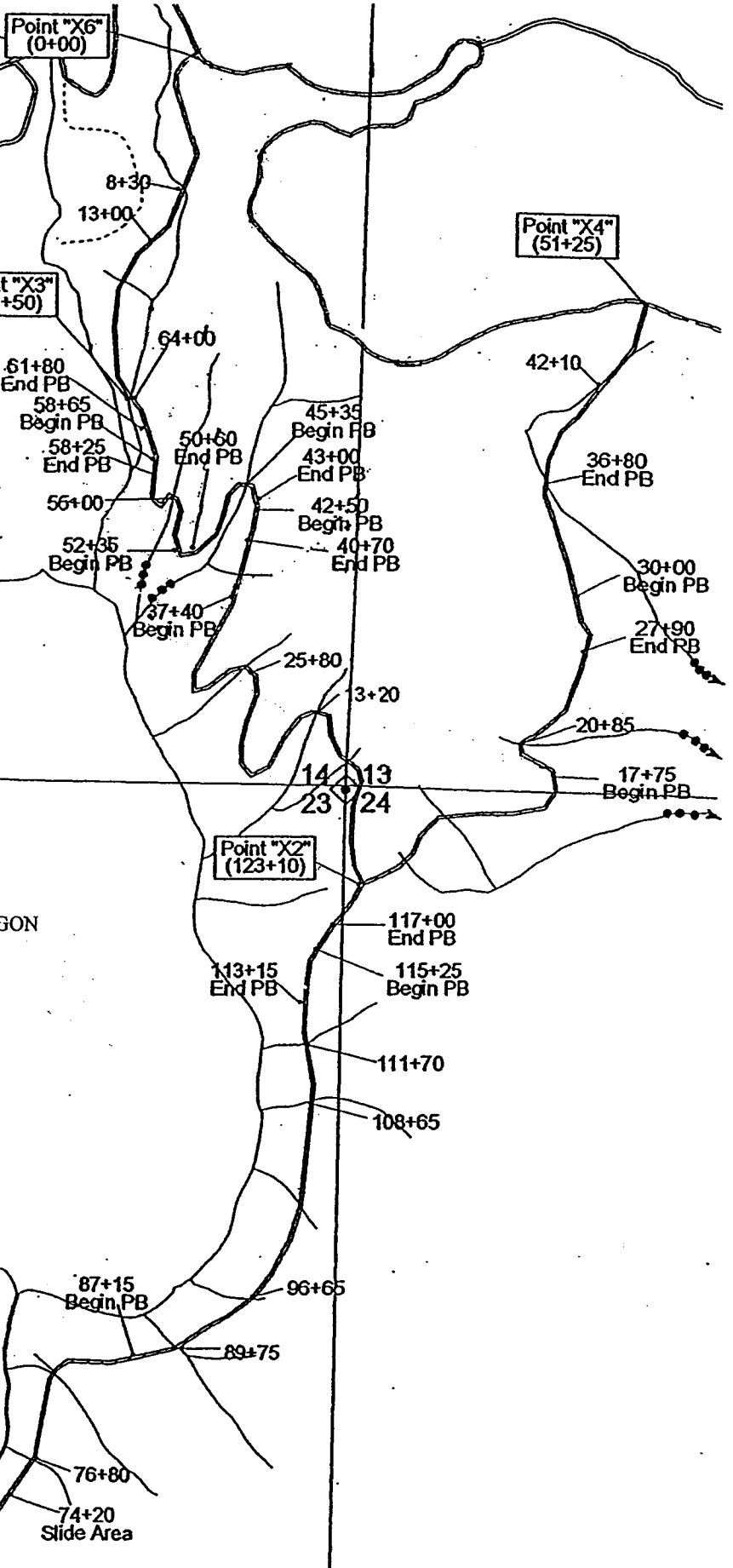
0' 500' 1000' 1500' 2000'



LEGEND

- POINT "A" Point For Project Work
- STA. 0+00 Survey Station
- Known Land Survey Corner
- Type F Stream
- Type N Stream
- Surfaced Road
- Road to be Vacated
- New Construction
- County Road
- State Highway

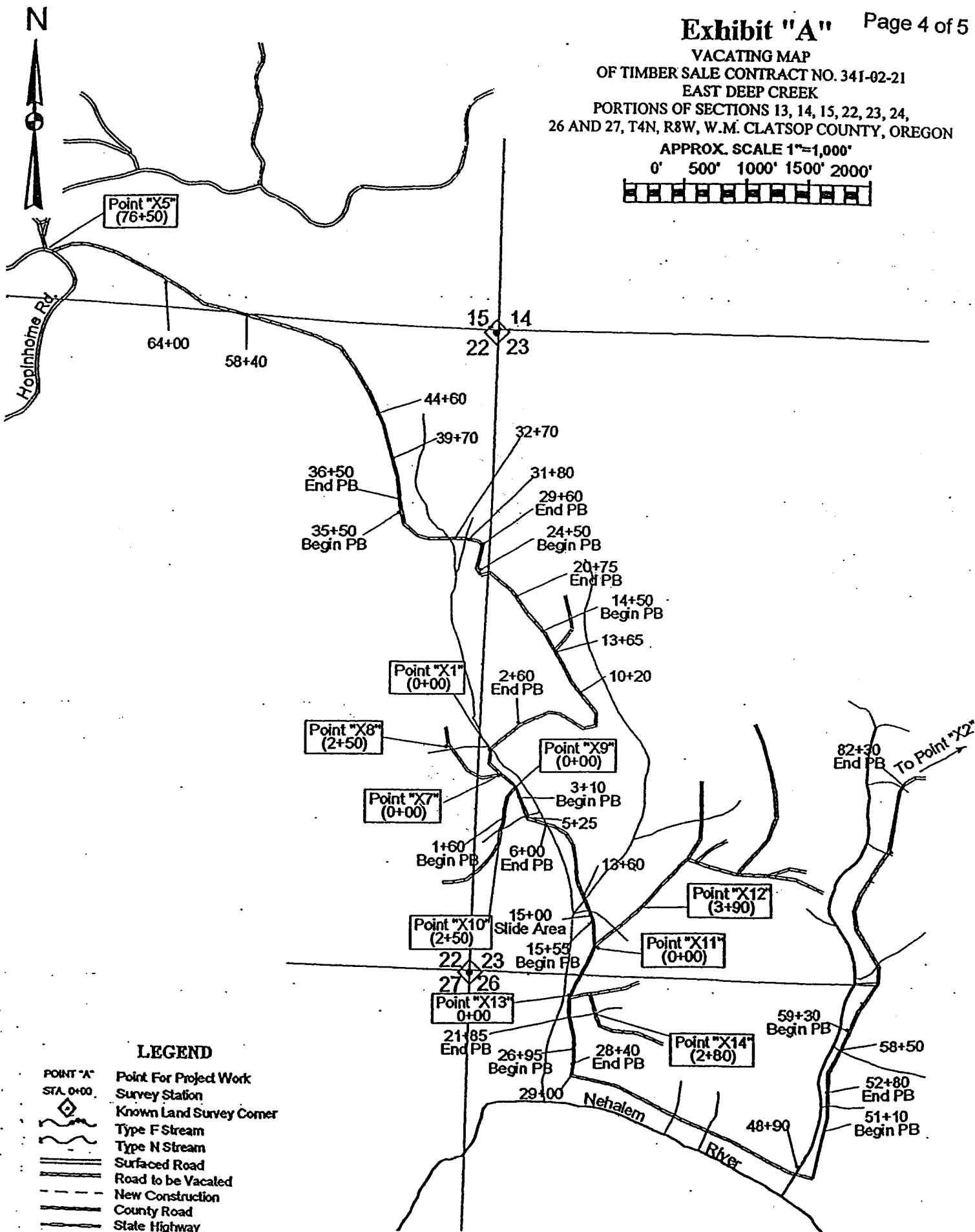
To Point
"X1"



VACATING MAP
 OF TIMBER SALE CONTRACT NO. 341-02-21
 EAST DEEP CREEK
 PORTIONS OF SECTIONS 13, 14, 15, 22, 23, 24,
 26 AND 27, T4N, R8W, W.M. CLATSOP COUNTY, OREGON

APPROX. SCALE 1"=1,000'

0' 500' 1000' 1500' 2000'



LEGEND

- POINT "A" Point For Project Work
- STA. 0+00. Survey Station
- Known Land Survey Corner
- Type F Stream
- Type N Stream
- Surfaced Road
- Road to be Vacated
- New Construction
- County Road
- State Highway

EXHIBIT "A"

TIMBER SALE VICINITY MAP
OF TIMBER SALE CONTRACT NO. 341-02-21
EAST DEEP CREEK
PORTIONS OF SECTIONS 12 AND 13;
T5N, R6W, W.M.
CLATSOP COUNTY, OREGON

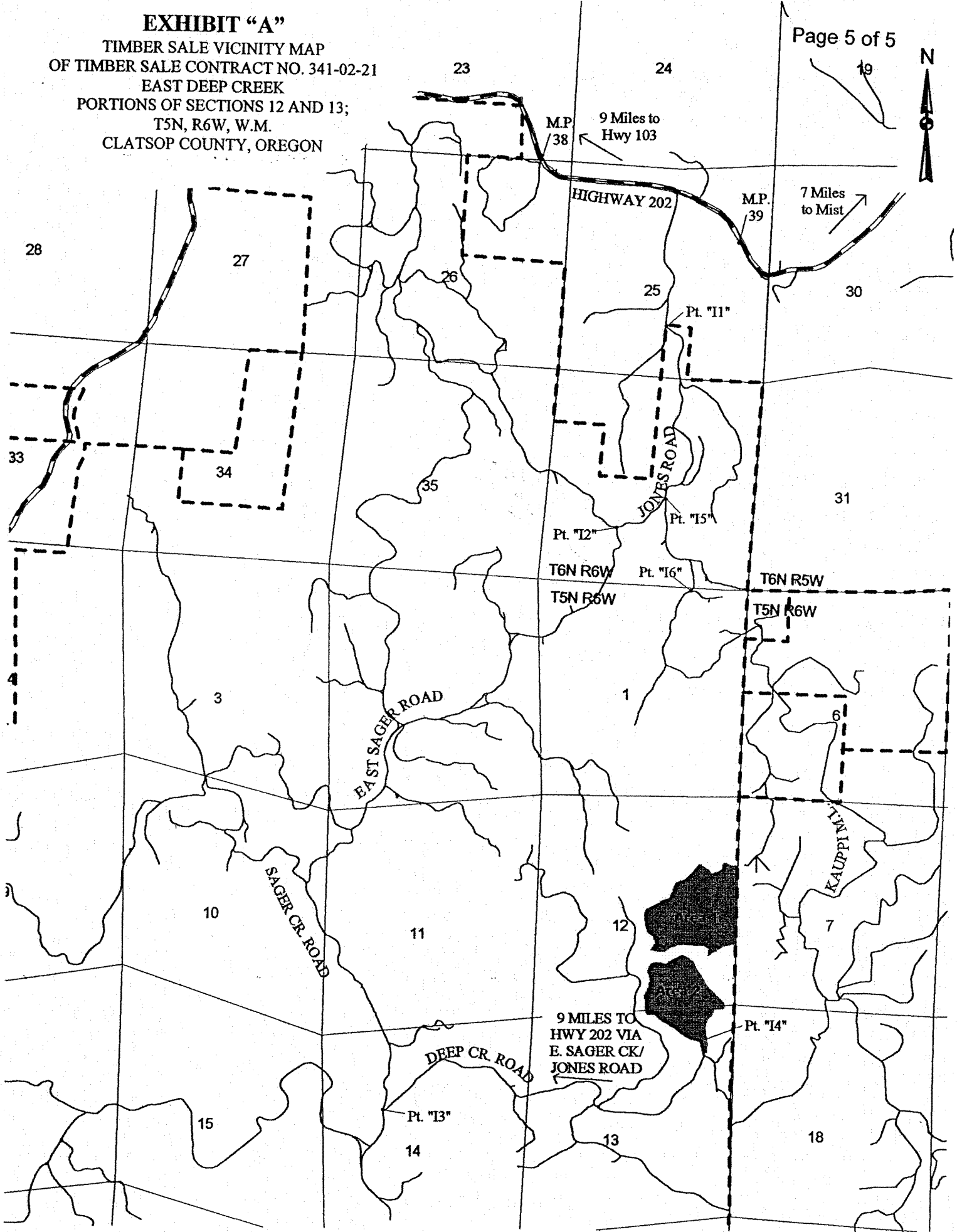


EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

GENERAL SPECIFICATIONS

- (1) Tree Removal. Cut or remove all trees necessary to access the project area and to facilitate vacating operations, as directed by STATE. Timber shall NOT be removed as designated timber, unless located within posted timber sale boundaries or right-of-way boundaries.
- (2) Culvert Removal. Remove all drainage structures and culverts. Removed culverts shall be hauled to an approved refuse site off of STATE Land.
- (3) Fill Removal and Stream Channel Development. Remove fills to the natural stream course level(s). Stream channel(s) shall be excavated/developed to specified minimum width(s). Developed stream banks shall be sloped at natural contours or no steeper than 1½:1, as directed by STATE.
- (4) Sidecast Pullback. Excavate/pullback previously sidecast materials below the road at designated locations. Developed slopes shall be pulled back to a 1½:1 slope or to natural ground contours. The beginning position for sidecast pullback shall be no greater than 20 feet vertical distance from the existing road surface, in accordance with the specifications in Exhibit H.
- (5) Use of Excavated Materials.
 - (a) Sidecast Pullback. All excavated materials shall be placed on the interior (cut) side of the road, and utilized to restore the cutslope to natural contours or to a minimum 10% outsloped surface for drainage.
 - (b) Fill Excavation. Excavated materials shall be placed and compacted on the roadway a minimum of 10 feet back from the top of the developed stream bank.
 - (c) Woody Debris and cut trees may be incorporated in embankment material and/or placed on the surface of compacted embankment material.
- (6) Construct Waterbars at designated locations and a maximum of 100-foot intervals, and as directed by STATE. Construct waterbars according to the specifications in Exhibit I.
- (7) Block Roads. Use excavated material to block roads from vehicle access at designated locations, as directed by STATE.
- (8) Erosion Control. Erosion control efforts utilizing grass seed and mulch application shall be completed in a progressive manner. Grass seed and mulch shall be applied for every 500 feet of road vacated, prior to continuing work.
 - (a) Sidecast Pullback. Seed and mulch all excavated material and bare soil in accordance with the specifications in Exhibit J.
 - (b) Fill Removals. All exposed excavation areas shall be mulched with a straw mulch approved by STATE, immediately upon completion of the fill removal. Applied mulch shall be a minimum of 2 inches deep and provide a uniform cover.
- (9) Equipment. Minimum 1½ cubic-yard, track mounted excavators shall be used for all excavation, sidecast pullback, fill removal, culvert removal, streambed preparation, road blocking, and waterbarring, unless otherwise approved in writing by STATE. A minimum of **two** excavators shall be supplied and utilized simultaneously to complete the project in one operating season and to efficiently accomplish some required fill removals. All work shall be performed during dry conditions acceptable to STATE.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

FPA Written Plan. STATE has prepared the required FPA Written Plan for this work and the Plan is on file at the Astoria District, Oregon Department of Forestry. Fill removal, stream channel development, and/or in-stream work shall be conducted between July 1 and September 15, annually.

Progressive Operations. The project shall be started no later than July 1, 2002, and progress continuously until completed and approved. The project shall be completed in the following priority sequence, unless otherwise approved by STATE in writing:

- Priority No. 1: X2-X3 and X3-X6
- Priority No. 2: X11-X12 and X13-X14
- Priority No. 3: X7-X8 and X9-X10
- Priority No. 4: X1-X2
- Priority No. 5: X1-X5
- Priority No. 6: X2-X4

Credit for Project Work. The final credit for Project No. 3 shall not exceed \$180,000 per Section 71, "Credit for Project Work," in the Timber Sale Contract. STATE may adjust the credit in Section 71 in the event that the work is completed prior to using all available credit rates.

Credit Rates. Rates credited toward completion of the project will be applied for periods of active operation on the project work only. The method of crediting PURCHASER will be determined by applying the following credit rates for equipment, personnel, and supplies:

(1)	Excavator and operator	\$105 per operating hour
(2)	D7 dozer, or equivalent, and operator	\$ 95 per operating hour
(3)	Heavy Equipment transport and operator (Excludes initial move-in.)	\$500 per authorized move
(4)	Laborer(s)	\$ 25 per working hour
(5)	Timber Faller(s)	\$ 30 per working hour
(6)	Straw Mulch	\$ 3 per bale
(7)	Grass seed	\$ 2 per pound

Record Keeping. PURCHASER shall keep an accurate log of operating time (exclusive of standby time, repair delays, down time, etc.) and invoices for all equipment, personnel, straw bales, and grass seed on a daily basis, and submit it to the STATE Representative upon request. STATE shall provide the form for recording the required log. If the log is determined by STATE to not be complete or accurate, then PURCHASER will not get credited for all or a portion work, as determined by STATE.

Verification. The STATE representative shall provide direction for the conduct of work according to the specifications, verify hours of operation, verify required record keeping, and determine credits for project work.

Continuous Operations. Operations shall provide for continual operation on the project, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment.

A Penalty of \$250 per day shall be assessed for any 8-hour work day that an excavator is not operating due to failure to supply an approved and acceptable excavator or operator. STATE may terminate the project in the event that work progress is not satisfactory to STATE.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

Operators shall be experienced in operating the required equipment and be able to operate the equipment proficiently and efficiently. If STATE determines that an operator(s) is not operating in a proficient and efficient manner, STATE considers the operator not approved and not acceptable and may require the PURCHASER to do one or more of the following measures:

- Replace operator(s);
- Replace equipment;
- Terminate operations.

Support, including transport, other equipment, replacements, supplies, maintenance, and repairs, shall be furnished as required to complete the project and shall be furnished without cost to STATE, other than as agreed under the contract terms.

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X1 to X2	0+00	Point X1. Remove south half of fill from the south side of the stream only. Remove the north side of the fill from the north side of the stream only. Excavate stream width to a minimum of 25 feet. Begin sidecast pullback to the south.
	1+00	End sidecast pullback.
	3+10	Begin sidecast pullback.
	4+65	End sidecast pullback.
	5+25	Remove fill. Excavate stream width to a minimum of 4 feet.
	5+45	Begin sidecast pullback.
	6+00	End sidecast pullback. Remove fill. Excavate stream width to a minimum of 25 feet.
	13+60	Remove fill. Excavate stream width to a minimum of 16 feet.
	15+00	Slide area. Cross area with the minimum of disturbance. Leave slide debris in place.
	15+55	Begin sidecast pullback
	20+85	Excavate 3 foot deep diversion ditch across road to ditch-out spring water.
	21+85	End sidecast pullback. Remove fill. Excavate stream width to a minimum of 4 feet.
	23+00	Excavate 3 foot deep diversion ditch across road to ditch-out spring water.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

SPECIFIC INSTRUCTIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X1 to X2	23+40	Excavate 3 foot deep diversion ditch across road to ditch-out spring water.
	26+95	Begin sidecast pullback.
	28+40	End sidecast pullback.
	29+00	Begin paralleling the Nehalem River.
	48+90	Pullback and slope the remaining fill. Leave the old logs in place.
	51+10	Begin sidecast pullback.
	52+80	End sidecast pullback.
	58+50	Remove fill. Excavate stream width to a minimum of 4 feet.
	59+30	Begin sidecast pullback.
	64+70	Remove fill. Excavate stream width to a minimum of 4 feet.
	74+20	Excavate diversion ditch across road to ditch-out spring water. Beginning of slide area.
	75+20	End of slide area. Cross slide area with a minimum of disturbance. Leave slide debris in place.
	76+80	Remove fill. Excavate stream width to a minimum of 2 feet.
	82+30	End sidecast pullback. Remove fill. Excavate stream width to a minimum of 4 feet.
	85+90	Remove small fill. Provide drainage for area.
	87+15	Begin sidecast pullback.
	89+75	Remove fill. Excavate stream width to a minimum of 6 feet.
	96+65	Remove fill. Excavate drainage bottom width to minimum of 4 feet.
	100+65	Provide 2 feet wide drainage.
	108+65	Remove fill. Excavate stream width to a minimum of 4 feet.
	111+70	Remove fill. Excavate stream width to a minimum of 4 feet.
	113+15	End sidecast pullback.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X1 to X2	115+25	Begin sidecast pullback.
	117+00	End sidecast pullback.
	123+10	Point X2.
X2 to X3	0+00	Point X2. Junction of two legacy roads.
	5+80	Near section corner.
	13+20	Develop tank trap: 4 feet wide X 4 feet deep. Provide drainage.
	25+80	Develop tank trap: 4 feet wide X 4 feet deep. Provide drainage.
	33+85	Crosses Timber Sale Boundary.
	37+40	Begin sidecast pullback.
	40+70	End sidecast pullback.
	42+50	Begin sidecast pullback.
	43+00	End sidecast pullback.
	45+35	Begin sidecast pullback. Remove fill. Excavate stream width a minimum of 6 feet.
	50+60	End sidecast pullback.
	52+35	Begin sidecast pullback.
	56+00	Remove fill. Excavate stream width a minimum of 4 feet.
	58+25	End sidecast pullback.
	58+65	Begin sidecast pullback.
	61+80	End sidecast pullback.
	64+00	Remove fill. Excavate stream width a minimum of 6 feet.
64+50	Point X3	
X2 to X4	0+00	Point X2
	17+75	Begin sidecast pullback.
	20+85	Remove fill. Excavate stream width a minimum of 6 feet.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X2 to X4	27+90	End sidecast pullback.
	30+00	Begin sidecast pullback.
	36+80	End sidecast pullback. Remove fill. Excavate stream width a minimum of 6 feet.
	42+10	Remove fill. Excavate stream width a minimum of 8 feet.
	51+25	Point X4. Junction with rocked road. Block road.
X6 to X3	0+00	Point X6. Near Point 5C. Block road.
	8+30	Remove fill/puncheon. Excavate stream width a minimum of 8 feet.
	10+00	Develop ditchout: 4 feet wide X 4 feet deep.
	13+00	Leave timber and enter conifer plantation.
	18+50	Point X3. Westside of old fill.
X1 to X5	0+00	Point X1. Begin sidecast pullback. Remove north side of fill. Excavate stream width a minimum of 25 feet.
	2+60	End sidecast pullback.
	4+75	Develop drainage to the west. Ditchout: 4 feet wide X 4 feet deep.
	10+20	Develop drainage to the east. Ditchout: 4 feet wide X 4 feet deep.
	13+65	Remove fill on side spur, 30 feet north of main legacy road. Excavate stream width a minimum of 4 feet.
	14+50	Begin sidecast pullback.
	20+75	End sidecast pullback.
	24+50	Begin sidecast pullback.
	29+60	End sidecast pullback.
	31+80	Remove fill. Excavate stream width a minimum of 6 feet.
	32+70	Remove fill. Excavate stream width a minimum of 4 feet.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X1 to X5	34+00	Develop ditchout.
	35+35	Develop ditchout.
	35+50	Begin sidecast pullback.
	36+50	End sidecast pullback.
	39+70	Develop ditchout to the north.
	44+60	Junction with old spur.
	58+40	Remove fill. Excavate stream width a minimum of 4 feet.
	64+00	Remove fill. Excavate stream width a minimum of 4 feet.
X7 to X8	76+50	Point X5. Junction with rock road. Block road.
	0+00	Point X7. Near Point X1.
	0+75	Begin sidecast pullback.
	1+20	End sidecast pullback. Remove fill. Excavate stream width a minimum of 4 feet.
	2+50	Point X8. Remove fill. Excavate stream width a minimum of 6 feet.
X9 to X10	0+00	Point X9. Near Point X7.
	1+60	Begin sidecast pullback. Pullback both sides of the washout.
	1+80	Remove small fill. End sidecast pullback.
	2+35	Remove fill. Excavate stream width a minimum of 4 feet.
	2+50	Point X10.
X11 to X12	0+00	Point X11. Junction with old Hopinscratchit Road.
	0+85	Begin sidecast pullback.
	2+35	Develop drainage ditchout: 4 feet wide X 4 feet deep.

EXHIBIT "G"

ROAD VACATING AND FILL REMOVAL SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS

<u>Point</u>	<u>Station</u>	<u>Work Description</u>
X11 to X12	3+00	End sidecast pullback.
	3+60	Remove fill. Excavate stream width a minimum of 6 feet.
	3+90	Point X12.
X13 to X14	0+00	Point X13. Junction with old Hopinscratchit Road.
	2+80	Point X14. Remove fill. Excavate stream width a minimum of 5 feet.

Exhibit H

TYPICAL CROSS SECTION OF SIDECAST PULLBACK

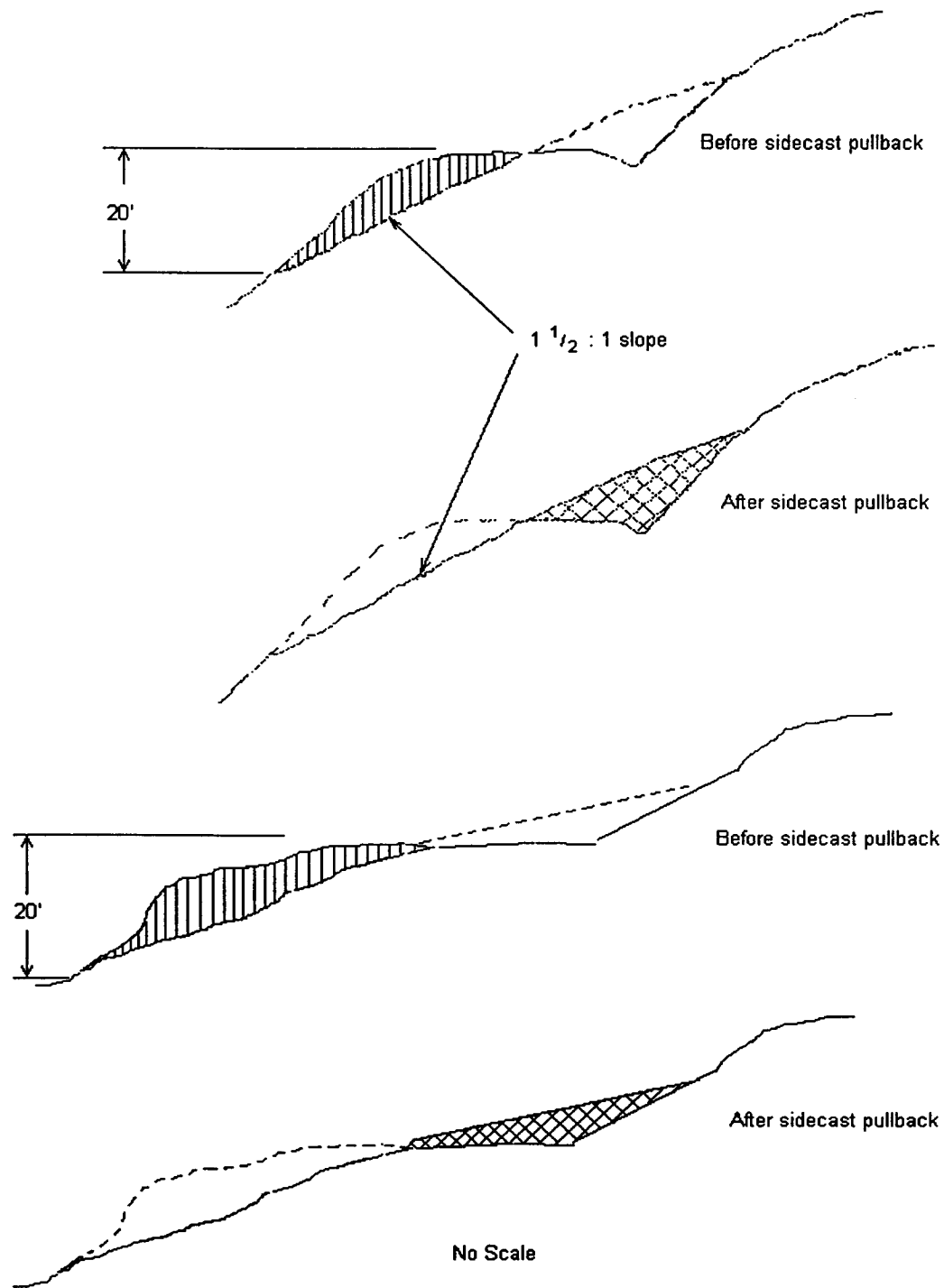
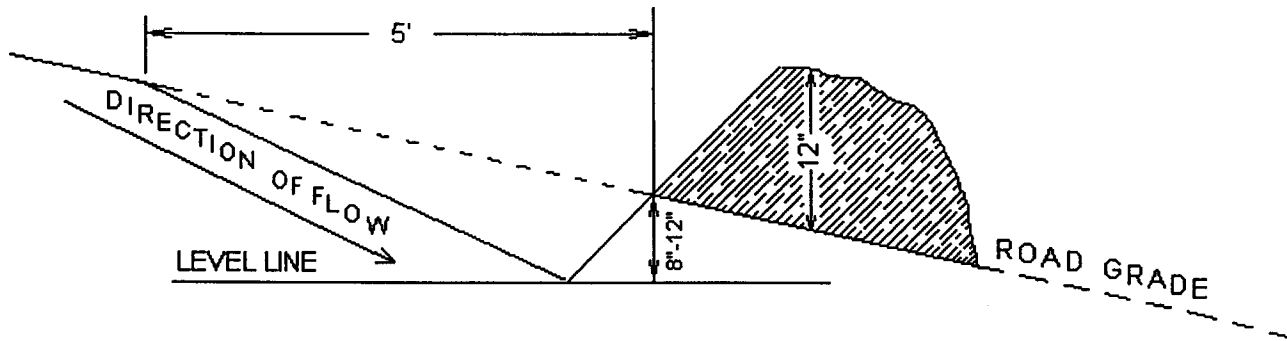


EXHIBIT "I"

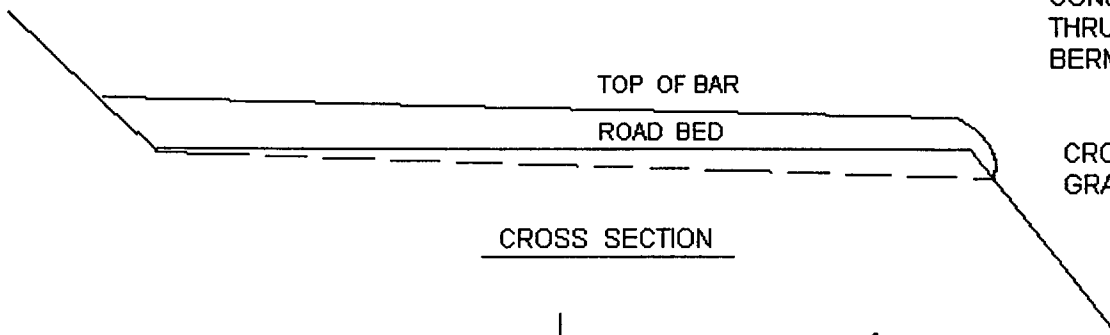
WATERBAR SPECIFICATIONS



PROFILE

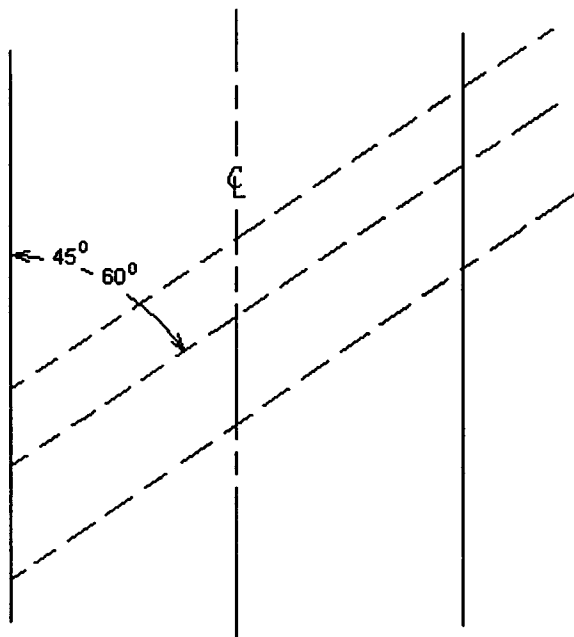
CONSTRUCT DITCH
THRU ANY EXISTING
BERM.

CROSS DRAINAGE
GRADIENT MINIMUM
3%



CROSS SECTION

SPACING OF WATERBARS:
AS DIRECTED BY STATE.



LEAD OFF DITCH

DIRECTION OF FLOW

PLAN VIEW

EXHIBIT "J"

GRASS SEEDING AND MULCHING

This work shall consist of furnishing and placing required grass seed and straw mulch.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 31. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Work shall be performed during each specified seeding season on all completed and previously untreated sections. PURCHASER shall notify STATE 24 hours prior to seeding.

Application Methods for Grass Seed

Dry Method. Hand-operated seeding devices may be used when seed is applied in dry form.

APPLICATION RATES FOR SEED

Seed listed below shall be applied at the following rate per acre: 100

SPECIES	MIXTURE	PURE LIVE SEED	POISON AND/OR REPELLENT	GERMINATION
Annual Rye	26%	95%	0	>90%
Orchard Grass	25%	95%	0	>90%
New Zealand White Clover	17%	95%	0	>90%
Perennial Rye	15%	95%	0	>90%
Birdsfoot Trifol	07%	95%	0	>90%
Red Clover	06%	95%	0	>90%
Alsike Clover	04%	95%	0	>90%

Seeding. Apply grass seed to all waste areas, and bare soils resulting from fill removals in Project No. 3.

Mulching. In addition to seeding requirements, apply straw mulch to all waste areas, and bare soils resulting from Project No. 3 South County Road Vacating. Applied straw mulch shall be a minimum of 2 inches deep and provide a uniform cover.