



"STAND FOR THE FOREST"

Timber Sale Appraisal Nowhere Land

Sale AT-341-2016-20-

District: Astoria

Date: September 01, 2015

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,691,947.99	\$218,527.00	\$1,910,474.99
		Project Work:	(\$209,811.00)
		Advertised Value:	\$1,700,663.99



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Sale AT-341-2016-20-

District: Astoria

Date: September 01, 2015

Timber Description

Location: Portions of Sections 5, 6, 7, and 8, T6N, R6W, W.M., Clatsop County, Oregon.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	24	0	97
Western Hemlock / Fir	21	0	97
Red Cedar	16	0	95
Alder (Red)	15	0	95
Maple	16	0	95

Volume by Grade	2S	3S	4S	Camprun	Total
Douglas - Fir	3,877	497	83	0	4,457
Western Hemlock / Fir	155	43	6	0	204
Red Cedar	0	1	0	0	1
Alder (Red)	0	0	0	677	677
Maple	0	0	0	49	49
Total	4,032	541	89	726	5,388

Comments: Pond Values Used: 2nd Quarter Calendar Year 2015.

Expected Log Markets: Mist, Clatskanie, Tillamook, Forest Grove, Longview, and Garibaldi.

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$3.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

Other Costs (with Profit & Risk to be added):

100% Brand and Paint: $\$1/\text{MBF} \times 5,388/\text{MBF} = \$5,388$

Machine Washing for Noxious Weed Compliance = \$4,000

Additional felling cost for R/W timber (Area 3):

$\$40/\text{MBF} \times 132 \text{ MBF} = \$5,280$

Log Loader Slash & Landing Piling (includes Move-In and Pile Materials): (see attached appraisal) = \$12,760

TOTAL Other Costs (with Profit & Risk to be added) = \$27,428

Other Costs (No Profit & Risk added):

None.

ROAD MAINTENANCE

$\$15,906/5,388 \text{ MBF} = \$2.95/\text{MBF}$ (See Attached Appraisal)



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Logging Conditions

Combination#: 1

Douglas - Fir	29.00%
Western Hemlock / Fir	29.00%
Red Cedar	29.00%
Alder (Red)	29.00%
Maple	29.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Manual Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8 **bd. ft / load:** 4500
cost / mbf: \$169.44
machines: Log Loader (A)
Tower Yarder (Medium)

Combination#: 2

Douglas - Fir	71.00%
Western Hemlock / Fir	71.00%
Red Cedar	71.00%
Alder (Red)	71.00%
Maple	71.00%

Logging System: Shovel **Process:** Manual Falling/Delimbing
yarding distance: Medium (800 ft) **downhill yarding:** No
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 10 **bd. ft / load:** 4500
cost / mbf: \$87.50
machines: Shovel Logger



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Logging Costs

Operating Seasons: 3.00	Profit Risk: 12%
Project Costs: \$209,811.00	Other Costs (P/R): \$27,428.00
Slash Disposal: \$0.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$2.95

Dirt	Rock (Contractor)	Rock (State)	Paved
0.0	0.0	0.0	0.0

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.5
Western Hemlock / Fir	\$0.00	2.0	3.7
Red Cedar	\$0.00	1.0	3.0
Alder (Red)	\$0.00	2.0	3.3
Maple	\$0.00	2.0	3.3



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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$111.26	\$3.04	\$2.44	\$59.51	\$5.09	\$21.76	\$0.00	\$5.00	\$0.00	\$208.10
Western Hemlock / Fir									
\$111.26	\$3.04	\$2.44	\$108.57	\$5.09	\$27.65	\$0.00	\$5.00	\$0.00	\$263.05
Red Cedar									
\$111.26	\$3.10	\$2.44	\$273.00	\$5.09	\$47.39	\$0.00	\$5.00	\$0.00	\$447.28
Alder (Red)									
\$111.26	\$3.10	\$2.44	\$124.09	\$5.09	\$29.52	\$0.00	\$5.00	\$0.00	\$280.50
Maple									
\$111.26	\$3.10	\$2.44	\$124.09	\$5.09	\$29.52	\$0.00	\$5.00	\$0.00	\$280.50

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$578.49	\$370.39	\$0.00
Western Hemlock / Fir	\$0.00	\$460.56	\$197.51	\$0.00
Red Cedar	\$0.00	\$1,275.00	\$827.72	\$0.00
Alder (Red)	\$0.00	\$595.00	\$314.50	\$0.00
Maple	\$0.00	\$395.00	\$114.50	\$0.00



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Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Red Cedar	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00
Maple	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,457	\$370.39	\$1,650,828.23
Western Hemlock / Fir	204	\$197.51	\$40,292.04
Red Cedar	1	\$827.72	\$827.72
Alder (Red)	677	\$314.50	\$212,916.50
Maple	49	\$114.50	\$5,610.50

Gross Timber Sale Value

Recovery: \$1,910,474.99

Prepared By: Nick Haile

Phone: 503-325-5451

Road Maintenance Cost Summary

Sale: Nowhere Land	MBF: 5,388
Date: 12-Jun-15	\$/MBF: \$2.95
By: N. Haile	

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$778	1	28	\$100	\$3,578
Final Haul Maintenance Haul Route	Grader 14G	\$778	1	32	\$100	\$3,978
	Dump Truck 12CY	\$163	1	8	\$79	\$795
	Vibratory Roller	\$778	1	32	\$77	\$3,242
	Water Truck 2,500 gallon	\$190	1	16	\$89	\$1,614
	FE Loader C966	\$778	1	8	\$83	\$1,442
	Rubber Tire Backhoe	\$321	1	8	\$77	\$937
Total	Labor		1	8	\$40	\$320
						\$15,906

Progressive Ops. 1st Entry	Production Rates	Miles/day	Distance(miles)	Days
	Grader	2.5	7.5	3.0
Final Road Maintenance	Production Rates	Miles/day	Distance(miles)	Days
	Grader	1.5	9.2	6.1
	Vibratory Roller	1.5	9.2	6.1

Site Prep Appraisal

Sale Number: 341-16-20
Sale Name: Nowhere Land
Date: 06/16/2015

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre
Doug-fir	A	1.0	3.0
Hemlock/Fir	B	1.5	4.0
Hemlock/Spruce	C	2.0	6.0
Hemlock	D	2.0	6.0
Conifer/Hardwood	E	1.5	3.0

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
1	MC	A	47	47	\$110.00	\$5,170.00
2	MC	A	37	37	\$110.00	\$4,070.00

Sub Total = \$9,240.00

Sale Area	Number of Landings to be Piled	Cost/Landing Pile*	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area
1	4	\$263.00	\$1,052.00	141	\$5.00	\$705.00
2	1	\$263.00	\$263.00	111	\$5.00	\$555.00

*Cost includes separating firewood **Sub Total = \$2,575.00**

Move-In Allowance	Number of Move-In's	Total Move-In Allowance
\$945.00	1	\$945.00
		Sub Total = \$945.00

Grand Total = \$12,760.00

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Nowhere Land

ROAD CONSTRUCTION:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	1A to 1B, 1E to 1F,	29.35	\$27,840.36
	2A to 2B, 2C to 2D (Rock)		
	1C to 1D (Dirt)		
TOTALS			\$27,840

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 2	I1 to I2, I3 to I4, I5 to I6, and I7 to I8	392.65	\$130,222
TOTALS			\$130,222

SPECIAL PROJECTS:

	<u>Description</u>	<u>Cost</u>
Project No. 3	Roadside Brushing and Spraying	\$39,703
	Project Road Maintenance	\$1,600
TOTAL		\$41,303

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
Dozer (D8)	\$1,406.00
Excavator (C330)	\$1,406.00
Excavator (C330) (Partial Move x2)	\$703.00
Excavator (C315)	\$805.00
Dump Trucks (12cy x 7)	\$1,141.00
Dump Trucks (20cy x 2)	\$382.00
Front End Loader (C966)	\$778.00
Grader (14G)	\$778.00
Vibratory Roller	\$778.00
Water Truck (2,500 gallon)	\$190.00
Backhoe (C 580)	\$321.00
Rock Drill & Compressor (Knob Point Quarry)	\$1,406.00
Powder (Knob Point Quarry)	\$351.00
TOTAL	\$10,445.00

GRAND TOTAL \$209,811

Compiled By: W. Lawrence / N. Haile FL Date: 06/19/2015

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Nowhere Land
ROAD: 1A to 1B, 1C to 1D, 1E to 1F, 2A to 2B, 2C to 2D
POINTS: 1A to 1B, 1C to 1D, 1E to 1F, 2A to 2B, 2C to 2D
NEW CONSTRUCTION: 29.35 STATIONS
IMPROVEMENT: STATIONS
0.56 MILES
MILES

CLEARING & GRUBBING

Method	Acres/amount	x	Rate	=	Cost
1A to 1B Scatter outside of Right of Way	0.50	x	\$ 1,337	=	\$668.50
1C to 1D Scatter outside of Right of Way	0.70	x	\$ 1,337	=	\$935.90
1E to 1F Scatter outside of Right of Way	0.30	x	\$ 1,337	=	\$401.10
2A to 2B Scatter outside of Right of Way	0.90	x	\$ 1,337	=	\$1,203.30
2C to 2D Scatter outside of Right of Way	0.30	x	\$ 1,337	=	\$401.10
SUB TOTAL FOR CLEARING & GRUBBING					\$3,610

EXCAVATION

Material	Sta/amount	x	Rate	=	Cost
1A to 1B Balanced Construction \$/sta	5.80	x	\$122.00	=	\$707.60
Landing Construction \$/ldg	1	x	\$389.00	=	\$389.00
1C to 1D Balanced Construction \$/sta	8.00	x	\$122.00	=	\$976.00
Landing Construction \$/ldg	1	x	\$389.00	=	\$389.00
1E to 1F Balanced Construction \$/sta	3.00	x	\$122.00	=	\$366.00
Landing Construction \$/ldg	1	x	\$389.00	=	\$389.00
2A to 2B Balanced Construction \$/sta	9.35	x	\$122.00	=	\$1,140.70
Landing Construction \$/ldg	1	x	\$389.00	=	\$389.00
2C to 2D Balanced Construction \$/sta	3.20	x	\$122.00	=	\$390.40
Landing Construction \$/ldg	1	x	\$389.00	=	\$389.00
1G and 1H Landing Construction \$/ldg	2	x	\$389.00	=	\$778.00
SUB TOTAL FOR EXCAVATION					\$6,304

CULVERT MATERIALS AND INSTALLATION

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
1A to 1B									
0+00	18"CPP	40	\$19.53	\$781.20					
1C to 1D									
0+00	18"CPP	40	\$19.53	\$781.20					
2A to 2B									
0+00	18"CPP	40	\$19.53	\$781.20					
3+60	18"CPP	40	\$19.53	\$781.20					
5+15	18"CPP	40	\$19.53	\$781.20					
2Cto 2D									
0+00	18"CPP	40	\$19.53	\$781.20					
Other/miscellaneous:					Description				
					Quantity	Rate	Cost		
					5.00	\$15.96	\$79.80		
Culvert stakes & markers:									
					6	\$20.00	\$120.00		
SUB TOTAL FOR CULVERT MATERIALS & INSTALLATION									
\$4,887									

Subtotal of Clearing, Exc., Culv. \$14,801

SURFACING	Subgrade prep:	Description	Stations/ amount	Rate/ sta/amt	Cost
		Grade, Shape and Ditch 16' (1A to 1B, 1E to 1F, 2A to 2B, 2C to 2D)	21.35	x	\$24.83 \$530.12
		Subgrade Compaction (1A to 1B, 1C to 1D, 1E to 1F, 2A to 2B, 2C to 2D)	29.35	x	\$20.19 \$592.58
		Outslope, Grade, and Shape (1C to 1D)	8.00	x	\$18.35 \$146.80
		Sod Removal/Ditch Reconstruction (Extra Grader \$/sta.)	3.00	x	\$22.23 \$66.69

ROAD SEGMENT		1A to 1B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	1A to 1B	Number of	0+00 to 5+80			
Junction Rock	3/4"-0" stockpile	0+00	N/A	Junction	11	Junctions	1	11	\$3.52	\$39
Base Rock	4"-0" stockpile	0+00 to 2+80	8	station	50	stations	2.80	140	\$3.52	\$493
Base Rock	6"-0" Pit Run	2+80 to 5+80	10	station	63	stations	3.00	189	\$9.20	\$1,739
Turnarounds	6"-0" Pit Run	3+50	10	TA	17	TA's	1	17	\$9.20	\$156
Turnarounds	6"-0" Pit Run	3+50	10	TO	28	TO's	1	28	\$9.20	\$258
Turnarounds	4"-0" stockpile	1+50	8	TA	11	TA's	1	11	\$3.52	\$39
Turnarounds	4"-0" stockpile	1+50	8	TO	22	TO's	1	22	\$3.52	\$77
Landings	6"-0" Pit Run	2+80, 5+80	N/A	Landing	70	Landings	2	140	\$9.20	\$1,288
Total Rock for Road Segment:		1A to 1B						558		\$4,083

ROAD SEGMENT		1C to 1D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	1C to 1D	Number of	0+00 to 8+00			
Base Rock	4"-0" stockpile	0+00 to 0+50	8	station	50	stations	0.50	25	\$3.52	\$88
Total Rock for Road Segment:		1C to 1D						25		\$88

ROAD SEGMENT		1E to 1F		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	1E to 1F	Number of	0+00 to 3+00			
Base Rock	4"-0" stockpile	0+00 to 3+00	4	station	25	stations	3.00	75	\$3.52	\$264
Landings	6"-0" Pit Run	3+00	N/A	Landing	70	Landings	1	70	\$9.20	\$644
Total Rock for Road Segment:		1E to 1F						145		\$908

ROAD SEGMENT				2A to 2B		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2A to 2B		2A to 2B	Number of					
Base Rock	4"-0" stockpile	0+00 to 9+35	8	station	50	station	9.35	stations	468	\$3.52	\$1,646	
Traction Rock	3/4"-0" stockpile	6+00 to 8+50	2	station	13	station	2.50	stations	33	\$3.52	\$114	
Turnarounds	4"-0" stockpile	6+90	8	TA	11	TA	1	TA's	11	\$3.52	\$39	
Turnouts	4"-0" stockpile	2+50, 4+80	8	TO	22	TO	2	TO's	44	\$3.52	\$155	
Junction Rock	4"-0" stockpile	0+00	8	station	22	station	0.50	stations	11	\$3.52	\$39	
Landings	6"-0" Pit Run	9+35	N/A	Landing	70	Landing	1	Landings	70	\$9.20	\$644	
Total Rock for Road Segment:				2A to 2B						636		\$2,636
ROAD SEGMENT				2C to 2D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	2C to 2D		2C to 2D	Number of					
Junction Rock	3/4"-0" stockpile	0+00	N/A	Junction	11	Junction	1.00	Junctions	11	\$3.52	\$39	
Base Rock	4"-0" stockpile	0+00 to 0+50	8	station	50	station	0.50	stations	25	\$3.52	\$88	
Base Rock	6"-0" Pit Run	0+50 to 3+20	10	station	63	station	2.70	Landings	170	\$9.20	\$1,565	
Turnarounds	6"-0" Pit Run	1+50	10	TA	17	TA	1	TA's	17	\$9.20	\$156	
Turnouts	6"-0" Pit Run	0+75	10	TO	28	TO	1	TO's	28	\$9.20	\$258	
Landings	6"-0" Pit Run	3+20	N/A	Landing	70	Landing	1	Landings	70	\$9.20	\$644	
Total Rock for Road Segment:				2C to 2D						321		\$2,750
Processing:												
Description												
Water, Process & Compact Base Rock (4"-0"):												
Water, Process & Compact Traction Rock:												
Process & Compact Base Rock (6"-0"):												
Total												
SUB TOTAL FOR SURFACING												
No.sta												
Rate/sta												
Cost												
16.15												
\$56.48												
\$912												
2.50												
\$56.48												
\$141												
5.70												
\$31.54												
\$180												
SUB TOTAL FOR SURFACING												
728												
\$13,040												
SPECIAL PROJECTS												
Description												
Cost												
Subtotal of Surfacing & Spec. Proj.												
\$13,040												
Subtotal of Clearing, Exc., Culv.												
\$14,801												
GRAND TOTAL												
\$27,840												

Compiled By: _____

Date: _____

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Nowhere Land
ROAD: I1-I2(172.5Sta.), I3-I4(187.8Sta.), I5-I6(18.8S
POINTS: I7-I8(2.3Sta.), I9-I10(11.25Sta.)
NEW CONSTRUCTION: STATIONS 0.00 MILES
IMPROVEMENT: 392.65 STATIONS 7.44 MILES

Method	Acres/amount	x	Rate	=	Cost
		x		=	\$0.00
		x		=	\$0.00
		x		=	\$0.00
		x		=	\$0.00
		x		=	\$0.00
SUB TOTAL FOR CLEARING & GRUBBING					\$0

Material	Cy/amount	x	Rate	=	Cost
I1 to I2					
0+60 Install dissipator (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
36+60 Install dissipator (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
36+60 Culvert outlet ditchout and armoring (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
36+60-38+80 Regrade road (Hrs.)(D8)	3.0	x	\$158.00	=	\$474.00
(Hrs.)(14G)	3.0	x	\$100.00	=	\$300.00
(Hrs.)(C315)	6.0	x	\$101.00	=	\$606.00
36+60-38+80 Cutslope improvement (Hrs.)(D.Truck)	6.0	x	\$79.00	=	\$474.00
(Hrs.)(C330)	6.0	x	\$155.00	=	\$930.00
(Hrs.)(D.Truck)	6.0	x	\$79.00	=	\$474.00
36+70-38+70 Pave road 4" total depth (\$/Sta.)	2.0	x	\$3,731.45	=	\$7,462.90
71+60 Culvert installation (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
71+60 Install dissipator (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
73+50 Install 2 ditch filters (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
85+25 Improve culvert outlet (Hrs.)(C315)	1.0	x	\$101.00	=	\$101.00
117+90 Reinforce bridge wings (Hrs.)(C315)	0.5	x	\$101.00	=	\$50.50
I3 to I4					
0+00-0+40 Regrade road (Hrs.)(D8)	1.0	x	\$158.00	=	\$158.00
(Hrs.)(14G)	1.0	x	\$100.00	=	\$100.00
(Hrs.)(C315)	2.0	x	\$101.00	=	\$202.00
(Hrs.)(D.Truck)	2.0	x	\$79.00	=	\$158.00
(Type F stream protection)(Straw Bales)	10.0	x	\$10.73	=	\$107.30
0+00-0+40 Pave road 4" total depth (\$/Sta.)	0.4	x	\$3,731.45	=	\$1,492.58

SURFACING		Subgrade prep:	Description		Stations/ amount	Rate/ sta/amt	Cost
		Grade, Shape and Ditch 16' (11-12, 13-14, 15-16, 17-18, 19-110)			392.65	x	\$24.83 \$9,749.50
		Subgrade Compaction (11-12(36+60-121+10),13-14(0+00-0+40, 19-110)			96.15	x	\$20.19 \$1,941.27
		Sod Removal & Ditch Restoration: (11-12(121+10-172+50), 15-16, 17-18, 19-110)(extra Grader time \$			83.75	x	\$22.23 \$1,861.76
		Sod Removal & Ditch Restoration: (11-12(121+10-172+50), 15-16, 17-18, 19-110)(extra Backhoe time \$			83.75	x	\$16.90 \$1,415.38
		Sod Removal & Ditch Restoration: (11-12(121+10-172+50), 15-16, 17-18, 19-110)(extra D.Truck time \$			83.75	x	\$17.40 \$1,457.25
ROAD SEGMENT	11 to 12	POINT TO POINT	Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Depth of Rock (inches)	Location	11 to 12 Volume (CY) per	0+00 to 172+50 Number of		
Subgrade Leveling	3/4"-0" stockpile	N/A	6+30, 53+60, 54+80, 60+00, 61+55, 63+30, 65+55, 67+20, 69+50, 73+20, 84+20, 87+30, 114+90	load 11	loads 13	\$3.52 \$503	
Subgrade Leveling	4"-0" stockpile	N/A	130+50, 132+90, 141+30, 145+50, 154+00, 158+40, 162+20, 167+60	load 11	loads 8	\$3.52 \$310	
Surfacing	3/4"-0" stockpile	4	38+70-121+10	station 25	stations 82.40	\$3.52 \$7,251	
Turnouts	3/4"-0" stockpile	N/A	42+40, 54+80, 57+00, 60+00, 65+55, 69+50, 79+20, 84+20, 87+30, 90+90, 95+20, 111+70	turnout 33	turnouts 12	\$3.52 \$1,394	
Turnouts	4"-0" stockpile	N/A	130+50, 132+90, 136+40, 147+10, 149+45, 155+90, 160+20, 161+70	turnout 22	turnouts 8	\$3.52 \$620	
Junctions	3/4"-0" stockpile	N/A	73+20, 120+50	junction 11	junctions 2	\$3.52 \$77	
Curve Widening	4"-0" stockpile	N/A	166+60	load 11	loads 2	\$3.52 \$77	
Truck Turnaround	4"-0" stockpile	N/A	167+60	load 11	loads 2	\$3.52 \$77	
Subgrade	4"-0" stockpile	7	36+60-38+80	station 44	stations 2.2	\$3.52 \$341	
Surfacing	3/4"-0" stockpile	3	36+60-38+80	station 19	stations 2.2	\$3.52 \$147	
Culvert Bedding/Backfill	3/4"-0" stockpile	N/A	16+50, 36+60, 71+60, 124+40	culvert 33	culverts 4	\$3.52 \$465	
Culvert Outlet Dissipator	24"-6" riprap	N/A	0+60, 36+60, 71+60	dissipator 11	dissipators 3	\$11.93 \$394	
Culvert Outlet Ditchout	24"-6" riprap	N/A	36+60	load 11	loads 2	\$11.93 \$262	
Armoring	6"-0" pit-run	N/A	73+50	filter 5.5	filters 2	\$9.20 \$101	
Rock ditch filter	24"-6" riprap	N/A	117+90	load 11	loads 2	\$11.93 \$262	
Bridge Wing Reinforcement							
Total Rock for Road Segment		11 to 12				3,288 \$12,282	

ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	13 to 14	Number of					
				Volume (CY) per						
Subgrade Leveling	3/4"-0" stockpile	16+00, 18+70, 35+00, 39+30, 44+60, 73+19, 85+20, 118+90, 151+70, 161+70, 177+80	N/A	load	11	loads	11	121	\$3.52	\$426
Additional subgrade leveling	3/4"-0" stockpile	35+00, 39+30, 151+70,	N/A	load	11	loads	3	33	\$3.52	\$116
Turnouts	3/4"-0" stockpile	82+80, 92+95, 120+20, 144+85, 147+40, 161+70, 176+30	N/A	load	11	loads	7	77	\$3.52	\$271
Subgrade	4"-0" stockpile	0+00-0+40	7	station	44	stations	0.4	18	\$3.52	\$62
Surfacing	3/4"-0" stockpile	0+00-0+40	3	station	19	stations	0.4	8	\$3.52	\$27
Settling swales/ditch filters	6"-4" pit run	0+70-1+85	N/A	load	11	loads	5	55	\$9.20	\$506
Settling swales/ditch filters	24"-6" riprap	0+70-1+85	N/A	load	11	loads	3	33	\$11.93	\$394
Road subgrade reconstruction	4"-0" stockpile	1+65	N/A	load	11	loads	1	11	\$3.52	\$39
Road surface reconstruction	3/4"-0" stockpile	1+65	N/A	load	11	loads	1	11	\$3.52	\$39
Ditch drain and buttress	24"-12" riprap	1+85-3+60	N/A	load	11	loads	8	88	*see cost sheet	
Ditch drain and buttress	12"-6" riprap	1+85-3+60	N/A	load	11	loads	2	22	*see cost sheet	
Ditch drain and buttress	2"-1" stockpile		N/A	load	11	loads	8	88	*see cost sheet	
Culvert Bedding/Backfill	3/4"-0" stockpile	5+70	N/A	culvert	33	culverts	1	33	\$3.52	\$116
Total Rock for Road Segment:				13 to 14		0+00 to 18+80		597		\$1,995
ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	15 to 16	Number of					
				Volume (CY) per						
Subgrade Leveling	4"-0" stockpile	5+40, 13+30, 14+70	N/A	load	11	loads	3	33	\$3.52	\$116
Turnouts	4"-0" stockpile	13+30	N/A	turnout	22	turnouts	1	22	\$3.52	\$77
Culvert Outlet Dissipator	24"-6" riprap	1+50	N/A	dissipator	11	dissipators	1	11	\$11.93	\$131
Total Rock for Road Segment:				15 to 16		0+00 to 11+25		66		\$325
ROAD SEGMENT				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	19 to 110	Number of					
				Volume (CY) per						
Subgrade Leveling	4"-0" stockpile	0+90, 2+10	N/A	load	11	loads	2	22	\$3.52	\$77
Additional Subgrade Leveling	4"-0" stockpile	2+10	N/A	load	11	loads	1	11	\$3.52	\$39
Turnouts	4"-0" stockpile	5+05	N/A	turnout	22	turnouts	1	22	\$3.52	\$77
Junctions	4"-0" stockpile	8+30	N/A	load	11	loads	1	11	\$3.52	\$39
Junctions	3/4"-0" stockpile	0+00	N/A	load	11	loads	1	11	\$3.52	\$39
Surfacing	4"-0" stockpile	0+00-11+25	4	station	25	stations	11.25	281	\$3.52	\$990
Total Rock for Road Segment:				19 to 110		0+00 to 11+25		358		\$1,261

Ditch Drain and Buttress ConstructionWill Lawrence
06/05/2015Location: I3-I4 (1+85 to 3+60)

Materials	Quantity		\$	Total
12" double wall perforated drain pipe	175	ft	\$4.93	\$863
Perforated drain pipe coupler	7	ea	\$4.93	\$35
Drain pipe delivery	1	\$	\$300.00	\$300
24"-12" Riprap	88	cy	\$11.93	\$1,050
12"-6" Riprap	22	cy	\$11.93	\$262
2"-1" Drain Rock	88	cy	\$5.57	\$490
10 oz. Non-Woven Fabric, 8' wide	175	ft	\$2.75	\$481
4.5 oz. Woven Fabric, 16' wide	175	ft	\$1.80	\$315
Seeding and Mulching	0.05	ac	\$1,749.00	\$87

\$3,883.42

Equipment/Labor Costs	Quantity		\$/Hr.	Hours	Total
Excavator(C330)					
Operating	1		\$155.00	11.5	\$1,783
Stand-By	1		\$155.00	0.5	\$78
Dump Truck					
Dump Truck	1		\$79.00	2	\$158
Dump Truck	2		\$79.00	3	\$237
Laborer	2		\$40.00	4	\$160

\$2,415.00**Project Total \$6,298.42**

Waterhole Construction and Access Improvement

Will Lawrence

06/15/2015

Location: I11

Access Improvement	Stations		\$/Station	\$
Sod Removal	2.5		\$ 22.23	\$ 55.58
Grade, Shape, and Ditch 16'	2.5		\$ 24.83	\$ 62.08
Subgrade Compaction	2.5		\$ 20.19	\$ 50.48
Pit-run surface compaction	2.5		\$ 31.54	\$ 78.85
		CY	\$/CY	
6" lift 6"-0" pit-run rock (38CY/Station)	2.5	95	\$ 9.20	\$ 874.00
Drafting area 6"-0" pit-run rock		22	\$ 9.20	\$ 202.40
Initial Excavation/Berm Construction/Daylighting		Hours	\$/Hour	
C330		4	\$ 155.00	\$ 620.00
10-12cy dump truck		4	\$ 79.00	\$ 316.00
Waterhole Excavation/Ramp and Drafting Area Construction		Hours	\$/Hour	
C330		12	\$ 155.00	\$ 1,860.00
10-12cy dump truck		12	\$ 79.00	\$ 948.00
Armoring/Rock Placement/Waste Area Shaping		Hours	\$/Hour	
C330		4	\$ 155.00	\$ 620.00
10-12cy dump truck		4	\$ 79.00	\$ 316.00
Labor/dewater/seed and mulch				\$ 300.00
		CY	\$/CY	
Armoring (24"-6" Riprap)		55	11.93	\$ 656.15
Partial Equipment Moves				
C330				\$ 351.50
14G				\$ 194.50
D8				\$ 351.50
Vibratory Roller				\$ 194.50
			Total	\$ 8,051.53

Timber Sale Contract
 Nowhere Land
 341-16-20

Lignin Application Costs

Road Segment I1 to I2 (96+30 to 121+10)	Northrup Horse	Tons of	Water	Grader	Applicator
Camp & Day Use Area	Stations	Lignin	Truck hrs.	hrs.	Roller (2) hrs. truck hrs.
Existing Road Compaction	24.8				
Purchase and delivery of lignin		9.55			
Watering the road			3		
Grade and shape new rock w/lignin				2	
Rolling lignin treated rock					5
Applying lignin					3

Total Quantity	24.8	9.55	3	2	5	3
Hourly Rate			\$89	\$100	\$154	\$225
Quantity Rate	\$20.19	\$150.00				
Move in Rate			\$190	\$778	\$778	\$190

Project Cost	\$500.71	\$1,432.50	\$279	\$978	\$1,548	\$865
Total Project Cost:					\$5,603.21	

Note: 1.) Cost of grading and shaping the existing road segments receiving lignin are in the "Summary of Construction Costs" Subgrade Prep
 2.) The Lignin tonage is undiluted quantity.

Complied by: N. Haile / W. Lawrence
06/16/2015

CRUSHED ROCK COST

SALE NAME:	Nowhere Land
PROJECT:	No. 2
QUARRY:	Northrup Quarry

MATERIAL: 2"-1" drain rock
Stockpile

DATE: 06/11/2015
BY: W.Lawrence

[illegible]

ROCK HAUL:

Truck type: D20 No. trucks:
 Delay min.: 8 Efficiency: 85%

Ave haul:	\$2.56	/cy
Load:	\$1.08	/cy
Spread:	\$1.92	/cy

Truck type: D12 No. trucks: 2
 Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 493

CRUSHED ROCK HAUL COSTS

88 cy @ \$5.57 /cy

PIT RUN ROCK COST

SALE NAME:	Nowhere Land
PROJECT:	Nos. 1 & 2
QUARRY:	Knob Point

MATERIAL: 6"-4" & 6"-0"
Pit Run

DATE: 06/12/2015
BY: W.Lawrence /

[illegible]

ROCK HAUL:

Truck type: D20 No. trucks: 2
 Delay min.: 8 Efficiency: 85%

Ave haul:	\$7.52	/cy
Load:	\$0.60	/cy
Spread:	\$1.08	/cy

Truck type: D12 No. trucks: 6
 Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 717

PIT RUN ROCK HAUL COSTS

909 cy @ \$9.20 /cy

RIP RAP ROCK COST

SALE NAME:	Nowhere Land
PROJECT:	Nos. 1& 2
QUARRY:	Viewpoint

MATERIAL: 24"-6", 24"-12", & 12"-6"
Rip Rap

DATE: 06/12/2015
BY: W.Lawrence /

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	
										15.60 13.50 10.00 6.60
I1 to I2	117.90	77		10.00	2.00	1.10	2.00	0.20	0.30	
I3 to I4	3.60	143		10.00	1.50	0.50	1.00	0.20	0.30	
I5 to I6	1.50	11		6.00	1.50	1.00	1.00	0.20	0.30	
I11	2.50	44		2.00	2.80	1.10	0.30	0.20	0.20	

ROCK HAUL:

Truck type:	D12	No. trucks:	4
Delay min.:	6	Efficiency:	85%
Truck type:	D10	No. trucks:	
Delay min.:	5	Efficiency:	85%

Ave haul:	\$9.23	/cy
Load:	\$2.70	/cy
Develop:		/cy

Production: cy/day = 274

RIP RAP ROCK HAUL COSTS

275 cy @ \$11.93 /cy

CRUSHED ROCK COST

SALE NAME:	Nowhere Land
PROJECT:	Nos. 1 & 2
QUARRY:	Cow Creek Stockpile Sites

MATERIAL: 3/4"-0" & 4"-0"
Stockpile

DATE: 06/11/2015
BY: W.Lawrence /

[illegible]

ROCK HAUL:

Truck type:	<u>D20</u>	No. trucks:	<u>2</u>
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>

Ave haul:	\$2.74	/cy
Load:	\$0.30	/cy
Spread:	\$0.48	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>6</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 1,965

CRUSHED ROCK HAUL COSTS 4,906 cy @ \$3.52 /cy

BRUSHING COST ANALYSIS - NOWHERE LAND

341-16-20

Brushing Type	\$/mi.
Light (L)	850
Medium (M)	1100
Heavy (H)	1550

Total Brushing Miles=	29.91
Avg. \$/mi.=	\$1,157.32

Brushing Total Cost= \$34,618

Spraying Total Cost = \$5,085

Grand Total = \$39,703

Road Segment	Road Name	Measured Feet	Miles	Brushing Type	Estimated Cost	Notes
B1-B2	Vesper Road	28633	5.42	M	\$5,965.21	
B3		2297	0.44	M	\$478.54	
B4		157	0.03	M	\$32.71	
B5		1226	0.23	M	\$255.42	
B6		101	0.02	M	\$21.04	
B7		100	0.02	H	\$29.36	
B8		120	0.02	H	\$35.23	
B9		195	0.04	H	\$57.24	
B10		105	0.02	H	\$30.82	
B11		1190	0.23	H	\$349.34	
B12		4358	0.83	H	\$1,279.34	
B13		379	0.07	H	\$111.26	
B14		171	0.03	H	\$50.20	
B15		417	0.08	H	\$122.41	
B16		1059	0.20	H	\$310.88	
B17		603	0.11	H	\$177.02	
B18		421	0.08	H	\$123.59	
B19		1802	0.34	H	\$529.00	
B20		89	0.02	H	\$26.13	
B21		1298	0.25	H	\$381.04	
B22		4825	0.91	M	\$1,005.21	
B23		396	0.08	H	\$116.25	
B24		3147	0.60	M	\$655.63	
B25		1631	0.31	H	\$478.80	
B26		630	0.12	M	\$131.25	
B27		250	0.05	H	\$73.39	
B28		4932	0.93	H	\$1,447.84	
B29		911	0.17	H	\$267.43	
B30		263	0.05	H	\$77.21	
B31		2186	0.41	H	\$641.72	
B32		490	0.09	H	\$143.84	
B33		1380	0.26	H	\$405.11	
B34		457	0.09	H	\$134.16	
B35		279	0.05	H	\$81.90	
B36		903	0.17	H	\$265.09	
B37-B38	Vesper Tie-Through	6421	1.22	L	\$1,033.68	
B39		3551	0.67	H	\$1,042.43	
B40		791	0.15	H	\$232.21	
B41		127	0.02	H	\$37.28	
B42		317	0.06	H	\$93.06	
B43		261	0.05	H	\$76.62	
B44		655	0.12	H	\$192.28	
B45		787	0.15	H	\$231.03	
B46		1026	0.19	H	\$301.19	
B47	Greasy Spoon Road	14265	2.70	M	\$2,971.88	
B48		1302	0.25	H	\$382.22	
B49		895	0.17	H	\$262.74	

B50		2232	0.42	H	\$655.23	
B51		272	0.05	H	\$79.85	
B52		3205	0.61	M	\$667.71	
B53		266	0.05	H	\$78.09	
B54		342	0.06	H	\$100.40	
B55		155	0.03	H	\$45.50	
B56		631	0.12	L	\$101.58	
B57		2777	0.53	H	\$815.22	
B58-B59	Fishhawk Loop Road	22256	4.22	L	\$3,582.88	
B60		288	0.05	L	\$46.36	
B61		1558	0.30	L	\$250.81	
B62		1098	0.21	M	\$228.75	
B63		354	0.07	L	\$56.99	
B64		366	0.07	L	\$58.92	
B65		6230	1.18	L	\$1,002.94	
B66		725	0.14	L	\$116.71	
B67		27	0.01	L	\$4.35	
B68		175	0.03	L	\$28.17	
B69	Fishhawk Tie-Through	3352	0.63	L	\$539.62	
B70		607	0.11	L	\$97.72	
B71		635	0.12	L	\$102.23	
B72		3879	0.73	H	\$1,138.72	
B73		1434	0.27	H	\$420.97	
B74		377	0.07	L	\$60.69	
B75		4179	0.79	L	\$672.76	
B76		1232	0.23	L	\$198.33	
B77		221	0.04	L	\$35.58	
B78		814	0.15	L	\$131.04	
B79		450	0.09	L	\$72.44	

TOTALS	157,936	29.91	\$34,537.77
			\$80.00

Hand Brushing

\$34,618

Hrs	\$/Hr	\$
2	40.00	\$80.00

Roadside Spraying Cost Appraisal

	\$/mile	Miles	Total Cost
<i>Roadside Spraying Rate</i>	<i>170.00</i>	<i>x</i>	<i>29.91</i>
			\$5,085.06

Projects Road Maintenance Cost Summary

Sale: Nowhere Land
Date: 15-Jun-15
By: W. Lawrence FL

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work Final Haul Road Maintenance	Grader 14G			16	\$100	\$1,600
Total						\$1,600

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days
N/A		
N/A		

NOTE: 16 Hours grader time for spot grading as necessary on haul routes from Knob Point Quarry and Viewpoint Quarry to project locations.

Road Maintenance Cost Summary

Sale: Nowhere Land
Date: 12-Jun-15
By: N. Haile *fl*

MBF: 5,388
\$\$/MBF: \$3.13

Type	Equipment/Rationale	Move In	Times	Hours	Rate	Cost
Progressive Operations 1st Entry	Grader 14G	\$778	1	28	\$100	\$3,578
	Rubber Tire Backhoe	\$321	1	8	\$77	\$937
Final Haul Maintenance Haul Route	Grader 14G	\$778	1	32	\$100	\$3,978
	Dump Truck 12CY	\$163	1	8	\$79	\$795
	Vibratory Roller	\$778	1	32	\$77	\$3,242
	Water Truck 2,500 gallon	\$190	1	16	\$89	\$1,614
	FE Loader C966	\$778	1	8	\$83	\$1,442
	Rubber Tire Backhoe	\$321	1	8	\$77	\$937
	Labor		1	8	\$40	\$320
Total						\$16,843

Progressive Ops. 1st Entry	Production Rates	Miles/day	Distance(miles)	Days
	Grader	2.5	7.5	3.0

Final Road Maintenance	Production Rates	Miles/day	Distance(miles)	Days
	Grader	1.5	9.2	6.1
	Vibratory Roller	1.5	9.2	6.1

**Nowhere Land
TIMBER CRUISE REPORT
FY 2016**

1. **Sale Area Location:** Areas 1 and 2 are located in portions of Sections 5, 6, 7, and 8 of T6N, R6W, W.M., Clatsop County, Oregon.

2. **Fund Distribution:** BOF 100%
Tax Code 8-01 (100%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Existing R/W	New R/W*	Stream Buffer	Net Acres	Survey Method
1	Modified Clearcut	102	2	2	19	79	GIS
2	Modified Clearcut	47	1	1	4	41	GIS
3	Right-of-Way	3	0	0	0	3	GIS
TOTALS		152	3	3	23	123	

4. **Cruisers and Cruise Dates:** Areas 1 and 2 were cruised by Ty Williams, Derek Bangs, Nick Haile, and Kevin Berry, on June 9, 2015.

5. **Cruise Method and Computation:**

Areas 1 and 2 are Modified Clearcut units and were variable plot cruised using a 40 BAF. The plots are located on a 6 chain by 4 chain grid, with every third plot measured and graded. A total of 55 plots were sampled, with 21 measured and graded plots, and 34 count plots. One count plot was cruised as a grade plot and one count plot was dropped due to proximity to the Timber Sale Boundary.

All cruisers used Allegro² data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1	T6NR6W08	Area1	TAKE	79
2	T6NR6W08	Area1	TAKE	41
3	T6NR6W08	Area1	RW	3

6. **Timber Description:**

Areas 1 and 2 are modified clearcut units, approximately 75 years-old, consisting of Douglas-fir, with minor amounts of western hemlock, western red cedar, red alder, and maple. The average Douglas-fir tree size to be harvested is 23.9 inches DBH, with an average height of 88 feet to a merchantable top (40% of DBH) the average DBH of hemlock to be harvested is 20.6 inches, with an average bole height of 74 feet to a merchantable top. Red alder has an average DBH of 15.3 inches, and an average height of 52 feet to a merchantable top. Bigleaf maple has an average DBH of 15.7 inches and, an average height of 36 feet to a merchantable top. The average volume (net) is approximately 43.7 MBF/acre.

Area 3 R/W is similar to the timber description mentioned above for Areas 1 and 2. The average volume (net) is approximately 44.1 MBF/acre.

7. Statistical Analysis and Stand Summary: (See "Statistics" - Type Reports, attached)

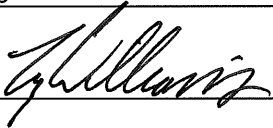
Statistics for Stand B.F. volumes

Area	Estimated CV	Target SE%	Actual CV	Actual SE%
1	55%	9%	54%	7%

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade" - Project Report, attached).

Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol. MBF	2 Saw	3 Saw	4 Saw	Camp Run	% D & B	% Sale
Douglas-fir	23.9"	4,457	3,877	497	83	0	3.7%	83%
Hemlock/True-fir	20.6"	204	155	43	6	0	12.2%	3%
Cedar	16.0"	<1	0	<1	0	0	12.2%	<1%
Alder	15.3"	677	0	0	0	677	6.1%	13%
Maple	15.7"	49	0	0	0	49	6.1%	<1%
TOTALS		5,388						

9. Approvals:Prepared by: Nick Haile Date: 6/11/15Unit Forester Approval:  Date: 6/12/15**10. Attachments:**

Cruise Designs and Maps - 5 pages
 Volume Report - 3 pages
 Statistics Reports - 3 pages
 Stand Table Summary - 2 pages
 Log Stock Tables - 3 pages

X:\STATE_FORESTS\UNIT_JEWELL\Timber Sales\2016\Nowhere Land\Sale Prep\NL_CruiseReport.docx

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Nowhere Land **Area(s)** 1 & 2

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 123 ac **Estimated CV%** 55% Net BF or BA/Acre **SE% Objective** 9%

Planned Sale Volume: 4,955 MBF **Estimated Sale Area Value/Acre:** \$15,107/ac

A. Cruise Goals: (a) Grade minimum 100 conifer trees:
Determine log grades for sale value; Determine snag and leave tree species and sizes;
Determine "diameter limit" harvest parameters;

B. Cruise Design:

- 1. Plot Cruises:** BAF 40 (Full point; Half point) (circle one)
Cruise Line Direction(s) Areas 1 & 2 @ 90 degrees (E/W)
Cruise Line Spacing 6 chains
Cruise Plot Spacing 4 chains
Grade/Count Ratio 1:2

Record all hardwood as camp run and all cedar as leave. Record all snags as SN and record diameter & total height on grade plots only. If the plot lands in a buffer then offset at least 1/2 chain outside the buffer.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods. Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" or 40% of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.
- 5. Tree Segments:** Record log segments in "standard" log lengths in general use, such as 32' and 40' lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length

is 40'. One foot of trim is assumed for each merch. segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree.

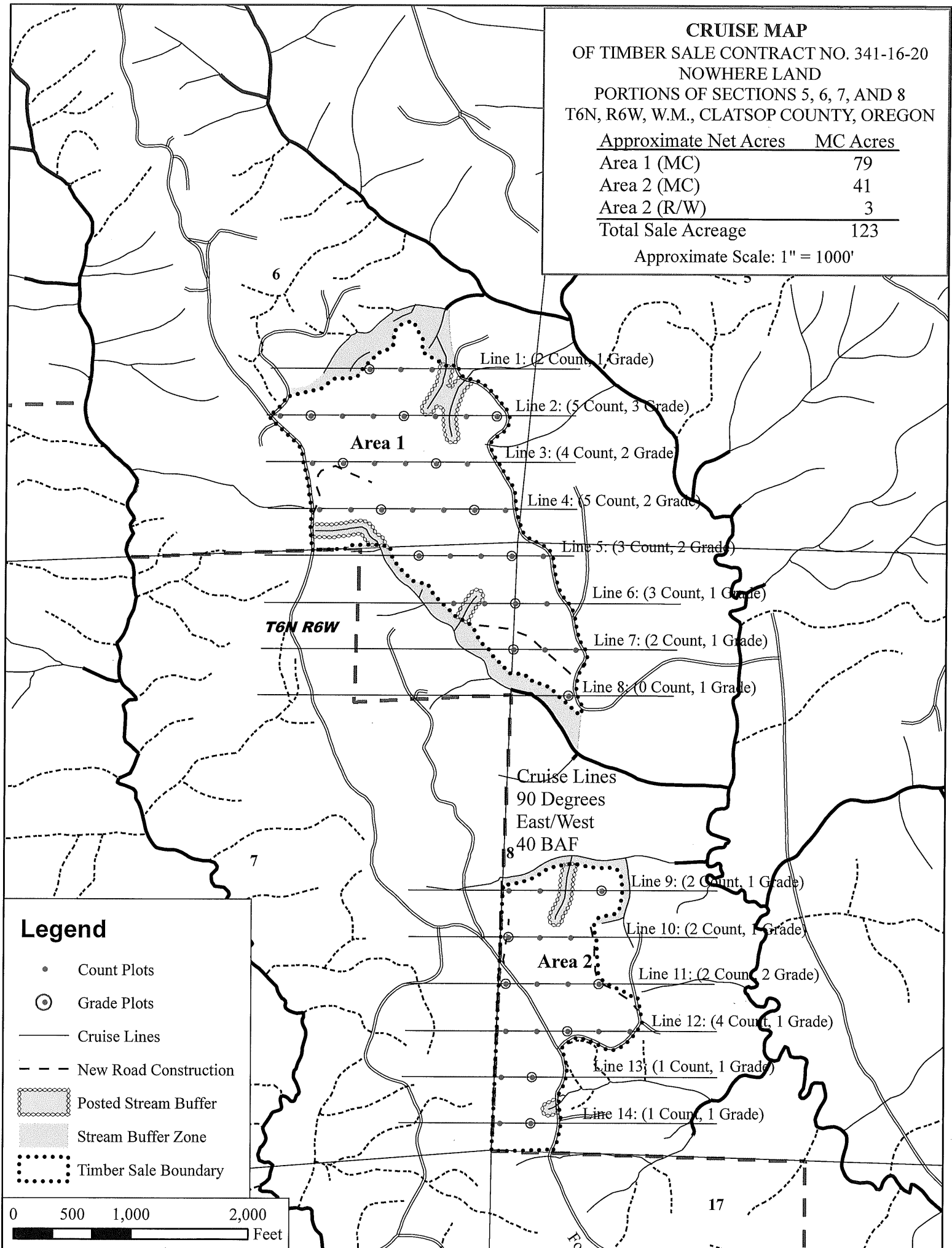
- 6. Species, Sort, and Grade Codes:** A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple); DL (Douglas-fir painted for wildlife trees); HL (Western hemlock painted for wildlife trees); SL (Sitka spruce painted for wildlife trees); CL (Western red cedar); NFL (Noble fir painted for wildlife trees); SFL (Silver fir painted for wildlife trees)
B. Sort: Use code "1" (Domestic).
C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; R = Camp Run; 0 = Cull
- 7. Deductions:** Estimate visible defect or damage as a "length deduction" (most often), or as a "diameter deduction," as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a "per tree" basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
- 8. Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at intervisible points, not to exceed 100' apart. On "measure/grade" plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.
ITS and 100% Cruises: Mark cruise "strips" with various colored flagging (not pink). Mark trees measured and graded with yellow paint.
- 9. Cruising Equipment:** Relaskop, Rangefinder, Logger's Tape (with dbh on back), Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging.
- 10. Attachments:** A. Cruise Map (showing cruise unit boundaries, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale).

Cruise Design by: Nick Haile
Approved by: 
Date: 06/04/15

CRUISE MAP
 OF TIMBER SALE CONTRACT NO. 341-16-20
 NOWHERE LAND
 PORTIONS OF SECTIONS 5, 6, 7, AND 8
 T6N, R6W, W.M., CLATSOP COUNTY, OREGON

<u>Approximate Net Acres</u>	<u>MC Acres</u>
Area 1 (MC)	79
Area 2 (MC)	41
Area 2 (R/W)	3
<u>Total Sale Acreage</u>	<u>123</u>

Approximate Scale: 1" = 1000'



Legend

- Count Plots
- ⊙ Grade Plots
- Cruise Lines
- - - New Road Construction
- ▨ Posted Stream Buffer
- ▩ Stream Buffer Zone
- ⋯ Timber Sale Boundary

0 500 1,000 2,000
 Feet

	<u>Approximate Net Acres</u>	<u>MC Acres</u>
	Area 1 (MC)	79
	Area 2 (MC)	41
	Area 2 (R/W)	3
	<u>Total Sale Acreage</u>	<u>123</u>

CRUISE MAP
OF TIMBER SALE CONTRACT NO. 341-16-20
NOWHERE LAND
PORTIONS OF SECTIONS 5, 6, 7, AND 8
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

	Approximate Net Acres	MC Acres
Area 1 (MC)		79
Area 2 (MC)		41
Area 2 (R/W)		3
Total Sale Acreage		123

Approximate Scale: 1" = 500'

Legend

- Count Plots
- Grade Plots
- Cruise Lines
- New Road Construction
- Posted Stream Buffer
- Stream Buffer Zone
- Timber Sale Boundary

Cruise Lines
 90 Degrees
 East/West
 40 BAF

Line 1: (2 Count, 1 Grade)
Line 2: (5 Count, 3 Grade)
Line 3: (4 Count, 2 Grade)
Line 4: (5 Count, 2 Grade)
Line 5: (3 Count, 2 Grade)
Line 6: (3 Count, 1 Grade)
Line 7: (2 Count, 1 Grade)
Line 8: (0 Count, 1 Grade)

Area 1
 T6N R6W

Scale: 250 500 1,000 Feet

Legend

- Count Plots
- ⊙ Grade Plots
- Cruise Lines
- - - New Road Construction
-  Posted Stream Buffer
- Stream Buffer Zone
-  Timber Sale Boundary

Legend

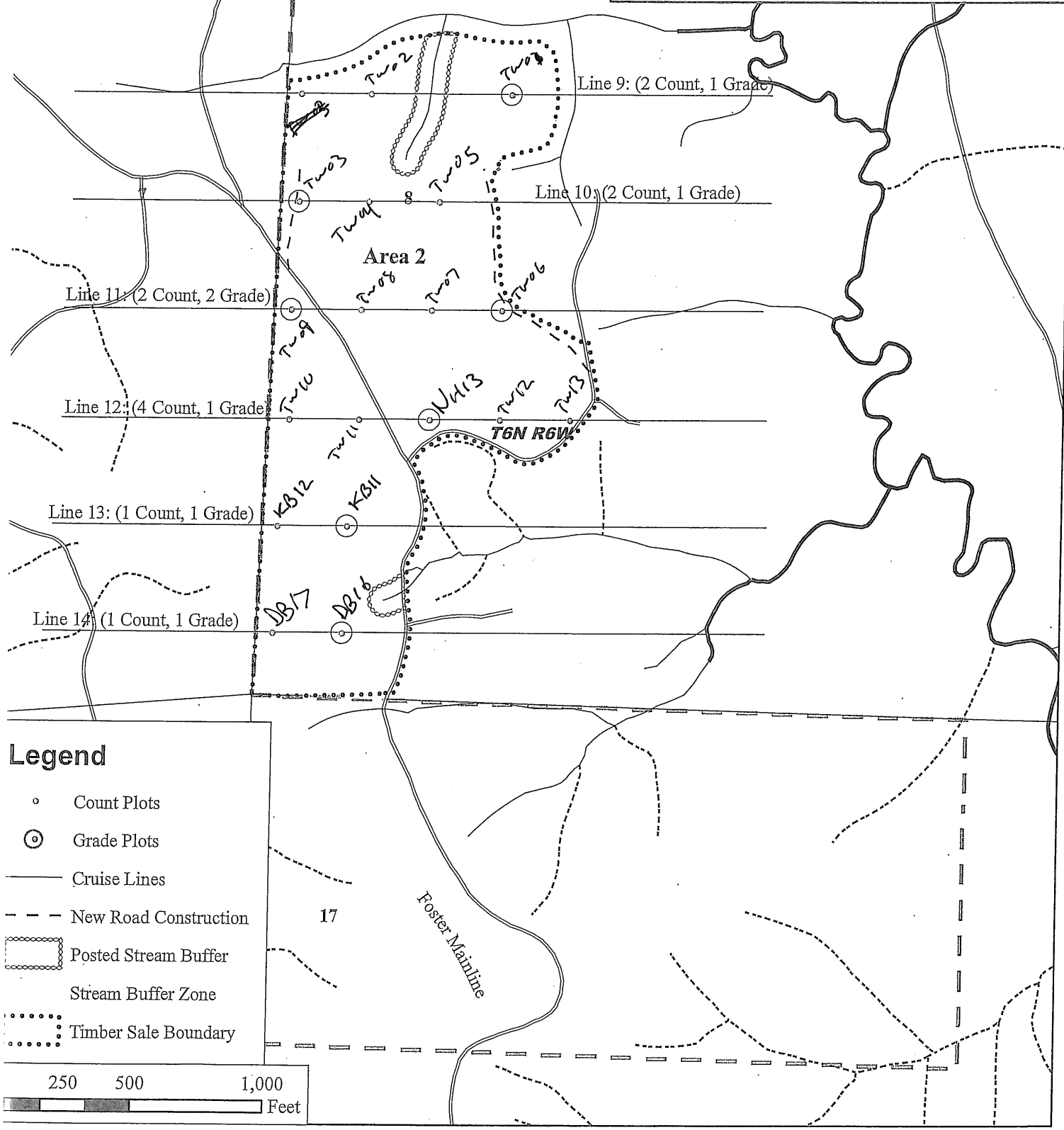
- Count Plots
- ⊙ Grade Plots
- Cruise Lines
- - - New Road Construction
-  Posted Stream Buffer
- Stream Buffer Zone
-  Timber Sale Boundary

CRUISE MAP
OF TIMBER SALE CONTRACT NO. 341-16-20
NOWHERE LAND
PORTIONS OF SECTIONS 5, 6, 7, AND 8
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

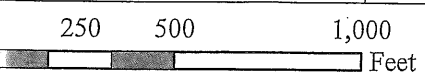
<u>Approximate Net Acres</u>	<u>MC Acres</u>
Area 1 (MC)	79
Area 2 (MC)	41
Area 2 (R/W)	3
Total Sale Acreage	123

Approximate Scale: 1" = 500'

Cruise Lines
 90 Degrees
 East/West
 40 BAF



- Legend**
- Count Plots
 - ⊙ Grade Plots
 - Cruise Lines
 - - - New Road Construction
 - ▭ Posted Stream Buffer
 - ▭ Stream Buffer Zone
 - ⋯ Timber Sale Boundary



Species, Sort Grade - Board Foot Volumes (Project)

T06N R06W S08 TyR/W 3.00
T06N R06W S08 TyTAKE 120.00

Project: NOWHRLAN

Acres 123.00

Page 1
Date 6/11/2015
Time 11:47:40AM

Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
D	DOCU		100.0	872											10	19		0.00	6.6
D	DO2S	87	1.5	32,002	31,519	3,877		2	25	73	0	2	8	91	38	17	479	2.63	65.8
D	DO3S	11	.9	4,075	4,039	497		100			2	15	34	50	34	9	91	0.80	44.3
D	DO4S	2	1.2	681	672	83		100			14	48	38		24	6	35	0.48	19.4
D Totals		83	3.7	37,629	36,230	4,457		15	22	63	1	4	11	84	33	13	266	1.76	136.1
H	DOCU		100.0	182											6	17		0.00	2.5
H	DO2S	75	2.1	1,288	1,261	155		6	74	20	18		6	76	33	15	281	1.91	4.5
H	DO3S	21	5.8	372	350	43		100			15	9	38	38	28	8	72	0.85	4.9
H	DO4S	4		53	53	6	42	58			100				17	6	23	0.57	2.3
H Totals		4	12.2	1,895	1,664	204	1	27	56	15	20	2	12	65	24	12	118	1.24	14.1
A	DOCU		100.0	295											8	13		0.00	5.9
A	DOCR	100	1.1	5,571	5,507	677	2	61	37		5	25	43	27	28	8	78	0.81	70.7
A Totals		13	6.1	5,865	5,507	677	2	61	37		5	25	43	27	27	8	72	0.79	76.6
M	DOCR	100		400	400	49		48	30	21	3	27	41	29	31	8	82	0.88	4.9
M Totals		1		400	400	49		48	30	21	3	27	41	29	31	8	82	0.88	4.9
C	DO3S	73		3	3	0		100				100			23	12	110	1.13	.0
C	DO4S	27		1	1	0		100				100			23	8	40	0.65	.0
C Totals		0		4	4	0		27	73			100			23	10	75	0.89	.1
Totals			4.3	45,794	43,806	5,388	0	22	25	53	2	7	15	76	31	11	189	1.43	231.8

T		Species, Sort Grade - Board Foot Volumes (Type)										Page		1								
TSPCSTGR		Project: NOWHRLAN										Date		6/11/2015								
												Time		11:48:05AM								
T06N R06W S08 TTAKE										T06N R06W S08 TTAKE												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
06N	06W	08	AREA1	TAKE	120.00	55	122	1	W													
S So Gr T rt ad Spp			%	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log		Logs Per /Acre				
			Net BdFt					Log Scale Dia.				Log Length				Ln	Dia		Bd	CF/ Lf		
										4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		
D	DO	CU		00.0	872													10	19		0.00	6.6
D	DO	2S	87	1.5	31,998	31,514	3,782			2	25	73		0	2	8	91	38	17	479	2.63	65.8
D	DO	3S	11	.9	4,075	4,039	485			100				2	15	34	50	34	9	91	0.80	44.3
D	DO	4S	2	1.2	681	672	81			100				14	48	38		24	6	35	0.48	19.4
D Totals			83	3.7	37,626	36,226	4,347			15	22	63		1	4	11	84	33	13	266	1.76	136.1
A	DO	CU		00.0	295													8	13		0.00	5.9
A	DO	CR	100	1.1	5,571	5,507	661			2	61	37		5	25	43	27	28	8	78	0.81	70.7
A Totals			13	6.1	5,865	5,507	661			2	61	37		5	25	43	27	27	8	72	0.79	76.6
H	DO	CU		00.0	182													6	17		0.00	2.5
H	DO	2S	75	2.1	1,288	1,261	151			6	74	20		18		6	76	33	15	281	1.91	4.5
H	DO	3S	21	5.8	372	350	42			100				15	9	38	38	28	8	72	0.85	4.9
H	DO	4S	4		53	53	6			42	58			100				17	6	23	0.57	2.3
H Totals			4	12.2	1,895	1,664	200			1	27	56	15	20	2	12	65	24	12	118	1.24	14.1
M	DO	CR	100		400	400	48			48	30	21		3	27	41	29	31	8	82	0.88	4.9
M Totals			1		400	400	48			48	30	21		3	27	41	29	31	8	82	0.88	4.9
Type Totals				4.3	45,786	43,798	5,256			0	22	25	53	2	7	15	76	31	11	189	1.43	231.7

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1		
				Project: NOWHRLAN												Date		6/11/2015		
																Time		11:48:05AM		
T06N R06W S08 TR/W												T06N R06W S08 TR/W								
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
06N		06W		08		AREA1		R/W		3.00		55		124		1		W		
S So Gr T rt ad Spp			% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Dia Bd CF/ Ft In Ft Lf				
D DO CU			87	00.0 864			95	2 25 73				0 2 7 91				10 19 0.00				6.6
D DO 2S			11	1.5 32,181 31,702			12	100				2 15 34 49				38 17 477 2.62				66.5
D DO 3S			2	.9 4,064 4,028			2	100				14 48 38				34 9 90 0.80				44.5
D DO 4S				1.2 675 666												24 6 35 0.48				19.2
D Totals			82	3.7 37,784 36,397			109	15 22 63				1 4 11 84				33 13 266 1.76				136.8
A DO CU				00.0 295												8 13 0.00				5.9
A DO CR			100	1.1 5,571 5,507			17	2 61 37				5 25 43 27				28 8 78 0.81				70.7
A Totals			12	6.1 5,865 5,507			17	2 61 37				5 25 43 27				27 8 72 0.79				76.6
H DO CU				00.0 182												6 17 0.00				2.5
H DO 2S			75	2.1 1,288 1,261			4	6 74 20				18 6 76				33 15 281 1.91				4.5
H DO 3S			21	5.8 372 350			1	100				15 9 38 38				28 8 72 0.85				4.9
H DO 4S			4	53 53			0	42 58				100				17 6 23 0.57				2.3
H Totals			4	12.2 1,895 1,664			5	1 27 56 15				20 2 12 65				24 12 118 1.24				14.1
M DO CR			100	400 400			1	48 30 21				3 27 41 29				31 8 82 0.88				4.9
M Totals			1	400 400			1	48 30 21				3 27 41 29				31 8 82 0.88				4.9
C DO 3S			73	115 115			0	100				100				23 12 110 1.13				1.0
C DO 4S			27	42 42			0	100				100				23 8 40 0.65				1.0
C Totals			0	156 156			0	27 73				100				23 10 75 0.89				2.1
Type Totals				4.3 46,101 44,125			132	0 22 25 53				2 7 15 76				30 11 188 1.43				234.5

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT NOWHRLA				DATE	6/11/2015		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	06W	08	AREA1	00MC	123.00	55	340	1	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		55	340	6.2							
CRUISE		21	132	6.3	13,385		1.0				
DBH COUNT											
REFOREST											
COUNT		34	208	6.1							
BLANKS											
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR		74	52.9	23.9	88	33.6	164.4	37,784	36,397	8,168	7,998
R ALDER		34	41.7	15.3	52	13.6	53.1	5,865	5,507	1,688	1,627
WHEMLOCK		7	4.7	20.6	74	2.4	10.9	1,895	1,664	450	417
SNAG		7	4.7	20.0	46	2.3	10.2	344	344	95	95
BL MAPLE		8	4.3	15.7	36	1.5	5.8	400	400	134	134
DOUGLEAV		1	.0	63.0	145	0.1	.7	285	285	48	48
CEDLEAV		1	.5	16.0	55	0.2	.7	78	78	21	21
TOTAL		132	108.8	20.4	70	54.5	245.8	46,651	44,675	10,604	10,340
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %		COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		76.3	8.9	1,078	1,182	1,287					
R ALDER		46.2	8.2	152	165	178					
WHEMLOCK		71.4	29.1	302	426	549					
SNAG		176.0	71.6	29	101	174					
BL MAPLE		109.4	41.2	78	133	187					
DOUGLEAV											
CEDLEAV											
TOTAL		132.6	11.6	722	816	911	703 176		78		
CL: 68.1 %		COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		81.8	11.0	47	53	59					
R ALDER		134.4	18.1	34	42	49					
WHEMLOCK		294.9	39.7	3	5	7					
SNAG		253.7	34.2	3	5	6					
BL MAPLE		445.4	60.0	2	4	7					
DOUGLEAV		741.6	99.9	0	0	0					
CEDLEAV		741.6	99.9	0	1	1					
TOTAL		49.0	6.6	102	109	116	96 24		11		
CL: 68.1 %		COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUG FIR		73.3	9.9	148	164	181					
R ALDER		128.9	17.4	44	53	62					
WHEMLOCK		303.1	40.8	6	11	15					
SNAG		241.7	32.6	7	10	13					
BL MAPLE		427.1	57.5	2	6	9					
DOUGLEAV		741.6	99.9	0	1	1					
CEDLEAV		741.6	99.9	0	1	1					
TOTAL		41.9	5.7	232	246	260	70 18		8		
CL: 68.1 %		COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		

TC TSTATS				STATISTICS				PAGE	2
				PROJECT	NOWHRLA			DATE	6/11/2015
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	06W	08	AREA1	00MC	123.00	55	340	1	W
CL: 68.1 %		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0		VAR.	S.E. %	LOW	AVG	HIGH	5	10	15
DOUG FIR		74.5	10.0	32,742	36,397	40,051			
R ALDER		132.4	17.8	4,525	5,507	6,490			
WHEMLOCK		313.3	42.2	962	1,664	2,367			
SNAG		408.7	55.1	155	344	533			
BL MAPLE		381.4	51.4	195	400	606			
DOUGLEAV		741.6	99.9	0	285	569			
CEDLEAV		741.6	99.9	0	78	156			
TOTAL		54.4	7.3	41,401	44,675	47,950	118	30	13

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	NOWHRLA			DATE	6/11/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	08	AREA1	TAKE	120.00	55	322	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		55	322	5.9						
CRUISE		21	122	5.8	12,413		1.0			
DBH COUNT										
REFOREST										
COUNT		34	200	5.9						
BLANKS										
100 %										
STAND SUMMARY										
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
TREES		/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR		73	52.7	23.9	88	33.5	163.6	37,626	36,226	8,127
R ALDER		34	41.7	15.3	52	13.6	53.1	5,865	5,507	1,688
WHEMLOCK		7	4.7	20.6	74	2.4	10.9	1,895	1,664	450
BL MAPLE		8	4.3	15.7	36	1.5	5.8	400	400	134
TOTAL		122	103.4	20.3	71	51.8	233.5	45,786	43,798	10,399
10,134										
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %		COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR		76.3	8.9	1,082	1,188	1,294				
R ALDER		46.2	8.2	152	165	178				
WHEMLOCK		71.4	29.1	302	426	549				
BL MAPLE		109.4	41.2	78	133	187				
TOTAL		107.7	9.8	722	800	879	464 116		52	
CL: 68.1 %		COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR		82.0	11.1	47	53	59				
R ALDER		134.4	18.1	34	42	49				
WHEMLOCK		294.9	39.7	3	5	7				
BL MAPLE		445.4	60.0	2	4	7				
TOTAL		52.1	7.0	96	103	111	108 27		12	
CL: 68.1 %		COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR		73.2	9.9	147	164	180				
R ALDER		128.9	17.4	44	53	62				
WHEMLOCK		303.1	40.8	6	11	15				
BL MAPLE		427.1	57.5	2	6	9				
TOTAL		44.1	5.9	220	233	247	78 19		9	
CL: 68.1 %		COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD: 1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15	
DOUG FIR		74.4	10.0	32,596	36,226	39,855				
R ALDER		132.4	17.8	4,525	5,507	6,490				
WHEMLOCK		313.3	42.2	962	1,664	2,367				
BL MAPLE		381.4	51.4	195	400	606				
TOTAL		55.1	7.4	40,547	43,798	47,048	121 30		13	

TC		PSTNDSUM		Stand Table Summary										Page Date:		1 6/11/2015	
T06N R06W S08 TyR/W3.00 T06N R06W S08 TyTAKE120.00				Project						NOWHRLAN				Time:		11:50:36AM	
				Acres						123.00				Grown Year:			
S Spec	T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s			
		DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
D		10	2	86	82	4.109	2.24	4.11	15.0	60.0		62	247		76	30	
D		13	2	85	34	2.431	2.24	2.43	14.0	30.0		34	73		42	9	
D		14	6	87	108	6.289	6.72	14.67	18.4	75.7		270	1,111		333	137	
D		16	4	87	99	3.315	4.48	6.63	24.5	95.3		163	632		200	78	
D		17	2	86	88	1.422	2.24	2.84	27.0	90.0		77	256		94	31	
D		18	4	89	111	2.536	4.48	6.34	30.8	120.0		195	761		240	94	
D		19	2	89	80	1.138	2.24	2.28	33.5	115.0		76	262		94	32	
D		20	4	88	114	2.054	4.48	5.14	37.6	134.0		193	688		238	85	
D		21	8	87	118	3.727	8.96	9.32	37.1	144.0		346	1,342		425	165	
D		22	4	88	130	1.698	4.48	5.09	43.2	180.0		220	917		270	113	
D		23	2	89	124	.777	2.24	2.33	46.7	193.3		109	451		134	55	
D		24	6	87	123	2.140	6.72	6.42	49.0	203.3		315	1,305		387	161	
D		25	11	87	137	3.303	11.26	9.91	57.5	243.4		570	2,412		701	297	
D		26	8	88	119	2.431	8.96	5.47	70.3	286.7		385	1,568		473	193	
D		27	2	88	133	.564	2.24	1.69	67.0	296.7		113	502		139	62	
D		28	8	88	137	2.096	8.96	6.29	73.2	329.2		460	2,070		566	255	
D		29	6	88	142	1.466	6.72	4.40	82.6	388.9		363	1,710		447	210	
D		30	8	88	137	1.826	8.96	5.48	85.3	397.5		468	2,178		575	268	
D		31	10	88	148	2.138	11.21	6.41	96.3	462.0		617	2,963		759	364	
D		32	8	87	149	1.605	8.96	4.82	98.1	466.7		472	2,247		581	276	
D		33	2	85	153	.377	2.24	1.13	105.3	530.0		119	600		147	74	
D		34	8	87	132	1.422	8.96	3.91	108.3	527.3		423	2,062		521	254	
D		35	2	83	145	.335	2.24	1.01	117.7	523.3		118	527		146	65	
D		36	4	89	153	.634	4.48	1.90	134.3	703.3		256	1,338		314	165	
D		37	2	86	157	.300	2.24	.90	141.3	716.7		127	645		157	79	
D		38	4	87	181	.569	4.48	2.28	127.3	698.8		290	1,591		356	196	
D		39	2	88	133	.270	2.24	.81	141.0	730.0		114	592		141	73	
D		40	4	86	173	.514	4.48	1.80	152.3	802.9		274	1,443		337	178	
D		42	2	86	154	.233	2.24	.70	182.0	916.7		127	641		156	79	
D		43	2	83	136	.222	2.24	.67	136.7	723.3		91	482		112	59	
D		44	2	88	153	.212	2.24	.64	202.7	1083.3		129	690		159	85	
D		45	2	88	146	.203	2.24	.61	204.3	1083.3		124	659		153	81	
D		46	2	86	158	.194	2.24	.58	220.3	1136.7		128	662		158	81	
D		50	2	86	158	.164	2.24	.49	259.3	1226.7		128	605		157	74	
D		Totals	147	87	117	52.717	163.65	129.49	61.4	279.8		7,957	36,230		9,787	4,456	
A		11	2	86	98	2.366	1.56	4.73	14.0	50.0		66	237		81	29	
A		12	6	87	68	5.964	4.68	7.95	15.7	50.0		125	398		154	49	
A		13	6	86	53	5.082	4.68	6.78	16.5	55.0		112	373		138	46	
A		14	12	86	71	8.764	9.37	11.69	19.7	62.5		231	730		284	90	
A		15	4	86	60	2.545	3.12	3.82	18.7	56.7		71	216		88	27	
A		16	8	87	106	4.473	6.25	8.95	29.0	112.5		259	1,007		319	124	
A		17	16	87	69	7.925	12.49	15.85	24.7	86.2		391	1,367		481	168	
A		18	2	86	103	.884	1.56	1.77	39.0	130.0		69	230		85	28	
A		19	2	87	78	.793	1.56	1.59	35.0	120.0		56	190		68	23	
A		21	2	87	72	.649	1.56	1.30	42.0	135.0		55	175		67	22	
A		22	6	87	65	1.775	4.68	5.32	28.3	80.0		151	426		186	52	
A		24	2	87	77	.497	1.56	.99	41.0	160.0		41	159		50	20	
A		Totals	68	87	73	41.718	53.09	70.73	23.0	77.9		1,627	5,507		2,001	677	
H		16	2	86	69	1.116	1.56	2.23	23.0	70.0		51	156		63	19	
H		19	2	85	117	.792	1.56	2.37	28.3	106.7		67	253		83	31	
H		21	4	87	59	1.296	3.12	2.59	28.3	110.0		73	285		90	35	
H		22	2	85	115	.590	1.56	1.77	42.3	166.7		75	295		92	36	

TC PSTNDSUM		Stand Table Summary										Page 2			
												Date: 6/11/2015			
T06N R06W S08 TyR/W 3.00 T06N R06W S08 TyTAKE 120.00					Project NOWHRLAN					Time: 11:50:36AM					
					Acres 123.00					Grown Year:					
S Spc T	Sample		Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
	DBH	Trees	FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
H	23	2	88	110	.540	1.56	1.62	46.0	186.7		75	302		92	37
H	28	2	89	132	.364	1.56	1.09	69.3	340.0		76	372		93	46
H	Totals	14	86	90	4.698	10.91	11.68	35.7	142.4		417	1,664		513	205
M	12	4	87	48	1.852	1.45	1.85	17.5	50.0		32	93		40	11
M	15	2	86	46	.593	.73	.59	24.0	60.0		14	36		17	4
M	16	2	90	48	.521	.73	.52	28.0	120.0		15	63		18	8
M	18	2	87	47	.412	.73	.41	36.0	60.0		15	25		18	3
M	19	4	86	50	.739	1.45	1.11	31.0	83.3		34	92		42	11
M	26	2	86	68	.197	.73	.39	60.5	235.0		24	93		29	11
M	Totals	16	87	49	4.313	5.82	4.88	27.5	82.1		134	400		165	49
C	16	1	90	78	.025	.04	.05	20.5	75.0		1	4		1	0
C	Totals	1	90	78	.025	.04	.05	20.5	75.0		1	4		1	0
Totals		246	87	95	103.472	233.51	216.84	46.7	202.0		10,136	43,806		12,467	5,388

TC PLOGSTVB		Log Stock Table - MBF																	
T06N R06W S08 TyR/W		3.00		Project:		NOWHRLAN												Page	1
T06N R06W S08 TyTAKE		120.00		Acres		123.00												Date	6/11/2015
																		Time	11:51:05AM
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
D		DO CU	4	13	100.0														
D		DO CU	6	41	100.0														
D		DO CU	10	7	100.0														
D		DO CU	12	11	100.0														
D		DO CU	16	11	100.0														
D		DO CU	20	23	100.0														
D		DO 2S	18	9		9	.2						9						
D		DO 2S	22	4		4	.1						4						
D		DO 2S	24	54		54	1.2								54				
D		DO 2S	26	4		4	.1						4						
D		DO 2S	32	293		293	6.6					62	96	100	19	16			
D		DO 2S	37	7		7	.2							7					
D		DO 2S	38	7		7	.1						7						
D		DO 2S	40	3,558	1.7	3,499	78.5					33	202	282	941	1110	695	235	
D		DO 3S	15	3		3	.1						3						
D		DO 3S	19	3		3	.1				3								
D		DO 3S	20	3		3	.1						3						
D		DO 3S	22	7		7	.2				7								
D		DO 3S	23	4		4	.1				0		3						
D		DO 3S	25	4		4	.1						4						
D		DO 3S	26	4		4	.1				4								
D		DO 3S	27	32		32	.7				21		11						
D		DO 3S	28	22		22	.5			17			6						
D		DO 3S	31	5		5	.1						5						
D		DO 3S	32	147	1.6	145	3.3				66		79						
D		DO 3S	33	12		12	.3				5		7						
D		DO 3S	34	6		6	.1				6								
D		DO 3S	37	7		7	.2						7						
D		DO 3S	38	7		7	.2						7						
D		DO 3S	40	218		216	4.8			59	27		130						
D		DO 3S	41	16		16	.4			16									
D		DO 4S	12	2		2	.0				2								
D		DO 4S	16	3		3	.1			3									
D		DO 4S	17	9	12.2	8	.2			8									
D		DO 4S	21	3		3	.1			3									
D		DO 4S	22	7		7	.2			4	3								

Log Stock Table - MBF

T06N R06W S08 TyR/W 3.00
T06N R06W S08 TyTAKE 120.00

Project: NOWHRLAN
Acres 123.00

Page 2
Date 6/11/2015
Time 11:51:05AM

S Spp	T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
D		DO 4S	23	4		4	.1			4									
D		DO 4S	24	5		5	.1			5									
D		DO 4S	25	9		9	.2			9									
D		DO 4S	26	11		11	.2			11									
D		DO 4S	31	6		6	.1			6									
D		DO 4S	32	26		26	.6			26									
D		Totals		4,628	3.7	4,456	82.7			169	145	361	323	388	1014	1126	695	235	
H		DO CU	6	22	100.0														
H		DO 2S	18	29		29	14.0							29					
H		DO 2S	32	9		9	4.5					9							
H		DO 2S	40	120	2.8	117	57.2						22	37	27	31			
H		DO 3S	13	2		2	1.0			2									
H		DO 3S	19	4		4	2.2			2	2								
H		DO 3S	29	4		4	1.9			4									
H		DO 3S	32	19	14.1	16	7.9				7	9							
H		DO 3S	40	16		16	8.0				16								
H		DO 4S	15	1		1	.6				1								
H		DO 4S	16	3		3	1.3		3										
H		DO 4S	19	2		2	1.2			2									
H		Totals		233	12.2	205	3.8		3	11	27	19	22	37	55	31			
A		DO CU	4	2	100.0														
A		DO CU	6	6	100.0														
A		DO CU	10	28	100.0														
A		DO CR	16	5		5	.7			5									
A		DO CR	18	4		4	.5			4									
A		DO CR	19	7		7	1.1			7									
A		DO CR	20	18		18	2.7			4			15						
A		DO CR	21	14		14	2.1					14							
A		DO CR	22	18		18	2.7			5			13						
A		DO CR	23	6		6	.9			6									
A		DO CR	24	68		68	10.1		4	15		35	15						
A		DO CR	28	17		17	2.6			4		14							
A		DO CR	30	46		46	6.8			8		20	18						
A		DO CR	31	53		53	7.9				17	18	18						
A		DO CR	32	221	1.4	218	32.2		9	51	31	73	37	17					

TC PLOGSTVB				Log Stock Table - MBF																
T06N R06W S08 TyR/W3.00 T06N R06W S08 TyTAKE120.00				Project: NOWHRLAN Acres123.00				Page 3 Date 6/11/2015 Time 11:51:05AM												
Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
A		DO	CR	33	19	9.2	18	2.6			7	11								
A		DO	CR	36	9	16.7	8	1.2			8									
A		DO	CR	39	25		25	3.8			25									
A		DO	CR	40	152		151	22.2			7		23	121						
A		Totals			721	6.1	677	12.6		12	155	59	197	237	17					
M		DO	CR	16	1		1	2.8			1									
M		DO	CR	24	8		8	15.6						8						
M		DO	CR	26	1		1	2.0			1									
M		DO	CR	30	5		5	9.3			5									
M		DO	CR	32	18		18	35.9						7		10				
M		DO	CR	34	3		3	5.5			3									
M		DO	CR	36	11		11	22.8			11									
M		DO	CR	40	3		3	6.2			3									
M		Totals			49		49	.9			24			15		10				
C		DO	3S	23	0		0	73.3						0						
C		DO	4S	23	0		0	26.7				0								
C		Totals			0		0	.0				0		0						
Total		All Species			5,633	4.3	5,388	100.0		15	358	231	577	597	442	1080	1158	695	235	

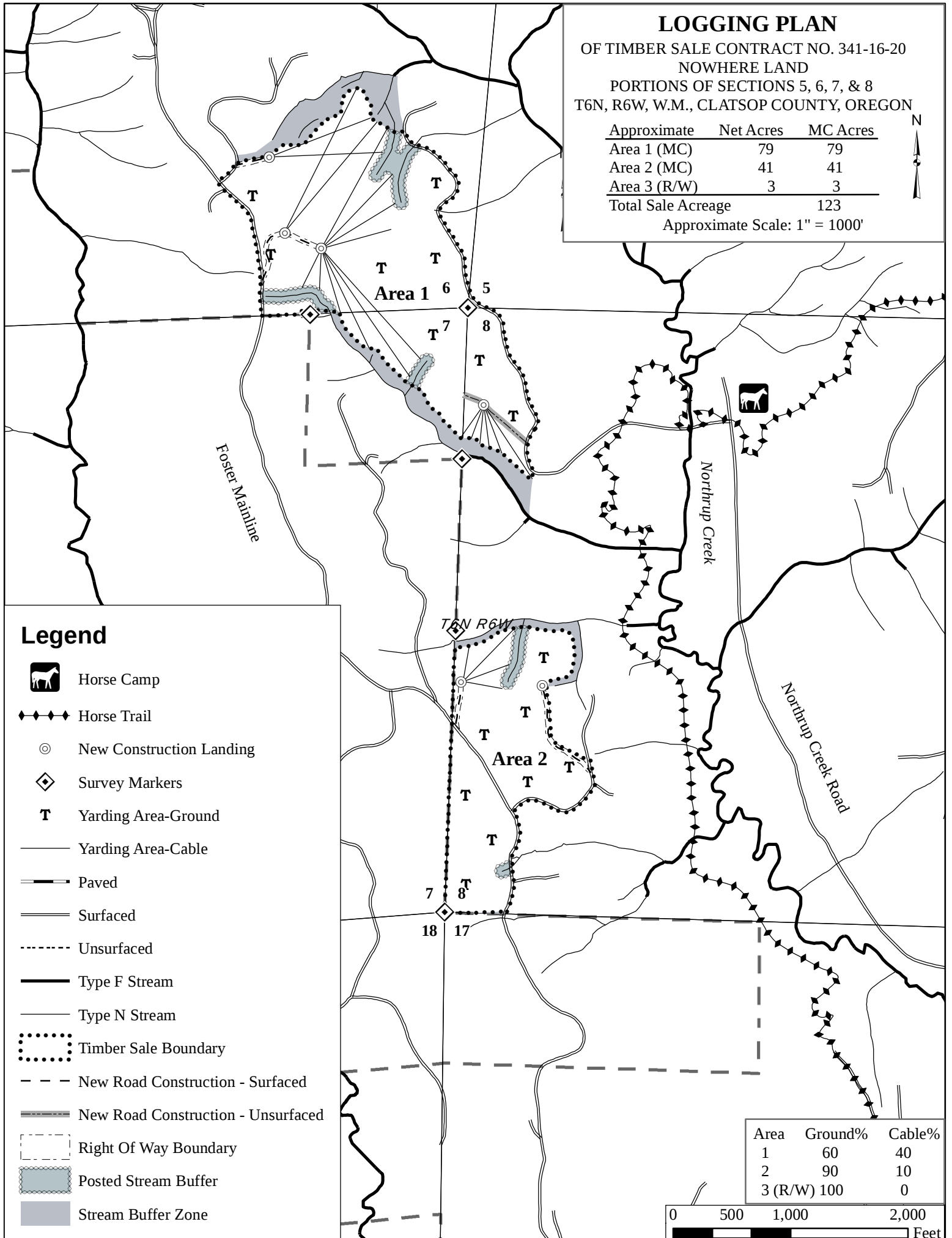
LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-16-20
NOWHERE LAND
PORTIONS OF SECTIONS 5, 6, 7, & 8
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

Approximate	Net Acres	MC Acres
Area 1 (MC)	79	79
Area 2 (MC)	41	41
Area 3 (R/W)	3	3

Total Sale Acreage 123

Approximate Scale: 1" = 1000'



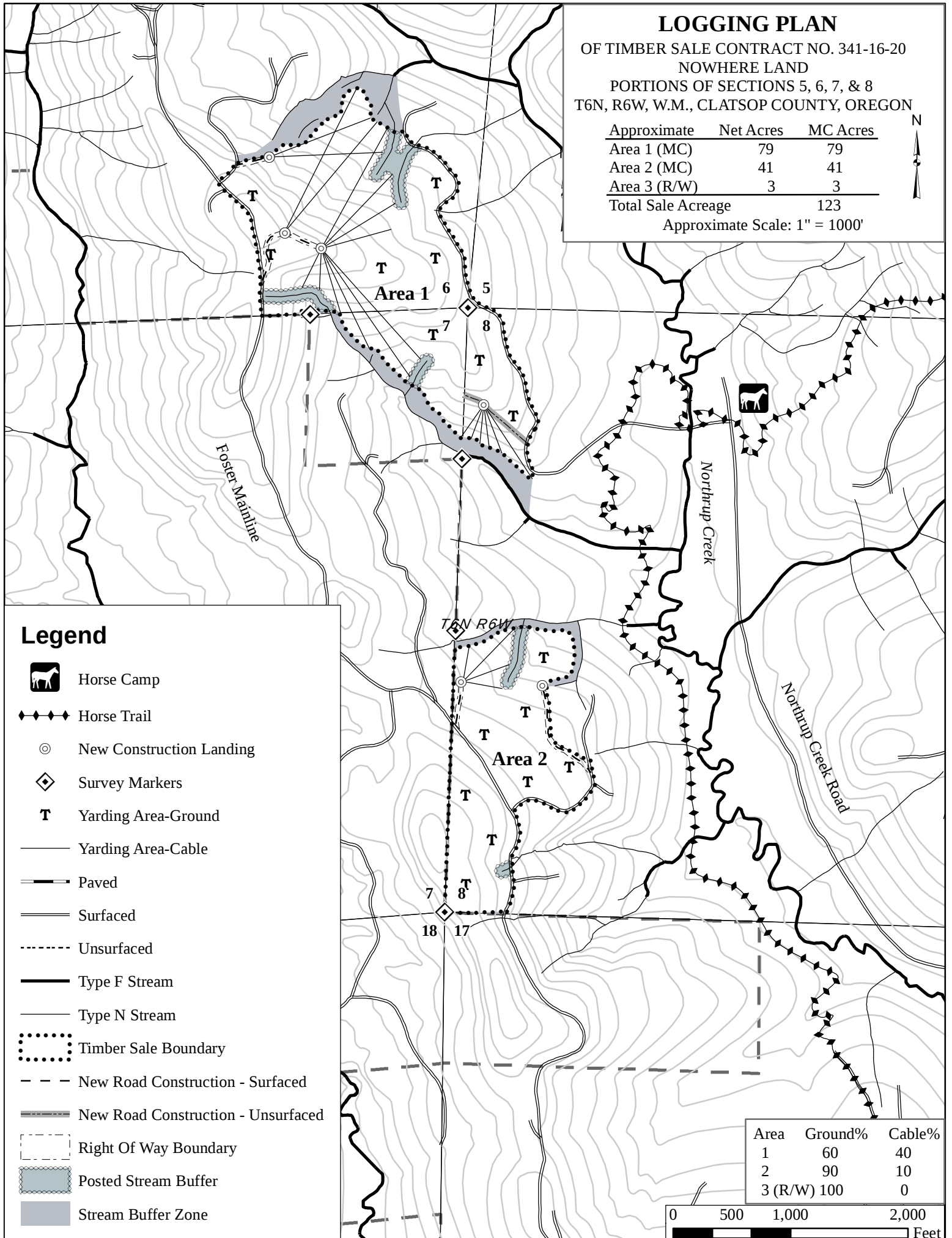
LOGGING PLAN

OF TIMBER SALE CONTRACT NO. 341-16-20
NOWHERE LAND
PORTIONS OF SECTIONS 5, 6, 7, & 8
T6N, R6W, W.M., CLATSOP COUNTY, OREGON

Approximate	Net Acres	MC Acres
Area 1 (MC)	79	79
Area 2 (MC)	41	41
Area 3 (R/W)	3	3

Total Sale Acreage 123

Approximate Scale: 1" = 1000'



Legend

- Horse Camp
- Horse Trail
- New Construction Landing
- Survey Markers
- Yarding Area-Ground
- Yarding Area-Cable
- Paved
- Surfaced
- Unsurfaced
- Type F Stream
- Type N Stream
- Timber Sale Boundary
- New Road Construction - Surfaced
- New Road Construction - Unsurfaced
- Right Of Way Boundary
- Posted Stream Buffer
- Stream Buffer Zone

Area	Ground%	Cable%
1	60	40
2	90	10
3 (R/W)	100	0

