



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Popeye
Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$3,964,102.64	\$426,997.64	\$4,391,100.28
		Project Work:	(\$435,438.00)
		Advertised Value:	\$3,955,662.28



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Popeye Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Timber Description

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	13	0	97
Western Hemlock / Fir	16	0	95
Sitka Spruce	52	0	95
Alder (Red)	12	0	97
Maple	14	0	97

Volume by Grade	2S	3S & 4S 6"-11"	1S	8" - 9"	10" - 11"	12"+	6" - 7"	Other	Total
Douglas - Fir	1,110	8,236	0	0	0	0	0	0	9,346
Western Hemlock / Fir	542	590	0	0	0	0	0	0	1,132
Sitka Spruce	22	20	0	0	0	0	0	0	42
Red Cedar	0	0	0	0	0	0	0	0	0
Alder (Red)	0	0	0	345	327	165	839	0	1,676
Maple	0	0	0	0	0	0	0	214	214
Total	1,674	8,846	0	345	327	165	839	214	12,410

Comments: Pond Values Used: Local Pond Values, September, 2020.

Expected Log Markets: Tillamook, Warrenton, Garibaldi, Banks, North Plains, Forest Grove, Banks, Longview, WA, and Chehalis, WA.

PRICING:

Western Red Cedar and other Cedars stumpage = pond value - (Douglas-fir) logging cost.

\$780.45/MBF = \$1,159/MBF - \$378.55/MBF

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

Machine Washing for Invasive Weed Compliance = \$2,000

Line Pull (5 Acres):

\$20/MBF x 12 MBF/acre x 5 acres = \$1,200

Controlled Felling (Unit 1 & 4, 17 Acres):

\$20/MBF x 213 MBF = \$4,260

Controlled Felling (Unit 2, 3, & 5, 4 Acres):

\$20/MBF x 88 MBF = \$1,760

Controlled Felling (Unit 7, 2 Acres):

\$20/MBF x 54 MBF = \$1,080

Highway flaggers on HWY 202 (Unit 1): 5 days, 2 flaggers @ \$45/hr each = \$3,600

Waterbarring Dirt Spurs

C315 \$101/hr x 20 HRS = \$2,020

Ditch Filters:

16 bales of straw @ \$12/bale = \$192

2 hours of labor @ \$45/hr = \$90

TOTAL Other Costs (with Profit & Risk to be added):\$16,202

Other Costs (No Profit & Risk added):

None.

SLASH PILING

(See attached appraisal. Includes move-in, pile materials, and end-hauling) = \$13,436

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$30,948/12,410 MBF = \$2.95/MBF



Timber Sale Appraisal
Popeye
Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Logging Conditions

Combination#: 1

Douglas - Fir	21.00%
Western Hemlock / Fir	21.00%
Sitka Spruce	21.00%
Alder (Red)	21.00%
Maple	21.00%

Logging System: Cable: Large Tower >=70
Process: Manual Falling/Delimbing
yarding distance: Medium (800 ft)
downhill yarding: No
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 10
bd. ft / load: 4100
cost / mbf: \$165.85
machines: Log Loader (A)
Tower Yarder (Large)

Combination#: 2

Douglas - Fir	4.00%
Western Hemlock / Fir	4.00%
Sitka Spruce	4.00%
Alder (Red)	4.00%
Maple	4.00%

Logging System: Shovel
Process: Manual Falling/Delimbing
yarding distance: Medium (800 ft)
downhill yarding: No
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 11
bd. ft / load: 3800
cost / mbf: \$94.20
machines: Shovel Logger

Combination#: 3

Douglas - Fir	43.00%
Western Hemlock / Fir	43.00%
Sitka Spruce	43.00%
Alder (Red)	43.00%
Maple	43.00%

Logging System: Cable: Large Tower >=70
Process: Manual Falling/Delimbing
yarding distance: Medium (800 ft)
downhill yarding: No
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 7
bd. ft / load: 3500
cost / mbf: \$277.55
machines: Log Loader (A)
Tower Yarder (Large)

Combination#: 4

Douglas - Fir	32.00%
Western Hemlock / Fir	32.00%
Sitka Spruce	32.00%
Alder (Red)	32.00%
Maple	32.00%

Logging System: Track Skidder
Process: Manual Falling/Delimbing
yarding distance: Medium (800 ft)
downhill yarding: No

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 7 **bd. ft / load:** 3700
cost / mbf: \$172.02
machines: Log Loader (B)
Track Skidder



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Popeye Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Logging Costs

Operating Seasons: 4.00	Profit Risk: 12%
Project Costs: \$435,438.00	Other Costs (P/R): \$16,202.00
Slash Disposal: \$13,436.00	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	2.0	4.2
Western Hemlock / Fir	\$0.00	2.0	3.7
Sitka Spruce	\$0.00	2.0	4.7
Alder (Red)	\$0.00	3.0	3.7
Maple	\$0.00	3.0	3.7



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Popeye Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$212.99	\$3.04	\$1.41	\$116.49	\$1.31	\$40.23	\$1.08	\$2.00	\$0.00	\$378.55
Western Hemlock / Fir									
\$212.99	\$3.10	\$1.41	\$134.80	\$1.31	\$42.43	\$1.08	\$2.00	\$0.00	\$399.12
Sitka Spruce									
\$212.99	\$3.10	\$1.41	\$106.11	\$1.31	\$38.99	\$1.08	\$2.00	\$0.00	\$366.99
Alder (Red)									
\$212.99	\$3.04	\$1.41	\$88.16	\$1.31	\$36.83	\$1.08	\$2.00	\$0.00	\$346.82
Maple									
\$212.99	\$3.04	\$1.41	\$88.16	\$1.31	\$36.83	\$1.08	\$2.00	\$0.00	\$346.82

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$777.70	\$399.15	\$0.00
Western Hemlock / Fir	\$0.00	\$600.35	\$201.23	\$0.00
Sitka Spruce	\$0.00	\$506.38	\$139.39	\$0.00
Alder (Red)	\$0.00	\$595.44	\$248.62	\$0.00
Maple	\$0.00	\$395.00	\$48.18	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Popeye
Sale AT-341-2021-W00571-01

District: Astoria

Date: January 25, 2021

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00
Sitka Spruce	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	9,346	\$399.15	\$3,730,455.90
Western Hemlock / Fir	1,132	\$201.23	\$227,792.36
Sitka Spruce	42	\$139.39	\$5,854.38
Alder (Red)	1,676	\$248.62	\$416,687.12
Maple	214	\$48.18	\$10,310.52

Gross Timber Sale Value

Recovery: \$4,391,100.28

Prepared By: Michele Huffman

Phone: 503-325-5451

Road Maintenance Cost Summary (Interim and Post Harvest)

Sale: Popeye
Date: December 23, 2020
By: Michele Huffman *ML*

MBF: 12,410.00
\$/MBF: \$2.95

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	
Interim Operations	Grader 14G	\$875	1	16	\$113	\$2,683	
	Dump Truck 12CY	\$184	1	12	\$89	\$1,252	
	Vibratory Roller	\$875	1	8	\$87	\$1,571	
Second Interim Operations	Grader 14G	\$875	1	16	\$113	\$2,683	
	Dump Truck 12CY	\$184	1	12	\$89	\$1,252	
	Vibratory Roller	\$875	1	8	\$87	\$1,571	
Final Road Maintenance	Grader 14G	\$875	1	51	\$113	\$6,638	
	Dump Truck 12CY	\$184	1	24	\$89	\$2,320	
	FE Loader C966	\$875	1	24	\$94	\$3,131	
	Vibratory Roller	\$875	1	51	\$87	\$5,312	
	Water Truck 2,500 gallon	\$214	1	32	\$101	\$3,446	
	Excavator C315	\$905	1	24	\$114	\$3,641	
	Labor			24	\$45	\$1,080	
Total							\$36,580

Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	5.0	2.0	16

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	9.5	6.3	51
Vibratory Roller	1.5	9.5	6.3	51

Process and compact: All crushed rock roads
Crawford Ridge Road: 2.5 Miles
Unnamed Spurs: 4 Miles
Surfaced New Construction Spurs: 3 Miles
Grade & Process Total = 9.5 Miles

Vegetation Type/Zone	Vegetation Type/Zone Code	Production Rate (hr/ac)	Estimated Piles/Acre	Landing Production Rate (hrs/30 acres)
Doug-fir	A	0.5	0.5	6
Hemlock/Fir	B	1.3	4.5	8
Hemlock/Spruce	C	1.8	6.0	10
Hemlock	D	1.8	6.0	8
Conifer/Hardwood	E	1.0	2.0	8
Whole Tree Yarding	F	0.5	0.5	12

Date: 01/21/2021

Unit	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area
2	MC	B	7	9	\$145	\$1,320
3	MC	B	0	0	\$145	\$0
5	MC	B	7	9	\$145	\$1,320
7	MC	B	5	7	\$145	\$943
				FALSE	\$145	\$0
				In-unit Piling		Sub Total = \$3,582
Sale Area	Number of Landings to be Piled	Harvested acres per area	Total Cost/Area	Number of In- Unit Piles	Material Cost/Pile	Total Cost/Area
2	8	48	\$1,856	39.5	\$5	\$198
3	2	32	\$1,237	2	\$5	\$10
5	10	62	\$2,397	41.5	\$5	\$208
7	9	48	\$1,856	31.5	\$5	\$158
			FALSE	0	\$5	\$0
*Cost includes separating firewood					Materials	Sub Total = \$573
					Landing Piling	Sub Total = \$7,347
Additonal Move-In Allowance	Move-in allowance Number of Move-In's	Total Move-In Allowance				
\$1,290.00	1.5	\$1,935				
					Move-In	Sub Total = \$1,935
Slash Endhaul Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total	
0	\$89.00	\$0	0	\$145	\$0	
						Sub Total = \$0
Grand Total =						\$13,436

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Popeye

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
Unsurfaced			
1A to 1B, 1C to 1D, 1E to 1F, 3A to 3B, 4A to 4B, 4C to 4D, and 4E to 4F	88.40	1.67	\$40,357
Surfaced			
1G to 1H, 1I to 1J, 1K to 1L, 1M to 1N, 1O to 1P, 1Q to 1R, 1S to 1T, 1U to 1V, 1W to 1X, 1Y to 1Z, 2A to 2B, 5A to 5B, 5C to 5D, 6A to 6B, 7A to 7B, and 7C to 7D	68.70	1.30	\$82,209
Road Maint.			\$2,562
Move-In			\$3,864
TOTALS	157.10	2.98	\$128,992

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
11 to 12, 13 to 14, 15 to 16, 17 to 18, 19 to 110, 111 to 112, 113 to 114, 115 to 116, and 117 to 118	359.70	6.81	\$125,666
Road Maint.			\$2,627
Move-In			\$3,962
TOTALS	359.70	6.81	\$132,255

SPECIAL PROJECTS (Move-In and Road Maint. are included separately as needed, for each Special Project):

<u>Description</u>	<u>Length/Vol.</u>	<u>Cost</u>
Project No. 3: Rock Crushing	14125cy	\$164,731
Project No. 4: Road Blocking	90.8sta	\$6,960
Project No. 5: Stream Enhancement		\$2,500
TOTAL		\$174,191

GRAND TOTAL **\$435,438**

Compiled By: Cole Hatcher

Date: 01/19/2021

Move In and Maintenance Calculator for Construction and Improvement

SALE NAME: Popeye

Project No. 1: ROAD CONSTRUCTION:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
Unsurfaced			
1A to 1B, 1C to 1D, 1E to 1F, 3A to 3B, 4A to 4B, 4C to 4D, and 4E to 4F	88.40	1.67	\$40,357.00
Surfaced			
1G to 1H, 1I to 1J, 1K to 1L, 1M to 1N, 1O to 1P, 1Q to 1R, 1S to 1T, 1U to 1V, 1W to 1X, 1Y to 1Z, 2A to 2B, 5A to 5B, 5C to 5D, 6A to 6B, 7A to 7B, and 7C to 7D	68.70	1.30	\$82,209.00
TOTALS	157.10	2.98	\$122,566

Project No. 2: ROAD IMPROVEMENT:

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
I1 to I2, I3 to I4, I5 to I6, I7 to I8, I9 to I10, I11 to I12, I13 to I14, I15 to I16, and I17 to I18	359.70	6.81	\$125,666.00
TOTALS	359.70	6.81	\$125,666

MOVE IN (Construction & Improvement Only)

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
Vibratory Roller		\$875.00
D8 Dozer		\$1,581.00
C966 Loader		\$875.00
14G Grader		\$875.00
10-12 yd ³ Highway Dump Truck (5x)		\$920.00
Water Truck (2,500gal)		\$214.00
C315 Excavator		\$905.00
C330 Excavator		\$1,581.00
TOTAL		\$7,826.00

ROAD MAINTENANCE (Construction & Improvement Only)

	<u>Length/Mile</u>	<u>Cost</u>
Hamilton Creek Road	2.12	\$5,189.00
TOTAL		\$5,189.00

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Popeye

UNSURFACED: 88.40 STATIONS 1.67 MILES

1A to 1B (Sta. 17.3), 1C to 1D (Sta. 16.7), 1E to 1F (Sta. 13.5),
3A to 3B (Sta. 12.0), 4A to 4B (Sta. 26.8), 4C to 4D (Sta.1.3),
UNSURFACED: and 4E to 4F (Sta. 0.8)

SURFACED: 68.70 STATIONS 1.30 MILES

1G to 1H (Sta. 3.8), 1I to 1J (Sta. 3.7), 1K to 1L (Sta. 2.7), 1M to 1N (Sta. 1.8), 1O to 1P (Sta. 3.0),
1Q to 1R (Sta. 4.0), 1S to 1T (Sta. 2.9), 1U to 1V (Sta. 1.5), 1W to 1X (Sta. 1.3), 1Y to 1Z (Sta.
1.1), 2A to 2B (Sta. 8.1), 5A to 5B (Sta. 7.0), 5C to 5D (Sta. 10.1), 6A to 6B (1.0), 7A to 7B (Sta.
15.4), and 7C to 7D (Sta. 1.3)

CLEARING & GRUBBING						
	Method	Acres/amount	x	Rate	=	Cost
1A to 1B, 1C to 1D, 1E to 1F, 3A to 3B, and 4A to 4B						
	Scatter outside of right of way	6.09	x	\$1,503.00	=	\$9,150.50
1G to 1H, 1I to 1J, 1K to 1L, 1M to 1N, 1O to 1P, 1Q to 1R, 1S to 1T, 1U to 1V, 1W to 1X, 1Y to 1Z, 2A to 2B, 5A to 5B, 5C to 5D, 6A to 6B, 7A to 7B, and 7C to 7D						
	Scatter outside of right of way	4.73	x	\$1,503.00	=	\$7,111.30
SUB TOTAL FOR CLEARING & GRUBBING						\$16,262

EXCAVATION						
	Material	Cy/amount	x	Rate	=	Cost
1A to 1B						
0+00 to 17+30	Balanced construction (\$/sta)	17.30	x	\$138.00	=	\$2,387.40
2+10 to 3+10,						
12+00 to 14+00	Drift earth up to 200' (\$/sta)	3.00	x	\$214.00	=	\$642.00
17+30	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1C to 1D						
0+00 to 16+70	Balanced construction (\$/sta)	16.70	x	\$138.00	=	\$2,304.60
4+60, 8+80,						
and 12+80	Construct turnout w/ C330 (\$/hr)	3	x	\$175.00	=	\$525.00
15+80	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
16+70	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1E to 1F						
0+00 to 13+50	Balanced construction (\$/sta)	13.50	x	\$138.00	=	\$1,863.00
5+30 and 8+30	Construct turnout w/ C330 (\$/hr)	3	x	\$175.00	=	\$525.00
12+50	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
13+50	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1G to 1H						
0+00 to 3+80	Balanced construction (\$/sta)	3.80	x	\$138.00	=	\$524.40
3+80	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1I to 1J						
0+00 to 3+70	Balanced construction (\$/sta)	3.70	x	\$138.00	=	\$510.60
3+70	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1K to 1L						
0+00 to 2+70	Balanced construction (\$/sta)	2.70	x	\$138.00	=	\$372.60
2+70	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1M to 1N						
0+00 to 1+80	Balanced construction (\$/sta)	1.80	x	\$138.00	=	\$248.40
1+80	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1O to 1P						
0+00 to 3+00	Balanced construction (\$/sta)	3.00	x	\$138.00	=	\$414.00
3+00	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1Q to 1R						
0+00 to 4+00	Balanced construction (\$/sta)	3.00	x	\$138.00	=	\$414.00
4+00	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1S to 1T						
0+00 to 2+90	Balanced construction (\$/sta)	2.90	x	\$138.00	=	\$400.20
0+00 to 1+00	Drift earth up to 200' (\$/sta)	1.00	x	\$214.00	=	\$214.00
2+90	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00

1U to 1V						
0+00 to 1+50	Balanced construction (\$/sta)	1.50	x	\$138.00	=	\$207.00
1+50	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1W to 1X						
0+00 to 1+30	Balanced construction (\$/sta)	1.30	x	\$138.00	=	\$179.40
0+50	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
1+30	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
1Y to 1Z						
0+00 to 1+10	Balanced construction (\$/sta)	1.10	x	\$138.00	=	\$151.80
0+50	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
1+10	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
2A to 2B						
0+00 to 8+10	Balanced construction (\$/sta)	8.10	x	\$138.00	=	\$1,117.80
4+10 and 8+10	Construct landing (\$/ldg)	2	x	\$438.00	=	\$876.00
3A to 3B						
0+00 to 12+00	Balanced construction (\$/sta)	12.00	x	\$138.00	=	\$1,656.00
7+70	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
12+00	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
4A to 4B						
0+00 to 26+80	Balanced construction (\$/sta)	26.80	x	\$138.00	=	\$3,698.40
6+10 to 7+10	Sidecast pullback and end haul material (\$/sta)	1.00	x	\$627.00	=	\$627.00
15+90	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
11+85 and 26+80	Construct landing (\$/ldg)	2	x	\$438.00	=	\$876.00
4C to 4D						
0+00 to 1+30	Balanced construction (\$/sta)	1.30	x	\$138.00	=	\$179.40
1+30	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
						\$0.00
4E to 4F						
0+00 to 0+80	Balanced construction (\$/sta)	0.80	x	\$138.00	=	\$110.40
0+80	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
5A to 5B						
0+00 to 7+00	Balanced construction (\$/sta)	7.00	x	\$138.00	=	\$966.00
4+80 and 7+00	Construct landing (\$/ldg)	2	x	\$438.00	=	\$876.00
5C to 5D						
0+00 to 10+10	Balanced construction (\$/sta)	10.10	x	\$138.00	=	\$1,393.80
8+20	Construct turnaround w/ C330 (\$/hr)	1	x	\$175.00	=	\$175.00
2+30 and 10+10	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00
6A to 6B						
0+00 to 1+00	Balanced construction (\$/sta)	1	x	\$175.00	=	\$175.00
1+00	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00

7A to 7B							
0+00 to 15+40	Common drift ($\leq 50\%$ slopes)	1,220	x	\$2.02	=	\$2,464.40	
0+00 to 15+40	Embankment compaction	1,170	x	\$0.79	=	\$924.30	
7+00	Construct turnout w/ C330 (\$/hr)	2	x	\$175.00	=	\$350.00	
13+60	Construct turnaround w/ C330 (\$/hr)	2	x	\$175.00	=	\$350.00	
3+40 and 15+40	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00	
7C to 7D							
0+00 to 1+30	Balanced construction (\$/sta)	1	x	\$175.00	=	\$227.50	
1+30	Construct landing (\$/ldg)	1	x	\$438.00	=	\$438.00	
SUB TOTAL FOR EXCAVATION							\$38,736

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
1W to 1X					5C to 5D				
0+00	18"CPP	30	\$21.95	\$658.50	5+00	18"CPP	30	\$21.95	\$658.50
1Y to 1Z					7A to 7B				
0+00	18"CPP	30	\$21.95	\$658.50	2+25	18"CPP	30	\$21.95	\$658.50
3A to 3B					11+30	18"CPP	30	\$21.95	\$658.50
4+70	18" CPP	60	\$21.95	\$1,317.00					
9+45	18" CPP	60	\$21.95	\$1,317.00					
4A to 4B									
0+75	18"CPP	30	\$21.95	\$658.50					
4+35	18"CPP	30	\$21.95	\$658.50					
7+10	18"CPP	30	\$21.95	\$658.50					
13+45	18"CPP	45	\$21.95	\$987.75					
18+75	18"CPP	30	\$21.95	\$658.50					
21+00	18"CPP	30	\$21.95	\$658.50					
21+60	24"CPP	60	\$30.39	\$1,823.40					
22+40	18"CPP	40	\$21.95	\$878.00					

SURFACING						Stations/ amount		x	Rate/ sta/amt	Cost	
Subgrade prep:											
All "surfaced"											
segments,1A to 1B station											
0+00 to 1+00, 3A to 3B											
station 0+00 to 1+00, and											
4A to 4B						Grade, Shape and Ditch 16'		97.50	x	\$27.91	\$2,721.23
All "unsurfaced" segments						Grade, Shape and Outslope 14'		63.60	x	\$20.63	\$1,312.07
All road segments						Subgrade Compaction		161.10	x	\$22.69	\$3,655.36
5C to 5D (2+30 to 4+00)						End haul waste material		1.70	x	\$25.76	\$43.79
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)	1A to 1B		0+00 to 17+30					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 1+00	10	station	63	stations	1.00	63	\$7.14	\$450	
Junction	3/4"-0" crushed	0+00	10	junctions	11	junctions	1.00	11	\$4.59	\$50	
Total Rock for Road Segment:				1A to 1B				74			\$500
ROAD SEGMENT 1G to 1H				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	1G to 1H		0+00 to 3+80					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 3+80	8	station	50	stations	3.80	190	\$7.14	\$1,357	
Landings	6"-0" pit-run	3+80	N/A	landing	55	landings	1	55	\$7.73	\$425	
Total Rock for Road Segment:				1G to 1H				245			\$1,782
ROAD SEGMENT 1I to 1J				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	1I to 1J		0+00 to 3+70					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 3+70	8	station	50	stations	3.70	185	\$7.14	\$1,321	
Landings	6"-0" pit-run	3+70	N/A	landing	55	landings	1	55	\$7.73	\$425	
Total Rock for Road Segment:				1I to 1J				240			\$1,746
ROAD SEGMENT 1K to 1L				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	1K to 1L		0+00 to 2+70					
				Volume (CY) per		Number of					
Base Rock	4"-0" crushed	0+00 to 2+70	8	station	50	stations	2.70	135	\$7.14	\$964	
Landings	6"-0" pit-run	2+70	N/A	landing	55	landings	1	55	\$7.73	\$425	
Total Rock for Road Segment:				1K to 1L				190			\$1,389

ROAD SEGMENT				1M to 1N		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1M to 1N		0+00 to 1+80						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 1+80	8	station	50	stations	1.80	90	\$7.14	\$643		
Landings	6"-0" pit-run	1+80	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1M to 1N				145			\$1,068	
ROAD SEGMENT				1O to 1P		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1O to 1P		0+00 to 3+00						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 3+00	10	station	63	stations	3.00	189	\$7.14	\$1,349		
Landings	6"-0" pit-run	3+00	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1O to 1P				244			\$1,775	
ROAD SEGMENT				1Q to 1R		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1Q to 1R		0+00 to 4+00						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 4+00	8	station	50	stations	4.00	200	\$7.14	\$1,428		
Landings	6"-0" pit-run	4+00	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1Q to 1R				255			\$1,853	
ROAD SEGMENT				1S to 1T		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1S to 1T		0+00 to 2+90						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 2+90	10	station	63	stations	2.90	183	\$7.14	\$1,307		
Landings	6"-0" pit-run	2+90	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1S to 1T				238			\$1,732	
ROAD SEGMENT				1U to 1V		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1U to 1V		0+00 to 1+50						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 1+50	10	station	63	stations	1.50	95	\$7.14	\$678		
Landings	6"-0" pit-run	1+50	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1U to 1V				150			\$1,103	
ROAD SEGMENT				1W to 1X		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1W to 1X		0+00 to 1+30						
				Volume (CY) per	Number of							
Base Rock	4"-0" crushed	0+00 to 1+30	10	station	63	stations	1.30	82	\$7.14	\$585		
Junction	1 1/2"-0" crushed	0+00	10	junctions	33	junctions	1	33	\$7.14	\$236		
Turnarounds	4"-0" crushed	0+50	10	turnaround	33	turnarounds	1	33	\$7.14	\$236		
Landings	6"-0" pit-run	1+30	N/A	landing	55	landings	1	55	\$7.73	\$425		
Total Rock for Road Segment:				1W to 1X				203			\$1,482	

ROAD SEGMENT 1Y to 1Z				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	1Y to 1Z Volume (CY) per		0+00 to 1+10 Number of				
Base Rock	4"-0" crushed	0+00 to 1+10	10	station	63	stations	1.10	70	\$7.14	\$500
Junction	1 1/2"-0" crushed	0+00	10	junctions	33	junctions	1	33	\$7.14	\$236
Turnarounds	4"-0" crushed	0+50	10	turnaround	33	turnarounds	1	33	\$7.14	\$236
Landings	6"-0" pit-run	1+10	N/A	landing	55	landings	1	55	\$7.73	\$425
Total Rock for Road Segment:				1Y to 1Z				191		\$1,396
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 Volume (CY) per		0+00 to 8+10 Number of				
Base Rock	4"-0" crushed	0+00 to 8+10	10	station	63	stations	8.10	511	\$7.14	\$3,649
Landings	6"-0" pit-run	4+10, 8+10	N/A	landing	110	landings	2	220	\$7.73	\$1,701
Total Rock for Road Segment:				2A to 2B				731		\$5,349
ROAD SEGMENT 3A to 3B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	3A to 3B Volume (CY) per		0+00 to 12+00 Number of				
Base Rock	4"-0" crushed	0+00 to 1+00	10	station	63	stations	1.00	63	\$7.14	\$450
Junction	4"-0" crushed	0+00	10	junctions	11	junctions	1.00	11	\$7.14	\$79
Total Rock for Road Segment:				3A to 3B				74		\$528
ROAD SEGMENT 5A to 5B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	5A to 5B Volume (CY) per		0+00 to 7+00 Number of				
Base Rock	4"-0" crushed	0+00 to 7+00	8	station	50	stations	7.00	350	\$7.14	\$2,499
Landings	6"-0" pit-run	4+80, 7+00	N/A	landing	110	landings	2	220	\$7.73	\$1,701
Total Rock for Road Segment:				5A to 5B				570		\$4,200
ROAD SEGMENT 5C to 5D				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	5C to 5D Volume (CY) per		0+00 to 10+10 Number of				
Base Rock	4"-0" crushed	0+00 to 10+10	8	station	50	stations	10.10	505	\$7.14	\$3,606
Turnarounds	4"-0" crushed	8+20	8	turnaround	33	turnarounds	1	33	\$7.14	\$236
Landings	6"-0" pit-run	2+30, 10+10	N/A	landing	88	landings	2	176	\$7.73	\$1,360
Total Rock for Road Segment:				5C to 5D				714		\$5,202
ROAD SEGMENT 6A to 6B				POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	6A to 6B Volume (CY) per		0+00 to 1+00 Number of				
Base Rock	4"-0" crushed	0+00 1+00	10	station	63	stations	1.00	63	\$7.14	\$450
Landings	6"-0" pit-run	1+00	N/A	landing	55	landings	1	55	\$7.73	\$425
Total Rock for Road Segment:				6A to 6B				118		\$875

Subtotal of Surfacing & Spec. Proj.	\$54,545
Subtotal of Clearing, Exc., Culv.	\$68,021

GRAND TOTAL

\$122,566

Compiled By: Cole Hatcher

Date: 01/19/2021

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Popeye
 ROAD: I1 to I2 (Sta. 133.3), I3 to I4 (Sta. 46.4), I5 to I6 (Sta. 36.3),
 I7 to I8 (Sta. 27.9), I9 to I10 (Sta. 4.0), I11 to I12 (Sta. 56.75),
 I13 to I14 (Sta. 31.4), I15 to I16 (Sta. 14.25), I17 to I18 (Sta. 9.4)

NEW CONSTRUCTION: STATIONS 0.00 MILES
 IMPROVEMENT: 359.70 STATIONS 6.81 MILES

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

EXCAVATION						
Material	Cy/amount	x	Rate	=	Cost	
I1 to I2						
27+10 Clean culvert inlet and outlet w/ C315 (\$/hr)	1	x	\$114.00	=	\$114.00	
68+80 Construct waste area w/ C330 (\$/hr)	3	x	\$175.00	=	\$525.00	
88+30 Install culvert dissipator (\$/install)	1	x	\$203.00	=	\$203.00	
I3 to I4						
17+70 Install culvert dissipator (\$/install)	1	x	\$203.00	=	\$203.00	
23+35 and 32+20 Install 3 series rock ditch filter w/ C315 (\$/hr)	4	x	\$114.00	=	\$456.00	
41+90 Waste area prep w/ C315 (\$/hr)	1	x	\$114.00	=	\$114.00	
I5 to I6						
18+00 and 23+20 Install culvert dissipator (\$/install)	2	x	\$203.00	=	\$406.00	
28+75 Construct turnaround w/ C315 (\$/hr)	2	x	\$114.00	=	\$228.00	
28+75 Waste area prep w/ C315 (\$/hr)	1	x	\$114.00	=	\$114.00	
I7 to I8						
13+25 Install culvert dissipator (\$/install)	1	x	\$203.00	=	\$203.00	
26+90 Additional culvert and fill armor installation cost w/ C330 (\$/hr)	4	x	\$175.00	=	\$700.00	
27+90 Waste area prep w/ C315 (\$/hr)	1	x	\$114.00	=	\$114.00	
I11 to I12						
4+10, 16+00, and 20+00 Install culvert dissipator (\$/install)	3	x	\$203.00	=	\$609.00	
6+60 Install 3 series rock ditch filter w/ C315 (\$/hr)	2	x	\$114.00	=	\$228.00	
10+60, 12+80, 16+00 and 20+00 Clean culvert inlet and outlet w/ C315 (\$/hr)	6	x	\$114.00	=	\$684.00	
22+75 Construct roadside landing (\$/ldg)	1	x	\$438.00	=	\$438.00	
I13 to I14						
6+30 Construct roadside landing (\$/ldg)	1	x	\$438.00	=	\$438.00	
13+85 Install culvert dissipator (\$/install)	1	x	\$203.00	=	\$203.00	
I17 to I18						
0+90 and 4+90 Install culvert dissipator (\$/install)	2	x	\$203.00	=	\$406.00	
9+40 Excavate slump from cutbank w/ C330 (\$/hr)	4	x	\$175.00	=	\$700.00	
9+40 End haul slump material (\$/cy)	110	x	\$4.50	=	\$495.00	
SUB TOTAL FOR EXCAVATION						\$7,581

CULVERT MATERIALS AND INSTALLATION									
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost
I1 to I2					I7 to I8				
88+30	18" CPP	40	\$21.95	\$878.00	13+25	18" CPP	35	\$21.95	\$768.25
I3 to I4					18+35	18" CPP	40	\$21.95	\$878.00
17+70	18" CPP	30	\$21.95	\$658.50	22+80	18" CPP	30	\$21.95	\$658.50
21+90	18" CPP	35	\$21.95	\$768.25	26+90	18" CPP	70	\$21.95	\$1,536.50
28+80	18" CPP	40	\$21.95	\$878.00	I11 to I12				
34+85	18" CPP	30	\$21.95	\$658.50	4+10	18" CPP	40	\$21.95	\$878.00
I5 to I6					I13 to I14				
18+00	18" CPP	30	\$21.95	\$658.50	13+85	18" CPP	30	\$21.95	\$658.50
23+20	18" CPP	35	\$21.95	\$768.25	I17 to I18				
23+70	18" CPP	50	\$21.95	\$1,097.50	0+90	18" CPP	50	\$21.95	\$1,097.50
					4+90	18" CPP	30	\$21.95	\$658.50

SURFACING		Subgrade prep:	Description	Stations/ amount		Rate/ sta/amt	Cost			
		All "I" segments	Grade, Shape and Ditch 16'	359.70	x	\$27.91	\$10,039.23			
		All "I" segments	Subgrade Compaction	359.70	x	\$22.69	\$8,161.59			
		I3 to I4 (32+20 to 34+85), I5 to I6 (18+40 to 21+50), I9 to I10, I13 to 21+50), I14 (9+80 to 20+30), I17 to I18	Reestablish ditches w/grader (\$/sta.)	29.65	x	\$26.20	\$776.83			
		I9 to I10 (32+20 to 34+85), I5 to I6 (18+40 to 21+50), I13 to I14 (9+80 to 20+30), I17 to I18	Scatter Ditch Material w/315 or backhoe, (\$/sta)	4.00	x	\$13.95	\$55.80			
			Load & Haul Ditch Material (\$/sta)	25.65	x	\$25.76	\$660.74			
ROAD SEGMENT										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I1 to I2		0+00 to 133+30				
				Volume (CY) per		Number of				
Surfacing	3/4"-0" crushed	0+00 to 72+60	2	station	13	stations	72.6	944	\$4.59	\$4,333
Turnouts	3/4"-0" crushed	10+00, 15+70, 33+25, 36+40, 42+30, 50+75, 59+75, 64+80, 69+10	2	turnout	11	turnouts	9	99	\$4.59	\$454
		23+70, 38+60, 48+70, 61+95, 72+10	2	junction	11	junctions	5	55	\$4.59	\$252
Junctions	3/4"-0" crushed									
Surfacing	1 1/2"-0" crushed	72+60 to 133+30	2	station	13	stations	60.7	790	\$7.14	\$5,641
Turnouts	1 1/2"-0" crushed	76+70, 83+95, 87+70, 94+70, 107+80, 112+45, 124+80	2	turnout	11	turnouts	7	77	\$7.14	\$550
		88+30	N/A	culvert	33	culverts	1	33	\$7.14	\$236
Culvert Bedding and Backfill	1 1/2"-0" crushed									
Junctions	1 1/2"-0" crushed	101+15, 103+00, 105+45, 119+10, 129+40, 131+00	2	junction	11	junctions	6	66	\$7.14	\$471
Total Rock for Road Segment:				I1 to I2				2,064		\$11,937
ROAD SEGMENT										
Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
				I3 to I4		0+00 to 46+40				
				Volume (CY) per		Number of				
Surfacing	1 1/2"-0" crushed	0+00 to 46+40	2	station	13	stations	46.4	604	\$7.14	\$4,313
Turnouts	1 1/2"-0" crushed	10+00, 18+80, 21+85, 29+70, 35+50, 40+00	2	turnout	11	turnouts	6	66	\$7.14	\$471
		17+70, 21+90, 28+80, 34+85	N/A	culvert	33	culverts	4	132	\$7.14	\$942
Culvert Bedding and Backfill	1 1/2"-0" crushed									
Culvert Energy Dissipator	24"-6" riprap	17+70	N/A	dissipator	11	dissipators	1	11	\$5.99	\$66
Rock Ditch Filters	6"-4" pit-run	23+35, 32+20	N/A	3 filter series	11	3 filter series	2	22	\$7.73	\$170
		34+10	N/A	load	11	loads	3	33	\$7.14	\$236
Subgrade Leveling Rock	4"-0" crushed									
Landing	6"-0" pit-run	46+40	N/A	load	11	loads	5	55	\$7.73	\$425
Total Rock for Road Segment:				I3 to I4				923		\$6,623

ROAD SEGMENT			I5 to I6		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I5 to I6		0+00 to 36+30					
				Volume (CY) per	Number of						
Surfacing	4"-0" crushed	0+00 to 28+75	4	station	25	stations	28.75	719	\$7.14	\$5,134	
Junctions	4"-0" crushed	0+95, 1+55, 2+70	4	junction	11	junctions	3	33	\$7.14	\$236	
Junctions	4"-0" crushed	11+80	4	junction	22	junctions	1	22	\$7.14	\$157	
Traction Rock	1 1/2"-0" crushed	2+70 to 11+80, 15+70 to 28+75	2	station	13	stations	22.2	288	\$7.14	\$2,056	
Turnouts	4"-0" crushed	9+10, 12+70, 14+30	4	turnout	11	turnouts	3	33	\$7.14	\$236	
Culvert Bedding and Backfill	1 1/2"-0" crushed	18+00, 23+20	N/A	culvert	33	culverts	2	66	\$7.14	\$471	
Culvert Energy Dissipator	24"-6" riprap	18+00, 23+20	N/A	dissipator	22	dissipators	2	44	\$5.99	\$264	
Culvert Bedding and Backfill	1 1/2"-0" crushed	23+70	N/A	culvert	44	culverts	1	44	\$7.14	\$314	
Subgrade Leveling Rock	4"-0" crushed	25+10	N/A	load	11	loads	2	22	\$7.14	\$157	
Turnaround	4"-0" crushed	28+75	4	turnaround	22	turnaround	1	22	\$7.14	\$157	
Total Rock for Road Segment:			I5 to I6					1,293			
ROAD SEGMENT			I7 to I8		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I7 to I8		0+00 to 27+90					
				Volume (CY) per	Number of						
Surfacing	4"-0" crushed	0+00 to 27+90	4	station	25	stations	27.9	698	\$7.14	\$4,984	
Turnouts	4"-0" crushed	6+75	4	turnout	11	turnouts	1	11	\$7.14	\$79	
Culvert Bedding and Backfill	1 1/2"-0" crushed	13+25, 22+80	N/A	culvert	33	culverts	2	66	\$7.14	\$471	
Culvert Energy Dissipator	24"-6" riprap	13+25	N/A	dissipator	22	dissipators	1	22	\$5.99	\$132	
Culvert Bedding and Backfill	1 1/2"-0" crushed	18+35, 26+90	N/A	culvert	44	culverts	2	88	\$7.14	\$628	
Junctions	4"-0" crushed	19+70, 22+90	4	junction	11	junctions	2	22	\$7.14	\$157	
Turnaround	4"-0" crushed	26+35	4	turnaround	22	turnaround	1	22	\$7.14	\$157	
Fill Armor	24"-6" riprap	26+90	N/A	load	11	loads	6	66	\$5.99	\$395	
Subgrade Leveling Rock	4"-0" crushed	26+90	N/A	load	11	loads	3	33	\$7.14	\$236	
Landing	6"-0" pit-run	27+90	N/A	load	11	loads	10	110	\$7.73	\$850	
Total Rock for Road Segment:			I7 to I8					1,138			
ROAD SEGMENT			I9 to I10		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I9 to I10		0+00 to 4+00					
				Volume (CY) per	Number of						
Surfacing	4"-0" crushed	0+00 to 4+00	4	station	25	stations	4	100	\$7.14	\$714	
Landing	6"-0" pit-run	4+00	N/A	load	11	loads	5	55	\$7.73	\$425	
Total Rock for Road Segment:			I9 to I10					155			
ROAD SEGMENT			I11 to I12		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I11 to I12		0+00 to 56+75					
				Volume (CY) per	Number of						
Surfacing	4"-0" crushed	0+00 to 56+75	4	station	25	stations	56.75	1,419	\$7.14	\$10,132	
Subgrade Leveling Rock	4"-0" crushed	3+60	N/A	load	11	loads	1	11	\$7.14	\$79	
Culvert Bedding and Backfill	1 1/2"-0" crushed	4+10	N/A	culvert	33	culverts	1	33	\$7.14	\$236	
Culvert Energy Dissipator	24"-6" riprap	4+10, 16+00, 20+00	N/A	dissipator	11	dissipators	3	33			
Rock Ditch Filters	6"-4" pit-run	6+60	N/A	3 filter series	11	3 filter series	1	11	\$7.73	\$85	
Turnouts	4"-0" crushed	9+50, 13+10, 20+80, 22+75, 37+20	4	turnout	33	turnouts	5	165	\$7.14	\$1,178	
Turnouts	4"-0" crushed	15+90, 22+75, 30+10, 33+35, 37+20	4	turnout	11	turnouts	5	55	\$7.14	\$393	
Junctions	4"-0" crushed	23+65, 28+20, 39+60, 45+45, 49+40	4	junction	11	junctions	5	55	\$7.14	\$393	
Junctions	4"-0" crushed	18+80	4	junction	22	junctions	1	22	\$7.14	\$157	
Landing	6"-0" pit-run	56+75	N/A	load	11	loads	10	110	\$7.73	\$850	
Total Rock for Road Segment:			I11 to I12					1,914			
										\$13,502	

ROAD SEGMENT				I13 to I14		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I13 to I14		0+00 to 31+40						
				Volume (CY) per		Number of						
Surfacing	4"-0" crushed	0+00 to 20+30	4	station	25	stations	20.3	508	\$7.14	\$3,627		
Traction Rock	1 1/2"-0" crushed	0+00 to 31+40	2	station	13	stations	31.4	409	\$7.14	\$2,920		
Turnouts	4"-0" crushed	6+30	4	turnout	22	turnouts	1	22	\$7.14	\$157		
Landing	6"-0" pit-run	6+30	N/A	load	11	loads	8	88	\$7.73	\$680		
Junctions	4"-0" crushed	9+80	4	junction	11	junctions	1	11	\$7.14	\$79		
Turnouts	4"-0" crushed	10+90, 15+90	4	turnout	11	turnouts	1	11	\$7.14	\$79		
Culvert Bedding and Backfill	1 1/2"-0" crushed	13+85	N/A	culvert	33	culverts	1	33	\$7.14	\$236		
Culvert Energy Dissipator	24"-6" riprap	13+85	N/A	dissipator	11	dissipators	1	11	\$5.99	\$66		
Total Rock for Road Segment:				I13 to I14				1,093		\$7,843		
ROAD SEGMENT				I15 to I16		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I15 to I16		0+00 to 14+25						
				Volume (CY) per		Number of						
Surfacing	4"-0" crushed	0+00 to 14+25	4	station	25	stations	14.25	357	\$7.14	\$2,549		
Turnouts	4"-0" crushed	3+10, 6+10, 7+20	4	turnout	33	turnouts	3	99	\$7.14	\$707		
Junctions	4"-0" crushed	11+50	4	junction	22	junctions	1	22	\$7.14	\$157		
Total Rock for Road Segment:				I15 to I16				478		\$3,413		
ROAD SEGMENT				I17 to I18		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I17 to I18		0+00 to 9+40						
				Volume (CY) per		Number of						
Surfacing	4"-0" crushed	0+00 to 9+40	4	station	25	stations	9.4	235	\$7.14	\$1,678		
Junctions	1 1/2"-0" crushed	0+00	2	junction	11	junctions	1	11	\$7.14	\$79		
Culvert Bedding and Backfill	1 1/2"-0" crushed	0+90, 4+90	N/A	culvert	33	culverts	2	66	\$7.14	\$471		
Culvert Energy Dissipator	24"-6" riprap	0+90, 4+90	N/A	dissipator	11	dissipators	2	22	\$5.99	\$132		
Turnouts	4"-0" crushed	1+70	4	turnout	11	turnouts	1	11	\$7.14	\$79		
Turnaround	4"-0" crushed	9+40	4	turnaround	22	turnaround	1	22	\$7.14	\$157		
Total Rock for Road Segment:				I17 to I18				367		\$2,595		
Processing:												
Description										No sta	Rate/sta	Cost
Water, Process & Compact:										341.05	\$63.48	\$21,650
Traction Rock Water, Process & Compact										53.55	\$63.48	\$3,399
		24"-12" rr	24"-6" rr	12"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	2"-1" drainrock	3/4"-0" crushed	Total	
SUB TOTAL FOR SURFACING		209			33	418	4,795	2,872		1,098	9,425	\$109,066

Subtotal of Surfacing & Spec. Proj. \$109,066
Subtotal of Clearing, Exc., Culv. \$16,600

GRAND TOTAL

\$125,666

Compiled By: Cole Hatcher

Date: 01/19/2021

Rock Volumes for Popeye Sale

	24"-6" rr	6"-4" pr	6"-0"pr	4"-0" crushed	1 1/2"-0" crushed	3/4"-0" crushed	Total
Rock Volumes (cy)	209	33	1,903	9,042	2,938	1,109	15,234

Popeye

Block and Waterbar Costs (Total)

Project No. 4

Work Description	Stations	Pump	C330	C315	D24 trk	D10/12 trk	D-8	Labor	Straw-bales	Seed-lbs
1A to 1B	17.3			4						
1C to 1D	16.7			4						
1E to 1F	13.5			4						
1W to 1X	1.3			3		1.00				
1Y to 1Z	1.1			3		1.00				
3A to 3B	12.0		8			1		3	8	4
4A to 4B	26.8		16			3		3	8	4
4C to 4D	1.3			2						
4E to 4F	0.8			2						
Total Quantity (Hours)		0.00	24.00	22.00	0.00	6.00	0.00	6.00	16.00	8.00
Rates		\$10.00	\$155.00	\$101.00	\$127.00	\$99.00	\$158.00	\$40.00	\$10.73	1.6
Total Dollars		\$0	\$3,720	\$2,222	\$0	\$594	\$0	\$240	\$172	12.8

Total Cost

\$6,960

Total Stations

90.8

Total Miles

1.72

Popeye					
Project No 5 - Stream Enhancement					
Location	Site	Number of trees	Placement method	\$/tree	Cost per Site
SE1-SE2	1	5	Shovel Placement	\$125	\$625
SE1-SE2	2	5	Shovel Placement	\$125	\$625
SE1-SE2	3	5	Shovel Placement	\$125	\$625
SE1-SE2	4	5	Shovel Placement	\$125	\$625
				Project Total	\$2,500

SUMMARY OF ROCK DEVELOPMENT AND CRUSHING COSTS

PROJECT NO. 3	Contract Name: Popeye
Quarry: Hamilton Creek	Swell:
Location: NW 1/4, NW 1/4, Section 28, T6N, R7W, W.M.	Shrink: 16%
County: Clatsop	
By: C.Bangs	Loading Hopper: Yes
Date: 01/19/21	

ROCK SIZE	REJECT	GRADATION	STOCKPILE CU. YDS.	TRUCK MEAS CU. YDS.	TOTAL CU. YDS.
3/4"-0"		CR			
1-1/2"-0"	15%	CR		2,938	2,938
4"-0"	15%	CR		9,042	9,042
6"-0"		PR		1,936	1,936
24"-6"		PR		209	209
TOTAL CUBIC YARDS OF ROCK:				14,125	14,125

1) MOBILIZATION & SET UP:

EQUIPMENT	QUANTITY	RATE	COST	EQUIPMENT	QUANTITY	RATE	COST
Loading Hopper	1	\$622	\$622	Powder	1	\$395	\$395
Screening Plants	2	\$622	\$1,244	D8 Cat	1	\$1,581	\$1,581
3 Stage Crusher	1	\$3,250	\$3,250				
Drill & Compressor	1	\$1,581	\$1,581				
Off Highway Dump Truck	1	\$622	\$622				
Excavator	1	\$1,581	\$1,581				
Front End Loader	1	\$1,581	\$1,581				
D6 Cat	1	\$875	\$875				
SUB TOTAL FOR MOBILIZATION				\$13,332			

EQUIPMENT SET UP	TIMES	RATE	COST
3 Stage Crusher	1	\$3,866	\$3,866
Screening Plants	2	\$330	\$660
Loading Hopper	1	\$330	\$330
Original Calibration	1	\$612	\$612

SUB TOTAL FOR SET UP COSTS \$5,468

TOTAL MOBILIZATION & SET UP COSTS \$18,800

2) CLEARING & GRUBBING

DESCRIPTION		QUANTITY	UNIT	RATE	COST
Clear, Load, Haul to Waste Area	Excavator	16.0	hr	\$175	\$2,800
Slash and Stumps (1 OR truck, 1 Exc.)	OR Truck	8.0	hr	\$143	\$1,144

TOTAL CLEARING & GRUBBING COSTS \$3,944

3) EXCAVATION

MATERIAL DESCRIPTION		QUANTITY	UNIT	RATE	COST
Overburden Removal (excavate, load haul, spread)	Excavator	40	hr	\$175.00	\$7,000
	OR Truck	24	hr	\$143.00	\$3,432
	D8 Cat	32	hr	\$178.00	\$5,696

TOTAL EXCAVATION COSTS \$16,128

4) DEVELOP ROCK

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping	10%	1,392	\$3.40	\$4,731
crushed	11,980	86%	Drill & shoot	80%	12,570	\$3.50	\$43,996
pit run	1,936	14%	Oversize red	10%	1,392	\$5.80	\$8,071
rip rap	0	0	Other				
Total	13,916						
reject	1,797	12.9%					

TOTAL ROCK DEVELOPMENT COSTS \$56,799

5) CALIBRATION & TESTING

DESCRIPTION	NO.	\$/TEST	COST
Calibrate			\$401
Calibrate			
Test	7	\$57.30	
Test			

TOTAL CALIBRATION & TESTING COSTS \$401

6) FEEDING & LOADING

DESCRIPTION		CU. YD. QUANTITY		COST CU. YD.		TOTAL COST
Dig & Feed Rock	Excavator	13,777		\$0.81		\$11,116
Shot Rock Handling		90		\$175.00		\$15,750

TOTAL FEEDING & LOADING COSTS \$26,866

7) ROCK CRUSHING

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	2,938	3 stage w/s	110	\$3.24	\$9,524
1-1/2"-0"	crushed		3 stage w/s	120		
4"-0"	crushed		2 stage w/s	140		

TOTAL ROCK CRUSHING COSTS \$31,935

8) STOCKPILING

STOCKPILE SITE PREPARATION

Equipment	Hours	Rate	Total
Dozer		\$120.00	
Compactor			
Grader			
Excavator			

SUB TOTAL

Rock for Floor (CY)	\$/CY Haul	Total

HAUL & STOCKPILE		# of				
STOCKPILE LOCATION	SIZE	TRUCKS	CU. YDS.	RATE	COST	
1.						
2.						
3.						
4.						
5.						
6.						

SUB TOTAL

TOTAL STOCKPILING COSTS

9) MISCELLANEOUS COSTS

DESCRIPTION	COST
Load, Haul, and Spread the reject material at the waste area.	\$6,793
\$3.78 /CY 1,797 CY	
Final Quarry Dev., Access Road Const., Waterbarring, Drainage, Block Quarry Access	\$2,565
Seeding and mulching	\$500

TOTAL MISCELLANEOUS COSTS \$9,858

10) GRAND TOTAL: \$164,731

\$/Cubic Yard \$13.75

Footnotes:

CRUSHED ROCK COST

SALE NAME: Popeye

DATE: 01/15/2021

PROJECT: No.1 and 2 MATERIAL: 1 1/2"-0", and
 Stockpile: Hamilton Creek Quarry 4"0"

BY: Cole Hatcher

[illegible]

Average Round Trip Distance (miles)	15.32
-------------------------------------	-------

ROCK HAUL:

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

Ave haul:	\$5.18	/cy
Load:	\$0.72	/cy
Spread:	\$1.26	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 609

CRUSHED ROCK HAUL COSTS 12,046 cy @ **\$7.17 /cy**

CRUSHED ROCK COST

SALE NAME: Popeye

DATE: 01/15/2021

PROJECT: No.1 and 2 MATERIAL: 1 1/2"-0", and
 Stockpile: Hamilton Creek Quarry 4"0"

BY: Cole Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$3.27	/cy
Load:	\$0.48	/cy
Spread:	\$0.84	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 965

CRUSHED ROCK HAUL COSTS 1,109 cy @ **\$4.59 /cy**

PIT RUN ROCK COST

SALE NAME:	Popeye
PROJECT:	No.1 and 2
QUARRY:	Hamilton Creek Quarry

DATE: 01/15/2021
BY: Cole Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$5.33	/cy
Load:	\$0.84	/cy
Spread:	\$1.56	/cy

Truck type:	<u>D12</u>	No. trucks:	<u>5</u>
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>

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

Production: cy/day = 593

PIT RUN ROCK HAUL COSTS

1,936 cy @ **\$7.73 /cy**

RIP RAP ROCK COST

SALE NAME: Popeye
PROJECT: No.1 and 2
QUARRY: Hamilton Creek Quarry

DATE: 01/15/2021
BY: Cole Hatcher

[illegible]

ROCK HAUL:

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

Ave haul:	\$5.09	/cy
Load:	\$0.90	/cy
Develop:		/cy

Production: cy/day = 620

RIP RAP ROCK HAUL COSTS

209 cy @ **\$5.99 /cy**

Projects Road Maintenance Cost Summary

Sale: Popeye
Date: 19-Jan-21
By: Cole Hatcher

Type	Equipment/Rationale			Hours	Rate	Cost	
Project Work	Grader 14G			13	\$113	\$1,469	
Final Haul	Dump Truck 12CY			8	\$89	\$712	
Road	FE Loader C966			6	\$94	\$564	
Maintenance	Vibratory Roller			13	\$87	\$1,131	
	Water Truck 2,500 gallon			13	\$101	\$1,313	
Total							\$5,189

Production Rates

Grader

Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	2.33	1.6
1.5	2.33	1.6

NOTE: Hamilton Creek Road	2.12	Miles
Ebsen Road	0.21	Miles
		Miles
		Miles
	TOTAL=	2.33 Miles

**Popeye
TIMBER CRUISE REPORT
FY 2021**

1. **Sale Area Location:** Portions of Section 1 of T5N, R7W, Sections 25 and 36 of T6N, R7W, Sections 30 and 31 of T6N, R6W, and Section 6 of T5N, R6W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 100% Tax Code: 8-01 (97%)
8-02 (3%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Existing R/W Acres	New R/W	Non-Stocked Area	Reserve Tree Area	Net Acres	Survey Method
1	Partial Cut	630	40	18	6	3	<1	563	GIS
2	Modified Clearcut	52	3	1	<1	-	-	48	GIS
3	Modified Clearcut	43	7	<1	<1	-	3	32	GIS
4	Partial Cut	47	1	<1	2	-	-	44	GIS
5	Modified Clearcut	68	5	<1	1	-	-	62	GIS
6	Partial Cut	16	-	<1	<1	-	-	15	GIS
7	Modified Clearcut	51	2	<1	1	-	-	48	GIS
8	R/W (in-unit)	-	-	-	-	-	-	11	LxW
8	R/W (Out-of-unit)*	<1	-	-	-	-	-	<1	LxW
TOTALS	-	907	58	20	-	3	3	823	

*This sale contains less than one acre of out-of-unit Right-of-Way with negligible volume of approximately 39 year old thinned Douglas-fir.

4. Cruisers and Cruise Dates: Avery Petersen, John Choate, Kevin Berry, Justin Bush, John Czarnecki, and Ryan Simpson (01/08/2020 – 01/15/2020)

5. Cruise Method and Computation:

Units 1, 4, & 6: Units 1, 4, & 6 were variable plot cruised with a 33.61 BAF. A total of 163 plots were sampled on a 4 by 10 chain spacing with a grade to count ratio of 1:2, resulting in 56 grade plots and 107 count plots*.

Units 2, 3, & 5: Units 2, 3, & 5 were variable plot cruised with a 40 BAF. A total of 63 plots were sampled on a 5 by 5 chain spacing with a grade to count ratio of 1:1, resulting in 31 grade plots and 32 count plots.

Unit 7: Unit 7 was variable plot cruised with a 40 BAF for conifer and a 27.78 BAF for hardwoods. A total of 51 plots were sampled on a 3 by 3 chain spacing with a grade to count ratio of 1:2, resulting in 17 grade plots and 34 count plots.

Unit 8 (R/W): In-unit Right-of-Way consists of new spur roads and landings within Units 1, 2, 3, 4, 5, 6, & 7 totaling approximately 11 acres. Cruise data for Unit 8 was obtained from the combined U146, U235, and U7 cruises, and acreages have been adjusted accordingly. This sale includes less than one acre of out-of-unit Right-Of-Way with negligible volume that is stocked with thinned Douglas-fir similar in size and age to Unit 1.

*The reported number of grade plots vary from those indicated in the SuperACE reports for the U146, U146_LEAVE, and the U146_TAKE Statistics due to recording zero trees on one grade plot and recording 20 additional scattered blank plots in the U146_TAKE cruise where the basal area did not meet the thinning specifications and no take trees were designated.

Data was collected on Allegro 2 data collectors and downloaded to the Atterbury SuperACE 2008 program for computing. See the attached Cruise Designs for more details on the cruise method. The cruise calculations were processed at the Astoria District office.

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
1, 4, & 6	POPEYE	U146	00PC	622
2, 3, & 5	POPEYE	U235	00MC	142
7	POPEYE	U7	00MC	48
8	POPEYE	U123456RW	00MC	10
8	POPEYE	U7RW	00MC	1

6. Timber Description:

Units 1, 4, & 6 are partial cuts with an average age of 39 years. The stands consist of Douglas-fir, red alder, and western hemlock with a minor component of bigleaf maple. The average take Douglas-fir is approximately 13 inches DBH and 53 feet to a merchantable top. The average take red alder is approximately 12 inches DBH and 47 feet to a merchantable top. The average take western hemlock is approximately 13 inches DBH and 42 feet to a merchantable top. The average take bigleaf maple is approximately 13 inches DBH and 34 feet to a merchantable top. Average net volume to be harvested per acre is 12 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point. The target basal area is 140 square feet and the target SDI is 35%.

Units 2, 3, & 5 are modified clearcuts with an average age of 37 years. The stands consist of Douglas-fir, western hemlock, red alder, and a minor component of bigleaf maple. The average take Douglas-fir is approximately 15 inches DBH and 56 feet to a merchantable top. The average take western hemlock is approximately 17 inches DBH and 47 feet to a merchantable top. The average take red alder is approximately 11 inches DBH and 40 feet to a merchantable top. The average take bigleaf maple is approximately 15 inches DBH and 31 feet to a merchantable top. Average net volume to be harvested per acre is 22 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 7 is a modified clearcut with an average age of 64 years. The stand consists of red alder, Douglas-fir, western hemlock, bigleaf maple, and a minor component of sitka spruce and grand fir. The average take red alder is approximately 16 inches DBH and 57 feet to a merchantable top. The average take Douglas-fir is approximately 16 inches DBH and 59 feet to a merchantable top. The average take western hemlock is approximately 29 inches DBH and 78 feet to a merchantable top. The average take bigleaf maple is approximately 22 inches DBH and 38 feet to a merchantable top. The average take sitka spruce is approximately 54 inches DBH and 114 feet to a merchantable top. The average take grand fir is approximately 36 inches DBH and 103 feet to a merchantable top. Average net volume to be harvested per acre is 27 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 8 (R/W) is similar to the timber description above in Units 1 - 7. Average net volume to be harvested per acre is 27 MBF.

7. Statistical Analysis and Stand Summary:

Statistics for Stand B.F. volumes

Unit	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 4, & 6	40.0%	13.0%	38.3%	3.0%
2, 3, & 5	40.0%	11.0%	35.9%	4.5%
7	50.0%	11.0%	56.0%	8.3%

8. Volumes by Species and Log Grade:

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

Conifer

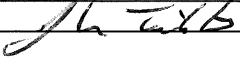
Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	13"	9,346	1,110	6,857	1,379	2.8%	75%
Western hemlock	16"	1,107	517	449	141	4.3%	9%
Sitka spruce	52"	42	22	20	-	8.6%	<1%
Grand fir	36"	25	25	-	-	0%	<1%
TOTALS	--	10,520	1,674	7,326	1,520	--	--

Hardwood

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	12"	1,676	165	327	345	839	2.6%	14%
Bigleaf maple	14"	214	38	57	66	53	2.8%	2%
TOTALS	--	1,890	203	384	411	892	--	--

TOTAL VOLUME	12,410 MBF
---------------------	-------------------

9. Approvals:

Prepared by: Michele Huffman Date: 01/20/2021
Unit Forester Approval:  Date: 1/26/2021

10. **Attachments:** Cruise Design and Maps (9 pages)
Volume Reports (5 pages)
Statistics Reports (10 pages)
Stand Table Summary (5 pages)
Log Stock Table (5 pages)

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Popeye **Units** 1, 4, & 6

Harvest Type: Partial Cut

Approx. Cruise Acres: 594 **Estimated CV%** 40 Net BF/Acre **SE% Objective** 13 Net BF/Acre

Planned Sale Volume : 3,184 MBF **Estimated Sale Area Value/Acre:** \$1,876/Acre

A. Cruise Goals: (a) Grade minimum 100 trees
(b) Sample 163 cruise plots (56 grade/ 107 count); (c) Other goals (Determine
"automark" thinning standards; X Determine log grades for sale value; X Determine
snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 33.61 (Full point)
Cruise Line Directions **Units 1 & 6:** 90°/270°, **Unit 4:** 0°/180°
Cruise Line Spacing: 10 chains 660 feet
Cruise Plot Spacing: 4 chains 264 feet
Grade/Count Ratio 1:2

Basal Area leave target is 140 sq. ft. Cruiser needs to select 4-5 leave trees per plot. Cruise all
take and leave trees.

Take plots as marked on cruise map. Do not take plots in stream buffers. Stream buffers are 25'
non-posted. Map out non-thinnable areas larger than 1 acre, but do not drop plots.

All cedar will be reserved. Record all snags as SN. Reserve all spruce larger than 20 inches.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" DBH; DO NOT GRADE SNAGS ON COUNT PLOTS.

All hardwood will be measured to a G, or as appropriate.

C. Tree Measurements:

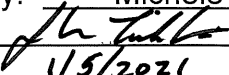
1. Diameter: Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest 1/2" for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for
trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record
to closest estimate.

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" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 20" dbh and 40% of dob @ FP for conifer trees > 20" 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. Hardwoods shall be recorded in 8' and 10' multiples.
6. **Species, Sort, and Grade Codes:**
 - A. **Species:** Record as D (Douglas-fir); H (western hemlock); S (Sitka Spruce); C (Western redcedar); NF (noble fir); SF (silver fir); A (red alder); M (bigleaf maple); SN (Snag). For "leave trees", add an "L" to the species code (such as DL, HL, CL, etc.).
 - 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
Hardwoods: Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, 0 = Cull.

Grade oversized 3-SAW (DIB $\geq$ 12", knots > 2½" inside scaling cylinder affecting > 50% of log)
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 Douglas-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 inter-visible 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.
9. **Cruising Equipment:** Relaskop, Rangefinder, Clinometer, Logger's Tape (with dbh on back), Compass, Allegro II Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, 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: Michele Huffman

Approved by: 

Date: 1/5/2021

Timber Cruise

OF TIMBER SALE CONTRACT NO.
AT-341-2021-W00571-01

POPEYE

PORTIONS OF SECTION 1 OF T5N, R7W,
SECTIONS 25 & 36 OF T6N, R7W,
SECTIONS 30 & 31 OF T6N, R6W,
AND SECTION 6 OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON.

Cruise Information (Unit 1, 4, & 6):

Unit 1 (PC) = 563 Acres
Unit 4 (PC) = 44 Acres
Unit 6 (PC) = 15 Acres
Total Acres = 622

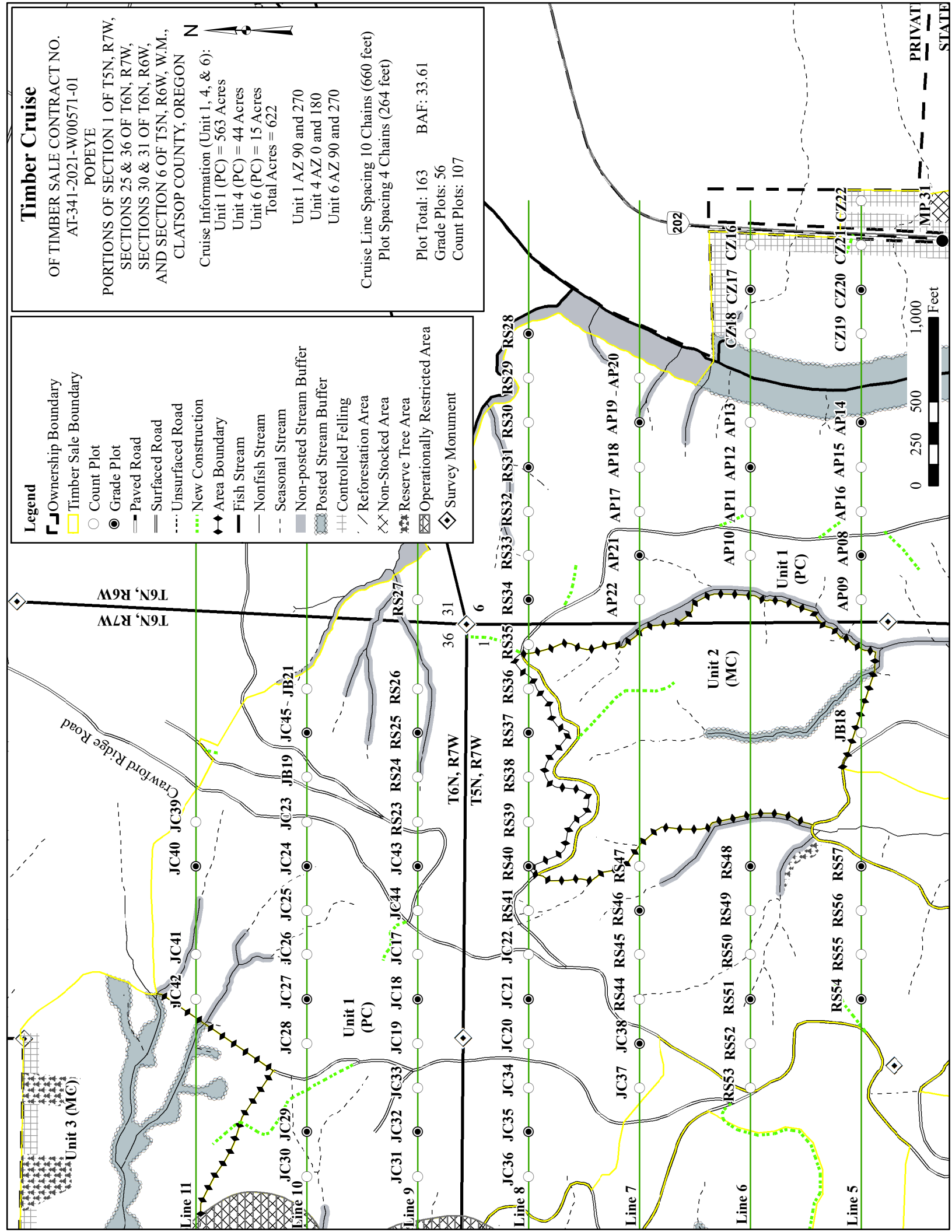
Unit 1 AZ 90 and 270
Unit 4 AZ 0 and 180
Unit 6 AZ 90 and 270

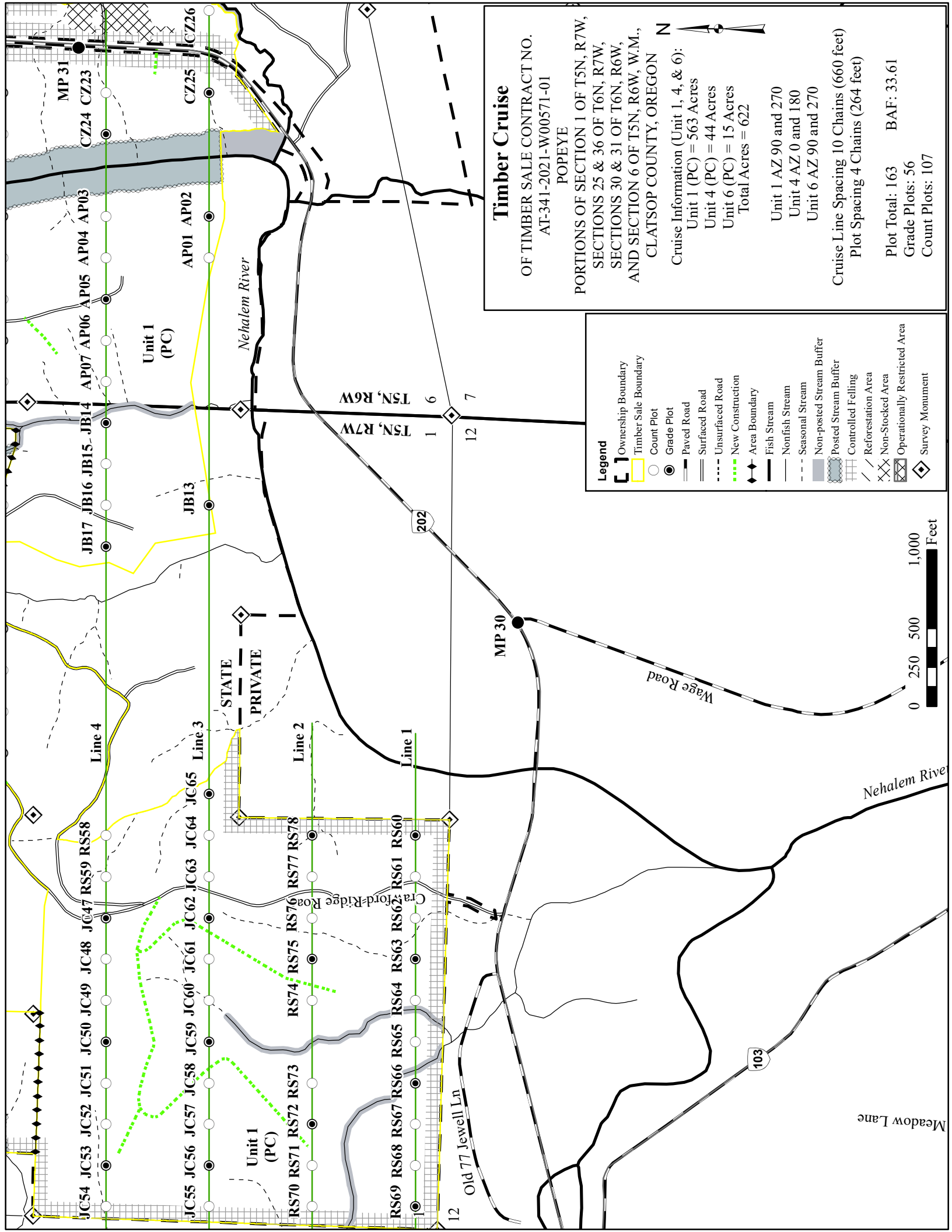
Cruise Line Spacing 10 Chains (660 feet)
Plot Spacing 4 Chains (264 feet)

Plot Total: 163 BAF: 33.61
Grade Plots: 56
Count Plots: 107

Legend

-  Ownership Boundary
 Timber Sale Boundary
 Count Plot
 Grade Plot
 Paved Road
 Surfaced Road
 Unsurfaced Road
 New Construction
 Area Boundary
 Fish Stream
 Nonfish Stream
 Seasonal Stream
 Non-posted Stream Buffer
 Posted Stream Buffer
 Controlled Felling
 Reforestation Area
 Non-Stocked Area
 Reserve Tree Area
 Operationally Restricted Area
 Survey Monument





**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Popeye **Units** 2, 3, & 5

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 138 **Estimated CV%** 40 Net BF/Acre **SE% Objective** 11 Net BF/Acre

Planned Sale Volume : 4,180 MBF **Estimated Sale Area Value/Acre:** \$10,600/Acre

A. Cruise Goals: (a) Grade minimum 70 trees
(b) Sample 64 cruise plots (32 grade/ 32 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 40 (Full point)
Cruise Line Directions Unit 2: 0°/180° Unit 3: 90°/270° Unit 5: 108°/288°
Cruise Line Spacing 5 chains 330 Feet
Cruise Plot Spacing 5 chains 330 Feet
Grade/Count Ratio 1:1

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" DBH; DO NOT GRADE SNAGS ON COUNT PLOTS.

All hardwood will be measured to a G, or as appropriate.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" 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" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 20" dbh and 40% of dob @ FP for conifer trees > 20" 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. Hardwoods shall be recorded in 8’ and 10’ multiples.

6. Species, Sort, and Grade Codes:

- A. Species: Record as D (Douglas-fir); H (western hemlock); S (Sitka Spruce); C (Western redcedar); NF (noble fir); SF (silver fir); A (red alder); M (bigleaf maple); SN (Snag). For “leave trees”, add an “L” to the species code (such as DL, HL, CL, etc.)
- 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
Hardwoods: Alder Grades: 12” + = 1 Sawmill; 10”-12” = 2 Sawmill; 10”-8” = 3 Sawmill; and 8”-6” 4 Sawmill, 0 = Cull.

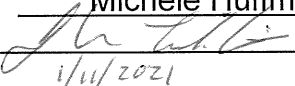
Grade oversized 3-SAW (DIB $\geq$ 12”, knots $> 2\frac{1}{2}$ ” inside scaling cylinder affecting $> 50\%$ of log)

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 Douglas-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 inter-visible 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.

9. **Cruising Equipment:** Relaskop, Rangefinder, Clinometer, Logger’s Tape (with dbh on back), Compass, Allegro II Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, 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: Michele Huffman
Approved by: 
Date: 1/11/2021

Cruise Map

OF TIMBER SALE CONTRACT NO.

AT-341-2021-W00571-01

POPEYE

PORTIONS OF SECTION 1 OF T5N, R7W,

SECTIONS 25 & 36 OF T6N, R7W,

SECTIONS 30 & 31 OF T6N, R6W,

AND SECTION 6 OF T5N, R6W, W.M.,

CLATSOP COUNTY, OREGON

Cruise Information (Unit 2, 3, & 5):

Unit 2 (MC) = 48 Acres

Unit 3 (MC) = 32 Acres

Unit 5 (MC) = 62 Acres

Total Acres = 142

Unit 2 AZ 0 and 180

Unit 3 AZ 90 and 270

Unit 5 AZ 108 and 288

Cruise Line Spacing 5 Chains (330 feet)

Plot Spacing 5 Chains (330 feet)

Plot Total: 63 BAF: 40

Grade Plots: 31

Count Plots: 32

Legend

[= Ownership Boundary

 Timber Sale Boundary

Count Plot

Grade Plot

■ ■ ■ ■ ■ New Construction

◆◆◆ Area Boundary

— Fish Stream

— Nonfish Stre

--- Seasonal Stream

Non-posted Stream Buffer

 Posted Stream Buffer Paved Road

== Surfaced Road

----- Unsurfaced Road

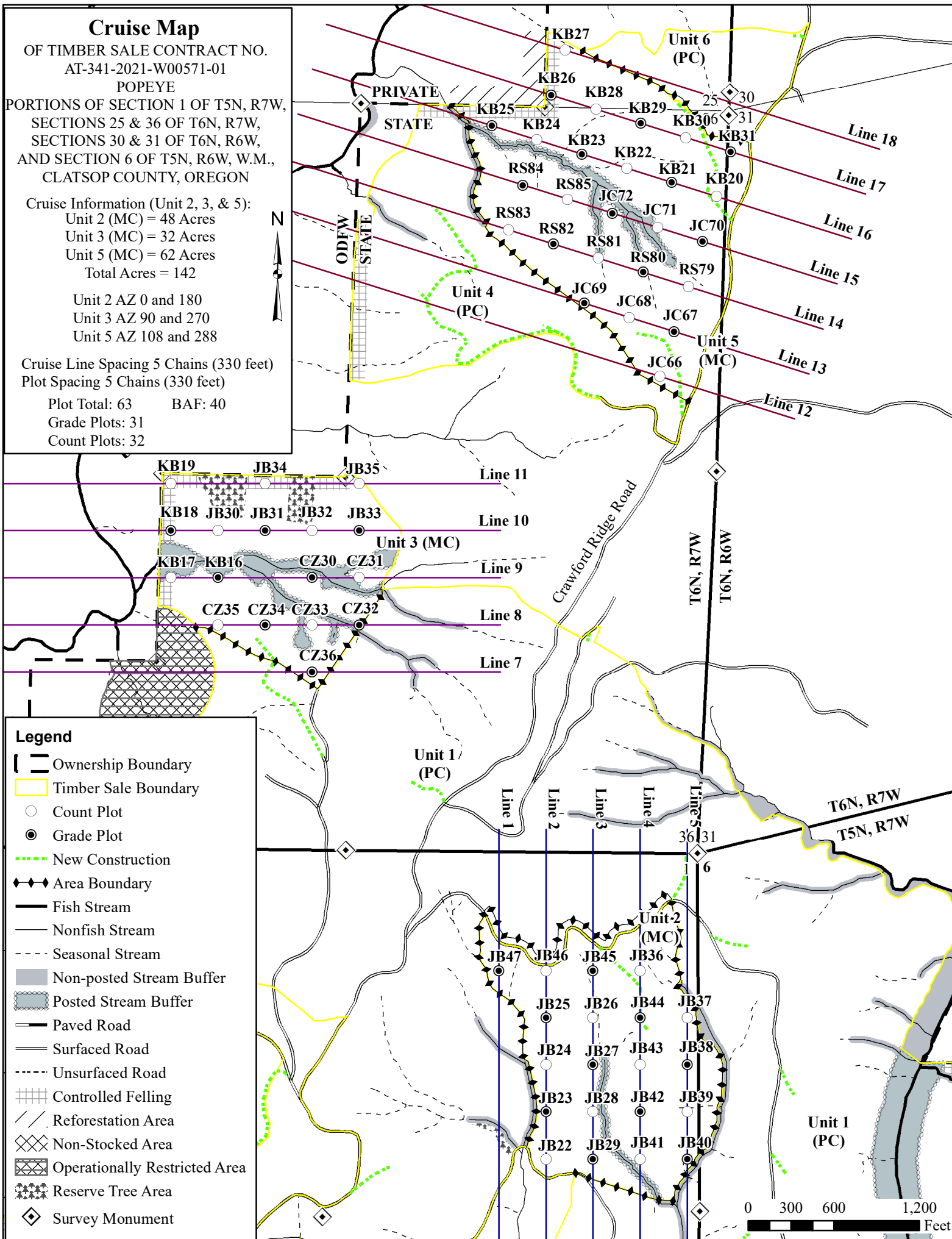
Controlled Felling

/// Reforestation Area

 Non-Stocked Area

 Operationally Restricted Area Reserve Tree Area

Survey Monument



**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Popeye **Units** 7

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 47 **Estimated CV%** 50 Net BF/Acre **SE% Objective** 11 Net BF/Acre

Planned Sale Volume : 1,034 MBF **Estimated Sale Area Value/Acre:** \$7,700/Acre

A. Cruise Goals: (a) Grade minimum 70 trees
(b) Sample 52 cruise plots (17 grade/ 35 count); (c) Other goals (Determine "automark" thinning standards; X Determine log grades for sale value; X Determine snag and leave tree species and sizes.

B. Cruise Design:

1. Plot Cruises: BAF 40 (Conifer – B1) BAF 27.78 (Hardwood – B2)
Cruise Line Directions Unit 7: 90°/270°
Cruise Line Spacing 3 (chains) 198 (Feet)
Cruise Plot Spacing 3 (chains) 198 (Feet)
Grade/Count Ratio 1:2

Take plots as marked on cruise map. All cedar will be reserved. Record all snags as SN.

DO NOT RECORD 12', 22' and 32' (for Hardwoods).

DO NOT RECORD 22' LENGTHS.

DO NOT RECORD SNAGS UNDER 12" DBH; DO NOT GRADE SNAGS ON COUNT PLOTS.

All hardwood will be measured to a G, or as appropriate.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.
Record dbh to nearest ½" 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" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 20" dbh and 40% of dob @ FP for conifer trees > 20" 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. Hardwoods shall be recorded in 8' and 10' multiples.

6. Species, Sort, and Grade Codes:

- A. Species: Record as D (Douglas-fir); H (western hemlock); S (Sitka Spruce); C (Western redcedar); NF (noble fir); SF (silver fir); A (red alder); M (bigleaf maple); SN (Snag). For "leave trees", add an "L" to the species code (such as DL, HL, CL, etc.)
- 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
Hardwoods: Alder Grades: 12" + = 1 Sawmill; 10"-12" = 2 Sawmill; 10"-8" = 3 Sawmill; and 8"-6" 4 Sawmill, 0 = Cull.

Grade oversized 3-SAW (DIB $\geq$ 12", knots $> 2\frac{1}{2}$ " inside scaling cylinder affecting $> 50\%$ of log)

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 Douglas-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 inter-visible 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.

9. Cruising Equipment: Relaskop, Rangefinder, Clinometer, Logger's Tape (with dbh on back), Compass, Allegro II Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.

10. Attachments: A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, 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: Michele Huffman

Approved by: 

Date: 1/6/2021

Cruise Map

OF TIMBER SALE CONTRACT NO.

AT-341-2021-W00571-01

POPEYE

PORTIONS OF SECTION 1 OF T5N, R7W,

SECTIONS 25 & 36 OF T6N, R7W,

SECTIONS 30 & 31 OF T6N, R6W,

AND SECTION 6 OF T5N, R6W, W.M.,

CLATSOP COUNTY, OREGON

Approximate Net Acres

Unit 7 (MC) = 48

Total = 48

Cruise Information (Unit 7):

Plot Total: 51 BAF: 40 (B1)

Grade Plots: 17 27.78 (B2)

Count Plots: 34

Cruise Line Directions: 90/270

Plot Spacing: 3 Chains (198 feet)

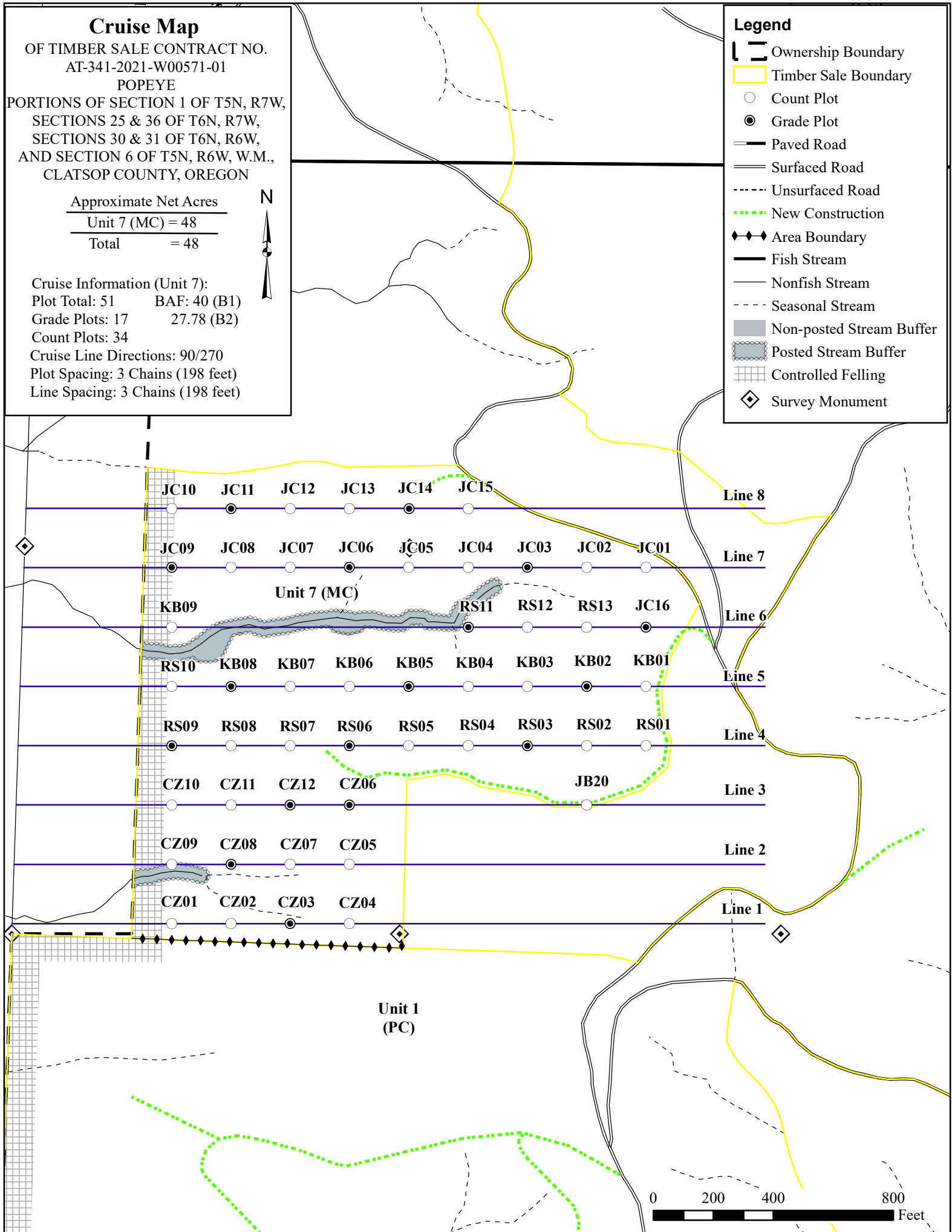
Line Spacing: 3 Chains (198 feet)

N



Legend

- Ownership Boundary
- Timber Sale Boundary
- Count Plot
- Grade Plot
- Paved Road
- Surfaced Road
- Unsurfaced Road
- New Construction
- Area Boundary
- Fish Stream
- Nonfish Stream
- Seasonal Stream
- Non-posted Stream Buffer
- Posted Stream Buffer
- Controlled Felling
- Survey Monument



0 200 400 800 Feet

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)															
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC					Project:		POP								Page		1		
					Acres		823.00								Date		1/20/2021		
															Time		1:21:35PM		
Spp	S So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			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	115											8	9		0.00	5.1
D	DO2S	11	2.6	1,385	1,349	1,110		1	83	15		3	12	86	38	13	255	1.79	5.3
D	DO3S	74	1.9	8,491	8,332	6,857		99	1	0	0	11	19	70	36	8	82	0.63	101.5
D	DO4S	15	.8	1,690	1,676	1,379	2	98			52	46	1	1	22	6	26	0.38	65.4
D Totals		75	2.8	11,681	11,357	9,346	0	87	11	2	8	16	15	62	30	7	64	0.61	177.2
A	DOCU		100.0	46											22	8		0.00	1.0
A	DO1S	9	1.1	203	201	165			96	4		39	26	35	33	13	195	1.51	1.0
A	DO2S	20	1.5	403	397	327		92	6	1	4	19		77	35	11	141	1.07	2.8
A	DO3S	20	.2	420	419	345		98	2		2	28	25	44	33	8	80	0.72	5.2
A	DO4S	51	.0	1,019	1,019	839	1	97	1		19	25	13	43	27	6	41	0.47	25.0
A Totals		13	2.6	2,090	2,035	1,676	1	87	12	1	11	26	14	49	29	7	58	0.60	35.0
H	DOCU		100.0	39											10	9		0.00	1.1
H	DO2S	46	1.1	635	628	517			58	42		3	7	90	39	15	378	2.43	1.7
H	DO3S	41	2.5	560	546	449		84	1	15	3	12	22	64	35	9	115	1.02	4.8
H	DO4S	13	.0	172	172	141	12	88			41	59			23	6	29	0.44	5.8
H Totals		9	4.3	1,407	1,346	1,107	1	45	27	26	7	13	12	68	28	9	101	1.03	13.3
M	DOCU		100.0	5											14	13		0.00	.1
M	DO1S	17	1.0	47	47	38			84	16	8	14	15	63	34	13	207	2.20	.2
M	DO2S	27	2.3	70	69	57		86		14	8	71	12	9	26	10	104	1.11	.7
M	DO3S	31	.3	81	81	66		100			0	17	56	27	33	8	72	0.79	1.1
M	DO4S	25	.2	65	65	53		100	0		4	96			25	6	33	0.54	2.0
M Totals		2	2.8	268	261	214		78	15	7	4	50	23	22	28	8	64	0.82	4.1
S	DOCU		100.0	3											8	40		0.00	.0
S	DO2S	51	5.8	28	26	22				100	26			74	34	37	1898	10.68	.0
S	DO3S	49	1.8	25	25	20		0		100		0	10	90	37	24	1178	6.36	.0
S Totals		0	8.6	56	51	42		0		100	13	0	5	82	32	30	1297	7.77	.0
GF	DO2S	100		30	30	25			5	95	5			95	33	19	690	3.84	.0
GF Totals		0		30	30	25			5	95	5			95	33	19	690	3.84	.0
Totals			2.9	15,532	15,080	12,411	1	83	12	4	8	17	15	60	30	7	66	0.63	229.7

12,410

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1					
				Project:		POP						Date		1/20/2021							
												Time		11:12:47AM							
T05N R07W S01 T00PC												T05N R07W S01 T00PC									
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt			
05N		07W		01		U146 TAKE		00PC		622.00		161		174		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		00.0		113		332		100				10 90				6 10 0.00		4.5	
D		DO 2S		5		3.7 554 534		332		100				10 90				38 13 213 1.63		2.5	
D		DO 3S		79		1.5 8,468 8,338		5,186		99 1				13 17 71				36 8 80 0.60		103.9	
D		DO 4S		16		.5 1,645 1,637		1,018		2 98				55 45				21 6 25 0.37		64.5	
D		Totals		84		2.5 10,780 10,509		6,536		0 94 6				9 17 14 61				30 7 60 0.56		175.5	
A		DO 1S		7		83 83		51		100				100				30 12 150 1.30		.6	
A		DO 2S		10		114 114		71		100				100				38 10 140 0.92		.8	
A		DO 3S		21		236 236		147		100				28 36 36				31 9 79 0.75		3.0	
A		DO 4S		62		700 700		435		100				19 28 52				28 6 42 0.50		16.5	
A		Totals		9		1,132 1,132		704		93 7				12 31 7 50				29 7 54 0.58		20.9	
H		DO CU		00.0		42		36		100				100				11 9 0.00		1.3	
H		DO 2S		10		58 58		36		100				100				40 15 360 2.20		.2	
H		DO 3S		66		3.4 387 374		233		100				29 71				36 9 105 0.91		3.6	
H		DO 4S		24		136 136		85		100				42 58				24 6 30 0.41		4.5	
H		Totals		5		8.9 623 568		353		90 10				10 14 19 57				27 8 60 0.69		9.5	
M		DO 1S		12		30 30		19		100				100				40 12 200 2.25		.2	
M		DO 2S		21		54 54		34		100				100				26 10 90 0.85		.6	
M		DO 3S		35		87 87		54		100				68 32				34 8 75 0.75		1.2	
M		DO 4S		32		78 78		48		100				100				25 6 33 0.52		2.4	
M		Totals		2		250 250		155		88 12				53 24 23				28 7 58 0.73		4.3	
Type Totals				2.6		12,786 12,459		7,749		0 94 6				9 19 14 59				30 7 59 0.57		210.2	

T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)												Page		1							
				Project:				POP						Date		1/20/2021									
														Time		11:12:23AM									
T05N R07W S01 T00MC												T05N R07W S01 T00MC													
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt							
05N		07W		01		U235		00MC		142.00		63		170		1		W							
S So Gr Spp T rt ad		% 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				00.0 166												12 7 0.00				9.0					
D DO 2S		24		1.7 3,711 3,647		518		83 17								3 18 79				38 14 272 1.90		13.4			
D DO 3S		62		3.4 9,499 9,180		1,304		99 1								0 6 26 67				36 8 88 0.74				104.9	
D DO 4S		14		2.1 2,104 2,059		292		4 96								43 49 4 4				22 6 27 0.41				76.7	
D Totals		69		3.8 15,480 14,886		2,114		1 75 21 4								6 11 21 61				30 8 73 0.73				204.1	
A DO CU				00.0 194												22 7 0.00				5.3					
A DO 1S		4		160 160		23		100								100				32 15 280 2.09				.6	
A DO 2S		19		2.8 736 715		102		100								40 60				34 11 135 1.13				5.3	
A DO 3S		20		742 742		105		100								18 22 59				37 8 75 0.61				9.9	
A DO 4S		57		2,062 2,062		293		4 96								15 21 30 35				28 6 40 0.40				51.6	
A Totals		17		5.5 3,894 3,680		522		2 93 4								8 23 26 43				29 7 51 0.49				72.8	
H DO CU				00.0 40												6 16 0.00				.7					
H DO 2S		60		1.9 1,860 1,824		259		74 26								13 87				38 15 316 2.21				5.8	
H DO 3S		29		1.1 880 870		124		100								4 24 12 61				34 8 90 0.94				9.7	
H DO 4S		11		330 330		47		34 66								42 58				21 6 27 0.47				12.1	
H Totals		14		2.7 3,109 3,024		429		4 36 45 16								6 13 11 70				29 9 107 1.13				28.2	
M DO 3S		100		62 62		9		100								100				30 8 60 0.80				1.0	
M Totals		0		62 62		9		100								100				30 8 60 0.80				1.0	
Type Totals				4.0 22,545 21,652		3,075		1 72 21 5								6 14 20 59				30 8 71 0.71				306.0	

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)														Page 1						
		Project: POP														Date 1/20/2021						
																Time 11:11:47AM						
T05N R07W S01 T00MC										T05N R07W S01 T00MC												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
05N	07W	01	U7	00MC	48.00	46	109	1	W													
S So Gr Spp T rt ad			% 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/ Lf		
										4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		
A	DO	CU		00.0	191													14	20		0.00	.9
A	DO	1S	21	2.0	1,867	1,830	88					92	8		14	22	64	37	13	215	1.55	8.5
A	DO	2S	35	1.2	3,118	3,080	148				84	14	2	8	14		78	35	11	147	1.12	21.0
A	DO	3S	21	.7	1,817	1,804	87				94	6		10	39	11	40	31	9	90	0.86	20.0
A	DO	4S	23		1,994	1,994	96				91	9		36	23	19	21	25	6	37	0.53	53.5
A Totals			32	3.1	8,988	8,708	418				70	28	2	13	21	11	54	29	9	84	0.85	103.8
D	DO	2S	48	3.1	4,803	4,652	223				6	57	36		6		94	40	14	304	1.89	15.3
D	DO	3S	43	.5	4,202	4,183	201				92	6	2	1	18	18	64	35	8	96	0.79	43.7
D	DO	4S	9		824	824	40				100			64	36			20	6	23	0.40	35.4
D Totals			36	1.7	9,829	9,660	464				51	30	18	6	14	8	73	30	8	102	0.92	94.4
H	DO	2S	70	.4	4,364	4,349	209					30	70		6		94	39	17	508	2.93	8.6
H	DO	3S	27	2.4	1,758	1,717	82				14	5	81	12	25	17	46	26	15	353	3.09	4.9
H	DO	4S	3		146	146	7				100			32	68			21	7	36	0.69	4.0
H Totals			23	.9	6,268	6,211	298				6	22	71	4	13	5	78	31	14	356	2.62	17.5
M	DO	CU		00.0	81													16	14		0.00	1.0
M	DO	1S	39	2.0	388	380	18					70	30	17	29	30	25	27	14	210	2.09	1.8
M	DO	2S	47	5.7	486	458	22				64		36	19	27	30	24	26	11	134	1.71	3.4
M	DO	3S	4	7.4	52	48	2				100				100			26	8	50	1.48	1.0
M	DO	4S	10	2.0	90	88	4				94	6		46	54			22	7	37	0.76	2.4
M Totals			4	11.1	1,097	975	47				43	28	29	20	34	26	21	24	11	102	1.44	9.6
S	DO	CU		00.0	45													8	40		0.00	.1
S	DO	2S	52	5.8	470	442	21					100		26			74	34	37	1898	10.68	.2
S	DO	3S	48	1.8	410	402	19					100				8	92	38	26	1320	6.81	.3
S Totals			3	8.7	925	844	41					100		14		4	83	33	32	1377	8.12	.6
GF	DO	2S	100		509	509	24					5	95	5			95	33	19	690	3.84	.7
GF Totals			2		509	509	24					5	95	5			95	33	19	690	3.84	.7
Type Totals				2.6	27,617	26,908	1,292				44	26	30	8	16	9	67	29	9	119	1.08	226.6

TC		PSPCSTGR Species, Sort Grade - Board Foot Volumes (Project)																	
T05N R07W S01 Ty00MC10.00 T05N R07W S01 Ty00MC1.00		Project:		POP												Page1			
		Acres		11.00												Date1/20/2021			
																Time1:21:53PM			
S Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre Def%GrossNet			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	124											9	8		0.00	5.9
D	DO2S	15	1.9	3,416	3,353	37		1	89	10		3	7	90	39	13	247	1.68	13.6
D	DO3S	72	1.6	15,433	15,187	167		99	1	0	0	8	16	76	37	8	90	0.69	168.3
D	DO4S	13	1.0	2,684	2,658	29	2	98			46	52	1	1	22	6	26	0.39	101.2
D Totals		79	2.1	21,657	21,198	233	0	83	15	2	6	13	12	69	31	8	73	0.67	288.9
A	DOCU		100.0	66											22	8		0.00	1.4
A	DO1S	10	1.2	279	275	3			95	5		34	28	39	34	13	210	1.60	1.3
A	DO2S	21	1.5	587	579	6		92	7	1	4	31		65	33	11	138	1.10	4.2
A	DO3S	20	.2	547	546	6		98	2		4	39	18	39	33	8	78	0.72	7.0
A	DO4S	49	.8	1,354	1,343	15	2	97	1		17	23	14	46	28	6	41	0.46	32.5
A Totals		10	3.2	2,833	2,743	30	1	87	12	1	10	29	13	48	29	7	59	0.60	46.4
H	DOCU		100.0	38											10	10		0.00	1.0
H	DO2S	48	1.1	1,197	1,184	13			59	41		3	8	89	39	15	362	2.32	3.3
H	DO3S	40	1.7	991	974	11		86	1	13	3	16	15	66	35	9	118	1.03	8.2
H	DO4S	12	1.8	276	271	3	11	89			34	66			23	6	30	0.47	9.2
H Totals		9	2.9	2,501	2,429	27	1	45	29	25	5	15	10	70	29	9	112	1.08	21.7
M	DOCU		100.0	16											7	8		0.00	.9
M	DO1S	34	.6	117	116	1			61	39	5	9	9	77	34	15	307	2.54	.4
M	DO2S	22	3.3	76	74	1		80		20	16	53	17	13	25	11	109	1.28	.7
M	DO3S	26	.4	88	88	1		100			4	46	34	17	29	8	65	0.80	1.4
M	DO4S	18	.3	59	59	1		99	1		6	94			24	6	33	0.52	1.8
M Totals		1	5.4	355	336	4		61	21	18	7	43	16	34	23	8	66	0.91	5.1
S	DOCU		100.0	4											8	40		0.00	.0
S	DO2S	31	5.8	43	40	0				100	26			74	34	37	1898	10.68	.0
S	DO3S	69	1.9	88	86	1		6		94		6	55	39	29	15	368	3.03	.2
S Totals		0	6.2	134	126	1		4		96	8	4	37	50	29	17	482	3.72	.3
GF	DO2S	100		46	46	1			5	95	5			95	33	19	690	3.84	.1
GF Totals		0		46	46	1			5	95	5			95	33	19	690	3.84	.1
Totals			2.4	27,527	26,878	296	0	79	16	4	6	15	12	66	31	8	74	0.69	362.4

TC PSTATS		PROJECT STATISTICS								PAGE	1	
		PROJECT				POP				DATE	1/20/2021	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
05N 05N	07 07W	01 01	U123456RW U7RW	00MC 00MC	THR	823.00		540	2,952	1	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			540	2952	5.5							
CRUISE			198	1122	5.7	114,976		1.0				
DBH COUNT												
REFOREST												
COUNT			320	1820	5.7							
BLANKS			22									
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR			734	103.2	13.1	54	26.7	96.5	11,681	11,357	3,256	3,225
R ALDER			195	23.3	12.2	46	5.4	18.8	2,090	2,035	613	603
WHEMLOCK			107	8.6	15.8	46	3.0	11.8	1,407	1,346	393	384
BL MAPLE			50	3.4	14.2	35	1.0	3.8	268	261	94	92
SNAG			27	1.2	16.0	56	0.4	1.7				
S SPRUCE			7	.0	51.6	109	0.0	.2	56	51	10	10
GR FIR			2	.0	36.0	103	0.0	.1	30	30	6	6
TOTAL			1,122	139.7	13.2	52	36.6	132.8	15,532	15,080	4,372	4,319
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		144.4	5.3	174	183	193						
R ALDER		65.9	4.7	134	140	147						
WHEMLOCK		131.9	12.7	298	342	386						
BL MAPLE		108.7	15.4	163	192	222						
SNAG												
S SPRUCE		39.7	16.1	2,755	3,286	3,816						
GR FIR				2,070	2,070	2,070						
TOTAL		182.7	5.5	198	210	221			1,333	333	148	
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		173.6	7.5	95	103	111						
R ALDER		300.9	12.9	20	23	26						
WHEMLOCK		432.2	18.6	7	9	10						
BL MAPLE		682.2	29.3	2	3	4						
SNAG		671.4	28.9	1	1	2						
S SPRUCE		1294.5	55.7	0	0	0						
GR FIR		1608.4	69.2	0	0	0						
TOTAL		141.5	6.1	131	140	148			800	200	89	
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		161.1	6.9	90	97	103						
R ALDER		277.2	11.9	17	19	21						
WHEMLOCK		388.4	16.7	10	12	14						
BL MAPLE		579.3	24.9	3	4	5						
SNAG		657.5	28.3	1	2	2						
S SPRUCE		1356.4	58.3	0	0	0						
GR FIR		1608.4	69.2	0	0	0						
TOTAL		127.8	5.5	126	133	140			652	163	72	
CL	68.1	COEFF		NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH			5	10	15	

PROJECT STATISTICS

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
05N	07	01	U123456RW	00MC	THR	823.00	540	2,952	1	W
05N	07W	01	U7RW	00MC						
			DOUG FIR			162.6	7.0	10,563	11,357	12,151
			R ALDER			281.6	12.1	1,789	2,035	2,282
			WHEMLOCK			389.5	16.7	1,120	1,346	1,571
			BL MAPLE			620.3	26.7	191	261	330
			SNAG							
			S SPRUCE			1440.8	61.9	19	51	82
			GR FIR			1608.4	69.2	9	30	51
			TOTAL			<i>131.4</i>	<i>5.6</i>	<i>14,229</i>	<i>15,080</i>	<i>15,932</i>
								<i>689</i>	<i>172</i>	<i>77</i>

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT			POP				DATE	1/20/2021		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
05N	07	01	U146	00PC		622.00	161	1,215	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			161	1215	7.5							
CRUISE			55	404	7.3	155,702	.3					
DBH COUNT												
REFOREST												
COUNT			105	811	7.7							
BLANKS			1									
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUGLEAV			180	96.2	15.1	67	30.9	120.0	16,215	16,052	4,481	4,479
DOUG FIR			143	103.6	12.5	53	25.0	88.5	10,780	10,509	2,969	2,939
HEMLEAV			19	7.0	16.7	57	2.6	10.6	1,348	1,330	383	383
R ALDER			12	13.3	12.0	47	3.0	10.4	1,132	1,132	349	349
ALDRLEAV			15	9.7	11.6	41	2.1	7.1	691	678	216	216
WHEMLOCK			13	6.4	13.2	42	1.7	6.1	623	568	185	176
SNAG			11	9.1	10.9	63	1.8	5.8				
BL MAPLE			6	3.7	12.9	34	0.9	3.3	250	250	88	88
MAPLELV			4	1.2	12.6	24	0.3	1.0	104	97	28	27
SPRUCELV			1	.2	27.0	58	0.1	.6	77	76	21	21
TOTAL			404	250.3	13.6	57	68.7	253.6	31,221	30,691	8,721	8,677
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			
DOUGLEAV		42.1	3.1	183	189	195						
DOUG FIR		58.7	4.9	119	125	131						
HEMLEAV		79.2	18.7	211	260	309						
R ALDER		50.1	15.1	81	95	109						
ALDRLEAV		69.7	18.6	71	87	104						
WHEMLOCK		84.7	24.4	97	128	159						
SNAG												
BL MAPLE		71.2	31.7	63	92	121						
MAPLELV		103.7	59.3	122	300	478						
SPRUCELV												
TOTAL		66.4	3.3	151	156	161	176	44	20			
CL	68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15			
DOUGLEAV		42.1	3.3	93	96	99						
DOUG FIR		89.0	7.0	96	104	111						
HEMLEAV		314.2	24.7	5	7	9						
R ALDER		247.6	19.5	11	13	16						
ALDRLEAV		320.4	25.2	7	10	12						
WHEMLOCK		348.1	27.4	5	6	8						
SNAG		295.8	23.3	7	9	11						
BL MAPLE		439.2	34.6	2	4	5						
MAPLELV		776.9	61.2	0	1	2						
SPRUCELV		728.0	57.3	0	0	0						
TOTAL		38.3	3.0	243	250	258	58	15	6			
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15			
DOUGLEAV		38.8	3.1	116	120	124						

TC PSTATS				PROJECT STATISTICS				PAGE	2	
				PROJECT		POP		DATE	1/20/2021	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
05N	07	01	U146	00PC		622.00	161	1,215	1	W
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		86.2	6.8	83	89	95				
HEMLEAV		292.0	23.0	8	11	13				
R ALDER		242.1	19.1	8	10	12				
ALDRLEAV		310.6	24.5	5	7	9				
WHEMLOCK		366.6	28.9	4	6	8				
SNAG		284.4	22.4	5	6	7				
BL MAPLE		424.0	33.4	2	3	4				
MAPLELV		838.3	66.0	0	1	2				
SPRUCELV		728.0	57.3	0	1	1				
TOTAL		34.2	2.7	247	254	260	47	12	5	
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUGLEAV		40.5	3.2	15,541	16,052	16,564				
DOUG FIR		88.4	7.0	9,778	10,509	11,240				
HEMLEAV		284.1	22.4	1,033	1,330	1,628				
R ALDER		246.3	19.4	913	1,132	1,352				
ALDRLEAV		323.9	25.5	505	678	850				
WHEMLOCK		419.5	33.0	380	568	756				
SNAG										
BL MAPLE		435.3	34.3	164	250	335				
MAPLELV		1044.8	82.3	17	97	176				
SPRUCELV		728.0	57.3	32	76	119				
TOTAL		38.3	3.0	29,766	30,691	31,616	59	15	7	

TC TSTATS				STATISTICS				PAGE	1
				PROJECT POP		DATE		1/20/2021	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	07W	01	U146 TAKE	00PC	622.00	161	519	1	W

			TREES	ESTIMATED	PERCENT
			PER PLOT	TOTAL	SAMPLE
	PLOTS	TREES		TREES	TREES
TOTAL	161	519	3.2		
CRUISE	47	174	3.7	78,985	.2
DBH COUNT					
REFOREST					
COUNT	93	345	3.7		
BLANKS	21				
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	143	103.6	12.5	53	25.0	88.5	10,780	10,509	2,969	2,939
R ALDER	12	13.3	12.0	47	3.0	10.4	1,132	1,132	349	349
WHEMLOCK	13	6.4	13.2	42	1.7	6.1	623	568	185	176
BL MAPLE	6	3.7	12.9	34	0.9	3.3	250	250	88	88
TOTAL	174	127.0	12.5	51	30.6	108.3	12,786	12,459	3,592	3,552

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	58.7	4.9	119	125	131			
R ALDER	50.1	15.1	81	95	109			
WHEMLOCK	84.7	24.4	97	128	159			
BL MAPLE	71.2	31.7	63	92	121			
TOTAL	61.3	4.6	116	122	127	150	38	17

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	89.0	7.0	96	104	111			
R ALDER	247.6	19.5	11	13	16			
WHEMLOCK	348.1	27.4	5	6	8			
BL MAPLE	439.2	34.6	2	4	5			
TOTAL	69.6	5.5	120	127	134	193	48	21

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	86.2	6.8	83	89	95			
R ALDER	242.1	19.1	8	10	12			
WHEMLOCK	366.6	28.9	4	6	8			
BL MAPLE	424.0	33.4	2	3	4			
TOTAL	67.0	5.3	103	108	114	179	45	20

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	88.4	7.0	9,778	10,509	11,240			
R ALDER	246.3	19.4	913	1,132	1,352			
WHEMLOCK	419.5	33.0	380	568	756			
BL MAPLE	435.3	34.3	164	250	335			
TOTAL	71.0	5.6	11,763	12,459	13,155	201	50	22

TC TSTATS				STATISTICS				PAGE 1					
				PROJECT		POP		DATE 1/20/2021					
TWP	RGE	SECT	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt			
05N	07W	01	U146 LEAVE	00PC		622.00	161	696	1	W			
				TREES		ESTIMATED TOTAL	PERCENT SAMPLE						
				PLOTS	TREES	PER PLOT	TREES	TREES					
TOTAL		161		696		4.3							
CRUISE		55		230		4.2		76,717		.3			
DBH COUNT													
REFOREST													
COUNT		105		466		4.4							
BLANKS		1											
100 %													
STAND SUMMARY													
		SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC		
DOUGLEAV		180		96.2		15.1	67	30.9	120.0	16,215	16,052	4,481	4,479
HEMLEAV		19		7.0		16.7	57	2.6	10.6	1,348	1,330	383	383
ALDRLEAV		15		9.7		11.6	41	2.1	7.1	691	678	216	216
SNAG		11		9.1		10.9	63	1.8	5.8				
MAPLELV		4		1.2		12.6	24	0.3	1.0	104	97	28	27
SPRUCELV		1		.2		27.0	58	0.1	.6	77	76	21	21
TOTAL		230		123.3		14.7	64	37.9	145.3	18,435	18,232	5,129	5,125
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			
DOUGLEAV		42.1		3.1		183	189	195					
HEMLEAV		79.2		18.7		211	260	309					
ALDRLEAV		69.7		18.6		71	87	104					
SNAG													
MAPLELV		103.7		59.3		122	300	478					
SPRUCELV													
TOTAL		62.8		4.1		175	182	190		158	39	18	
CL:	68.1 %	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5		10	15			
DOUGLEAV		42.1		3.3		93	96	99					
HEMLEAV		314.2		24.7		5	7	9					
ALDRLEAV		320.4		25.2		7	10	12					
SNAG		295.8		23.3		7	9	11					
MAPLELV		776.9		61.2		0	1	2					
SPRUCELV		728.0		57.3		0	0	0					
TOTAL		30.7		2.4		120	123	126		38	9	4	
CL:	68.1 %	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5		10	15			
DOUGLEAV		38.8		3.1		116	120	124					
HEMLEAV		292.0		23.0		8	11	13					
ALDRLEAV		310.6		24.5		5	7	9					
SNAG		284.4		22.4		5	6	7					
MAPLELV		838.3		66.0		0	1	2					
SPRUCELV		728.0		57.3		0	1	1					
TOTAL		20.9		1.6		143	145	148		18	4	2	
CL:	68.1 %	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5		10	15			
DOUGLEAV		40.5		3.2		15,541	16,052	16,564					
HEMLEAV		284.1		22.4		1,033	1,330	1,628					
ALDRLEAV		323.9		25.5		505	678	850					
SNAG													

TC TSTATS				STATISTICS			PAGE 2		
				PROJECT		POP		DATE 1/20/2021	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	07W	01	U146 LEAVE	00PC	622.00	161	696	1	W
CL: 68.1 %				NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0	COEFF	S.E.%	LOW	AVG	HIGH	5	10	15
MAPLELV		1044.8	82.3	17	97	176			
SPRUCELV		728.0	57.3	32	76	119			
TOTAL		24.6	1.9	17,879	18,232	18,585	24	6	3

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT		POP		DATE				1/20/2021	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
05N	07	01	U235	00MC		142.00		63	329	1	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			63	329	5.2							
CRUISE			31	163	5.3	27,800		.6				
DBH COUNT												
REFOREST												
COUNT			32	161	5.0							
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR			107	114.9	14.6	56	35.0	134.0	15,480	14,886	4,512	4,468
R ALDER			24	55.4	10.9	40	10.9	36.2	3,894	3,680	1,092	1,043
WHEMLOCK			25	18.6	17.0	47	7.1	29.2	3,109	3,024	929	921
SNAG			6	5.9	16.1	60	2.1	8.3				
BL MAPLE			1	1.0	15.0	31	0.3	1.3	62	62	25	25
TOTAL			163	195.8	14.0	50	55.9	208.9	22,545	21,652	6,558	6,457
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			70.6	6.8	169	182	194					
R ALDER			77.5	16.1	75	89	104					
WHEMLOCK			73.2	14.9	229	269	309					
SNAG												
BL MAPLE												
TOTAL			83.0	6.5	163	174	185	275	69	31		
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			81.9	10.3	103	115	127					
R ALDER			159.3	20.0	44	55	66					
WHEMLOCK			200.3	25.2	14	19	23					
SNAG			258.9	32.6	4	6	8					
BL MAPLE			556.7	70.1	0	1	2					
TOTAL			48.0	6.0	184	196	208	92	23	10		
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			69.7	8.8	122	134	146					
R ALDER			157.2	19.8	29	36	43					
WHEMLOCK			198.6	25.0	22	29	37					
SNAG			248.6	31.3	6	8	11					
BL MAPLE			556.7	70.1	0	1	2					
TOTAL			26.1	3.3	202	209	216	27	7	3		
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			70.2	8.8	13,571	14,886	16,201					
R ALDER			158.7	20.0	2,944	3,680	4,415					
WHEMLOCK			207.1	26.1	2,236	3,024	3,813					
SNAG												
BL MAPLE			556.7	70.1	19	62	106					
TOTAL			35.9	4.5	20,673	21,652	22,631	52	13	6		

TC PSTATS			PROJECT STATISTICS						PAGE	1		
			PROJECT		POP					DATE	1/20/2021	
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
05N	07	01	U7	00MC		48.00		46	280	1	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			46	280	6.1							
CRUISE			17	109	6.4	5,810		1.9				
DBH COUNT												
REFOREST												
COUNT			29	171	5.9							
BLANKS												
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER			54	54.8	15.7	57	18.6	73.7	8,988	8,708	2,571	2,539
DOUG FIR			27	50.1	16.2	59	17.9	72.2	9,829	9,660	2,622	2,622
WHEMLOCK			6	7.2	28.7	78	6.0	32.2	6,268	6,211	1,422	1,422
BL MAPLE			16	6.4	21.7	38	3.5	16.3	1,097	975	364	332
SNAG			2	2.1	18.1	23	0.9	3.8				
S SPRUCE			3	.2	53.5	114	0.5	3.5	925	844	168	162
GR FIR			1	.2	36.0	103	0.3	1.7	509	509	94	94
TOTAL			109	121.0	17.6	58	48.5	203.4	27,617	26,908	7,242	7,172
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			
R ALDER		52.4	7.1	168	180	193						
DOUG FIR		180.4	35.4	312	483	654						
WHEMLOCK		69.1	30.8	860	1,242	1,624						
BL MAPLE		101.8	26.3	166	225	284						
SNAG												
S SPRUCE		13.3	9.2	3,407	3,753	4,100						
GR FIR												
TOTAL		185.3	17.7	356	433	509	1,372	343	152			
CL	68.1	COEFF		TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
R ALDER		115.0	16.9	45	55	64						
DOUG FIR		148.4	21.9	39	50	61						
WHEMLOCK		166.5	24.5	5	7	9						
BL MAPLE		246.5	36.3	4	6	9						
SNAG		400.0	58.9	1	2	3						
S SPRUCE		417.1	61.4	0	0	0						
GR FIR		474.2	69.9	0	0	0						
TOTAL		56.3	8.3	111	121	131	127	32	14			
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
R ALDER		112.2	16.5	62	74	86						
DOUG FIR		129.9	19.1	58	72	86						
WHEMLOCK		162.9	24.0	24	32	40						
BL MAPLE		239.8	35.3	11	16	22						
SNAG		367.9	54.2	2	4	6						
S SPRUCE		407.6	60.0	1	3	6						
GR FIR		474.2	69.9	1	2	3						
TOTAL		46.6	6.9	189	203	217	87	22	10			
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			

PROJECT STATISTICS

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
05N	07	01	U7	00MC	48.00	46	280	1	W
			R ALDER	124.6	18.4	7,109	8,708	10,307	
			DOUG FIR	125.9	18.5	7,868	9,660	11,452	
			WHEMLOCK	164.4	24.2	4,707	6,211	7,715	
			BL MAPLE	255.0	37.6	609	975	1,342	
			SNAG						
			S SPRUCE	428.5	63.1	311	844	1,377	
			GR FIR	474.2	69.9	153	509	865	
			TOTAL	<i>56.0</i>	<i>8.3</i>	<i>24,686</i>	<i>26,908</i>	<i>29,129</i>	
							<i>125</i>	<i>31</i>	<i>14</i>

TC PSTATS			PROJECT STATISTICS					PAGE 1				
			PROJECT	POP		DATE 1/20/2021						
TWP	RGE	SC	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt		
05N 05N	07 07W	01 01	U123456RW U7RW	00MC 00MC	11.00		270	1,824	1	W		
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			270	1824	6.8							
CRUISE			103	676	6.6	2,381	28.4					
DBH COUNT												
REFOREST												
COUNT			166	1143	6.9							
BLANKS			1									
100 %												
STAND SUMMARY												
			SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR			457	159.4	14.0	59	45.8	171.6	21,657	21,198	6,042	6,008
R ALDER			105	32.3	12.1	44	7.4	25.9	2,833	2,743	830	815
WHEMLOCK			63	13.3	16.6	50	4.9	20.1	2,501	2,429	695	687
BL MAPLE			27	4.0	14.5	31	1.2	4.6	355	336	114	110
SNAG			19	7.2	12.3	61	1.7	5.9				
S SPRUCE			4	.1	32.9	67	0.1	.7	134	126	29	28
GR FIR			1	.0	36.0	103	0.0	.2	46	46	9	9
TOTAL			676	216.4	13.9	56	61.4	229.1	27,527	26,878	7,719	7,657
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		130.1	6.1	173	185	196						
R ALDER		67.2	6.6	128	136	145						
WHEMLOCK		129.0	16.2	276	330	383						
BL MAPLE		108.9	21.4	158	200	243						
SNAG												
S SPRUCE		57.5	32.8	1,971	2,935	3,899						
GR FIR												
TOTAL		171.9	6.6	192	205	219			1,180	295	131	
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		80.1	4.9	152	159	167						
R ALDER		177.4	10.8	29	32	36						
WHEMLOCK		268.3	16.3	11	13	16						
BL MAPLE		419.4	25.5	3	4	5						
SNAG		319.4	19.4	6	7	9						
S SPRUCE		805.8	49.0	0	0	0						
GR FIR		1159.7	70.5	0	0	0						
TOTAL		53.6	3.3	209	216	224			115	29	13	
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		74.1	4.5	164	172	179						
R ALDER		164.3	10.0	23	26	29						
WHEMLOCK		241.4	14.7	17	20	23						
BL MAPLE		382.0	23.2	4	5	6						
SNAG		287.9	17.5	5	6	7						
S SPRUCE		685.9	41.7	0	1	1						
GR FIR		1159.7	70.5	0	0	0						
TOTAL		44.9	2.7	223	229	235			81	20	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	

TC TSTNDSUM														Stand Table Summary													
Project														POP													
T05N R07W S01 T00PC														T05N R07W S01 T00PC													
Twp	Rge	Sec	Tract		Type			Acres		Plots	Sample Trees			Page: 1													
05N	07W	01	U146_LEAVE		00PC			622.00		161	230			Date: 01/20/20													
														Time: 11:18:13AM													
S Spc	T	Sample		Av	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net	Net	T o t a l s														
		DBH	Trees	FF 16'				Ht Tot	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF											
DL		10	3	87	91.	3.668	2.00	6.11	10.2	40.0		62	245		388	152											
DL		11	4	86	114	4.042	2.67	8.08	12.0	43.8		97	354		603	220											
DL		12	12	88	102	10.189	8.00	19.53	15.0	54.8		292	1,070		1,817	665											
DL		13	18	88	95	13.023	12.00	23.87	18.2	66.1		433	1,577		2,696	981											
DL		14	25	88	97	15.595	16.67	30.57	19.9	72.0		609	2,202		3,791	1,370											
DL		15	19	87	103	10.325	12.67	20.65	23.7	88.9		489	1,837		3,039	1,142											
DL		16	34	86	95	16.239	22.67	32.00	26.0	92.4		832	2,956		5,175	1,839											
DL		17	22	87	100	9.308	14.67	19.46	29.5	107.0		575	2,082		3,574	1,295											
DL		18	15	86	100	5.661	10.00	11.70	32.8	113.2		384	1,325		2,389	824											
DL		19	12	86	93	4.064	8.00	8.13	36.2	120.4		295	979		1,833	609											
DL		20	3	86	104	.917	2.00	1.83	43.7	151.7		80	278		498	173											
DL		21	6	87	100	1.664	4.00	3.60	43.5	153.8		157	555		976	345											
DL		22	2	85	94	.505	1.33	1.01	49.2	175.0		50	177		310	110											
DL		23	2	84	104	.462	1.33	.92	57.0	197.5		53	183		328	114											
DL		24	1	82	79	.212	.67	.42	52.5	160.0		22	68		139	42											
DL		25	1	86	89	.196	.67	.39	59.5	210.0		23	82		145	51											
DL		26	1	83	97	.181	.67	.36	70.5	235.0		26	85		159	53											
DL		Totals	180	87	98	96.249	120.04	188.66	23.7	85.1		4,479	16,052		27,857	9,985											
HL		12	2	85	41	1.427	1.12	1.43	14.5	35.0		21	50		129	31											
HL		13	1	85	37	.608	.56	.61	15.0	30.0		9	18		57	11											
HL		16	5	86	83	2.007	2.80	4.01	25.8	89.0		104	357		644	222											
HL		17	4	86	83	1.422	2.24	2.84	29.2	97.5		83	277		517	172											
HL		18	1	86	96	.317	.56	.63	37.5	125.0		24	79		148	49											
HL		19	1	90	111	.285	.56	.85	32.7	136.7		28	117		173	73											
HL		21	1	86	79	.233	.56	.47	41.5	145.0		19	68		120	42											
HL		22	2	85	92	.425	1.12	.85	53.5	185.0		45	157		283	98											
HL		26	1	85	99	.152	.56	.30	80.0	310.0		24	94		151	59											
HL		28	1	86	113	.131	.56	.39	66.3	286.7		26	113		162	70											
HL		Totals	19	86	73	7.006	10.65	12.39	30.9	107.3		383	1,330		2,385	827											
AL		9	3	87	71	3.213	1.42	3.21	13.0	46.7		42	150		260	93											
AL		10	3	87	73	2.603	1.42	2.60	15.7	53.3		41	139		254	86											
AL		12	2	86	75	1.205	.95	1.81	16.7	50.0		30	90		187	56											
AL		13	2	87	76	1.027	.95	2.05	15.3	45.0		31	92		195	57											
AL		15	2	87	73	.771	.95	1.54	21.3	77.5		33	120		204	74											
AL		16	1	61	67	.339	.47	.34	42.0	60.0		14	20		89	13											
AL		17	1	86	47	.300	.47	.30	34.0	50.0		10	15		63	9											
AL		21	1	86	70	.197	.47	.39	37.0	130.0		15	51		91	32											
AL		Totals	15	86	72	9.655	7.10	12.25	17.6	55.3		216	678		1,342	421											
ML		8	1	86	12	.748	.26																				
ML		12	1	86	78	.332	.26	.66	13.0	45.0		9	30		54	19											
ML		26	1	87	71	.071	.26	.14	62.5	220.0		9	31		55	19											
ML		30	1	86	74	.053	.26	.11	85.5	335.0		9	36		57	22											
ML		Totals	4	86	36	1.204	1.04	.91	29.1	105.9		27	97		165	60											
SL		27	1	82	69	.158	.63	.32	65.5	240.0		21	76		128	47											
SL		Totals	1	82	69	.158	.63	.32	65.5	240.0		21	76		128	47											
SN		8	1	90	56	1.522	.53																				
SN		9	2	90	60	2.406	1.06																				
SN		10	3	90	69	2.923	1.59																				

TC TSTNDSUM										Stand Table Summary									
										Project POP									
T05N R07W S01 T00PC										T05N R07W S01 T00PC									
Twp Rge Sec Tract										Page: 2									
05N 07W 01 U146_LEAVE										Date: 01/20/2010									
Type Acres Plots Sample Trees										Time: 11:18:13AM									
00PC 622.00 161 230																			
Spc	S T	Sample		Av		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals					
		DBH	Trees	FF 16'	Ht Tot				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF			
SN		11	2	83	61	1.610	1.06												
SN		13	1	89	71	.576	.53												
SN		78	1	88	25	.016	.53												
SN		80	1	89	25	.015	.53												
SN		Totals	11	89	63	9.069	5.85												
Totals			230	87	92	123.340	145.30	214.53	23.9	85.0		5125	18,232				31,878	11,341	

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		1/20/2021	
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC						Project		POP		Time:		1:20:20PM					
						Acres		823.00		Grown Year:							
S Spc	T	Tot							Average Log		Net		Net		T o t a l s		
		DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.	Net Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF	
D		8	4	84	20	1.988	.69	1.35	4.0	20.0		5	27		45	22	
D		9	22	86	60	9.925	4.38	9.42	10.7	43.9		101	413		832	340	
D		10	31	88	86	11.244	6.13	15.14	11.7	47.4		178	718		1,462	591	
D		11	58	87	86	16.615	10.97	24.15	13.0	45.1		314	1,089		2,581	896	
D		12	84	87	91	17.510	13.75	30.27	14.9	52.7		450	1,597		3,705	1,314	
D		13	78	85	101	11.534	10.63	22.54	17.2	59.1		388	1,332		3,192	1,097	
D		14	105	87	92	14.109	15.08	27.56	19.2	68.4		529	1,885		4,350	1,551	
D		15	55	85	95	4.965	6.09	9.93	22.1	77.2		219	766		1,804	631	
D		16	78	85	92	5.415	7.56	10.83	24.4	83.1		264	900		2,172	740	
D		17	46	83	98	2.475	3.90	4.96	29.6	96.5		147	478		1,209	394	
D		18	41	83	99	2.170	3.84	4.88	29.5	98.2		144	479		1,186	394	
D		19	28	84	98	1.282	2.52	2.64	35.6	114.7		94	303		774	250	
D		20	21	84	101	1.093	2.39	2.48	37.6	123.3		93	305		766	251	
D		21	28	86	93	1.182	2.84	2.46	42.3	143.8		104	354		856	291	
D		22	8	82	88	.351	.93	.88	36.0	121.0		32	107		261	88	
D		23	14	86	87	.442	1.28	.94	48.2	176.4		45	166		373	136	
D		24	3	89	95	.072	.23	.14	61.8	233.3		9	34		73	28	
D		25	5	76	98	.187	.64	.33	30.1	114.1		10	37		81	31	
D		26	7	87	93	.181	.67	.36	68.8	256.5		25	93		205	77	
D		27	6	82	102	.215	.85	.47	69.0	233.7		32	110		266	90	
D		28	6	85	78	.155	.66	.26	79.2	268.0		20	69		169	57	
D		31	2	85	115	.030	.16	.09	76.7	336.7		7	31		57	25	
D		52	2	64	153	.011	.16	.03	224.3	780.0		7	25		60	21	
D		56	2	88	133	.009	.16	.03	280.7	1403.3		8	39		64	32	
D		Totals	734	86	87	103.162	96.51	172.14	18.7	66.0		3,225	11,357		26,543	9,347	
A		8	4	87	86	1.520	.53	2.28	8.7	36.7		20	84		163	69	
A		9	17	87	58	4.719	2.08	4.12	10.6	42.5		44	175		361	144	
A		10	15	86	90	5.130	2.80	7.56	12.7	46.8		96	354		789	291	
A		11	10	86	84	2.611	1.72	4.42	13.4	45.0		59	199		486	164	
A		12	8	87	57	.557	.44	.77	11.6	33.2		9	26		73	21	
A		13	12	86	80	1.282	1.18	2.56	16.6	59.5		42	152		349	125	
A		14	28	87	72	3.039	3.25	4.27	24.5	75.2		105	321		862	264	
A		15	26	86	76	1.426	1.75	2.72	22.3	75.0		61	204		500	168	
A		16	13	72	77	1.032	1.44	1.59	30.1	71.9		48	114		393	94	
A		17	21	86	74	1.121	1.77	2.12	28.4	96.1		60	204		497	168	
A		18	16	86	78	.368	.65	.74	31.9	105.0		23	77		193	64	
A		19	6	86	84	.124	.24	.25	36.7	121.7		9	30		75	25	
A		20	2	86	54	.037	.08	.07	27.0	95.0		2	7		17	6	
A		21	1	86	70	.002	.01	.00	37.0	130.0		0	1		1	0	
A		22	10	87	75	.224	.59	.42	46.4	172.6		19	72		159	59	
A		23	2	87	42	.028	.08	.06	30.0	95.0		2	5		14	4	
A		25	2	86	72	.024	.08	.05	58.0	195.0		3	9		23	8	
A		27	2	87	51	.020	.08	.02	54.0	70.0		1	1		9	1	
A		Totals	195	86	76	23.265	18.78	34.01	17.7	59.8		603	2,035		4,962	1,675	
H		8	2	80	64	.589	.21	.59	9.0	30.0		5	18		44	15	
H		9	4	86	40	1.612	.71	.81	10.0	40.0		8	32		66	27	
H		10	2	80	17	.377	.21	.38	7.0	20.0		3	8		22	6	
H		11	2	85	48	.539	.36	.54	13.0	40.0		7	22		58	18	
H		12	2	85	41	.010	.01	.01	14.5	35.0		0	0		1	0	
H		13	7	85	65	.837	.77	1.22	18.3	56.7		22	69		184	57	
H		14	6	83	70	.999	1.07	1.67	19.8	58.0		33	97		271	79	
H		15	8	84	85	.915	1.12	1.83	21.9	73.6		40	135		329	111	

TC		PSTNDSUM		Stand Table Summary										Page		2	
														Date:		1/20/2021	
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC				Project		POP				Time:		1:20:20PM					
				Acres		823.00				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		16	7	89	84	.162	.23	.18	36.8	140.0		6	25		53	20	
H		17	8	85	84	.462	.73	.92	29.5	95.1		27	88		224	72	
H		18	5	83	57	.235	.42	.35	27.1	70.7		10	25		79	21	
H		19	5	85	59	.287	.57	.40	30.2	77.0		12	30		98	25	
H		20	2	89	80	.146	.32	.29	39.5	140.0		12	41		95	34	
H		21	7	83	66	.258	.62	.43	42.6	106.3		18	46		151	38	
H		22	6	84	66	.159	.42	.32	41.2	128.6		13	41		108	34	
H		23	8	84	82	.337	.97	.67	52.4	183.6		35	124		291	102	
H		24	6	86	98	.196	.62	.46	58.0	227.1		27	104		219	86	
H		25	6	85	79	.214	.73	.43	60.9	208.5		26	89		215	74	
H		26	1	85	99	.001	.00	.00	80.0	310.0		0	1		1	1	
H		28	3	83	75	.049	.21	.10	71.8	226.8		7	22		59	18	
H		29	2	86	97	.045	.21	.09	97.5	335.0		9	30		72	25	
H		32	2	89	139	.057	.32	.17	110.3	556.7		19	95		156	79	
H		33	2	83	111	.054	.32	.16	91.7	403.3		15	65		122	54	
H		35	2	85	111	.048	.32	.14	102.7	483.3		15	69		121	57	
H		46	2	82	110	.028	.32	.08	177.7	843.3		15	70		121	58	
H		Totals	107	84	64	8.616	11.76	12.24	31.4	109.9		384	1,346		3,161	1,108	
M		8	1	86	12	.011	.00										
M		9	2	86	50	.961	.42	.96	9.0	30.0		9	29		71	24	
M		11	2	87	66	.643	.42	.64	19.0	70.0		12	45		101	37	
M		12	1	86	78	.005	.00	.01	13.0	45.0		0	0		1	0	
M		13	2	87	91	.461	.42	.92	17.5	65.0		16	60		133	49	
M		14	2	60	52	.397	.42	.40	23.0	30.0		9	12		75	10	
M		15	4	86	40	.231	.28	.23	22.5	60.0		5	14		43	11	
M		18	8	86	50	.343	.61	.38	37.1	81.8		14	31		115	25	
M		19	2	87	54	.031	.06	.06	27.0	95.0		2	6		14	5	
M		20	4	86	52	.056	.12	.08	36.3	110.0		3	9		25	8	
M		22	6	74	57	.069	.18	.09	43.5	90.0		4	8		33	7	
M		23	2	87	43	.021	.06	.02	55.0	140.0		1	3		10	2	
M		26	5	87	54	.133	.49	.12	89.5	200.4		10	23		86	19	
M		30	1	87	74	.001	.00	.00	85.5	335.0		0	1		1	0	
M		32	2	86	56	.011	.06	.02	76.0	260.0		2	6		14	5	
M		35	2	86	69	.009	.06	.02	106.5	400.0		2	7		16	6	
M		38	2	87	43	.008	.06	.02	84.0	315.0		1	5		11	4	
M		43	2	50	64	.006	.06	.01	62.0	150.0		1	2		6	1	
M		Totals	50	83	58	3.396	3.76	3.99	23.0	65.4		92	261		754	215	
S		27	1	83	69	.001	.01	.00	65.5	240.0		0	1		1	1	
S		51	2	82	143	.005	.07	.01	276.7	1423.3		4	21		33	17	
S		53	2	83	140	.005	.07	.01	244.0	1240.0		3	17		27	14	
S		57	2	85	136	.004	.07	.00	592.0	3270.0		2	13		19	10	
S		Totals	7	83	133	.015	.21	.03	282.6	1465.3		10	51		81	42	
GF		36	2	91	126	.015	.10	.04	128.0	690.0		6	30		46	25	
GF		Totals	2	91	126	.015	.10	.04	128.0	690.0		6	30		46	25	
SN		8	1	91	56	.013	.00										
SN		9	2	90	60	.020	.01										
SN		10	3	90	69	.024	.01										
SN		11	4	88	31	.380	.25										
SN		12	2	86	23	.119	.09										
SN		13	1	88	71	.005	.00										

TC PSTNDSUM		Stand Table Summary										Page 3			
												Date: 1/20/2021			
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC					Project POP				Time: 1:20:20PM						
					Acres 823.00				Grown Year:						
S Spec T	Tot							Average Log		Net Net		Totals			
	Sample	FF	Av	Ht				Net Net	Cu.Ft. Bd.Ft.						
	DBH	Trees	16'		Trees/ Acre	BA/ Acre	Logs Acre	Cu.Ft.	Bd.Ft.	Tons/ Acre	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
SN	14	2	88	81	.226	.24									
SN	16	2	82	75	.173	.24									
SN	18	2	89	65	.137	.24									
SN	24	2	89	73	.077	.24									
SN	29	2	88	126	.053	.24									
SN	52	2	89	25	.009	.13									
SN	78	1	88	25	.000	.00									
SN	80	1	89	25	.000	.00									
SN	Totals	27	87	58	1.235	1.73									
Totals	1122		86	83	139.703	132.85	222.46	19.4	67.8	4,319 15,080		35,547 12,411			

TC PLOGSTVB			Log Stock Table - MBF																
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC			Project:		POP												Page 1		
			Acres		823.00												Date 1/20/2021		
																	Time 1:15:57PM		
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	29	100.0														
D	DO	CU	6	5	100.0														
D	DO	CU	10	5	100.0														
D	DO	CU	13	11	100.0														
D	DO	CU	14	8	100.0														
D	DO	CU	17	6	100.0														
D	DO	CU	30	31	100.0														
D	DO	2S	28	19	21.3	15	.2											15	
D	DO	2S	30	15		15	.2					15							
D	DO	2S	32	115	1.9	113	1.2					76	37						
D	DO	2S	34	18		18	.2						18						
D	DO	2S	36	17		17	.2					17							
D	DO	2S	38	81	4.9	77	.8					34	44						
D	DO	2S	40	875	2.2	855	9.2				15	418	153	219	25	12	14		
D	DO	3S	16	1		1	.0					1							
D	DO	3S	20	4	1.1	4	.0				3	0							
D	DO	3S	24	189	2.6	184	2.0				55	129							
D	DO	3S	26	14		14	.1				14	0							
D	DO	3S	28	151		151	1.6			21	50	79							
D	DO	3S	30	467	6.5	436	4.7			64	262	110							
D	DO	3S	32	1,005	3.0	975	10.4			377	470	107	15	6					
D	DO	3S	34	300		300	3.2			192	57	47		3					
D	DO	3S	36	412		412	4.4			361	30	18	2						
D	DO	3S	38	438		438	4.7			341	97								
D	DO	3S	40	4,006	1.6	3,941	42.2			816	1943	1144	39	1					
D	DO	4S	14	7		7	.1			7									
D	DO	4S	16	226		226	2.4		22	157	47								
D	DO	4S	18	134		134	1.4			134									
D	DO	4S	20	355		355	3.8			355									
D	DO	4S	24	209		209	2.2			179	30								
D	DO	4S	26	101		101	1.1			101									
D	DO	4S	28	152		150	1.6			148	2								
D	DO	4S	30	180	3.2	174	1.9			174									
D	DO	4S	32	16	27.4	12	.1			12									
D	DO	4S	36	2		2	.0		2										
D	DO	4S	38	9		9	.1		9										

Log Stock Table - MBF

T05N R07W S01 Ty00MC
THRU
T05N R07W S01 Ty00MC

Project: POP
Acres 823.00

Page 4
Date 1/20/2021
Time 1:15:57PM

S Spp	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+
M	DO 1S	16	3		3	1.4							3					
M	DO 1S	26	5		5	2.5						4		1				
M	DO 1S	34	6	6.2	6	2.6									6			
M	DO 1S	40	24		24	11.3						24		1				
M	DO 2S	18	3		3	1.2				0	2							
M	DO 2S	20	2	14.0	2	.8					2							
M	DO 2S	24	2		2	1.1					2							
M	DO 2S	26	34		34	15.9					34							
M	DO 2S	28	4	10.6	4	1.7									4			
M	DO 2S	32	7	8.4	7	3.2					2				4			
M	DO 2S	36	5		5	2.5					5							
M	DO 3S	18	0		0	.0				0								
M	DO 3S	24	1	13.8	1	.6				1								
M	DO 3S	28	1		1	.7				1								
M	DO 3S	30	9		9	4.2				9								
M	DO 3S	32	37		37	17.3				37								
M	DO 3S	40	18		18	8.3				18								
M	DO 4S	8	0		0	.1						0						
M	DO 4S	16	0	25.0	0	.1				0								
M	DO 4S	18	1		1	.7				1								
M	DO 4S	24	24		24	11.1				24								
M	DO 4S	26	26		26	11.9				26								
M	DO 4S	28	0		0	.2				0								
M	DO 4S	30	1		1	.7				1								
M	Totals		221	2.8	215	1.7			53	67	48	28	3	2	14			
S	DO CU	8	2	100.0														
S	DO 2S	20	6	5.0	6	13.4											6	
S	DO 2S	40	17	6.1	16	38.3											16	
S	DO 3S	24	0	16.7	0	.1				0								
S	DO 3S	32	2		2	4.7								2				
S	DO 3S	40	19	2.0	18	43.5								2		6		10
S	Totals		46	8.6	42	.3				0				4		6	16	16
GF	DO 2S	20	1		1	4.8					1							
GF	DO 2S	40	24		24	95.2								7		17		

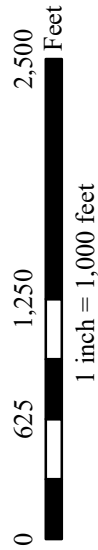
TC PLOGSTVB			Log Stock Table - MBF																
T05N R07W S01 Ty00MC THRU T05N R07W S01 Ty00MC				Project:		POP		Page		5									
				Acres		823.00		Date		1/20/2021									
								Time		1:15:57PM									
S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Sp	Net Volume by Scaling Diameter in Inches												
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
GF	Totals		25		25	.2				1		7		17					
Total	All Species		12,783	2.9	12,411	100.0	63	4509	3581	2190	873	431	431	96	137	69	31		

Logging Plan Map

OF TIMBER SALE CONTRACT NO.
AT-341-2021-W00571-01
POPEYE

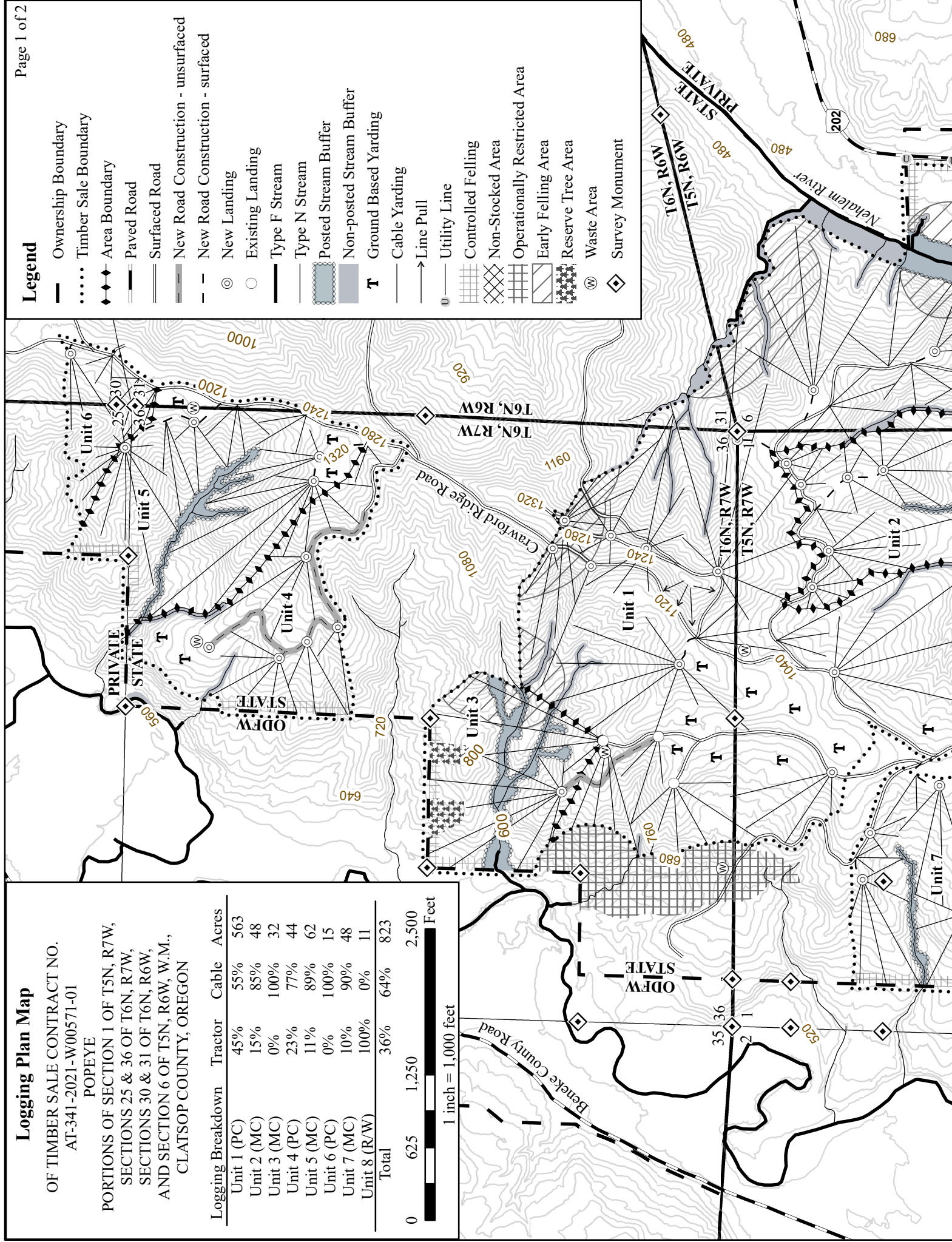
PORTIONS OF SECTION 1 OF T5N, R7W,
SECTIONS 25 & 36 OF T6N, R7W,
SECTIONS 30 & 31 OF T6N, R6W,
AND SECTION 6 OF T5N, R6W, W.M.,
CLATSOP COUNTY, OREGON

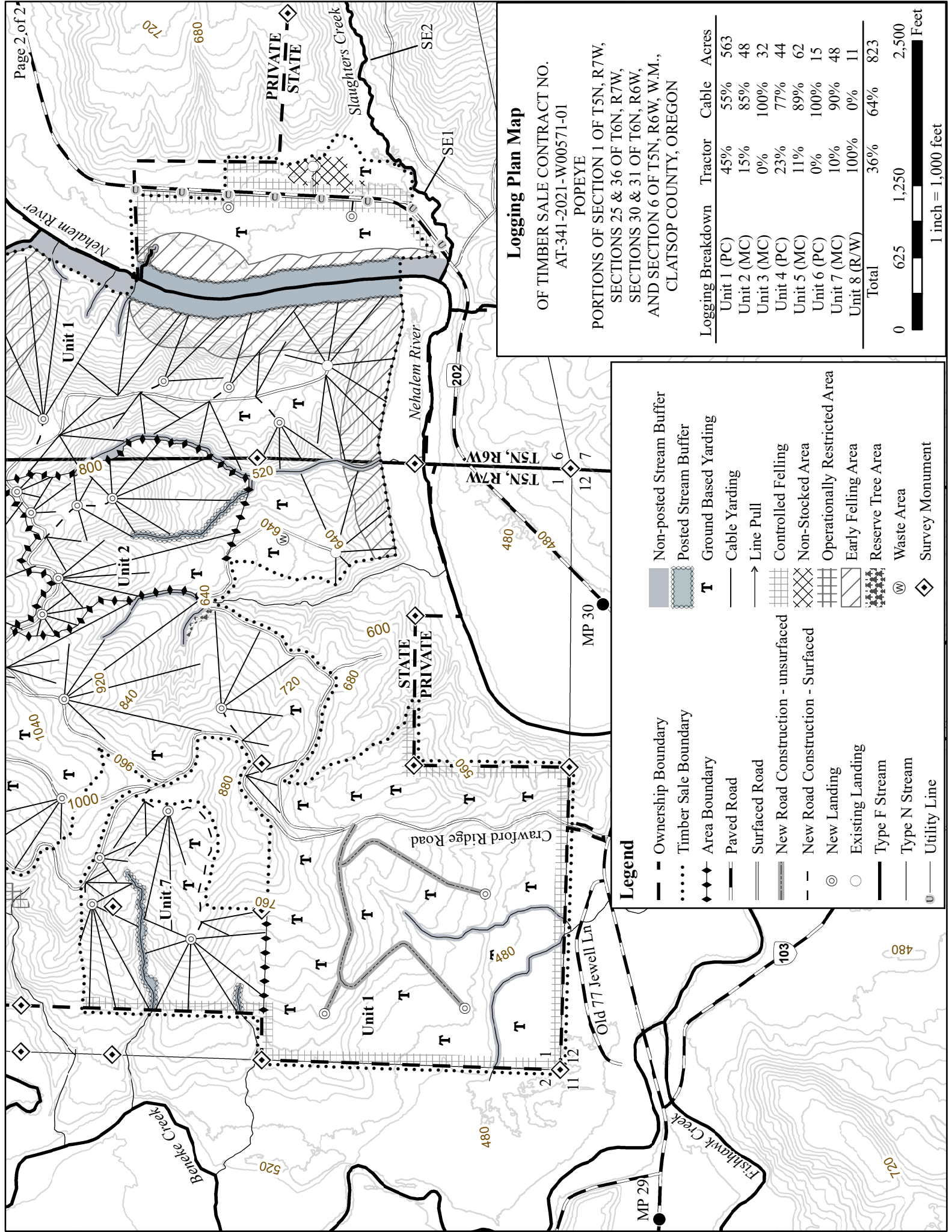
Logging Breakdown	Tractor	Cable	Acres
Unit 1 (PC)	45%	55%	563
Unit 2 (MC)	15%	85%	48
Unit 3 (MC)	0%	100%	32
Unit 4 (PC)	23%	77%	44
Unit 5 (MC)	11%	89%	62
Unit 6 (PC)	0%	100%	15
Unit 7 (MC)	10%	90%	48
Unit 8 (R/W)	100%	0%	11
Total	36%	64%	823



Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Paved Road
- Surfaced Road
- New Road Construction - unsurfaced
- New Road Construction - surfaced
- New Landing
- Existing Landing
- Type F Stream
- Type N Stream
- Posted Stream Buffer
- Non-posted Stream Buffer
- Ground Based Yarding
- Cable Yarding
- Line Pull
- Utility Line
- Controlled Felling
- Non-Stocked Area
- Operationally Restricted Area
- Early Felling Area
- Reserve Tree Area
- Waste Area
- Survey Monument





Logging Plan Map				
OF TIMBER SALE CONTRACT NO.				
AT-341-2021-W00571-01				
POPEYE				
PORTIONS OF SECTION 1 OF T5N, R7W,				
SECTIONS 25 & 36 OF T6N, R7W,				
SECTIONS 30 & 31 OF T6N, R6W,				
AND SECTION 6 OF T5N, R6W, W.M.,				
CLATSOP COUNTY, OREGON				
Logging Breakdown	Tractor	Cable	Acres	
Unit 1 (PC)	45%	55%	563	
Unit 2 (MC)	15%	85%	48	
Unit 3 (MC)	0%	100%	32	
Unit 4 (PC)	23%	77%	44	
Unit 5 (MC)	11%	89%	62	
Unit 6 (PC)	0%	100%	15	
Unit 7 (MC)	10%	90%	48	
Unit 8 (R/W)	100%	0%	11	
Total	36%	64%	823	
0	625	1,250	2,500	Feet
				1 inch = 1,000 feet

Legend

- Ownership Boundary
- Timber Sale Boundary
- Area Boundary
- Paved Road
- Surfaced Road
- New Road Construction - unsurfaced
- New Road Construction - Surfaced
- New Landing
- Existing Landing
- Type F Stream
- Type N Stream
- Utility Line
- Non-posted Stream Buffer
- Posted Stream Buffer
- Ground Based Yarding
- Cable Yarding
- Line Pull
- Controlled Felling
- Non-Stocked Area
- Operationally Restricted Area
- Early Felling Area
- Reserve Tree Area
- Waste Area
- Survey Monument