



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Kingsmen  
Sale AT-341-2024-W00985-01

District: Astoria

Date: November 08, 2023

**Cost Summary**

	<b>Conifer</b>	<b>Hardwood</b>	<b>Total</b>
<b>Gross Timber Sale Value</b>	\$4,366,004.02	\$29,025.76	\$4,395,029.78
		<b>Project Work:</b>	(\$486,799.00)
		<b>Advertised Value:</b>	\$3,908,230.78



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District: Astoria

Date: November 08, 2023

**Timber Description**

Location:

Stand Stocking: 80%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	27	0	97
Western Hemlock / Fir	12	0	96
Alder (Red)	20	0	95
Maple	14	0	93

Volume by Grade	2S	3S & 4S 6"-11"	3S 12"+	12"+	6" - 7"	8" - 11"	Camprun	Total
Douglas - Fir	7,202	979	1,857	0	0	0	0	10,038
Western Hemlock / Fir	0	35	0	0	0	0	0	35
Alder (Red)	0	0	0	67	12	23	0	102
Maple	0	0	0	0	0	0	29	29
<b>Total</b>	7,202	1,014	1,857	67	12	23	29	10,204

**Comments:** Pond Values Used: Local Pond Values, November, 2023.

Expected Log Markets: Clatskanie, Warrenton, Willamina, Banks, Forest Grove, Mist, Tillamook, Eugene, Longview, WA, Elma, WA, Chehalis, WA, and Vancouver, WA.

PRICING:

Western Redcedar stumpage = pond value - (Douglas-fir) logging cost.  
\$815.52/MBF = \$1,100/MBF - \$284.48/MBF

Sitka spruce stumpage = pond value - (Douglas-fir) logging cost.  
\$240.52/MBF = \$525/MBF - \$284.48/MBF

Fuel cost allowance based on month local pond values were collected.

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

Machine Washing for Invasive Weed Compliance = \$2,000.00

Ditch Filters:

Bales of straw 12 @ \$12/bale = \$144.00

4 hour of labor @ \$50/hr = \$200.00

Close unsurfaced road segments, water bar and block (C315, 8 hours) \$127/hr = \$1,016.00

TOTAL Other Costs (with Profit & Risk to be added): \$3,360.00

Other Costs (No Profit & Risk added:

None.

SLASH PILING

(See attached appraisal. Includes move-in, pile materials, end-hauling in Unit 1) = \$10,051

ROAD MAINTENANCE

(See attached Road Maintenance Cost Summary Sheet)

TOTAL Road Maintenance: \$23,657.00/10,204 MBF = \$2.32/MBF



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Kingsmen Sale AT-341-2024-W00985-01

District: Astoria

Date: November 08, 2023

## Logging Conditions

**Combination#: 1**

Douglas - Fir	26.00%
Western Hemlock / Fir	26.00%
Alder (Red)	26.00%
Maple	26.00%

**Logging System:** Shovel **Process:** Manual Falling/Delimiting

**yarding distance:** Short (400 ft) **downhill yarding:** No

**tree size:** Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF

**loads / day:** 18 **bd. ft / load:** 5200

**cost / mbf:** \$106.84

**machines:** Shovel Logger

**Combination#: 2**

Douglas - Fir	74.00%
Western Hemlock / Fir	74.00%
Alder (Red)	74.00%
Maple	74.00%

**Logging System:** Cable: Large Tower >=70 **Process:** Manual Falling/Delimiting

**yarding distance:** Medium (800 ft) **downhill yarding:** No

**tree size:** Mature / Partial Cut (900 Bft/tree), 3-5 logs/MBF

**loads / day:** 10 **bd. ft / load:** 4500

**cost / mbf:** \$190.65

**machines:** Log Loader (A)  
Tower Yarder (Large)



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal  
Kingsmen  
Sale AT-341-2024-W00985-01

**District: Astoria**

**Date: November 08, 2023**

**Logging Costs**

<b>Operating Seasons:</b> 4.00	<b>Profit Risk:</b> 12%
<b>Project Costs:</b> \$486,799.00	<b>Other Costs (P/R):</b> \$3,360.00
<b>Slash Disposal:</b> \$10,051.00	<b>Other Costs:</b> \$0.00

**Miles of Road**

**Road Maintenance:** \$2.32

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

**Hauling Costs**

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	5.5
Western Hemlock / Fir	\$0.00	2.0	4.6
Alder (Red)	\$0.00	2.0	4.2
Maple	\$0.00	2.0	3.2



"STEWARDSHIP IN FORESTRY"

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Sale AT-341-2024-W00985-01

District: Astoria

Date: November 08, 2023

**Logging Costs Breakdown**

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
<b>Douglas - Fir</b>									
\$168.86	\$2.39	\$1.72	\$78.03	\$0.33	\$30.16	\$0.99	\$2.00	\$0.00	\$284.48
<b>Western Hemlock / Fir</b>									
\$168.86	\$2.41	\$1.72	\$141.30	\$0.33	\$37.75	\$0.99	\$2.00	\$0.00	\$355.36
<b>Alder (Red)</b>									
\$168.86	\$2.44	\$1.72	\$156.25	\$0.33	\$39.55	\$0.99	\$2.00	\$0.00	\$372.14
<b>Maple</b>									
\$168.86	\$2.48	\$1.72	\$208.98	\$0.33	\$45.88	\$0.99	\$2.00	\$0.00	\$431.24

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$718.47	\$433.99	\$0.00
Western Hemlock / Fir	\$0.00	\$630.00	\$274.64	\$0.00
Alder (Red)	\$0.00	\$640.00	\$267.86	\$0.00
Maple	\$0.00	\$490.00	\$58.76	\$0.00



"STEWARDSHIP IN FORESTRY"

# Timber Sale Appraisal Kingsmen Sale AT-341-2024-W00985-01

District: Astoria

Date: November 08, 2023

## Summary

### Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	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	10,038	\$433.99	\$4,356,391.62
Western Hemlock / Fir	35	\$274.64	\$9,612.40
Alder (Red)	102	\$267.86	\$27,321.72
Maple	29	\$58.76	\$1,704.04

### Gross Timber Sale Value

Recovery: \$4,395,029.78

Prepared By: Michele Huffman

Phone: 503-325-5451

### Site Prep Appraisal

Sale Number: AT-341-2024-W00985-01

Sale Name: Kingsmen

Date: 08/18/2023

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

Sale Area	Harvest Type	Veg Type/Zone	Ground Based Yarding Acres	Estimated Piling Hours/Area	Cost/Hour	Total Cost/Area	
1	MC	A	28	14	\$145.00	\$2,030.00	
2	MC	A	13	7	\$145.00	\$942.50	
3	MC	A	13	7	\$145.00	\$942.50	
In-unit Piling						<b>Sub Total =</b>	\$3,915.00
Sale Area	Number of Landings to be Piled	# cable acres per area	Total Cost/Area	Number of In-Unit Piles	Material Cost/Pile	Total Cost/Area	
1	15	66	\$1,914.00	29	\$5.00	\$145.00	
2	10	30	\$870.00	16.5	\$5.00	\$82.50	
3	7	18	\$522.00	13.5	\$5.00	\$67.50	
*Cost includes separating firewood					Materials	<b>Sub Total =</b>	\$295.00
Additional Move-in allowance					Landing Piling	<b>Sub Total =</b>	\$3,306.00
Move-In Allowance	Number of Move-In's	Total Move-In Allowance					
\$1,290.00	1	\$1,290.00	Brush Piler				
\$205.00	1	\$205.00	Dump Truck (12cy)				
Move-In						<b>Sub Total =</b>	\$1,495.00
Slash Endhaul Dump Truck hrs	Cost/Hour	Total	Loader hrs	Cost/Hour	Total		
4	\$99.00	\$396.00	4	\$161.00	\$644.00		
Sub Total =						\$1,040.00	
<b>Grand Total =</b>						<b>\$10,051.00</b>	



**Road Maintenance Cost Summary (Interim and Post Harvest)**

**Sale:** Kingsmen  
**Date:** August 18, 2023  
**By:** Michele Huffman

**MBF:** 10,204  
**\$/MBF:** \$2.32

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost
First Interim Operations	Grader 14G	\$972	1	8	\$126	\$1,980
Second Interim Operations	Grader 14G	\$972	1	12	\$126	\$2,484
	Dump Truck 12CY	\$205	1	8	\$99	\$997
	Rubber tired backhoe	\$401	1	4	\$97	\$789
	Vibratory Roller	\$972	1	8	\$97	\$1,748
Final Road Maintenance	Grader 14G	\$972	1	26	\$126	\$4,248
	Dump Truck 12CY	\$205	2	16	\$99	\$1,994
	FE Loader C966	\$931	1	8	\$108	\$1,795
	Vibratory Roller	\$972	1	26	\$97	\$3,494
	Water Truck 2,500 gallon	\$238	1	13	\$113	\$1,707
	C315 Excavator	\$1,005	1	8	\$127	\$2,021
	Labor				8	\$50
<b>Total</b>						<b>\$23,657</b>

First and Second Interim Operations Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	2.5	3.0	1.2	10
Vibratory Roller	1.5	1.0	0.7	5

Final Road Maintenance

Production Rates	Miles/day	Distance (miles)	Days	Hours
Grader	1.5	4.8	3.2	26
Vibratory Roller	1.5	4.8	3.2	26

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Process and compact: All crushed rock roads

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Greasy Spoon Road: 2.9 Miles

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Unnamed Spurs: 1.9 Miles

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Grade & Process Total = 4.8 Miles

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**SUMMARY OF ALL PROJECT COSTS**

**SALE NAME:** Kingsmen

**Project No. 1: ROAD CONSTRUCTION:**

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
<b>Surfaced</b>			
1A, 1AB to 1C, 1D to 1E, 1F to 1G, 1H, 1I, 1J to 1K, 2A to 2B (0+00 to 4+25), 2C to 2D, 2E to 2F, 2G to 2H, 3A to 3B	45.25	0.86	\$86,199
<b>Unsurfaced</b>			
2A to 2B (4+25 to 12+40), 3C to 3D	16.30	0.31	\$12,366
Road Maint.			\$11,716
Move-In			\$5,366
<b>TOTALS</b>	61.55	1.17	\$115,647

**Project No. 2: ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT, AND ROAD MAINTENANCE:**

<u>Road segment</u>	<u>Length (Sta)</u>	<u>Length (Mile)</u>	<u>Cost</u>
l1 to l2	149.85	2.84	\$40,162
l3 to l4	99.50	1.88	\$28,043
Road Maint.			\$8,108
Move-In			\$3,713
<b>TOTALS</b>	249.35	4.72	\$80,025

**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>
Proj. 3 Rock Crushing	21,672	\$291,127.00
<b>TOTAL</b>		\$291,127

**GRAND TOTAL** **\$486,799**

Compiled By: Brittany W, Cole H, & Dewain F. CB

Date: 11/15/2023

**Move In and Maintenance Calculator for Construction and Improvement**

**SALE NAME:** Kingsmen

**Project No. 1: ROAD CONSTRUCTION:**

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
<b>Surfaced</b>			
1A, 1AB to 1C, 1D to 1E, 1F to 1G, 1H, 1I, 1J to 1K, 2A to 2B (0+00 to 4+25), 2C to 2D, 2E to 2F, 2G to 2H, 3A to 3B	45.25	0.86	\$86,199
<b>Unsurfaced</b>			
2A to 2B (4+25 to 12+40), 3C to 3D	16.30	0.31	\$12,366
<b>TOTALS</b>	61.55	1.17	\$98,565

**Project No. 2: ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT, AND ROAD MAINTENANCE**

<u>Road segment</u>	<u>Length/Sta</u>	<u>Length/Mile</u>	<u>Cost</u>
I1 to I2	149.85	2.84	\$40,162
I3 to I4	99.50	1.88	\$28,043
<b>TOTALS</b>	249.35	4.72	\$68,205

**MOVE IN (Construction & Improvement Only)**

<u>Equipment</u>	<u>Length/Mile</u>	<u>Cost</u>
Vibratory Roller		\$972
D8 Dozer		\$1,755
C315 Excavator		\$1,005
C330 Excavator		\$1,755
C966 Loader		\$972
14 G Grader		\$972
Water Truck (2,500 gal)		\$238
Dump Truck 20cy (x2)		\$239
Dump Truck 10cy (x6)		\$205
24 yd <sup>3</sup> Off Highway Dump		\$966
<b>TOTAL</b>		\$9,079

**ROAD MAINTENANCE (Construction & Improvement Only)**

	<u>Length/Mile</u>	<u>Cost</u>
Final Project Maintenance	5.2	\$19,824
<b>TOTAL</b>		\$19,824

**SUMMARY OF CONSTRUCTION COSTS**

**SALE NAME:** Kingsmen  
**ROAD:** 1B to 1C (5.2), 1D to 1E (3.6), 1F to 1G (4.0), 1J to 1K (8.15),  
 2A to 2B (12.4), 2C to 2D (7.6), 2E to 2F (2.65),  
 2G to 2H (1.0), 3A to 3B (15.95), 3C to 3D (8.15)  
**POINTS:** 1A, 1H, 1I

**NEW CONSTRUCTION:** 61.55 STATIONS 1.17 MILES  
**IMPROVEMENT:** \_\_\_\_\_ STATIONS \_\_\_\_\_ MILES

**CLEARING & GRUBBING**

Method	Acres/amount	x	Rate	=	Cost
<b>Surfaced</b>				=	\$0.00
1A, 1B to 1C, 1D to 1E, 1F to 1G, 1H, 1I, 1J to 1K, 2A to 2B (4.25), 2C to 2D, 2E to 2F, 2G to 2H, 2A to 2B (8.15), 3C to					
Scatter outside of right of way	4.42	x	\$ 1,669		\$7,376.98
Haul clearing debris w/C330 and Off-Hwy Dump	8.00	x	\$ 354		\$2,832.00
<b>Unsurfaced</b>					
2A to 2B (8.15), 3C to					
Scatter outside of right of way	1.12	x	\$ 1,669		\$1,869.28
<b>SUB TOTAL FOR CLEARING &amp; GRUBBING</b>					\$12,078

**EXCAVATION**

Material	Cy/amount	x	Rate	=	Cost
<b>1A</b>					
Landing construction (\$/ldg)	1	x	\$487.00	=	\$487.00
Extra C330 time (C330/hr)	4	x	\$195.00	=	\$780.00
<b>1B to 1C</b>					
0+00 to 5+20 Balanced construction (\$/sta)	5.2	x	\$154.00	=	\$800.80
0+00 to 5+20 Drift earth up to 200' (\$/sta)	5.2	x	\$238.00	=	\$1,237.60
2+00, 5+20 Landing construction (\$/ldg)	2	x	\$487.00	=	\$974.00
<b>1D to 1E</b>					
0+00 to 3+60 Common drift (> 50% slopes) (\$/cy)	793.7	x	\$2.25	=	\$1,785.83
Extra C330 time (C330/hr)	1		\$195.00		\$195.00
0+30 to 1+20 Embankment compaction (\$/cy)	791.4	x	\$0.87	=	\$688.52
1+65 to 2+85 Cutslope rounding (\$/sta)	1.2		\$54.39		\$65.27
3+60 Landing construction (\$/ldg)	1	x	\$487.00	=	\$487.00
<b>1F to 1G</b>					
0+00 to 4+00 Common drift (> 50% slopes) (\$/cy)	735	x	\$2.25	=	\$1,653.75
0+00 to 0+80 Embankment compaction (\$/cy)	283	x	\$0.87	=	\$246.21
1+20 to 2+65 Cutslope rounding (\$/sta)	1.45		\$54.39		\$78.87
4+00 Landing construction (\$/ldg)	1	x	\$487.00	=	\$487.00
<b>1H</b>					
Landing construction (\$/ldg)	1	x	\$487.00	=	\$487.00
Extra C330 time (C330/hr)	1		\$195.00		\$195.00
<b>1I</b>					
Landing construction (\$/ldg)	1	x	\$487.00	=	\$487.00
Extra C330 time (C330/hr)	2	x	\$195.00	=	\$390.00
<b>1J to 1K</b>					
0+00 to 1+00 Balanced construction (\$/sta)	5.2	x	\$154.00	=	\$800.80

	Drift earth up to 200'	(\$/sta)	1	x	\$238.00	=	\$238.00
1+00	Landing construction	(\$/ldg)	1	x	\$487.00	=	\$487.00
<b>2A to 2B</b>							
0+00 to 12+40	Common drift (> 50% slopes)	(\$/cy)	1985.1	x	\$2.25	=	\$4,466.48
1+90 to 3+40, 7+15 to 7+90	Embankment compaction	(\$/cy)	1991	x	\$0.87	=	\$1,732.17
0+00 to 2+00, 2+60 to 6+00 6+70, 10+60, 12+40	Cutslope rounding	(\$/sta)	5.4	x	\$54.39	=	\$293.71
	Landing construction	(\$/ldg)	3	x	\$487.00	=	\$1,461.00
<b>2C to 2D</b>				x		=	
0+00 to 7+60	Balanced construction	(\$/sta)	7.60	x	\$154.00	=	\$1,170.40
7+60	Landing construction	(\$/ldg)	1	x	\$487.00	=	\$487.00
<b>2E to 2F</b>				x		=	\$0.00
0+00 to 2+65	Balanced construction	(\$/sta)	2.65	x	\$154.00	=	\$408.10
2+65	Landing construction	(\$/ldg)	1	x	\$487.00	=	\$487.00
<b>2G to 2H</b>						=	\$0.00
0+00 to 1+00	Balanced construction	(\$/sta)	1.00	x	\$154.00	=	\$154.00
	Extra C330 time	(C330/hr)	4	x	\$195.00	=	\$780.00
1+00	Landing construction	(\$/ldg)	1	x	\$487.00	=	\$487.00
<b>3A to 3B</b>							
0+00 to 15+95	Common drift (> 50% slopes)	(\$/cy)	2300	x	\$2.25	=	\$5,175.00
0+00 to 15+96	Embankment compaction	(\$/cy)	2198.0	x	\$0.87	=	\$1,912.26
0+00 to 1+00, 1+55 to 6+00, 10+80 to 11+20, 14+65 to 15+20	Cutslope rounding	(\$/sta)	6	x	\$54.39	=	\$348.10
11+80, 15+95	Landing construction	(\$/ldg)	2	x	\$487.00	=	\$974.00
<b>3C to 3D</b>							
0+00 to 8+15	Common drift (> 50% slopes)	(\$/cy)	487	x	\$2.25	=	\$1,095.75
1+20 to 2+40	Cutslope rounding	(\$/sta)	1.2	x	\$54.39	=	\$65.27
8+15	Landing construction	(\$/ldg)	1	x	\$487.00	=	\$487.00
<b>SUB TOTAL FOR EXCAVATION</b>							\$35,036

CULVERT MATERIALS AND INSTALLATION																						
Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost													
<b>2A to 2B</b>																						
0+00	18" CPP	40	\$24.37	#####																		
7+60	18" ACSP	30	\$30.79	#####																		
<b>3A to 3B</b>																						
3+05	18" CPP	30	\$24.37	#####																		
4+15	18" CPP	30	\$24.37	#####																		
6+85	18" CPP	40	\$24.37	#####																		
8+90	18" CPP	30	\$24.37	#####																		
<b>3C to 3D</b>																						
0+00	18" CPP	30	\$24.37	#####																		
					<table border="1"> <thead> <tr> <th>Description</th> <th>Quantity</th> <th>Rate</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td>Other/miscellaneous:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>Culvert stakes &amp; markers:</td> <td>6' x 2 1/2" white fiberglass posts</td> <td>6</td> <td>\$25.53</td> <td>\$153.15</td> </tr> </tbody> </table>					Description	Quantity	Rate	Cost	Other/miscellaneous:				Culvert stakes & markers:	6' x 2 1/2" white fiberglass posts	6	\$25.53	\$153.15
Description	Quantity	Rate	Cost																			
Other/miscellaneous:																						
Culvert stakes & markers:	6' x 2 1/2" white fiberglass posts	6	\$25.53	\$153.15																		
<b>SUB TOTAL FOR CULVERT MATERIALS &amp; INSTALLATION</b>							\$5,951															

Subtotal of Clearing, Exc.,Culv. **\$53,065**

SURFACING		Subgrade prep:		Description		Stations/ amount	Rate/ sta/amt	Cost
							x	
				Grade, Shape and Ditch 16': 1B to 1C, 1D to 1E, 1F to 1G, 1J to 1K, 2A to 2B (0+00 to 4+25), 2C to 2D, 2E to 2F, 2G to 2H, 3A to 3B	45.25	\$30.98	x	\$1,401.85
				Subgrade Compaction: All Segments	61.55	\$25.19	x	\$1,550.44
				Grade, Shape and Outslope 14': 2A to 2B (4+25 to 12+40), 3C to 3D	16.30	\$22.89	x	\$373.11

ROAD SEGMENT		1A		POINT TO POINT		Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Junction Rock	3/4"-0" crushed	0+00	N/A	junctions	1	junctions	11	\$6.94	\$76
Landings	6"-0" jaw-run	N/A	N/A	landing	1	landings	110	\$6.94	\$763
Total Rock for Road Segment:							121		\$840

ROAD SEGMENT		1B to 1C		POINT TO POINT		Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Junction Rock	3/4"-0" crushed	0+00	N/A	junctions	1	junctions	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 4+20	12	station	4.2	stations	75	\$6.94	\$2,186
Base Rock	6"-0" jaw-run	4+20 to 5+20	12	station	1	stations	86	\$6.94	\$597
Landings	6"-0" jaw-run	5+20	N/A	landing	2	landings	88	\$6.94	\$1,221
Total Rock for Road Segment:							599		\$4,157

ROAD SEGMENT		1D to 1E		POINT TO POINT		Sta. to Sta.	TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of				
Junction Rock	4"-0" crushed	0+00	N/A	junctions	1	junctions	11	\$6.94	\$76
Base Rock	6"-0" jaw-run	0+00 to 2+60	12	station	2.6	stations	75	\$6.94	\$1,353
Base Rock	6"-0" jaw-run	2+60 to 3+60	12	station	1	stations	86	\$6.94	\$597
Fill Armor	24"-6" riprap	N/A	N/A	load	9	loads	11	\$6.94	\$687
Turnouts	6"-0" jaw-run	3+15	12	turnout	1	turnouts	33	\$6.94	\$229
Landings	6"-0" jaw-run	3+60	N/A	landing	1	landings	88	\$6.94	\$611
Total Rock for Road Segment:							512		\$3,553

ROAD SEGMENT		1F to 1G		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 4+00					
Junction Rock	4"-0" crushed	0+00	N/A	junctions	11	junctions	1	11	\$6.94	\$76	
Base Rock	6"-0" jaw-run	0+00 to 3+00	12	station	75	stations	3	225	\$6.94	\$1,562	
Base Rock	6"-0" jaw-run	3+00 to 4+00	12	station	86	stations	1	86	\$6.94	\$597	
Fill Armor	24"-6" riprap	N/A	N/A	load	11	loads	3	33	\$6.94	\$229	
Turnouts	6"-0" jaw-run	2+00	12	turnout	33	turnouts	1	33	\$6.94	\$229	
Landings	6"-0" jaw-run	4+00	N/A	landing	88	landings	2	176	\$6.94	\$1,221	
Total Rock for Road Segment: 1F to 1G									564		\$3,914
ROAD SEGMENT		1H		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	N/A					
Junction Rock	4"-0" crushed	0+00	N/A	junctions	11	junctions	1	11	\$6.94	\$76	
Landings	6"-0" jaw-run	N/A	N/A	landing	110	landings	1	110	\$6.94	\$763	
Total Rock for Road Segment: 1H									121		\$840
ROAD SEGMENT		1I		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	N/A					
Junction Rock	4"-0" crushed	0+00	N/A	junctions	11	junctions	1	11	\$6.94	\$76	
Landings	6"-0" jaw-run	N/A	N/A	landing	110	landings	1	110	\$6.94	\$763	
Total Rock for Road Segment: 1I									121		\$840
ROAD SEGMENT		1J to 1K		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost	
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 1+00					
Junction Rock	4"-0" crushed	0+00	N/A	junctions	11	junctions	1	11	\$6.94	\$76	
Base Rock	6"-0" jaw-run	0+00 to 1+00	12	station	86	stations	1	86	\$6.94	\$597	
Landings	6"-0" jaw-run	N/A	N/A	landing	88	landings	1	88	\$6.94	\$611	
Total Rock for Road Segment: 1J to 1K									185		\$1,284

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)	Volume (CY) per	Number of	0+00 to 12+40				
Junction Rock	3/4"-0" crushed	0+00	N/A	junctions	22	junctions	1	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 4+25	12	station	75	stations	4.25	319	\$6.94	\$2,212
Fill Armor	24"-6" riprap	N/A	N/A	load	11	loads	12	132	\$6.94	\$916
Turnaround	6"-0" jaw-run	4+00	12	urnaround	22	urnarounds	1	22	\$6.94	\$153
Culvert										
Bedding/Backfill	3/4"-0" crushed	0+00	N/A	load	11	loads	3	33	\$6.94	\$229
Total Rock for Road Segment:		2A to 2B						528		\$3,663
ROAD SEGMENT		2C to 2D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 7+60				
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junctions	22	junctions	1	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 6+60	12	station	75	stations	6.6	495	\$6.94	\$3,435
Traction Rock	1 1/2"-0" crushed	0+00 to 2+00	3	station	19	stations	2	38	\$6.94	\$264
Base Rock	6"-0" jaw-run	6+60 to 7+60	12	station	86	stations	1	86	\$6.94	\$597
Fill Armor	24"-6" riprap	N/A	N/A	load	11	loads	4	44	\$6.94	\$305
Turnouts	6"-0" jaw-run	3+60	12	turnout	33	turnouts	1	33	\$6.94	\$229
Landings	6"-0" jaw-run	7+60	N/A	landing	88	landings	1	88	\$6.94	\$611
Total Rock for Road Segment:		2C to 2D						806		\$5,594
ROAD SEGMENT		2E to 2F		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 2+65				
Junction Rock	6"-0" jaw-run	0+00	N/A	junctions	11	junctions	1	11	\$6.94	\$76
Base Rock	6"-0" jaw-run	0+00 to 1+65	12	station	75	stations	1.65	124	\$6.94	\$859
Base Rock	6"-0" jaw-run	1+65 to 2+65	12	station	86	stations	1	86	\$6.94	\$597
Landings	6"-0" jaw-run	2+65	N/A	landing	88	landings	1	88	\$6.94	\$611
Total Rock for Road Segment:		2E to 2F						309		\$2,143



ROAD SEGMENT		2G to 2H		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 1+00				
Junction Rock	6"-0" jaw-run	0+00	N/A	junctions	22	junctions	1	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 1+00	12	station	86	stations	1	86	\$6.94	\$597
Landings	6"-0" jaw-run	1+00	N/A	landing	88	landings	1	88	\$6.94	\$611
Total Rock for Road Segment: 2G to 2H								196		\$1,360
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)	Volume (CY) per	Number of	0+00 to 15+95				
Junction Rock	1 1/2"-0" crushed	0+00	N/A	junctions	22	junctions	1	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 14+95	12	station	75	stations	14.95	1,121	\$6.94	\$7,781
Base Rock	6"-0" jaw-run	14+95 to 15+95	12	station	86	stations	1	86	\$6.94	\$597
Fill Armor	24"-6" riprap	N/A	N/A	load	11	loads	6	66	\$6.94	\$458
Turnaround	6"-0" jaw-run	9+70, 14+40	12	urnaround	22	urnarounds	2	44	\$6.94	\$305
Turnouts	6"-0" jaw-run	3+65	12	turnout	33	turnouts	1	33	\$6.94	\$229
Landings	6"-0" jaw-run	11+80, 15+95	N/A	landing	88	landings	2	176	\$6.94	\$1,221
Total Rock for Road Segment: 3A to 3B								1,548		\$10,745
ROAD SEGMENT		3C to 3D		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) per	Number of	0+00 to 8+15				
Junction Rock	6"-0" jaw-run	0+00	N/A	junctions	22	junctions	1.00	22	\$6.94	\$153
Base Rock	6"-0" jaw-run	0+00 to 1+00	12	station	75	stations	1.00	75	\$6.94	\$521
Total Rock for Road Segment: 3C to 3D								97		\$673

Processing:

Description	No. sta	Rate/sta	Cost
Spread & Compact Base Rock (6'-0" jaw run)	45.25	\$39.35	\$1,780.59
Water, Process & Compact Traction Rock: 2C to 2D (0+00-2+00)	2	\$70.47	\$140.94
<b>24"-6" rip rap</b>	<b>374</b>		
<b>6"-0" jaw-run</b>	<b>5,108</b>		
<b>4"-0" crushed</b>	<b>55</b>		
<b>1 1/2"-0" crushed</b>	<b>82</b>		
<b>3/4"-0" crushed</b>	<b>88</b>		
<b>Total</b>	<b>5,707</b>		
<b>SUB TOTAL FOR SURFACING</b>			<b>\$44,852</b>

Description	Cy/Amount	Rate	Cost
6 1/2oz. woven x 12.5' wide fabric	400 (\$/lf)	\$ 1.62	\$ 648.00
3A to 3B (6+00 to 10+00)			
<b>SUB TOTAL FOR SPECIAL PROJECTS</b>			<b>\$648</b>
<b>GRAND TOTAL</b>			<b>\$98,565</b>

Subtotal of Surfacing & Spec. Proj. \$45,500  
 Subtotal of Clearing, Exc., Culv. \$53,065

Compiled By: Brittany W. and Cole H.

Date: 11/15/2023

**SUMMARY OF CONSTRUCTION COSTS**

SALE NAME: Kingsmen  
 ROAD: I1 to I2 (149.85), I3 to I4 (99.5)  
 POINTS: \_\_\_\_\_

NEW CONSTRUCTION: \_\_\_\_\_ STATIONS 0.00 MILES  
 IMPROVEMENT: 249.35 STATIONS 4.72 MILES

CLEARING & GRUBBING						
Method	Acres/amount	x	Rate	=	Cost	
<b>SUB TOTAL FOR CLEARING &amp; GRUBBING</b>						<b>\$0</b>

EXCAVATION						
Material	Cy/amount	x	Rate	=	Cost	
<b>I1 to I2</b>						
0+40 Clean and improve ditch behind turnout						
Install series of three						
rock ditch filters (C315/Hr.)	1.0	x	\$127.00	=	\$127.00	
0+90 Clean bridge deck, Establish						
drainage all corners, (C315/Hr.)	0.5	x	\$127.00	=	\$63.50	
End haul waste (Dumptruck/Hr.)	0.5	x	\$99.00	=	\$49.50	
38+80 to 39+40 Remove slump,						
Reconstruct ditch, (C315/Hr.)	2.0	x	\$127.00	=	\$254.00	
Endhaul waste (Dumptruck/Hr.)	2.0	x	\$99.00	=	\$198.00	
41+90 Install series of three						
rock ditch filters (C315/Hr.)	1.0	x	\$127.00	=	\$127.00	
50+35 to 50+80 Remove slump,						
Reconstruct ditch, (C315/Hr.)	2.00	x	\$127.00	=	\$254.00	
Endhaul waste (Dumptruck/Hr.)	2.00	x	\$99.00	=	\$198.00	
68+65 Waste area preperation (C315/Hr.)	1.00	x	\$127.00	=	\$127.00	
Waste area grade, shape,						
and compact (C315/Hr.)	1.00	x	\$127.00	=	\$127.00	
straw bales (Bale/@)	10.00	x	\$13.39	=	\$133.90	
Seed (Seed/Lbs.)	1.00	x	\$2.00	=	\$2.00	
Labor (Labor/Hr.)	1.00	x	\$50.00	=	\$50.00	
103+00 Install culvert dissipator (Dissipator/\$)	1.00	x	\$225.33	=	\$225.33	
141+00 Locate and clean culvert						
inlet and outlet (C315/Hr.)	1.00	x	\$127.00	=	\$127.00	
<b>I3 to I4</b>						
20+30 to 23+40 Remove slump,						
Reconstruct ditch, (C315/Hr.)	1.50	x	\$127.00	=	\$190.50	
Endhaul waste (Dumptruck/Hr.)	1.50	x	\$99.00	=	\$148.50	
51+35 to 55+00 Remove slump,						
Reconstruct ditch, (C315/Hr.)	2.0	x	\$127.00	=	\$254.00	
Endhaul waste (Dumptruck/Hr.)	2.0	x	\$99.00	=	\$198.00	
57+00 Place armor on shoulder failure (C315/Hr.)	3.0	x	\$127.00	=	\$381.00	
58+55 Waste area preperation (C315/Hr.)	2.0	x	\$127.00	=	\$254.00	
Waste area grade, shape,						
and compact (C315/Hr.)	2.0	x	\$127.00	=	\$254.00	
straw bales (Bale/@)	20.0	x	\$13.39	=	\$267.80	
Seed (Seed/Lbs.)	2.0	x	\$2.00	=	\$4.00	
Labor (Labor/Hr.)	2.0	x	\$50.00	=	\$100.00	
84+30 Remove slump,		x		=	\$0.00	
Reconstruct ditch, (C315/Hr.)	1.0	x	\$127.00	=	\$127.00	
Endhaul waste (Dumptruck/Hr.)	1.0		\$99.00		\$99.00	

Remove trees and brush from culvert fill									
Clean inlet and outlet.	(C315/Hr.)	0.5	x	\$127.00	=	\$63.50			
Install series of three rock ditch filters	(C315/Hr.)	0.5	x	\$127.00	=	\$63.50			
97+90 to 99+50 Remove slump, Reconstruct ditch, scatter	(C315/Hr.)	1.0	x	\$127.00	=	\$127.00			
<b>SUB TOTAL FOR EXCAVATION</b>									\$4,595

**CULVERT MATERIALS AND INSTALLATION**

Location	Dia/type	Lineal ft.	Rate	Cost	Location	Dia/type	Lineal ft.	Rate	Cost																		
<b>I1 to I2</b>																											
103+00	18"/CPP	40	\$24.37	\$974.60																							
					<table border="1"> <thead> <tr> <th colspan="2"></th> <th>Description</th> <th>Quantity</th> <th>Rate</th> <th>Cost</th> </tr> </thead> <tbody> <tr> <td colspan="2">Other/miscellaneous:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">Culvert stakes &amp; markers:</td> <td>6' x 2 1/2" white fiberglass posts</td> <td>3</td> <td>\$25.53</td> <td>\$76.58</td> </tr> </tbody> </table>							Description	Quantity	Rate	Cost	Other/miscellaneous:						Culvert stakes & markers:		6' x 2 1/2" white fiberglass posts	3	\$25.53	\$76.58
		Description	Quantity	Rate	Cost																						
Other/miscellaneous:																											
Culvert stakes & markers:		6' x 2 1/2" white fiberglass posts	3	\$25.53	\$76.58																						
<b>SUB TOTAL FOR CULVERT MATERIALS &amp; INSTALLATION</b>									\$1,051																		

*Subtotal of Clearing, Exc., Culv.* **\$5,646**

<b>SURFACING</b>		Subgrade prep:		Description		Stations/ amount	x	Rate/ sta/amt	Cost
					Grade, Shape and Ditch 16'	11 to 12 (149.85), 13 to 14 (99.5)	x	\$30.98	\$7,724.86
					Subgrade Compaction	11 to 12 (149.85), 13 to 14 (99.5)	x	\$25.19	\$6,281.00
<b>ROAD SEGMENT</b>		<b>I1 to I2</b>		<b>POINT TO POINT</b>		<b>TOTAL VOLUME (CY)</b>	<b>Rate/ Sta./ amt.</b>	<b>Cost</b>	
<b>Application</b>	<b>Rock Size and Type</b>	<b>Location</b>	<b>Depth of Rock (inches)</b>	<b>Volume (CY) per</b>		<b>Number of</b>	<b>Sta. to Sta. 0+00 to 149+85</b>		
				<b>11 to 12</b>	<b>load</b>				
Subgrade Leveling Rock	3/4"-0" crushed	55+30, 120+45	N/A	11	load	2			\$6.94
Surfacing	3/4"-0" crushed	0+00 to 149+85 0+40, 7+75, 16+00, 25+60, 28+10, 33+80, 37+90, 43+50, 46+30, 60+15, 68+65, 78+95, 110+45, 118+15, 123+65, 127+80, 132+70, 145+00	2	14	station	149.85			\$6.94
Turnouts	3/4"-0" crushed		N/A	11	turnout	18	turnouts		\$1,374
Turnouts	3/4"-0" crushed	55+30	N/A	22	turnout	1	turnouts		\$153
Turnaround	3/4"-0" crushed	9+90 9+90, 47+30, 68+65, 71+75, 82+35, 90+75, 93+30, 101+40, 145+75, 146+00,	N/A	11	turnaround	1	turnaround		\$76
Junctions	3/4"-0" crushed	149+85	N/A	11	junction	11	junctions		\$840
Culvert Bedding and Backfill	3/4"-0" crushed	103+00	N/A	44	culvert	1	culverts		\$305
Culvert Energy Dissipator	24"-6" riprap	103+00	N/A	11	dissipator	1	dissipators		\$76
Rock Ditch Filters	6"-4" pit-run	0+40, 41+90	N/A	11	3 filter	2	3 filter series		\$153
<b>Total Rock for Road Segment:</b>						<b>11 to 12</b>		<b>2,549</b>	<b>\$17,689</b>

ROAD SEGMENT		I3 to I4		POINT TO POINT		Sta. to Sta.		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost
Application	Rock Size and Type	Location	Depth of Rock (inches)	I3 to I4		0+00 to 99+50				
				Volume (CY)	per	Number	of			
Surfacing	3/4"-0" crushed	0+00 to 31+85	3	19	station	31.85	stations	605	\$6.94	\$4,200
Surfacing	4"-0" crushed	31+85 to 49+40	4	25	station	17.55	stations	439	\$6.94	\$3,045
Surfacing	3/4"-0" crushed	49+40 to 71+70	2	13	station	22.3	stations	290	\$6.94	\$2,012
Surfacing	1 1/2"-0" crushed	71+70 to 99+50	2	13	station	27.8	stations	361	\$6.94	\$2,508
Turnouts	3/4"-0" crushed	10+20, 20+90, 24+30, 51+35, 58+55, 64+60, 67+55	N/A	11	turnout	1	turnouts	11	\$6.94	\$76
Turnouts	3/4"-0" crushed	27+90	N/A	22	turnout	1	turnouts	22	\$6.94	\$153
Turnouts	4"-0" crushed	38+15, 43+00	N/A	22	turnout	2	turnouts	44	\$6.94	\$305
Turnouts	1 1/2"-0" crushed	75+30, 87+90	N/A	11	turnout	2	turnouts	22	\$6.94	\$153
Junctions	3/4"-0" crushed	60+35	N/A	11	junction	1	junctions	11	\$6.94	\$76
Junctions	1 1/2"-0" crushed	95+65	N/A	11	junction	1	junctions	11	\$6.94	\$76
Turnaround	1 1/2"-0" crushed	74+45	N/A	22	turnaround	1	turnarounds	22	\$6.94	\$153
Fill Armor	24"-6" riprap	57+00	N/A	11	load	6	loads	66	\$6.94	\$458
Rock Ditch Filters	6"-4" pit-run	84+30	N/A	11	3 filter	1	filter series	11	\$6.94	\$76
Landing	4"-0" crushed	48+30	N/A	44	junction	1	junctions	44	\$6.94	\$305
Total Rock for Road Segment:								1,959		\$13,291
SUB TOTAL FOR		0	0	0	33	77		0	3,455	\$62,558

Processing:

Description

	No. sta	Rate/sta	Cost
Water, Process & Compact: I1 to I2 (149.85), I3 to I4 (99.5)	249.35	\$70.47	\$17,572
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			
<b>Total</b>	<b>3,455</b>	<b>4,508</b>	<b>\$62,558</b>

**SPECIAL PROJECTS**

Description	Cy/Amount	Rate	Cost
			\$0.00
			\$0.00

**SUB TOTAL FOR SPECIAL PROJECTS**

**\$0**

*Subtotal of Surfacing & Spec. Proj. \$62,558*  
*Subtotal of Clearing, Exc., Culv. \$5,646*

**GRAND TOTAL**

**\$68,205**

Compiled By: D. Farner

Date: 11/13/2023





**3) EXCAVATION**

MATERIAL DESCRIPTION	QUANTITY	UNIT	RATE	COST

**TOTAL EXCAVATION COSTS**

**4) DEVELOP ROCK**

ROCK SUMMARY			METHOD	%	QUANTITY	RATE	COST
Type	Cu. yd. Vol.	Weight	Ripping	10%	2,178	\$3.40	\$7,406
crushed	16,223	68%	Drill & shoo	80%	17,767	\$3.50	\$62,184
jaw-run	5,108	32%	Oversize rec	10%	2,133	\$6.90	\$14,718
rip rap	451	2%	Other				
Total	21,782						
reject	427	2.0%					

**TOTAL ROCK DEVELOPMENT COSTS**

\$84,308

**5) CALIBRATION & TESTING**

DESCRIPTION	NO.	\$/TEST	COST
Calibrate	3	\$507.00	\$1,521
Calibrate			
Test	7	\$57.30	\$401
Test			

**TOTAL CALIBRATION & TESTING COSTS**

\$1,922

**6) FEEDING & LOADING**

DESCRIPTION	CU. YD. QUANTITY	COST CU. YD.	TOTAL COST
Dig & Feed Rock	21,758	\$1.04	\$22,577

**TOTAL FEEDING & LOADING COSTS**

\$22,577

**7) ROCK CRUSHING**

ROCK SIZE	ROCK TYPE	CU. YD. QUANTITY	CRUSHER TYPE	HOURLY PRODUCTION	RATE CU. YD.	TOTAL COST
3/4"-0"	crushed	3,543	3 stage w/s	110	\$3.54	\$12,529
1-1/2"-0"	crushed	12,098	3 stage w/s	120	\$3.24	\$39,218
4"-0"	crushed	582	2 stage w/s	140	\$2.48	\$1,443
6"-0"	jaw-run	5,108	1 stage w/s	150	\$1.00	\$5,108

**TOTAL ROCK CRUSHING COSTS**

\$58,298









SALE NAME: Kingsmen

QUARRY: Viewpoint

ROCK TYPE: Crushed

Location 1. Slaughters Creek 1-1/2"-0"		ONE WAY HAUL IN MILES						
		50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
		4.05	1.53	6.61	2.00	1.60	1.20	0.20
Truck type:	<u>D20</u>	No. trucks:	<u>2</u>					
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>	Ave haul:	\$12.94	/cy		
				Load:	\$1.15	/cy		
Truck type:	<u>D12</u>	No. trucks:	<u>6</u>	Stockpile:	\$2.05	/cy		
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>					
Truck type:	<u></u>	No. trucks:	<u></u>	Production: cy/day =	469			
Delay min.:	<u>5</u>	Efficiency:	<u>85%</u>					
<b>Location 1. Slaughters Creek</b>				<b>Haul and Stockpile Cost</b>		<b>\$16.14 /cy</b>		

Location 2. Kerry 1-1/2"-0"		ONE WAY HAUL IN MILES						
		50 MPH	30 MPH	25 MPH	20 MPH	15 MPH	10 MPH	5 MPH
				2.00	0.20	0.40	0.10	0.10
Truck type:	<u>D20</u>	No. trucks:	<u></u>					
Delay min.:	<u>8</u>	Efficiency:	<u>85%</u>	Ave haul:	\$3.30	/cy		
				Load:	\$0.51	/cy		
Truck type:	<u>D12</u>	No. trucks:	<u>5</u>	Stockpile:	\$0.83	/cy		
Delay min.:	<u>6</u>	Efficiency:	<u>85%</u>					
Truck type:	<u>D10</u>	No. trucks:	<u></u>	Production: cy/day =	1,078			
Delay min.:	<u>5</u>	Efficiency:	<u>85%</u>					
<b>Location 2. Kerry</b>				<b>Haul and Stockpile Cost</b>		<b>\$4.64 /cy</b>		

Stockpile: Viewpoint  
 Rock Size: 1 1/2"-0"  
 Contract: Kingsmen

Date: 11/15/2023  
 By: Cole Hatcher

**Stockpile Volume Calculation**

**Known SP Dimensions:**

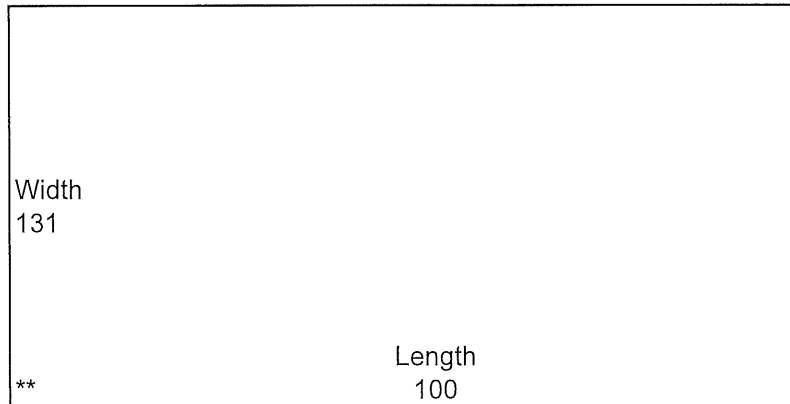
Base Dimensions in ft	
Length	Width
<b>100.00</b>	<b>131.00</b>
Height in ft	Shrink %
<b>15.000</b>	16
Slope in deg	
37.00	

**Calculated Dimensions:**

Top Dimensions in ft	
Length	Width
60.19	91.19

Volume (cy)
<b>5,017</b>

Base Dimensions	
Diagonal(ft)	** Angle **
<b>164.81</b>	<b>52.6</b>
Mid dimensions	
80.09	111.09



\*\* Angle \*\* is calculated so that the origin is at \*\*, and 0 deg is along the 'Length'. The 'Angle' needs to be adjusted to true north.

**Projects Road Maintenance Cost Summary**

Sale: Kingsmen  
 Date: 15-Nov-23  
 By: Cole Hatcher *CB*

**Final Project Maintenance may be spot grading with some segments of full water, process, and compact. This will be determined by STATE when roads are assessed for Final Project Maintenance.**

Type	Equipment/Rationale			Hours	Rate	Cost
Project Work	Grader 14G			54	\$126	\$6,804
Final Haul	Dump Truck 12CY			8	\$105	\$840
Road	FE Loader C966			8	\$105	\$840
Maintenance	Vibratory Roller			54	\$97	\$5,238
	Water Truck 2,500 gallon			54	\$113	\$6,102
<b>Total</b>						\$19,824

Production Rates

Grader  
 Vibratory Roller

Miles/day	Distance(miles)	Days
1.5	10.10	6.7
1.5	10.10	6.7

**NOTE:** Nicolai Mainline (Viewpoint Quarry) to Pt. I2

	5.20	Miles
Cow Ridge	4.90	Miles
		Miles
		Miles
TOTAL=	10.10	Miles



**Kingsmen  
TIMBER CRUISE REPORT  
FY 2024**

1. **Sale Area Location:** Portions of Sections 3, 4, & 10 of T6N, R6W, W.M., Clatsop County, OR.
2. **Fund Distribution:** BOF 100% Tax Code: 8-01 (100%)
3. **Sale Acreage by Area:**

Unit	Harvest Type	Gross Acres	Stream Buffer Acres	Reserve Tree Area	Existing R/W Acres	New R/W	Net Acres	Survey Method
1	Modified Clearcut	112	8	7	2	1	94	GIS
2	Modified Clearcut	57	10	1	1	2	43	GIS
3	Modified Clearcut	39	6	-	-	2	31	GIS
4	R/W	5	-	-	-	-	5	LxW
<b>TOTALS</b>		<b>213</b>	<b>24</b>	<b>8</b>	<b>3</b>	<b>5</b>	<b>173</b>	

**4. Cruisers and Cruise Dates:** Avery Petersen, John Czarnecki, Ryan Simpson, Kevin Berry, and Justin Bush (10/31/2023)

**5. Cruise Method and Computation:**

Units 1, 2, & 3: Units 1, 2 and 3 were variable plot cruised with a 54.45 BAF for conifers and a 33.61 BAF for hardwoods. A total of 101 plots were sampled on a seven by two and a half chain spacing with a count to grade ratio of 3:1, resulting in 26 grade plots and 75 count plots. Three count plots were dropped. These plots were located in reserve tree areas and were not representative of the take stand.

Unit 4 (R/W): In-unit Right-of-Way consists of new spur roads and landings within Units 1, 2 and 3. Cruise data for Unit 4 was obtained from the U123 cruise and acreages have been adjusted accordingly.

There is less than one acre of non-stocked out-of-unit Right-of-Way.

There are 203 conifer wildlife trees marked outside of reserve tree areas. These trees account for approximately 192 MBF using an average Douglas-fir volume of 948 board feet.

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 in the Astoria District office.

UNIT(s)	CRUISE	TRACT	TYPE	ACRES
Unit 123	KINGSMEN	U123	00MC	168
4 (R/W)	KINGSMEN	RW	00MC	5

**6. Timber Description:**

Units 1, 2, and 3 are modified clearcuts with an average age of 78 years. The stands consist of Douglas-fir, with minor components of western hemlock, red alder, and bigleaf maple. The average take Douglas-fir is approximately 27 inches DBH and 99 feet to a merchantable top. The average take western hemlock is approximately 12 inches DBH and 24 feet to a merchantable top. The average take red alder is approximately 20 inches DBH and 71 feet to a merchantable top. The average take bigleaf maple is approximately 14 inches DBH and 23 feet to a merchantable top. Average net volume to be harvested per acre is 59 MBF. All trees were cruised to a merchantable top of six inches DIB, 40% of form point, or an otherwise anticipated break point.

Unit 4 (R/W) is similar to the timber description in Units 1, 2, and 3. Average net volume to be harvested per acre is 59 MBF.

**7. Statistical Analysis and Stand Summary:**

Statistics for Stand B.F. volumes

Type	Estimated CV	Target SE%	Actual CV	Actual SE%
U123	50.0%	8.0%	46.9%	4.7%

**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	27"	10,038	7,202	2,726*	110	1.6%	98%
Western hemlock	12"	35	-	28	7	0.0%	<1%
<b>TOTALS</b>	--	<b>10,073</b>	<b>7,202</b>	<b>2,754</b>	<b>117</b>	--	--

\*This sale includes approximately 1,857 MBF of 12"+ 3-saw Douglas-fir.

**Hardwood**

Species	DBH	Net Vol.	12"+	10"-11"	8"-9"	6"-7"	% D & B	% Sale
Red alder	20"	102	67	22	1	12	0.3%	1%
Bigleaf maple	14"	29	5	-	9	15	1.6%	<1%
<b>TOTALS</b>	--	<b>131</b>	<b>72</b>	<b>22</b>	<b>10</b>	<b>27</b>	--	--

<b>TOTAL VOLUME</b>	<b>10,204 MBF</b>
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**9. Approvals:**

Prepared by: Michele Huffman Date: 11/08/2023  
 Unit Forester Approval: *[Signature]* Date: 11/20/2023

- 10. Attachments:** Cruise Design and Map (3 pages)  
 Volume Report (3 pages)  
 Statistics Report (3 pages)  
 Log Stock Table (2 pages)  
 Stand Table Summary (2 pages)

**CRUISE DESIGN  
ASTORIA DISTRICT**

Sale Name: KingsmenUnits U123

Harvest Type: Modified Clearcut

Approx. Cruise Acres: 168 Estimated CV% 50 Net BF/Acre SE% Objective 8% Net BF/AcrePlanned Sale Volume: 7661 MBF Estimated Sale Area Value/Acre: \$22,800/Acre

**A. Cruise Goals:** (a) Grade minimum 100 conifer trees.  
 (b) Sample 104 plots (26 grade/78 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 Conifer: **54.45**  
 Hardwood: **33.61**

**Unit 123:**

Cruise Line Direction: Unit 1 and 2: 61°/241° Unit 3: 0°/180°  
 Cruise Line Spacing 7 (chains) 462 (Feet)  
 Cruise Plot Spacing 2.5 (chains) 165 (Feet)  
 Grade/Count Ratio 1:3

Take plots as marked on cruise map.

Grade minor species (true fir, spruce, cedar, maple, etc.) on count plots if encountered.DO NOT: record any 22' log lengths, or any 12', 24', or 32' log lengths for hardwoods.DO NOT: record snags < 15" DBH or record snag measurements on count plots.**C. Tree Measurements:**

1. **Diameter:** Minimum DBH to cruise is 8" for conifers and 8" for hardwoods.  
Record dbh to nearest  $\frac{1}{2}$ " 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

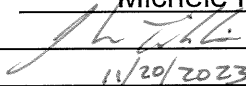
segments can be any length. For conifers, minimum merchantable segment length is 12'; for hardwoods, it's 8'. Maximum segment length is 40'. One foot of trim is assumed for each merch segment. Do not use "double dash" (--) feature on the data recorder except for the top segment of the tree. Hardwoods 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 red cedar); NF (Noble fir); GF (Grand 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, or R = Camp Run; 0 = Cull.  
All Maple Camp Run = R

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 D-fir and spruce.
8. **Standard Field Procedures**: Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at 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, Logger's Tape (with dbh on back), Compass, Allegro II Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint, Permanent Marker.
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: 11/20/2023

# TIMBER CRUISE MAP

OF TIMBER SALE CONTRACT  
 NO. AT-341-2024-W00985-01  
 KINGSMEN  
 PORTIONS OF SECTIONS  
 3, 4, & 10 OF T6N, R6W, W.M.,  
 CLATSOP COUNTY, OREGON

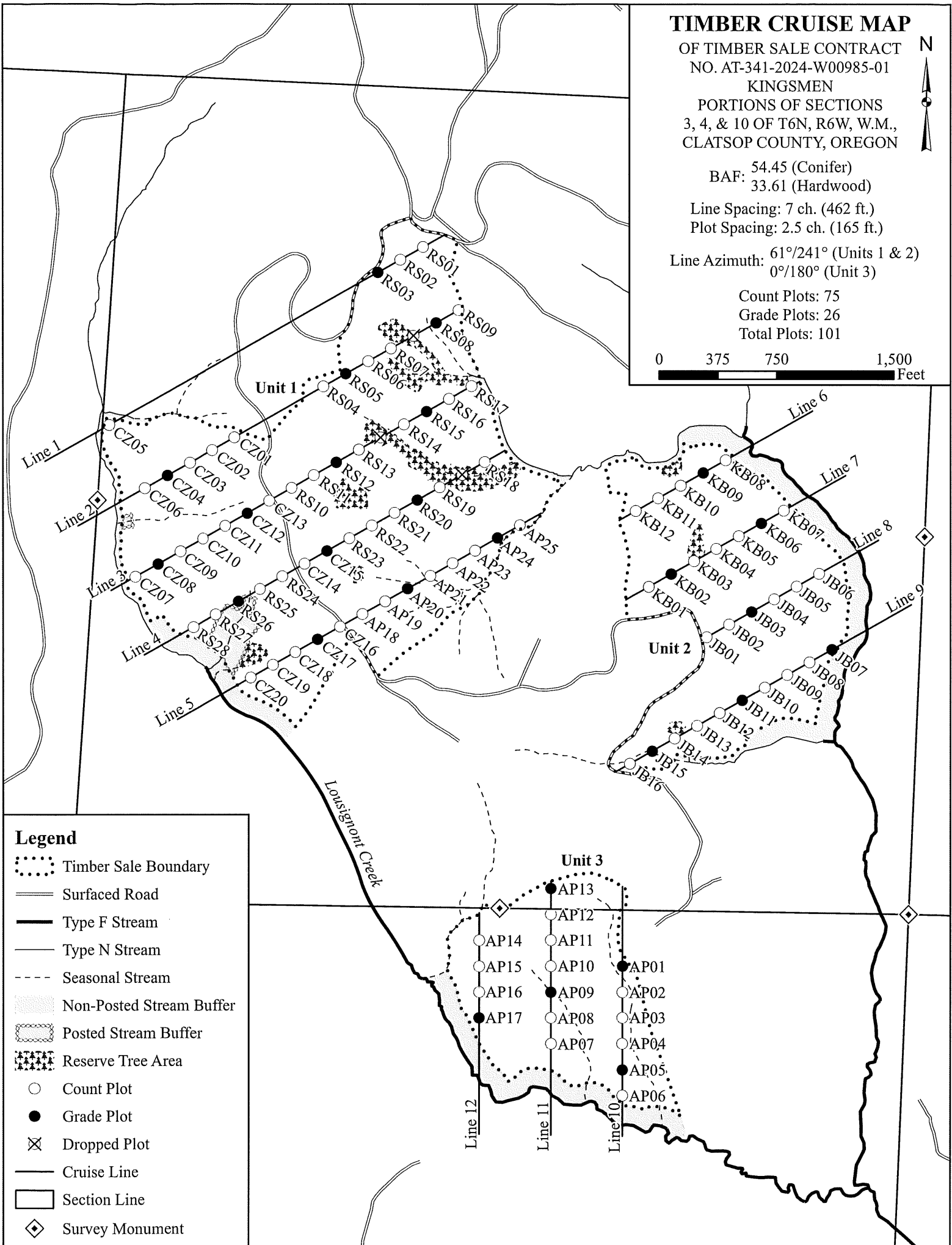
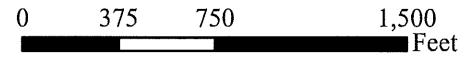


BAF: 54.45 (Conifer)  
 33.61 (Hardwood)

Line Spacing: 7 ch. (462 ft.)  
 Plot Spacing: 2.5 ch. (165 ft.)

Line Azimuth: 61°/241° (Units 1 & 2)  
 0°/180° (Unit 3)

Count Plots: 75  
 Grade Plots: 26  
 Total Plots: 101



## Legend

- Timber Sale Boundary
- Surfaced Road
- Type F Stream
- Type N Stream
- Seasonal Stream
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Count Plot
- Grade Plot
- Dropped Plot
- Cruise Line
- Section Line
- Survey Monument

TC PSPCSTGR

**Species, Sort Grade - Board Foot Volumes (Project)**

T06N R06W S03 Ty00MC 5.00 T06N R06W S03 Ty00MC 168.00	<b>Project: KINGSMEN</b> <b>Acres 173.00</b>	<b>Page 1</b> <b>Date 11/8/2023</b> <b>Time 11:35:04AM</b>
--	---	--

Spp	So Gr	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
							4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99							
D	DOCU																				
D	DO2S	71	1.9	42,419	41,632	7,202			24	76	0	1	3	96	39	18	536	2.88			77.7
D	DO3S	27	1.0	15,921	15,758	2,726			32	8	60	4	4	7	85	35	11	234	1.57		67.5
D	DO4S	2		633	633	110			100			41	59		22	7	30	0.44			21.0
<b>D</b>	<b>Totals</b>	98	1.6	58,973	58,024	10,038			10	19	71	2	2	4	92	35	14	346	2.15		167.9
A	DO1S	66	.5	387	385	67			70	30			12	88	38	14	292	1.95			1.3
A	DO2S	21		125	125	22			100				20	80	31	11	136	1.14			.9
A	DO3S	1		5	5	1			100			100			20	8	40	1.10			.1
A	DO4S	12		67	67	12			100			9	57	21	13	28	7	44	0.59		1.5
<b>A</b>	<b>Totals</b>	1	.3	584	582	<del>102</del> 101			34	46	20	2	19	20	59	32	10	149	1.28		3.9
H	DOCU														10	8		0.00			3.0
H	DO3S	80		164	164	28			100					100	36	11	160	1.22			1.0
H	DO4S	20		41	41	7			100			100			16	9	40	0.62			1.0
<b>H</b>	<b>Totals</b>	0		205	205	<del>35</del> 36			100			20		80	17	9	41	0.67			5.0
M	DO1S	18	8.3	34	31	5			100					100	40	13	220	3.62			.1
M	DO3S	30		51	51	9			100			100			20	8	40	0.60			1.3
M	DO4S	52		89	89	15			100			51	49		20	7	34	0.56			2.6
<b>M</b>	<b>Totals</b>	0	1.6	173	171	<del>29</del> 30			82	18		56	25	18	21	8	43	0.78			4.0
<b>Totals</b>			1.6	59,936	58,982	10,204			11	19	70	2	2	4	91	34	13	326	2.10		180.8

T06N R06W S03 T00MC									T06N R06W S03 T00MC				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt				
06N	06W	03	U123	00MC	168.00	101	121	1	W				

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent 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	DO	CU													14	24		0.00	1.7	
D	DO	2S	71	1.9	42,419	41,632	6,994			24	76	0	1	3	96	39	18	536	2.88	77.7
D	DO	3S	27	1.0	15,921	15,758	2,647		32	8	60	4	4	7	85	35	11	234	1.57	67.5
D	DO	4S	2		633	633	106		100			41	59			22	7	30	0.44	21.0
<b>D</b>	<b>Totals</b>		98	1.6	58,973	58,024	9,748		10	19	71	2	2	4	92	35	14	346	2.15	167.9
A	DO	1S	66	.5	387	385	65			70	30				88	38	14	292	1.95	1.3
A	DO	2S	21		125	125	21		100					20	80	31	11	136	1.14	.9
A	DO	3S	1		5	5	1		100			100				20	8	40	1.10	.1
A	DO	4S	12		67	67	11		100			9	57	21	13	28	7	44	0.59	1.5
<b>A</b>	<b>Totals</b>		1	.3	584	582	98		34	46	20	2	19	20	59	32	10	149	1.28	3.9
M	DO	1S	18	8.3	34	31	5			100					100	40	13	220	3.62	.1
M	DO	3S	30		51	51	9		100			100				20	8	40	0.60	1.3
M	DO	4S	52		89	89	15		100			51	49			20	7	34	0.56	2.6
<b>M</b>	<b>Totals</b>		0	1.6	173	171	29		82	18		56	25		18	21	8	43	0.78	4.0
H	DO	CU														10	8		0.00	3.0
H	DO	3S	80		164	164	28		100						100	36	11	160	1.22	1.0
H	DO	4S	20		41	41	7		100			100				16	9	40	0.62	1.0
<b>H</b>	<b>Totals</b>		0		205	205	34		100			20			80	17	9	41	0.67	5.0
<b>Type Totals</b>				1.6	59,936	58,982	9,909		11	19	70	2	2	4	91	34	13	326	2.10	180.8

T06N R06W S03 T00MC		T06N R06W S03 T00MC
Twp Rge Sec Tract	Type Acres Plots Sample Trees	CuFt BdFt
06N 06W 03 R/W	00MC 5.00 101 121	1 W

Spp	So	Gr	% 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 Ft	Dia In	Bd Ft		CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99								
D	DO	CU																					
D	DO	2S	71	1.9	42,419	41,632	208			24	76			0	1	3	96	39	18	536	2.88	77.7	
D	DO	3S	27	1.0	15,921	15,758	79		32	8	60			4	4	7	85	35	11	234	1.57	67.5	
D	DO	4S	2		633	633	3		100					41	59			22	7	30	0.44	21.0	
<b>D</b>	<b>Totals</b>		98	1.6	58,973	58,024	290		10	19	71			2	2	4	92	35	14	346	2.15	167.9	
A	DO	1S	66	.5	387	385	2			70	30						12			292	1.95	1.3	
A	DO	2S	21		125	125	1		100								20	80	31	11	136	1.14	.9
A	DO	3S	1		5	5	0		100			100						20	8	40	1.10	.1	
A	DO	4S	12		67	67	0		100					9	57	21	13	28	7	44	0.59	1.5	
<b>A</b>	<b>Totals</b>		1	.3	584	582	3		34	46	20			2	19	20	59	32	10	149	1.28	3.9	
M	DO	1S	18	8.3	34	31	0			100							100	40	13	220	3.62	.1	
M	DO	3S	30		51	51	0		100				100					20	8	40	0.60	1.3	
M	DO	4S	52		89	89	0		100					51	49			20	7	34	0.56	2.6	
<b>M</b>	<b>Totals</b>		0	1.6	173	171	1		82	18				56	25		18	21	8	43	0.78	4.0	
H	DO	CU																10	8		0.00	3.0	
H	DO	3S	80		164	164	1		100								100	36	11	160	1.22	1.0	
H	DO	4S	20		41	41	0		100				100					16	9	40	0.62	1.0	
<b>H</b>	<b>Totals</b>		0		205	205	1		100					20			80	17	9	41	0.67	5.0	
<b>Type Totals</b>				1.6	59,936	58,982	295		11	19	70			2	2	4	91	34	13	326	2.10	180.8	



TC TSTATS				STATISTICS				PAGE	1	
				PROJECT KINGSMEN				DATE	11/8/2023	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	06W	03	U123	00MC	168.00	101	477	1	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	101	477	4.7							
CRUISE	30	121	4.0	12,195	1.0					
DBH COUNT										
REFOREST										
COUNT	71	342	4.8							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	105	61.2	26.6	99	45.9	236.7	58,973	58,024	12,556	12,556
SNAG	2	1.5	22.9	121	0.9	4.3				
BL MAPLE	4	4.0	13.5	23	1.1	4.0	173	171	65	65
R ALDER	8	1.8	19.9	71	0.9	4.0	584	582	158	158
WHEMLOCK	2	4.0	12.2	24	0.9	3.2	205	205	55	55
<b>TOTAL</b>	<i>121</i>	<i>72.6</i>	<i>25.2</i>	<i>90</i>	<i>50.2</i>	<i>252.2</i>	<i>59,936</i>	<i>58,982</i>	<i>12,834</i>	<i>12,834</i>
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	63.7	6.2	1,405	1,498	1,591					
SNAG										
BL MAPLE	111.3	63.6	30	83	135					
R ALDER	47.9	18.1	297	363	428					
WHEMLOCK	141.4	132.4	100	232						
<b>TOTAL</b>	<i>74.7</i>	<i>6.8</i>	<i>1,238</i>	<i>1,329</i>	<i>1,419</i>	<i>223</i>	<i>56</i>	<i>25</i>		
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	56.8	5.6	58	61	65					
SNAG	433.3	43.1	1	2	2					
BL MAPLE	580.0	57.7	2	4	6					
R ALDER	401.8	40.0	1	2	3					
WHEMLOCK	416.3	41.4	2	4	6					
<b>TOTAL</b>	<i>56.8</i>	<i>5.6</i>	<i>68</i>	<i>73</i>	<i>77</i>	<i>129</i>	<i>32</i>	<i>14</i>		
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	48.1	4.8	225	237	248					
SNAG	425.6	42.3	2	4	6					
BL MAPLE	549.2	54.6	2	4	6					
R ALDER	381.8	38.0	2	4	6					
WHEMLOCK	399.9	39.8	2	3	5					
<b>TOTAL</b>	<i>43.0</i>	<i>4.3</i>	<i>241</i>	<i>252</i>	<i>263</i>	<i>74</i>	<i>18</i>	<i>8</i>		
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	49.0	4.9	55,197	58,024	60,850					
SNAG										
BL MAPLE	557.1	55.4	76	171	265					
R ALDER	399.2	39.7	351	582	813					
WHEMLOCK	465.4	46.3	110	205	300					
<b>TOTAL</b>	<i>46.9</i>	<i>4.7</i>	<i>56,233</i>	<i>58,982</i>	<i>61,730</i>	<i>88</i>	<i>22</i>	<i>10</i>		

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT				KINGSMEN			
								DATE	11/8/2023		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	06W	03	R/W	00MC	5.00	101	477	1	W		
				TREES	ESTIMATED		PERCENT				
				PER PLOT	TOTAL		SAMPLE				
		PLOTS	TREES		TREES		TREES				
TOTAL		101	477	4.7							
CRUISE		30	121	4.0	363		33.3				
DBH COUNT											
REFOREST											
COUNT		71	342	4.8							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR	105	61.2	26.6	99	45.9	236.7	58,973	58,024	12,556	12,556	
SNAG	2	1.5	22.9	121	0.9	4.3					
BL MAPLE	4	4.0	13.5	23	1.1	4.0	173	171	65	65	
R ALDER	8	1.8	19.9	71	0.9	4.0	584	582	158	158	
WHEMLOCK	2	4.0	12.2	24	0.9	3.2	205	205	55	55	
<b>TOTAL</b>	<i>121</i>	<i>72.6</i>	<i>25.2</i>	<i>90</i>	<i>50.2</i>	<i>252.2</i>	<i>59,936</i>	<i>58,982</i>	<i>12,834</i>	<i>12,834</i>	
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	63.7	6.2	1,405	1,498	1,591						
SNAG											
BL MAPLE	111.3	63.6	30	83	135						
R ALDER	47.9	18.1	297	363	428						
WHEMLOCK	141.4	132.4	100	232							
<b>TOTAL</b>	<i>74.7</i>	<i>6.8</i>	<i>1,238</i>	<i>1,329</i>	<i>1,419</i>	<i>223</i>	<i>56</i>	<i>25</i>			
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	56.8	5.6	58	61	65						
SNAG	433.3	43.1	1	2	2						
BL MAPLE	580.0	57.7	2	4	6						
R ALDER	401.8	40.0	1	2	3						
WHEMLOCK	416.3	41.4	2	4	6						
<b>TOTAL</b>	<i>56.8</i>	<i>5.6</i>	<i>68</i>	<i>73</i>	<i>77</i>	<i>129</i>	<i>32</i>	<i>14</i>			
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	48.1	4.8	225	237	248						
SNAG	425.6	42.3	2	4	6						
BL MAPLE	549.2	54.6	2	4	6						
R ALDER	381.8	38.0	2	4	6						
WHEMLOCK	399.9	39.8	2	3	5						
<b>TOTAL</b>	<i>43.0</i>	<i>4.3</i>	<i>241</i>	<i>252</i>	<i>263</i>	<i>74</i>	<i>18</i>	<i>8</i>			
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	49.0	4.9	55,197	58,024	60,850						
SNAG											
BL MAPLE	557.1	55.4	76	171	265						
R ALDER	399.2	39.7	351	582	813						
WHEMLOCK	465.4	46.3	110	205	300						
<b>TOTAL</b>	<i>46.9</i>	<i>4.7</i>	<i>56,233</i>	<i>58,982</i>	<i>61,730</i>	<i>88</i>	<i>22</i>	<i>10</i>			

TC PSTATS			PROJECT STATISTICS					PAGE	1			
			PROJECT					DATE	11/8/2023			
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
06N	06	03	R/W	00MC		173.00	202	954	1	W		
06N	06W	03	U123	00MC								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			202	954	4.7							
CRUISE			60	242	4.0	12,558	1.9					
DBH COUNT												
REFOREST												
COUNT			142	684	4.8							
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			210	61.2	26.6	99	45.9	236.7	58,973	58,024	12,556	12,556
SNAG			4	1.5	22.9	121	0.9	4.3				
BL MAPLE			8	4.0	13.5	23	1.1	4.0	173	171	65	65
R ALDER			16	1.8	19.9	71	0.9	4.0	584	582	158	158
WHEMLOCK			4	4.0	12.2	24	0.9	3.2	205	205	55	55
<b>TOTAL</b>			<i>242</i>	<i>72.6</i>	<i>25.2</i>	<i>90</i>	<i>50.2</i>	<i>252.2</i>	<i>59,936</i>	<i>58,982</i>	<i>12,834</i>	<i>12,834</i>
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			63.5	4.4	1,433	1,498	1,564					
SNAG												
BL MAPLE			103.0	38.8	50	83	115					
R ALDER			46.3	11.9	319	363	406					
WHEMLOCK			115.5	66.0	34	100	166					
<b>TOTAL</b>			<i>74.5</i>	<i>4.8</i>	<i>1,265</i>	<i>1,329</i>	<i>1,392</i>	222	55	25		
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			122.4	8.6	56	61	67					
SNAG			601.3	42.3	1	2	2					
BL MAPLE			800.5	56.3	2	4	6					
R ALDER			558.8	39.3	1	2	3					
WHEMLOCK			578.3	40.7	2	4	6					
<b>TOTAL</b>			<i>122.4</i>	<i>8.6</i>	<i>66</i>	<i>73</i>	<i>79</i>	598	150	66		
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			115.2	8.1	218	237	256					
SNAG			590.9	41.5	3	4	6					
BL MAPLE			758.6	53.3	2	4	6					
R ALDER			531.7	37.4	3	4	5					
WHEMLOCK			556.1	39.1	2	3	4					
<b>TOTAL</b>			<i>111.3</i>	<i>7.8</i>	<i>232</i>	<i>252</i>	<i>272</i>	495	124	55		
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			115.9	8.1	53,296	58,024	62,751					
SNAG												
BL MAPLE			769.3	54.1	78	171	263					
R ALDER			555.2	39.0	355	582	810					
WHEMLOCK			644.8	45.3	112	205	298					
<b>TOTAL</b>			<i>114.2</i>	<i>8.0</i>	<i>54,245</i>	<i>58,982</i>	<i>63,718</i>	521	130	58		



**Log Stock Table - MBF**

T06N R06W S03 Ty00MC	5.00
T06N R06W S03 Ty00MC	168.00

**Project: KINGSMEN**  
**Acres 173.00**

**Page 2**  
**Date 11/8/2023**  
**Time 11:24:34AM**

Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
A		DO 3S	20	1		1	.9				1									
A		DO 4S	18	1		1	1.1			1										
A		DO 4S	24	2		2	1.8			2										
A		DO 4S	30	5		5	4.7			5										
A		DO 4S	32	2		2	2.4			2										
A		DO 4S	40	2		2	1.5			2										
A		Totals		101		101	1.0			12	1	22	22	12	32					
H		DO 3S	36	28		28	80.0					28								
H		DO 4S	16	7		7	20.0			7										
H		Totals		36		36	.3			7		28								
M		DO 1S	40	6	8.3	5	18.2					5								
M		DO 3S	20	9		9	29.8			9										
M		DO 4S	16	8		8	26.6			8										
M		DO 4S	26	7		7	25.4			7										
M		Totals		30	1.6	30	.3			15	9	5								
Total		All Species		10,369	1.6	10,204	100.0			218	344	513	645	835	2435	2365	2600		248	



**Stand Table Summary**

T06N R06W S03 Ty00MC	5.00
T06N R06W S03 Ty00MC	168.00

Project **KINGSMEN**  
Acres **173.00**

Time: **11:24:32AM**  
Grown Year:

S Spc T	Sample DBH	FF Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals				
			16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF		
SN	Totals	4	89	121	1.507	4.31											
Totals		242	85	117	72.589	252.20	176.16	72.9	334.8		12,834	58,982			22,203	10,204	

# LOGGING PLAN MAP

OF TIMBER SALE CONTRACT

NO. AT-341-2024-W00985-01

KINGSMEN

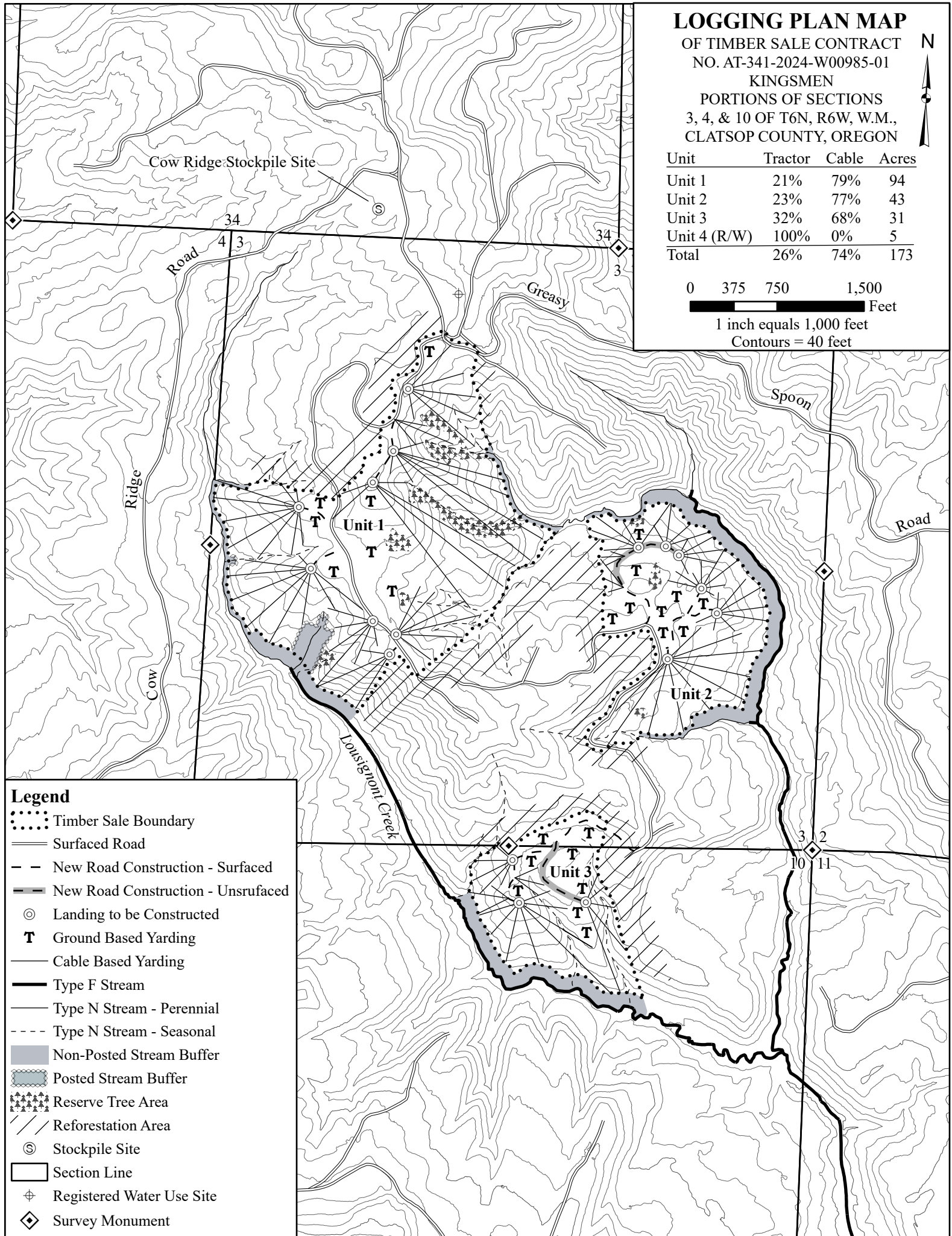
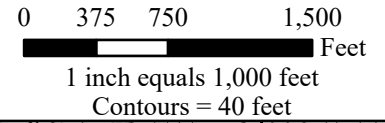
PORTIONS OF SECTIONS

3, 4, & 10 OF T6N, R6W, W.M.,

CLATSOP COUNTY, OREGON



Unit	Tractor	Cable	Acres
Unit 1	21%	79%	94
Unit 2	23%	77%	43
Unit 3	32%	68%	31
Unit 4 (R/W)	100%	0%	5
<b>Total</b>	<b>26%</b>	<b>74%</b>	<b>173</b>



## Legend

- Timber Sale Boundary
- Surfaced Road
- New Road Construction - Surfaced
- New Road Construction - Unsurfaced
- Landing to be Constructed
- Ground Based Yarding
- Cable Based Yarding
- Type F Stream
- Type N Stream - Perennial
- Type N Stream - Seasonal
- Non-Posted Stream Buffer
- Posted Stream Buffer
- Reserve Tree Area
- Reforestation Area
- Stockpile Site
- Section Line
- Registered Water Use Site
- Survey Monument