



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Lehman Heights
Sale 341-14-71

District: Tillamook

Date: January 08, 2014

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,411,193.62	\$83,955.48	\$1,495,149.10
		Project Work:	\$(380,600.00)
		Advertised Value:	\$1,114,549.10



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timber description

Location: Portions of Section 7, 8, 17, and 18, T1N, R7W, W.M., Tillamook County, Oregon.

Stand Stocking: 60%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	17	0	95
Alder (Red)	13	0	90

Volume by Grade	10" - 11"	12"+	2S	3S	4S	6" - 7"	8" - 9"	Total
Douglas - Fir	0	0	1,476	2,079	451	0	0	4,006
Alder (Red)	57	15	0	0	0	98	97	267
Total	57	15	1,476	2,079	451	98	97	4,273



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comments: Pond Values Used: 4th Quarter Calendar Year 2013.

Western Hemlock and other Conifers Stumpage Price = Pond Value
minus Logging Cost:
 $\$215/\text{MBF} = \$515/\text{MBF} - \$300/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:
 $\$700/\text{MBF} = \$1,050/\text{MBF} - \$350/\text{MBF}$

Pulp (Conifer and Hardwood) Price = $\$25/\text{MBF}$

SCALING COST ALLOWANCE = $\$5.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$4.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling costs equivalent to $\$780$ daily truck cost.

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

Brand and Paint: $\$2/\text{MBF} \times 4,273 \text{ MBF} = \$8,546$

Machine Cleaning: $\$1,000/\text{machine} \times 4 = \$4,000$

Flagger on Cedar Creek Road:

$15 \text{ days} \times 9 \text{ hrs/day} \times \$20/\text{hr} = \$2,700$

TOTAL Other Costs (with Profit & Risk to be added) = $\$15,246$

Other Costs (No Profit & Risk added):

Cover Materials for Piles: $\$5/\text{pile} \times 30 \text{ piles} = \150

Cleaning/Replace Rubber Water Diverters: $10 \times \$360/\text{diverter} =$
 $\$3,600$

Non-Project Road Construction: $2 \text{ stations} \times \$150/\text{station} = \$300$

Non-Project Road Rocking: $100 \text{ CY} \times \$10/\text{CY} = \$1,000$

TOTAL Other Costs (No Profit & Risk added) = $\$5,050$

ROAD MAINTENANCE

Spot Rocking: $20 \text{ cy/mile} \times \$9.00/\text{cy} \times 4.273 \text{ MMBF} \times 5.5 \text{ mile} /$
 $4,273 \text{ MBF} = \$0.99/\text{MBF}$

Interim Maintenance Grading: $\$250 \times 5.5 \text{ miles} / 4,273 \text{ MBF} \times 3 \text{ times}$
 $= \$0.96/\text{MBF}$

Final Maintenance Grading: $\$500 \times 5.5 \text{ miles} / 4,273 \text{ MBF} = \$0.64/\text{MBF}$

Total Road Maintenance: $\$2.59/\text{MBF}$



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logging conditions

combination#: 1 Douglas - Fir 93.36%
 Alder (Red) 93.36%
yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 7.0 **bd. ft / load:** 3,200
cost / mbf: \$149.29

machines: Log Loader (A)
 Stroke Delimber (A)
 Tower Yarder (Medium)

combination#: 2 Douglas - Fir 6.64%
 Alder (Red) 6.64%
yarding distance: Short (400 ft) **downhill yarding:** No
logging system: Shovel **Process:** Stroke Delimber
tree size: Mature Private Forest / Regen Cut (250 Bft/tree), 6-11 logs/MBF
loads / day: 9.0 **bd. ft / load:** 3,200
cost / mbf: \$49.94

machines: Stroke Delimber (B)



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District: Tillamook

Date: January 08, 2014

logging costs

Operating Seasons:	2.00	Profit Risk:	12.00%
Project Costs:	\$380,600.00	Other Costs (P/R):	\$15,246.00
Slash Disposal:	\$0.00	Other Costs:	\$5,050.00

Miles of Road

Road Maintenance: \$2.59

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	3.4
Alder (Red)	\$0.00	2.0	3.0



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District: Tillamook

Date: January 08, 2014

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$142.69	\$2.72	\$2.05	\$107.54	\$3.57	\$31.03	\$0.00	\$5.00	\$1.18	\$295.78
Alder (Red)									
\$142.69	\$2.85	\$2.05	\$127.68	\$3.57	\$33.46	\$0.00	\$5.00	\$1.18	\$318.48

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$648.05	\$352.27	\$0.00
Alder (Red)	\$0.00	\$632.92	\$314.44	\$0.00



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summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Alder (Red)	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,006	\$352.27	\$1,411,193.62
Alder (Red)	267	\$314.44	\$83,955.48

Gross Timber Sale Value

Recovery: \$1,495,149.10

Prepared by: Bryan Huck

Phone: 503-815-7025



PROJECT SUMMARY SHEET

Sale: Lehman Heights

CONSTRUCTION

Point	A to B	2+00	stations =	\$571.80
Point	C to D	99+00	stations =	\$248,626.05
Point	E to F	18+30	stations =	\$27,145.66
Point	G to H	5+00	stations =	\$8,976.00
Point	I to J	3+30	stations =	\$5,496.16
Point	K to L	21+20	stations =	\$32,710.04
SUBTOTAL CONSTRUCTION				\$323,525.71

IMPROVEMENT

Point	A to B	201+50	stations =	\$20,402.05
SUBTOTAL IMPROVEMENT				\$20,402.05

SPECIAL PROJECTS

Point M		Stockpile	3000 CY 1 1/2"-0"	\$28,380.00
Point N		Stockpile	50 CY 1 1/2"-0"	\$698.00
Brush	4.8	Miles of road		\$3,840.00
SUBTOTAL SPECIAL PROJECTS				\$32,918.00

MOVE IN

\$3,754.24

GRAND TOTAL

\$380,600.00

SUMMARY OF CONSTRUCTION COST

Sale:

Lehman Heights

Road:

A to B

<u>Construction -</u>	2+00 0.04	stations miles	<u>Improvement -</u>	201+50 3.82	stations miles	<u>Reconstruction -</u>	0+00 0.00	stations miles
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CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist. To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	=	\$382.00	
201+60		203+60	30%		Outslope	\$191		\$382.00	\$382.00
								TOTAL	\$382.00

IMPROVEMENT: CLEARING AND GRUBBING -

Widening	0.054	acres @	\$660.00	per acre =	\$35.64
Scattering	0.230	acres @	\$980.00	per acre =	\$225.40
					TOTAL CLEARING AND GRUBBING
					\$261.04

IMPROVEMENT: EXCAVATION -

Widening	205	cy. @	\$1.40	per c.y. =	\$287.00
					TOTAL EXCAVATION
					\$287.00

IMPROVEMENT: ENDHAUL -

Widening	5+70	to	5+80	13	cy. @	\$3.04	per c.y. =	\$39.52
Widening	50+00	to	50+20	12	cy. @	\$3.41	per c.y. =	\$40.92
Widening	99+70	to	100+70	98	cy. @	\$3.76	per c.y. =	\$368.48
Widening	119+60	to	121+00	82	cy. @	\$2.82	per c.y. =	\$231.24
Spread & compact				205	cy. @	\$0.25	per c.y. =	\$51.25
								TOTAL ENDHAUL
								\$731.41

ROCK

201+50 to	203+50	120	cy. of	Crushed	@	\$15.55	per c.y. =	\$1,866.00
Spot Rock	0+00 - 153+00	200	cy. of	Crushed	@	\$13.59	per c.y. =	\$2,718.00
Spot Rock	.53+00 - 199+0	100	cy. of	Crushed	@	\$15.14	per c.y. =	\$1,514.00
								TOTAL ROCK
								\$6,098.00

SPECIAL PROJECTS

Construct waste areas -	2.00	hours @	\$130.00	per hour	\$260.00			
Construct settlement basins in ditch -	6.00	@	\$35.00	each	\$210.00			
Restore ditch from 0+60 to 6+60 and 14+00 to 15+00 -	7.00	stations @	\$100.00	per station	\$700.00			
Clean culvert catch basin at 152+10 -	1.00	@	\$35.00	each	\$35.00			
Grade and shape road -	201.00	stations @	\$14.00	per station	\$2,814.00			
Replace rubber water diverters -	17.00	@	\$360.00	each	\$6,120.00			
Roll subgrade w/ vibratory roller prior to rocking -	201.00	stations @	\$13.20	per station	\$2,653.20			
Remove organic material from bridge deck at 34+00 -	2.00	hours @	\$30.00	per hour	\$60.00			
Grass seed and fertilize -	0.91	acres @	\$220.00	per acre	\$200.20			
Mulching -	0.270	acres @	\$600.00	per acre	\$162.00			
								TOTAL SPECIAL PROJECTS
								\$13,214.40

GRAND TOTAL **\$20,973.85**

SUMMARY OF CONSTRUCTION COST

Sale:

Lehman Heights

Road:

C to D

Construction -	99+00	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	1.88	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		27+00		1.4	Design Segment	\$2,492	=	\$67,284.00
27+00		27+90	10%		Outslope	\$90	=	\$81.00
27+90		29+40	40%		Outslope	\$243	=	\$364.50
29+40		30+30	25%		Outslope	\$165	=	\$148.50
30+30		32+00	10%		Outslope	\$90	=	\$153.00
32+00		32+60	35%		Outslope	\$191	=	\$114.60
32+60		36+00	10%		Outslope	\$90	=	\$306.00
36+00		38+30	60%	0.3	Outslope	\$1,632	=	\$3,753.60
38+30		39+20	75%	0.3	Outslope	\$2,959	=	\$2,663.10
39+20		40+00	80%	0.3	Outslope	\$3,628	=	\$2,902.40
40+00		41+00	75%	0.3	Outslope	\$2,959	=	\$2,959.00
41+00		43+20	70%	0.3	Outslope	\$2,515	=	\$5,533.00
43+20		43+50	65%	0.3	Outslope	\$2,071	=	\$621.30
43+50		44+20	70%	0.3	Outslope	\$2,515	=	\$1,760.50
44+20		44+70	60%	0.3	Outslope	\$1,632	=	\$816.00
44+70		45+30	50%		Outslope	\$459	=	\$275.40
45+30		50+00	35%		Outslope	\$191	=	\$897.70
50+00		53+20	25%		Outslope	\$165	=	\$528.00
53+20		53+90	20%		Outslope	\$139	=	\$97.30
53+90		55+20	40%		Outslope	\$243	=	\$315.90
55+20		56+30	50%		Outslope	\$459	=	\$504.90
56+30		56+70	35%		Outslope	\$191	=	\$76.40
56+70		57+60	10%		Outslope	\$90	=	\$81.00
57+60		57+90	40%		Outslope	\$243	=	\$72.90
57+90		60+20	55%	0.6	Outslope	\$689	=	\$1,584.70
60+20		61+40	45%		Outslope	\$269	=	\$322.80
61+40		62+00	25%		Outslope	\$165	=	\$99.00
62+00		63+50	50%		Outslope	\$459	=	\$688.50
63+50		65+50	30%		Outslope	\$191	=	\$382.00
65+50		66+30	55%	0.8	Outslope	\$689	=	\$551.20
66+30		67+00	60%	0.8	Outslope	\$1,899	=	\$1,329.30
67+00		68+90	65%	0.8	Outslope	\$2,408	=	\$4,575.20
68+90		69+70	55%	0.8	Outslope	\$689	=	\$551.20
69+70		71+30	60%	0.8	Outslope	\$1,899	=	\$3,038.40
71+30		71+90	45%		Outslope	\$269	=	\$161.40
71+90		72+90	40%		Outslope	\$243	=	\$243.00
72+90		74+00	35%		Outslope	\$191	=	\$210.10
74+00		76+00	20%		Outslope	\$139	=	\$278.00
76+00		76+40	40%		Outslope	\$243	=	\$97.20
76+40		77+00	60%	0.1	Outslope	\$1,521	=	\$912.60
77+00		78+00	80%	0.1	Outslope	\$3,398	=	\$3,398.00
78+00		79+15	70%	0.1	Outslope	\$2,352	=	\$2,704.80
79+15		79+45	60%	0.1	Outslope	\$1,521	=	\$456.30
79+45		79+80	45%		Outslope	\$269	=	\$94.15
79+80		81+25		0.1	Through-Cut	\$4,352	=	\$6,310.40
81+25		81+60	85%	0.2	Outslope	\$4,160	=	\$1,456.00
81+60		82+60	65%	0.2	Outslope	\$2,001	=	\$2,001.00
82+60		83+40	10%		Outslope	\$90	=	\$72.00
83+40		84+20	50%		Outslope	\$459	=	\$367.20
84+20		84+60	10%		Outslope	\$90	=	\$36.00
84+60		86+40	60%	0.3	Outslope	\$1,632	=	\$2,937.60
86+40		87+40	80%	0.3	Outslope	\$3,628	=	\$3,628.00
87+40		88+00	70%	0.3	Outslope	\$2,515	=	\$1,509.00
88+00		89+40	55%	0.3	Outslope	\$689	=	\$964.60
89+40		90+20	65%	0.3	Outslope	\$2,071	=	\$1,656.80
90+20		91+60	70%	0.3	Outslope	\$2,515	=	\$3,521.00
91+60		92+10	75%	0.3	Outslope	\$2,959	=	\$1,479.50
92+10		92+40	55%	0.3	Outslope	\$689	=	\$206.70
92+40		99+00	15%		Outslope	\$107	=	\$706.20
TOTAL								\$140,839.85

CULVERTS - MATERIALS & INSTALLATION

Culverts

50	LF of 30"	\$1,800.00	0	LF of 36"	\$0.00
		\$1,800.00			\$0.00

Culvert Stakes & Markers

0	stakes	\$0.00
1	markers	\$8.00
		\$8.00

TOTAL CULVERTS \$1,808.00

ROCK

0+00	to	99+00	4,640	cy. of	Crushed	@	\$16.26	per c.y.=	\$75,446.40	
0+00	to	99+00	1,170	cy. of	Crushed	@	\$16.26	per c.y.=	\$19,024.20	
		Landing Rock	100	cy. of	Crushed	@	\$17.03	per c.y.=	\$1,703.00	
		Fill Armor	57+00	20	cy. of	Riprap	@	\$12.05	per c.y.=	\$241.00
		Junction Rock	0+00	20	cy. of	Crushed	@	\$15.50	per c.y.=	\$310.00
		Bedding/Backfill	---	60	cy. of	Crushed	@	\$14.41	per c.y.=	\$864.60
TOTAL ROCK									\$97,589.20	

SPECIAL PROJECTS

Construct loaded truck turnaround at 53+20 -	3.00	hours @	\$130.00	per hour	\$390.00				
Construct waste areas -	2.00	hours @	\$130.00	per hour	\$260.00				
Construct landing at 95+70 -	1.00	@	\$300.00	each	\$300.00				
Construct turnaround near landing -	1.00	hours @	\$75.00	each	\$75.00				
Grade and shape road -	99.00	stations @	\$14.00	per station	\$1,386.00				
Construct/Install rubber water diverter -	10.00	@	\$360.00	each	\$3,600.00				
Roll subgrade w/ vibratory roller prior to rocking -	99.00	stations @	\$13.20	per station	\$1,306.80				
Grass seed and fertilize -	4.16	acres @	\$220.00	per acre	\$915.20				
Mulching -	0.260	acres @	\$600.00	per acre	\$156.00				
TOTAL SPECIAL PROJECTS									\$8,389.00

GRAND TOTAL \$248,626.05

SUMMARY OF CONSTRUCTION COST

Sale:

Lehman Heights

Road:

E to F

Construction -	18+30 0.35	stations miles	Improvement -	0+00 0.00	stations miles	Reconstruction -	0+00 0.00	stations miles
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Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station		
0+00	to	1+00	30%		Outslope	\$191	=	\$191.00
1+00	to	1+40	40%		Outslope	\$243	=	\$97.20
1+40	to	2+00	65%	0.2	Outslope	\$2,001	=	\$1,200.60
2+00	to	3+00	50%		Outslope	\$459	=	\$459.00
3+00	to	4+00	40%		Outslope	\$243	=	\$243.00
4+00	to	4+50	45%		Outslope	\$269	=	\$134.50
4+50	to	5+40	30%		Outslope	\$191	=	\$171.90
5+40	to	6+40	50%		Outslope	\$459	=	\$459.00
6+40	to	7+30	40%		Outslope	\$243	=	\$218.70
7+30	to	8+10	25%		Outslope	\$165	=	\$132.00
8+10	to	10+90	10%		Outslope	\$90	=	\$252.00
10+90	to	13+60	35%		Outslope	\$191	=	\$515.70
13+60	to	16+50	10%		Outslope	\$90	=	\$261.00
16+50	to	17+20	30%		Outslope	\$191	=	\$133.70
17+20	to	18+30	20%		Outslope	\$139	=	\$152.90
TOTAL								\$4,622.20

ROCK

0+00 to 18+30	930 cy. of	Crushed	@	\$16.19 per c.y.=	\$15,056.70
1+00 to 4+50	60 cy. of	Crushed	@	\$16.09 per c.y.=	\$965.40
11+60 to 13+40	40 cy. of	Crushed	@	\$16.25 per c.y.=	\$650.00
Landing Rock 9+50, 18+30	200 cy. of	Crushed	@	\$16.33 per c.y.=	\$3,266.00
Junction Rock 0+00	20 cy. of	Crushed	@	\$16.05 per c.y.=	\$321.00
Bedding/Backfill ---	10 cy. of	Crushed	@	\$14.34 per c.y.=	\$143.40
TOTAL ROCK					\$20,402.50

SPECIAL PROJECTS

Construct waste areas -	1.00 hours @	\$130.00 per hour	\$130.00
Construct landings at 9+50 and Point F -	2.00 @	\$250.00 each	\$500.00
Grade and shape road -	18.30 stations @	\$14.00 per station	\$256.20
Construct turnarounds near landings -	2.00 @	\$75.00 each	\$150.00
Roll subgrade w/ vibratory roller prior to rocking -	18.30 stations @	\$13.20 per station	\$241.56
Construct/Install rubber water diverter -	2.00 @	\$360.00 each	\$720.00
Grass seed and fertilize -	0.56 acres @	\$220.00 per acre	\$123.20
TOTAL SPECIAL PROJECTS			\$2,120.96

GRAND TOTAL **\$27,145.66**

SUMMARY OF CONSTRUCTION COST

Sale: **Lehman Heights**

Road: **G to H**

<u>Construction -</u>	<u>5+00</u> stations 0.09 miles	<u>Improvement -</u>	<u>0+00</u> stations 0.00 miles	<u>Reconstruction -</u>	<u>0+00</u> stations 0.00 miles
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CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

<u>Station</u>	<u>to</u>	<u>Station</u>	<u>Avg. Sideslope</u>	<u>Avg. Dist.</u> <u>To W.A. (mi.)</u>	<u>Outslope/Ditch</u>	<u>Cost per Station</u>	=		
0+00		2+25	40%	0.1	Outslope	\$975	=	\$2,193.75	
2+25		2+50	25%		Outslope	\$165	=	\$41.25	
2+50		5+00	10%		Outslope	\$90	=	\$225.00	
								TOTAL	\$2,460.00

ROCK

0+00 to	2+25	240	cy. of	Crushed	@	\$16.30 per c.y.=	\$3,912.00	
Landing Rock	5+00	100	cy. of	Crushed	@	\$16.33 per c.y.=	\$1,633.00	
Junction Rock	0+00	20	cy. of	Crushed	@	\$16.26 per c.y.=	\$325.20	
							TOTAL ROCK	\$5,870.20

SPECIAL PROJECTS

Construct waste areas -	1.00	hours @	\$130.00	per hour	\$130.00	
Construct landing at Point H -	1.00	@	\$250.00	each	\$250.00	
Grade and shape road -	5.00	stations @	\$14.00	per station	\$70.00	
Roll subgrade w/ vibratory roller prior to rocking -	5.00	stations @	\$13.20	per station	\$66.00	
Grass seed and fertilize -	0.29	acres @	\$220.00	per acre	\$63.80	
Mulching -	0.110	acres @	\$600.00	per acre	\$66.00	
					TOTAL SPECIAL PROJECTS	\$645.80

GRAND TOTAL **\$8,976.00**

SUMMARY OF CONSTRUCTION COST

Sale: **Lehman Heights**

Road: **I to J**

Construction -	3+30	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.06	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=		
0+00		3+30	15%		Outslope	\$107	=	\$353.10	
								TOTAL	\$353.10

ROCK

0+00 to		3+30	170	cy. of	Crushed	@	\$16.49 per c.y.=	\$2,803.30	
Landing Rock		3+30	100	cy. of	Crushed	@	\$16.51 per c.y.=	\$1,651.00	
Junction Rock		0+00	20	cy. of	Crushed	@	\$16.46 per c.y.=	\$329.20	
								TOTAL ROCK	\$4,783.50

SPECIAL PROJECTS

Construct landing at Point J -	1.00		@	\$250.00	each	\$250.00		
Grade and shape road -	3.30		stations @	\$14.00	per station	\$46.20		
Roll subgrade w/ vibratory roller prior to rocking -	3.30		stations @	\$13.20	per station	\$43.56		
Grass seed and fertilize -	0.09		acres @	\$220.00	per acre	\$19.80		
							TOTAL SPECIAL PROJECTS	\$359.56

GRAND TOTAL **\$5,496.16**

SUMMARY OF CONSTRUCTION COST

Sale: **Lehman Heights**

Road: **K to L**

Construction -	21+20	stations	Improvement -	0+00	stations	Reconstruction -	0+00	stations
	0.40	miles		0.00	miles		0.00	miles

CONSTRUCTION: CLEARING, GRUBBING, SCATTERING, EXCAVATION, COMPACTION, LOADING, END-HAULING AND SPREADING/COMPACTING AT WASTE AREA -

Station	to	Station	Avg. Sideslope	Avg. Dist. To W.A. (mi.)	Outslope/Ditch	Cost per Station	=	
0+00		0+60	10%		Outslope	\$90	=	\$54.00
0+60		1+00	40%		Outslope	\$243	=	\$97.20
1+00		3+20	35%		Outslope	\$191	=	\$420.20
3+20		5+00	30%		Outslope	\$191	=	\$343.80
5+00		9+40	10%		Outslope	\$90	=	\$396.00
9+40		11+20	25%		Outslope	\$165	=	\$297.00
11+20		11+60	30%		Outslope	\$191	=	\$76.40
11+60		12+50	45%		Outslope	\$269	=	\$242.10
12+50		16+70	50%		Outslope	\$459	=	\$1,927.80
16+70		17+40	55%		Outslope	\$689	=	\$482.30
17+40		18+00	45%		Outslope	\$269	=	\$161.40
18+00		21+20	35%		Outslope	\$191	=	\$611.20
TOTAL								\$5,109.40

ROCK

0+00 to 21+20	1,060	cy. of	Crushed	@	\$16.83 per c.y.=	\$17,839.80
0+60 to 4+50	60	cy. of	Crushed	@	\$16.70 per c.y.=	\$1,002.00
10+20 to 18+00	110	cy. of	Crushed	@	\$16.80 per c.y.=	\$1,848.00
Landing Rock 5+00, 21+20	200	cy. of	Crushed	@	\$16.99 per c.y.=	\$3,398.00
Junction Rock 0+00	20	cy. of	Crushed	@	\$16.66 per c.y.=	\$333.20
Bedding/Backfill ---	20	cy. of	Crushed	@	\$14.98 per c.y.=	\$299.60
TOTAL ROCK						\$24,720.60

SPECIAL PROJECTS

Construct landings at 5+00 and Point L -	2.00	@	\$250.00	each	\$500.00	
Construct turnarounds near landings -	2.00	@	\$75.00	each	\$150.00	
Grade and shape road -	21.20	stations @	\$14.00	per station	\$296.80	
Construct/Install rubber water diverter -	4.00	@	\$360.00	each	\$1,440.00	
Roll subgrade w/ vibratory roller prior to rocking -	21.20	stations @	\$13.20	per station	\$279.84	
Grass seed and fertilize -	0.97	acres @	\$220.00	per acre	\$213.40	
TOTAL SPECIAL PROJECTS						\$2,880.04

GRAND TOTAL **\$32,710.04**

ROCK PIT DEVELOPMENT AND CRUSHING COST SUMMARY

Pit:	Crushing	Location:	NE 1/4 NE 1/4, Sec. 32, T1N, R7W, W.M.
Sale:	Lehman Heights	Road:	12860 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage:	1.16	Total Truck Loads:	12860 c.y.
Drill Pct.:	75%	In Place Total:	9186 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact. \$4,016.24

Drill & Shoot:	\$2.88	/cu.yd.	x	6890	cu.yds.	=	\$19,843.20
Rip Rock:	\$1.90	/cu.yd.	x	2296	cu.yds.	=	\$4,362.40
Load Crusher:	\$0.70	/cu.yd.	x	12860	cu.yds.	=	\$9,002.00
Crush Rock:	\$2.59	/cu.yd.	x	12860	cu.yds.	=	\$33,307.40
Load Dump Truck:	\$0.70	/cu.yd.	x	12860	cu.yds.	=	\$9,002.00

Subtotal \$79,533.24

Move In/Set-up 3-Stage Crusher	1	@	\$4,260.00	=	\$4,260.00
Move In and set up Drill and Compressor	1	@	\$371.45	=	\$371.45
Move in Roller and Compactor	1	@	\$371.45	=	\$371.45
Move in Grader	1	@	\$120.45	=	\$120.45
Move in Loader	1	@	\$395.22	=	\$395.22
Move in Excavator	1	@	\$552.99	=	\$552.99
Move in Trucks	4	@	\$117.26	=	\$469.04
Move in Water Truck	1	@	\$137.83	=	\$137.83
Change Gradation	1	@	\$210.00	=	\$210.00

Subtotal \$6,888.43

TOTAL PRODUCTION COSTS \$86,421.67

Base Cost= \$6.72 Per Cu.Yd.

Road Segment	Haul Cost \$/cu.yd.	Proc Cost \$/cu.yd.	Base Cost. \$/cu.yd.	Cost \$/cu.yd.	Number Cu. Yds	ROCK COST	
A to B 20150 20350 (Crushed)	6.38	2.45	6.72	15.55	120	\$1,866.00	
A to B Spot Rock (Crushed)	4.42	2.45	6.72	13.59	200	\$2,718.00	
A to B Spot Rock (Crushed)	5.97	2.45	6.72	15.14	100	\$1,514.00	
C to D 0 9900 (Crushed)	7.09	2.45	6.72	16.26	4640	\$75,446.40	
C to D 0 9900 (Crushed)	7.09	2.45	6.72	16.26	1170	\$19,024.20	
C to D Landing Rock (Crushed)	7.86	2.45	6.72	17.03	100	\$1,703.00	
C to D Fill Armor (Riprap)	7.22	1.40	3.43	12.05	20	\$241.00	
C to D Junction Rock (Crushed)	6.33	2.45	6.72	15.50	20	\$310.00	
C to D Bedding/Backfill (Crushed)	7.09	0.60	6.72	14.41	60	\$864.60	
E to F 0 1830 (Crushed)	7.02	2.45	6.72	16.19	930	\$15,056.70	
E to F 100 450 (Crushed)	6.92	2.45	6.72	16.09	60	\$965.40	
E to F 1160 1340 (Crushed)	7.08	2.45	6.72	16.25	40	\$650.00	
E to F Landing Rock (Crushed)	7.16	2.45	6.72	16.33	200	\$3,266.00	
E to F Junction Rock (Crushed)	6.88	2.45	6.72	16.05	20	\$321.00	
E to F Bedding/Backfill (Crushed)	7.02	0.60	6.72	14.34	10	\$143.40	
G to H 0 500 (Crushed)	7.13	2.45	6.72	16.30	240	\$3,912.00	
G to H Landing Rock (Crushed)	7.16	2.45	6.72	16.33	100	\$1,633.00	
G to H Junction Rock (Crushed)	7.09	2.45	6.72	16.26	20	\$325.20	
I to J 0 330 (Crushed)	7.32	2.45	6.72	16.49	170	\$2,803.30	
I to J Landing Rock (Crushed)	7.34	2.45	6.72	16.51	100	\$1,651.00	
I to J Junction Rock (Crushed)	7.29	2.45	6.72	16.46	20	\$329.20	
K to L 0 2120 (Crushed)	7.66	2.45	6.72	16.83	1060	\$17,839.80	
K to L 60 450 (Crushed)	7.53	2.45	6.72	16.70	60	\$1,002.00	
K to L 1020 1800 (Crushed)	7.63	2.45	6.72	16.80	110	\$1,848.00	
K to L Landing Rock (Crushed)	7.82	2.45	6.72	16.99	200	\$3,398.00	
K to L Junction Rock (Crushed)	7.49	2.45	6.72	16.66	20	\$333.20	
K to L Bedding/Backfill (Crushed)	7.66	0.60	6.72	14.98	20	\$299.60	
Point M Stockpile	2.14	0.60	6.72	9.46	3000	\$28,380.00	
Point N Stockpile	6.64	0.60	6.72	13.96	50	\$698.00	
Total C.Y.					12860	Sub Total	\$188,542.00

TOTAL ROCKING COSTS \$188,542.00

Move-In Calculations for Project Work not Involving Rocking/Pit Work

Sale: **Lehman Heights**

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
36.0	Pavement	30
2.0	Main Lines	7
5.5	Steep Grades	2

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Within Area Cost	Total Cost
1	Brush Cutter	\$523.83		\$4.00	0.00	0.00	0	\$0.00	\$523.83
1	Excavators (Med.)	\$644.73		\$35.50	0.00	0.00	0	\$0.00	\$644.73
1	Excavators (Large)	\$824.55	1	\$44.80	0.00	0.00	0	\$0.00	\$824.55
1	Tractor (D8)	\$774.21	2	\$15.10	0.00	0.00	0	\$0.00	\$774.21
2	Dump Truck (10 cy +)	\$342.19		\$2.85	0.00	0.00	0	\$0.00	\$342.19
1	Dump Truck (Off Hiway)	\$644.73	1	\$4.75	0.00	0.00	0	\$0.00	\$644.73
TOTAL MOVE-IN COSTS:									\$3,754.24



OREGON DEPARTMENT OF FORESTRY CRUISE REPORT *Lehman Heights*

- Type of Sale**
Modified Clearcut, Recovery.
- Legal Description**
Portions of section 7, 8, 17, and 18, T1N, R7W, W.M., Tillamook County, Oregon.
- Sale Acreage**
Sale acreage was determined by GPS and orthophotographs along with GIS.

	ACRES	
	<u>Gross</u>	<u>Net</u>
Area 1 (Modified Clearcut)	126	88
Area 2 (Modified Clearcut)	117	106

Gross Acres

Area within the Timber Sale Boundary signs.

Net acres

Used for calculating the advertised volume.

Gross acres, less green tree retention, roads, Non-required thinning areas, and riparian areas classified as Special Stewardship in LMCS inside the sale boundary.

- Cruising Procedures**
 - Cruise Method**

A total of 31 plots were sampled. All plots were full cruise plots at a spacing of 700' x 350'. All conifers 8 inches DBH and greater containing 20 net board feet and all hardwoods 10 inches DBH and greater containing 30 net board feet were recorded on all plots. Species were recorded on all trees and measured for merchantable bole height, diameter, and form factor. Merchantable heights were recorded to 6" and 7" outside bark for conifers and hardwoods respectively.

- Plot size**

A basal area factor of 33.61 was used for this sale. The point of observation is 4.5 feet.

- Grading System**

All species were graded using Columbia River Log Scaling and Grading Bureau rules favoring a 40' log.

- Computation Procedure**

The volumes and statistics for the timber cruised were computed using SuperACE 2008, developed by Atterbury Consultants, Inc. The two areas in this timber sale

have been combined for cruise computation purposes due to their close proximity and similar characteristics. The standard error and the coefficient of variation for the cruise based on net board feet per acre are 12.4% and 69.2% respectively.

6. Hidden Defect and Breakage

A 5% reduction was applied to conifers and a 10% reduction to hardwood volumes for hidden defect and breakage. This was in addition to visual defect deducted during the cruise.

7. Timber Description

The stand was burned and planted in the mid 1950's. See attached cruise report for a quantitative evaluation of estimated timber volumes and snag counts.

Sale Area – Species	DBH	Merchantable Bole Height	Merchantable Top
Douglas-fir	17	75	5”
Alder	13	48	6”

8. Cruiser Names/Dates

Contract; 10/2007

9. Revenue Distribution

FDF: 100%

Tax Code: 56 (4%) & 9-2 (96%)

Deed Numbers: 157 & 194

10. Attachments

Volume Summaries

Log Stock Tables

Logging Plan Map

11. Stand and Log Stock Tables Species Key

DL – Douglas-fir leave

DF – Douglas-fir take

AL – Red alder leave

RA – Red alder take

RC – Western red cedar reserved

SL – Sitka spruce leave

SS – Sitka spruce take

WL – Western hemlock leave

WH – Western hemlock take

Log Stock Table - MBF

T01N R07W S08 Ty115	88.00
T01N R07W S18 Ty116	106.00

Project: THMNHGHT
Acres 194.00

Page 1
Date 10/22/2013
Time 8:42:04AM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches									
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29
DF		8	2	16	22		22	.5								22		
DF		8	2	20	19		19	.5							19			
DF		8	2	36	233	2.4	227	5.4				100	61	66				
DF		8	2	40	1,299		1,286	30.5				333	518	435				
DF		8	3	13	3		3	.1			3							
DF		8	3	15	3		3	.1			3							
DF		8	3	16	7		7	.2			7							
DF		8	3	18	5		5	.1			5							
DF		8	3	19	8		8	.2			8							
DF		8	3	20	2		2	.1			2							
DF		8	3	21	3		3	.1			3							
DF		8	3	22	4		4	.1			4							
DF		8	3	24	4		4	.1			4							
DF		8	3	26	3		3	.1			3							
DF		8	3	27	4		4	.1			4							
DF		8	3	28	21	8.3	19	.4			19							
DF		8	3	32	136		136	3.2			64	72						
DF		8	3	34	6		6	.1			6							
DF		8	3	35	22		22	.5			22							
DF		8	3	36	238		236	5.6			104	46	86					
DF		8	3	37	8		8	.2			8							
DF		8	3	39	5		5	.1			5							
DF		8	3	40	1,720		1,710	40.6			66	621	713	287	24			
DF		8	4	15	23		23	.6			10	13						
DF		8	4	16	13		13	.3			13							
DF		8	4	17	6		6	.1			4	2						
DF		8	4	18	4		4	.1			4							
DF		8	4	19	3		3	.1			3							
DF		8	4	20	9		9	.2			9							
DF		8	4	21	25		25	.6			23	3						
DF		8	4	22	11		11	.3			8	3						
DF		8	4	23	4		4	.1			4							
DF		8	4	24	10		10	.2			7	3						
DF		8	4	25	15		15	.3			7	8						
DF		8	4	26	8		8	.2			8							
DF		8	4	27	21		21	.5			21							

Log Stock Table - MBF

T01N R07W S08 Ty115	88.00
T01N R07W S18 Ty116	106.00

Project: THMNHGHT
Acres 194.00

Page 2
Date 10/22/2013
Time 8:42:04AM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches												
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+	
DF		8	4	28	32		32	.8		32											
DF		8	4	29	35		35	.8		31	4										
DF		8	4	30	5		5	.1		5											
DF		8	4	31	9		9	.2		9											
DF		8	4	32	7		7	.2		7											
DF		8	4	33	15		15	.4		15											
DF		8	4	34	26		26	.6		26											
DF		8	4	35	14		14	.3		14											
DF		8	4	37	18		18	.4		18											
DF		8	4	38	9		9	.2		9											
DF		8	4	40	151		151	3.6		40	111										
DF		Totals			4,366	3.4	4,217	92.6		319	411	731	890	719	604	520	22				
DF		Totals			24	100.0															
DF		Totals			22	100.0															
RA		8	R	17	4		4	1.5			4										
RA		8	R	18	4		4	1.3			4										
RA		8	R	20	17		17	5.8			17										
RA		8	R	21	13		13	4.5			13										
RA		8	R	24	20	16.7	17	5.7				17									
RA		8	R	25	8		8	2.6			8										
RA		8	R	27	4		4	1.5			4										
RA		8	R	30	12	12.5	10	3.5			10										
RA		8	R	32	61	4.9	58	19.6				40	18								
RA		8	R	36	72	4.2	69	23.2				24	45								
RA		8	R	39	16		16	5.5			16										
RA		8	R	40	75		75	25.4			31	44									
RA		Totals			332	10.6	297	6.5		109	109	63	17								
WH		8	3	40	34		34	81.8			34										
WH		8	4	18	7		7	18.2			7										
WH		Totals			41		41	.9		7	34										
OC		Totals			22	100.0															
Total		All Species			4,808	5.3	4,555	100.0		319	527	873	953	736	604	520	22				

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T01N R07W S08 Ty115 88.00 T01N R07W S18 Ty116 106.00				Project: THMNHGHT Acres 194.00				Page 1 Date 10/22/2013 Time 8:42:05AM													
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
					Def%	Gross	Net		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					
DF	D	D			100.0	607											18	10		0.00	9.5
DF	3	-																6		0.00	.6
DF	8	2		36	1.1	8,107	8,014	1,555			78	22	3			97	39	14	307	1.70	26.1
DF	8	3		52	.6	11,352	11,283	2,189			86	14	1	2	8	89	37	9	108	0.74	104.2
DF	8	4		12		2,438	2,438	473	68	32			12	35	15	38	28	5	33	0.32	73.8
DF	Totals			93	3.4	22,505	21,736	4,217	8	48	36	8	3	5	6	87	33	8	101	0.74	214.2
DF	1	D	D		100.0	124											28	7		0.00	3.1
DF	Totals				100.0	124											28	7		0.00	3.1
DF	3	D	D		100.0	113											25	8		0.00	1.7
DF	Totals				100.0	113											25	8		0.00	1.7
RA	D	D			100.0	126											13	8		0.00	4.7
RA	8	R		100	3.5	1,588	1,532	297		94	6		9	18	20	54	29	7	61	0.59	25.1
RA	Totals			7	10.6	1,714	1,532	297		94	6		9	18	20	54	26	7	51	0.55	29.8
WH	8	3		81		173	173	34		100					100		40	8	90	0.50	1.9
WH	8	4		19		39	39	7		100			100				18	6	20	0.27	1.9
WH	Totals			1		212	212	41		100			18		82		29	7	55	0.43	3.9
OC	5	D	D		100.0	115											29	31		0.00	.1
OC	Totals				100.0	115											29	31		0.00	.1
Totals					5.3	24,782	23,480	4,555	7	52	34	8	4	6	6	84	32	8	93	0.70	252.8

TC		PSTNDSUM		Stand Table Summary									Page	1		
													Date:	10/22/2013		
T01N R07W S08 Ty115				88.00		Project				THMNHGHT			Time:		8:42:05AM	
T01N R07W S18 Ty116				106.00		Acres				194.00			Grown Year:			
S Sp	T	DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		8	1	94	98	4.332	1.51	8.66	5.9	40.0	1.46	51	347	284	99	67
DF		9	1	87	86	3.423	1.51	3.42	7.0	30.0	.69	24	103	133	47	20
DF		10	1	91	65	2.772	1.51	2.77	8.1	30.0	.64	22	83	124	44	16
DF		11	1	87	84	1.869	1.23	1.87	14.6	60.0	.93	27	112	180	53	22
DF		12	7	89	98	11.348	8.91	19.56	14.1	60.2	7.88	276	1,177	1,528	536	228
DF		13	3	87	94	4.015	3.70	6.69	16.4	62.0	3.26	110	415	632	213	80
DF		14	9	86	101	11.166	11.94	22.33	17.6	68.3	11.21	393	1,525	2,175	763	296
DF		15	11	87	104	11.676	14.40	23.35	21.1	85.6	14.07	494	1,998	2,729	957	388
DF		16	9	88	109	8.363	11.66	18.91	21.8	87.2	11.72	411	1,649	2,274	798	320
DF		17	8	90	114	6.747	10.70	16.33	24.9	103.8	11.59	407	1,695	2,249	789	329
DF		18	10	89	118	7.767	13.73	19.66	28.0	115.8	15.70	551	2,275	3,045	1,068	441
DF		19	5	88	123	3.415	6.72	8.37	32.2	129.6	7.68	269	1,084	1,490	523	210
DF		20	8	86	110	4.929	10.70	10.30	33.7	134.5	11.27	346	1,385	2,186	672	269
DF		21	7	88	115	3.943	9.47	10.69	33.5	138.0	10.20	358	1,475	1,980	695	286
DF		22	6	89	128	3.246	8.52	9.16	41.4	191.4	10.81	379	1,754	2,096	736	340
DF		23	7	86	121	3.276	9.47	8.01	45.0	185.9	10.53	360	1,489	2,043	699	289
DF		24	4	84	113	1.837	5.77	3.19	43.5	176.0	5.71	139	562	1,109	269	109
DF		25	5	87	127	2.051	7.00	5.35	54.3	227.5	8.27	290	1,216	1,604	563	236
DF		26	3	88	134	1.165	4.26	3.50	53.1	243.8	5.29	186	852	1,026	360	165
DF		27	2	87	128	.758	3.02	2.65	43.2	202.8	3.27	115	538	634	222	104
DF	Totals		108	88	106	98.098	145.75	204.76	25.4	106.2	152.16	5,210	21,736	29,520	10,107	4,217
RA		10	2	73	41	4.452	2.43	4.45	8.0	20.0	.98	36	89	190	69	17
RA		11	1	84	126	2.291	1.51	4.58	11.7	50.0	1.48	54	229	286	104	44
RA		12	1	86	86	1.546	1.21	1.55	20.4	80.0	1.03	32	124	200	61	24
RA		13	1	82	96	1.317	1.21	2.63	14.9	60.0	1.08	39	158	209	76	31
RA		14	2	70	92	2.550	2.73	3.69	16.5	66.2	2.01	61	244	389	118	47
RA		15	1	83	73	.989	1.21	1.98	16.2	55.0	.88	32	109	171	62	21
RA		16	1	84	81	.870	1.21	.87	26.2	100.0	1.00	23	87	194	44	17
RA		17	3	84	86	2.311	3.64	4.62	25.6	86.7	3.25	118	401	631	229	78
RA		19	1	82	60	.768	1.51	.77	48.2	120.0	1.02	37	92	198	72	18
RA	Totals		13	79	79	17.095	16.68	25.14	17.1	61.0	12.72	431	1,532	2,468	836	297
WH		12	1	92	104	1.925	1.51	3.85	12.5	55.0	1.55	48	212	300	94	41
WH	Totals		1	92	104	1.925	1.51	3.85	12.5	55.0	1.55	48	212	300	94	41
DF 1		12	1	88	80	1.546	1.21				.90			175		
DF 1	Totals		1	88	80	1.546	1.21				.90			175		
DF 3		16	1	88	62	.870	1.21				.81			157		
DF 3	Totals		1	88	62	.870	1.21				.81			157		
OC 5		50	1	73	60	.089	1.21				.70			136		
OC 5	Totals		1	73	60	.089	1.21				.70			136		
Totals			125	87	102	119.623	167.58	233.75	24.3	100.4	168.84	5,689	23,480	32,755	11,037	4,555

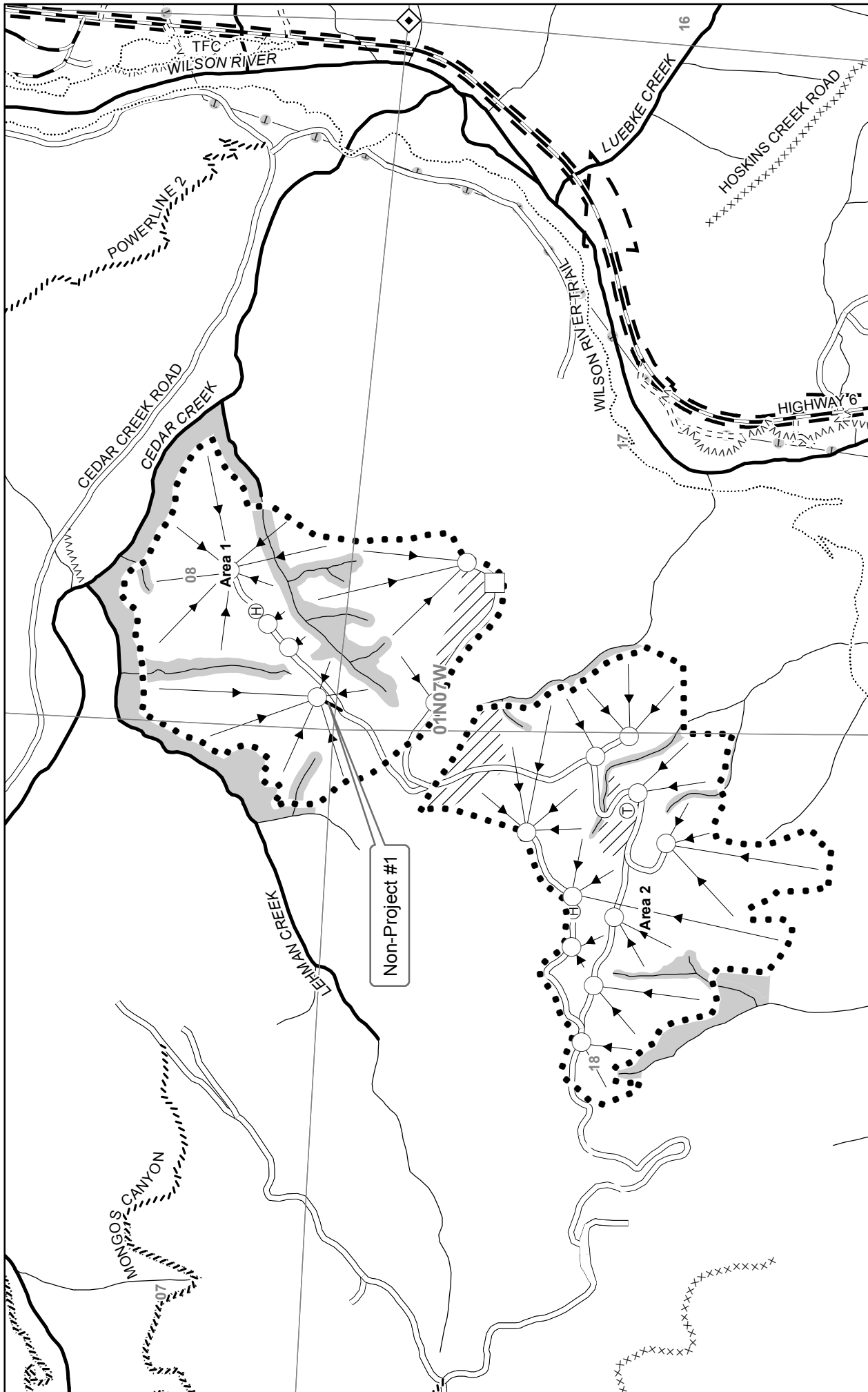


"STEWARDSHIP IN FORESTRY"

Lehman Heights

Volume Summary

Area 1 & 2-Modified Clear Cut				
194 acres				
SPECIES	Cruised Net	Cruised Net	Hidden	Net Sale
	MBF/ Acre	MBF	D&B	MBF
Douglas-fir	21.7	4217	5%	4006
Hemlock		0	5%	0
Spruce		0	5%	0
Noble Fir		0	5%	0
Alder	1.5	297	10%	267
TOTAL	23.3	4514		4273



Rock source
 Ⓢ Stock pile
 Ⓜ Waste area
 Ⓡ Bridge
 Ⓜ Gate
 Ⓜ Survey corner
 Ⓜ Domestic water supply intake
 Ⓜ Truck turn-around
 Ⓜ Helipoint
 Ⓜ Cultural site

Buffer
 ▨ Non-required thinning
 ▨ Cable yarding
 ▨ Ground yarding
 ▨ Helicopter yarding
 ▨ Downhill yarding
 ▨ Green tree retention area

Restricted area
 ▨ Area boundary
 ▨ Sale boundary
 ▨ Ownership boundary
 ▨ Perennial Type-F stream
 ▨ Perennial Type-N stream
 ▨ Unsurfaced road
 ▨ Surfaced road
 ▨ Paved road
 ▨ Abandoned road

Swing road
 - - - - -
 X X X X X Blocked road
 // // // OHV trail
 Non-motorized trail
 - - - - - Transmission line
 + + + + + Railroad
 □ Tractor Landing
 ○ Yarder Landing

LOGGING PLAN
 Timber Sale Contract No. 341-14-71
 LEHMAN HEIGHTS
 Portions of Sections 7, 8, 17, 18
 T1N, R7W, W.M.,
 Tillamook County, Oregon

1,000 0 1,000 Feet

Type of Area Operation

Area	Type of Operation	Acres
1	Modified Clearcut	126 88
2	Modified Clearcut	117 106
Total		243 194

Tillamook District GIS
 11/27/13
 This product is for informational use and may not have been prepared or suitable for legal, engineering, or surveying purposes.