



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Hindsight
Sale FG-341-2020-W00231-01

District: Forest Grove

Date: December 18, 2019

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,413,636.13	\$2,617.70	\$1,416,253.83
		Project Work:	(\$103,400.00)
		Advertised Value:	\$1,312,853.83



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District: Forest Grove

Date: December 18, 2019

Timber Description

Location: Portions of Sections 16 and 17, T3N, R5W, W.M., Washington County, Oregon

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	23	0	98
Western Hemlock / Fir	18	0	98
Alder (Red)	13	0	95

Volume by Grade	2S	3S & 4S 6"-11"	Camprun	Total
Douglas - Fir	2,405	491	0	2,896
Western Hemlock / Fir	267	106	0	373
Alder (Red)	0	0	10	10
Total	2,672	597	10	3,279

Comments: Pond Values Used: Local Pond Values, August 2019.

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
 $\$869.76/\text{MBF} = \$1,086.00/\text{MBF} - \$216.24/\text{MBF}$

Bigleaf maple and Other Hardwood Stumpage Price = Pond Value minus Logging Cost:
 $\$135.77/\text{MBF} = \$390/\text{MBF} - \$254.23/\text{MBF}$

BRANDING AND PAINTING COST ALLOWANCE = $\$2.00/\text{MBF}$

FUEL COST ALLOWANCE = $\$3.00/\text{Gallon}$

HAULING COST ALLOWANCE

Hauling costs equivalent to $\$950$ daily truck cost.

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

None

Other Costs (No Profit & Risk added):

Machine Time to Block/Waterbar Roads, and Skid Trails:

$20 \text{ hours} \times \$150/\text{hour} = \$3,000$

Machine Time to Pile Landing Slash:

$10 \text{ hours} \times \$150/\text{hour} = \$1,500$

Equipment Cleaning: $3 \text{ pieces} \times \$1,000/\text{Piece} = \$3,000$

Slash Treatment: $41 \text{ acres} \times \$200/\text{acre} = \$8,200$

TOTAL Other Costs (No Profit & Risk added) = $\$15,700$

ROAD MAINTENANCE

Move-in: $\$4,000$

General Road Maintenance: $2.9 \text{ miles} \times \$1,200/\text{mile} = \$3,480$

TOTAL Road Maintenance: $\$7,480/3,279 \text{ MBF} = \$2.28/\text{MBF}$



Timber Sale Appraisal
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Logging Conditions

Combination#: 1

Douglas - Fir	20.00%
Western Hemlock / Fir	20.00%
Alder (Red)	20.00%

Logging System: Cable: Medium Tower >40 - <70 **Process:** Stroke Delimber

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

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

loads / day: 12 **bd. ft / load:** 4000

cost / mbf: \$125.00

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

Combination#: 2

Douglas - Fir	80.00%
Western Hemlock / Fir	80.00%
Alder (Red)	80.00%

Logging System: Shovel **Process:** Feller Buncher

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

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

loads / day: 13 **bd. ft / load:** 3793

cost / mbf: \$71.75

machines: Feller Buncher w/ Delimber



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Hindsight Sale FG-341-2020-W00231-01

District: Forest Grove

Date: December 18, 2019

Logging Costs

Operating Seasons: 1.00	Profit Risk: 12%
Project Costs: \$103,400.00	Other Costs (P/R): \$0.00
Slash Disposal: \$0.00	Other Costs: \$15,700.00

Miles of Road

Road Maintenance: \$2.28

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	2.0	4.8
Western Hemlock / Fir	\$0.00	2.0	4.6
Grand Fir	\$0.00	2.0	4.8
Alder (Red)	\$0.00	2.0	3.7



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Hindsight Sale FG-341-2020-W00231-01

District: Forest Grove

Date: December 18, 2019

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$82.40	\$2.33	\$1.34	\$100.94	\$0.00	\$22.44	\$0.00	\$2.00	\$4.79	\$216.24
Western Hemlock / Fir									
\$82.40	\$2.33	\$1.34	\$105.33	\$0.00	\$22.97	\$0.00	\$2.00	\$4.79	\$221.16
Alder (Red)									
\$82.40	\$2.39	\$1.34	\$134.80	\$0.00	\$26.51	\$0.00	\$2.00	\$4.79	\$254.23

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$663.25	\$447.01	\$0.00
Western Hemlock / Fir	\$0.00	\$540.45	\$319.29	\$0.00
Alder (Red)	\$0.00	\$516.00	\$261.77	\$0.00



Timber Sale Appraisal
Hindsight
Sale FG-341-2020-W00231-01

District: Forest Grove

Date: December 18, 2019

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	2,896	\$447.01	\$1,294,540.96
Western Hemlock / Fir	373	\$319.29	\$119,095.17
Alder (Red)	10	\$261.77	\$2,617.70

Gross Timber Sale Value

Recovery: \$1,416,253.83

Prepared By: Adrian Torres

Phone: 503-359-2191

PROJECT COST SUMMARY SHEET

Timber Sale: Hindsight
Sale Number: FG-341-2020-W00231-01

PROJECT NO. 1: CONSTRUCT AND INSTALL 3 GATES, BLOCK ROAD

<u>Project Point</u>	<u>Description</u>	<u>Cost</u>
A	Install Gate	\$994.00
C	Install Gate	\$1,064.00
D	Block Road	\$550.40
E	Block Road	\$550.40
F	Install Gate	\$1,269.20

Total Rock =

40 cy

Boulders

Move-in & Within Area Move= \$149.54

TOTAL PROJECT COST = \$4,577.54

PROJECT NO. 2: INSTALL TEMPORARY BRIDGE

<u>Project Point</u>	<u>Cost</u>
B	\$95,594.09

Total Rock =

120 cy 1½" - 0

8 cy Boulders

Move-in = \$3,228.37

TOTAL PROJECT COST = \$98,822.46

TOTAL CREDITS = \$103,400.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hindsight

Sale Number: FG-341-2020-W00231-01

PROJECT NO. 1 GATE INSTALLATION

Install gate at Point A

Construction of posts	1	ea @	\$500.00	per ea =	\$500.00
Gate	1	ea @	\$220.00	per ea =	\$220.00
Post and gate install	1	ea @	\$274.00	per ea =	\$274.00

Install gate at Point C

Construction of posts	1	ea @	\$500.00	per ea =	\$500.00
Gate	1	ea @	\$290.00	per ea =	\$290.00
Post and gate install	1	ea @	\$274.00	per ea =	\$274.00

Install gate at Point F

Construction of posts	1	ea @	\$500.00	per ea =	\$500.00
Gate	1	ea @	\$220.00	per ea =	\$220.00
Post and gate install	1	ea @	\$274.00	per ea =	\$274.00

TOTAL GATE COSTS = \$3,052.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total EA	Rock Cost
Subgrade rock						
Road Blocking	Boulders	\$13.41	\$19.39	\$1.60	32	\$1,100.80
Gate Reinforcement	Boulders	\$13.41	\$19.39	\$1.60	8	\$275.20
				Subtotal =	40	\$1,376.00

Totals	All Rock =	40
	Boulders =	40

TOTAL ROCK COSTS = \$1,376.00

TOTAL PROJECT COST = \$4,428.00

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hindsight

Sale Number: FG-341-2020-W00231-01

PROJECT NO. 2

BRIDGE

14' x 40' Bridge	1	ea @	\$85,750.00	per ea =	\$85,750.00
Delivery	1	ea @	\$4,950.00	per ea =	\$4,950.00
Sill Preparation	2.00	hr @	\$175.00	per sta =	\$350.00
Sill	2	ea @	\$150.00	per ea =	\$300.00
Removal of existing bump rails	2.00	hr @	\$40.00	per sta =	\$80.00
Bridge Installation	2.00	hr @	\$350.00	per sta =	\$700.00

TOTAL CONSTRUCTION COSTS = \$92,130.00

ROCK

	Rock Size	Base Cost \$/cy	Haul Cost \$/cy	Placement/ Processing Cost \$/cy	Total CY	Rock Cost
Rock						
Sill, Abutment and Surfacing rock	1½" - 0	\$13.41	\$11.62	\$1.22	120	\$3,150.00
Boulders	36"	\$13.41	\$17.42	\$1.60	8	\$259.09
				Subtotal =	128	\$3,409.09

Totals

All Rock =	128
1½" - 0 =	120
Boulders =	8

TOTAL ROCK COSTS = \$3,409.09

EROSION CONTROL

Grass seed & fertilizer	0.05	ac @	\$500.00	per ac =	\$25.00
Straw mulch (acre)	0.05	ac @	\$600.00	per ac =	\$30.00

TOTAL EROSION CONTROL COSTS = \$55.00

TOTAL PROJECT COST = \$95,594.09

SUMMARY OF CONSTRUCTION COST

Timber Sale: Hindsight

Sale Number: FG-341-2020-W00231-01

PROJECT No. 1 & 2 MOVE-IN, WITHIN AREA MOVE, & CLEANING COSTS

<u>Equipment</u>	<u>Total</u>
Grader	\$655.57
Roller & Compactor	\$418.51
2 Excavators- With Equipment Cleaning	<u>\$2,303.83</u>
<u>TOTAL MOVE-IN COSTS =</u>	<u>\$3,377.91</u>

STOCKPILE COST SUMMARY

Timber Sale:	<u>Hindsight</u>
Sale Number:	<u>FG-341-2020-W00231-01</u>
Stockpile Name:	<u>Wildcat Mountain</u>

1 1/2" - 0:	<u>120 cy</u>	(truck measure)
Riprap:	<u>48 cy</u>	(truck measure)
Total truck yardage:	<u>168 cy</u>	

Load dump truck	<u>\$1.60</u>	/ cy x	<u>168</u>	cy =		<u>\$268.80</u>
					Subtotal:	<u>\$268.80</u>
Move in Excavator						<u>\$1,884.31</u>
Move in Dump Truck						<u>\$100.24</u>
					Subtotal:	<u>\$1,984.55</u>
					TOTAL PRODUCTION COST =	<u><u>\$2,253.35</u></u>
					ROCK DEVELOPMENT COST =	<u><u>\$13.41/cy</u></u>

PROJECT COST SUMMARY SHEET

Timber Sale: Hindsight
Sale Number: FG-341-2020-W00231-01

PROJECT NO. 1: CONSTRUCT AND INSTALL 3 GATES, BLOCK ROAD

<u>Project Point</u>	<u>Description</u>	<u>Cost</u>
A	Install Gate	\$994.00
C	Install Gate	\$1,064.00
D	Block Road	\$550.40
E	Block Road	\$550.40
F	Install Gate	\$1,269.20

Total Rock =

40 cy

Boulders

Move-in & Within Area Move= \$149.54

TOTAL PROJECT COST = \$4,577.54

PROJECT NO. 2: INSTALL TEMPORARY BRIDGE

<u>Project Point</u>	<u>Cost</u>
B	\$95,594.09

Total Rock =

120 cy 1½" - 0

8 cy Boulders

Move-in = \$3,228.37

TOTAL PROJECT COST = \$98,822.46

TOTAL CREDITS = \$103,400.00

TIMBER SALE SUMMARY
Hindsight
Contract No. FG-341-2020-W00231-01

1. **Location:** Portions of Sections 16 and 17, T3N, R5W, W.M., Washington County, Oregon.
2. **Type of Sale:** This Timber Sale is 104 net acres of Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF; 100% Washington County.
4. **Sale Acreage:** Acres are net of stream buffers and road prisms. Acreage was determined using ESRI ArcMap GIS software.
5. **Cruise:** The Timber Sale was cruised by ODF Cruisers in September of 2019. For more information, see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a thinned 80-year old Douglas-fir stand with minor amounts of western hemlock, grand fir, western red cedar, red alder and big leaf maple. The stand has an average of 163 ft² of basal area (all species), an average Douglas-fir DBH of 23 inches, and an estimated average net Douglas-fir volume of approximately 27.8 MBF per acre.
7. **Topography and Logging Method:** Slopes within the Timber Sale Area ranges from 2% to 80% and variable in northern aspect. The Timber Sale is 80% ground-based yarding. The maximum cable corridor length is approximately 700 feet and the average length is 400 feet. The average horizontal skid trail length is approximately 450 feet and the maximum is approximately 600 feet.
8. **Access:** All access to the Timber Sale Area is on surfaced all-weather roads. From Forest Grove, travel north on Highway 47 through Banks then merge onto Highway 26 westbound and continue for approximately 11.5 miles to Timber Road. Turn left and proceed south on Timber Road 0.7 miles to Lousignont Road. Turn right and continue approximately 0.6 miles to the South Lousignont Road. Turn left and continue on South Lousignont Road for approximately 300 feet to the northeast portion of the timber sale.
9. **Projects:**

Project No. 1: Construct and Install 3 Gates, Block Road	\$4,577.54
Project No. 2: Road Improvement	\$98,822.46
Total Credit for all Projects	\$103,400.00

CRUISE REPORT
Hindsight
FG-341-2020-W00231-01

1. LOCATION: Portions of Sections 16 and 17, T3N, R5W, W.M., Washington County, Oregon.

2. CRUISE DESIGN:

Pre-cruise evaluation indicated that the stand's average DBH is approximately 21 inches and the coefficient of variation is about 56%. For sales of this size and approximate value, ODF cruise standards require a sampling error of 9% at a 68% confidence level, and a minimum sample size of 100 graded trees. The cruise design chosen for this sale is a variable radius sample plot using a 40 BAF prism.

3. SAMPLING METHOD:

The Timber Sale Area was sampled in September, 2019 with 28 variable radius grade plots using a 40 BAF prism. Plots were laid out on a 8 chain x 5 chain grid for the Timber Sale Area. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS:

114 trees were measured and graded producing a cumulative Sampling Error of 9.8% on the Douglas-fir basal area and 10.4% for the Douglas-fir board foot volume.

5. TREE MEASUREMENT AND GRADING:

All sample trees were measured and graded following Columbia River Log Scale grade rules and favored 40 foot segments.

- a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights were calculated to a top DIB of six inches (or 25% of DBH, whichever is larger) for conifers.
- b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.
- c) **Form Factors:** Measured for each grade tree using a form point of 16 feet.

5. DATA PROCESSING:

- a) **Volumes and Statistics:** Cruise estimates and sampling statistics were derived from Super Ace 2008 cruise software.
- b) **Deductions:** The following percent volume deductions are by species to account for the hidden defect and breakage. For conifers two percent was deducted. For hardwoods five percent was deducted.

6. CRUISERS: The sale was cruised by ODF cruiser Adrian Torres.

Prepared by:	<u>Adrian Torres</u>	<u>09/16/2019</u>
		Date
Reviewed by:	<u></u>	<u>9/19/19</u>
	Mark Savage	Date

TC PSTATS			PROJECT STATISTICS							PAGE	1
			PROJECT HINDSI							DATE	9/16/2019
TWP	RGE	SC	TRACT	TYPE			ACRES	PLOTS	TREES	CuFt	BdFt
03N	05	16	00A1	00MC			104.00	28	114	S	W
			PLOTS			TREES	TREES	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES		
TOTAL			28	114	4.1						
CRUISE			28	114	4.1			6,957	1.6		
DBH COUNT											
REFOREST											
COUNT											
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			83	42.2	22.7	129	24.9	118.6	28,449	28,413	5,804
WR CEDAR			15	7.7	22.7	97	4.5	21.4	3,579	3,566	884
WHEMLOCK			10	7.8	18.4	96	3.3	14.3	2,804	2,780	609
BL MAPLE			3	7.1	10.6	63	1.3	4.3	389	389	86
GR FIR			2	.7	28.4	147	0.5	2.9	887	887	163
R ALDER			1	1.5	13.0	65	0.4	1.4	108	108	33
TOTAL			114	66.9	21.1	113	35.4	162.9	36,216	36,142	7,579
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		66.0	7.2	943	1,017	1,090					
WR CEDAR		84.8	22.7	830	1,073	1,316					
WHEMLOCK		78.9	26.3	442	600	758					
BL MAPLE		20.4	14.1	49	57	65					
GR FIR		20.9	19.6	1,114	1,385	1,656					
R ALDER											
TOTAL		73.3	6.9	894	960	1,026	214	54	24		
CL	68.1	COEFF		SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5 10		15		
DOUG FIR		59.0	6.5	188	201	214					
WR CEDAR		78.5	21.0	196	248	300					
WHEMLOCK		71.8	23.9	97	127	157					
BL MAPLE		38.9	26.9	9	13	16					
GR FIR		18.1	17.0	211	254	297					
R ALDER											
TOTAL		68.0	6.4	182	195	207	185	46	21		
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		75.0	14.4	36	42	48					
WR CEDAR		243.6	46.9	4	8	11					
WHEMLOCK		226.5	43.6	4	8	11					
BL MAPLE		529.2	101.8		7	14					
GR FIR		369.3	71.0	0	1	1					
R ALDER		529.2	101.8		2	3					
TOTAL		92.5	17.8	55	67	79	355	89	39		
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		50.7	9.8	107	119	130					
WR CEDAR		179.5	34.5	14	21	29					
WHEMLOCK		218.4	42.0	8	14	20					
BL MAPLE		529.2	101.8		4	9					

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT HINDSI							DATE	9/16/2019
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
03N	05	16	00A1	00MC		104.00	28	114	S	W
CL	68.1		COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
GR FIR			367.2	70.6	1	3	5			
R ALDER			529.2	101.8		1	3			
TOTAL			<i>41.7</i>	<i>8.0</i>	<i>150</i>	<i>163</i>	<i>176</i>	<i>72</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			53.9	10.4	25,466	28,413	31,359			
WR CEDAR			181.7	35.0	2,319	3,566	4,812			
WHEMLOCK			247.0	47.5	1,459	2,780	4,100			
BL MAPLE			529.2	101.8		389	785			
GR FIR			367.5	70.7	260	887	1,514			
R ALDER			529.2	101.8		108	219			
TOTAL			<i>43.4</i>	<i>8.4</i>	<i>33,122</i>	<i>36,142</i>	<i>39,162</i>	<i>78</i>	<i>20</i>	<i>9</i>
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR			52.5	10.1	5,218	5,804	6,390			
WR CEDAR			178.8	34.4	580	884	1,188			
WHEMLOCK			238.3	45.8	330	609	888			
BL MAPLE			529.2	101.8		86	173			
GR FIR			367.3	70.6	48	163	278			
R ALDER			529.2	101.8		33	66			
TOTAL			<i>41.9</i>	<i>8.1</i>	<i>6,967</i>	<i>7,579</i>	<i>8,190</i>	<i>73</i>	<i>18</i>	<i>8</i>

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
<div>T03N R05W S16 Ty00MC104.00</div>				Project:		HINDSI												Page1			
				Acres		104.00												Date9/16/2019			
																		Time8:13:00AM			
Spp	So Gr T rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
							Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
			4-5	6-11	12-16		17+	12-20	21-30	31-35	36-99										
DF	2M	83	.2	23,629	23,592	2,454			33	67				100	40	16	460	2.18	51.3		
DF	3M	13		3,889	3,889	404			95	5			0	1	99	40	8	108	0.73	36.2	
DF	4M	4		931	931	97		22	78				27	24	26	23	25	6	34	0.41	27.2
DF Totals		79	.1	28,449	28,413	2,955		1	16	28	56		1	1	1	97	36	11	248	1.39	114.7
RC	2M	75	.5	2,713	2,699	281				16	84				100	40	19	632	3.58	4.3	
RC	3M	19		678	678	70			87	13			1	4	95	39	9	111	0.91	6.1	
RC	4M	6		189	189	20			100				21	39	19	21	24	6	38	0.49	4.9
RC Totals		10	.4	3,579	3,566	371			22	15	64		1	3	1	95	34	11	233	1.69	15.3
WH	2M	64		1,797	1,797	187				47	53				100	40	15	396	1.92	4.5	
WH	3M	30	2.8	863	838	87			76	24					100	39	9	121	0.77	7.0	
WH	4M	6		144	144	15			100				32	42	25		22	6	30	0.45	4.8
WH Totals		8	.9	2,804	2,780	289			28	37	34		2	2	1	95	34	10	170	1.08	16.3
GF	2M	93		830	830	86				16	84				100	40	19	638	2.70	1.3	
GF	3M	7		56	56	6			100						100	39	7	87	0.89	.7	
GF Totals		2		887	887	92			6	15	79				100	40	15	454	2.11	2.0	
RA	CR	100		108	108	11			100						100	40	7	70	0.53	1.5	
RA Totals		0		108	108	11			100						100	40	7	70	0.53	1.5	
BM	CR	100		389	389	40			100					67	33	31	7	55	0.39	7.1	
BM Totals		1		389	389	40			100					67	33	31	7	55	0.39	7.1	
Totals			0.2	36,216	36,142	3,759		1	18	26	55		1	2	1	96	36	11	230	1.35	156.9

TC		PSTNDSUM		Stand Table Summary										Page Date:		1 9/16/2019	
T03N R05W S16 Ty00MC 104.00				Project HINDSI										Time:		8:13:01AM	
				Acres 104.00										Grown Year:			
S Spec T	DBH	Sample Trees	Tot		Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals				
			FF 16'	Av Ht				Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF		
DF	11	1	88	78	2.165	1.43	2.16	14.8	60.0	.92	32	130	95	33	14		
DF	12	1	89	106	1.819	1.43	3.64	13.1	60.0	1.36	48	218	142	50	23		
DF	14	2	88	83	2.673	2.86	5.35	14.9	55.0	2.27	80	294	236	83	31		
DF	15	2	88	109	2.328	2.86	5.82	17.4	76.0	2.89	101	442	301	105	46		
DF	16	2	89	108	2.046	2.86	4.09	25.6	110.0	2.99	105	450	311	109	47		
DF	17	1	89	132	.906	1.43	2.72	23.6	100.0	1.83	64	272	190	67	28		
DF	18	3	89	127	2.425	4.29	5.66	32.1	135.7	5.17	181	768	538	189	80		
DF	19	7	89	122	5.079	10.00	13.79	30.3	126.8	11.89	417	1,749	1,236	434	182		
DF	20	1	89	110	.655	1.43	1.31	40.8	155.0	1.52	53	203	158	56	21		
DF	21	3	90	148	1.782	4.29	5.35	41.0	200.0	6.25	219	1,069	650	228	111		
DF	22	2	90	141	1.082	2.86	3.25	43.7	210.0	4.04	142	682	420	148	71		
DF	23	5	89	139	2.476	7.14	7.43	46.9	218.0	9.94	349	1,619	1,033	363	168		
DF	24	7	89	149	3.183	10.00	10.00	51.5	245.0	14.68	515	2,451	1,527	536	255		
DF	25	6	89	137	2.514	8.57	7.12	58.6	272.4	11.89	417	1,940	1,237	434	202		
DF	26	5	89	146	1.937	7.14	5.81	63.6	311.3	10.54	370	1,809	1,096	385	188		
DF	27	2	89	156	.719	2.86	2.52	61.7	322.9	4.43	155	812	460	161	84		
DF	28	3	89	144	1.002	4.29	3.01	72.5	365.6	6.21	218	1,099	646	227	114		
DF	29	4	89	162	1.246	5.71	4.67	68.3	360.7	9.10	319	1,685	946	332	175		
DF	30	6	89	154	1.746	8.57	5.53	83.8	435.8	13.20	463	2,410	1,373	482	251		
DF	31	3	89	162	.818	4.29	3.00	80.3	428.2	6.86	241	1,284	714	250	134		
DF	32	3	89	158	.767	4.29	2.81	84.6	453.6	6.79	238	1,276	706	248	133		
DF	33	4	89	145	.962	5.71	2.89	101.3	513.3	8.33	292	1,482	867	304	154		
DF	34	1	89	160	.227	1.43	.91	88.3	487.5	2.28	80	442	237	83	46		
DF	35	3	89	161	.641	4.29	2.35	102.3	570.0	6.86	241	1,341	713	250	139		
DF	37	1	89	170	.191	1.43	.77	110.2	635.0	2.40	84	486	250	88	51		
DF	38	1	89	162	.181	1.43	.73	113.1	605.0	2.34	82	439	243	85	46		
DF	40	3	86	164	.491	4.29	1.64	144.6	789.0	6.74	237	1,292	701	246	134		
DF	44	1	81	120	.135	1.43	.41	147.1	663.3	1.70	60	269	177	62	28		
DF	Totals	83	89	129	42.198	118.57	114.71	50.6	247.7	165.42	5,804	28,413	17,203	6,036	2,955		
RC	13	2	80	82	3.100	2.86	4.65	16.9	53.3	1.84	78	248	192	82	26		
RC	17	1	81	90	.906	1.43	1.81	27.8	90.0	1.18	50	163	123	52	17		
RC	19	1	80	95	.726	1.43	1.45	35.3	115.0	1.20	51	167	125	53	17		
RC	20	1	80	101	.655	1.43	1.31	41.2	130.0	1.27	54	170	132	56	18		
RC	25	1	81	111	.419	1.43	.84	68.3	245.0	1.35	57	205	140	60	21		
RC	28	1	86	125	.334	1.43	1.00	68.3	326.7	1.61	68	327	167	71	34		
RC	30	1	80	104	.291	1.43	.58	99.6	360.0	1.36	58	210	142	60	22		
RC	31	1	81	119	.273	1.43	.82	76.7	293.3	1.47	63	240	153	65	25		
RC	35	1	80	134	.214	1.43	.64	105.7	463.3	1.59	68	297	166	71	31		
RC	38	2	83	131	.363	2.86	1.09	124.2	586.7	3.18	135	638	330	141	66		
RC	43	1	81	134	.142	1.43	.42	165.4	776.7	1.65	70	330	172	73	34		
RC	44	1	81	120	.135	1.43	.41	158.0	683.3	1.51	64	277	157	67	29		
RC	51	1	78	128	.101	1.43	.30	220.5	966.7	1.57	67	292	163	69	30		
RC	Totals	15	81	97	7.657	21.43	15.33	57.7	232.6	20.78	884	3,566	2,161	920	371		
WH	11	1	89	60	2.165	1.43	2.16	14.1	60.0	.98	31	130	102	32	14		
WH	15	1	91	86	1.164	1.43	2.33	20.6	90.0	1.53	48	210	160	50	22		
WH	16	1	89	133	1.023	1.43	3.07	22.6	103.3	2.22	69	317	231	72	33		
WH	18	1	88	70	.808	1.43	1.62	24.0	70.0	1.24	39	113	129	40	12		
WH	19	1	92	90	.726	1.43	1.45	35.8	145.0	1.66	52	210	173	54	22		
WH	23	1	88	117	.495	1.43	1.49	43.5	190.0	2.07	65	282	215	67	29		
WH	25	1	88	154	.419	1.43	1.26	65.6	326.7	2.64	82	411	274	86	43		
WH	26	1	89	153	.387	1.43	1.16	69.5	350.0	2.59	81	407	269	84	42		
WH	28	1	88	129	.334	1.43	1.00	70.7	343.3	2.27	71	344	236	74	36		

TC PSTNDSUM		Stand Table Summary											Page 2		
													Date: 9/16/2019		
T03N R05W S16 Ty00MC 104.00					Project HINDSI						Time: 8:13:01AM				
					Acres 104.00						Grown Year:				
S Spc T	Sample DBH Trees		Tot FF Av 16' 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
WH	32	1	87	131	.256	1.43	.77	93.2	463.3	2.29	71	356	238	74	37
WH	Totals	10	89	96	7.777	14.29	16.30	37.3	170.5	19.48	609	2,780	2,026	633	289
GF	27	1	93	142	.359	1.43	1.08	73.8	393.3	1.75	80	424	182	83	44
GF	30	1	94	154	.291	1.43	.87	95.6	530.0	1.84	83	463	191	87	48
GF	Totals	2	93	147	.650	2.86	1.95	83.6	454.5	3.59	163	887	373	170	92
BM	10	2	88	60	5.238	2.86	5.24	9.9	50.0	1.38	52	262	143	54	27
BM	12	1	91	70	1.819	1.43	1.82	18.5	70.0	.89	34	127	93	35	13
BM	Totals	3	89	63	7.057	4.29	7.06	12.1	55.2	2.27	86	389	236	89	40
RA	13	1	89	65	1.550	1.43	1.55	21.1	70.0	.90	33	108	93	34	11
RA	Totals	1	89	65	1.550	1.43	1.55	21.1	70.0	.90	33	108	93	34	11
Totals		114	88	113	66.890	162.86	156.90	48.3	230.4	212.44	7,579	36,142	22,093	7,882	3,759

TC PLOGSTVB				Log Stock Table - MBF															
T03N R05W S16 Ty00MC 104.00				Project: HINDSI Acres 104.00												Page 1 Date 9/16/2019 Time 8:13:00AM			
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+
DF		2M	40	2,457		2,454	83.0					403	201	859	614	349	28		
DF		3M	28	1		1	.0				1								
DF		3M	35	2		2	.1			2									
DF		3M	36	10		10	.3			5		4							
DF		3M	37	2		2	.1			2									
DF		3M	38	6		6	.2			4	2								
DF		3M	39	7		7	.2				7								
DF		3M	40	376		376	12.7			60	160	135	21						
DF		4M	12	2		2	.1			1	1								
DF		4M	13	1		1	.0			1									
DF		4M	14	3		3	.1			3									
DF		4M	16	12		12	.4		4	5	1	1							
DF		4M	18	7		7	.2		2	4	1								
DF		4M	19	1		1	.0			1									
DF		4M	20	1		1	.0			1									
DF		4M	22	2		2	.1			2									
DF		4M	24	2		2	.1			2									
DF		4M	25	6		6	.2		6										
DF		4M	26	2		2	.1			2									
DF		4M	27	1		1	.0			1									
DF		4M	28	4		4	.1		1	3									
DF		4M	29	4		4	.1			4									
DF		4M	30	2		2	.1		2										
DF		4M	31	2		2	.1		2										
DF		4M	32	5		5	.2			5									
DF		4M	33	5		5	.2			5									
DF		4M	34	7		7	.2		2	5									
DF		4M	35	5		5	.2			5									
DF		4M	36	7		7	.2		2	5									
DF		4M	37	3		3	.1			3									
DF		4M	38	5		5	.2			5									
DF		4M	39	3		3	.1			3									
DF		4M	40	4		4	.1			4									
DF		Totals		2,959		2,955	78.6		21	146	173	141	424	201	859	614	349	28	
RC		2M	40	282		281	75.7					28		61		83	89	21	
RC		3M	16	1		1	.3					1							

Log Stock Table - MBF

T03N R05W S16 Ty00MC 104.00

Project: HINDSI
Acres 104.00Page 2
Date 9/16/2019
Time 8:13:00AM

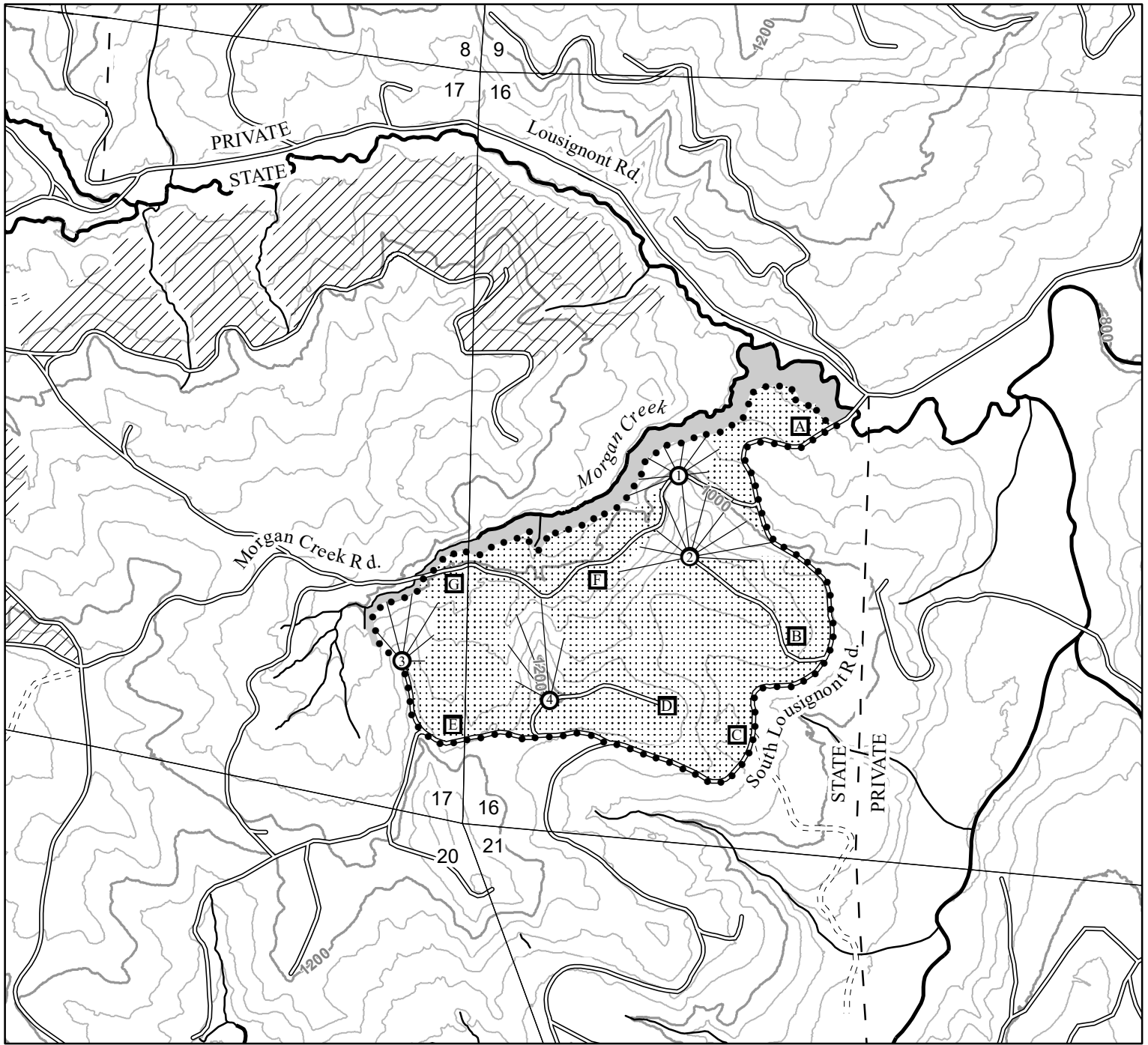
Spp	S T	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
								2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
RC		3M	24	1		1	.3			1									
RC		3M	27	2		2	.4					2							
RC		3M	40	67		67	18.0			23	8	28			9				
RC		4M	13	3		3	.9			3									
RC		4M	16	1		1	.2			1									
RC		4M	23	1		1	.4			1									
RC		4M	25	4		4	1.0			3		1							
RC		4M	27	1		1	.4				1								
RC		4M	28	1		1	.3				1								
RC		4M	32	4		4	1.0			4									
RC		4M	38	4		4	1.1			4									
RC		Totals		372		371	9.9			39	11	31	28		70	83	89	21	
WH		2M	40	187		187	64.7					39		37	61	49			
WH		3M	38	14		14	4.7			14									
WH		3M	40	76	3.3	74	25.5				17	36			21				
WH		4M	15	2		2	.6			2									
WH		4M	16	1		1	.4			1									
WH		4M	18	2		2	.7			2									
WH		4M	24	4		4	1.3			4									
WH		4M	27	1		1	.5			1									
WH		4M	28	1		1	.5				1								
WH		4M	32	4		4	1.3			4									
WH		Totals		292		289	7.7			27	18	36	39	37	82	49			
GF		2M	40	86		86	93.6							13	16	57			
GF		3M	38	2		2	2.4			2									
GF		3M	40	4		4	3.9				4								
GF		Totals		92		92	2.5			2	4			13	16	57			
RA		CR	40	11		11	100.0			11									
RA		Totals		11		11	.3			11									
BM		CR	28	27		27	67.3			27									
BM		CR	40	13		13	32.7			13									
BM		Totals		40		40	1.1			40									
Total		All Species		3,766		3,759	100.0		21	266	206	208	491	252	1026	803	438	48	

Volume Summary
(Shown in MBF)
Hindsight
FG-341-2020-W00231-01
September 2019

AREA 1: MC (104 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	CR	TOTAL
Douglas-fir	Cruise Volume	2,454	404	97	0	2,955
	Hidden D&B (2%)	(49)	(8)	(2)	(0)	(59)
	NET TOTAL	2,405	396	95	0	2,896
	% of Total	83	14	3	0	
Western hemlock	Cruise Volume	187	87	15	0	289
	Hidden D&B (2%)	(4)	(2)	(0)	(0)	(6)
	NET TOTAL	183	85	15	0	283
	% of Total	65	30	5	0	
Grand fir	Cruise Volume	86	6	0	0	92
	Hidden D&B (2%)	(2)	(0)	(0)	(0)	(2)
	NET TOTAL	84	6	0	0	90
	% of Total	93	7	0	0	
Red alder	Cruise Volume	0	0	0	11	11
	Hidden D&B (5%)	(0)	(0)	(0)	(1)	(1)
	NET TOTAL	0	0	0	10	10
	% of Total	0	0	0	100	

SALE TOTAL						
SPECIES	2 SAW	3 SAW	4 SAW	CR	TOTAL	
Douglas-fir	2,405	396	95	0	2,896	
Western hemlock	183	85	15	0	283	
Grand fir	84	6	0	0	90	
Red alder	0	0	0	10	10	
Total	2,672	487	110	10	3,279	



Legend

- Timber Sale Boundary
- ODF Ownership Boundary
- Surfaced Roads
- - - - Unsurfaced Roads
- Type-F Stream
- Type-N Stream
- ▨ Stream Buffer
- ▧ Cable Yarding Area
- ▤ Tractor Yarding Area
- Cable Landing
- Tractor Landing
- /// Reforested Area
- Section Lines
- 40 Foot Contour Band
- 200 Foot Contour Band

LOGGING PLAN

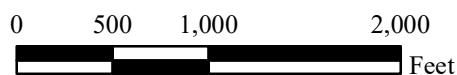
FOR TIMBER SALE CONTRACT # FG-341-2020-W00231-01
HINDSIGHT
PORTIONS OF SECTIONS 16 & 17, T3N, R5W, W.M.,
WASHINGTON COUNTY, OREGON

Forest Grove District GIS
September, 2019

This product is for informational use and may not be
suitable for legal, engineering, or surveying purposes.

1:12,000

1 inch = 1,000 feet



APPROXIMATE NET ACRES

	TRACTOR	CABLE
TOTAL	83	21