Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	$198,561.53	$0.00	$198,561.53
		Project Work:	$0.00
		Advertised Value:	$198,561.53

Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Timber Description

Location: Portions of Sections 17 and 18, T4N, R5W, W.W., Columbia County, Oregon.

Stand Stocking: 20%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	11	0	98

Volume by Grade	3S	4S	Total
Douglas - Fir	560	171	731
Total	560	171	731

Comments: Pond Values Used: 3rd Quarter Calendar Year 2016.

Western Hemlock and Other Conifers Stumpage Price = Pond Value minus Logging Cost:
$148.65/MBF = $450/MBF - $301.35/MBF

Western redcedar and Other Cedars Stumpage Price = Pond Value minus Logging Cost:
$848.65/MBF = $1,150/MBF - $301.35/MBF

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
$323.65/MBF = $625/MBF - $301.35/MBF

SCALING COST ALLOWANCE = $5.00/MBF

BRANDING AND PAINTING COST ALLOWANCE = $2.00/MBF

FUEL COST ALLOWANCE = $3.00/Gallon

HAULING COST ALLOWANCE
Hauling costs equivalent to $780 daily truck cost.

Other Costs (with Profit & Risk to be added):
Non Project Roads: 22.95 sta. @ $100/sta. = $2,295
TOTAL Other Costs (with Profit & Risk to be added) = $2,295

Other Costs (No Profit & Risk added):
Block/Waterbar Roads/Skid Trails: 20 hrs x $150/hour = $3,000
Pile Landing Slash/Sort Firewood: 15 hrs x $150/hour = $2,250
Equipment Cleaning: 3 x $1,000/Piece = $3,000
TOTAL Other Costs (No Profit & Risk added) = $8,250

ROAD MAINTENANCE
Move-in: $4,000
General Road Maintenance: 9.2 miles x $600/mile = $5,520
TOTAL Road Maintenance: $9,520/731 MBF = $13.02/MBF

Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Logging Conditions

Combination#: 1 Douglas - Fir 22.37%

Logging System: Cable: Small Tower <=40 **Process:** Stroke Delimber

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

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

loads / day: 8 **bd. ft / load:** 3600

cost / mbf: $194.44

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

Combination#: 2 Douglas - Fir 77.63%

Logging System: Shovel **Process:** Stroke Delimber

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

tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF

loads / day: 8 **bd. ft / load:** 3600

cost / mbf: $110.14

machines: Stroke Delimber (B)

Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Logging Costs

Operating Seasons:	1.00	**Profit Risk:**	15%
Project Costs:	$0.00	**Other Costs (P/R):**	$2,295.00
Slash Disposal:	$0.00	**Other Costs:**	$8,250.00

Miles of Road

Road Maintenance: $13.02

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

Hauling Costs

Species	$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	$0.00	2.0	4.2

Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling / Brand & Paint	Other	Total
Douglas - Fir									
$129.00	$13.28	$6.00	$94.72	$3.14	$36.92	$0.00	$7.00	$11.29	$301.35

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	$0.00	$572.98	$271.63	$0.00

Timber Sale Appraisal
Beside Eastside
Sale FG-341-2017-22-

District: Forest Grove **Date: October 07, 2016**

Summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	$0.00	$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	731	$271.63	$198,561.53

Gross Timber Sale Value

Recovery: $198,561.53

Prepared By: Eric Foucht **Phone:** 503-359-7473

TIMBER SALE SUMMARY
Beside Eastside
Contract No. 341-17-22

1. **Location:** Portions of Sections 17 and 18, T4N, R5W, Columbia County, Oregon.

2. **Type of Sale:** This timber sale is 106 net acres of Moderate Partial Cut, and 1 acre of Right-of-Way. The timber will be sold on a recovery basis at a sealed bid auction.

3. **Revenue Distribution:** 100% BOF, Columbia 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 June of 2016. For more information see Cruise Report.

6. **Timber Description:** The Timber Sale Area consists of an over-stocked 32 year old Douglas-fir stand. The stand has an average of 204.5 ft^2 of basal area, an average Douglas-fir DBH of 13 inches, and an estimated average net Douglas-fir volume of approximately 20.3 MBF per acre. Approximately 77 ft^2 of basal area and 6.7MBF per acre is targeted for removal. The average take tree DBH is 11 inches.

7. **Volume Summary**

AREA 1: PC-M (106 ACRES)

SPECIES	2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	0	544	167	711

AREA 2: R/W (1 ACRE)

Douglas-fir	0	16	4	20

SALE TOTAL

Douglas-fir	0	560	171	731
Percent of Total		77	23	

8. **Topography and Logging Method:** Slopes within the sale areas range from 10% to 65%, and are variable in aspect. The timber sale is 76% ground-based yarding and 24% cable yarding. The maximum cable corridor length is approximately 900 feet and the average is 190 feet. The maximum horizontal skid trail length is approximately 850 feet and the average is approximately 450 feet.

9. **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 16 miles to the North Fork of Wolf Creek Road just east of MP 35. Turn right and continue north 4½ miles to the McGregor Road. Bear right and continue north on the McGregor Road 3.6 miles to the Eastside Grade. Turn right and proceed ¾ mile to the west side of the Timber Sale Area.

10. **Projects:** None.

CRUISE REPORT
Beside Eastside
341-17-22

1. LOCATION: Portions of Sections 17, and 18, T4N, R5W, Columbia County, Oregon.

2. CRUISE DESIGN:
Pre-cruise evaluation indicated that the stand's average DBH is approximately 13 inches and its Coefficient of Variation is about 40%. For sales of this size and approximate value, ODF cruise standards require a Sampling Error of 12% 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 20 BAF prism.

3. SAMPLING METHOD:
The Timber Sale Area was cruised in June, 2016. The sample consisted of 31 variable radius grade plots using a 20 BAF prism. Plots were laid out on a 4 chain x 5 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain. Cruisers 'thinned' plots from below to 130 ft^2 of basal area then measured and graded each 'take' tree. Leave tree dimensions were estimated.

4. CRUISE RESULTS
119 sample trees were measured and graded producing a cumulative Sampling Error of 9.7% on the Basal Area and 10.3% on the Board Foot Volume.

5. TREE MEASUREMENT AND GRADING:
All sample trees were measured and graded following Columbia River Log Scale grade rules, favoring 40 foot log segments.

a) **Height Standards:**
Total tree heights were measured to the nearest foot. Bole heights were calculated to a six inch top.

b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest inch.

c) **Form Factors** were 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:** Two percent of the volume was subtracted from the computed volumes to account for hidden defect and breakage.

6. Cruisers: The sale was cruised by ODF cruisers Kenton Burns and Mark Savage.

Prepared by: _____
ODF Forester Date

Reviewed by: _____
Eric Foucht Date

TC PSTATS

PROJECT STATISTICS

PROJECT BESIDEF2

DATE 7/6/2016

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
02N	05	17	00A1	00PC	106.00	31	317	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	31	317	10.2		
CRUISE	31	317	10.2	23,665	1.3
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-L	198	112.7	14.4	79	33.6	127.7	13,593	13,582	3,535	3,535
DOUG FIR-T	119	110.5	11.3	72	22.9	76.8	6,813	6,712	1,730	1,730
TOTAL	*317*	*223.3*	*13.0*	*75*	*56.8*	*204.5*	*20,406*	*20,294*	*5,265*	*5,265*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-L	36.9	2.6	126	129	133			
DOUG FIR-T	40.6	3.7	67	69	72			
TOTAL	*47.5*	*2.7*	*104*	*107*	*109*	*90*	*22*	*10*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - CF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-L	35.6	2.5	33	34	34			
DOUG FIR-T	44.4	4.1	18	18	19			
TOTAL	*46.5*	*2.6*	*27*	*28*	*29*	*86*	*22*	*10*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-L	19.6	3.5	109	113	117			
DOUG FIR-T	55.9	10.0	99	111	122			
TOTAL	*29.6*	*5.3*	*211*	*223*	*235*	*35*	*9*	*4*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	BASAL AREA/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-L	9.6	1.7	126	128	130			
DOUG FIR-T	53.9	9.7	69	77	84			
TOTAL	*21.1*	*3.8*	*197*	*205*	*212*	*18*	*4*	*2*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET BF/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-L	16.3	2.9	13,185	13,582	13,980			
DOUG FIR-T	57.5	10.3	6,019	6,712	7,404			
TOTAL	*25.0*	*4.5*	*19,384*	*20,294*	*21,204*	*25*	*6*	*3*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	NET CUFT FT/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-L	14.7	2.6	3,442	3,535	3,628			
DOUG FIR-T	56.7	10.2	1,554	1,730	1,906			
TOTAL	*23.4*	*4.2*	*5,044*	*5,265*	*5,487*	*22*	*5*	*2*

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T02N R05W S17 Ty00PC 106.00

Project: **BESIDEF2**

Acres **106.00**

Page **1**
Date **7/6/2016**
Time **11:42:03AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	L		3M	82	.1	11,228	11,217	1,189		96	4			16	3	81	37	9	100	0.71	112.1
DF	L		4M	18		2,365	2,365	251		100			62	30	4	4	18	6	22	0.32	105.9
DF	**Totals**			67	.1	13,593	13,582	1,440		96	4		11	18	3	67	28	7	62	0.59	218.0
DF	T		CU														8	6		0.00	9.2
DF	T		3M	76	1.3	5,204	5,135	544		100				3	23	74	37	7	67	0.48	76.1
DF	T		4M	24	2.0	1,609	1,577	167		100			39	55	5		19	6	24	0.29	65.5
DF	**Totals**			33	1.5	6,813	6,712	711		100			9	16	19	57	28	7	45	0.41	150.8
Totals					0.6	20,406	20,294	2,151		98	2		10	17	8	64	28	7	55	0.51	368.8

TC TSTNDSUM

Stand Table Summary

Project BESIDEF2

T02N R05W S17 T00PC

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees
02N	05W	17	00A1	00PC	106.00	31	317

T02N R05W S17 T00PC

Date: 07/06/20

Time: 11:42:02AM

Spc	S T	DBH	Sample Trees	FF 16'	Av Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Average Log Net Cu.Ft.	Average Log Net Bd.Ft.	Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals Tons	Totals Cunits	Totals MBF
DF	L	10	1	87	70	1.183	.65	1.18	11.5	60.0	.39	14	71	41	14	8
DF	L	11	4	85	64	3.910	2.58	3.91	12.8	55.0	1.43	50	215	151	53	23
DF	L	12	8	87	70	6.572	5.16	13.14	9.3	40.0	3.50	123	526	371	130	56
DF	L	13	21	87	75	14.699	13.55	29.40	11.4	40.2	9.55	335	1,183	1,013	355	125
DF	L	14	63	87	77	38.021	40.65	73.63	14.3	53.3	29.92	1,050	3,923	3,171	1,113	416
DF	L	15	54	87	81	28.389	34.84	56.78	17.9	70.2	28.89	1,014	3,985	3,062	1,074	422
DF	L	16	32	87	87	14.786	20.65	29.57	21.6	84.8	18.16	637	2,509	1,925	676	266
DF	L	17	1	87	90	.409	.65	.82	24.4	90.0	.57	20	74	60	21	8
DF	L	18	8	87	87	2.921	5.16	5.84	28.2	106.9	4.70	165	624	498	175	66
DF	L	19	4	88	88	1.311	2.58	2.62	31.4	115.0	2.35	82	301	249	87	32
DF	L	20	1	88	95	.296	.65	.59	38.7	145.0	.65	23	86	69	24	9
DF	L	22	1	88	95	.244	.65	.49	46.4	175.0	.65	23	86	69	24	9
DF		Totals	198	87	79	112.740	127.74	217.97	16.2	62.3	100.75	3,535	13,582	10,680	3,747	1,440
DF	T	8	9	86	68	16.634	5.81	16.63	4.7	25.6	2.22	78	425	236	83	45
DF	T	9	8	87	67	11.683	5.16	11.68	8.0	37.5	2.66	93	438	282	99	46
DF	T	10	15	86	70	17.743	9.68	17.74	11.3	53.3	5.73	201	946	607	213	100
DF	T	11	12	83	70	11.731	7.74	11.73	13.7	51.7	4.59	161	606	487	171	64
DF	T	12	21	85	72	17.250	13.55	20.54	14.9	54.0	8.73	306	1,109	925	325	118
DF	T	13	37	86	76	25.897	23.87	44.80	13.2	47.5	16.86	591	2,128	1,787	627	226
DF	T	14	9	87	79	5.432	5.81	10.26	15.3	54.7	4.46	157	561	473	166	59
DF	T	15	7	85	81	3.680	4.52	7.36	17.1	61.4	3.59	126	452	381	134	48
DF	T	16	1	84	72	.462	.65	.92	17.4	50.0	.46	16	46	49	17	5
DF		Totals	119	86	72	110.513	76.77	141.67	12.2	47.4	49.30	1,730	6,712	5,226	1,834	711
Totals			317	86	75	223.253	204.52	359.64	14.6	56.4	150.06	5265	20,294	15,906	5,581	2,151

TC PLOGSTVB

Log Stock Table - MBF

T02N R05W S17 Ty00PC 106.00

Project: BESIDEF2
Acres 106.00

Date 7/6/2016
Time 11:42:04AM

Spp	ST	So Grt	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	L	3M		24	4	16.7	3	.2				3								
DF	L	3M		30	186		186	12.9				163	24							
DF	L	3M		32	16		16	1.1			5	11								
DF	L	3M		34	20		20	1.4			5	15								
DF	L	3M		35	2		2	.1			2									
DF	L	3M		36	40		40	2.8			20	20								
DF	L	3M		37	2		2	.1			2									
DF	L	3M		40	920		920	63.9			57	566	244	45	8					
DF	L	4M		12	11		11	.8			11									
DF	L	4M		13	18		18	1.3			18									
DF	L	4M		14	5		5	.4			5									
DF	L	4M		15	40		40	2.8			40									
DF	L	4M		16	17		17	1.2			17									
DF	L	4M		17	42		42	2.9			42									
DF	L	4M		18	16		16	1.1			16									
DF	L	4M		19	1		1	.1			1									
DF	L	4M		20	6		6	.4			6									
DF	L	4M		21	30		30	2.1			30									
DF	L	4M		22	2		2	.1			2									
DF	L	4M		23	5		5	.3			5									
DF	L	4M		25	33		33	2.3			33									
DF	L	4M		27	1		1	.1			1									
DF	L	4M		28	1		1	.1			1									
DF	L	4M		30	4		4	.3			4									
DF	L	4M		31	4		4	.3			4									
DF	L	4M		33	5		5	.3			5									
DF	L	4M		36	7		7	.5			7									
DF	L	4M		38	2		2	.1			2									
DF		Totals			1,441		1,440	66.9			341	778	268	45	8					
DF	T	3M		23	4		4	.6				4								
DF	T	3M		26	8		8	1.1				8								
DF	T	3M		30	5		5	.7				5								
DF	T	3M		32	54	5.4	51	7.1			16	35								
DF	T	3M		34	74	1.7	73	10.2			32	40								
DF	T	3M		36	44	2.9	42	5.9			36	6								
DF	T	3M		38	29		29	4.0			29									
DF	T	3M		40	334		332	46.7			197	135								

TC PLOGSTVB

Log Stock Table - MBF

T02N R05W S17 Ty00PC 106.00

Project: BESIDEF2
Acres 106.00

Date 7/6/2016
Time 11:42:04AM

Spp	ST	So Grade	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	T	4M	12	14		14	1.9			14									
DF	T	4M	14	8		8	1.2			8									
DF	T	4M	15	1		1	.2			1									
DF	T	4M	16	33		33	4.6			33									
DF	T	4M	18	1		1	.2			1									
DF	T	4M	20	8		8	1.1			8									
DF	T	4M	22	37		37	5.2			33	4								
DF	T	4M	24	13		13	1.8			13									
DF	T	4M	26	9		9	1.2			9									
DF	T	4M	27	4		4	.6			4									
DF	T	4M	28	9		9	1.3			9									
DF	T	4M	30	22	4.8	21	2.9			21									
DF	T	4M	32	11	20.0	9	1.3			9									
DF		Totals		722	1.5	711	33.1			474	238								
Total		All Species		2,163		2,151	100.0			815	1016	268	45	8					

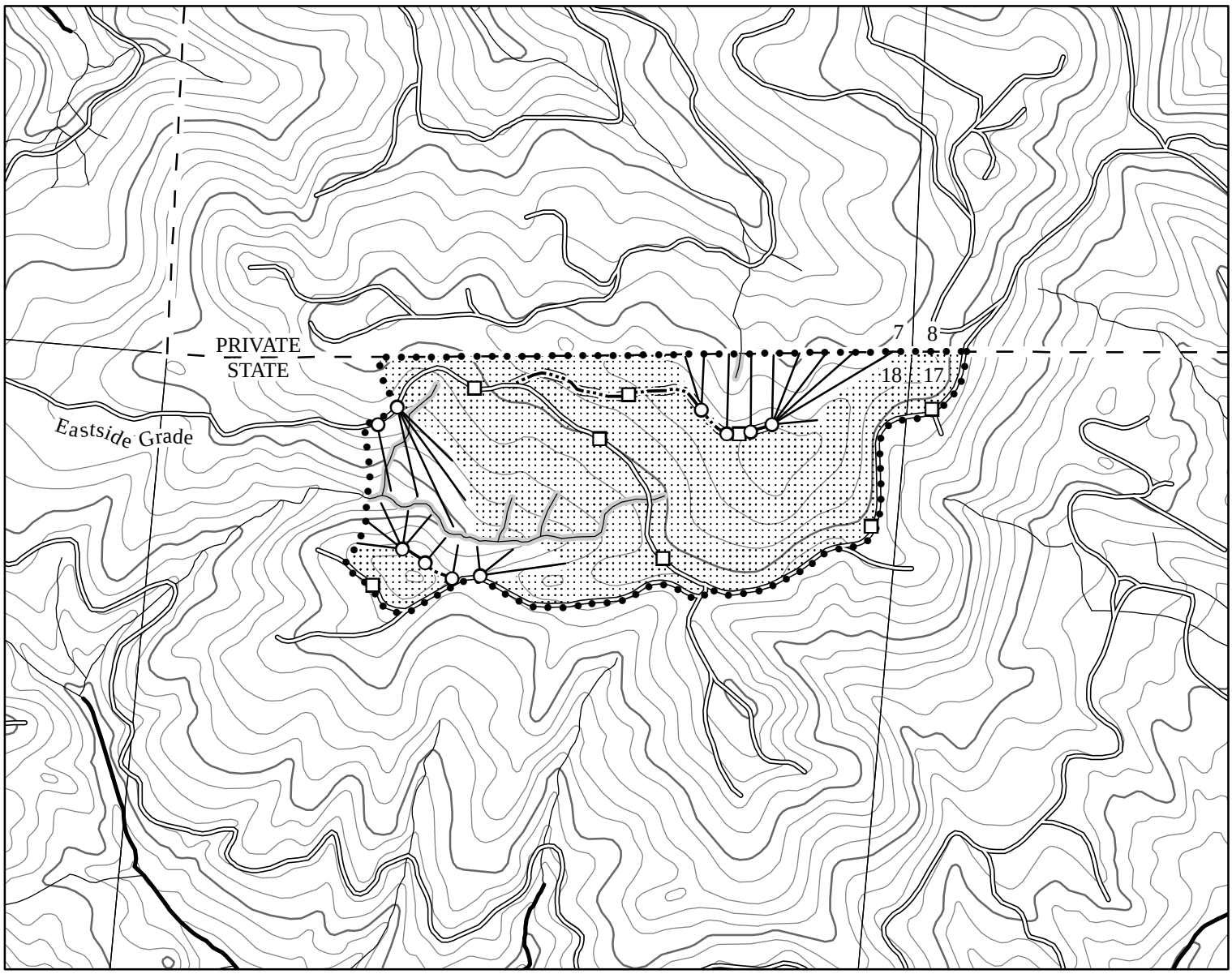
RESIDUAL STAND SPECIFICATIONS

BESIDE EASTSIDE
SALE NUMBER:

Residual QMD assumption (from leave tree cruise information)	=	14
Target Relative Density	=	34

	Minimum	Target	Maximum
Relative Density	32	35	37
Basal Area	120	130	140
Trees per Acre	112	122	131

RD = BA / √ DBH
BA = √DBH (RD)
TPA = (BA/acre) / (BA/tree)
BA / tree = (πr^2) / (144)



LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-17-22
BESIDE EASTSIDE
PORTIONS OF SECTIONS 17 & 18, T4N, R5W
COLUMBIA COUNTY, OREGON.

Legend

- Timber Sale Boundary
- Roads
- Non Project Road Construction
- Posted R/W Boundary
- Type F Stream
- Type N Stream
- Stream Buffer
- Cable Landing
- Tractor Landing
- Cable Yarding Area
- Tractor Yarding Area
- ODF Ownership Boundary
- Sections
- 200 Foot Contour Band
- 40 Foot Contour Band

N

Forest Grove District GIS
June, 2016
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

0 500 1,000 2,000

Feet

APPROXIMATE NET ACRES

	TRACTOR	CABLE
AREA 1	25	81
AREA 2 R/W	1	0
TOTAL	26	81