



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$2,186,359.56	\$0.00	\$2,186,359.56
		Project Work:	\$0.00
		Advertised Value:	\$2,186,359.56



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

timber description

Location: Portions of Section 25, T2N, R6W, W.M. Washington County, and portions of
Section 36, T2N, T6W, W.M., Tillamook County, Oregon.

Stand Stocking: 20%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	21	0	98

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	3,340	1,245	156	4,741
Total	3,340	1,245	156	4,741



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

comments: Pond Values Used: 3rd Quarter Calendar Year 2014.

Western Hemlock and Other Conifers Stumpage Price = Pond Value
minus Logging Cost:

$\$360.21/\text{MBF} = \$535/\text{MBF} - \$174.79/\text{MBF}$

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost:

$\$965.21/\text{MBF} = \$1,140/\text{MBF} - \$174.79/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus
Logging Cost:

$\$440.21/\text{MBF} = \$615/\text{MBF} - \$174.79/\text{MBF}$

SCALING COST ALLOWANCE = \$5.00/MBF

FUEL COST ALLOWANCE = \$4.00/Gallon

HAULING COST ALLOWANCE

Hauling costs equivalent to \$780 daily truck cost.

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

Brand and Paint: 4,741 MBF @ \$2/MBF = \$9,482

Non-Project New Road Construction: 35 Stations X \$200/Station
= \$7,000

TOTAL Other Costs (with Profit & Risk to be added) = \$16,482

Other Costs (No Profit & Risk added):

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

5 Hours @ \$150/Hr. = \$750

Equipment Cleaning: 3 x \$1,000/Piece = \$3,000

Machine Time to Pile Landing Slash and Sort Firewood:

15 hrs x \$150/hr = \$2,250

TOTAL Other Costs (No Profit & Risk added) = \$10,500

ROAD MAINTENANCE

Move-in: \$2,000

General Road Maintenance: 1.9 miles x \$1,000/mile = \$1,900

TOTAL: \$3,900 / 4,741 MBF = \$0.82/MBF



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

logging conditions

combination#: 1 Douglas - Fir 90.00%
yarding distance: Medium (800 ft) downhill yarding: No
logging system: Track Skidder Process: Manual Felling/Delimbing
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 8.0 bd. ft / load: 4,800
cost / mbf: \$89.59

machines: Log Loader (B)
Track Skidder

combination#: 2 Douglas - Fir 10.00%
yarding distance: Short (400 ft) downhill yarding: No
logging system: Cable: Small Tower <=40 Process: Stroke Delimber
tree size: Mature / Regen Cut (900 Bft/tree), 3-5 logs/MBF
loads / day: 5.0 bd. ft / load: 4,800
cost / mbf: \$118.09

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



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

logging costs

Operating Seasons:	1.00	Profit Risk:	15.00%
Project Costs:	\$0.00	Other Costs (P/R):	\$16,482.00
Slash Disposal:	\$0.00	Other Costs:	\$10,500.00

Miles of Road

Road Maintenance: \$0.82

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	4.8



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$92.44	\$0.84	\$0.92	\$48.04	\$3.48	\$21.86	\$0.00	\$5.00	\$2.21	\$174.79

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$635.95	\$461.16	\$0.00



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Cedar Flats
Sale 341-15-24

District: Forest Grove

Date: October 28, 2014

summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,741	\$461.16	\$2,186,359.56

Gross Timber Sale Value

Recovery: \$2,186,359.56

Prepared by: Peter Stone

Phone: 503-359-7432

TIMBER SALE SUMMARY
Cedar Flats
Contract No. 341-15-24

1. **Location:** Portions of Sections 25, T2N, R6W, W.M., Washington County, and Portions of Section 36 T2N, R6W, W.M., Tillamook County, Oregon.
2. **Type of Sale:** This timber sale is a 95 acre Modified Clearcut. The timber will be sold on a recovery basis at a sealed bid auction.
3. **Revenue Distribution:** 100% BOF, 78% Tillamook County (Tax Code 56) and 22% 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 2014. For more information see Cruise Report.
6. **Timber Description:** The Timber Sale Area consists of a medium to well stocked 70 year old Douglas-fir stand. The average DBH for harvested Douglas-fir is 21 inches. The estimated average net per acre volume is 49.9 MBF.
7. **Volume Summary**

Timber Sale Area: MC (95 ACRES)

SPECIES		2 SAW	3 SAW	4 SAW	TOTAL
Douglas-fir	Cruise Volume	3,479	1,297	163	4,939
	Hidden D&B (2%)	(139)	(52)	(7)	(198)
	NET TOTAL	3,340	1,245	156	4,741
	% of Total	70	26	3	

8. **Topography and Logging Method:** Slopes within the sale areas range from 2% to 60% and are variable in aspect. The Timber Sale Area is 89% ground-based yarding, and 11% cable-based yarding. The average horizontal cable yarding distance is approximately 500 feet and the maximum is approximately 1000 feet. The average horizontal tractor yarding distance is approximately 400 feet and the maximum is approximately 800 feet
9. **Access:** From Forest Grove travel northwest 7 miles on Highway 8 to its junction with Highway 6 and turn left. Continue west on Highway 6 for 9.5 miles to Beaverdam Road and turn left. Proceed $\frac{3}{4}$ mile to the southern tip of the Timber Sale Area.

CRUISE REPORT
Cedar Flats
341-15-24

1. LOCATION: Portions of Sections 25, T2N, R6W, W.M., Washington County, and Portions of Section 36, T2N, R6W, W.M., Tillamook County, Oregon.

2. CRUISE DESIGN:

Clearcut: The cruise design assumed a Coefficient of Variation (CV) of 50%, an average stand diameter of 17 inches and a desired sampling error (SE) of 9%. Pre-cruise plots indicated that approximately 6 trees per plot could be realized with a 40 BAF prism.

3. SAMPLING METHOD:

The Sale Area was cruised in September 2014 with 37 variable radius grade and count plots using a 40 BAF prism. Plots were laid out on a 4 chain x 6 chain grid. Plots falling on or near existing roads or no-harvest areas were offset 1 chain.

4. CRUISE RESULTS

109 trees were measured and graded producing a cumulative Douglas-fir Basal Area and Board Foot Volume SE of 5.8%.

5. TREE MEASUREMENT AND GRADING:

All trees assigned a 'Take' status were measured and graded following Columbia River Log Scale grade rules and favoring 40 foot segments.

- a) **Height Standards:** Bole heights were measured to the nearest foot of the total height.
- 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 volume 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 (Stone, Savage).

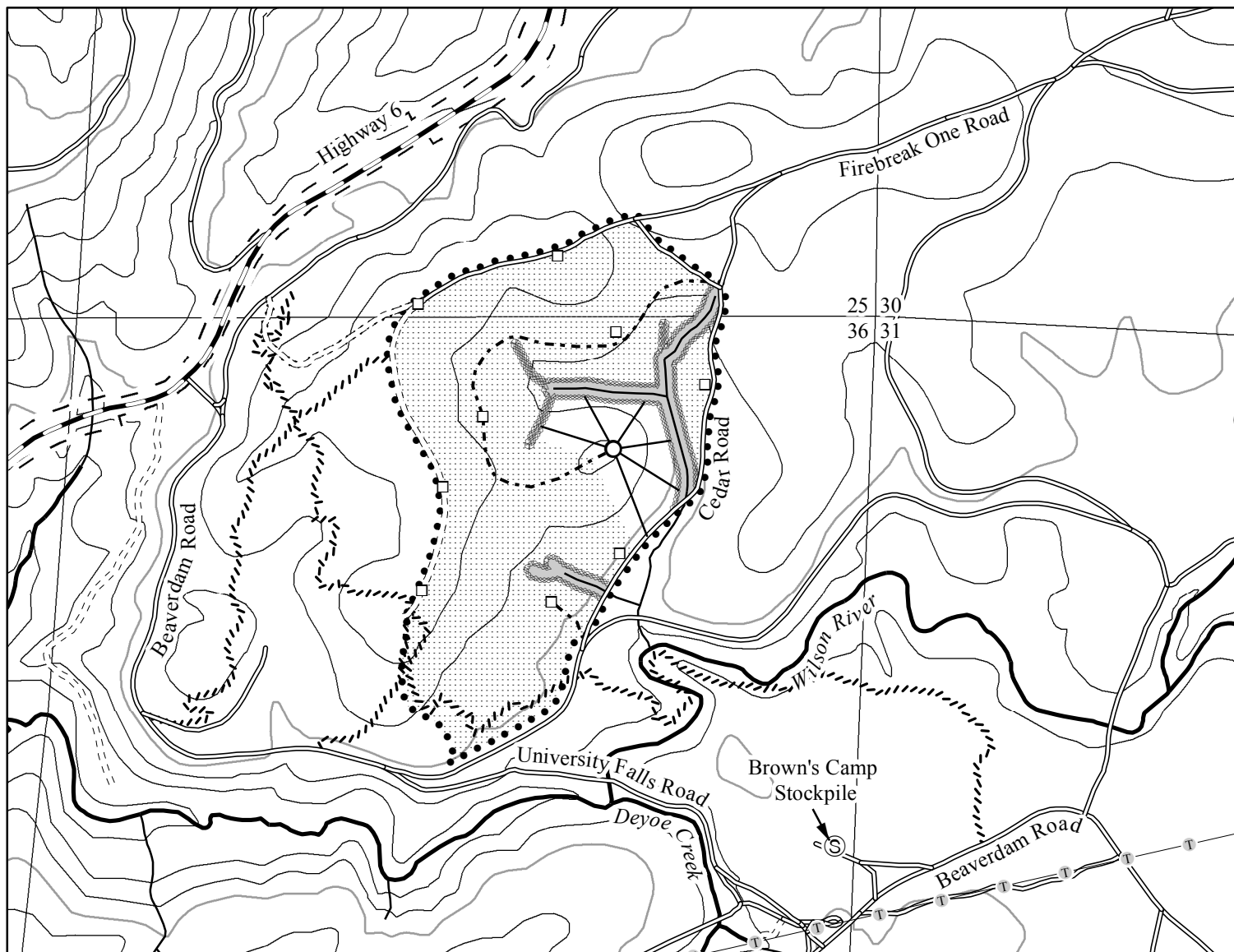
Prepared by:	<u>Peter Stone</u>	<u>9/10/2014</u>
	ODF Forester	Date
Reviewed by:	<u>Erik Marcy</u>	<u>9/10/2014</u>
	Unit Forester	Date

TC		PLOGSTVB		Log Stock Table - MBF																			
<div>T02N R06W S36 Ty00MC95.00</div>				Project: Acres		CEDAR 95.00														Page Date Time		1 9/9/2014 8:26:27AM	
S T Spp	So Gr rt de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches																
							2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+					
DF	2M	24	21		21	.4							21										
DF	2M	37	34		34	.7									34								
DF	2M	40	3,449		3,423	69.3						642	1064	1212	339	167							
DF	3M	16	15		15	.3							15										
DF	3M	26	2		2	.0				2													
DF	3M	28	3		3	.1			3														
DF	3M	32	38	3.3	37	.7			17	20													
DF	3M	34	177	2.1	173	3.5			88	49	36												
DF	3M	36	13		13	.3			13														
DF	3M	40	1,056		1,054	21.3			150	314	577	14											
DF	4M	16	50		50	1.0			50														
DF	4M	18	2		2	.0			2														
DF	4M	20	33		33	.7			32	1													
DF	4M	22	3		3	.1			3														
DF	4M	24	24		24	.5			24														
DF	4M	28	21		21	.4			21														
DF	4M	30	26		26	.5			26														
DF	4M	32	4		4	.1			4														
DF	Totals		4,970		4,938		100.0			431	386	613	655	1086	1227	373	167						
Total	All Species		4,970		4,938		100.0			431	386	613	655	1086	1227	373	167						

TC PSTATS			PROJECT STATISTICS							PAGE	1
			PROJECT		CEDAR					DATE	9/9/2014
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
02N	06	36	TAKE	00MC		95.00		37	237	S	W
			PLOTS	TREES	TREES PER PLOT		ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES			
TOTAL			37	237	6.4						
CRUISE			19	109	5.7		10,631	1.0			
DBH COUNT REFOREST COUNT			18	128	7.1						
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-T			109	111.9	20.5	125	56.6	256.2	52,315	51,977	11,435
TOTAL			109	111.9	20.5	125	56.6	256.2	52,315	51,977	11,435
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-T		56.8	5.4	595	630	664					
TOTAL		56.8	5.4	595	630	664	129		32	14	
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-T		52.7	8.7	102	112	122					
TOTAL		52.7	8.7	102	112	122	111		28	12	
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-T		35.6	5.8	241	256	271					
TOTAL		35.6	5.8	241	256	271	51		13	6	
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-T		35.1	5.8	48,977	51,977	54,976					
TOTAL		35.1	5.8	48,977	51,977	54,976	49		12	5	

TC		PSTNDSUM		Stand Table Summary										Page		1	
														Date:		9/9/2014	
T02N R06W S36 Ty00MC					95.00		Project		CEDAR		Time:		8:26:29AM				
							Acres		95.00		Grown Year:						
S Spc	T	Sample		FF 16'	Tot Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Net Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	T o t a l s			
		DBH	Trees						Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF	
DF		10	1	92	100	4.310	2.35	4.31	14.2	70.0	1.74	61	302	165	58	29	
DF		11	2	88	98	7.124	4.70	14.25	9.4	42.5	3.81	134	606	362	127	58	
DF		14	4	89	112	8.795	9.40	17.59	19.9	91.2	9.98	350	1,605	948	333	152	
DF		15	5	88	117	9.577	11.75	21.07	21.9	100.0	13.14	461	2,107	1,248	438	200	
DF		16	2	89	124	3.367	4.70	8.42	23.4	106.0	5.62	197	892	534	187	85	
DF		17	4	89	127	5.965	9.40	17.90	23.1	100.0	11.77	413	1,790	1,119	392	170	
DF		18	4	89	126	5.321	9.40	15.96	25.6	106.7	11.66	409	1,703	1,108	389	162	
DF		19	4	87	117	4.775	9.40	11.94	32.2	133.0	10.96	385	1,588	1,041	365	151	
DF		20	11	87	127	11.852	25.86	34.48	32.7	140.0	32.14	1,128	4,827	3,053	1,071	459	
DF		21	10	88	125	9.773	23.51	29.32	35.0	156.7	29.28	1,027	4,593	2,781	976	436	
DF		22	13	88	133	11.576	30.56	34.73	40.6	187.4	40.22	1,411	6,509	3,821	1,341	618	
DF		23	5	87	133	4.073	11.75	12.22	44.8	202.7	15.59	547	2,477	1,481	520	235	
DF		24	11	87	135	8.230	25.86	23.94	50.5	228.8	34.49	1,210	5,477	3,276	1,150	520	
DF		25	2	90	141	1.379	4.70	4.14	58.5	286.7	6.89	242	1,186	655	230	113	
DF		26	6	88	144	3.825	14.10	12.11	58.0	278.9	20.03	703	3,379	1,903	668	321	
DF		27	4	88	141	2.365	9.40	7.09	64.6	304.2	13.05	458	2,158	1,240	435	205	
DF		28	8	87	136	4.398	18.80	13.19	67.0	315.0	25.21	884	4,156	2,395	840	395	
DF		29	2	86	131	1.025	4.70	3.07	69.6	310.0	6.10	214	953	580	203	91	
DF		30	2	88	133	.958	4.70	2.87	78.9	390.0	6.46	227	1,121	614	215	106	
DF		31	2	86	142	.897	4.70	2.69	86.1	416.7	6.60	232	1,121	627	220	107	
DF		33	1	84	132	.396	2.35	1.19	91.0	416.7	3.08	108	495	293	103	47	
DF		36	4	82	134	1.330	9.40	3.99	106.6	475.0	12.12	425	1,895	1,151	404	180	
DF		38	2	85	130	.597	4.70	1.79	116.7	580.0	5.95	209	1,039	566	198	99	
DF		Totals	109	88	125	111.908	256.22	298.26	38.3	174.3	325.89	11,435	51,977	30,959	10,863	4,938	
Totals			109	88	125	111.908	256.22	298.26	38.3	174.3	325.89	11,435	51,977	30,959	10,863	4,938	

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																					
<div>T02N R06W S36 Ty00MC</div> <div>95.00</div>						Project:						CEDAR						Page						1	
						Acres						95.00						Date						9/9/2014	
																		Time						8:26:28AM	
S		So Gr		%	Bd. Ft. per Acre			Total	Percent of Net Board Foot Volume								Average Log				Logs				
Spp	T	rt	ad	Net BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	Per /Acre				
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99									
DF			CU													5	20		0.00	5.7					
DF			2M	70	.7	36,885	36,618	3,479			60	40		1		99	40	15	364	1.89	100.7				
DF			3M	26	.5	13,719	13,648	1,297		98	1	1	1	0	16	82	38	8	106	0.67	129.3				
DF			4M	4		1,711	1,711	163		100			52	46	2		21	6	25	0.37	68.2				
DF Totals				100	.6	52,315	51,977	4,938		29	42	29	2	2	4	92	34	10	171	1.10	303.9				
Totals					0.6	52,315	51,977	4,938		29	42	29	2	2	4	92	34	10	171	1.10	303.9				



Legend

- Timber Sale Boundary
- Highway
- Surfaced Road
- Unsurfaced Road
- - - - Non-Project Road
- Type F Stream
- Type N Stream
- Stream Buffer
- ▨ Posted Stream Buffer
- Cable Landing
- Tractor Landing
- ▨ Tractor Yarding Area
- ▨ Cable Yarding Area
- ▨ Recreation Trail
- ⊙ Rock Stockpile
- ┌ ┐ ODF Ownership Boundary
- Sections
- Electric Transmission Lines

LOGGING PLAN

FOR TIMBER SALE CONTRACT # 341-15-24
CEDAR FLATS
PORTIONS OF SECTIONS 25, T2N, R6W, W.M.
WASHINGTON COUNTY, OREGON
AND PORTIONS OF SECTION 36 T2N, T6W, W.M.
TILLAMOOK COUNTY, OREGON

Forest Grove District GIS
September, 2014

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



APPROXIMATE NET ACRES

TRACTOR	CABLE
85	10

1:12,000

1 inch = 1,000 feet

