



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
Rapid Rewards
Sale 341-12-51

District: Astoria

Date: April 11, 2012

cost summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$240,773.38	\$0.00	\$240,773.38
		Project Work:	\$(29,536.00)
		Advertised Value:	\$211,237.38



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timber description

Location: Portions of Sections 18 & 19, T5N, R6W and portions of Sections 13 & 24, T5N, R7W, W.M., Clatsop County, Oregon.

Stand Stocking: 80%

SpecieName	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	16	0	97
Western Hemlock / Fir	17	0	97

Volume by Grade	2S	3S	4S	Total
Douglas - Fir	245	551	115	911
Western Hemlock / Fir	0	46	0	46
Total	245	597	115	957



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comments: Pond Values Used: 1st Quarter Calendar Year 2012.

Expected Log Markets: Warrenton, OR; Mist, OR; Clatskanie, OR;
Tillamook, OR; Forest Grove, OR.

Western redcedar and Other Cedars Stumpage Price = Pond Value
minus Logging Cost
 $\$692.81/\text{MBF} = \$945/\text{MBF} - \$252.19/\text{MBF}$

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus
Logging Cost
 $\$297.81/\text{MBF} = \$550/\text{MBF} - \$252.19/\text{MBF}$

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):
100% Branding and Painting: $\$1/\text{MBF} \times 957 \text{ MBF} = \957
Machine washing for noxious weed compliance = \$2,000
TOTAL Other Costs (with Profit & Risk to be added) = \$2,957

Other Costs (No Profit & Risk added):
None.



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logging conditions

combination#: 1 Douglas - Fir 46.00%
 Western Hemlock / Fir 46.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Cable: Small Tower <=40 **Process:** Manual Delimbing
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 4.0 **bd. ft / load:** 4,000
cost / mbf: \$168.81

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

combination#: 2 Douglas - Fir 54.00%
 Western Hemlock / Fir 54.00%

yarding distance: Medium (800 ft) **downhill yarding:** No
logging system: Shovel **Process:** Manual Delimbing
tree size: Small / Thinning 12in (130 Bft/tree), 12-17 logs/MBF
loads / day: 6.0 **bd. ft / load:** 4,000
cost / mbf: \$104.36

machines: Shovel Logger



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal Rapid Rewards Sale 341-12-51

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logging costs

Operating Seasons:	2.00	Profit Risk:	14.00%
Project Costs:	\$29,536.00	Other Costs (P/R):	\$2,957.00
Slash Disposal:	\$0.00	Other Costs:	\$0.00

Miles of Road

Road Maintenance: \$14.43

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	4.0
Western Hemlock / Fir	\$0.00	2.0	3.7



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Timber Sale Appraisal Rapid Rewards Sale 341-12-51

District: Astoria

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logging costs breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Scaling	Other	Total
Douglas - Fir									
\$134.01	\$14.86	\$9.16	\$52.71	\$3.09	\$29.94	\$0.00	\$5.00	\$0.00	\$248.77
Western Hemlock / Fir									
\$134.01	\$14.86	\$9.16	\$85.47	\$3.09	\$34.52	\$0.00	\$5.00	\$0.00	\$286.11

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$506.81	\$258.04	\$0.00
Western Hemlock / Fir	\$0.00	\$410.00	\$123.89	\$0.00



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summary

Amortized

Specie	MBF	Value	Total
Douglas - Fir	0	\$0.00	\$0.00
Western Hemlock / Fir	0	\$0.00	\$0.00

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	911	\$258.04	\$235,074.44
Western Hemlock / Fir	46	\$123.89	\$5,698.94

Gross Timber Sale Value

Recovery: \$240,773.38

Prepared by: Jasen McCoy

Phone: 503-325-5451

SUMMARY OF ALL PROJECT COSTS

SALE NAME: Rapid Rewards

ROAD IMPROVEMENT:

	<u>Road segment</u>	<u>Length/Sta</u>	<u>Cost</u>
Project No. 1	<u>I1-I2, I3-I4, I4-I5</u>	<u>183.30</u>	<u>\$23,058</u>
	<u>TOTALS</u>		<u>\$23,058</u>

	<u>Cost</u>
Project Work Road Maintenance	<u>\$3,060</u>
	<u>\$3,060</u>

MOVE IN:

<u>Equipment</u>	<u>Cost</u>
<u>Dump Trucks (12 cy x 4)</u>	<u>\$564</u>
<u>Dump Trucks (20 cy x 4)</u>	<u>\$664</u>
<u>F E Loader (C966)</u>	<u>\$675</u>
<u>Grader (14G)</u>	<u>\$675</u>
<u>Vibratory Roller</u>	<u>\$675</u>
<u>Water Truck (2,500 gallon)</u>	<u>\$165</u>
<u>TOTAL</u>	<u>\$3,418</u>

GRAND TOTAL **\$29,536**

Compiled By: J. McCoy

Date: 01/20/2012

x:\Jewell Unit\timbersales\2012\Rapid_Rewards\Projects\Summary of Construction_RR.xls

Project No. 1 Road Improvement

SUMMARY OF CONSTRUCTION COSTS

SALE NAME: Rapid Rewards
 ROAD: I1-I2 (15+00), I3-I4 (40+45), I4-I5 (127+85)
 IMPROVEMENT: 183.30 STATIONS 3.47 MILES

SURFACING		Subgrade prep:		Description		Stations/amount		Rate/sta/amt		Cost	
		Grade, Shape and Ditch				183.30		x		\$3,863.96	
ROAD SEGMENT	Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
					I1 to I2	Sta. to Sta. Number of					
ROAD SEGMENT I1 to I2	Subgrade Leveling	4"-0" Crushed	I1 to I2	N/A	station	15	50	\$6.95	\$348		
	Surfacing	4"-0" Crushed	I1 to I2	4	turnout	2	375	\$6.95	\$2,606		
	Turnouts	4"-0" Crushed		4	turnaround	1	22	\$6.95	\$153		
	Turnaround	4"-0" Crushed		4	turnaround	1	11	\$6.95	\$76		
Total Rock for Road Segment:				I1 to I2			458			\$3,183	
ROAD SEGMENT I3 to I4	Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
					I3 to I4	Sta. to Sta. Number of					
ROAD SEGMENT I3 to I4	Subgrade Leveling	1 1/2"-0" Crushed	N/A	N/A	station	40.45	50	\$6.95	\$348		
	Surfacing	1 1/2"-0" Crushed	I3 to I4	2	turnout	5	526	\$6.95	\$3,655		
	Turnouts	1 1/2"-0" Crushed		2	junction	2	55	\$6.95	\$382		
	Junction	1 1/2"-0" Crushed			junction	2	22	\$6.95	\$153		
Total Rock for Road Segment:				I3 to I4			653			\$4,537	
ROAD SEGMENT I4 to I5	Application	Rock Size and Type	Location	Depth of Rock (inches)	POINT TO POINT		TOTAL VOLUME (CY)	Rate/ Sta./ amt.	Cost		
					I4 to I5	Sta. to Sta. Number of					
ROAD SEGMENT I4 to I5	Subgrade Leveling	1 1/2"-0" Crushed	N/A	N/A	turnout	5	270	\$6.95	\$1,877		
	Turnouts	1 1/2"-0" Crushed			junction	2	55	\$6.95	\$382		
	Junction	1 1/2"-0" Crushed			turnaround	1	22	\$6.95	\$153		
	Turnaround	1 1/2"-0" Crushed			turnaround	1	11	\$6.95	\$76		
Total Rock for Road Segment:				I4 to I5			358			\$2,488	
SUB TOTAL FOR SURFACING										\$23,058	

SPECIAL PROJECTS		Description		Cost	
SUB TOTAL FOR SPECIAL PROJECTS				\$0	
GRAND TOTAL				\$23,057.84	

Compiled By: J. McCoy Date: 01/13/2012

CRUSHED ROCK COST

SALE NAME:	Rapid Rewards
PROJECT:	Project No. 1
QUARRY:	Nettle Stockpiles

MATERIAL: Crushed

DATE: _____
BY: _____

[illegible]

ROCK HAUL:

Truck type: D20 No. trucks: 4
 Delay min.: 8 Efficiency: 85%

Ave haul:	\$5.72	/cy
Load:	\$0.45	/cy
Spread:	\$0.78	/cy

Truck type: D12 No. trucks: 4
 Delay min.: 6 Efficiency: 85%

Truck type: D10 No. trucks:
 Delay min.: 5 Efficiency: 85%

Production: cy/day = 933

CRUSHED ROCK HAUL COSTS 1,469 cy @ \$6.95 /cy

Road Maintenance after completion of Projects

Sale: Rapid Rewards
Date: 18-Jan-12
By: J. McCoy

FL

Type	Equipment/Rationale		Hours	Rate	Cost
Final Project	Grader 14G		20	\$93	\$1,860
	Dump Truck 12CY		8	\$73	\$584
	Front End Loader		8	\$77	\$616
Total					\$3,060

Production Rates		
Grader	Miles/day	Days
	1.5	2.3
	Distance(miles)	
	3.5	

Road Maintenance Cost Summary

Sale: Rapid Rewards
 Date: 12-Jan-12
 By: J. McCoy

MBF: 957
 \$\$/MBF: \$14.43

Type	Equipment/Rationale	Move-in Rate	Times	Hours	Rate	Cost	Production Rates			
Final Road Maintenance	Grader 14G	\$675	1	32	\$93	\$3,651	Production Rates	Miles/day	Distance(miles)	Days
	Dump Truck 12CY x 2	\$141	2	8	\$73	\$1,309	Grader	1.5	6.0	4.0
	FE Loader C966	\$675	1	8	\$77	\$1,291	Vibratory Roller*	1.5	6.0	4.0
	Excavator C315	\$699	1	8	\$94	\$1,451				
	Vibratory Roller	\$675	1	32	\$72	\$2,979				
	Water Truck 2,500 gallon	\$165	1	32	\$83	\$2,821				
	Labor	\$0	1	8	\$38	\$304				
Total						\$13,806				

*Final Road Maintenance Only

Rapid Rewards TIMBER CRUISE REPORT FY 2012

1. **Sale Area Location:** Areas 1, 2, 3, and 4 are located in portions of Sections 18 and 19, T5N, R6W, and Sections 13 and 24, T5N, R7W, W.M., Clatsop County, Oregon.

2. **Fund Distribution:** BOF 100%
Tax Code 8-01 (100%)

3. **Sale Acreage by Area:**

Area	Treatment	Gross Acres	Non-thinnable	Existing R/W	Stream Buffer	Net Acres	Survey Method
1	Partial Cut	20	0	1	2	17	GIS
2	Partial Cut	41	0	2	1	38	GIS
3	Partial Cut	37	2	3	2	30	GIS
4	Partial Cut	56	2	4	1	49	GIS
TOTALS		154	4	10	6	134	

4. **Cruisers and Cruise Dates:** Areas 1, 2, 3, and 4 were cruised by Jasen McCoy, Derek Bangs, Kevin Berry, and David Rygell, on January 11, 2012.

5. **Cruise Method and Computation:** Areas 1, 2, 3, and 4 are partial cut thinning units and were variable plot cruised using a 33.61 BAF. These plots are located on a 4 chain by 9 chain grid, with every third plot measured and graded. A total of 41 plots were sampled, with 19 measured and graded plots, and 22 count plots. Red alder and cedar are reserve species, and were recorded as "leave" trees.

All cruisers used Corvallis MicroTechnology (CMT) and/or Allegro data collectors, and were downloaded to the Atterbury Super A.C.E. program in District for computing. See the attached Cruise Design for more details on the cruise method. The cruise calculations were processed in the Astoria district office.

AREA	CRUISE	TRACT	TYPE	ACRES
1, 2, 3 and 4	T6NR6W27	AREAS1234	TAKE	134

6. **Timber Description:** Areas 1, 2, 3, and 4 are partial cut thinning units, approximately 38 years old, dominated by Douglas-fir, with a small component of western hemlock. The average Douglas-fir tree size to be harvested is 16 inches DBH, with an average height of 48 feet to a merchantable top (6 inch d.i.b.). The average hemlock tree size is 17 inches DBH and 47 feet to a merchantable top (6 inch d.i.b.). The average volume per acre to be harvested (net) is 7.1 MBF.

7. **Statistical Analysis and Stand Summary:** (See "Statistics" - Type Reports, attached)

Statistics for Stand B.F. volumes

Areas	Estimated CV	Target SE%	Actual CV	Actual SE%
1, 2, 3, and 4 (PC)	30%	7%	33.6%	5.2%

8. Volumes by Species and Log Grade: (See "Species, Sort, Grade" - Project Report, attached).
 Volumes by Species and Grade for All Sale Areas: (MBF) Volumes do not include "in-growth."

Species	DBH	Net Vol.	2 Saw	3 Saw	4 Saw	% D & B	% Sale
Douglas-fir	16"	911	245	551	115	2	95
Hemlock/True-fir	17"	46	0	46	0	2	5
TOTALS		957	245	597	115		

9. Approvals:

Prepared by: Jasen McCoy

Date: 1/13/12

Unit Forester Approval: 

Date: 1/31/12

10. Attachments:

Cruise Designs and Maps – 3 pages
 Volume Report - 1 pages
 Statistics Reports - 5 pages
 Log Stock Tables - 1 page
 Stand Table Summary – 1 page

X:\Jewell_Unit\Timber Sales\2012\Rapid Rewards\Sale_Prep\RapidRewards_CruiseReport.docx

**CRUISE DESIGN
ASTORIA DISTRICT**

Sale Name: Rapid Rewards **Area(s)** 1-4

Harvest Type: (PC)

Approx. Cruise Acres: 137 **Estimated CV%** 30 Net BF **SE% Objective** 7 Net BF

Planned Sale Volume: 1,112 MBF **Estimated Sale Area Value/Acre:** \$1,500/Ac
(7 MBF/Ac.)

- A. Cruise Goals:** (a) Grade minimum 100 conifer:
(b) Sample 43 cruise plots (15 grade/ 28 count); (c) Other goals X Determine
"automark" thinning standards; X Determine log grades for sale value;
X Determine snag and leave tree species and sizes.

B. Cruise Design:

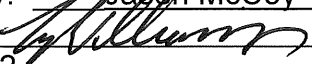
- 1. Plot Cruises:** BAF 33.61 (Full point; Half point) (circle one)
Cruise Line Direction(s) N-S
Cruise Line Spacing 9 (chains)
Cruise Plot Spacing 4 (chains)
Count/Grade Ratio 2:1

The BA target is 140 sq. ft. Select 4 leave trees per plot, with every sixth plot selecting 5 leave trees. Mark Leave trees with an "L" using yellow paint on graded plots only. Cruise all take and leave trees. If a cruise line ends up paralleling in a buffer or a road offset by 1 chain and continue. All cedars are leave trees and count towards the leave tree basal area. Hardwoods are also a reserve species, but will not count towards the leave tree BA. Grade alder as camprun-sawlogs (30 net BF minimum). Record all snags as SN and estimate diameter and total height.

C. Tree Measurements:

- 1. Diameter:** Minimum DBH to cruise is 8" for conifers and 10" for hardwoods.
Record dbh to nearest $\frac{1}{2}$ " for trees < 16", to nearest 1" for trees 16-24", and to nearest 2" for trees > 24". If tree diameters are estimated (only estimate on variable plot cruises), then record to closest estimate.
- 2. Bole Length:** Record bole length to nearest foot at TCD. For trees greater than 100 feet in merchantable height, estimating to the nearest 5 feet is acceptable.
- 3. Top Cruise Diameter (TCD):** Minimum top outside bark is 7" for conifers and 7" for hardwoods or 40 % of dob at 16' form point. Generally, use 7" outside bark for trees < 18" dbh and 40% of dob @ FP for trees > 18" dbh.
- 4. Form Factors:** (1) Measure or estimate a 16' form factor for every conifer tree measured/graded; OR (2) Measure a minimum of 20 form factors for each major conifer species on the cruise area, and use these to calculate average FF for the species on the cruise. Hardwood form factors are a Standard 87.

5. **Tree Segments:** Record log segments in “standard” log lengths in general use, such as 32’ and 40’ lengths, whenever possible. Do not record odd segments just to maximize grade. Cull segments can be any length. For conifers, minimum merchantable segment length is 12’; for hardwoods, it’s 8’. Maximum segment length is 40’. One foot of trim is assumed for each merch. segment. Do not use “double dash” (--) feature on the data recorder except for the top segment of the tree.
6. **Species, Sort, and Grade Codes:**
- A. Species: Record as D (Douglas-fir); H (Western hemlock); S (Sitka Spruce); C (Western red cedar); NF (Noble fir); SF (Silver fir); A (Red alder); M (Bigleaf maple). For “leave trees” in partial cuts, or for marked “wildlife trees,” add an “L” to the species code (such as DL, HL, CL, etc.)
- B. Sort: Use code “1” (Domestic).
- C. Grade: A = 1 Peeler; B = 2 Peeler; C = 3 Peeler; D = Special Mill; 2 = 2 Sawmill; 3 = 3 Sawmill; 4 = 4 Sawmill; 0 = Cull
7. **Deductions:** Estimate visible defect or damage as a “length deduction” (most often), or as a “diameter deduction,” as applicable. Estimate hidden defect and breakage (usually some breakage is encountered in trees > 100 feet in height) on a “per tree” basis. Steep and broken topography generally results in higher breakage percentages than gentler topography, and hemlock generally breaks more than D-fir and spruce.
8. **Standard Field Procedures:** Plot Type Cruises: Mark cruise line beginning and end points with blue/yellow flagging. Write plot identification numbers and line direction on the ribbon. At each plot, tie yellow flagging above eye level near plot center and another yellow flagging around a sturdy wooden stake marking plot center. On each yellow flagging, write the plot identification number. Between plots, along the cruise line, tie blue flagging at inter-visible points, not to exceed 100’ apart. On “measure/grade” plots write the tree number and/or tree diameter on at least the first measured tree (clockwise from the line direction) in yellow paint. All trees on the plot may be marked this way, if the cruiser chooses.
9. **Cruising Equipment:** Relaskop, Rangefinder, Logger’s Tape (with dbh on back) Biltmore Stick, Compass, Cruise Cards in Tatum OR Data Recorder, Cruise Design, Cruise Map, Yellow Flagging, Blue Flagging, Yellow Paint.
10. **Attachments:** A. Cruise Map (showing cruise unit boundaries, roads, streams, approx. acres/unit, cruise lines and plot locations, legal description and section lines, BAF or plot size, measure/count plot ratio, north arrow, and scale.

Cruise Design by: Jason McCoy
Approved by:  1/10/12
Date: 1/04/12

PORTIONS OF SECTIONS 18 & 19, T5N, R6W &
SECTION 13 & 24 T5N, R7W, W.M., CLATSOP COUNTY, OR



Feet

Approximate Scale = 1":1,000'

• • • • • Timber_Sale_Boundary
 ⊙ New_Construction_Landing
 ○ Existing_Landing

Roads

 Paved

 Surfaced

Streams

 Fish

 Nonfish

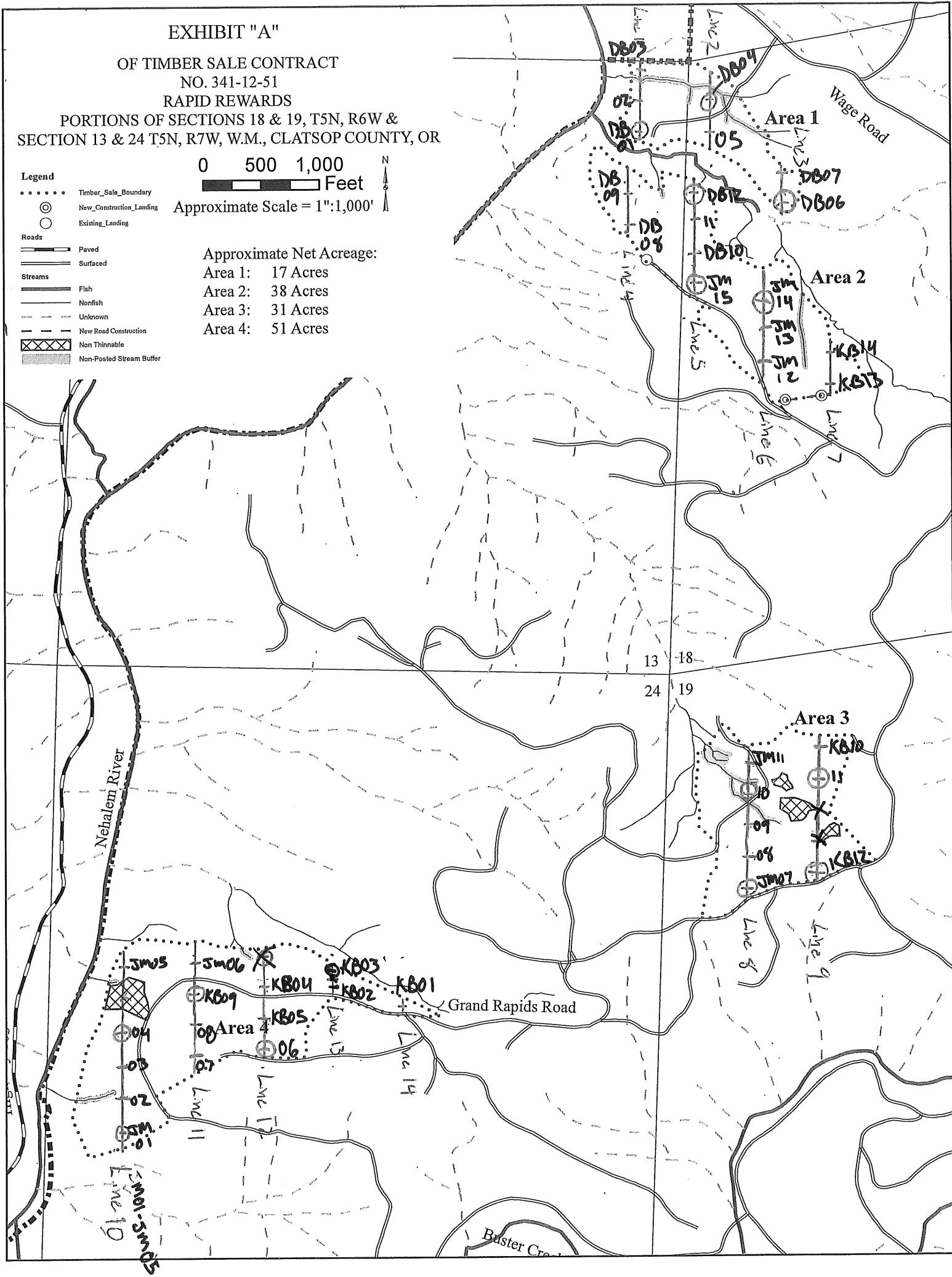
 Unknown

New Road Construction

 Non Thinnable

Non-Posted Stream Buffer

Area 4: 51 Acres



T		TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page		1				
				Project:		REWARDS										Date		1/13/2012		
																Time		11:12:49AM		
TT5N RR6W S18 TTAKE														TT5N RR6W S18 TTAKE						
Twp		Rge		Sec		Tract		Type		Acres		Plots		Sample Trees		CuFt		BdFt		
T5N		R6W		18		AREAS1234		TAKE		134.00		41		30		1		W		
S So Gr T rt ad Spp				% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
									Log Scale Dia.				Log Length				Ln Ft	Bd Ft	CF/ Lf	
									4-5 6-11 12-16 17+				12-20 21-30 31-35 36-99							
D DO CU									15 85				21 22 57				19 0.00			5.1
D DO 2S				26	1.3 1,852 1,828			245	15 85				21 22 57				32 179 1.50			10.2
D DO 3S				61	2.7 4,223 4,109			551	100				21 79				37 93 0.81			44.0
D DO 4S				13	1.3 872 861			115	3 97				32 62 5				22 28 0.48			31.2
D Totals				95	2.2 6,947 6,798			911	0 77 23				10 8 19 63				30 75 0.78			90.5
H DO 3S				100	8.3 374 343			46	100				100				40 110 1.00			3.1
H Totals				5	8.3 374 343			46	100				100				40 110 1.00			3.1
Type Totals					2.5 7,322 7,141			957	0 78 22				9 8 18 65				31 76 0.79			93.6

TC PSTATS			PROJECT STATISTICS							PAGE	1	
			PROJECT		REWARDS			DATE	1/13/2012			
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
T5N	R6	18	AREAS1234	00PC		134.00		41	272	1	W	
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES				
TOTAL			41	272	6.6							
CRUISE			19	96	5.1	18,634		.5				
DBH COUNT												
REFOREST												
COUNT			22	152	6.9							
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
DOUGLEAV			51	56.6	18.3	66		103.3	12,296	12,085	3,572	3,572
DOUG FIR			29	59.7	15.7	48		80.3	6,947	6,798	2,145	2,145
HEMLEAV			5	13.9	17.7	40		23.8	921	894	416	416
WHEMLOCK			1	3.1	17.0	47		4.9	374	343	125	125
SPRUCELV			4	1.6	21.7	48		4.1	279	244	100	100
SNAG			2	1.0	24.2	78		3.3				
ALDRLEAV			3	2.7	13.0	35		2.5	143	143	52	52
NFIRLEAV			1	.5	18.0	78	0	.8	121	121	33	33
TOTAL			96	139.1	17.1	55		223.0	21,082	20,628	6,443	6,443
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			
DOUGLEAV			37.2	5.2	222	235	247					
DOUG FIR			54.9	10.4	119	133	147					
HEMLEAV			86.0	42.7	37	64	91					
WHEMLOCK												
SPRUCELV			123.4	70.5	85	288	490					
SNAG												
ALDRLEAV			34.6	24.0	38	50	62					
NFIRLEAV												
TOTAL			64.8	6.6	173	186	198	168	42	19		
CL	68.1	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUGLEAV			49.6	7.7	52	57	61					
DOUG FIR			70.0	10.9	53	60	66					
HEMLEAV			176.8	27.6	10	14	18					
WHEMLOCK			541.5	84.5	0	3	6					
SPRUCELV			386.3	60.3	1	2	3					
SNAG			426.0	66.5	0	1	2					
ALDRLEAV			640.3	99.9	0	3	5					
NFIRLEAV			640.3	99.9	0	0	1					
TOTAL			32.2	5.0	132	139	146	41	10	5		
CL	68.1	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15			
DOUGLEAV			49.0	7.6	95	103	111					
DOUG FIR			71.2	11.1	71	80	89					
HEMLEAV			176.7	27.6	17	24	30					
WHEMLOCK			541.5	84.5	1	5	9					
SPRUCELV			327.7	51.1	2	4	6					
SNAG			383.9	59.9	1	3	5					
ALDRLEAV			640.3	99.9	0	2	5					

TC PSTATS				PROJECT STATISTICS				PAGE	2
				PROJECT REWARDS				DATE	1/13/2012
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
T5N	R6	18	AREAS1234	00PC	134.00	41	272	1	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
NFIRLEAV		640.3	99.9	0	1	2			
TOTAL		27.7	4.3	213	223	233	31	8	3
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.	INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUGLEAV		50.7	7.9	11,129	12,085	13,041			
DOUG FIR		74.4	11.6	6,009	6,798	7,586			
HEMLEAV		180.7	28.2	642	894	1,147			
WHEMLOCK		541.5	84.5	53	343	633			
SPRUCELV		312.7	48.8	125	244	364			
SNAG									
ALDRLEAV		640.3	99.9	0	143	286			
NFIRLEAV		640.3	99.9	0	121	241			
TOTAL		33.6	5.2	19,548	20,628	21,708	45	11	5

TC PSTATS			PROJECT STATISTICS							PAGE	1
			PROJECT		REWARDS					DATE	1/13/2012
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt
T5N	R6	18	AREAS1234	LEAV		134.00		41	168	1	W
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES		PERCENT SAMPLE TREES			
TOTAL			41	168	4.1						
CRUISE			19	66	3.5	10,214		.6			
DBH COUNT											
REFOREST											
COUNT			22	90	4.1						
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
DOUGLEAV			51	56.6	18.3	66	103.3	12,296	12,085	3,572	3,572
HEMLEAV			5	13.9	17.7	40	23.8	921	894	416	416
SPRUCELV			4	1.6	21.7	48	4.1	279	244	100	100
SNAG			2	1.0	24.2	78	3.3				
ALDRLEAV			3	2.7	13.0	35	2.5	143	143	52	52
NFIRLEAV			1	.5	18.0	78	.8	121	121	33	33
TOTAL			66	76.2	18.2	60	137.7	13,760	13,487	4,173	4,173
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		
DOUGLEAV		37.2	5.2	222	235	247					
HEMLEAV		86.0	42.7	37	64	91					
SPRUCELV		123.4	70.5	85	288	490					
SNAG											
ALDRLEAV		34.6	24.0	38	50	62					
NFIRLEAV											
TOTAL		62.0	7.6	194	210	226	154	38	17		
CL	68.1	COEFF		TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		49.6	7.7	52	57	61					
HEMLEAV		176.8	27.6	10	14	18					
SPRUCELV		386.3	60.3	1	2	3					
SNAG		426.0	66.5	0	1	2					
ALDRLEAV		640.3	99.9	0	3	5					
NFIRLEAV		640.3	99.9	0	0	1					
TOTAL		21.7	3.4	74	76	79	19	5	2		
CL	68.1	COEFF		BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		49.0	7.6	95	103	111					
HEMLEAV		176.7	27.6	17	24	30					
SPRUCELV		327.7	51.1	2	4	6					
SNAG		383.9	59.9	1	3	5					
ALDRLEAV		640.3	99.9	0	2	5					
NFIRLEAV		640.3	99.9	0	1	2					
TOTAL		7.3	1.1	136	138	139	2	1	0		
CL	68.1	COEFF		NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 10		15		
DOUGLEAV		50.7	7.9	11,129	12,085	13,041					
HEMLEAV		180.7	28.2	642	894	1,147					
SPRUCELV		312.7	48.8	125	244	364					
SNAG											

PROJECT STATISTICS							PAGE	2		
TC PSTATS			PROJECT		REWARDS		DATE	1/13/2012		
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
T5N	R6	18	AREAS1234	LEAV	134.00	41	168	1	W	
CL	68.1		COEFF		NET BF/ACRE		# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
ALDRLEAV			640.3	99.9	0	143	286			
NFIRLEAV			640.3	99.9	0	121	241			
TOTAL			29.5	4.6	12,867	13,487	14,107	35	9	4

TC PSTATS			PROJECT STATISTICS						PAGE 1			
			PROJECT	REWARDS			DATE 1/13/2012					
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt			
T5N	R6	18	AREAS1234	TAKE	134.00	41	104	1	W			
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			41	104	2.5							
CRUISE			12	30	2.5	8,420	.4					
DBH COUNT												
REFOREST												
COUNT			22	68	3.1							
BLANKS			7									
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			29	59.7	15.7	48		80.3	6,947	6,798	2,145	2,145
WHEMLOCK			1	3.1	17.0	47		4.9	374	343	125	125
TOTAL			30	62.8	15.8	48		85.3	7,322	7,141	2,270	2,270
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			54.9	10.4	119	133	147					
WHEMLOCK												
TOTAL			54.4	10.1	119	132	146	122	31	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			70.0	10.9	53	60	66					
WHEMLOCK			541.5	84.5	0	3	6					
TOTAL			67.2	10.5	56	63	69	180	45	20		
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			71.2	11.1	71	80	89					
WHEMLOCK			541.5	84.5	1	5	9					
TOTAL			68.9	10.8	76	85	94	190	47	21		
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			74.4	11.6	6,009	6,798	7,586					
WHEMLOCK			541.5	84.5	53	343	633					
TOTAL			71.3	11.1	6,347	7,141	7,935	203	51	23		

TC PLOGSTVB		Log Stock Table - MBF																	
TT5N RR6W S18 TyTAK 134.00					Project: REWARDS Acres 134.00										Page 1 Date 1/13/2012 Time 11:15:10AM				
S T Spp	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+
D	DO	2S	16	21		21	2.3					21							
D	DO	2S	18	30		30	3.3						30						
D	DO	2S	32	54		54	5.9					15	39						
D	DO	2S	40	143	2.3	140	15.3					38	102						
D	DO	3S	32	119	4.8	114	12.5			33	46	35							
D	DO	3S	36	39	8.9	36	3.9			36									
D	DO	3S	40	408	1.5	402	44.1			91	81	230							
D	DO	4S	16	17		17	1.9			17									
D	DO	4S	18	8		8	.8			8									
D	DO	4S	20	13		13	1.4		4	9									
D	DO	4S	22	32		32	3.5			32									
D	DO	4S	24	14		14	1.5				14								
D	DO	4S	26	17		17	1.9			17									
D	DO	4S	30	9		9	1.0			9									
D	DO	4S	32	8	20.0	6	.7			6									
D	Totals			931	2.2	911	95.2		4	257	141	302	138	69					
H	DO	3S	40	50	8.3	46	100.0			46									
H	Totals			50	8.3	46	4.8			46									
Total	All Species			981	2.5	957	100.0		4	257	187	302	138	69					

TC TSTNDSUM				Stand Table Summary												
Project REWARDS																
TT5N RR6W S18 TLEAV												TT5N RR6W S18 TLEA				
Twp	Rge	Sec	Tract		Type			Acres		Plots	Sample Trees		Page: 1			
T5N	R6W	18	AREAS1234		LEAV			134.00		41	66		Date: 01/13/20			
												Time: 11:15:42AM				
S Spc	T	Sample		Av				Average Log		Tons/ Acre	Net	Net	T o t a l s			
		DBH	Trees	FF 16'	Ht Tot	Trees/ Acre	BA/ Acre	Logs Acre	Net Cu.Ft.		Net Bd.Ft.	Cu.Ft. Acre	Bd.Ft. Acre	Tons	Cunits	MBF
DL		13	1	86	68	2.197	2.03	2.20	19.0	60.0		42	132		56	18
DL		14	1	85	49	1.895	2.03	1.89	21.0	60.0		40	114		53	15
DL		15	1	82	88	1.650	2.03	3.30	21.0	75.0		69	248		93	33
DL		16	7	86	80	10.154	14.18	18.86	23.9	76.9		451	1,451		604	194
DL		17	5	88	92	6.424	10.13	12.85	28.4	101.0		365	1,298		489	174
DL		18	11	88	90	12.607	22.28	25.21	31.4	107.7		792	2,716		1,061	364
DL		19	6	88	91	6.172	12.15	12.34	35.8	119.2		442	1,471		593	197
DL		20	7	89	79	6.498	14.18	12.07	38.2	124.6		461	1,504		618	202
DL		21	4	86	100	3.368	8.10	6.74	47.4	162.5		319	1,095		428	147
DL		22	4	88	93	3.069	8.10	6.14	49.1	173.8		302	1,066		404	143
DL		23	1	89	90	.702	2.03	1.40	54.0	185.0		76	260		102	35
DL		24	1	89	78	.645	2.03	1.29	53.5	185.0		69	239		92	32
DL		25	2	87	87	1.188	4.05	2.38	60.5	207.5		144	493		193	66
DL		Totals	51	87	85	56.568	103.29	106.67	33.5	113.3		3,572	12,085		4,786	1,619
HL		16	1	88	55	3.405	4.75	3.41	32.0	70.0		109	238		146	32
HL		18	3	86	50	8.072	14.26	5.38	39.5	95.0		213	511		285	69
HL		19	1	87	48	2.415	4.75	2.41	39.0	60.0		94	145		126	19
HL		Totals	5	87	51	13.892	23.77	11.20	37.1	79.9		416	894		557	120
SL		13	1	86	57	1.112	1.02	1.11	24.0	60.0		27	67		36	9
SL		26	1	74	74	.278	1.02	.56	64.5	155.0		36	86		48	12
SL		40	1	77	78	.117	1.02	.23	157.5	390.0		37	92		50	12
SL		45	1	78	71	.093	1.02									
SL		Totals	4	83	62	1.600	4.10	1.90	52.3	128.5		100	244		133	33
AL		12	2	87	54	2.087	1.64	2.09	20.0	60.0		42	125		56	17
AL		16	1	85	30	.587	.82	.59	18.0	30.0		11	18		14	2
AL		Totals	3	87	49	2.675	2.46	2.67	19.6	53.4		52	143		70	19
NFL		18	1	90	96	.464	.82	.93	36.0	130.0		33	121		45	16
NFL		Totals	1	90	96	.464	.82	.93	36.0	130.0		33	121		45	16
SN		18	1	88	84	.928	1.64									
SN		55	1	92	25	.099	1.64									
SN		Totals	2	88	78	1.027	3.28									
Totals			66	87	77	76.226	137.72	123.37	33.8	109.3		4173	13,487		5,591	1,807

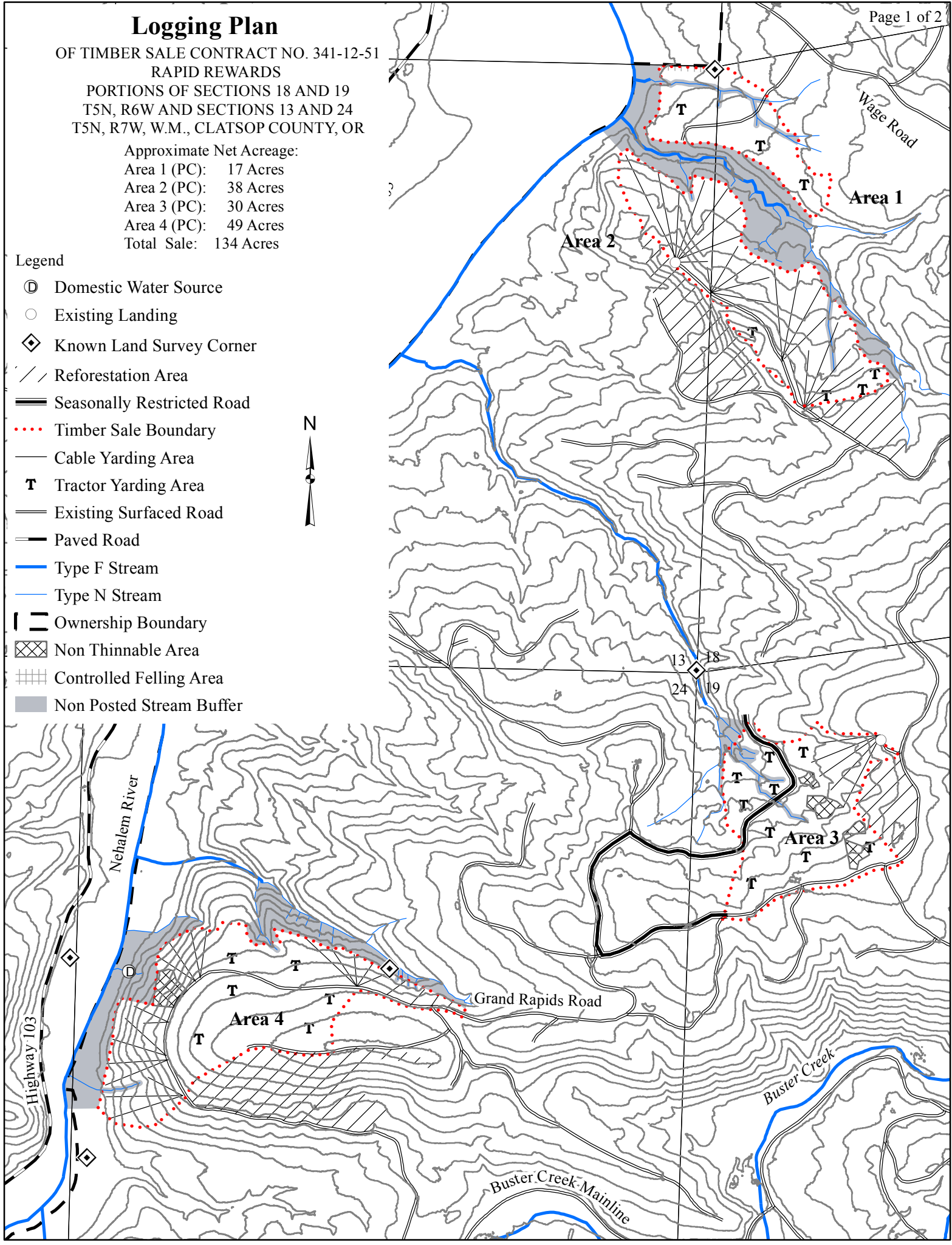
Logging Plan

OF TIMBER SALE CONTRACT NO. 341-12-51
RAPID REWARDS
PORTIONS OF SECTIONS 18 AND 19
T5N, R6W AND SECTIONS 13 AND 24
T5N, R7W, W.M., CLATSOP COUNTY, OR

Approximate Net Acreage:
Area 1 (PC): 17 Acres
Area 2 (PC): 38 Acres
Area 3 (PC): 30 Acres
Area 4 (PC): 49 Acres
Total Sale: 134 Acres

Legend

- ⊙ Domestic Water Source
- Existing Landing
- ◆ Known Land Survey Corner
- /// Reforestation Area
- Seasonally Restricted Road
- Timber Sale Boundary
- Cable Yarding Area
- T Tractor Yarding Area
- Existing Surfaced Road
- Paved Road
- Type F Stream
- Type N Stream
- || Ownership Boundary
- ▨ Non Thinnable Area
- ▧ Controlled Felling Area
- Non Posted Stream Buffer



Logging Plan

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