

**Engineering Notes for
Buttes Thin TS
12/10/2012**

A. Haul route roads:

The haul routes for this sale are on National Forest System (NFS) roads 5800, 5854000, 5854-748 and 5854-750. Log haul will travel North on NFS road 5800 to LAN-5084 (Upper N. Fk Siuslaw) to LAN-5070 (N.Fk Siuslaw) to U.S. 126 then east on Hwy 126 to the appraisal point of Noti Oregon.

Road 5800 is a key road and all other roads used in this sale are non-key roads as designated under the Siuslaw travel management and roads analysis.

Unit 2 is located adjacent to private land in T17S R11W Section 3.

Maintenance on aggregate surfaced roads for this sale is the responsibility of the purchaser. NFS road beginning and ending termini are detailed in table 1.1

Table 1.1

Road No.	Miles	Beginning Milepost	Ending Termini/Milepost
5800	3.42	Jct NFS 5854	Jct LAN 5084
5854	0.90	Jct 5854-748	Jct 5800/5854
5854-748	1.5	Unit 1	Jct 5854/5854-748
5854-750	0.26	Unit 2	Jct 5854-748/5854-750

The remaining portions of the 5800 and 5854 roads are not planned for use under this contract. Spot rock for NFS roads is included and appraised for.

Yarding and loading equipment for landings located along NFS roads 5800 are expected to block the road. Road 58 is K.O.; temporary delays are expected.

B. System and temporary roads –season of haul, road protection and truck assist.

See logging feasibility report (LFR) for details.

In general, all system roads are appraised for rock re-surfacing or spot rocking. Temp roads may be rocked to facilitate winter use at purchasers' expense and CO approval.

Road 5854 is closed and locked by a gate at the junction with road 58. A key is required to unlock the gate. The road will remain closed with the gate through out post sale activity. An earthen barricade and type I water bars will be added to a KV plan for final storage of road 5854, at which time the gate may be re-purposed at another location. Roads 748 and 750 across private land will not receive post sale water bars by agreement with the private land owner. Private land owner has a long history of maintaining these roads and will continue to do so.

No truck assist is appraised.

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C. Unit Notes:

Unit 1: Unit 1 uses the 5854-748 and is at the end of the road. Adverse haul for 500’.

Unit 2: Spur to landing A is new construction, spur to landing C has adverse haul. Landings E and F are on private property and the landowner has approved the locations. See LFR for additional information.

Unit 3: Spur to landings C, D, E and F has cutbank slough and should be feathered into road. End haul of materials may be needed but is not appraised for.. Spur to landing K has waste material on spur and is adverse haul to 5800. Spur to landing G is new construction. Additional rock has been included in appraisal for the spur to landings C-F.

Temporary haul roads have been appraised for 10 cubic yards each at the approach to system roads in order to reduce soil contamination on the system road.

C. Pre and post sale operational status for the system roads:

Road #	Presale status	Post sale planned status	Waterbars/berms
5800	Key, open	Key, open	None
5854	Non-Key, open	Non-Key, closed	Type 2/None
5854-748	Non-Key, closed	Non-Key, closed	None/ None
5854-750	Non-Key, closed	Non-Key, closed	None / None

D. Log Haul Operating season and Haul routes.

Unit Number	Planned Haul Route	Engineering Log Haul Operating season *
1	5854-748 to 5854 to 5800 to LAN 5084 to LAN 5070 to U.S. 126 to Noti	Dry season
2	5854-750 to 5854-748 to 5854 to 5800 to LAN 5084 to LAN 5070 to U.S. 126 to Noti	Dry season
3	5800 to LAN 5084 to LAN 5070 to U.S. 126 to Noti	All season system roads, dry season temp roads

* Dry season is June 15 – October 15

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ROAD MAINTENANCE WORKSHEET

Sale Name:	Buttes Thin		3,782	CCF Volume	1.27	% OH
			11,646	Tons		
				Purchaser	Co-op	
	Termini			CCF	Work	Deposits
Road	From	To	Miles	Volume	0.87	0.87
					0.87	
5854-748	Unit 1	Jct 5854/5854-748	1.50	190.9	0.87	U 1
5854-750	Unit 2	Jct -748/-750	0.26	1,184.2	0.87	U 2
5854-748	Jct -748/-750	Jct 5854/5854-748	0.80	1,375.1	0.87	U 2
5854	Jct 5854/5854-748	Jct 5800/5854	0.90	1,375.1	0.87	U1&2
5800	Jct 5800/5854	Jct 5800/5878	3.10	1,375.1	0.87	U1&2
5800	Unit 3	Jct 5878/5800	0.32	2,406.4	0.87	
5800	Jct 5878/5800	Jct 5800/Upper N. Fork Siu (LAN 5084)	1.77	3,781.5	0.87	All Vol Point
LAN 5084	Jct 5800/Upper N. Fork Siu (LAN 5084)	Jct N. Fork Siu/Upper N.Fk Siu	10.93	3,781.5	0.00	
LAN 5070	Jct N. Fork Siu/Upper N.Fk Siu	Jct N. Fork Siu/ U.S. 126	6.35	3,781.5	0.00	
U.S. 126	Jct N. Fork Siu/ U.S. 126	Noti	40.70	3,781.5		
			66.63			
		Total \$	\$/CCF	\$/Ton	61.86	Weighted Miles
	Purchaser Maint	16,195.65	4.28	1.39		
	Misc Maint. (see Eng. Notes)	0.00	0.00	0.00		
	Spot Rock (see worksheet)	24,420.00	6.46	2.10		
	Co-op Deposits	0.00	0.00	0.00		
	Totals	40,615.65	10.74	3.49		

Sale Name: Buttes Thin

Spot Rock Replacement Cost Worksheet

Road No.	Miles	cuyd of rock/mi	Total cuyd rock/road	\$/cuyd	Total
5800	3.42	100	350	\$37.00	\$12,950.00
5854	0.90	100	90	\$37.00	\$3,330.00
5854-748	1.50	50	80	\$37.00	\$2,960.00
5854-750	0.26	50	20	\$37.00	\$740.00
Waterbars***	40 waterbars	3 cy/waterbar	120	\$37.00	\$4,440.00
Totals	6.08		660		\$24,420.00

*** Waterbar rock for filling in or over bladed out waterbars, grading Q

Temporary Road and Landing Cost Worksheet

Temporary Road and Landing Cost Worksheet													
Sale Name: Buttes Thin								3,782	CCF volume				
Temporary Roads					Landings								
Unit No. or temp road identifier	Length (Feet)	Cost for Re-open or New	Rock (cuyd)	Rock Cost \$/cuyd	Total Road Cost	Landing Costs	Rock (cuyd)	Rock Cost \$/cuyd	Total Landing Cost	Remarks			
1	0			\$37.00	\$0.00	\$300		\$37.00	\$300.00				
2	695	\$1,775	20	\$37.00	\$2,515.00	\$1,350		\$37.00	\$1,350.00				
3	2,045	\$6,135	100	\$37.00	\$9,835.00	\$1,950		\$37.00	\$1,950.00				
	2,740	\$7,910	120		\$12,350.00	\$3,600	0		\$3,600				
0.52	miles			Costs per CCF:	\$3.27			Costs per CCF:	\$0.95				