



TIMBER NOTICE OF SALE

SALE NAME: HOMEWARD

AGREEMENT NO: 30-101114

AUCTION: December 30, 2020 starting at 10:00 a.m.,
Forks, WA

COUNTY: Clallam

SALE LOCATION: Sale located approximately 8 miles northwest of Forks

**PRODUCTS SOLD
AND SALE AREA:**

All timber, except trees marked with a band of blue paint or bounded out by leave tree area tags, bounded by the following: Timber Sale Boundary tags, private timber and hazard abatement area in Unit 1; Timber Sale Boundary tags, the 3100 road, the D 3120 road and timber type change in Unit 2; Timber Sale Boundary tags, the D-3190.1 road, and the road in Unit 3; Timber Sale Boundary tags and hazard abatement tags in Unit 4; Timber Sale Boundary tags, hazard abatement area and the D-3200 road in Unit 5; Timber Sale Boundary tags and the D-3200 in Unit 6; Timber Sale Boundary tags, the D-5500 in Unit 7; Timber Sale Boundary tags in Unit 8 ;

All forest products above located on part(s) of Sections 1 all in Township 28 North, Range 15 West, Sections 16, 17, 18, 19 and 21 all in Township 28 North, Range 14 West, Sections 31 all in Township 29 North, Range 14 West, W.M., containing 260 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	16	6	2,489						784	1,376	292	37
Douglas fir	19	5	1,915						953	793	132	37
Red alder	20.3		102						75	8	18	1
Spruce	11.4		21								20	1
Sale Total			4,527									

MINIMUM BID: \$0.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$0.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2021

ALLOCATION: Export Restricted

BID DEPOSIT: \$0.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD:

Ground - 100% - Rubber tire skidders will not be allowed unless skidding and rutting requirements can be met and a harvest plan is submitted and accepted. 30' equipment limitation zones on all typed waters. Falling and Yarding will not be permitted from October 15 to April 15 in Units 9 & 10 unless authorized in writing by the Contract Administrator.



TIMBER NOTICE OF SALE

ROADS: 18.70 stations of optional construction. 11.50 stations of required prehaul maintenance. 157.75 stations of optional prehaul maintenance. 9.95 stations of decommissioning. Opt. Post Haul Maint. 25.00 All road activities and timber activities will not be allowed in Units 9 & 10 on the 5+50 Spur, 0+80 and the 0+50 roads from October 15 to April 15 unless authorized in writing by the Contract Administrator

ACREAGE DETERMINATION

CRUISE METHOD: Sale acreage was 100% GPS'd. Sale units were cruised using a variable plot sample.

FEES: \$76,959.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

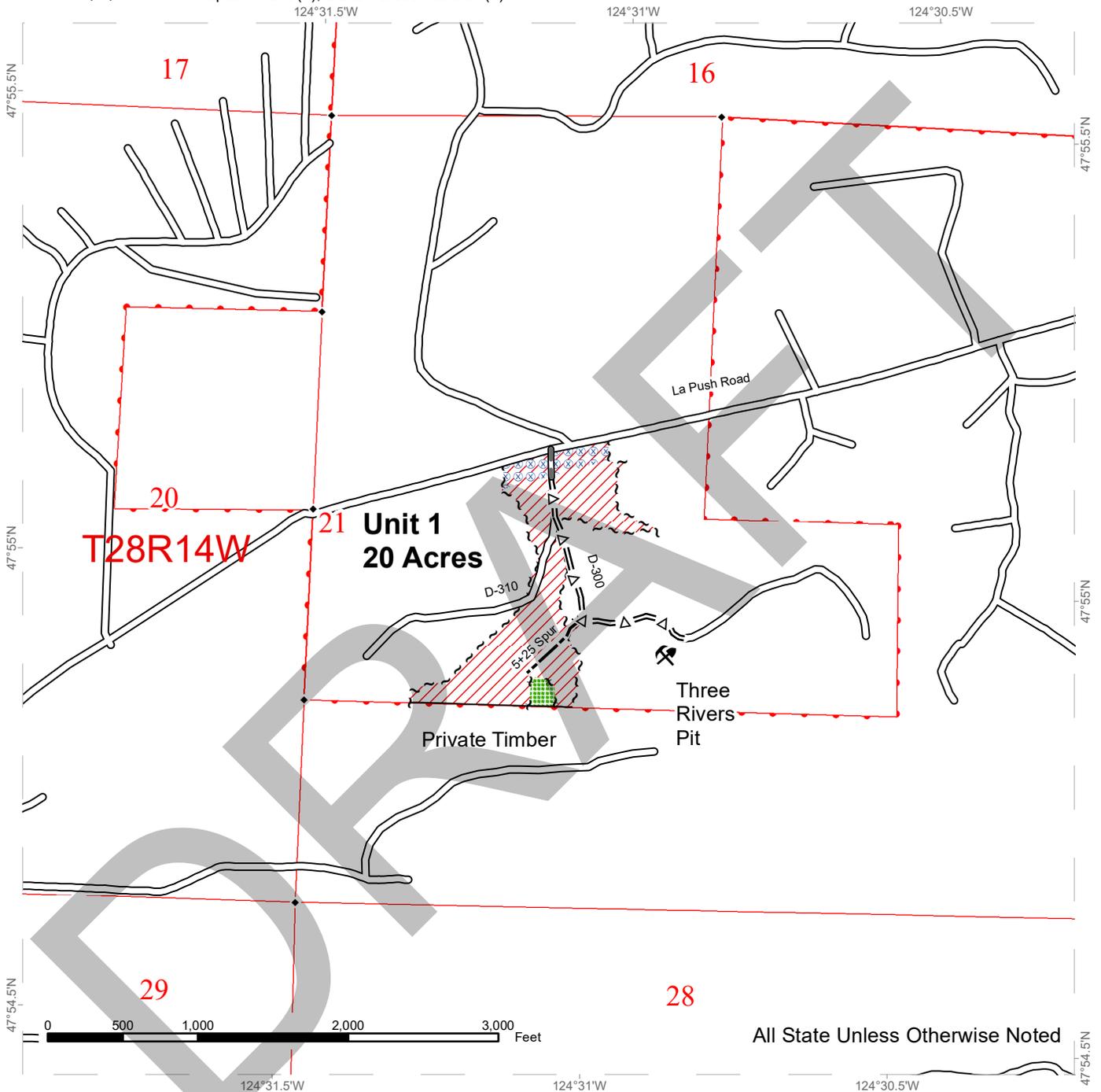
SPECIAL REMARKS: There are locked gates on Loop Pit and Mora Pit-contact the Olympic Region Dispatch Center at 360-374-2811 to obtain a AA-1 key.

DRAFT

TIMBER SALE MAP

SALE NAME: HOMEWARD
AGREEMENT #: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 80'-120'



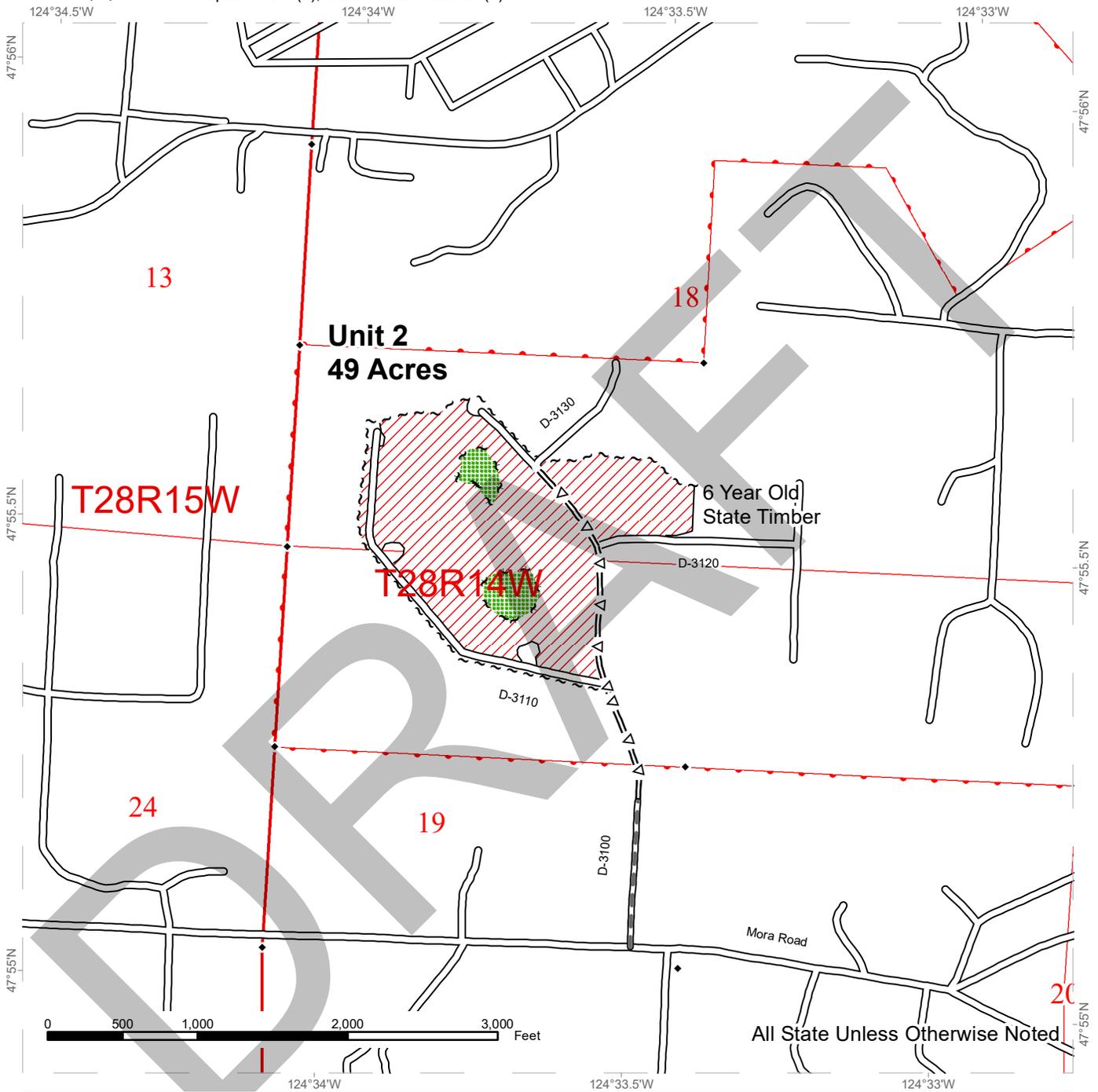
◆ Survey Monument	▭ Section Lines	--- Timber Sale Boundary Tags
⚡ Rock Pit	▭ Property Lines	~ ~ ~ Leave Tree Tags
▨ Variable Retention Harvest	▭ Existing Roads	~ ~ ~ Right of Way Tags
▩ Leave Tree Area	▬ Required Pre-Haul Maintenance	— Timber Type Change
▧ Hazard Abatement Area	=Δ= Optional Pre-Haul Maintenance	
▭ Township/Range Lines	--- Optional Construction	



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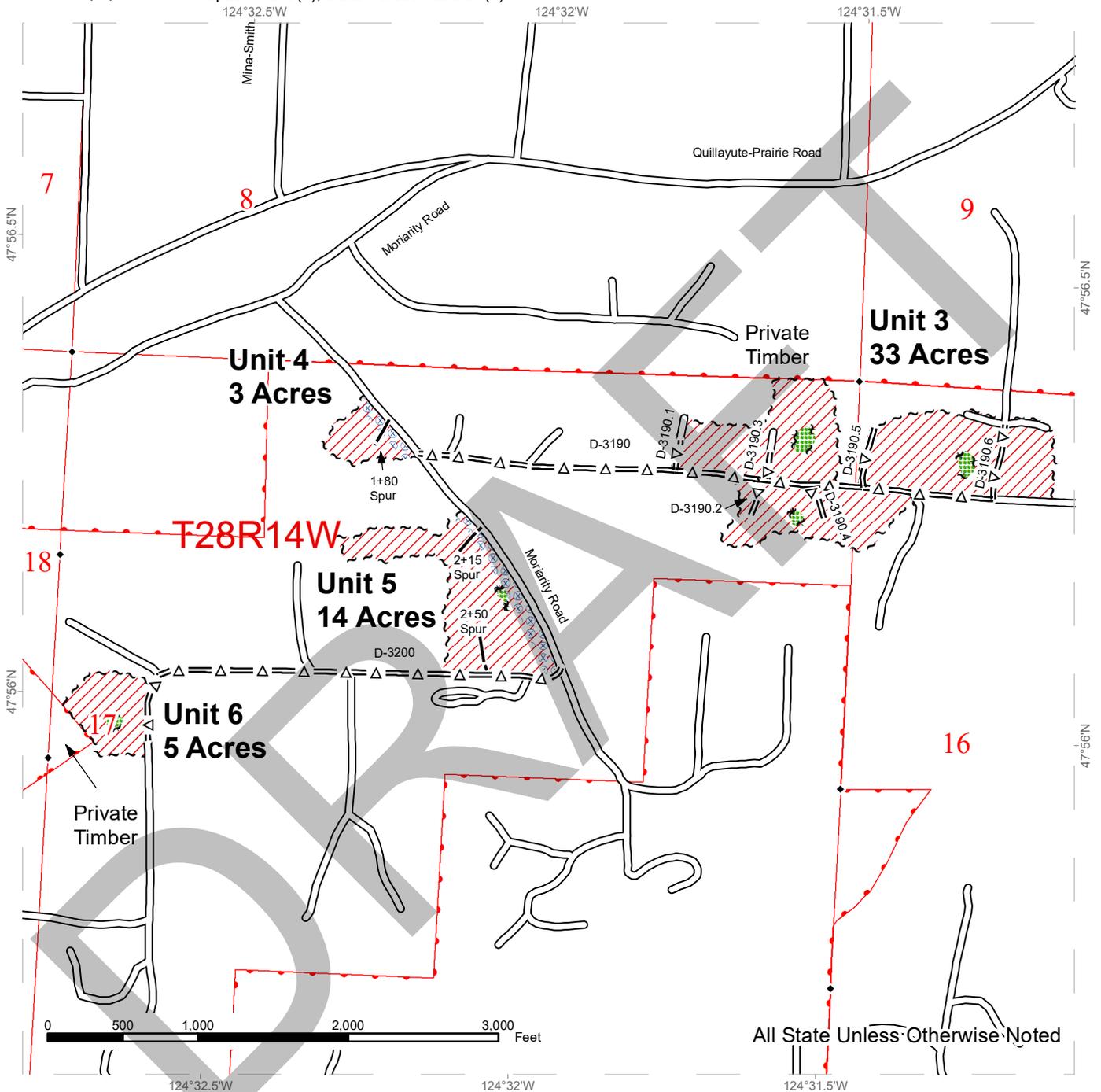


◆	Survey Monument	—	Existing Roads
▨	Variable Retention Harvest	—△—	Required Pre-Haul Maintenance
▩	Leave Tree Area	~△~	Optional Pre-Haul Maintenance
▭	Township/Range Lines	~ ~ ~	Timber Sale Boundary Tags
▭	Section Lines	~ ~ ~	Leave Tree Tags
▭	Property Lines	—	Timber Type Change

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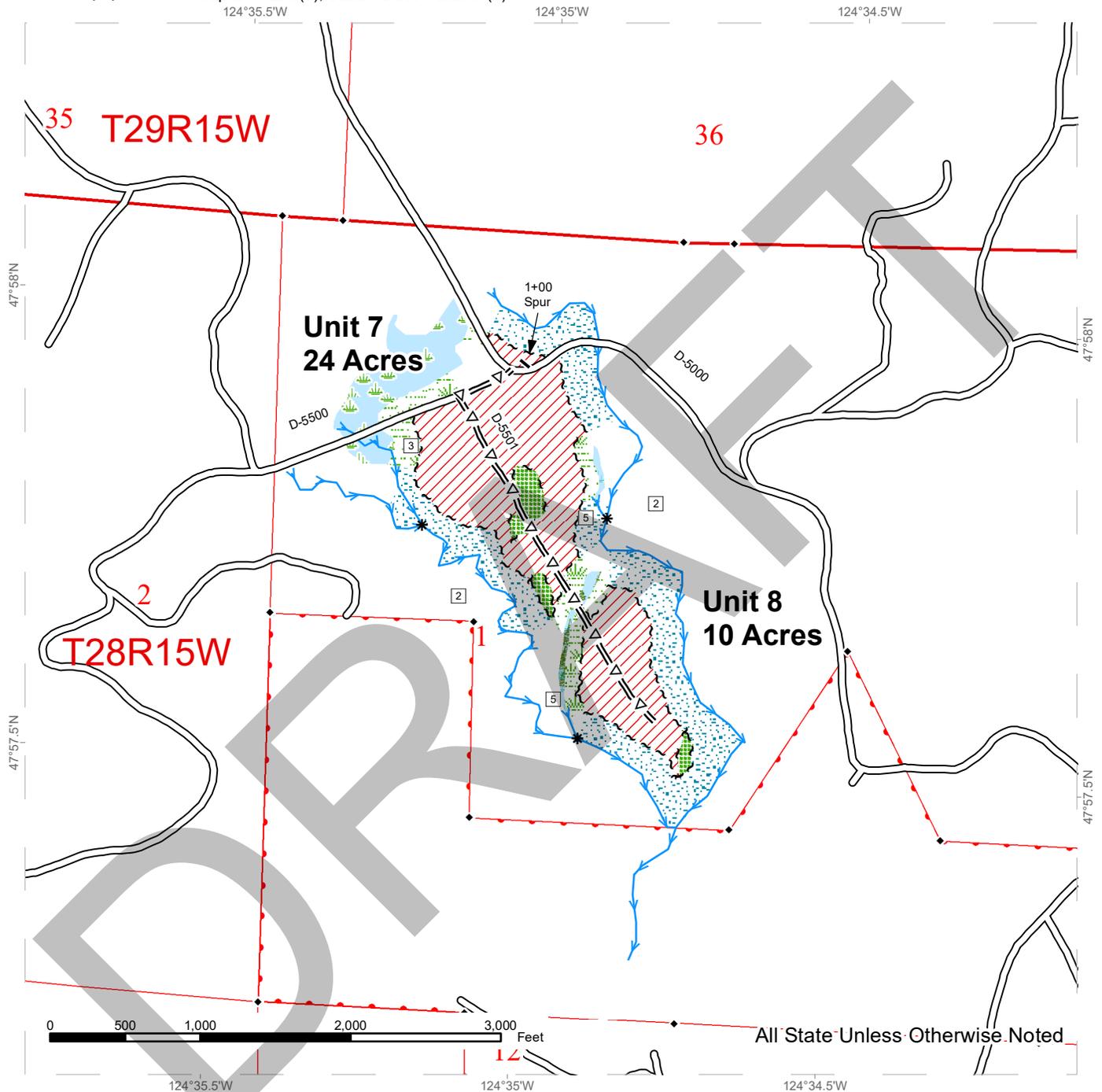
All State Unless Otherwise Noted

◆	Survey Monument	▭	Property Lines
▨	Variable Retention Harvest	—○—	Existing Roads
▩	Leave Tree Area	=△=	Optional Pre-Haul Maintenance
⊗	Hazard Abatement Area	---	Optional Construction
▭	Township/Range Lines	~~~~	Timber Sale Boundary Tags
▭	Section Lines	~ ~ ~	Leave Tree Tags

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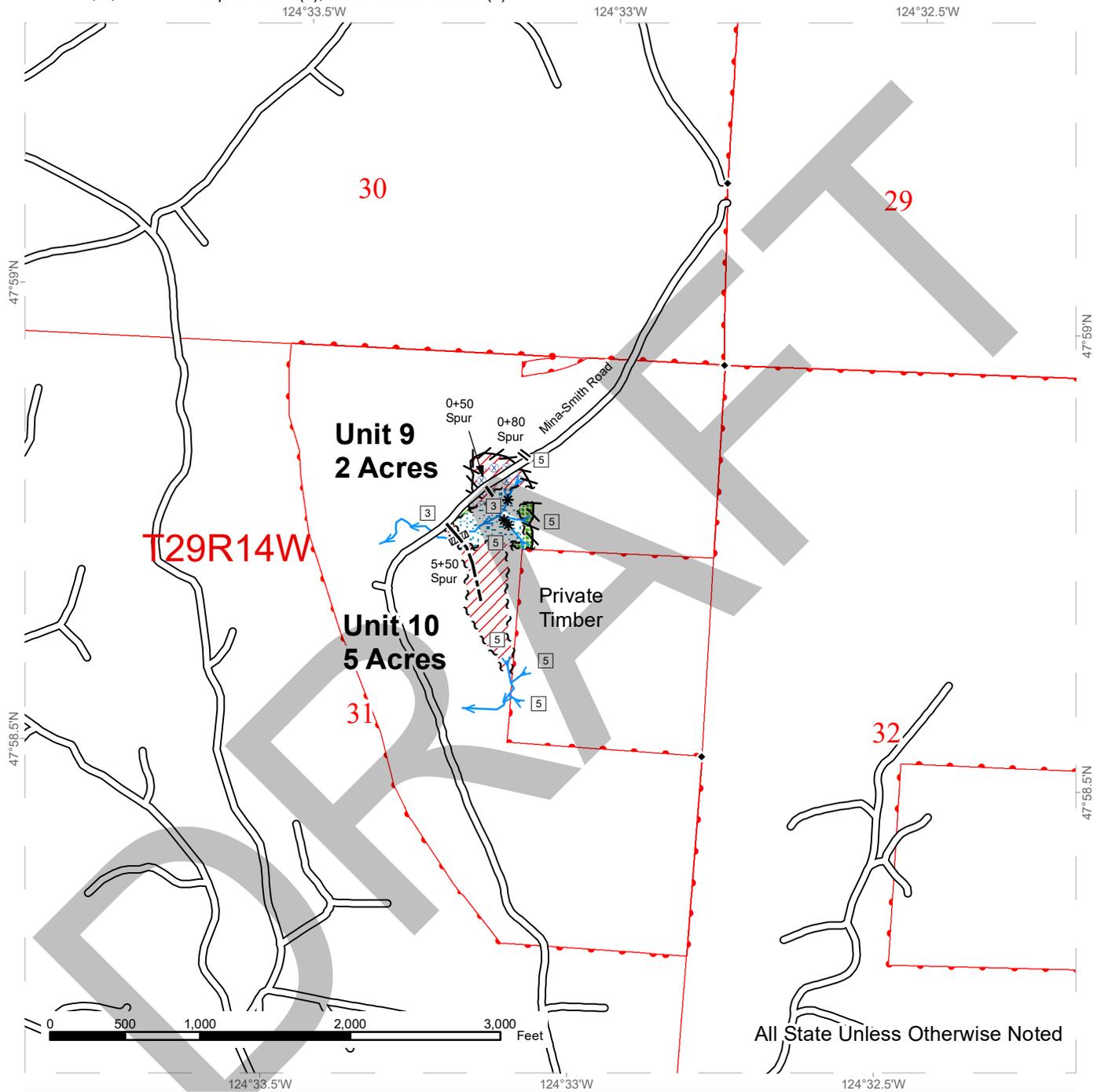
◆ Survey Monument	Forested Wetland	=Δ= Optional Pre-Haul Maintenance
☐ Stream Type	Wetland Management Zone	--- Optional Construction
* Stream Type Break	Township/Range Lines	~ ~ ~ Timber Sale Boundary Tags
Variable Retention Harvest	Section Lines	~ ~ ~ Leave Tree Tags
Leave Tree Area	Property Lines	~ ~ ~ Right of Way Tags
Riparian Management Zone	Streams	
Wetlands - Non-forested	Existing Roads	



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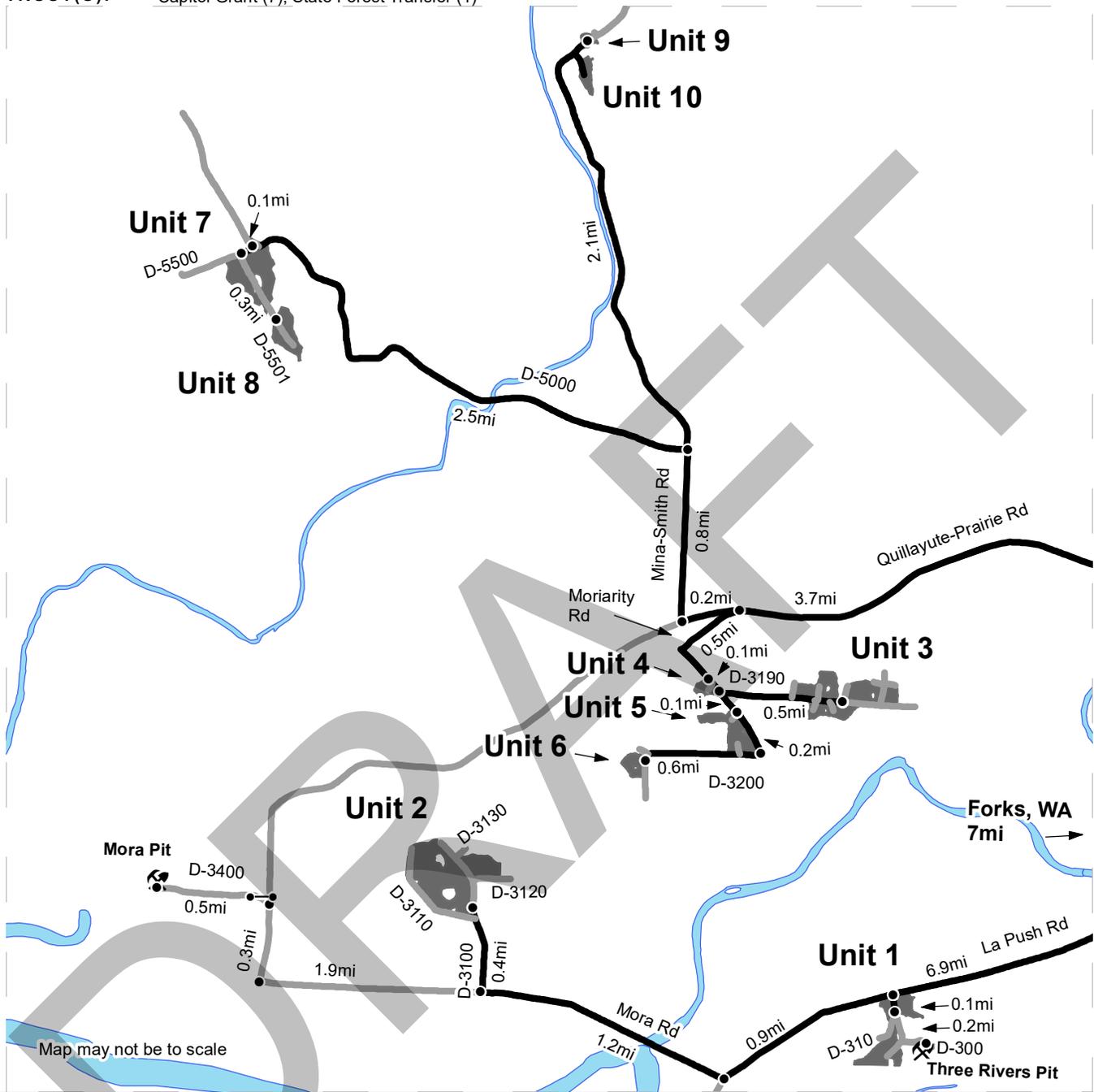
◆ Survey Monument	⊗⊗⊗⊗ Hazard Abatement Area	--- Optional Construction
▨ Culvert	▭ Township/Range Lines	~ ~ ~ Timber Sale Boundary Tags
③ Stream Type	▭ Section Lines	~ ~ ~ Leave Tree Tags
* Stream Type Break	▭ Property Lines	~ ~ ~ Right of Way Tags
▨ Variable Retention Harvest	→ Streams	/// Flag Line
▨ Leave Tree Area	— Existing Roads	
⊗ Riparian Management Zone	=Δ= Optional Pre-Haul Maintenance	



DRIVING MAP

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Map may not be to scale

- Haul Route
- Other Route
- Distance Indicator
- Gate
- Rock Pit
- Timber Sale Unit
- Open Water

Unit 1: From Forks, WA head north on Highway 101 for 1.5 miles and turn left onto La Push Rd. Continue on La Push Rd for 6.9 miles and turn left onto D-300. Continue on D-300 for 0.1 mile.
Unit 2: From Unit 1, continue west on La Push Rd for 0.9 mile and turn right onto Mora Rd. Continue on Mora Rd for 1.2 miles and turn right onto D-3100. Continue on D-3100 for 0.4 mile.
Unit 4: From Highway 101 turn on La Push Rd and continue for 3.1 miles then turn right onto Quillayute-Prairie Rd. Continue on Quillayute-Prairie Rd for 3.7 miles and turn left onto Moriarity Rd. Continue on Moriarity Rd for 0.5 mile.
Unit 3: From Unit 4, continue on Moriarity Rd for 0.1 mile and turn left onto D-3190. Continue on D-3190 for 0.5 mile.
Unit 5: From Unit 4, continue on Moriarity Rd for 0.2 mile.
Unit 6: From Unit 5, continue on Moriarity Rd for 0.2 mile and then turn right onto D-3200. Continue on D-3200 for 0.6 mile.
Unit 7: From the Moriarity Rd/Quillayute-Prairie Rd jct, continue west on Quillayute-Prairie Rd for 0.2 mile then turn right onto Mina-Smith Rd. Continue on Mina-Smith Rd for 0.8 mile then turn left onto D-5000. Continue on D-5000 for 2.5 miles then turn left onto D-5500. Continue on D-5500 for 0.1 mile.
Unit 8: From Unit 7, walk in on the D-5501 for 0.3 mile.
Units 9 & 10: From the Mina-Smith Rd/D-5000 jct, continue north on Mina-Smith Rd for 2.1 miles.
Three Rivers Pit: From Unit 1, continue on D-300 for 0.2 mile.
Mora Pit: From the Mora Rd/D-3100 jct, continue west on Mora Rd for 1.9 miles then turn right onto Quillayute-Prairie Rd. Continue on Quillayute-Prairie Rd for 0.3 mile then turn left onto D-3400. Continue on D-3400 for 0.5 mile.



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-  Haul Route
-  Milepost Markers
-  Gate
-  Highway 101
-  Rock Pit
-  Town
-  Open Water

Loop Pit: From Forks, WA, drive north on Hwy 101 for 7.8 miles. Turn right onto Loop Pit Access Rd.



Timber Sale Cruise Report Homeward Bound

Sale Name: HOMEWARD BOUND

Sale Type: LUMP SUM

Region: OLYMPIC,OLYMPIC

District: OZETTE,OZETTE

Lead Cruiser: Kevin

Other Cruisers:

Cruise Narrative:

Location:

This sale is located off of HWY 110 near the Mora Rd and La Push Rd intersection. Access to all units is good.

Cruise Design:

This sale was cruised with a 54.44 and 40 BAF.

Logs were cruised in 40 ft. lengths

Merch top is 40% of the diameter at 16 ft.

Timber Quality:

This sale has a bit of diversity within it. It has younger WH units with low defect and some older WH units with some butt rot and forks as defect. It also has a DF and WH unit with some spike knots as minor defects.

Logging and Stand Conditions:

This sale is 100% ground based harvest. Most units are pretty easy walking with some moderate brush.

General Remarks:

Timber Sale Notice Volume (MBF)

Sp	QMD	Rings/In	Age	MBF Volume by Grade					
				All	1 Saw	2 Saw	3 Saw	4 Saw	Utility
WH	16.0			2,488.7	138.7	645.1	1,376.3	291.8	37.0
DF	19.0			1,915.2		953.1	793.4	131.5	37.0
SS	20.3			102.5		76.1	7.6	17.9	0.9
RA	11.4			20.6				20.1	0.5
ALL	17.0			4,527.1	138.7	1,674.2	2,177.4	461.4	75.4

Timber Sale Notice Weight (tons)

Sp	Tons by Grade					
	All	1 Saw	2 Saw	3 Saw	4 Saw	Utility
WH	26,049.8	1,163.6	6,009.5	14,690.7	3,260.7	925.4
DF	18,408.0		8,419.9	7,998.9	1,313.8	675.7
SS	939.0		604.6	81.9	225.9	26.7
RA	239.0				229.5	9.5

Sp	Tons by Grade					
	All	1 Saw	2 Saw	3 Saw	4 Saw	Utility
ALL	45,635.8	1,163.6	15,034.0	22,771.3	5,029.5	1,637.3

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
259.8	2.2	106.4	1.3	27,680	2.5

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
HOMEWARD BOUND U1	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	20.0	20.1	10	5	0
HOMEWARD BOUND U2	B2C: VR, 2 BAF (40, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	49.0	48.7	23	10	0
HOMEWARD BOUND U3	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.3	16	8	0
HOMEWARD BOUND U4	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	3.0	3.3	2	2	0
HOMEWARD BOUND U5	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	14.0	13.8	7	5	0
HOMEWARD BOUND U6	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	5.0	5.3	3	3	0
HOMEWARD BOUND U7	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	24.0	23.6	12	7	0
HOMEWARD BOUND U8	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	10.0	10.3	5	5	0
HOMEWARD BOUND U9	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0	1.8	2	2	0
HOMEWARD BOUND U10	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	5.0	4.4	4	4	0
All		165.0	164.4	84	51	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.7	40.0	5,776	5.5	8,419.9	953.1
DF	LIVE	3 SAW	Domestic	8.5	38.0	4,809	3.7	7,998.8	793.5
DF	LIVE	4 SAW	Domestic	5.5	24.0	797	2.2	1,313.7	131.6
DF	LIVE	UTILITY	Pulp	2.4	17.0	224	0.0	675.6	37.0
RA	LIVE	4 SAW	Domestic	5.7	37.0	122	4.6	229.5	20.2
RA	LIVE	UTILITY	Pulp	2.0	15.0	3	0.0	9.5	0.5
SS	LIVE	2 SAW	Domestic	13.7	40.0	461	0.0	604.6	76.0
SS	LIVE	3 SAW	Domestic	7.5	40.0	46	0.0	81.9	7.6
SS	LIVE	4 SAW	Domestic	6.0	36.0	109	0.0	225.8	18.0
SS	LIVE	UTILITY	Pulp	2.0	18.0	6	0.0	26.7	0.9
WH	LIVE	1 SAW	Domestic	26.6	40.0	841	15.7	1,163.7	138.7
WH	LIVE	2 SAW	Domestic	14.0	40.0	3,909	8.4	6,009.4	645.1
WH	LIVE	3 SAW	Domestic	7.9	39.0	8,342	2.4	14,690.7	1,376.4
WH	LIVE	4 SAW	Domestic	5.3	24.0	1,768	0.4	3,260.6	291.7
WH	LIVE	CULL	Cull	5.1	26.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	2.2	17.0	224	0.0	925.4	36.9

Timber Sale Log Grade x Diameter Bin Summary

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.1	15.0	91	0.0	424.0	15.0
DF	5 - 8	LIVE	4 SAW	5.4	25.0	797	2.2	1,313.7	131.6
DF	5 - 8	LIVE	3 SAW	7.3	37.0	2,053	3.0	3,754.4	338.7
DF	5 - 8	LIVE	UTILITY	7.4	35.0	133	0.0	251.6	22.0
DF	9 - 11	LIVE	3 SAW	10.4	40.0	2,756	4.3	4,244.3	454.8
DF	12 - 14	LIVE	2 SAW	13.4	40.0	4,861	5.0	7,207.1	802.1
DF	15 - 19	LIVE	2 SAW	15.9	40.0	915	8.2	1,212.8	151.0
RA	< 5	LIVE	UTILITY	2.0	15.0	3	0.0	9.5	0.5
RA	5 - 8	LIVE	4 SAW	5.5	36.0	122	4.6	229.5	20.2
SS	< 5	LIVE	UTILITY	2.1	16.0	6	0.0	26.7	0.9
SS	5 - 8	LIVE	4 SAW	6.2	35.0	109	0.0	225.8	18.0
SS	5 - 8	LIVE	3 SAW	7.5	40.0	46	0.0	81.9	7.6
SS	12 - 14	LIVE	2 SAW	12.9	40.0	237	0.0	347.7	39.1
SS	15 - 19	LIVE	2 SAW	15.2	40.0	224	0.0	256.9	36.9
WH	< 5	LIVE	UTILITY	2.1	17.0	183	0.1	877.9	30.2
WH	5 - 8	LIVE	CULL	5.1	26.0	0	100.0	0.0	0.0
WH	5 - 8	LIVE	4 SAW	5.3	27.0	1,760	0.4	3,245.8	290.4

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	5 - 8	LIVE	UTILITY	5.6	21.0	40	0.0	47.6	6.7
WH	5 - 8	LIVE	3 SAW	7.1	39.0	4,567	1.1	8,488.8	753.6
WH	9 - 11	LIVE	4 SAW	9.6	13.0	8	0.0	14.9	1.3
WH	9 - 11	LIVE	3 SAW	10.3	39.0	3,775	3.8	6,201.9	622.9
WH	12 - 14	LIVE	2 SAW	13.3	40.0	1,881	2.9	2,973.8	310.4
WH	15 - 19	LIVE	2 SAW	17.2	40.0	1,766	11.9	2,635.3	291.5
WH	20+	LIVE	2 SAW	21.4	40.0	262	19.9	400.3	43.2
WH	20+	LIVE	1 SAW	26.3	40.0	841	15.7	1,163.7	138.7

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.1	15.0	91	0.0	424.0	15.0
DF	5 - 8	LIVE	Domestic	6.3	31.0	2,850	2.8	5,068.1	470.3
DF	5 - 8	LIVE	Pulp	7.4	35.0	133	0.0	251.6	22.0
DF	9 - 11	LIVE	Domestic	10.4	40.0	2,756	4.3	4,244.3	454.8
DF	12 - 14	LIVE	Domestic	13.4	40.0	4,861	5.0	7,207.1	802.1
DF	15 - 19	LIVE	Domestic	15.9	40.0	915	8.2	1,212.8	151.0
RA	< 5	LIVE	Pulp	2.0	15.0	3	0.0	9.5	0.5
RA	5 - 8	LIVE	Domestic	5.5	36.0	122	4.6	229.5	20.2
SS	< 5	LIVE	Pulp	2.1	16.0	6	0.0	26.7	0.9
SS	5 - 8	LIVE	Domestic	6.5	36.0	155	0.0	307.7	25.6
SS	12 - 14	LIVE	Domestic	12.9	40.0	237	0.0	347.7	39.1
SS	15 - 19	LIVE	Domestic	15.2	40.0	224	0.0	256.9	36.9
WH	< 5	LIVE	Pulp	2.1	17.0	183	0.1	877.9	30.2
WH	5 - 8	LIVE	Cull	5.1	26.0	0	100.0	0.0	0.0
WH	5 - 8	LIVE	Pulp	5.6	21.0	40	0.0	47.6	6.7
WH	5 - 8	LIVE	Domestic	6.2	33.0	6,327	0.9	11,734.5	1,044.0
WH	9 - 11	LIVE	Domestic	10.3	39.0	3,783	3.8	6,216.8	624.1
WH	12 - 14	LIVE	Domestic	13.3	40.0	1,881	2.9	2,973.8	310.4
WH	15 - 19	LIVE	Domestic	17.2	40.0	1,766	11.9	2,635.3	291.5
WH	20+	LIVE	Domestic	24.5	40.0	1,102	16.7	1,564.0	181.9

Cruise Unit Report HOMEWARD BOUND U1

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U1

Sp	QMD	Rings/In	Age	MBF Volume by Grade				Utility
				All	2 Saw	3 Saw	4 Saw	
DF	19.4			500.9	271.3	194.7	30.5	4.4
WH	14.4			169.9		139.7	25.1	5.1
ALL	17.8			670.7	271.3	334.4	55.6	9.5

Unit Sale Notice Weight (tons): HOMEWARD BOUND U1

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	4,612.5	2,329.4	1,873.4	304.6	105.2
WH	1,619.9		1,322.4	259.0	38.4
ALL	6,232.4	2,329.4	3,195.8	563.6	143.6

Unit Cruise Design: HOMEWARD BOUND U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	20.0	20.1	10	5	0

Unit Cruise Summary: HOMEWARD BOUND U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	19	38	3.8	0
WH	6	13	1.3	0
ALL	25	51	5.1	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	206.9	16.6	5.3	121.1	8.8	2.0	25,043	18.8	5.6
WH	70.8	63.3	20.0	120.0	10.4	4.3	8,494	64.2	20.5
ALL	277.6	14.5	4.6	120.8	9.0	1.8	33,537	17.0	4.9

Unit Summary: HOMEWARD BOUND U1

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	19	ALL	19.4	80	101	25,043	3.8	100.8	206.9	47.0	4,612.5	500.9
WH	LIVE	CUT	6	ALL	14.4	67	83	8,494	0.0	62.6	70.8	18.7	1,619.9	169.9
ALL	LIVE	CUT	25	ALL	17.7	75	94	33,537	2.8	163.4	277.7	65.7	6,232.4	670.8
ALL	ALL	ALL	25	ALL	17.7	75	94	33,537	2.8	163.4	277.7	65.7	6,232.4	670.8

Unit Stand Table: HOMEWARD BOUND U1

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	14	LIVE	CUT	2	14.0	75	94	2,455	0.0	20.4	21.8	5.8	452.9	49.1
DF	18	LIVE	CUT	3	18.0	77	97	4,061	0.0	18.5	32.7	7.7	702.5	81.2
DF	20	LIVE	CUT	3	19.6	80	101	3,942	2.5	15.5	32.7	7.4	728.5	78.8
DF	22	LIVE	CUT	8	21.4	83	104	10,985	3.6	35.0	87.1	18.8	1,979.9	219.7
DF	24	LIVE	CUT	3	23.0	84	106	3,601	11.5	11.3	32.7	6.8	748.7	72.0
WH	12	LIVE	CUT	2	12.0	63	78	2,538	0.0	30.0	23.6	6.8	509.5	50.8
WH	16	LIVE	CUT	2	15.5	71	88	2,948	0.0	18.1	23.6	6.0	546.4	59.0
WH	18	LIVE	CUT	2	17.5	72	90	3,008	0.0	14.2	23.6	5.6	564.0	60.2

Unit Log Grade Summary: HOMEWARD BOUND U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.7	40.0	13,565	6.1	2,329.4	271.3
DF	LIVE	3 SAW	8.2	40.0	9,736	1.0	1,873.4	194.7
DF	LIVE	4 SAW	5.3	32.0	1,523	0.0	304.6	30.5
DF	LIVE	UTILITY	2.1	15.0	219	0.0	105.2	4.4
WH	LIVE	3 SAW	8.8	40.0	6,984	0.0	1,322.4	139.7
WH	LIVE	4 SAW	5.2	25.0	1,255	0.0	259.0	25.1
WH	LIVE	UTILITY	3.0	13.0	255	0.0	38.4	5.1

Unit Log Sort Summary: HOMEWARD BOUND U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	9.1	38.0	24,824	3.8	4,507.3	496.5
DF	LIVE	Pulp	2.1	15.0	219	0.0	105.2	4.4
WH	LIVE	Domestic	7.2	33.0	8,239	0.0	1,581.5	164.8
WH	LIVE	Pulp	3.0	13.0	255	0.0	38.4	5.1

Unit Log Grade x Sort Summary: HOMEWARD BOUND U1

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.7	40.0	13,565	6.1	2,329.4	271.3
DF	LIVE	3 SAW	Domestic	8.2	40.0	9,736	1.0	1,873.4	194.7
DF	LIVE	4 SAW	Domestic	5.3	32.0	1,523	0.0	304.6	30.5
DF	LIVE	UTILITY	Pulp	2.1	15.0	219	0.0	105.2	4.4
WH	LIVE	3 SAW	Domestic	8.8	40.0	6,984	0.0	1,322.4	139.7
WH	LIVE	4 SAW	Domestic	5.2	25.0	1,255	0.0	259.0	25.1
WH	LIVE	UTILITY	Pulp	3.0	13.0	255	0.0	38.4	5.1

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U1

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.1	15.0	219	0.0	105.2	4.4
DF	5 - 8	LIVE	4 SAW	5.3	32.0	1,523	0.0	304.6	30.5
DF	5 - 8	LIVE	3 SAW	7.2	40.0	5,413	1.8	1,159.8	108.3
DF	9 - 11	LIVE	3 SAW	11.4	40.0	4,323	0.0	713.6	86.5
DF	12 - 14	LIVE	2 SAW	13.7	40.0	13,565	6.1	2,329.4	271.3
WH	< 5	LIVE	UTILITY	2.1	14.0	60	0.0	19.2	1.2
WH	5 - 8	LIVE	UTILITY	5.0	12.0	195	0.0	19.2	3.9
WH	5 - 8	LIVE	4 SAW	5.2	25.0	1,255	0.0	259.0	25.1
WH	5 - 8	LIVE	3 SAW	7.1	40.0	2,028	0.0	432.6	40.6
WH	9 - 11	LIVE	3 SAW	10.4	40.0	4,956	0.0	889.9	99.1

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U1

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.1	15.0	219	0.0	105.2	4.4
DF	5 - 8	LIVE	Domestic	6.5	37.0	6,936	1.4	1,464.4	138.7
DF	9 - 11	LIVE	Domestic	11.4	40.0	4,323	0.0	713.6	86.5
DF	12 - 14	LIVE	Domestic	13.7	40.0	13,565	6.1	2,329.4	271.3
WH	< 5	LIVE	Pulp	2.1	14.0	60	0.0	19.2	1.2
WH	5 - 8	LIVE	Pulp	5.0	12.0	195	0.0	19.2	3.9
WH	5 - 8	LIVE	Domestic	5.9	31.0	3,283	0.0	691.6	65.7
WH	9 - 11	LIVE	Domestic	10.4	40.0	4,956	0.0	889.9	99.1

Cruise Unit Report HOMEWARD BOUND U2

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U2

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	19.0			599.4	283.3	263.9	45.6	6.6
WH	15.6			504.9	163.9	277.5	58.5	5.1
ALL	16.9			1,104.3	447.2	541.4	104.1	11.7

Unit Sale Notice Weight (tons): HOMEWARD BOUND U2

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	5,631.8	2,474.0	2,515.3	488.3	154.1
WH	5,146.1	1,621.1	2,808.6	610.4	106.0
ALL	10,777.9	4,095.1	5,323.9	1,098.7	260.2

Unit Cruise Design: HOMEWARD BOUND U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (40, 40 for some species) Measure/ Count Plots, Sighting Ht = 4.5 ft	49.0	48.7	23	10	0

Unit Cruise Summary: HOMEWARD BOUND U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	24	66	2.9	0
WH	29	53	2.3	0
ALL	53	119	5.2	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	114.8	51.8	10.8	106.6	13.3	2.7	12,232	53.5	11.1
WH	92.2	75.7	15.8	111.8	15.5	2.9	10,305	77.2	16.0
ALL	207.0	19.0	4.0	108.9	14.8	2.0	22,537	24.1	4.5

Unit Summary: HOMEWARD BOUND U2

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	24	ALL	19.0	70	87	12,232	2.4	58.3	114.8	26.3	5,631.8	599.4
WH	LIVE	CUT	29	ALL	15.6	66	82	10,305	3.8	69.4	92.2	23.3	5,146.1	504.9
ALL	LIVE	CUT	53	ALL	17.2	68	84	22,537	3.1	127.7	207.0	49.6	10,777.9	1,104.3
ALL	ALL	ALL	53	ALL	17.2	68	84	22,537	3.1	127.7	207.0	49.6	10,777.9	1,104.3

Unit Stand Table: HOMEWARD BOUND U2

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	12	LIVE	CUT	1	11.0	63	79	486	0.0	7.2	4.8	1.4	212.5	23.8
DF	16	LIVE	CUT	1	15.0	71	89	573	0.0	3.9	4.8	1.2	234.1	28.1
DF	18	LIVE	CUT	6	17.8	65	81	2,744	4.5	16.6	28.7	6.8	1,288.8	134.4
DF	20	LIVE	CUT	5	19.4	70	88	2,518	0.0	11.7	23.9	5.4	1,161.7	123.4
DF	22	LIVE	CUT	7	21.6	76	96	3,717	1.8	13.2	33.5	7.2	1,745.5	182.1
DF	24	LIVE	CUT	2	24.0	78	97	1,176	0.0	3.0	9.6	2.0	503.7	57.6
DF	26	LIVE	CUT	2	26.0	74	93	1,018	9.6	2.6	9.6	1.9	485.5	49.9
WH	12	LIVE	CUT	7	11.5	62	77	2,422	2.5	30.6	22.3	6.6	1,174.9	118.7
WH	14	LIVE	CUT	1	14.0	68	84	309	8.0	3.0	3.2	0.8	177.2	15.2
WH	16	LIVE	CUT	6	16.0	68	85	2,181	8.8	13.7	19.1	4.8	1,038.7	106.9
WH	18	LIVE	CUT	2	17.5	71	89	756	0.0	3.8	6.4	1.5	369.6	37.1
WH	20	LIVE	CUT	8	19.6	72	89	2,980	2.6	12.1	25.4	5.7	1,503.2	146.0
WH	22	LIVE	CUT	4	21.0	66	83	1,287	2.4	5.3	12.7	2.8	696.1	63.1
WH	24	LIVE	CUT	1	23.0	71	88	369	0.0	1.1	3.2	0.7	186.5	18.1

Unit Log Grade Summary: HOMEWARD BOUND U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.6	40.0	5,782	2.3	2,474.0	283.3
DF	LIVE	3 SAW	8.7	38.0	5,385	3.0	2,515.3	263.9
DF	LIVE	4 SAW	5.9	25.0	931	0.0	488.3	45.6
DF	LIVE	UTILITY	2.3	17.0	134	0.0	154.1	6.6
WH	LIVE	2 SAW	12.9	40.0	3,344	2.2	1,621.1	163.9
WH	LIVE	3 SAW	8.1	39.0	5,663	4.5	2,808.6	277.5
WH	LIVE	4 SAW	5.5	21.0	1,194	0.6	610.4	58.5
WH	LIVE	CULL	5.1	26.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	2.2	15.0	104	0.0	106.0	5.1

Unit Log Sort Summary: HOMEWARD BOUND U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	8.9	34.0	12,098	2.5	5,477.7	592.8
DF	LIVE	Pulp	2.3	17.0	134	0.0	154.1	6.6
WH	LIVE	Cull	5.1	26.0	0	100.0	0.0	0.0
WH	LIVE	Domestic	7.7	32.0	10,201	3.3	5,040.1	499.9
WH	LIVE	Pulp	2.2	15.0	104	0.0	106.0	5.1

Unit Log Grade x Sort Summary: HOMEWARD BOUND U2

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.6	40.0	5,782	2.3	2,474.0	283.3
DF	LIVE	3 SAW	Domestic	8.7	38.0	5,385	3.0	2,515.3	263.9
DF	LIVE	4 SAW	Domestic	5.9	25.0	931	0.0	488.3	45.6
DF	LIVE	UTILITY	Pulp	2.3	17.0	134	0.0	154.1	6.6
WH	LIVE	2 SAW	Domestic	12.9	40.0	3,344	2.2	1,621.1	163.9
WH	LIVE	3 SAW	Domestic	8.1	39.0	5,663	4.5	2,808.6	277.5
WH	LIVE	4 SAW	Domestic	5.5	21.0	1,194	0.6	610.4	58.5
WH	LIVE	CULL	Cull	5.1	26.0	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	2.2	15.0	104	0.0	106.0	5.1

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U2

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.1	18.0	99	0.0	142.8	4.8
DF	5 - 8	LIVE	UTILITY	5.3	12.0	35	0.0	11.3	1.7
DF	5 - 8	LIVE	4 SAW	5.9	25.0	931	0.0	488.3	45.6
DF	5 - 8	LIVE	3 SAW	6.7	36.0	1,321	2.8	680.6	64.7
DF	9 - 11	LIVE	3 SAW	10.3	40.0	4,064	3.1	1,834.7	199.2
DF	12 - 14	LIVE	2 SAW	13.2	40.0	4,357	1.0	1,902.0	213.5
DF	15 - 19	LIVE	2 SAW	15.6	40.0	1,425	6.2	572.0	69.8
WH	< 5	LIVE	UTILITY	2.2	15.0	104	0.0	106.0	5.1
WH	5 - 8	LIVE	CULL	5.1	26.0	0	100.0	0.0	0.0
WH	5 - 8	LIVE	4 SAW	5.5	21.0	1,194	0.6	610.4	58.5
WH	5 - 8	LIVE	3 SAW	6.9	39.0	2,621	3.3	1,353.4	128.4
WH	9 - 11	LIVE	3 SAW	10.5	40.0	3,042	5.5	1,455.2	149.1
WH	12 - 14	LIVE	2 SAW	12.9	40.0	3,344	2.2	1,621.1	163.9

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U2

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.1	18.0	99	0.0	142.8	4.8
DF	5 - 8	LIVE	Pulp	5.3	12.0	35	0.0	11.3	1.7
DF	5 - 8	LIVE	Domestic	6.2	29.0	2,252	1.7	1,169.0	110.3
DF	9 - 11	LIVE	Domestic	10.3	40.0	4,064	3.1	1,834.7	199.2
DF	12 - 14	LIVE	Domestic	13.2	40.0	4,357	1.0	1,902.0	213.5
DF	15 - 19	LIVE	Domestic	15.6	40.0	1,425	6.2	572.0	69.8
WH	< 5	LIVE	Pulp	2.2	15.0	104	0.0	106.0	5.1
WH	5 - 8	LIVE	Cull	5.1	26.0	0	100.0	0.0	0.0
WH	5 - 8	LIVE	Domestic	6.1	29.0	3,815	2.5	1,963.7	186.9
WH	9 - 11	LIVE	Domestic	10.5	40.0	3,042	5.5	1,455.2	149.1
WH	12 - 14	LIVE	Domestic	12.9	40.0	3,344	2.2	1,621.1	163.9

Cruise Unit Report HOMEWARD BOUND U3

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U3

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	3 Saw	4 Saw	Utility
WH	13.1			673.5	560.5	97.5	15.6
SS	12.9			14.0	7.6	6.1	0.3
ALL	13.1			687.6	568.0	103.6	15.9

Unit Sale Notice Weight (tons): HOMEWARD BOUND U3

Sp	Tons by Grade			
	All	3 Saw	4 Saw	Utility
WH	7,889.5	6,438.6	1,038.3	412.6
SS	170.9	81.9	78.1	10.9
ALL	8,060.4	6,520.5	1,116.3	423.6

Unit Cruise Design: HOMEWARD BOUND U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.3	16	8	0

Unit Cruise Summary: HOMEWARD BOUND U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	37	74	4.6	0
SS	2	2	0.1	0
ALL	39	76	4.8	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	251.8	28.3	7.1	81.1	13.7	2.3	20,410	31.5	7.4
SS	6.8	273.3	68.3	62.5	17.4	12.3	425	273.8	69.4
ALL	258.6	27.2	6.8	80.6	14.6	2.3	20,835	30.8	7.2

Unit Summary: HOMEWARD BOUND U3

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SS	LIVE	CUT	2	ALL	12.9	51	63	425	0.0	7.5	6.8	1.9	170.9	14.0
WH	LIVE	CUT	37	ALL	10.8	36	44	20,410	1.0	395.8	251.8	76.6	7,889.5	673.5
ALL	LIVE	CUT	39	ALL	10.8	36	44	20,835	0.9	403.3	258.6	78.5	8,060.4	687.5
ALL	ALL	ALL	39	ALL	10.8	36	44	20,835	0.9	403.3	258.6	78.5	8,060.4	687.5

Unit Stand Table: HOMEWARD BOUND U3

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
SS	12	LIVE	CUT	1	12.0	48	59	186	0.0	4.3	3.4	1.0	78.1	6.1
SS	14	LIVE	CUT	1	14.0	55	68	239	0.0	3.2	3.4	0.9	92.8	7.9
WH	<5	LIVE	CUT	1	3.0			537	1.0	135.0	6.6	3.8	207.6	17.7
WH	10	LIVE	CUT	2	10.0	48	58	1,045	0.0	24.3	13.3	4.2	359.2	34.5
WH	12	LIVE	CUT	10	11.9	53	65	5,527	0.0	86.0	66.3	19.2	2,033.4	182.4
WH	14	LIVE	CUT	15	13.3	55	67	7,656	0.5	102.9	99.4	27.2	3,088.2	252.6
WH	16	LIVE	CUT	8	15.4	59	73	4,578	2.3	41.2	53.0	13.5	1,774.8	151.1
WH	18	LIVE	CUT	2	17.0	58	71	1,068	4.5	8.4	13.3	3.2	426.2	35.2

Unit Log Grade Summary: HOMEWARD BOUND U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	LIVE	3 SAW	7.5	40.0	229	0.0	81.9	7.6
SS	LIVE	4 SAW	5.5	40.0	186	0.0	78.1	6.1
SS	LIVE	UTILITY	2.0	21.0	10	0.0	10.9	0.3
WH	LIVE	3 SAW	7.3	40.0	16,984	1.1	6,438.6	560.5
WH	LIVE	4 SAW	5.1	23.0	2,953	0.0	1,038.3	97.5
WH	LIVE	UTILITY	2.1	17.0	472	0.0	412.6	15.6

Unit Log Sort Summary: HOMEWARD BOUND U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	LIVE	Domestic	6.3	40.0	415	0.0	160.0	13.7
SS	LIVE	Pulp	2.0	21.0	10	0.0	10.9	0.3
WH	LIVE	Domestic	6.6	34.0	19,938	1.0	7,476.9	657.9
WH	LIVE	Pulp	2.1	17.0	472	0.0	412.6	15.6

Unit Log Grade x Sort Summary: HOMEWARD BOUND U3

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	LIVE	3 SAW	Domestic	7.5	40.0	229	0.0	81.9	7.6
SS	LIVE	4 SAW	Domestic	5.5	40.0	186	0.0	78.1	6.1
SS	LIVE	UTILITY	Pulp	2.0	21.0	10	0.0	10.9	0.3
WH	LIVE	3 SAW	Domestic	7.3	40.0	16,984	1.1	6,438.6	560.5
WH	LIVE	4 SAW	Domestic	5.1	23.0	2,953	0.0	1,038.3	97.5
WH	LIVE	UTILITY	Pulp	2.1	17.0	472	0.0	412.6	15.6

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U3

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	< 5	LIVE	UTILITY	2.0	21.0	10	0.0	10.9	0.3
SS	5 - 8	LIVE	4 SAW	5.5	40.0	186	0.0	78.1	6.1
SS	5 - 8	LIVE	3 SAW	7.5	40.0	229	0.0	81.9	7.6
WH	< 5	LIVE	UTILITY	2.1	17.0	472	0.0	412.6	15.6
WH	5 - 8	LIVE	4 SAW	5.1	23.0	2,953	0.0	1,038.3	97.5
WH	5 - 8	LIVE	3 SAW	7.1	40.0	14,397	0.6	5,428.9	475.1
WH	9 - 11	LIVE	3 SAW	9.4	40.0	2,587	4.1	1,009.7	85.4

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U3

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	< 5	LIVE	Pulp	2.0	21.0	10	0.0	10.9	0.3
SS	5 - 8	LIVE	Domestic	6.3	40.0	415	0.0	160.0	13.7
WH	< 5	LIVE	Pulp	2.1	17.0	472	0.0	412.6	15.6
WH	5 - 8	LIVE	Domestic	6.4	34.0	17,350	0.5	6,467.2	572.6
WH	9 - 11	LIVE	Domestic	9.4	40.0	2,587	4.1	1,009.7	85.4

Cruise Unit Report HOMEWARD BOUND U4

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U4

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.9			85.8	24.7	39.1	20.3	1.7
ALL	13.9			85.8	24.7	39.1	20.3	1.7

Unit Sale Notice Weight (tons): HOMEWARD BOUND U4

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	935.1	244.7	391.5	251.4	47.5
ALL	935.1	244.7	391.5	251.4	47.5

Unit Cruise Design: HOMEWARD BOUND U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	3.0	3.3	2	2	0

Unit Cruise Summary: HOMEWARD BOUND U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	10	10	5.0	0
ALL	10	10	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	0.0	0.0	105.1	33.3	10.5	28,607	33.3	10.5
ALL	272.2	0.0	0.0	105.1	33.3	10.5	28,607	33.3	10.5

Unit Summary: HOMEWARD BOUND U4

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	LIVE	CUT	10	ALL	13.9	57	70	28,607	7.2	258.3	272.2	73.0	935.1	85.8
ALL	LIVE	CUT	10	ALL	13.9	57	70	28,607	7.2	258.3	272.2	73.0	935.1	85.8

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
ALL	ALL	ALL	10	ALL	13.9	57	70	28,607	7.2	258.3	272.2	73.0	935.1	85.8

Unit Stand Table: HOMEWARD BOUND U4

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	10	LIVE	CUT	1	9.0	44	53	2,218	0.0	61.6	27.2	9.1	65.1	6.7
WH	12	LIVE	CUT	3	11.6	52	64	5,703	0.0	110.6	81.7	23.9	231.6	17.1
WH	14	LIVE	CUT	1	13.0	55	67	2,215	0.0	29.5	27.2	7.5	79.4	6.6
WH	16	LIVE	CUT	1	16.0	76	95	3,685	0.0	19.5	27.2	6.8	101.1	11.1
WH	18	LIVE	CUT	1	18.0	76	95	3,358	0.0	15.4	27.2	6.4	103.5	10.1
WH	24	LIVE	CUT	1	24.0	96	121	4,315	13.2	8.7	27.2	5.6	123.1	12.9
WH	28	LIVE	CUT	2	27.0	88	111	7,112	18.1	13.7	54.4	10.5	231.3	21.3

Unit Log Grade Summary: HOMEWARD BOUND U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	2 SAW	17.2	40.0	8,224	19.9	244.7	24.7
WH	LIVE	3 SAW	8.6	40.0	13,039	1.5	391.5	39.1
WH	LIVE	4 SAW	5.5	35.0	6,771	0.0	251.4	20.3
WH	LIVE	UTILITY	2.1	16.0	572	0.0	47.5	1.7

Unit Log Sort Summary: HOMEWARD BOUND U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	Domestic	7.5	37.0	28,035	7.4	887.6	84.1
WH	LIVE	Pulp	2.1	16.0	572	0.0	47.5	1.7

Unit Log Grade x Sort Summary: HOMEWARD BOUND U4

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	2 SAW	Domestic	17.2	40.0	8,224	19.9	244.7	24.7
WH	LIVE	3 SAW	Domestic	8.6	40.0	13,039	1.5	391.5	39.1
WH	LIVE	4 SAW	Domestic	5.5	35.0	6,771	0.0	251.4	20.3
WH	LIVE	UTILITY	Pulp	2.1	16.0	572	0.0	47.5	1.7

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U4

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	UTILITY	2.1	16.0	572	0.0	47.5	1.7
WH	5 - 8	LIVE	4 SAW	5.5	35.0	6,771	0.0	251.4	20.3
WH	5 - 8	LIVE	3 SAW	6.8	40.0	4,310	0.0	140.8	12.9
WH	9 - 11	LIVE	3 SAW	10.7	40.0	8,730	2.2	250.7	26.2
WH	15 - 19	LIVE	2 SAW	17.2	40.0	8,224	19.9	244.7	24.7

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U4

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	Pulp	2.1	16.0	572	0.0	47.5	1.7
WH	5 - 8	LIVE	Domestic	5.9	36.0	11,081	0.0	392.2	33.2
WH	9 - 11	LIVE	Domestic	10.7	40.0	8,730	2.2	250.7	26.2
WH	15 - 19	LIVE	Domestic	17.2	40.0	8,224	19.9	244.7	24.7

Cruise Unit Report HOMEWARD BOUND U5

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U5

Sp	QMD	Rings/In	Age	MBF Volume by Grade					Utility
				All	1 Saw	2 Saw	3 Saw	4 Saw	
WH	19.3			512.9	129.0	227.3	114.4	39.2	3.0
ALL	19.3			512.9	129.0	227.3	114.4	39.2	3.0

Unit Sale Notice Weight (tons): HOMEWARD BOUND U5

Sp	Tons by Grade					
	All	1 Saw	2 Saw	3 Saw	4 Saw	Utility
WH	4,985.2	1,070.8	2,076.3	1,197.1	487.1	153.9
ALL	4,985.2	1,070.8	2,076.3	1,197.1	487.1	153.9

Unit Cruise Design: HOMEWARD BOUND U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	14.0	13.8	7	5	0

Unit Cruise Summary: HOMEWARD BOUND U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	25	36	5.1	0
ALL	25	36	5.1	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	280.0	13.4	5.1	134.6	33.3	6.7	37,682	35.9	8.4
ALL	280.0	13.4	5.1	134.6	33.3	6.7	37,682	35.9	8.4

Unit Summary: HOMEWARD BOUND U5

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	LIVE	CUT	25	ALL	19.3	64	79	36,635	9.3	134.0	272.2	62.0	4,985.2	512.9

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	LIVE	LEA	1	ALL	40.0	118	150	1,047	9.3	0.9	7.8	1.2	142.4	14.7
ALL	LIVE	LEA	1	ALL	40.0	118	150	1,047	9.4	0.9	7.8	1.2	142.4	14.7
ALL	LIVE	CUT	25	ALL	19.3	64	79	36,635	9.3	134.0	272.2	62.0	4,985.2	512.9
ALL	ALL	ALL	26	ALL	19.5	64	79	37,682	9.3	134.9	280.0	63.2	5,127.6	527.6

Unit Stand Table: HOMEWARD BOUND U5

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	10	LIVE	CUT	1	10.0	42	50	699	0.0	20.0	10.9	3.4	107.3	9.8
WH	12	LIVE	CUT	3	11.6	49	59	2,201	0.0	44.2	32.7	9.6	385.3	30.8
WH	14	LIVE	CUT	1	14.0	51	62	662	0.0	10.2	10.9	2.9	136.9	9.3
WH	16	LIVE	CUT	2	16.0	75	94	2,940	0.0	15.6	21.8	5.4	377.3	41.2
WH	18	LIVE	CUT	1	18.0	76	95	1,343	0.0	6.2	10.9	2.6	193.2	18.8
WH	22	LIVE	CUT	1	21.0	88	111	1,516	11.1	4.5	10.9	2.4	219.0	21.2
WH	24	LIVE	CUT	1	24.0	91	114	1,622	10.0	3.5	10.9	2.2	225.1	22.7
WH	26	LIVE	CUT	3	26.0	90	114	4,898	4.0	8.9	32.7	6.4	663.0	68.6
WH	28	LIVE	CUT	3	27.3	87	109	4,320	15.8	8.0	32.7	6.2	640.5	60.5
WH	32	LIVE	CUT	1	31.0	96	121	1,463	27.6	2.1	10.9	2.0	229.9	20.5
WH	34	LIVE	CUT	1	33.0	104	131	2,324	0.0	1.8	10.9	1.9	245.7	32.5
WH	36	LIVE	CUT	1	36.0	101	128	1,823	19.8	1.5	10.9	1.8	237.3	25.5
WH	38	LIVE	CUT	1	38.0	103	130	2,229	4.8	1.4	10.9	1.8	240.2	31.2
WH	40	LIVE	CUT	2	39.5	94	118	4,069	6.9	2.6	21.8	3.5	455.0	57.0
WH	42	LIVE	CUT	1	41.0	90	113	1,645	13.9	1.2	10.9	1.7	217.1	23.0
WH	44	LIVE	CUT	1	43.0	82	103	1,599	12.8	1.1	10.9	1.7	204.2	22.4
WH	54	LIVE	CUT	1	53.0	84	105	1,281	26.8	0.7	10.9	1.5	208.0	17.9
WH	40	LIVE	LEA	1	40.0	118	150	1,047	0.0	0.9	7.8	1.2	142.4	14.7

Unit Log Grade Summary: HOMEWARD BOUND U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	1 SAW	26.8	40.0	9,213	14.9	1,070.8	129.0
WH	LIVE	2 SAW	16.8	39.0	16,234	10.9	2,076.3	227.3
WH	LIVE	3 SAW	9.0	39.0	8,175	2.2	1,197.1	114.4
WH	LIVE	4 SAW	5.4	35.0	2,803	0.0	487.1	39.2
WH	LIVE	UTILITY	2.1	18.0	211	0.6	153.9	3.0

Unit Log Sort Summary: HOMEWARD BOUND U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	Domestic	10.1	38.0	36,424	9.4	4,831.3	509.9
WH	LIVE	Pulp	2.1	18.0	211	0.6	153.9	3.0

Unit Log Grade x Sort Summary: HOMEWARD BOUND U5

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	1 SAW	Domestic	26.8	40.0	9,213	14.9	1,070.8	129.0
WH	LIVE	2 SAW	Domestic	16.8	39.0	16,234	10.9	2,076.3	227.3
WH	LIVE	3 SAW	Domestic	9.0	39.0	8,175	2.2	1,197.1	114.4
WH	LIVE	4 SAW	Domestic	5.4	35.0	2,803	0.0	487.1	39.2
WH	LIVE	UTILITY	Pulp	2.1	18.0	211	0.6	153.9	3.0

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U5

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	UTILITY	2.1	18.0	211	0.6	153.9	3.0
WH	5 - 8	LIVE	4 SAW	5.3	36.0	2,747	0.0	477.8	38.5
WH	5 - 8	LIVE	3 SAW	6.9	40.0	2,114	2.7	362.4	29.6
WH	9 - 11	LIVE	4 SAW	9.6	13.0	56	0.0	9.3	0.8
WH	9 - 11	LIVE	3 SAW	10.5	38.0	6,060	2.0	834.7	84.8
WH	12 - 14	LIVE	2 SAW	13.8	37.0	2,336	8.2	333.9	32.7
WH	15 - 19	LIVE	2 SAW	17.2	40.0	11,392	10.2	1,433.5	159.5
WH	20+	LIVE	2 SAW	21.7	40.0	2,506	16.1	308.9	35.1
WH	20+	LIVE	1 SAW	26.8	40.0	9,213	14.9	1,070.8	129.0

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U5

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	Pulp	2.1	18.0	211	0.6	153.9	3.0
WH	5 - 8	LIVE	Domestic	5.8	37.0	4,861	1.2	840.2	68.1
WH	9 - 11	LIVE	Domestic	10.4	37.0	6,117	1.9	844.0	85.6
WH	12 - 14	LIVE	Domestic	13.8	37.0	2,336	8.2	333.9	32.7
WH	15 - 19	LIVE	Domestic	17.2	40.0	11,392	10.2	1,433.5	159.5
WH	20+	LIVE	Domestic	25.2	40.0	11,719	15.2	1,379.7	164.1

Cruise Unit Report HOMEWARD BOUND U6

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U6

Sp	QMD	Rings/In	Age	MBF Volume by Grade					Utility
				All	1 Saw	2 Saw	3 Saw	4 Saw	
WH	16.1			156.6	9.7	64.1	58.0	23.4	1.3
ALL	16.1			156.6	9.7	64.1	58.0	23.4	1.3

Unit Sale Notice Weight (tons): HOMEWARD BOUND U6

Sp	Tons by Grade					
	All	1 Saw	2 Saw	3 Saw	4 Saw	Utility
WH	1,648.6	92.8	618.4	595.7	290.0	51.7
ALL	1,648.6	92.8	618.4	595.7	290.0	51.7

Unit Cruise Design: HOMEWARD BOUND U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	5.0	5.3	3	3	0

Unit Cruise Summary: HOMEWARD BOUND U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	15	15	5.0	0
ALL	15	15	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	20.0	11.5	115.0	33.3	8.6	31,314	38.9	14.4
ALL	272.2	20.0	11.5	115.0	33.3	8.6	31,314	38.9	14.4

Unit Summary: HOMEWARD BOUND U6

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	LIVE	CUT	15	ALL	16.1	60	74	31,314	10.3	192.5	272.2	67.8	1,648.6	156.6
ALL	LIVE	CUT	15	ALL	16.1	60	74	31,314	10.3	192.5	272.2	67.8	1,648.6	156.6

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
ALL	ALL	ALL	15	ALL	16.1	60	74	31,314	10.3	192.5	272.2	67.8	1,648.6	156.6

Unit Stand Table: HOMEWARD BOUND U6

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	10	LIVE	CUT	1	10.0	42	50	1,165	0.0	33.3	18.1	5.7	63.9	5.8
WH	12	LIVE	CUT	3	11.6	49	59	3,669	0.0	73.7	54.4	16.0	229.4	18.3
WH	14	LIVE	CUT	1	14.0	51	62	1,103	0.0	17.0	18.1	4.8	81.5	5.5
WH	16	LIVE	CUT	2	16.0	75	94	4,900	0.0	26.0	36.3	9.1	224.6	24.5
WH	18	LIVE	CUT	1	18.0	76	95	2,239	0.0	10.3	18.1	4.3	115.0	11.2
WH	22	LIVE	CUT	1	21.0	88	111	2,527	11.1	7.5	18.1	4.0	130.4	12.6
WH	24	LIVE	CUT	1	24.0	91	114	2,703	10.0	5.8	18.1	3.7	134.0	13.5
WH	26	LIVE	CUT	1	26.0	92	115	2,703	11.2	4.9	18.1	3.6	134.7	13.5
WH	28	LIVE	CUT	2	27.0	88	111	4,828	16.6	9.1	36.3	7.0	257.0	24.1
WH	32	LIVE	CUT	1	31.0	96	121	2,438	27.6	3.5	18.1	3.3	136.9	12.2
WH	36	LIVE	CUT	1	36.0	101	128	3,039	19.8	2.6	18.1	3.0	141.3	15.2

Unit Log Grade Summary: HOMEWARD BOUND U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	1 SAW	24.0	40.0	1,943	25.0	92.8	9.7
WH	LIVE	2 SAW	16.7	40.0	12,830	17.5	618.4	64.1
WH	LIVE	3 SAW	8.8	39.0	11,608	1.9	595.7	58.0
WH	LIVE	4 SAW	5.4	35.0	4,671	0.0	290.0	23.4
WH	LIVE	UTILITY	2.1	17.0	262	0.0	51.7	1.3

Unit Log Sort Summary: HOMEWARD BOUND U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	Domestic	8.5	38.0	31,052	10.4	1,596.9	155.3
WH	LIVE	Pulp	2.1	17.0	262	0.0	51.7	1.3

Unit Log Grade x Sort Summary: HOMEWARD BOUND U6

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	1 SAW	Domestic	24.0	40.0	1,943	25.0	92.8	9.7
WH	LIVE	2 SAW	Domestic	16.7	40.0	12,830	17.5	618.4	64.1
WH	LIVE	3 SAW	Domestic	8.8	39.0	11,608	1.9	595.7	58.0
WH	LIVE	4 SAW	Domestic	5.4	35.0	4,671	0.0	290.0	23.4

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	UTILITY	Pulp	2.1	17.0	262	0.0	51.7	1.3

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U6

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	UTILITY	2.1	17.0	262	0.0	51.7	1.3
WH	5 - 8	LIVE	4 SAW	5.3	36.0	4,578	0.0	284.4	22.9
WH	5 - 8	LIVE	3 SAW	6.7	40.0	3,091	3.1	185.0	15.5
WH	9 - 11	LIVE	4 SAW	9.6	13.0	94	0.0	5.5	0.5
WH	9 - 11	LIVE	3 SAW	10.5	39.0	8,517	1.4	410.7	42.6
WH	12 - 14	LIVE	2 SAW	14.0	40.0	2,649	11.6	127.6	13.2
WH	15 - 19	LIVE	2 SAW	17.3	40.0	8,557	15.6	399.3	42.8
WH	20+	LIVE	2 SAW	20.9	40.0	1,624	33.0	91.4	8.1
WH	20+	LIVE	1 SAW	24.0	40.0	1,943	25.0	92.8	9.7

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U6

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	< 5	LIVE	Pulp	2.1	17.0	262	0.0	51.7	1.3
WH	5 - 8	LIVE	Domestic	5.7	37.0	7,669	1.3	469.4	38.3
WH	9 - 11	LIVE	Domestic	10.4	38.0	8,610	1.4	416.3	43.1
WH	12 - 14	LIVE	Domestic	14.0	40.0	2,649	11.6	127.6	13.2
WH	15 - 19	LIVE	Domestic	17.3	40.0	8,557	15.6	399.3	42.8
WH	20+	LIVE	Domestic	22.2	40.0	3,567	28.9	184.2	17.8

Cruise Unit Report HOMEWARD BOUND U7

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U7

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	18.8			556.1	274.9	229.0	35.2	16.9
WH	17.5			102.2	19.3	70.3	12.5	0.2
SS	21.7			76.8	66.3		10.0	0.5
RA	11.8			14.6			14.1	0.5
ALL	18.0			749.7	360.5	299.3	71.9	18.1

Unit Sale Notice Weight (tons): HOMEWARD BOUND U7

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	5,562.5	2,475.5	2,480.7	333.1	273.2
WH	1,022.6	166.1	704.5	149.5	2.6
SS	656.5	517.7		125.7	13.2
RA	177.9			168.4	9.5
ALL	7,419.5	3,159.3	3,185.1	776.6	298.4

Unit Cruise Design: HOMEWARD BOUND U7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	24.0	23.6	12	7	0

Unit Cruise Summary: HOMEWARD BOUND U7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	29	51	4.3	0
WH	5	9	0.8	0
SS	2	6	0.5	0
RA	3	3	0.3	0
ALL	39	69	5.8	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	231.4	48.2	13.9	100.1	22.8	4.2	23,170	53.4	14.6
WH	40.8	115.5	33.3	117.4	15.5	6.9	4,792	116.5	34.0
SS	27.2	180.9	52.2	117.5	11.8	8.3	3,199	181.3	52.9
RA	10.0	346.4	100.0	60.8	16.7	9.6	608	346.8	100.5
ALL	309.4	18.4	5.3	102.7	24.0	3.8	31,769	30.2	6.6

Unit Summary: HOMEWARD BOUND U7

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	29	ALL	18.8	69	87	23,170	6.2	120.0	231.4	53.4	5,562.5	556.1
RA	LIVE	CUT	3	ALL	11.8	48	58	608	6.2	13.2	10.0	2.9	177.9	14.6
SS	LIVE	CUT	2	ALL	21.7	71	89	3,199	0.0	10.6	27.2	5.8	656.5	76.8
WH	LIVE	CUT	5	ALL	17.5	70	87	4,260	4.7	21.7	36.3	8.7	1,022.6	102.2
WH	LIVE	LEA	1	ALL	18.0	82	103	532	4.7	2.6	4.5	1.1	127.8	12.8
ALL	LIVE	LEA	1	ALL	18.0	82	103	532	4.8	2.6	4.5	1.1	127.8	12.8
ALL	LIVE	CUT	39	ALL	18.4	68	85	31,237	5.4	165.5	304.9	70.8	7,419.5	749.7
ALL	ALL	ALL	40	ALL	18.4	68	85	31,769	5.4	168.1	309.4	71.9	7,547.3	762.5

Unit Stand Table: HOMEWARD BOUND U7

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	14	LIVE	CUT	4	13.7	63	78	2,792	4.3	31.1	31.9	8.6	697.6	67.0
DF	16	LIVE	CUT	2	15.5	63	79	1,271	3.7	12.2	16.0	4.1	342.0	30.5
DF	18	LIVE	CUT	3	17.4	70	87	2,342	9.0	14.5	23.9	5.7	564.5	56.2
DF	20	LIVE	CUT	7	19.7	73	92	5,674	7.5	26.4	55.9	12.6	1,369.8	136.2
DF	22	LIVE	CUT	4	21.5	71	88	2,955	7.0	12.7	31.9	6.9	770.8	70.9
DF	24	LIVE	CUT	7	23.1	76	95	6,295	2.7	19.1	55.9	11.6	1,413.0	151.1
DF	26	LIVE	CUT	1	25.0	73	92	822	23.5	2.3	8.0	1.6	196.9	19.7
DF	30	LIVE	CUT	1	30.0	78	99	1,019	1.7	1.6	8.0	1.5	207.9	24.5
RA	12	LIVE	CUT	2	11.0	46	55	374	9.8	10.1	6.7	2.0	110.0	9.0
RA	14	LIVE	CUT	1	14.0	54	66	234	0.0	3.1	3.3	0.9	67.9	5.6
SS	20	LIVE	CUT	1	20.0	72	91	1,466	0.0	6.2	13.6	3.0	334.8	35.2
SS	24	LIVE	CUT	1	24.0	69	87	1,733	0.0	4.3	13.6	2.8	321.7	41.6
WH	16	LIVE	CUT	2	16.0	71	88	1,820	4.9	10.4	14.5	3.6	415.3	43.7
WH	18	LIVE	CUT	2	18.1	67	83	1,456	7.5	8.1	14.5	3.4	390.2	34.9
WH	20	LIVE	CUT	1	20.0	75	93	985	0.0	3.3	7.3	1.6	217.2	23.6

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WH	18	LIVE	LEA	1	18.0	82	103	532	0.0	2.5	4.5	1.1	127.8	12.8

Unit Log Grade Summary: HOMEWARD BOUND U7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.8	40.0	11,455	7.0	2,475.5	274.9
DF	LIVE	3 SAW	8.3	38.0	9,541	5.9	2,480.7	229.0
DF	LIVE	4 SAW	5.3	21.0	1,469	5.4	333.1	35.2
DF	LIVE	UTILITY	2.7	17.0	706	0.0	273.2	16.9
RA	LIVE	4 SAW	5.9	38.0	589	6.4	168.4	14.1
RA	LIVE	UTILITY	2.0	15.0	19	0.0	9.5	0.5
SS	LIVE	2 SAW	13.8	40.0	2,761	0.0	517.7	66.3
SS	LIVE	4 SAW	7.0	29.0	417	0.0	125.7	10.0
SS	LIVE	UTILITY	2.1	13.0	21	0.0	13.2	0.5
WH	LIVE	2 SAW	13.0	40.0	805	0.0	166.1	19.3
WH	LIVE	3 SAW	9.9	39.0	2,929	6.1	704.5	70.3
WH	LIVE	4 SAW	5.3	27.0	519	4.1	149.5	12.5
WH	LIVE	UTILITY	2.1	12.0	7	0.0	2.6	0.2

Unit Log Sort Summary: HOMEWARD BOUND U7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	8.5	33.0	22,464	6.4	5,289.3	539.1
DF	LIVE	Pulp	2.7	17.0	706	0.0	273.2	16.9
RA	LIVE	Domestic	5.9	38.0	589	6.4	168.4	14.1
RA	LIVE	Pulp	2.0	15.0	19	0.0	9.5	0.5
SS	LIVE	Domestic	10.4	34.0	3,178	0.0	643.3	76.3
SS	LIVE	Pulp	2.1	13.0	21	0.0	13.2	0.5
WH	LIVE	Domestic	8.2	34.0	4,253	4.7	1,020.0	102.1
WH	LIVE	Pulp	2.1	12.0	7	0.0	2.6	0.2

Unit Log Grade x Sort Summary: HOMEWARD BOUND U7

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.8	40.0	11,455	7.0	2,475.5	274.9
DF	LIVE	3 SAW	Domestic	8.3	38.0	9,541	5.9	2,480.7	229.0
DF	LIVE	4 SAW	Domestic	5.3	21.0	1,469	5.4	333.1	35.2
DF	LIVE	UTILITY	Pulp	2.7	17.0	706	0.0	273.2	16.9
RA	LIVE	4 SAW	Domestic	5.9	38.0	589	6.4	168.4	14.1

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
RA	LIVE	UTILITY	Pulp	2.0	15.0	19	0.0	9.5	0.5
SS	LIVE	2 SAW	Domestic	13.8	40.0	2,761	0.0	517.7	66.3
SS	LIVE	4 SAW	Domestic	7.0	29.0	417	0.0	125.7	10.0
SS	LIVE	UTILITY	Pulp	2.1	13.0	21	0.0	13.2	0.5
WH	LIVE	2 SAW	Domestic	13.0	40.0	805	0.0	166.1	19.3
WH	LIVE	3 SAW	Domestic	9.9	39.0	2,929	6.1	704.5	70.3
WH	LIVE	4 SAW	Domestic	5.3	27.0	519	4.1	149.5	12.5
WH	LIVE	UTILITY	Pulp	2.1	12.0	7	0.0	2.6	0.2

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U7

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.2	14.0	168	0.0	120.0	4.0
DF	5 - 8	LIVE	4 SAW	5.3	21.0	1,469	5.4	333.1	35.2
DF	5 - 8	LIVE	3 SAW	7.4	37.0	5,062	3.6	1,380.1	121.5
DF	5 - 8	LIVE	UTILITY	7.9	40.0	537	0.0	153.2	12.9
DF	9 - 11	LIVE	3 SAW	10.7	40.0	4,478	8.3	1,100.6	107.5
DF	12 - 14	LIVE	2 SAW	13.3	40.0	8,987	6.5	2,010.2	215.7
DF	15 - 19	LIVE	2 SAW	16.3	40.0	2,469	8.7	465.3	59.2
RA	< 5	LIVE	UTILITY	2.0	15.0	19	0.0	9.5	0.5
RA	5 - 8	LIVE	4 SAW	5.9	38.0	589	6.4	168.4	14.1
SS	< 5	LIVE	UTILITY	2.1	13.0	21	0.0	13.2	0.5
SS	5 - 8	LIVE	4 SAW	7.0	29.0	417	0.0	125.7	10.0
SS	12 - 14	LIVE	2 SAW	12.9	40.0	1,223	0.0	260.8	29.3
SS	15 - 19	LIVE	2 SAW	15.2	40.0	1,538	0.0	256.9	36.9
WH	< 5	LIVE	UTILITY	2.1	12.0	7	0.0	2.6	0.2
WH	5 - 8	LIVE	4 SAW	5.3	27.0	519	4.1	149.5	12.5
WH	5 - 8	LIVE	3 SAW	6.3	33.0	173	0.0	48.5	4.2
WH	9 - 11	LIVE	3 SAW	10.5	40.0	2,756	6.4	655.9	66.1
WH	12 - 14	LIVE	2 SAW	13.0	40.0	805	0.0	166.1	19.3

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U7

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.2	14.0	168	0.0	120.0	4.0
DF	5 - 8	LIVE	Domestic	6.4	29.0	6,531	4.0	1,713.2	156.7
DF	5 - 8	LIVE	Pulp	7.9	40.0	537	0.0	153.2	12.9
DF	9 - 11	LIVE	Domestic	10.7	40.0	4,478	8.3	1,100.6	107.5
DF	12 - 14	LIVE	Domestic	13.3	40.0	8,987	6.5	2,010.2	215.7

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	15 - 19	LIVE	Domestic	16.3	40.0	2,469	8.7	465.3	59.2
RA	< 5	LIVE	Pulp	2.0	15.0	19	0.0	9.5	0.5
RA	5 - 8	LIVE	Domestic	5.9	38.0	589	6.4	168.4	14.1
SS	< 5	LIVE	Pulp	2.1	13.0	21	0.0	13.2	0.5
SS	5 - 8	LIVE	Domestic	7.0	29.0	417	0.0	125.7	10.0
SS	12 - 14	LIVE	Domestic	12.9	40.0	1,223	0.0	260.8	29.3
SS	15 - 19	LIVE	Domestic	15.2	40.0	1,538	0.0	256.9	36.9
WH	< 5	LIVE	Pulp	2.1	12.0	7	0.0	2.6	0.2
WH	5 - 8	LIVE	Domestic	5.5	28.0	692	3.1	198.0	16.6
WH	9 - 11	LIVE	Domestic	10.5	40.0	2,756	6.4	655.9	66.1
WH	12 - 14	LIVE	Domestic	13.0	40.0	805	0.0	166.1	19.3

Cruise Unit Report HOMEWARD BOUND U8

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U8

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	19.3			218.0	123.6	73.8	12.1	8.6
WH	17.5			63.9	12.1	43.9	7.8	0.1
SS	20.0			11.7	9.8		1.8	0.1
ALL	19.0			293.7	145.4	117.7	21.7	8.8

Unit Sale Notice Weight (tons): HOMEWARD BOUND U8

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
DF	2,260.7	1,141.0	868.1	115.6	136.1
WH	639.1	103.8	440.3	93.4	1.6
SS	111.6	86.9		22.1	2.6
ALL	3,011.4	1,331.7	1,308.4	231.0	140.3

Unit Cruise Design: HOMEWARD BOUND U8

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	10.0	10.3	5	5	0

Unit Cruise Summary: HOMEWARD BOUND U8

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	21	21	4.2	0
WH	5	6	1.2	0
SS	1	1	0.2	0
ALL	27	28	5.6	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U8

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	228.6	42.6	19.0	95.4	25.5	5.6	21,805	49.7	19.8
WH	65.3	69.7	31.2	117.4	15.5	6.9	7,668	71.4	31.9

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SS	10.9	223.6	100.0	107.7	0.0	0.0	1,173	223.6	100.0
ALL	304.9	20.4	9.1	100.5	24.0	4.6	30,646	31.5	10.2

Unit Summary: HOMEWARD BOUND U8

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	21	ALL	19.3	69	86	21,805	7.8	112.5	228.6	52.0	2,260.7	218.1
SS	LIVE	CUT	1	ALL	20.0	72	91	1,173	0.0	5.0	10.9	2.4	111.6	11.7
WH	LIVE	CUT	5	ALL	17.5	70	87	6,390	4.7	32.6	54.4	13.0	639.1	63.9
WH	LIVE	LEA	1	ALL	18.0	82	103	1,278	4.7	6.2	10.9	2.6	127.8	12.8
ALL	LIVE	CUT	27	ALL	18.9	69	86	29,368	6.8	150.1	293.9	67.4	3,011.4	293.7
ALL	LIVE	LEA	1	ALL	18.0	82	103	1,278	4.8	6.2	10.9	2.6	127.8	12.8
ALL	ALL	ALL	28	ALL	18.9	70	87	30,646	6.7	156.3	304.8	70.0	3,139.2	306.5

Unit Stand Table: HOMEWARD BOUND U8

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	14	LIVE	CUT	2	14.0	63	78	1,691	7.3	20.4	21.8	5.8	194.5	16.9
DF	16	LIVE	CUT	2	15.5	63	79	1,735	3.7	16.7	21.8	5.5	194.5	17.3
DF	18	LIVE	CUT	2	17.6	66	83	1,946	11.3	12.8	21.8	5.2	204.8	19.5
DF	20	LIVE	CUT	4	20.0	71	89	4,062	12.5	20.0	43.5	9.7	436.6	40.6
DF	22	LIVE	CUT	3	21.3	67	84	2,659	8.0	13.2	32.7	7.1	314.9	26.6
DF	24	LIVE	CUT	7	23.1	76	95	8,590	2.7	26.1	76.2	15.8	803.4	85.9
DF	26	LIVE	CUT	1	25.0	73	92	1,121	23.5	3.2	10.9	2.2	112.0	11.2
SS	20	LIVE	CUT	1	20.0	72	91	1,173	0.0	5.0	10.9	2.4	111.6	11.7
WH	16	LIVE	CUT	2	16.0	71	88	2,729	4.9	15.6	21.8	5.4	259.5	27.3
WH	18	LIVE	CUT	2	18.1	67	83	2,183	7.5	12.2	21.8	5.1	243.8	21.8
WH	20	LIVE	CUT	1	20.0	75	93	1,477	0.0	5.0	10.9	2.4	135.7	14.8
WH	18	LIVE	LEA	1	18.0	82	103	1,278	0.0	6.2	10.9	2.6	127.8	12.8

Unit Log Grade Summary: HOMEWARD BOUND U8

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.7	40.0	12,357	8.2	1,141.0	123.6
DF	LIVE	3 SAW	8.2	37.0	7,381	7.8	868.1	73.8
DF	LIVE	4 SAW	5.4	20.0	1,207	7.6	115.6	12.1
DF	LIVE	UTILITY	3.1	20.0	860	0.0	136.1	8.6
SS	LIVE	2 SAW	12.9	40.0	978	0.0	86.9	9.8

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
SS	LIVE	4 SAW	6.5	30.0	185	0.0	22.1	1.8
SS	LIVE	UTILITY	2.1	13.0	10	0.0	2.6	0.1
WH	LIVE	2 SAW	13.0	40.0	1,208	0.0	103.8	12.1
WH	LIVE	3 SAW	9.9	39.0	4,393	6.1	440.3	43.9
WH	LIVE	4 SAW	5.3	27.0	779	4.1	93.4	7.8
WH	LIVE	UTILITY	2.1	12.0	10	0.0	1.6	0.1

Unit Log Sort Summary: HOMEWARD BOUND U8

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	8.8	33.0	20,945	8.1	2,124.6	209.4
DF	LIVE	Pulp	3.1	20.0	860	0.0	136.1	8.6
SS	LIVE	Domestic	9.7	35.0	1,163	0.0	109.0	11.6
SS	LIVE	Pulp	2.1	13.0	10	0.0	2.6	0.1
WH	LIVE	Domestic	8.2	34.0	6,380	4.7	637.5	63.8
WH	LIVE	Pulp	2.1	12.0	10	0.0	1.6	0.1

Unit Log Grade x Sort Summary: HOMEWARD BOUND U8

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.7	40.0	12,357	8.2	1,141.0	123.6
DF	LIVE	3 SAW	Domestic	8.2	37.0	7,381	7.8	868.1	73.8
DF	LIVE	4 SAW	Domestic	5.4	20.0	1,207	7.6	115.6	12.1
DF	LIVE	UTILITY	Pulp	3.1	20.0	860	0.0	136.1	8.6
SS	LIVE	2 SAW	Domestic	12.9	40.0	978	0.0	86.9	9.8
SS	LIVE	4 SAW	Domestic	6.5	30.0	185	0.0	22.1	1.8
SS	LIVE	UTILITY	Pulp	2.1	13.0	10	0.0	2.6	0.1
WH	LIVE	2 SAW	Domestic	13.0	40.0	1,208	0.0	103.8	12.1
WH	LIVE	3 SAW	Domestic	9.9	39.0	4,393	6.1	440.3	43.9
WH	LIVE	4 SAW	Domestic	5.3	27.0	779	4.1	93.4	7.8
WH	LIVE	UTILITY	Pulp	2.1	12.0	10	0.0	1.6	0.1

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U8

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.2	16.0	127	0.0	49.0	1.3
DF	5 - 8	LIVE	4 SAW	5.4	20.0	1,207	7.6	115.6	12.1
DF	5 - 8	LIVE	3 SAW	7.5	36.0	4,419	4.4	533.9	44.2
DF	5 - 8	LIVE	UTILITY	7.9	40.0	733	0.0	87.1	7.3

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	9 - 11	LIVE	3 SAW	10.4	40.0	2,962	12.5	334.1	29.6
DF	12 - 14	LIVE	2 SAW	13.4	40.0	10,168	7.2	965.5	101.7
DF	15 - 19	LIVE	2 SAW	15.6	40.0	2,189	12.7	175.5	21.9
SS	< 5	LIVE	UTILITY	2.1	13.0	10	0.0	2.6	0.1
SS	5 - 8	LIVE	4 SAW	6.5	30.0	185	0.0	22.1	1.8
SS	12 - 14	LIVE	2 SAW	12.9	40.0	978	0.0	86.9	9.8
WH	< 5	LIVE	UTILITY	2.1	12.0	10	0.0	1.6	0.1
WH	5 - 8	LIVE	4 SAW	5.3	27.0	779	4.1	93.4	7.8
WH	5 - 8	LIVE	3 SAW	6.3	33.0	259	0.0	30.3	2.6
WH	9 - 11	LIVE	3 SAW	10.5	40.0	4,134	6.4	409.9	41.3
WH	12 - 14	LIVE	2 SAW	13.0	40.0	1,208	0.0	103.8	12.1

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U8

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.2	16.0	127	0.0	49.0	1.3
DF	5 - 8	LIVE	Domestic	6.6	29.0	5,626	5.1	649.5	56.3
DF	5 - 8	LIVE	Pulp	7.9	40.0	733	0.0	87.1	7.3
DF	9 - 11	LIVE	Domestic	10.4	40.0	2,962	12.5	334.1	29.6
DF	12 - 14	LIVE	Domestic	13.4	40.0	10,168	7.2	965.5	101.7
DF	15 - 19	LIVE	Domestic	15.6	40.0	2,189	12.7	175.5	21.9
SS	< 5	LIVE	Pulp	2.1	13.0	10	0.0	2.6	0.1
SS	5 - 8	LIVE	Domestic	6.5	30.0	185	0.0	22.1	1.8
SS	12 - 14	LIVE	Domestic	12.9	40.0	978	0.0	86.9	9.8
WH	< 5	LIVE	Pulp	2.1	12.0	10	0.0	1.6	0.1
WH	5 - 8	LIVE	Domestic	5.5	28.0	1,039	3.1	123.8	10.4
WH	9 - 11	LIVE	Domestic	10.5	40.0	4,134	6.4	409.9	41.3
WH	12 - 14	LIVE	Domestic	13.0	40.0	1,208	0.0	103.8	12.1

Cruise Unit Report HOMEWARD BOUND U9

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U9

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	18.4			68.1	41.4	23.5	2.4	0.8
DF	15.0			6.6		5.1	1.3	0.1
ALL	18.0			74.7	41.4	28.7	3.7	0.9

Unit Sale Notice Weight (tons): HOMEWARD BOUND U9

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	703.8	376.5	268.7	26.9	31.8
DF	55.6		43.0	11.4	1.3
ALL	759.4	376.5	311.6	38.3	33.0

Unit Cruise Design: HOMEWARD BOUND U9

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0	1.8	2	2	0

Unit Cruise Summary: HOMEWARD BOUND U9

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	10	10	5.0	0
DF	1	1	0.5	0
ALL	11	11	5.5	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U9

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	28.3	20.0	125.1	20.9	6.6	34,058	35.2	21.1
DF	27.2	141.4	100.0	120.6	0.0	0.0	3,283	141.4	100.0
ALL	299.4	12.9	9.1	124.7	19.9	6.0	37,341	23.7	10.9

Unit Summary: HOMEWARD BOUND U9

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	1	ALL	15.0	72	90	3,283	0.0	22.2	27.2	7.0	55.6	6.6
WH	LIVE	CUT	10	ALL	18.4	72	90	34,058	4.6	147.4	272.2	63.5	703.8	68.1
ALL	LIVE	CUT	11	ALL	18.0	72	90	37,341	4.2	169.6	299.4	70.5	759.4	74.7
ALL	ALL	ALL	11	ALL	18.0	72	90	37,341	4.2	169.6	299.4	70.5	759.4	74.7

Unit Stand Table: HOMEWARD BOUND U9

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	16	LIVE	CUT	1	15.0	72	90	3,283	0.0	22.2	27.2	7.0	55.6	6.6
WH	14	LIVE	CUT	3	13.6	60	74	7,333	0.0	80.5	81.7	22.1	168.6	14.7
WH	18	LIVE	CUT	1	18.0	82	103	3,713	0.0	15.4	27.2	6.4	73.0	7.4
WH	22	LIVE	CUT	2	22.0	87	110	7,774	0.0	20.6	54.4	11.6	154.4	15.5
WH	24	LIVE	CUT	2	24.0	88	110	7,833	6.3	17.3	54.4	11.1	153.6	15.7
WH	26	LIVE	CUT	1	26.0	90	113	4,106	10.0	7.4	27.2	5.3	78.5	8.2
WH	28	LIVE	CUT	1	27.0	86	108	3,299	16.9	6.8	27.2	5.2	75.8	6.6

Unit Log Grade Summary: HOMEWARD BOUND U9

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	9.3	40.0	2,573	0.0	43.0	5.1
DF	LIVE	4 SAW	5.0	28.0	665	0.0	11.4	1.3
DF	LIVE	UTILITY	2.1	12.0	44	0.0	1.3	0.1
WH	LIVE	2 SAW	15.1	40.0	20,703	6.0	376.5	41.4
WH	LIVE	3 SAW	8.3	40.0	11,773	2.8	268.7	23.5
WH	LIVE	4 SAW	5.3	28.0	1,197	0.0	26.9	2.4
WH	LIVE	UTILITY	2.1	21.0	385	0.0	31.8	0.8

Unit Log Sort Summary: HOMEWARD BOUND U9

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	7.2	34.0	3,239	0.0	54.3	6.5
DF	LIVE	Pulp	2.1	12.0	44	0.0	1.3	0.1
WH	LIVE	Domestic	9.7	38.0	33,673	4.7	672.0	67.3
WH	LIVE	Pulp	2.1	21.0	385	0.0	31.8	0.8

Unit Log Grade x Sort Summary: HOMEWARD BOUND U9

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	9.3	40.0	2,573	0.0	43.0	5.1
DF	LIVE	4 SAW	Domestic	5.0	28.0	665	0.0	11.4	1.3
DF	LIVE	UTILITY	Pulp	2.1	12.0	44	0.0	1.3	0.1
WH	LIVE	2 SAW	Domestic	15.1	40.0	20,703	6.0	376.5	41.4
WH	LIVE	3 SAW	Domestic	8.3	40.0	11,773	2.8	268.7	23.5
WH	LIVE	4 SAW	Domestic	5.3	28.0	1,197	0.0	26.9	2.4
WH	LIVE	UTILITY	Pulp	2.1	21.0	385	0.0	31.8	0.8

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U9

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.1	12.0	44	0.0	1.3	0.1
DF	5 - 8	LIVE	4 SAW	5.0	28.0	665	0.0	11.4	1.3
DF	9 - 11	LIVE	3 SAW	9.3	40.0	2,573	0.0	43.0	5.1
WH	< 5	LIVE	UTILITY	2.1	21.0	385	0.0	31.8	0.8
WH	5 - 8	LIVE	4 SAW	5.3	28.0	1,197	0.0	26.9	2.4
WH	5 - 8	LIVE	3 SAW	8.0	40.0	9,107	0.8	207.6	18.2
WH	9 - 11	LIVE	3 SAW	9.6	40.0	2,666	9.0	61.0	5.3
WH	12 - 14	LIVE	2 SAW	13.7	40.0	8,917	0.0	160.1	17.8
WH	15 - 19	LIVE	2 SAW	16.6	40.0	11,786	10.0	216.4	23.6

Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U9

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.1	12.0	44	0.0	1.3	0.1
DF	5 - 8	LIVE	Domestic	5.0	28.0	665	0.0	11.4	1.3
DF	9 - 11	LIVE	Domestic	9.3	40.0	2,573	0.0	43.0	5.1
WH	< 5	LIVE	Pulp	2.1	21.0	385	0.0	31.8	0.8
WH	5 - 8	LIVE	Domestic	7.3	37.0	10,304	0.8	234.5	20.6
WH	9 - 11	LIVE	Domestic	9.6	40.0	2,666	9.0	61.0	5.3
WH	12 - 14	LIVE	Domestic	13.7	40.0	8,917	0.0	160.1	17.8
WH	15 - 19	LIVE	Domestic	16.6	40.0	11,786	10.0	216.4	23.6

Cruise Unit Report HOMEWARD BOUND U10

Unit Sale Notice Volume (MBF): HOMEWARD BOUND U10

Sp	QMD	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	18.6			150.9	92.3	49.4	5.1	4.1
DF	15.7			34.2		26.9	6.8	0.4
RA	10.5			6.0			6.0	
ALL	16.8			191.1	92.3	76.4	17.9	4.5

Unit Sale Notice Weight (tons): HOMEWARD BOUND U10

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	1,459.9	802.6	523.3	54.7	79.3
DF	284.9		218.4	60.8	5.8
RA	61.1			61.1	
ALL	1,805.9	802.6	741.7	176.5	85.1

Unit Cruise Design: HOMEWARD BOUND U10

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	5.0	4.4	4	4	0

Unit Cruise Summary: HOMEWARD BOUND U10

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	16	16	4.0	0
DF	4	4	1.0	0
RA	2	2	0.5	0
ALL	22	22	5.5	0

Unit Cruise Statistics (Cut + Leave Trees): HOMEWARD BOUND U10

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	217.8	20.4	10.2	138.6	22.6	5.7	30,182	30.5	11.7
DF	54.4	81.6	40.8	125.6	6.5	3.3	6,836	81.9	41.0

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RA	20.0	200.0	100.0	60.4	4.0	2.9	1,208	200.0	100.0
ALL	292.2	20.8	10.4	130.8	26.9	5.7	38,226	34.0	11.9

Unit Summary: HOMEWARD BOUND U10

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	4	ALL	15.7	75	94	6,836	0.0	40.5	54.4	13.7	284.9	34.2
RA	LIVE	CUT	2	ALL	10.5	41	49	1,208	0.0	33.3	20.0	6.2	61.1	6.0
WH	LIVE	CUT	16	ALL	18.6	76	94	30,182	4.6	115.4	217.8	50.5	1,459.9	150.9
ALL	LIVE	CUT	22	ALL	16.8	70	86	38,226	3.7	189.2	292.2	70.4	1,805.9	191.1
ALL	ALL	ALL	22	ALL	16.8	70	86	38,226	3.7	189.2	292.2	70.4	1,805.9	191.1

Unit Stand Table: HOMEWARD BOUND U10

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	16	LIVE	CUT	3	15.3	74	92	5,143	0.0	31.9	40.8	10.4	211.1	25.7
DF	18	LIVE	CUT	1	17.0	80	101	1,693	0.0	8.6	13.6	3.3	73.8	8.5
RA	10	LIVE	CUT	1	10.0	38	44	587	0.0	18.3	10.0	3.2	27.7	2.9
RA	12	LIVE	CUT	1	11.0	45	54	621	0.0	15.2	10.0	3.0	33.4	3.1
WH	14	LIVE	CUT	3	13.6	59	72	3,616	0.0	40.2	40.8	11.1	206.7	18.1
WH	16	LIVE	CUT	1	16.0	72	90	1,803	0.0	9.7	13.6	3.4	81.1	9.0
WH	18	LIVE	CUT	2	18.0	82	103	3,628	3.7	15.4	27.2	6.4	184.8	18.1
WH	20	LIVE	CUT	2	19.0	79	97	3,532	0.0	13.8	27.2	6.2	176.9	17.7
WH	22	LIVE	CUT	3	21.3	88	110	6,181	0.5	16.5	40.8	8.8	291.9	30.9
WH	24	LIVE	CUT	2	23.5	88	110	4,127	5.2	9.1	27.2	5.6	192.8	20.6
WH	26	LIVE	CUT	2	26.0	100	125	4,937	11.0	7.4	27.2	5.3	214.4	24.7
WH	30	LIVE	CUT	1	29.0	106	134	2,359	15.8	3.0	13.6	2.5	111.1	11.8

Unit Log Grade Summary: HOMEWARD BOUND U10

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	9.7	40.0	5,386	0.0	218.4	26.9
DF	LIVE	4 SAW	5.1	32.0	1,369	0.0	60.8	6.8
DF	LIVE	UTILITY	2.1	13.0	81	0.0	5.8	0.4
RA	LIVE	4 SAW	5.1	34.0	1,208	0.0	61.1	6.0
WH	LIVE	2 SAW	14.5	40.0	18,460	5.9	802.6	92.3
WH	LIVE	3 SAW	8.4	39.0	9,886	2.9	523.3	49.4
WH	LIVE	4 SAW	5.8	23.0	1,012	0.0	54.7	5.1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	LIVE	UTILITY	2.5	21.0	824	0.0	79.3	4.1

Unit Log Sort Summary: HOMEWARD BOUND U10

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	7.4	36.0	6,755	0.0	279.1	33.8
DF	LIVE	Pulp	2.1	13.0	81	0.0	5.8	0.4
RA	LIVE	Domestic	5.1	34.0	1,208	0.0	61.1	6.0
WH	LIVE	Domestic	9.8	36.0	29,358	4.7	1,380.6	146.8
WH	LIVE	Pulp	2.5	21.0	824	0.0	79.3	4.1

Unit Log Grade x Sort Summary: HOMEWARD BOUND U10

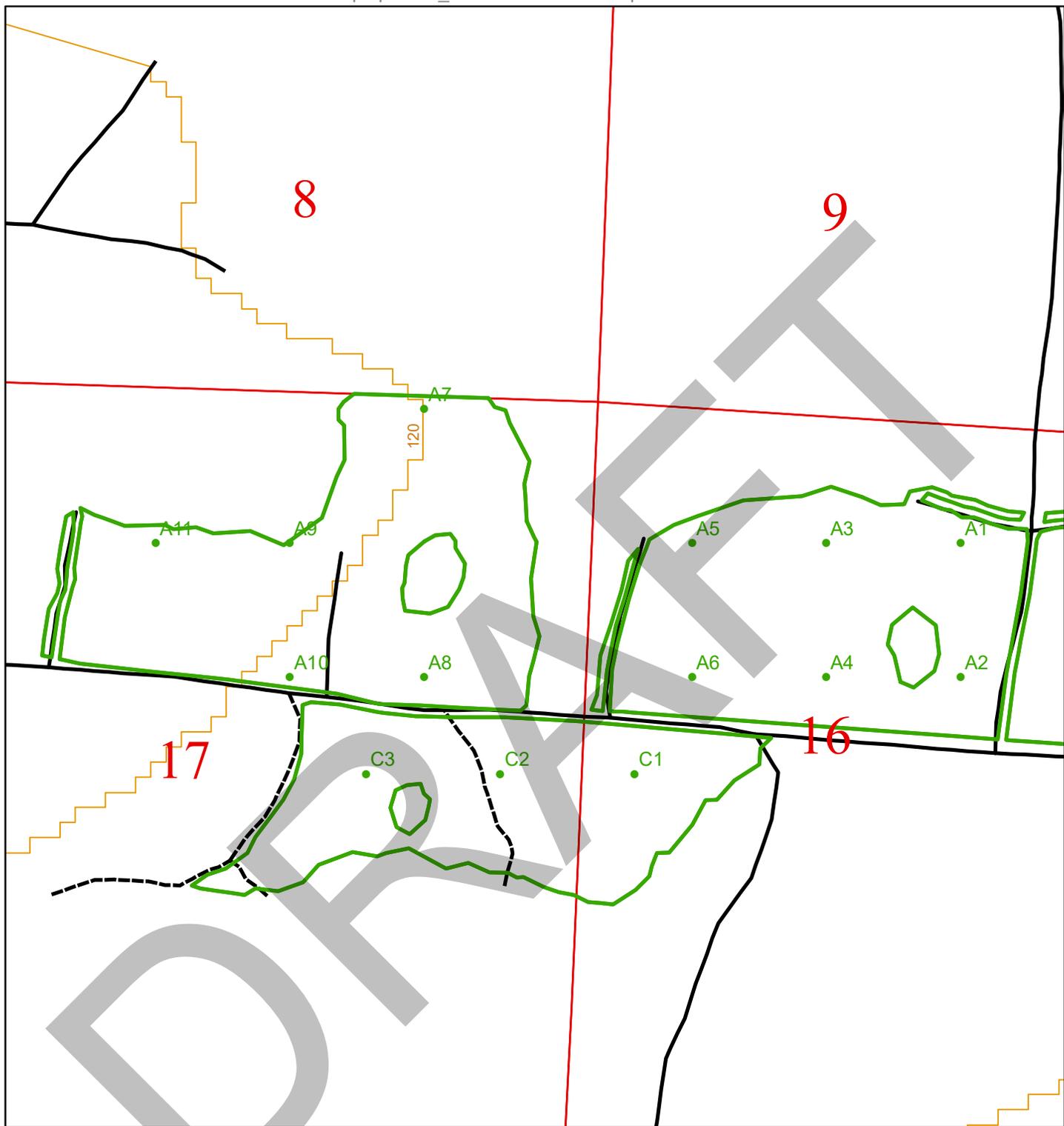
Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	9.7	40.0	5,386	0.0	218.4	26.9
DF	LIVE	4 SAW	Domestic	5.1	32.0	1,369	0.0	60.8	6.8
DF	LIVE	UTILITY	Pulp	2.1	13.0	81	0.0	5.8	0.4
RA	LIVE	4 SAW	Domestic	5.1	34.0	1,208	0.0	61.1	6.0
WH	LIVE	2 SAW	Domestic	14.5	40.0	18,460	5.9	802.6	92.3
WH	LIVE	3 SAW	Domestic	8.4	39.0	9,886	2.9	523.3	49.4
WH	LIVE	4 SAW	Domestic	5.8	23.0	1,012	0.0	54.7	5.1
WH	LIVE	UTILITY	Pulp	2.5	21.0	824	0.0	79.3	4.1

Unit Log Grade x Diameter Bin Summary: HOMEWARD BOUND U10

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	UTILITY	2.1	13.0	81	0.0	5.8	0.4
DF	5 - 8	LIVE	4 SAW	5.1	32.0	1,369	0.0	60.8	6.8
DF	9 - 11	LIVE	3 SAW	9.7	40.0	5,386	0.0	218.4	26.9
RA	5 - 8	LIVE	4 SAW	5.1	34.0	1,208	0.0	61.1	6.0
WH	< 5	LIVE	UTILITY	2.1	20.0	269	0.0	51.0	1.3
WH	5 - 8	LIVE	4 SAW	5.8	23.0	1,012	0.0	54.7	5.1
WH	5 - 8	LIVE	UTILITY	7.1	40.0	555	0.0	28.3	2.8
WH	5 - 8	LIVE	3 SAW	7.4	39.0	5,313	0.0	299.2	26.6
WH	9 - 11	LIVE	3 SAW	10.2	39.0	4,573	6.0	224.1	22.9
WH	12 - 14	LIVE	2 SAW	13.3	40.0	10,272	2.2	461.1	51.4
WH	15 - 19	LIVE	2 SAW	17.2	40.0	8,188	10.2	341.5	40.9

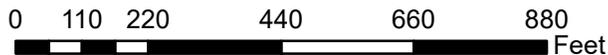
Unit Log Sort x Diameter Bin Summary: HOMEWARD BOUND U10

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	< 5	LIVE	Pulp	2.1	13.0	81	0.0	5.8	0.4
DF	5 - 8	LIVE	Domestic	5.1	32.0	1,369	0.0	60.8	6.8
DF	9 - 11	LIVE	Domestic	9.7	40.0	5,386	0.0	218.4	26.9
RA	5 - 8	LIVE	Domestic	5.1	34.0	1,208	0.0	61.1	6.0
WH	< 5	LIVE	Pulp	2.1	20.0	269	0.0	51.0	1.3
WH	5 - 8	LIVE	Domestic	6.9	34.0	6,325	0.0	353.9	31.6
WH	5 - 8	LIVE	Pulp	7.1	40.0	555	0.0	28.3	2.8
WH	9 - 11	LIVE	Domestic	10.2	39.0	4,573	6.0	224.1	22.9
WH	12 - 14	LIVE	Domestic	13.3	40.0	10,272	2.2	461.1	51.4
WH	15 - 19	LIVE	Domestic	17.2	40.0	8,188	10.2	341.5	40.9



Cruiser Sample Point Locations

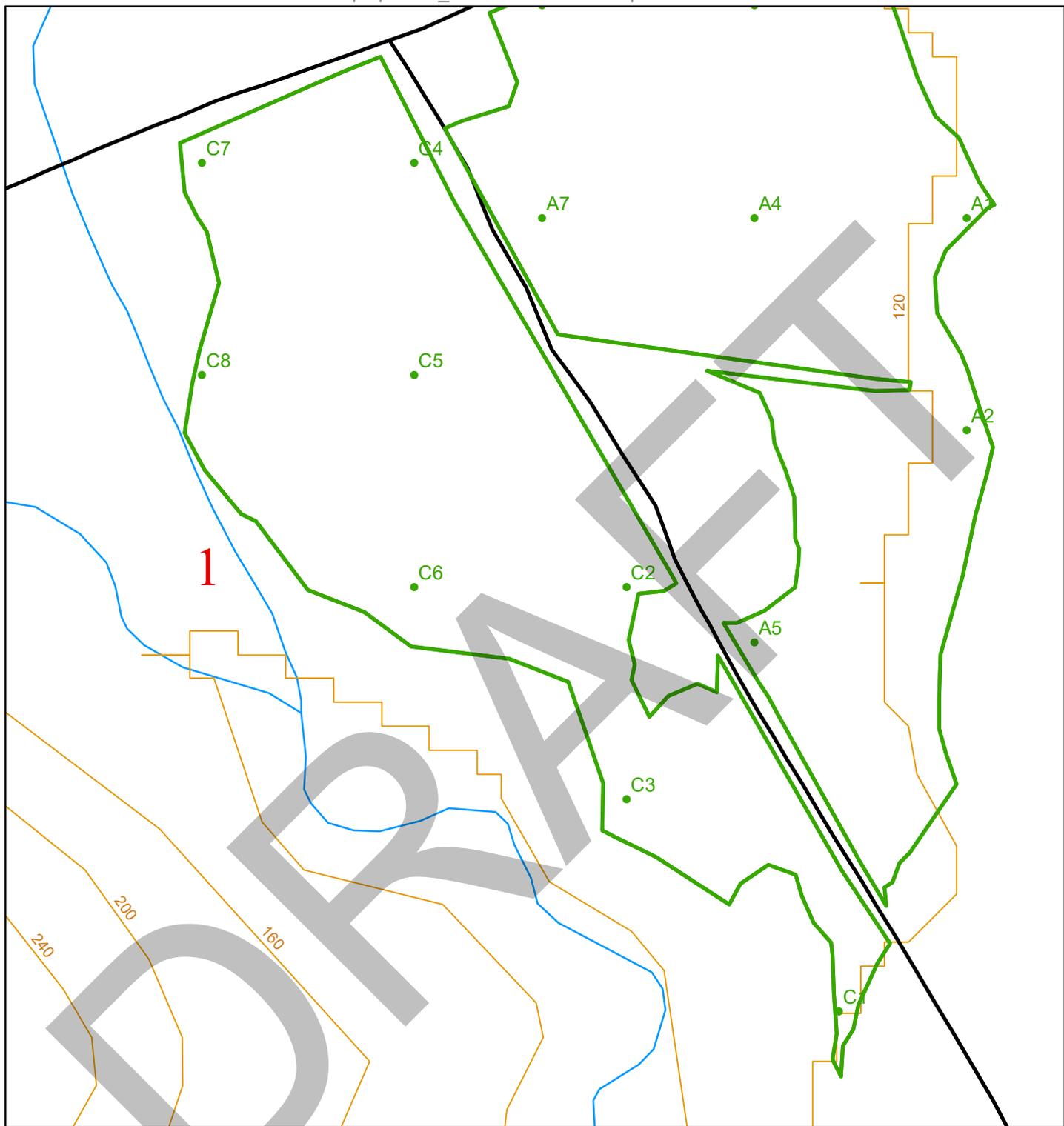
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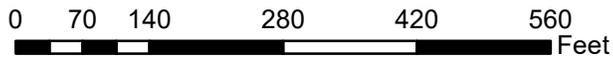
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- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

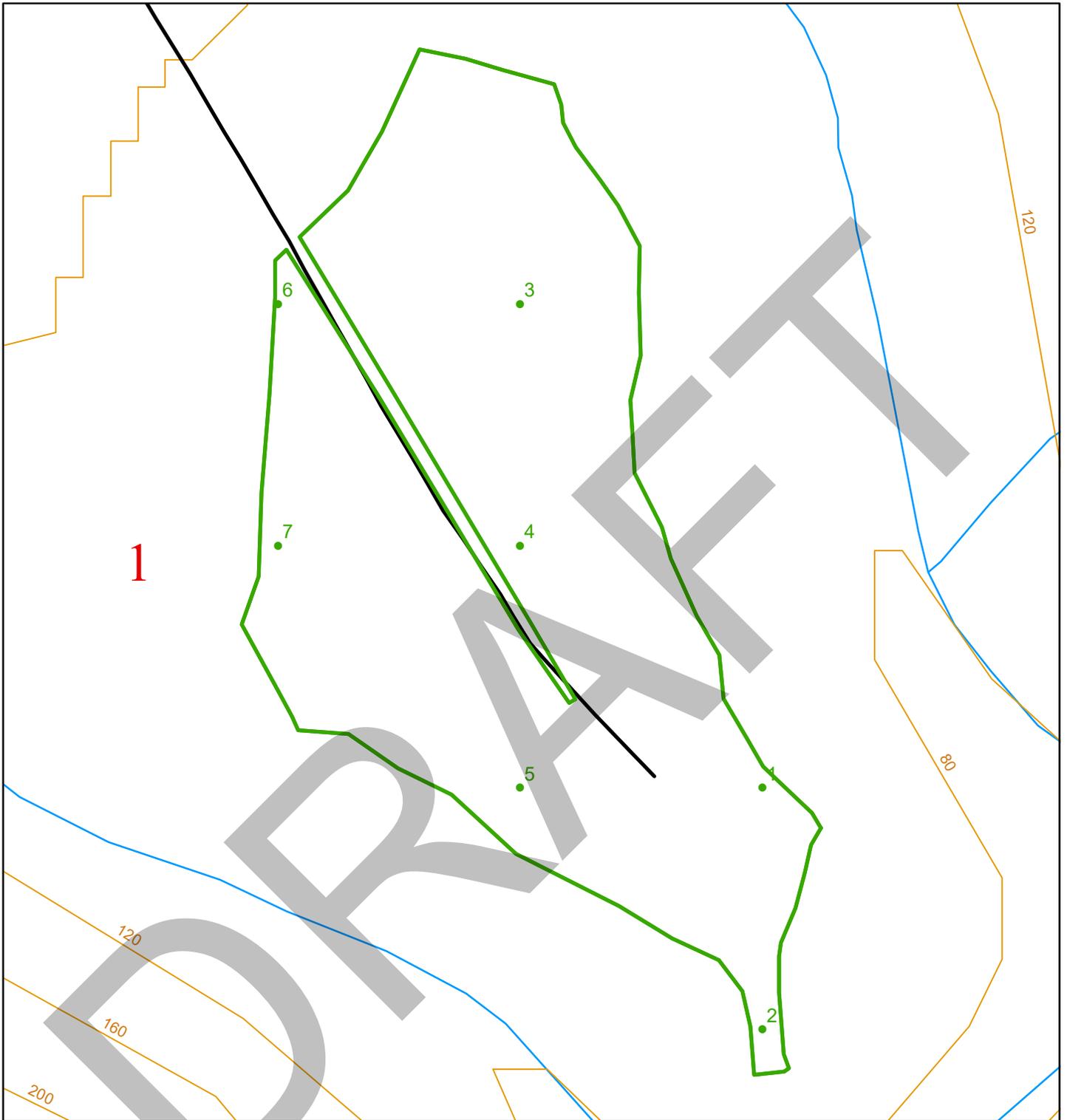
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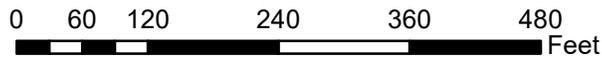
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

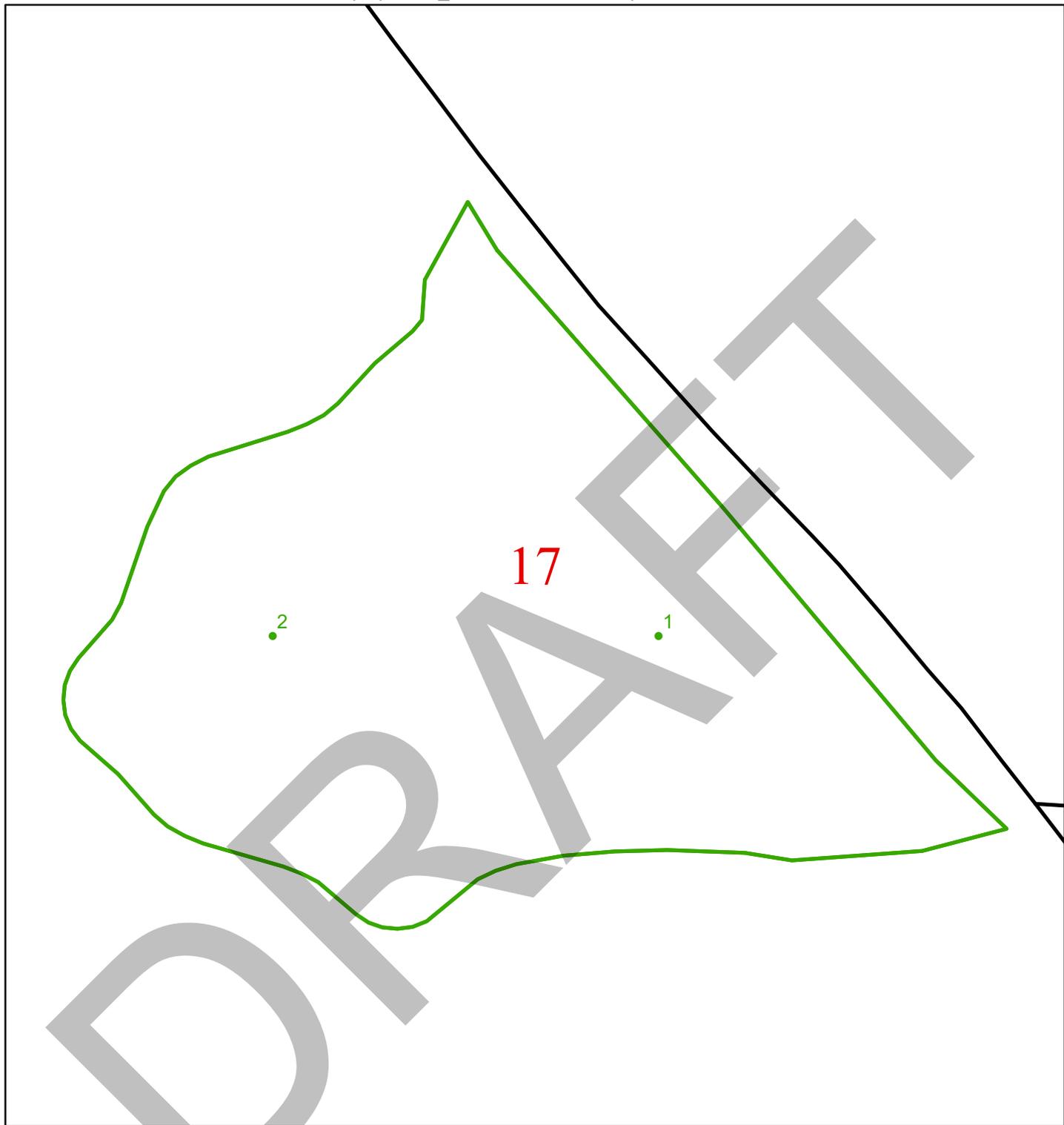
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Scale 1:2,100

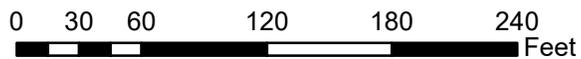
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

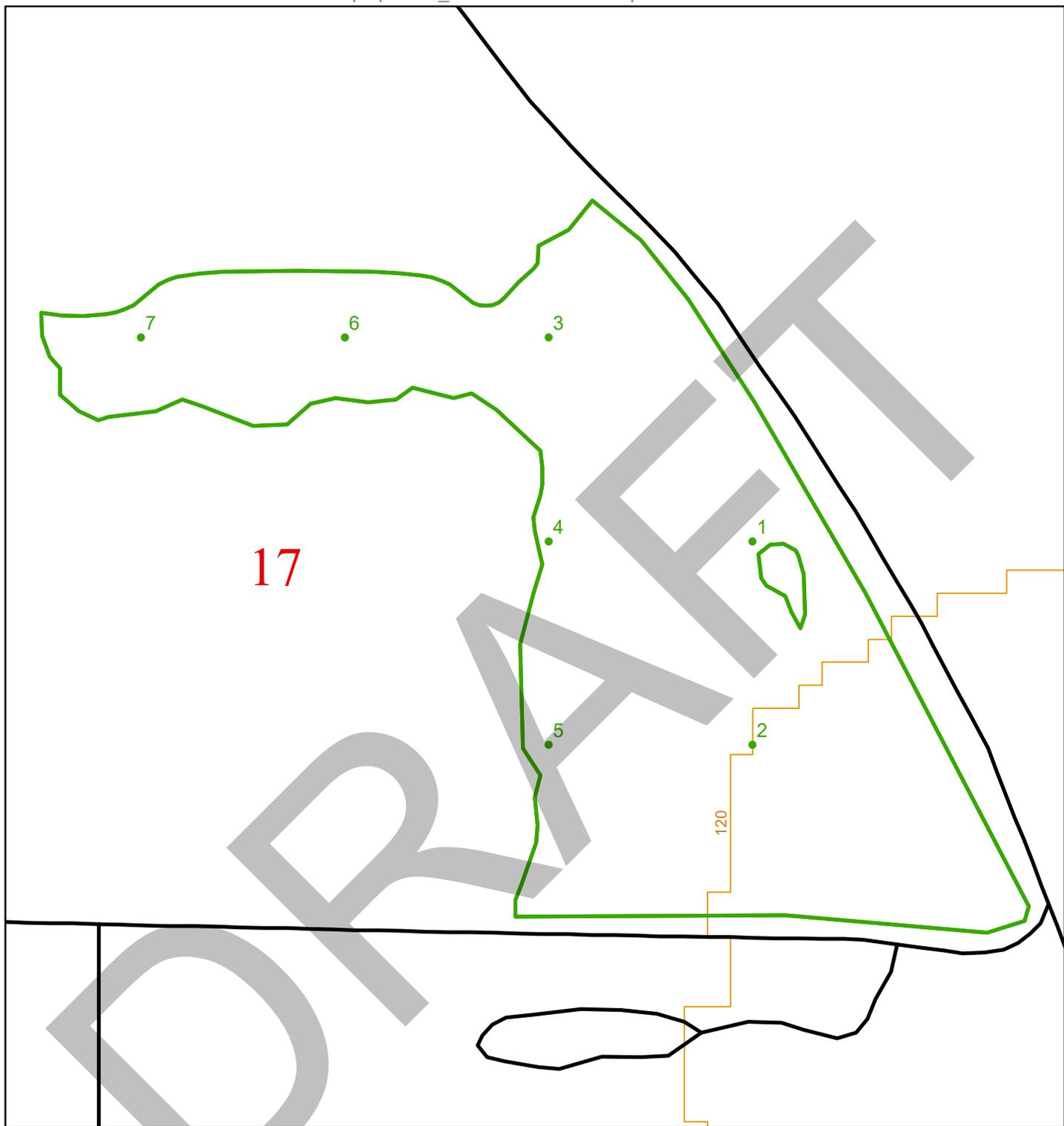
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Scale 1:1,100

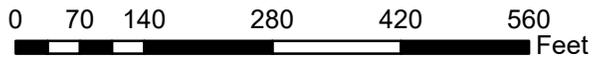
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

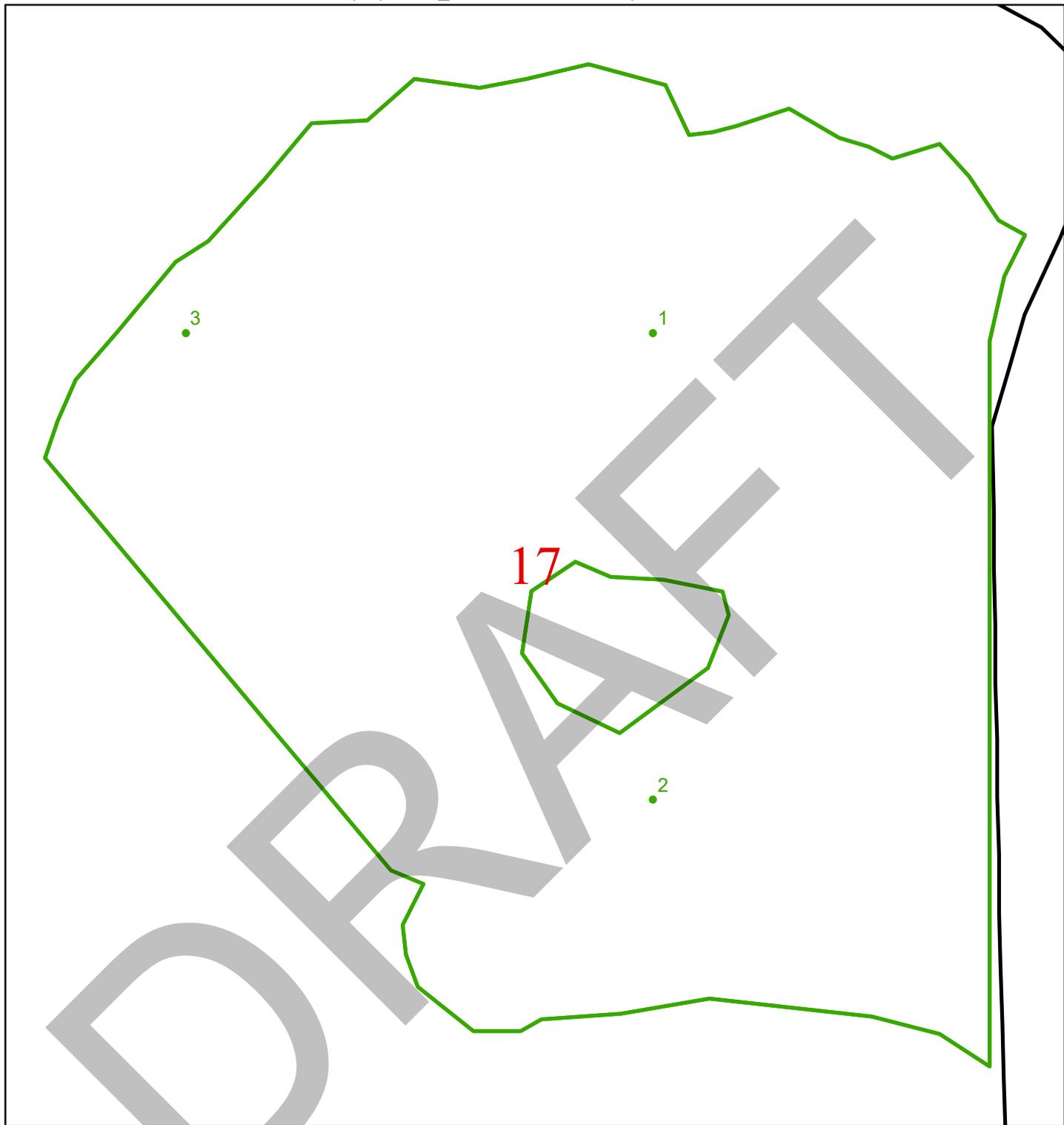
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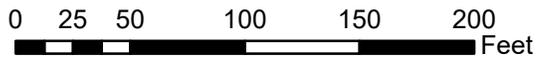
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- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

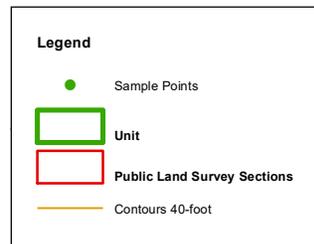


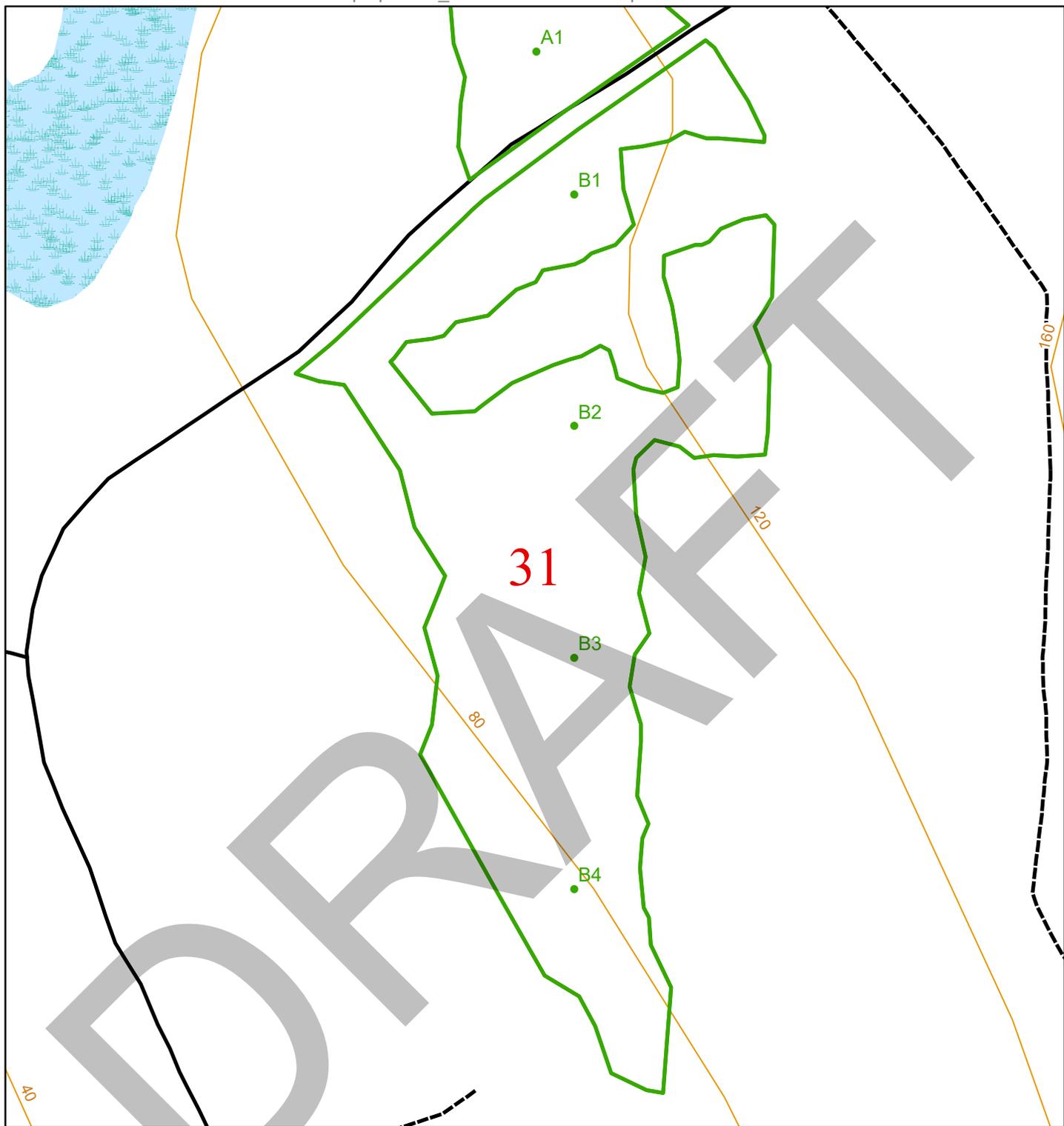
Cruiser Sample Point Locations

LAYER NAME:	hbad	Township:	T28R14W
POLY ID:	1	Total Sample Points:	3
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		Point Rotation Degrees:	0



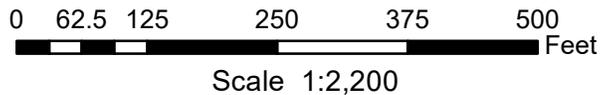
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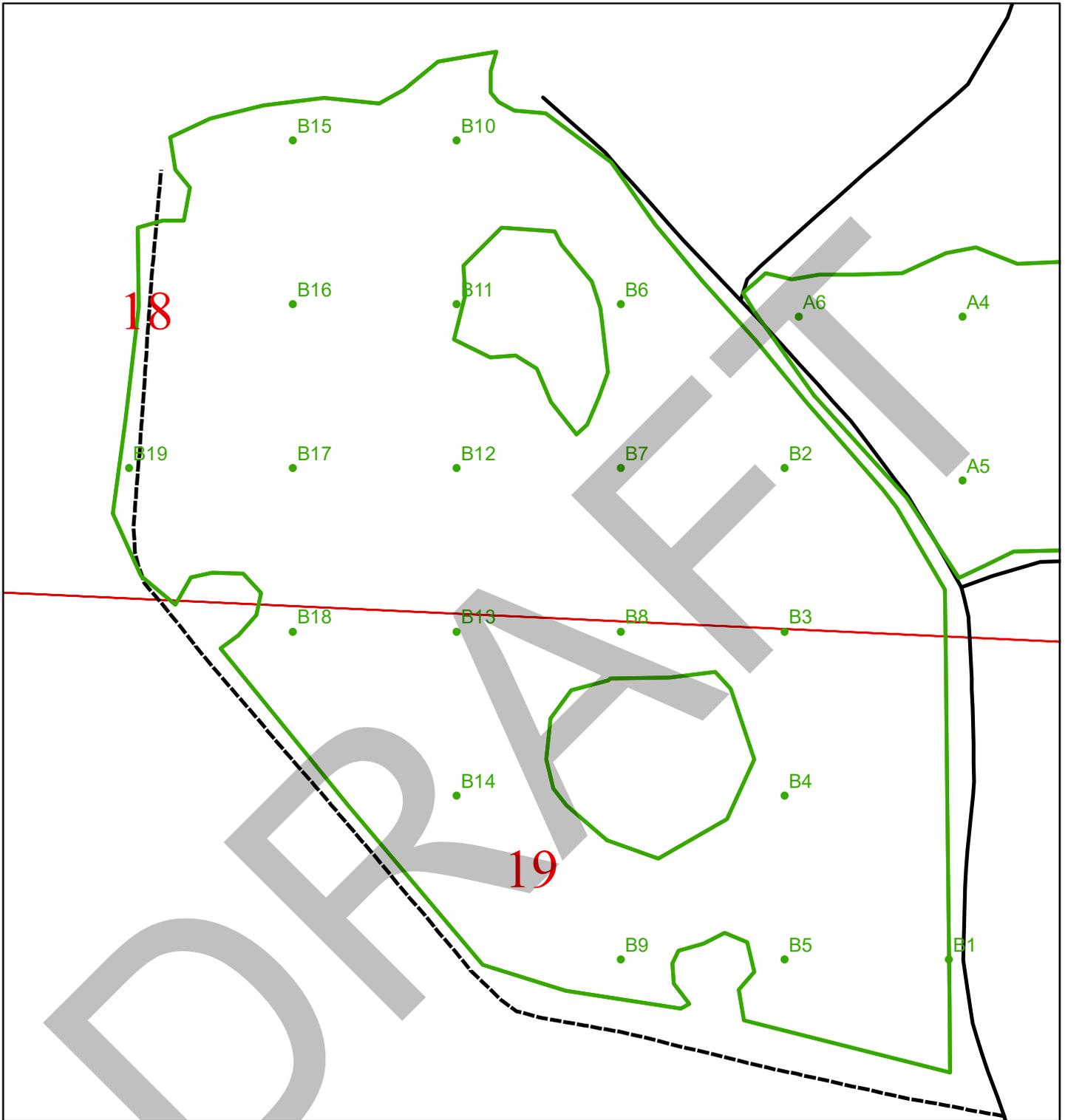
Cruiser Sample Point Locations

LAYER NAME:	hbad	Township:	T29R14W
POLY ID:	2	Total Sample Points:	4
Acres:	7	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



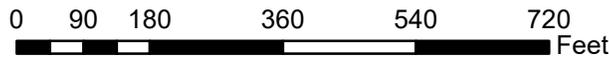
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

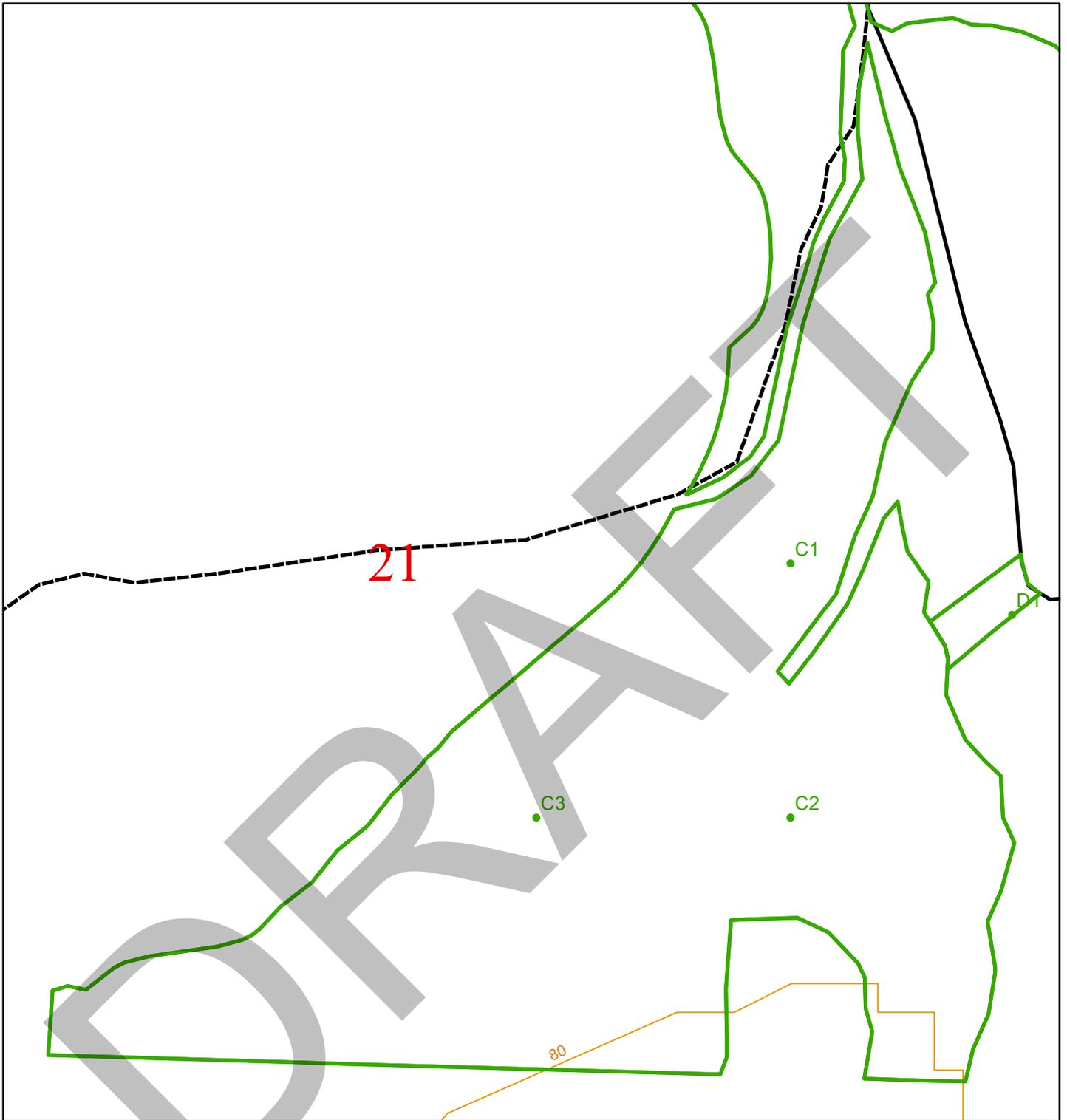
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Acres:	39	Spacing Between Points:	Width: 300 Height: 300
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Scale 1:3,100

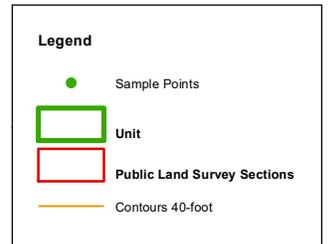
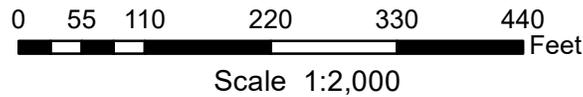
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

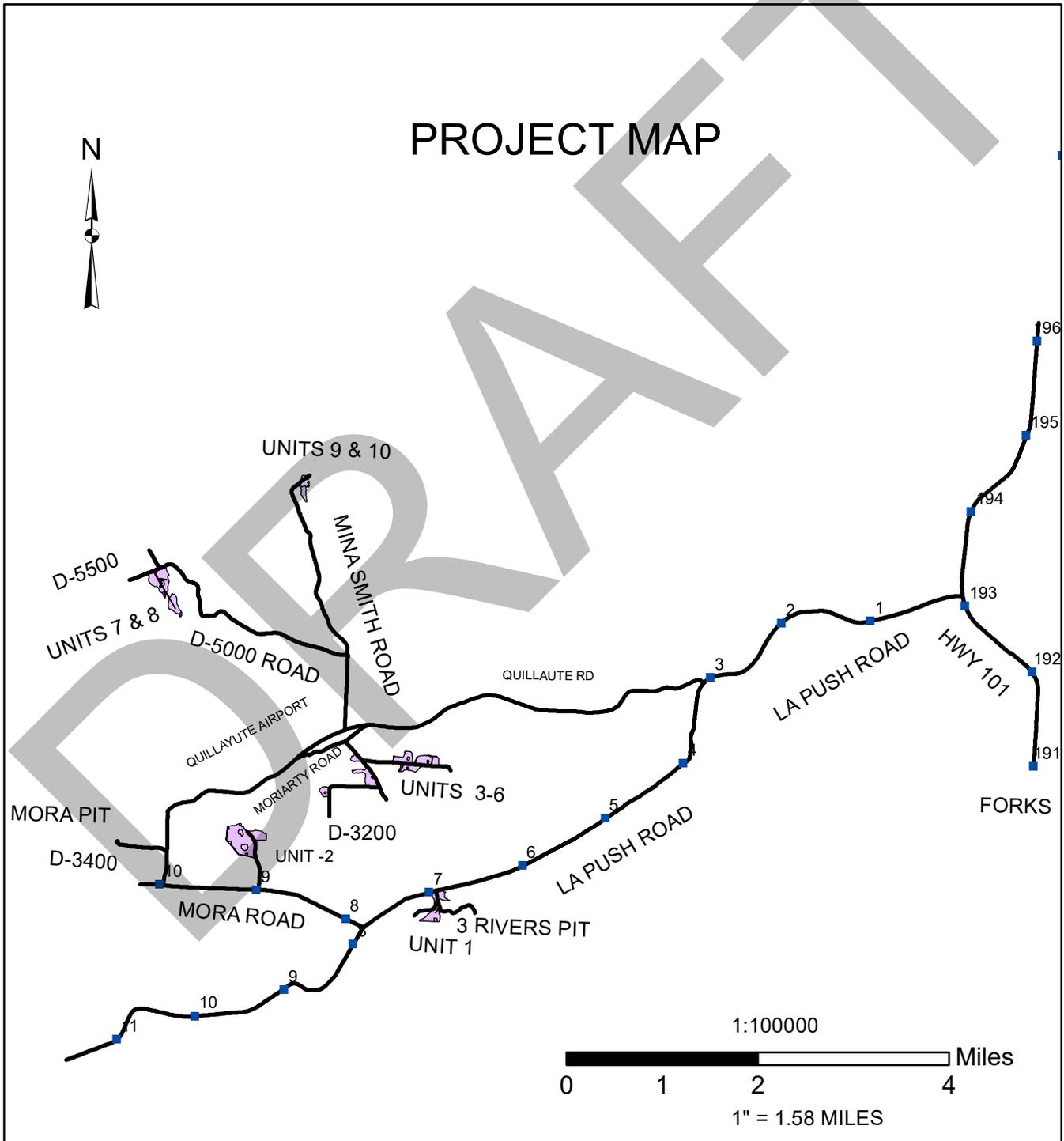
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POLY ID:	3	Total Sample Points:	3
Acres:	11	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



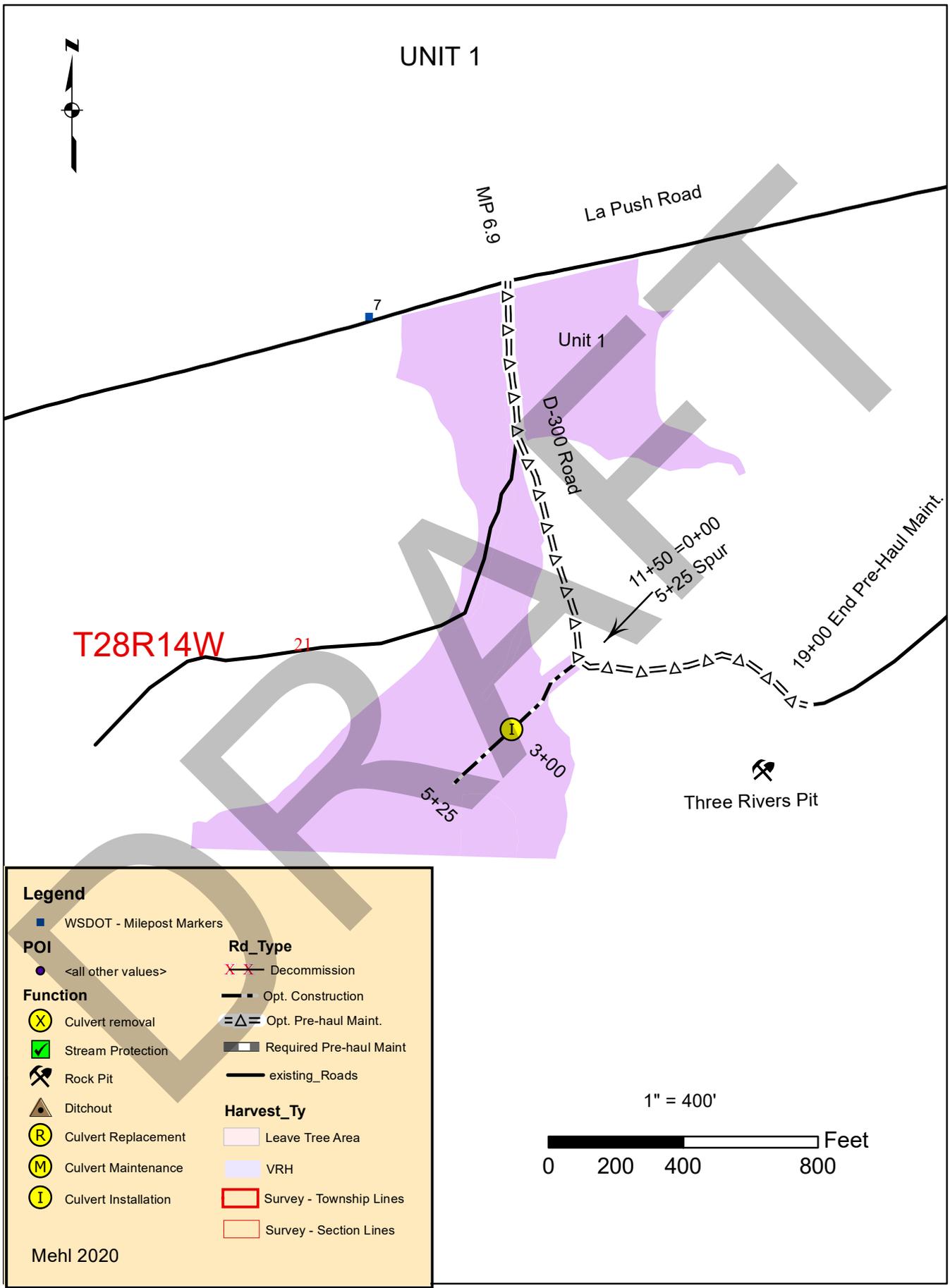
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
HOMEWARD TIMBER SALE ROAD PLAN
CLALLAM COUNTY
COAST DISTRICT

AGREEMENT NO.: 30-101114
DATE: 11 AUGUST 2020

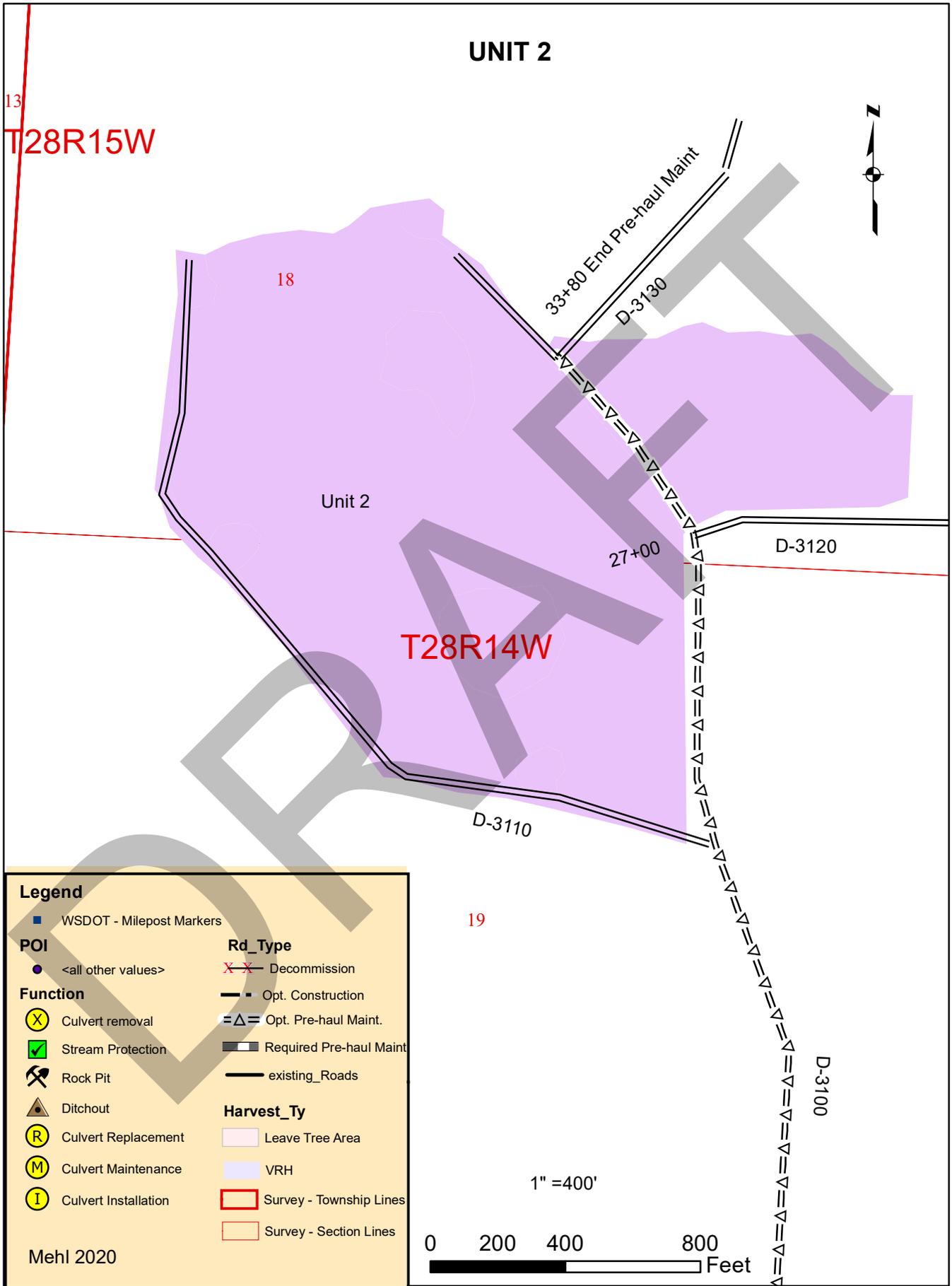
DISTRICT ENGINEER: BILL MEHL
DRAWN AND COMPILED BY: BILL MEHL



HOMeward TIMBER SALE



HOMeward TIMBER SALE



HOMeward TIMBER SALE

UNIT 3

T28R14W

Legend

■ WSDOT - Milepost Markers

POI

<all other values>

Function

- ⊗ Culvert removal
- ⊕ Stream Protection
- ⚒ Rock Pit
- ⚠ Ditchout
- Ⓡ Culvert Replacement
- Ⓜ Culvert Maintenance
- Ⓜ Culvert Installation

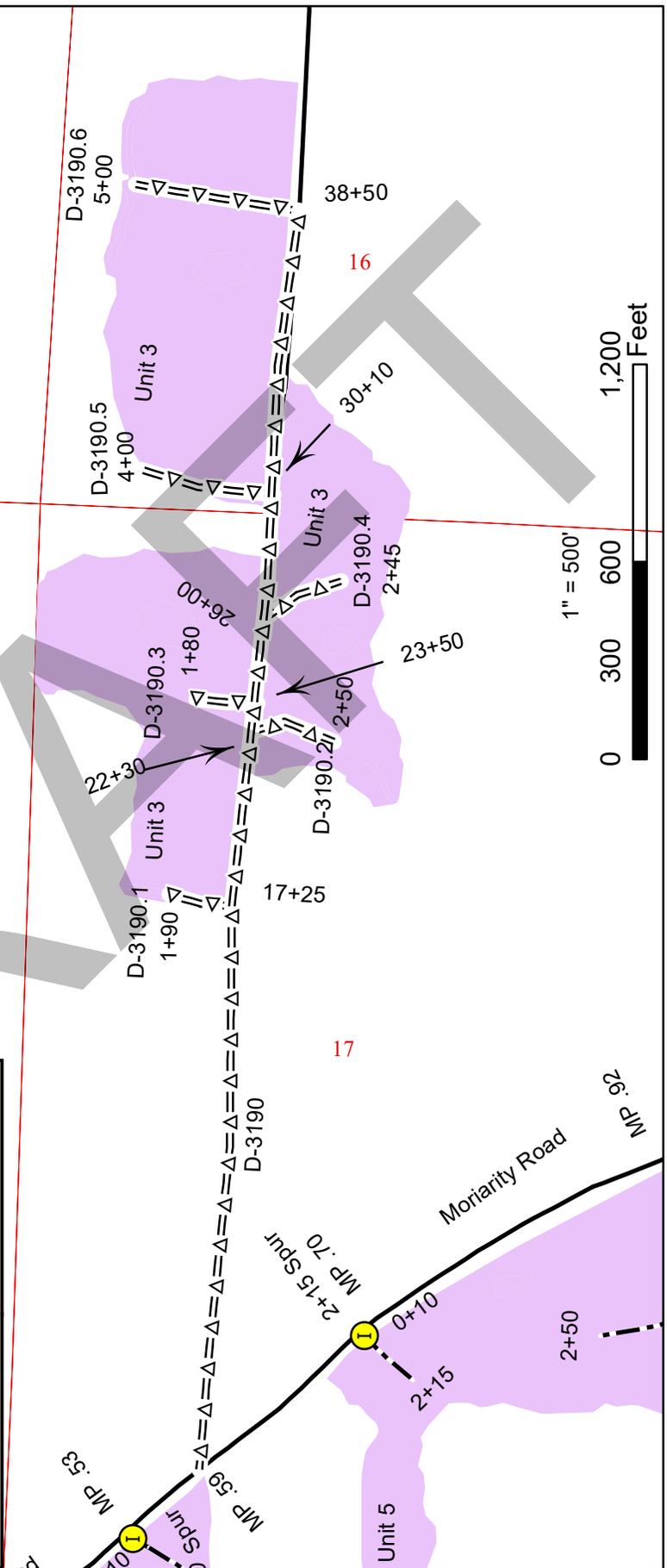
Rd_Type

- ⊗⊗⊗ Decommission
- ⊖⊖⊖ Opt. Construction
- ⊕⊕⊕ Opt. Pre-haul Maint.
- ⊖⊖⊖ Required Pre-haul Maint.
- ⊖⊖⊖ existing_Roads

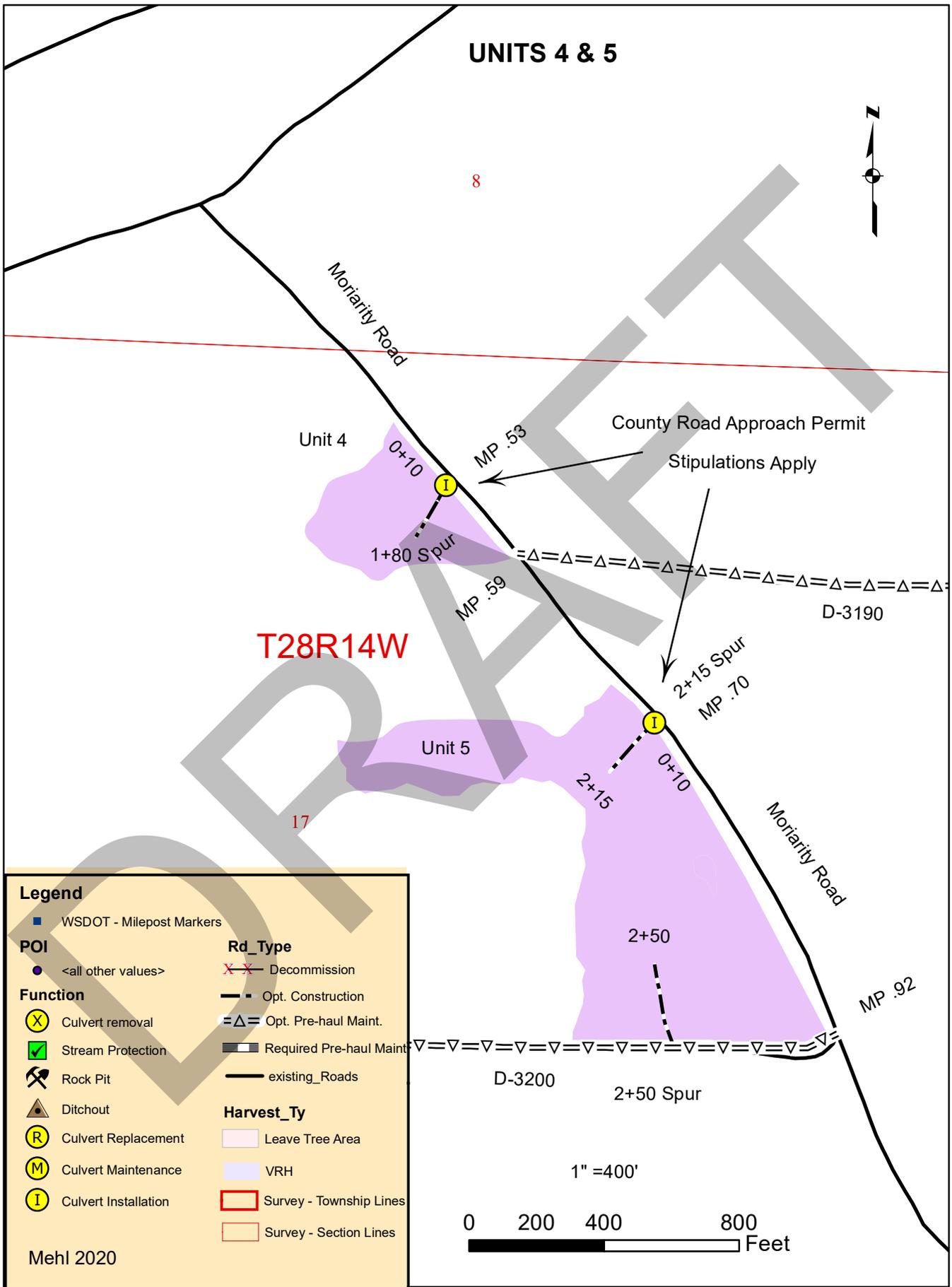
Harvest_Ty

- Ⓡ Leave Tree Area
- Ⓜ VRH
- Ⓜ Survey - Township Lines
- Ⓜ Survey - Section Lines

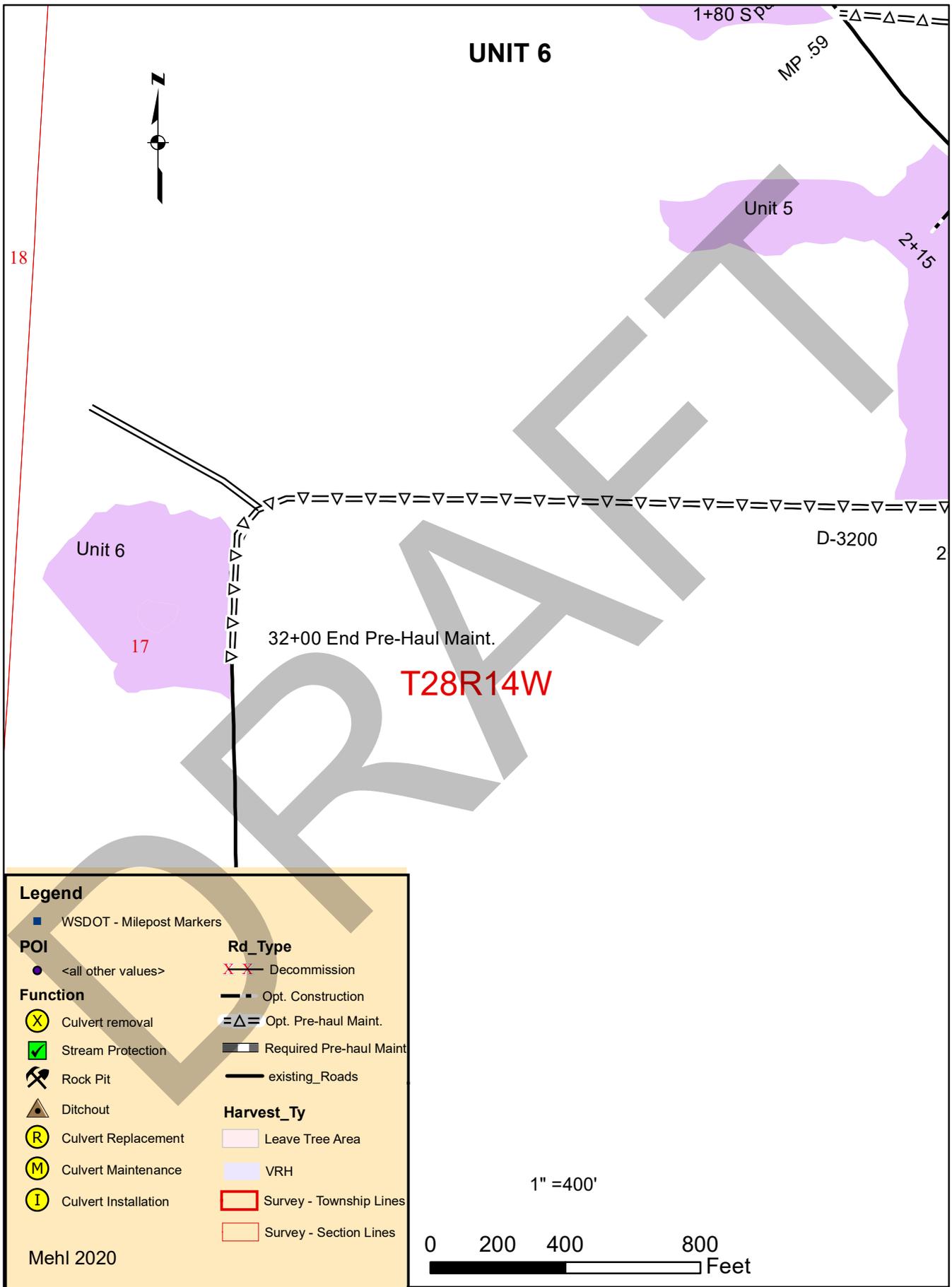
Mehl 2020



HOMeward TIMBER SALE



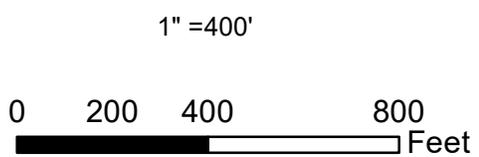
HOMeward TIMBER SALE



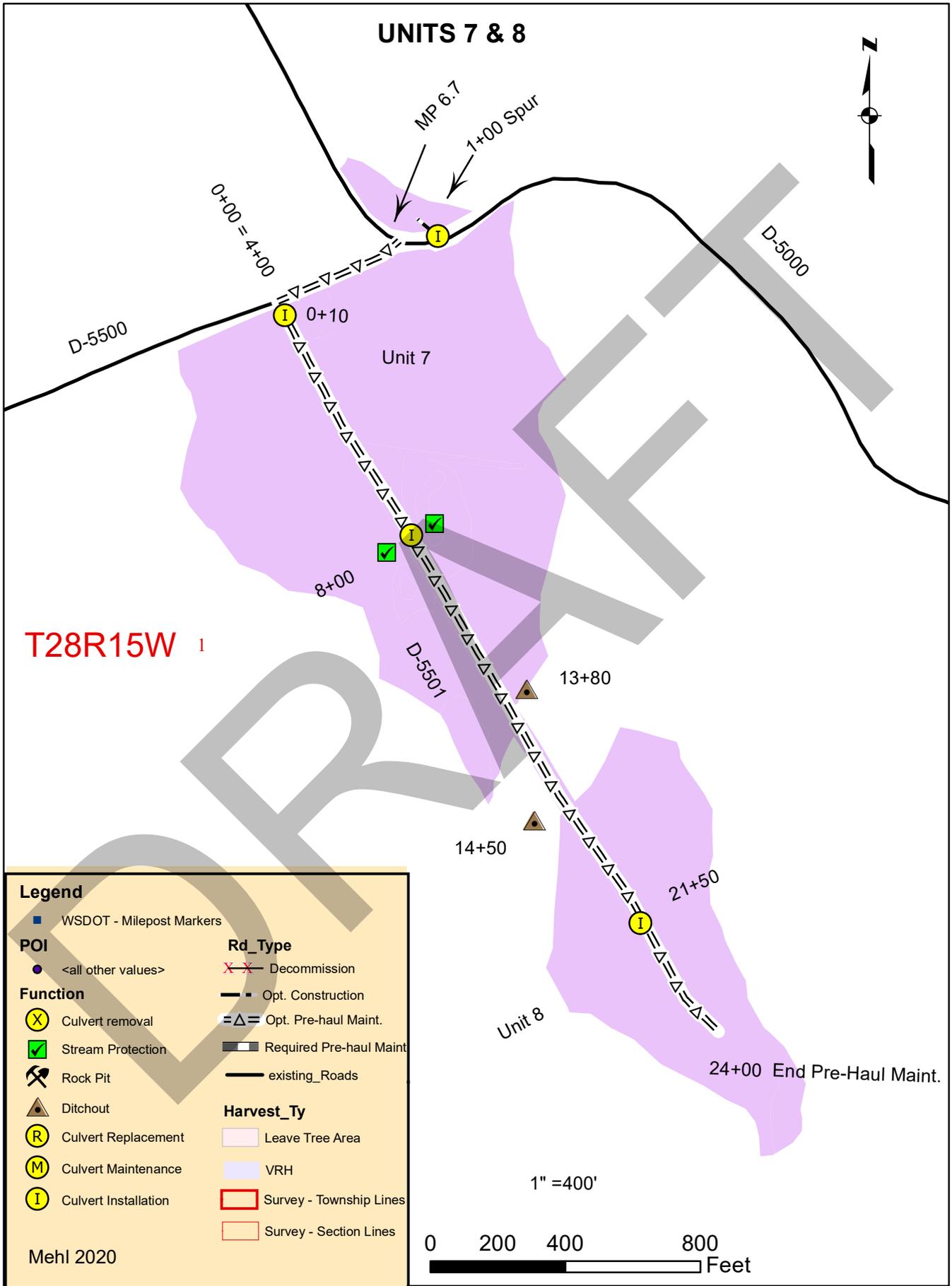
Legend

■ WSDOT - Milepost Markers	
POI	Rd_Type
● <all other values>	X-X Decommission
Function	--- Opt. Construction
⊗ Culvert removal	≡≡≡ Opt. Pre-haul Maint.
☑ Stream Protection	▬▬▬ Required Pre-haul Maint.
⚡ Rock Pit	— existing_Roads
⚠ Ditchout	Harvest_Ty
Ⓡ Culvert Replacement	□ Leave Tree Area
Ⓜ Culvert Maintenance	□ VRH
Ⓢ Culvert Installation	□ Survey - Township Lines
	□ Survey - Section Lines

Mehl 2020



HOMeward TIMBER SALE



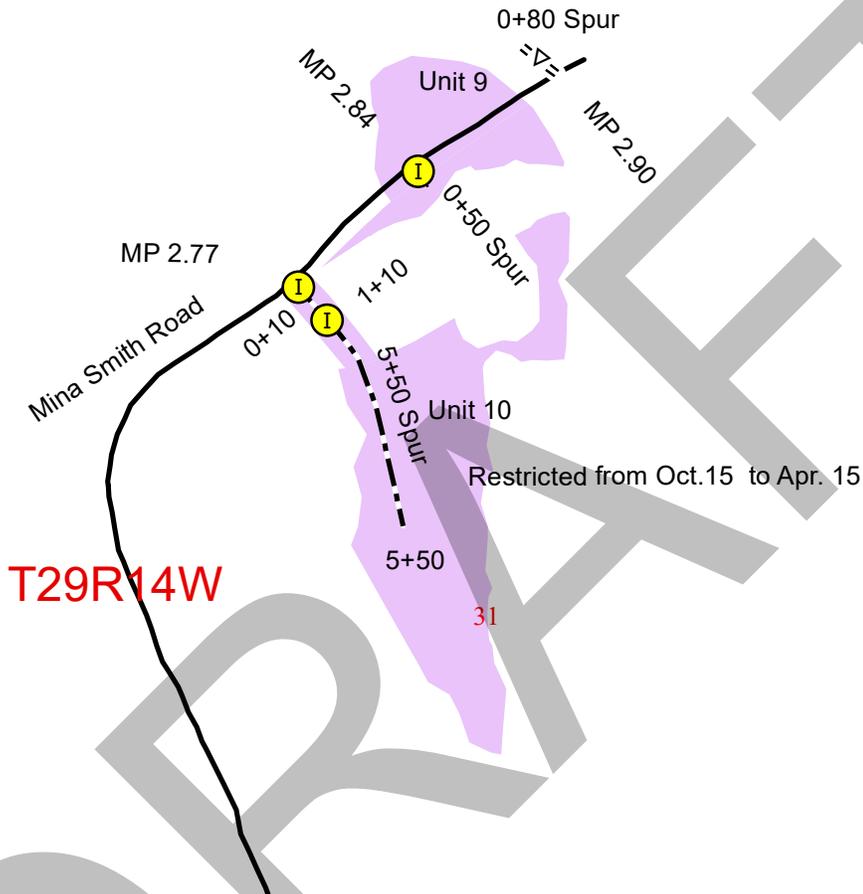
HOMeward TIMBER SALE

UNITS 9 & 10

30

29

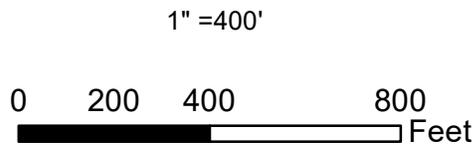
Clallam County Road Approach Permit stipulations apply, see permit.



Legend

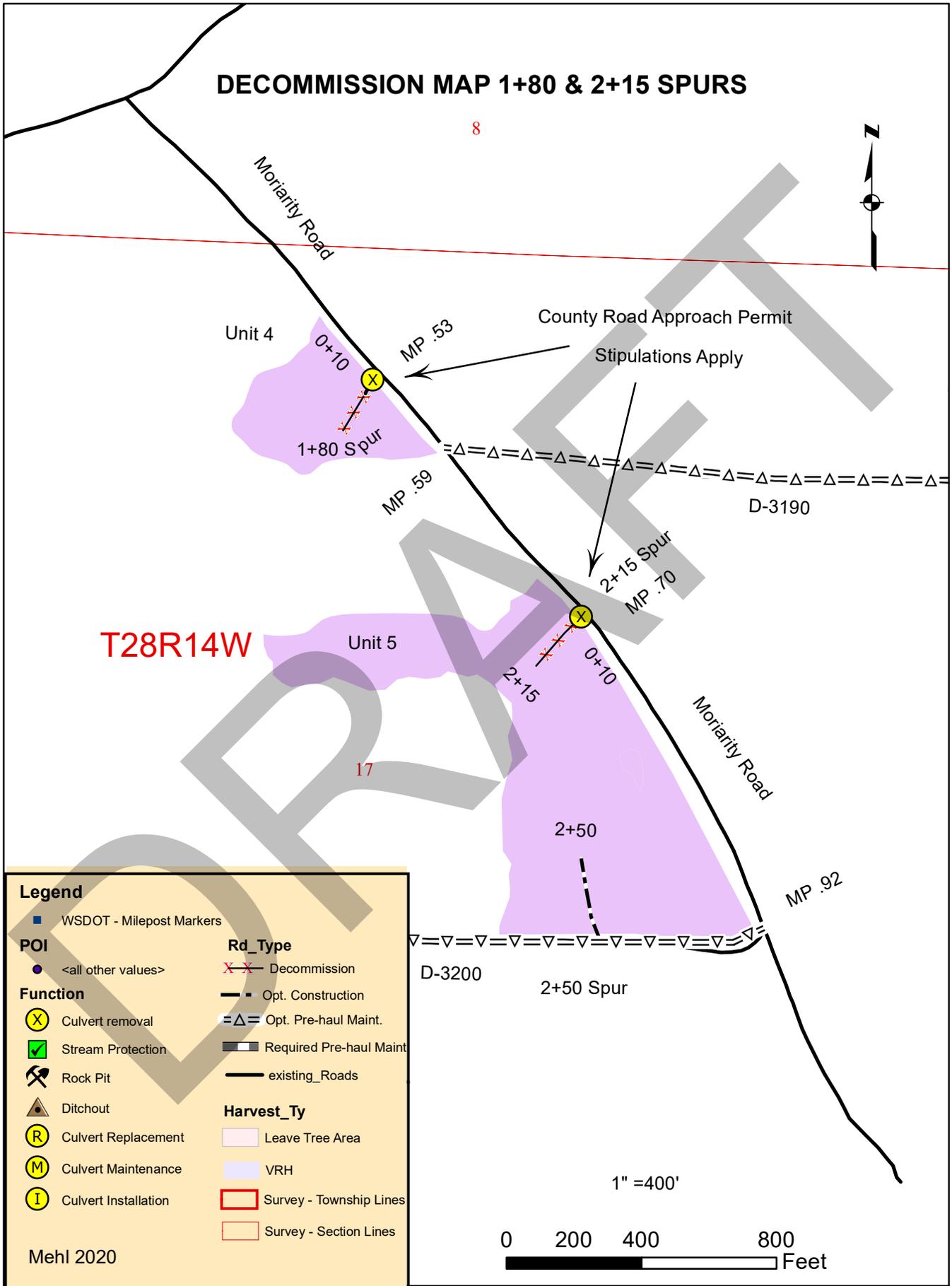
■ WSDOT - Milepost Markers	
POI	Rd_Type
● <all other values>	X-X Decommission
Function	- - - Opt. Construction
⊗ Culvert removal	=Δ= Opt. Pre-haul Maint.
☑ Stream Protection	▬ Required Pre-haul Maint.
⚒ Rock Pit	— existing_Roads
⚠ Ditchout	Harvest_Ty
Ⓡ Culvert Replacement	□ Leave Tree Area
Ⓜ Culvert Maintenance	□ VRH
Ⓢ Culvert Installation	□ Survey - Township Lines
	□ Survey - Section Lines

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HOMeward TIMBER SALE

DECOMMISSION MAP 1+80 & 2+15 SPURS



Legend

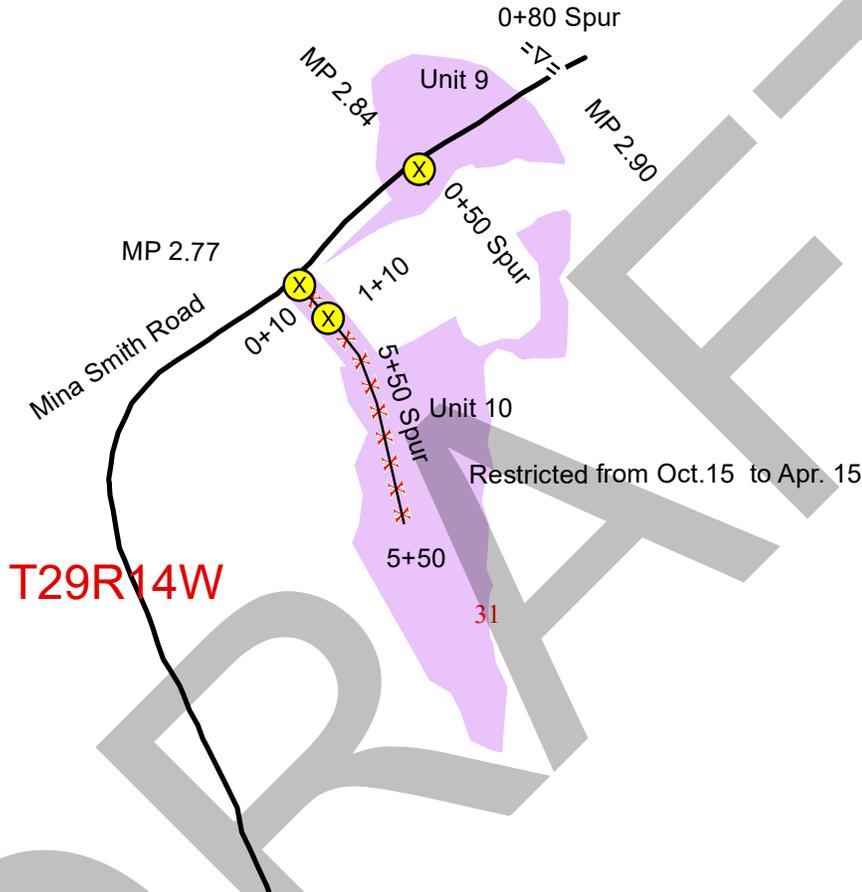
■ WSDOT - Milepost Markers	Rd_Type
POI	● <all other values>
Function	✕✕ Decommission
⊗ Culvert removal	--- Opt. Construction
☑ Stream Protection	≡≡≡ Opt. Pre-haul Maint.
⚒ Rock Pit	▬ Required Pre-haul Maint.
⚠ Ditchout	— existing_Roads
Ⓡ Culvert Replacement	Harvest_Ty
Ⓜ Culvert Maintenance	□ Leave Tree Area
Ⓢ Culvert Installation	□ VRH
	▭ Survey - Township Lines
	▭ Survey - Section Lines

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HOMeward TIMBER SALE

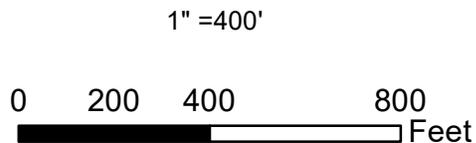
DECOMMISSION MAP 5+50 & 0+50 SPURS

Clallam County Road Approach Permit
stipulations apply, see permit.



Legend	
■ WSDOT - Milepost Markers	
POI	Rd_Type
● <all other values>	X-X Decommission
Function	--- Opt. Construction
⊗ Culvert removal	=Δ= Opt. Pre-haul Maint.
☑ Stream Protection	▬ Required Pre-haul Maint.
⚡ Rock Pit	— existing_Roads
⚠ Ditchout	Harvest_Ty
Ⓡ Culvert Replacement	□ Leave Tree Area
Ⓜ Culvert Maintenance	□ VRH
Ⓢ Culvert Installation	□ Survey - Township Lines
	□ Survey - Section Lines

Mehl 2020



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

HOMEWARD TIMBER SALE ROAD PLAN
CLALLAM COUNTY
COAST DISTRICT

AGREEMENT NO.: 30-101114

DISTRICT ENGINEER: BILL MEHL

DATE: AUGUST 11, 2020

DRAWN & COMPILED BY: BILL MEHL

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
D-300	0+00 – 1+50	Pre-haul Maintenance
D-3100	0+00 – 10+00	Pre-haul Maintenance
D-3100	0+00 – 10+00	Post-haul Maintenance

0-3 OPTIONAL ROADS

The specified work on the following roads is not required. Any optional roads built by the Purchaser must meet all the specifications in the road plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
D-300	1+50 – 19+00	Pre-haul Maintenance
5+25 Spur	0+00 – 5+25	New Construction
D-3100	10+00 - 33+80	Pre-haul Maintenance
D-3190	0+00 – 38+00	Pre-haul Maintenance
D-3190.1	0+00 – 1+90	Pre-haul Maintenance
D-3190.2	0+00 – 2+50	Pre-haul Maintenance
D-3190.3	0+00 – 1+80	Pre-haul Maintenance
D-3190.4	0+00 – 2+45	Pre-haul Maintenance
D-3190.5	0+00 – 4+00	Pre-haul Maintenance
D-3190.6	0+00 – 5+00	Pre-haul Maintenance
1+80 Spur	0+00 – 1+80	New Construction
2+15 Spur	0+00 – 2+15	New Construction
D-3200	0+00 – 32+00	Pre-haul Maintenance
2+50 Spur	0+00 – 2+50	New Construction
D-5500	0+00 – 4+00	Pre-haul Maintenance
D-5501	0+00 – 24+00	Pre-haul Maintenance
1+00 Spur	0+00 – 1+00	New Construction
0+80 Spur	0+00 – 0+80	Pre-haul Maintenance
5+50 Spur	0+00 – 5+50	New Construction
0+50 Spur	0+00 – 0+50	New Construction
D-3110	0+00 – 21+00	Post Haul Maintenance
D-3120	0+00 – 4+00	Post Haul Maintenance

0-4 CONSTRUCTION

This project includes, but is not limited to the following construction requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
5+25 Spur	0+00 – 5+25	See below
1+80 Spur	0+00 – 1+80	See below
2+15 Spur	0+00 – 2+15	See below
2+50 Spur	0+00 – 2+50	See below
1+00 Spur	0+00 – 1+00	See below
5+50 Spur	0+00 – 5+50	See below
0+50 Spur	0+00 – 0+50	See below
Total:	18.70 Sta.	

Construction includes, but is not limited to:

Clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, end hauling material for construction, compacting road surfaces, constructing ditchlines, constructing ditchouts, constructing turnouts and turnarounds, curve widening, acquisition and installation of drainage structures, application of rock, spreading grass seed and hay.

0-6 PRE-HAUL MAINTENANCE

This project includes, but is not limited to the following prehaul maintenance requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
D-300 (Required)	0+00 – 1+50	Grade and shape road in accordance with Clause 2-5. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
D-300	1+50 – 19+00	Grade and shape road in accordance with Clause 2-5. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
D-3100 (Required)	0+00 - 10+00	Grade and shape road in accordance with Clause 2-5. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
D-3100	10+00 – 33+80	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
D-3190	0+00 – 38+00	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
D-3190.1	0+00 -1+90	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing

		Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3190.2	0+00 -2+50	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3190.3	0+00 -1+80	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3190.4	0+00 -2+45	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3190.5	0+00 -4+00	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3190.6	0+00 -5+00	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-3200	0+00 – 32+00	Grade and shape road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List
0+80 Spur	0+00 – 0+80	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in

		accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
D-5500	0+00 – 4+00	Grade and shape road in accordance with Clause 2-5.
D-5501	0+00 – 24+00	Grade and shape road in accordance with Clause 2-5. Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install culverts in accordance with Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
Total:	169.25 Sta	(Both required and optional)

Maintenance includes, but is not limited to:

Brushing right-of-way, right-of-way debris disposal, cleaning ditches, constructing ditches, installing additional culverts, widening road segments, constructing headwalls, cleaning culvert inlets and outlets, cross drain culvert replacement, installing erosion control materials and sediment removal structures, spot rocking, grading and shaping existing road surface and turnouts, constructing additional turnouts, compaction of road surface, application of rock, acquisition and application of grass seed and hay.

0-7 POST-HAUL MAINTENANCE

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE.

0-9 DECOMMISSIONING

This project includes, but is not limited to decommissioning listed in Clause 9-20 ROAD DECOMMISSIONING.

0-12 DEVELOP ROCK SOURCE

The Purchaser shall develop a new rock source at Three Rivers Pit. Development will involve stripping approximately 1/2 acre to useable rock as determined by the Contract Administrator. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

0-13 STRUCTURES

The Purchaser shall acquire and install all structures. Requirements for these structures are listed in Section 7 Structures.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Purchaser desires a change from this Road Plan including, but not limited to relocation, extension, change in design, or adding roads; a revised road plan shall be submitted, in writing, to the Contract Administrator for consideration. The State must approve the submitted plans before road work begins.

1-2 UNFORESEEN CONDITIONS

Quantities established in this road plan are minimum acceptable values. Additional quantities required by the state due to unforeseen conditions, or Purchaser's choice of construction season or techniques will be at the Purchaser's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

1-3 ROAD DIMENSIONS

Unless controlled by construction stakes or design data (plan, profile, and cross-sections), road work shall be performed in accordance with the dimensions shown on the Typical Section Sheet and the specifications within this Road Plan.

1-5 DESIGN DATA

Design data is available upon request at the Department of Natural Resources Olympic Region Office in Forks, WA.

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in this Road Plan shall be resolved by giving the documents precedence in the following order:

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.

In case of any ambiguity or dispute over interpreting the Road Plan, the Contract Administrator's or designee's decision will be final.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

The Purchaser is responsible for the repair or replacement of all materials, roadway infrastructure, and road components damaged during roadwork or operation activities. Repairs and replacements shall be directed by the Contract Administrator. Repairs to structural materials will be made according to the manufacturer's recommendation, and shall not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

Any damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint.

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to "WSDOT Standard Specifications" mean the Washington State Department of Transportation's Standard Specifications for Road, Bridge, and Municipal Construction 2018 (M41-10).

1-12 SURVEY MONUMENTS

At no time during construction, reconstruction, or maintenance shall survey monuments, witness trees, or bearing trees be disturbed or damaged. If damaged or disturbed, Purchaser shall hire a licensed land surveyor to repair, replace, and/or reset them.

1-13 LOG LOADING

At no time shall the loading of logs occur on the Moriarity County Road, Mina Smith County Road or the D-5000 road. In addition, no debris from harvesting operations shall be allowed on this road.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

Road work must be in accordance with the State’s marked location. All road work is marked as follows:

- Orange ribbon and paint for construction centerlines.
- Construction stakes for everything else.

1-18 REFERENCE POINT DAMAGE

Purchaser shall reset reference points (RPs) that were moved or damaged at any time during construction to their original locations. Excavation and embankment may not proceed on road segments controlled by said RPs until Purchaser resets all moved or damaged RPs.

SUBSECTION TIMING

1-20 COMPLETE BY DATE

Purchaser shall complete pre-haul road work before the start of timber haul.

1-21 HAUL APPROVAL

The Purchaser shall not use roads under this Road Plan without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

On all roads, the Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

Written approval by Contract Administrator needs to be given at these phases of road work:

- Subgrade approval
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), the specified activities are not permitted during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
5+50 Spur	All	All	Oct. 15 - Apr. 15

0+80 Spur	All	All	Oct. 15 - Apr. 15
0+50 Spur	All	All	Oct. 15 - Apr. 15

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams.

1-30 CLOSURE TO PREVENT DAMAGE

In accordance with Contract Clause G-220 State Suspends Operation, the Contract Administrator shall suspend road work or hauling of right-of-way timber, forest products, or rock under the following conditions:

- In the opinion of the Contract Administrator excessive road damage or rutting may occur.

Operations must stop unless authority to continue working or hauling is granted, in writing, by the Contract Administrator. In the event that surface or base stability problems persist, the Purchaser will be required to cease operations, or perform corrective maintenance or repairs, subject to specifications within this Road Plan. Before and during any suspension, the Purchaser shall protect the work from damage or deterioration.

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired equipment or other methods, as approved in writing by Contract Administrator, shall be used.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road work and hauling operations. Any dirt, rock, or other material tracked or spilled on bridge or asphalt surface(s) shall be removed immediately. Any damage to the surface(s) shall be repaired at the Purchaser's expense as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

On all roads, snow plowing shall be permitted only after the execution of a Snow Plowing Agreement, which is available from the Contract Administrator upon request. Purchaser shall request a Snow Plowing Agreement each time plowing occurs. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

At existing road approaches to county roads and state highways, any mud, dirt, rock or other material tracked or spilled on the asphalt surface shall be removed immediately by the Purchaser.

If additional damage to the surface, signs, guardrails, etc. occurs then the damage shall be repaired, at the Purchaser's expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

The following county roads and state highways are affected by this sale:

<u>Road Name</u>
Hwy 110
Mora County Road
Moriarity County Road
Mina smith County Road

Clallam County road approach permits acquired by DNR for the 5+50 Spur, 2+15 Spur, 1+80 Spur, the 0+50 Spur. See attached stipulations.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

Purchaser shall maintain all roads used under this contract in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS for the entire term of this contract. Maintenance is required even during periods of inactivity.

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

Purchaser shall perform maintenance on roads listed in Contract Clause C-050 PURCHASER ROAD MAINTENANCE AND REPAIR in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

Purchaser may be required to perform maintenance on roads listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER as directed by the Contract Administrator. Purchaser shall maintain roads in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

C-060 Designated Roads

<u>Road</u>	<u>Stations</u>
D-5000	0+00 – 129+00
D-3400	0+00 – 30+00

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain the following road(s) in a condition that will allow the passage of light administrative vehicles.

<u>Road</u>	<u>Stations</u>
D-5000	MP 4.2 – MP 6.7
D-5500	0+00 – 4+00

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), a grader shall be used to shape the existing surface.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
D-300	0+00 – 19+00	Grade, shape, and remove shoulder and surface vegetation.
D-3100	10+00 - 33+80	Grade, shape, and remove shoulder and surface vegetation.
D-3190	0+00 – 38+00	Grade, shape, and remove shoulder and surface vegetation.
D-3190.1	0+00 -1+90	Grade, shape, and remove shoulder and surface vegetation.

D-3190.2	0+00 -2+50	Grade, shape, and remove shoulder and surface vegetation.
D-3190.3	0+00 -1+80	Grade, shape, and remove shoulder and surface vegetation.
D-3190.4	0+00 -2+45	Grade, shape, and remove shoulder and surface vegetation.
D-3190.5	0+00 -4+00	Grade, shape, and remove shoulder and surface vegetation.
D-3190.6	0+00 -5+00	Grade, shape, and remove shoulder and surface vegetation.
D-3200	0+00 – 32+00	Grade, shape, and remove shoulder and surface vegetation.
0+80 Spur	0+00 – 0+80	Grade, shape, and remove shoulder and surface vegetation.
D-5510	0+00 – 4+00	Grade, shape, and remove shoulder and surface vegetation.
D-5501	0+00 – 24+00	Grade, shape, and remove shoulder and surface vegetation.

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean and/or construct the ditches, headwalls, and catch basins. Work shall be completed before the start of timber haul and shall be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface will not be allowed. Ditchlines, headwalls, and catch basins shall not encroach into the existing road.

<u>Road</u>	<u>Stations</u>	<u>Left or Right</u>	<u>Comments</u>
D-5501	12+25 – 14+50	Both	Construct Ditch

2-8 MAINTAINING EROSION CONTROL STRUCTURES

Purchaser shall clean and maintain all erosion control devices as directed by the Contract Administrator. All work shall be done in accordance with all pertaining clauses contained in this Road Plan. Excavated material shall be disposed of in accordance with Clause 4-35 through Clause 4-38.

2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud, and other debris on the existing road surface with a minimum loss of rock. Material removed shall be disposed of in accordance with Clause 3-21 through Clause 3-25 and Clause 4-36 through Clause 4-38.

<u>Road</u>	<u>Stations</u>
D-3190.1	0+00 -1+90
D-3190.2	0+00 -2+50
D-3190.3	0+00 -1+80
D-3190.4	0+00 -2+45
D-3190.5	0+00 -4+00
D-3190.6	0+00 -5+00
D-5501	0+00 – 24+00

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), vegetative material up to 5 inches in diameter, including limbs, shall be cut as shown on the Brushing Detail. Brushing shall be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation shall not be disturbed unless directed by the Contract Administrator.

Road	Stations
D-3100	12+00 – 27+00
D-3190	0+00 – 38+00
D-3200	0+00 - 32+00

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal shall not be used for brushing. Excavator buckets, log loaders and similar equipment shall not be used for brushing.

3-3 BRUSH REMOVAL

Remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets. Brush should be disposed of so that it will not fall back onto the road prism.

SUBSECTION CLEARING

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 5 inches DBH or over 15 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

Deck all merchantable right-of-way timber. Decks shall be parallel to the road centerline and placed within the cleared right-of-way. Decks shall be free of dirt, limbs and other right-of-way debris, and removable by standard log loading equipment.

3-8 PROHIBITED DECKING AREAS

Right-of-way timber shall not be decked in the following areas:

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees unless approved by the Contract Administrator.

SUBSECTION GRUBBING

3-10 GRUBBING

Remove all stumps between the grubbing limits specified on the Typical Section Sheet. Those stumps outside the grubbing limits but with undercut roots shall also be removed. Stump removal shall be accomplished using a hydraulic mounted excavator unless authorized, in writing, by the Contract Administrator. Grubbing shall be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Grubbed stumps shall be placed outside of the clearing limits, as directed by the Contract Administrator and in compliance with all other clauses in this road plan. Stumps shall be positioned upright with root wads in contact with the forest floor and on stable locations.

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

Organic debris is defined as all vegetative material not eligible for removal by Contract Clauses G-010 Products Sold And Sale Area or G-011 Right To Remove Forest Products And Contract Area, that is larger than one cubic foot in volume within the grubbing Typical Section Sheet.

3-21 DISPOSAL COMPLETION

All disposal of organic debris, shall be completed before the application of rock.

3-23 PROHIBITED DISPOSAL AREAS

Organic debris shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades road prism excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush will fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Organic debris shall not be buried unless otherwise stated in this Road Plan.

3-25 SCATTERING ORGANIC DEBRIS

Organic debris shall be scattered outside of the grubbing limits in accordance with Clause 3-23 unless otherwise detailed in this Road Plan and as directed by the Contract Administrator.

SUBSECTION PILE

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

All roads shall be constructed, reconstructed, and maintained using a track mounted hydraulic excavator unless stated otherwise within this Road Plan, or permission to do otherwise is granted in writing by the Contract Administrator.

4-2 PIONEERING

Pioneering shall not extend past construction that will be completed during the current construction season. Pioneering shall not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions shall be taken as pioneering progresses:

- Drainage shall be provided on all uncompleted construction.
- Road pioneering operations shall not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings shall be installed during pioneering operations prior to embankment.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

The following road grade and alignment standards shall be followed:

- Grade and alignment shall have smooth continuity, without abrupt changes in direction.
- Maximum grade shall not exceed 18 percent favorable and 16 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Sag vertical curves shall not have a grade change greater than 5% in 100 feet.
- Crest vertical curves shall not have a grade change greater than 4% in 100 feet.

4-5 CUT SLOPE RATIO

Unless construction staked or designed excavation slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

Unless construction staked or designed embankment slopes shall be constructed no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

4-7 SHAPING CUT AND FILL SLOPE

Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

Embankment widening shall be applied equally to both sides of the road to achieve the required width.

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-20 SUBGRADE DIMENSIONS FOR INTERSECTIONS

On the following road(s), the Purchaser shall construct the subgrade to the dimensions shown on the Intersection Detail.

Road	Stations
5+50 Spur	0+00 – 0+25
0+50 Spur	0+00 – 0+25
1+80 Spur	0+00 – 0+25
2+15 Spur	0+00 – 0+25

4-21 TURNOUTS

Turnouts shall be intervisible with maximum of 1,000 feet between turnouts unless shown otherwise on drawings. Locations shall be adjusted to fit the final subgrade alignment and sight distances. Turnout locations shall be subject to written approval by the Contract Administrator.

4-22 TURNAROUNDS

Turnarounds shall be no larger than 50 feet long and 30 feet wide. Locations shall be subject to written approval by the Contract Administrator.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

The Purchaser shall construct ditches into the subgrade as specified on the Typical Section Sheet. Excavated slopes shall be consistent with Clause 4-5 Cut Slope Ratio. Ditches shall be constructed concurrently with construction of the subgrade.

4-27 DITCH WORK – MATERIAL USE PROHIBITED

On all roads, pulling ditch material across the road or mixing in with the road surface will not be allowed. Excavated material shall be disposed of as specified in Clause 4-36 through Clause 4-38.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Ditchouts shall be constructed at locations shown on the list below, and as needed to fit as built conditions. Ditchouts shall be constructed in a manner that diverts ditch water onto the forest floor and shall have excavation backslopes no steeper than a 1:1 ratio. L or R denotes ditchout left or ditchout right heading in.

<u>Road</u>	<u>Stations</u>
D-5501	13+80 DOL
D-5501	14+50 DOR

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Waste material shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

4-39 WASTE AREA COMPACTION

Excavated material may be deposited adjacent to the road prism on side slopes up to 45% if the waste material is compacted and free of debris. On side slopes of 45% or more, all excavation shall be end hauled or pushed to designated waste areas. All waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts, with the exception of side hill embankments too narrow to accommodate excavation equipment which may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

SUBSECTION SHAPING

4-55 ROAD SHAPING

The road subgrade and surface shall be shaped as shown on the Typical Section Sheet. The subgrade and surface shape shall ensure runoff in an even, un-concentrated manner, and shall be uniform, firm, and rut-free.

4-56 DRY WEATHER SHAPING

At any time of year, the Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

SUBSECTION COMPACTION

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the Compaction List by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction, and embankment segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the Compaction List by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before placement of rock.

4-62 DRY WEATHER COMPACTION

At any time of the year, the Contract Administrator may require the application of water to facilitate compaction activities. The method of water application is subject to written approval by the Contract Administrator.

4-63 EXISTING SURFACE COMPACTION

Purchaser shall compact maintained road surfaces in accordance with the Compaction List by routing equipment over the entire width.

4-64 WASTE MATERIAL COMPACTION

All waste material shall be compacted by running equipment over it or bucket tamping.

4-65 CULVERT BACKFILL COMPACTION

Culvert backfills shall be accomplished by using a jumping jack compactor, performing at least 2 passes per lift, in lifts not to exceed 8 inches.

4-66 COMPACTION BY METHOD

Compaction shall consist of three complete passes over the entire width of each lift with a vibratory drum roller weighing a minimum of 6,000 pounds at a maximum operating speed of 3 mph. For embankment segments too narrow to accommodate a drum roller, a plate compactor shall be used.

SECTION 5 – DRAINAGE

5-3 PUNCHEON PLACEMENT

On the following road(s), puncheon may be utilized in the subgrade on the following road. Puncheon shall consist of logs of at least 4 inches in diameter and shall be at least 17 feet long.

<u>Road</u>	<u>Stations</u>
5+50 Spur	All
0+50 Spur	All
1+80 Spur	All
2+15 Spur	All

5-4 PUNCHEON RESTRICTED

At no time shall puncheon be used in the subgrade, unless approved by the Contract Administrator or listed in Clause 5-3.

SUBSECTION CULVERTS

5-5 CULVERTS

Culverts shall be installed as part of this contract. Culverts shall be installed concurrently with subgrade work and shall be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the Culvert List. Culvert, downspout, and flume lengths shall be adjusted to fit as-built conditions and shall not terminate directly on unprotected soil. Culverts shall be new and meet the material specifications in Clauses 10-15 through 10-23.

5-6 USED CULVERT MATERIAL

The Purchaser may install used culverts on the following roads. All other roads shall have new culverts installed.

Road	Stations
5+25 spur	3+00
5+50 Spur	1+10

5-11 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the Culvert List and Rock List that are not installed shall become the property of the State. Purchaser shall stockpile materials as directed by the Contract Administrator.

5-12 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and will be available for installation on any road listed in the TYPICAL SECTION SHEET as directed by the Contract Administrator. Unused pipes will be located at Mora Pit or as directed by C/A prior to contract expiration.

Road	Size
As Directed	18x30'(1)
By C/A	

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Installation shall be in accordance with the Typical Cross Drain Culvert Installation Detail, Typical Type Ns Np Culvert Installation Detail, the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures", and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe shall be installed in a manner consistent with the manufacturer's recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Installation of culverts 30 inches in diameter and over shall be subject to written approval by the District Engineer or their designee before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains on road grades in excess of 3% shall be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road. Where the cross drain is at the low point in the road, culverts shall not be skewed. Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

5-18 CULVERT DEPTH OF COVER

Cross drain culverts shall be installed with a depth of cover of not less than 18 inches of compacted depth over the top of the culvert at the shallowest point. Stream crossing culverts shall be installed with a depth of cover specified in the Engineer’s design, Type Ns Np Typical Detail Sheet, or to the minimum depth recommended by the culvert manufacturer for the type of cover material over the pipe, whichever is greater.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Catch basins shall be constructed to resist erosion. Approximate dimensions are 1-2 feet deep, 1-2 feet wide, and 2-4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Headwalls shall be constructed in accordance with the Typical Cross Drain Culvert Installation Detail at all cross drain culverts that specify the placement of rock. Rock used for headwalls shall consist of oversize or quarry spall material. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets. Rock shall not restrict the flow of water into culvert inlets or catch basins. No end dumping of rock is allowed.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the Rock List may be obtained from the following source(s) on state land at no charge to the Purchaser. Use of material from any other source must have prior written approval from the Contract Administrator. If other operators are using, or desire to use, the rock source(s), a joint operating plan shall be developed. All parties shall follow this plan. The Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Mora Pit	T28N R15W Sec24	Pit Run
Three Rivers Pit	T28N R14W Sec 21	Pit Run
Loop Pit	T29N R13W Sec 3	1 1/2" Minus Crushed and Oversized

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the Rock List may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall remove no more than 370 cubic yards of 1 1/2 minus crushed rock, unless authorized by the Contract Administrator.

1 1/2" Minus Crushed	Loop Pit	370 cu,yds.
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6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the Rock List may be obtained from any commercial source at the Purchaser's expense. Rock sources will be subject to written approval by the Contract Administrator before their use.

SUBSECTION ROCK SOURCE DEVELOPMENT

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources shall be in accordance with the following unless otherwise specified in Rock Source Development and reclamation plan:

- Pit walls shall not be undermined or over-steepened. The maximum slope of the walls shall be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz.:Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls shall be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches shall be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches shall be uniform and free-draining at a minimum 2% outslope gradient.
- All operations shall be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

- Block all vehicle access to the top of the pit faces.

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths are defined as the compacted depth(s) using the compaction methods required in this Road Plan. Estimated quantities specified in the Rock List are estimated truck yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Subgrade drainage installation including grading and compaction, shall be completed and approved in writing by the Contract Administrator, before rock application.

6-71 ROCK APPLICATION

Rock shall be applied in accordance with the specifications and quantities shown on the Rock List. Rock shall be spread, shaped, and compacted full-width concurrent with rock hauling operations. Rock shall be compacted in accordance with Compaction List, in lifts not to exceed 6 inches.

6-72 ROCK APPLICATION AFTER HAULING

On the following road(s), upon completion of all hauling operations, Purchaser shall apply pit run and/or 1 1/4" minus crushed rock in accordance with the quantities shown on the Rock List.

<u>Road</u>	<u>Stations</u>	<u>Amount</u>
D-300	0+00 – 4+50	70 yd ³
D-3100	0+00 – 10+00	50 yd ³
D-3100	10+00 – 33+80 (Pitrun)	100 yd ³
	Total	220 yd³

6-78 ROCK FOR SPOT PATCHING

Rock for spot patching shall be applied before any grading is done and before any rock lifts are applied. Once applied, spot patches shall be graded into the existing running surface.

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

The Purchaser shall ensure that debris from the installation or removal of structures does not enter any stream. Components removed from the existing structures(s) shall be placed at designated site(s), as directed in writing by the Contract Administrator. The Purchaser is responsible for maintaining a clean jobsite, with all materials stored away

from any high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream shall be removed immediately and placed in the site(s) designated for stockpiling or disposal. The Purchaser is responsible for retrieving all material carried downstream from the jobsite by the stream current.

7-6 STREAM CROSSING INSTALLATION

Installation of stream crossing structures shall be in accordance with the manufacturer's requirements, and as directed by the District Engineer or their designee.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Bank protection shall be designed and constructed to prevent the undermining of the structure.

SUBSECTION ACCEPTANCE

7-20 REQUIRED NOTIFICATION AND APPROVAL

Purchaser shall provide the District engineer or their designee 3 day notification prior to beginning road work on County Road Approach Spurs.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road(s), Purchaser shall install sediment control structures as listed below.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
D-5501	7+50 - 8+50	Silt Fence Both sides

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall furnish and evenly spread a 3-inch layer of straw to all exposed soils at stream culvert installations. Soils shall not be allowed to sit exposed during any rain event.

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall grass seed and hay mulch all exposed soils including, but not limited to, stream culverts, waste areas, sidecast pull back areas, stream crossing removals, bridge installations, and other areas directed by the Contract Administrator. Revegetation of exposed soils shall be accomplished by manual dispersal of grass seed unless otherwise detailed in this Road Plan. Other methods of revegetation must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

All seed, mulch, hay, matting, etc. will be provided by the Purchaser.

8-17 REVEGETATION TIMING

Purchaser shall perform revegetation during the first available opportunity. Soils shall not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator. Soils shall not be allowed to sit exposed during any rain event.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover over the revegetated area. The protective cover may consist of, but not be limited to, such items as dispersed hay mulch 3" thick or jute matting.

8-19 ASSURANCE FOR SEEDED AREA

The Purchaser shall be responsible to ensure a uniform and dense crop of grass. The Purchaser shall reapply the seed and/or mulch in areas that have been damaged through any cause, before approval from the Contract Administrator. The Purchaser shall restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and/or mulch at no additional cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soils at a rate of 60 pounds per acre of exposed soil.

<u>Seed Species</u>	<u>% by Weight</u>
• Perennial Ryegrass	40.00
• Creeping Red Fescue	40.00
• White Dutch Clover	10.00
• Colonial Bentgrass	10.00

Grass seed shall meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
 - a. Common name of seed
 - b. Net weight
 - c. Percent of purity
 - d. Percentage of germination
 - e. Percentage of weed seed and inert material

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-2 CULVERT REMOVAL FROM LIVE STREAM

On the following road(s), Purchaser shall remove existing culverts from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. Excavated material shall be moved to an approved waste area meeting

Clause 4-38. Culvert removal from live streams shall be in accordance with the table below and Clause 9-22.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width</u>	<u>Slope Ratio</u>	<u>Comments</u>
5+50 Spur	1+10	3'	1.5:1	Seed and straw after removal

9-3 REMOVAL OF CULVERT MATERIAL FROM STATE LAND

Culvert material removed from roads becomes the property of the Purchaser and must be removed from state land.

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

Post-haul maintenance shall be performed in accordance with the Forest Access Road Maintenance Specifications and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator
D-300	0+00 – 4+50	Apply post haul rock as per Clause 6-72.
D-3100	0+00 – 10+00	Apply post haul rock as per Clause 6-72.
D-310	0+00 – 5+00	Clean ditches, grade road shape and compact as directed by the Contract Administrator
D-3110	0+00 – 26+00	Clean ditches, grade road shape and compact as directed by the Contract Administrator
D-3120	0+00 – 5+00	Clean ditches, grade road shape and compact as directed by the Contract Administrator

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

On all roads, Purchaser shall provide for drainage of the landing surface as approved in writing by the Contract Administrator.

9-11 LANDING EMBANKMENT

On all roads, landing embankments shall be sloped to original construction specifications.

SUBSECTION DECOMMISSIONING AND ABANDONMENT

9-20 ROAD DECOMMISSIONING

The following road(s) shall be decommissioned by the Purchaser before the termination of this contract.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
1+80 Spur	0+00-1+80	Pull culverts and block road
2+15 Spur	0+00 - 2+15	Pull culverts and block road
5+50 Spur	0+00 – 5+50	Pull culverts and block road

0+50 Spur	0+00 – 0+50	Pull culverts and block road
Total:	9.95 Sta	

9-22 LIGHT DECOMMISSIONING

Decommissioning shall consist of:

1. Remove all culverts. Resulting back slopes shall be 1:1 or shallower for cross drains and 1.5:1, or as specified in approved drawings, for all live stream culvert removals. Material removed shall be placed on the roadbed and compacted, with slopes of 2:1 or shallower, or end-hauled to designated waste areas. Culverts removed shall become the property of the Purchaser and removed from State land.
2. Construct non-drivable water bars as directed by the Contract Administrator. On grades in excess of 3%, non-drivable water bars shall be skewed 30 degrees from the perpendicular of the road centerline.
3. Restore all ditchouts to drain water.
4. Repair or construct ditchlines.
5. Remove any berms, except as directed.
6. Restoration of natural stream channels across road prism, as directed by the Contract Administrator.
7. Removing all fill material as approved by the Contract Administrator.
8. All material from fill removals, culvert removals, and bridge removals shall be placed on roadbed and compacted, except that material listed in Clause 4-37.
9. Purchaser shall furnish and apply grass seed to all areas of exposed soil, including but not limited to: water bars, waste piles, and culvert removal sites. Grass seed shall be applied at a rate of 60 pounds per acre.
10. Block road to vehicular traffic using logs, slash, and stumps, as directed by the Contract Administrator.

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts shall meet AASHTO M-196 (ASTM A-745) specifications.

10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts shall meet AASHTO M-294 specifications. Culverts shall be Type S – double walled with a corrugated exterior and smooth interior.

10-18 CORRUGATED STEEL STRUCTURAL PLATE

Structural plate culverts shall be galvanized steel meeting AASHTO M-167 (ASTM A-761) specifications.

10-19 CORRUGATED ALUMINUM STRUCTURAL PLATE

Structural plate culverts shall be aluminum alloy meeting AASHTO M-219 (ASTM A-746) specifications.

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes shall meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes shall be Type S – double walled with a corrugated exterior and smooth interior.

10-21 METAL BAND

Metal coupling and end bands shall meet the AASHTO specification designated for the culvert and shall have matching corrugations. On culverts 24 inches and smaller, bands shall have a minimum width of 12 inches. On culverts over 24 inches, bands shall have a minimum width of 24 inches.

10-22 PLASTIC BAND

Plastic coupling and end bands shall meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer shall be used. Couplings shall be split coupling band. Split coupling bands shall have a minimum of four corrugations, two on each side of the pipe joint.

10-23 RUBBER CULVERT GASKETS

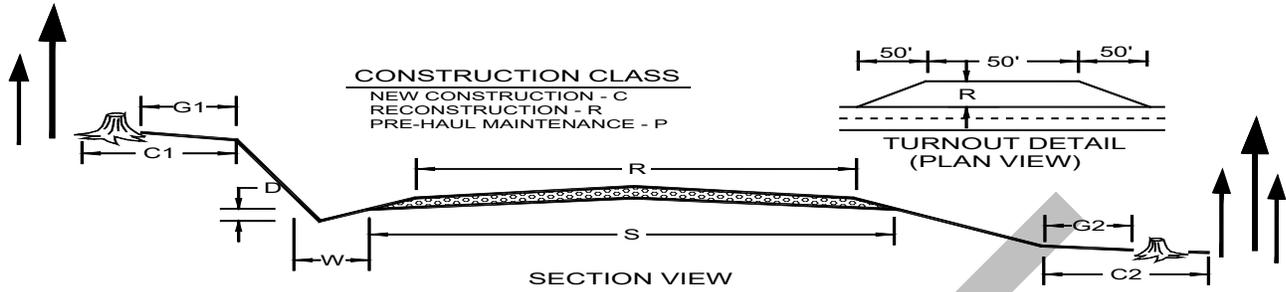
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

Metal culverts shall conform to the following specifications for gage and corrugation as a function of diameter.

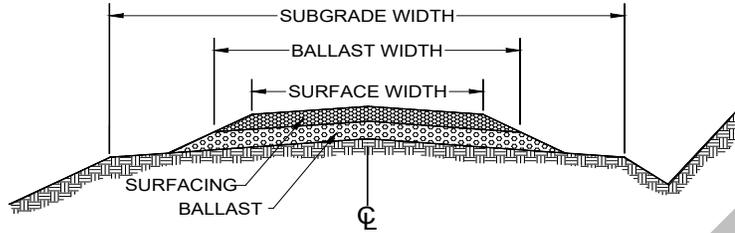
<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 2/3" X 1/2"
24" to 42"	14 (0.079")	2 2/3" X 1/2"
48" to 54"	12	3" X 1"
60" +	10	5" X 1"

TYPICAL SECTION SHEET



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	CROWN AT CL (in)	DITCH WIDTH (W)	DITCH DEPTH (D)	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (C1)	ROAD FILL CLEARING (C2)
D-300	0+00	19+00	P		12'	3"	3'	1'				
5+25 Spur	0+00	5+25	C	17'					5'	5'	10'	5'
D-3100	0+00	33+80	P		12'	3"	3'	1'				
D-3190	0+00	38+00	P		12'	3"	3'	1'				
D-3190.1	0+00	1+90	P		12'	3"	3'	1'				
D-3190.2	0+00	2+50	P		12'	3"	3'	1'				
D-3190.3	0+00	1+80	P		12'	3"	3'	1'				
D-3190.4	0+00	2+45	P		12'	3"	3'	1'				
D-3190.5	0+00	4+00	P		12'	3"	3'	1'				
D-3190.6	0+00	5+00	P		12'	3"	3'	1'				
2+15 Spur	0+00	2+15	C	17'					5'	5'	10'	5'
1+80 Spur	0+00	1+80	C	17'					5'	5'	10'	5'
D-3200	0+00	32+00	P		12'	3"	3'	1'				
2+50 Spur	0+00	2+50	P	17'					5'	5'	10'	5'
D-5510	0+00	4+00	P		12'	3"	3'	1'				
D-5501	0+00	24+00	P		12'	3"	3'	1'				
1+00 Spur	0+00	1+00	C	17'					5'	5'	10'	5'
0+80	0+00	0+80	P		12'	3"	3'	1'				
5+50 Spur	0+00	5+50	C	17'					5'	5'	10'	5'

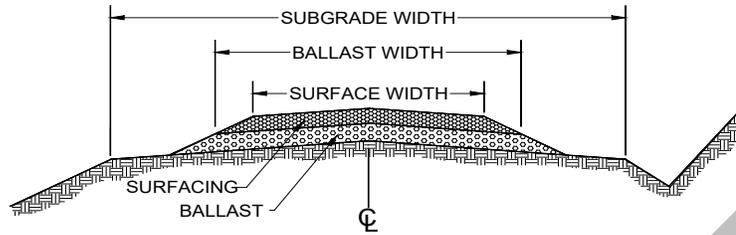
ROCK LIST SHEET



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Three Rivers Pit Pit-run, 2: Mora Pit Pit-run, 3: Loop Tavern Pit 1 1/2" minus, 4: Loop Oversize

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd³)
D-300															
Lift	0+00	1+50							3	12	6	35	50		
D-300															
Spot patch	1+50	19+00		1				150							
Post Haul	0+00	4+50		1					3				70		
5+25 Spur															
Lift	0+00	5+25	17	1	14	18	110	570							
Culvert	3+00			1				20							
D-3100															
Spot Patch	0+00	10+00							3				50		
Post Haul	0+00	10+00							3				50		
D-3100															
Spot Patch	10+00	33+80		2				100							
Post Haul	10+00	33+80		2				100							
D-3190															
Spot Patch	0+00	38+00		2				300							
D-3190.1															
Lift	0+00	1+90		2	14	6	35	70							
D-3190.2															
Lift	0+00	2+50		2	14	6	35	90							
Totals:								1400					220		

ROCK LIST SHEET CONTINUED

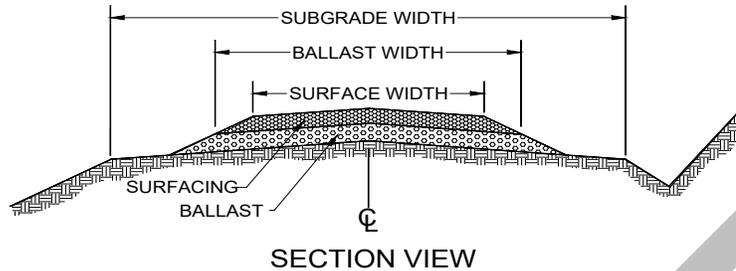


SECTION VIEW

1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Three Rivers Pit Pit-run, 2: Mora Pit Pit-run, 3: Loop Tavern Pit 1 1/2" minus, 4: Loop Oversize

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip rap	Oversize/Rip Rap Quantity(yd ³)
D 3190.3															
Lift	0+00	1+80		2	14	6	35	60							
D-3190.4															
Lift	0+00	2+45		2	14	6	35	90							
D-3190.5															
Lift	0+00	4+00		2	14	6	35	140							
D-3190.6															
Lift	0+00	5+00		2	14	6	35	180							
1+80 Spur															
Lift	0+00	0+50							3	14	12	70	40		
Lift	0+50	1+80	17	2	14	12	70	120							
2+15 Spur															
Lift	0+00	0+50							3	14	12	70	40		
Lift	0+00	2+15	17	2	14	12	70	150							
D-3200															
Spot Patch	0+00	32+00		2				50							
2+50 Spur															
Lift	0+00	2+50	17	2	14	12	70	180							
Totals:								970					80		

ROCK LIST SHEET CONTINUED



1. Rock quantities, subtotals and totals are "truck measure" estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼" minus to 4" minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1: Three Rivers Pit Pit-run, 2: Mora Pit Pit-run, 3: Loop Tavern Pit 1 1/2" minus, 4: Loop Oversize

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd ³ /sta)	Pitrun SUBTOTAL(yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd ³ /sta)	Crushed Subtotal(yd ³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd ³)
D-5501															
Lift	0+00	1+00		2	14	18	110	110							
Lift	1+00	12+00		2	14	12	70	770							
Culvert	8+00			2				20							
Lift	12+00	14+50		2	14	18	110	280							
Lift	14+50	24+00		2	14	12	70	670							
Culvert	21+50							20							
Contingency				2				20							
1+00 Spur															
Lift	0+00	1+00	17	2	14	18	110	110							
5+50 Spur															
Lift	0+00	5+50							3	14	12	70	4	40	
Lift	0+50	5+50	17	2	14	18	110	570							
Culvert	1+10							60							
0+80 Spur															
Lift	0+00	0+80		2	14	12	70	60							
0+50 Spur	0+00	0+50		2	14	18	110	60							
Approach	0+10			2				40							
Totals:								2790					70		40

ROCK LIST SHEET GRAND TOTAL

Source	Quantity (yd ³)
1: Three Rivers Pit	740
2: Mora Pit	4420
3: Loop Tavern Pit 1 1/2" minus	370
3: Loop Tavern Pit Oversize	40
Grand Total all Rock:	5570

DRAFT

SUMMARY - Road Development Costs																
SALE NAME:	Homeward Bound	CONTRACT#:	30-101114	REGION:	Olympic	DISTRICT:	Coast									
LEGAL DESCRIPTION:	T28NR14W															
ROAD NAME:	5+25 Spur	1+80 Spur	2+15 Spur	2+50 Spur	1+00 Spur	5+50 Spur	0+50 Spur	D-300	D-3100	D-3190	D-3190.1	TOTAL	SHEET #2-4			
ROAD TYPE:	Construction	Construction	Construction	Construction	Construction	Construction	Construction	Prehaul	Prehaul	Prehaul	Prehaul					
NUMBER OF STATIONS:	5	2	2	3	1	6	1	19	34	38	2	111	254.55			
SIDE SLOPE:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			
CLEARING AND GRUBBING:	\$730	\$250	\$299	\$348	\$139	\$765	\$70	\$0	\$0	\$0	\$0	\$2,601	\$0			
ROAD BRUSHING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$270	\$684	\$0	\$954	\$576			
EXCAVATION AND FILL:	\$593	\$203	\$243	\$283	\$113	\$622	\$57	\$0	\$0	\$0	\$0	\$2,113	\$0			
ROAD GRADING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$190	\$238	\$380	\$19	\$827	\$1,923			
DITCH CLEANING/CONSTRUCTION:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$176			
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:																
Pitrun:	5160	5,160	590	120	150	180	110	110	630	100	150	100	300	70	2,499	2,660
			\$3,808	\$964	\$1,242	\$1,496	\$1,090	\$1,082	\$6,817	\$1,082	\$1,005	\$784	\$2,628	\$617	\$21,533	\$26,917
Surface:	370	370	0	40	40	0	0	70	0	0	50	50	0	0	250	120
			\$0	\$543	\$543	\$0	\$0	\$951	\$0	\$0	\$465	\$494	\$0	\$0	\$2,996	\$1,334
Oversize:	40	40	0	0	0	0	0	40	0	0	0	0	0	0	40	0
			\$0	\$0	\$0	\$0	\$0	\$563	\$0	\$0	\$0	\$0	\$0	\$0	\$563	\$0
CULVERTS AND FUMES:			\$572	\$880	\$880	\$0	\$880	\$1,816	\$880	\$0	\$0	\$0	\$0	\$0	\$5,908	\$2,684
STRUCTURES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
MISC. EXPENSES:	\$28	\$11	\$13	\$15	\$6	\$32	\$3	\$111	\$198	\$222	\$11	\$649	\$798	\$0	\$0	\$0
OVERHEAD:	\$516	\$257	\$290	\$193	\$201	\$1,041	\$188	\$159	\$179	\$352	\$58	\$3,433	\$3,194	\$0	\$0	\$0
TOTAL COSTS:	\$6,248	\$3,108	\$3,510	\$2,333	\$2,429	\$12,606	\$2,279	\$1,930	\$2,162	\$4,267	\$706	\$41,577	\$37,601	\$0	\$0	\$0
COST PER STATION:	\$1,190	\$1,726	\$1,653	\$933	\$2,429	\$2,292	\$4,558	\$102	\$64	\$112	\$371	\$373	\$148	\$0	\$0	\$0
MOBILIZATION:			\$13,600													
ROAD DEACTIVATION AND ABANDONMENT COSTS:			\$4,264													
Pit Work			\$15,000													
NOTE: This appraisal has no allowance for profit and risk.																
Sheet 1 of 2																
Plans to be furnished by:	Bill Mehl															

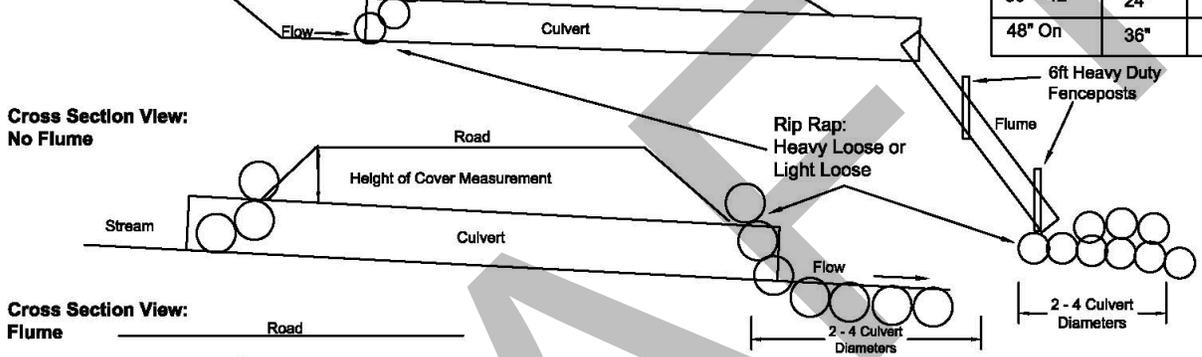
SUMMARY - Road Development Costs																			
SALENAME:	Homeward Bount					REGION:	Olympic			DISTRICT: Coast									
LEGAL DESCRIPTION:	T28NR14W																		
ROAD NAME:	D-3190.2	D-3190.3	D-3190.4	D-3190.5	D-3190.6	D-3200	0+80 Spur	D-5510	D-5501	D-300	D-3100	D-310	D-3110	D-3120	Others				
ROAD TYPE:	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul	Posthaul				
NUMBER OF STATIONS:	3	2	2	4	5	32	1	4	24	5	10	5	26	5	128				
SIDE SLOPE:	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				
CLEARING AND GRUBBING:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
ROAD BRUSHING:	\$0	\$0	\$0	\$0	\$0	\$576	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
EXCAVATION AND FILL:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
ROAD GRADING:	\$25	\$18	\$25	\$40	\$50	\$320	\$8	\$40	\$240	\$29	\$65	\$33	\$169	\$33	\$829				
DITCH CLEANING/CONSTRUCTION:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$176	\$0	\$0	\$0	\$0	\$0	\$0				
ROCK TOTALS (Cu. Yds.)/ROCK COS	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
Ballast:	90	60	90	140	180	50	60	0	1,890	0	100	0	0	0	0				
Surface:	\$794	\$667	\$794	\$1,235	\$1,588	\$433	\$574	\$0	\$20,072	\$0	\$761	\$0	\$0	\$0	\$0				
Over-size:	0	0	0	0	0	0	0	0	0	70	50	0	0	0	0				
Over-size:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$966	\$368	\$0	\$0	\$0	\$0				
CULVERTS AND FLUMES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
STRUCTURES:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0				
MISC. EXPENSES:	\$15	\$11	\$14	\$23	\$29	\$187	\$5	\$23	\$490	\$0	\$0	\$0	\$0	\$0	\$0				
OVERHEAD:	\$75	\$63	\$75	\$117	\$150	\$136	\$53	\$6	\$2,130	\$119	\$143	\$4	\$20	\$4	\$99				
TOTAL COSTS:	\$908	\$758	\$908	\$1,415	\$1,817	\$1,653	\$640	\$69	\$25,791	\$1,115	\$1,337	\$36	\$189	\$36	\$928				
COST PER STATION:	\$363	\$421	\$370	\$354	\$363	\$52	\$800	\$17	\$1,075	\$248	\$134	\$7	\$7	\$7	\$7				
														Total					
														Costs \$37,601					
														Stations 254.55					
														Cost/station \$147.71					

Typical Type Ns, Np Culvert Installation Detail Sheet.

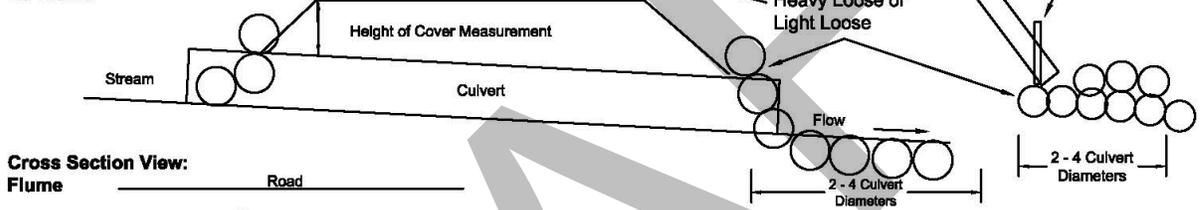
- Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.
- Culvert lay shall match stream gradient up to 5%.
- Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
- Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
- Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.
- Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus 3 times the width of the compactor footprint used.

Culvert Minimum Cover		
Diameter	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"

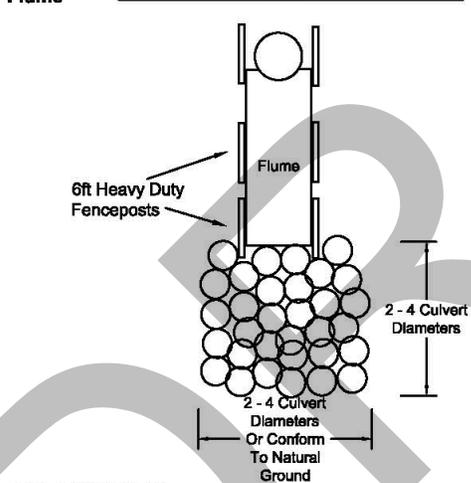
Cross Section View: Flume



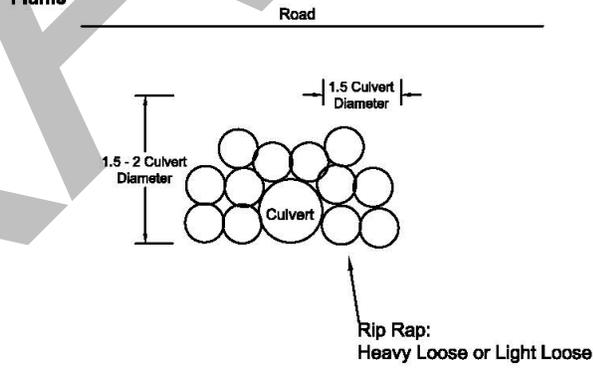
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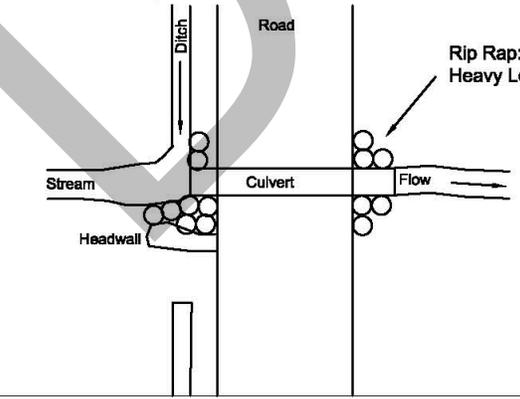
Cross Section View: Flume



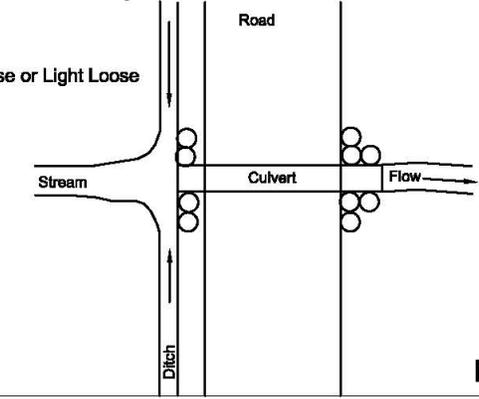
Cross Section View: No Flume



Plan View: No Dip



Plan View: Dip



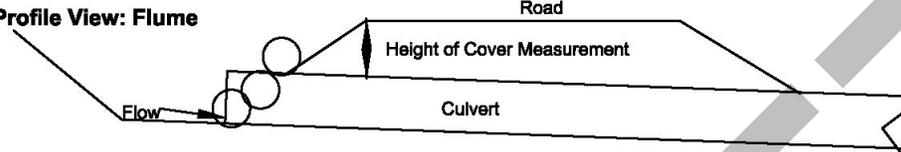
Not To Scale

Typical Cross Drain Culvert Installation Detail Sheet

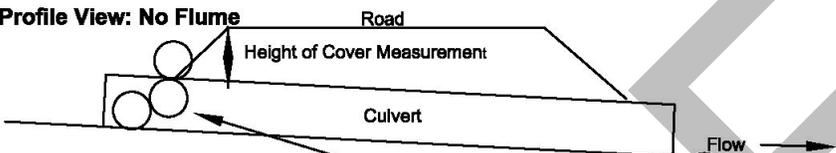
- Culvert lay shall not exceed 10%.
- Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
- Oversize shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
- Oversize shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume oversize shall be placed at the outlet as an energy dissipater as specified in this Detail. All oversize distance to be determined by the Contract Administrator.
- Backfill compaction for installations on existing roads shall be achieved using a jumping jack, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus at least the width of the compactor footprint used..

Culvert Minimum Cover		
Diameter	Steel	Plastic
18"	18"	18"

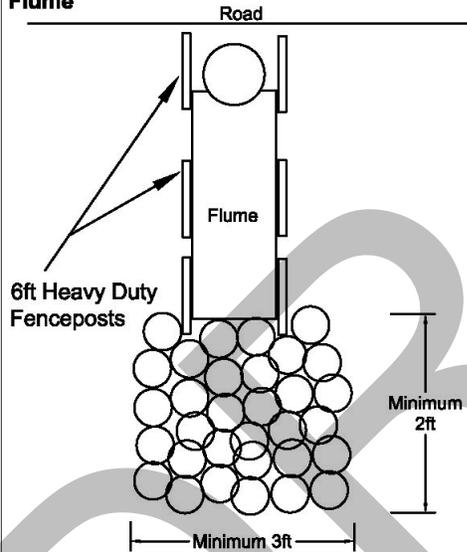
Profile View: Flume



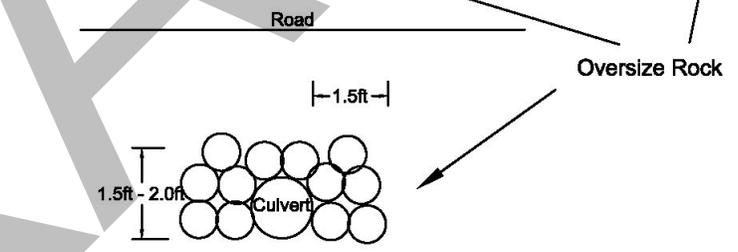
Profile View: No Flume



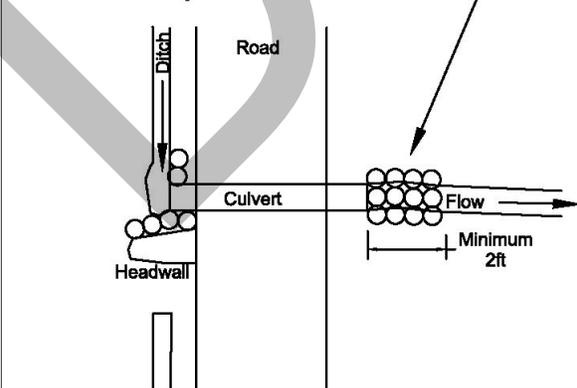
Cross Section View: Flume



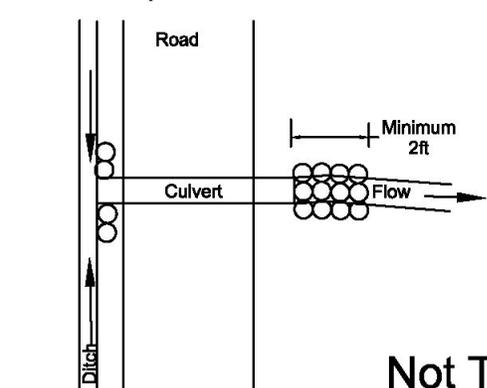
Cross Section View: Inlet



Plan View: No Dip

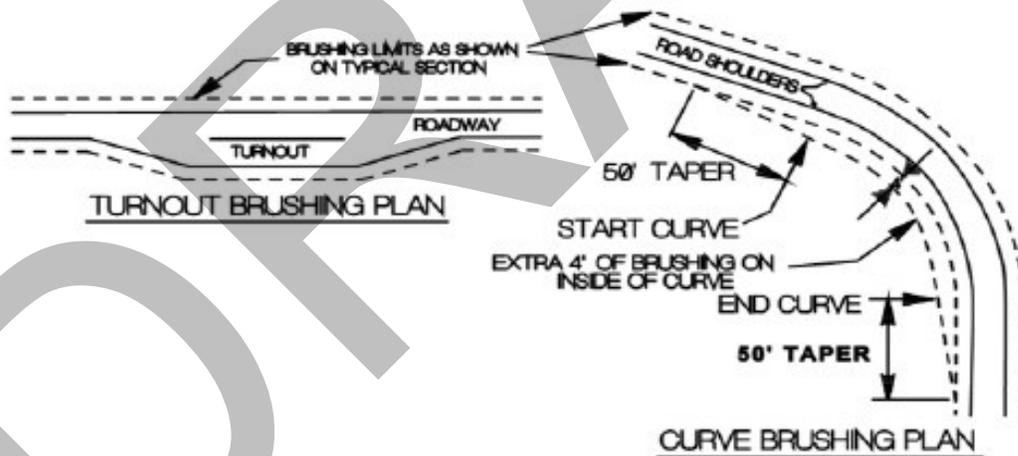
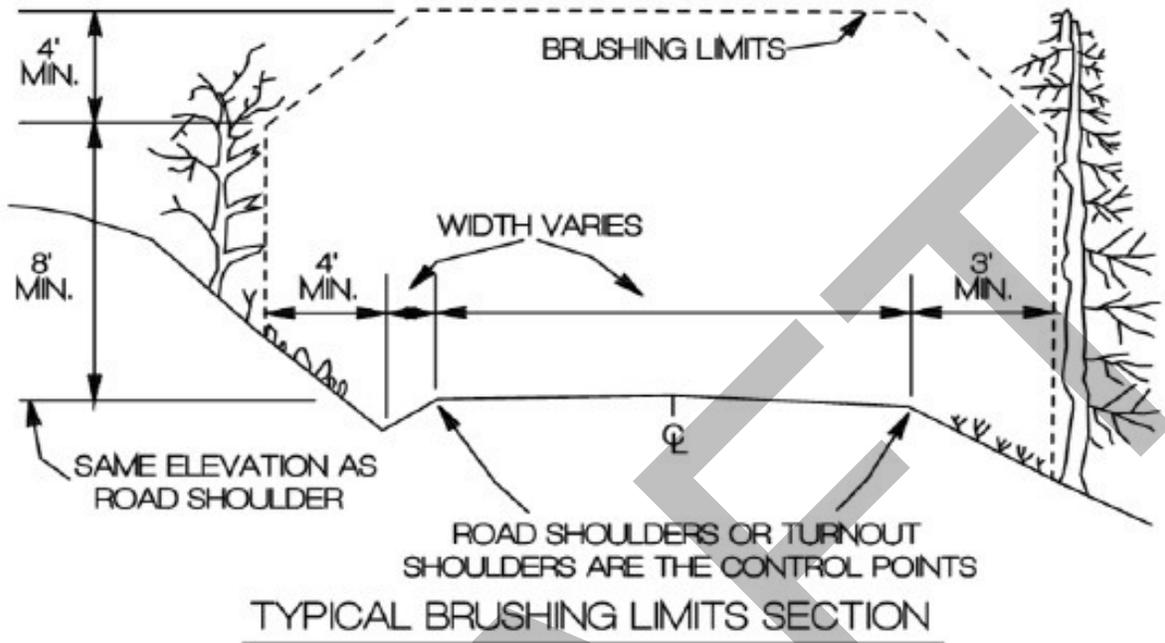


Plan View: Dip



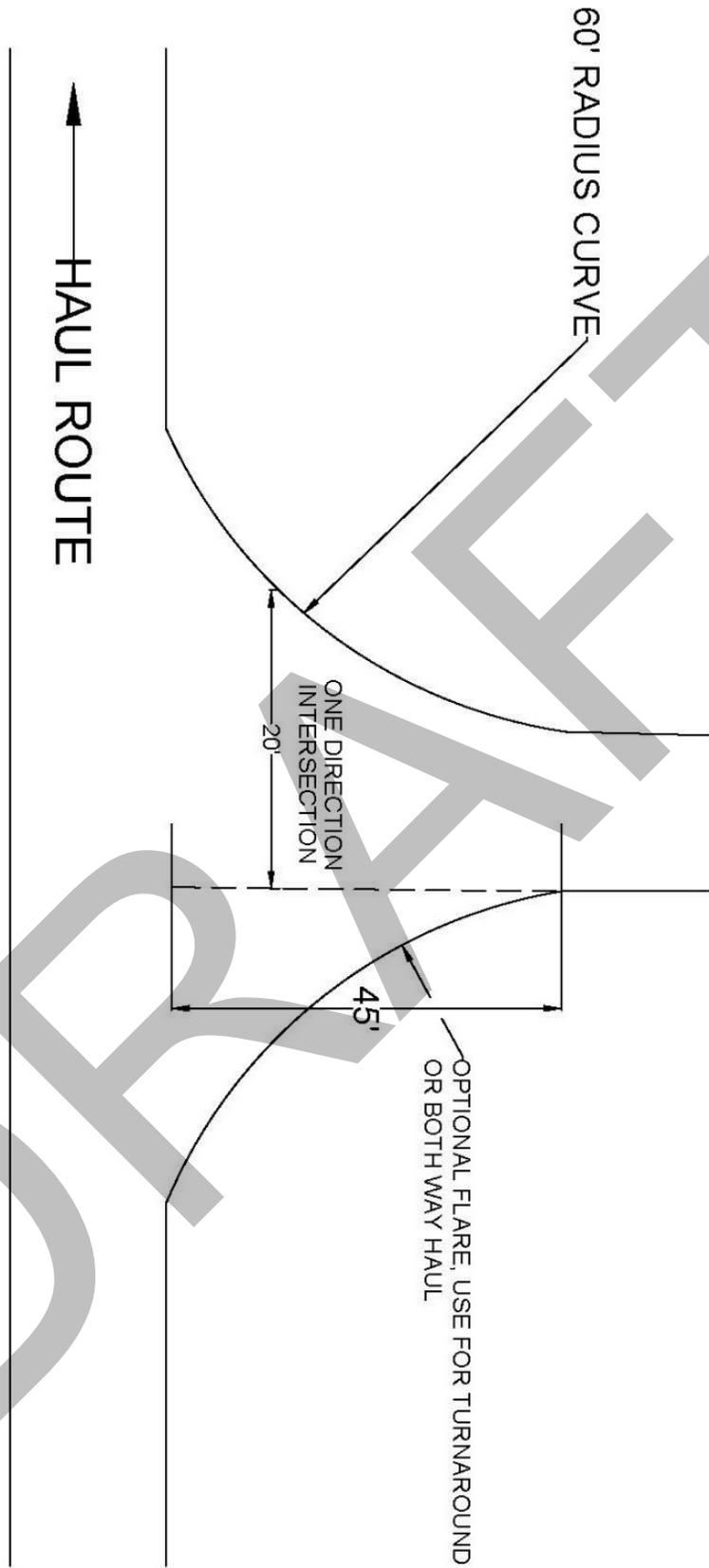
Not To Scale

BRUSHING DETAIL



- 1) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8' OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.
- 2) ALL BRUSH, TREES, LIMBS, ETC. SHALL BE REMOVED FROM THE ROAD SURFACE.
- 3) ALL BRUSH, TREES, LIMBS, ETC. THAT MAY RESTRICT THE FLOW OF WATER SHALL BE REMOVED FROM THE DITCH LINE.
- 4) ALL DEBRIS THAT MAY ROLL OR MIGRATE INTO THE DITCHLINE SHALL BE REMOVED.

TYPICAL INTERSECTION

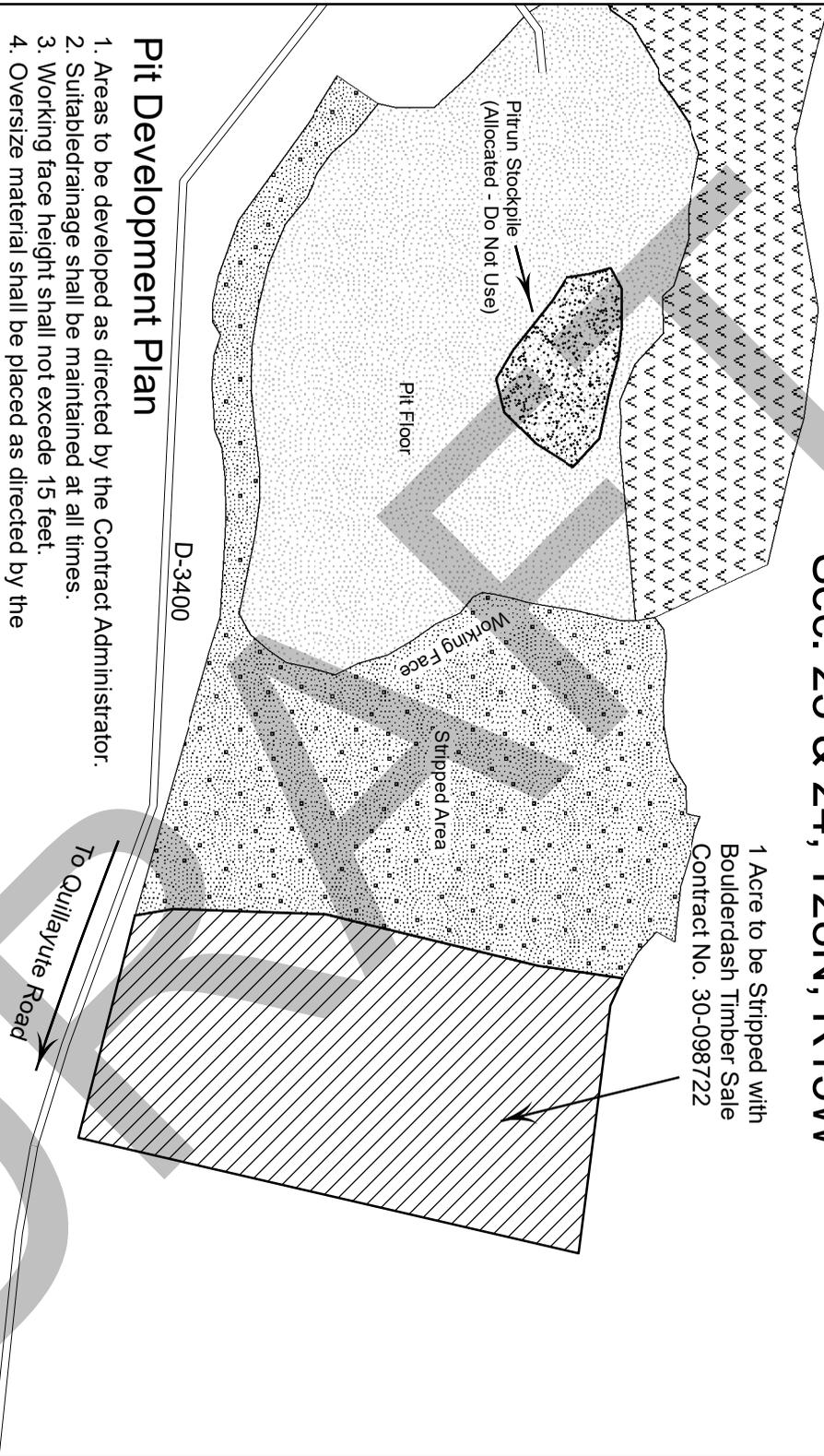


NOT TO SCALE

Mora Pit Plan

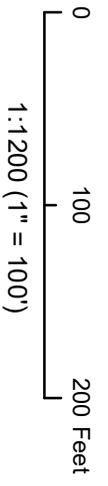
Sec. 23 & 24, T28N, R15W

1 Acre to be Stripped with
Boulderdash Timber Sale
Contract No. 30-098722



Pit Development Plan

1. Areas to be developed as directed by the Contract Administrator.
2. Suitablenrainage shall be maintained at all times.
3. Working face height shall not exceed 15 feet.
4. Oversize material shall be placed as directed by the Contract Administrator.
5. Pit face shall not be mined to within 15' of any unstripped area.
6. All operations shall comply with the petroleum spill response procedures in Pre-work Meeting Notes.
7. Keep D-3400 gate closed and locked except during periods of rock haul.



Legend

	Pit Access Road		Reclaimed Area
	Area To Be Stripped		Rip Rap Stockpile
	Pitrun Stockpile		Stripped Area
	Pit Floor		

Revised 07/02/2019

N

Three Rivers Pit T28N R14W Sec21

T28R14W

21

1/2 acre to strip

Direction of Development

Drainage

Legend

-  Expansion Area
-  Survey - Township Lines
-  Survey - Section Lines
-  Pit Floor
-  Stripped Area
-  Overburden & Woody Debris



8/11/2020

Mehl 07/2020

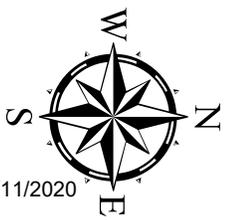
Pit Development Plan

1. Areas to be developed as directed by the Contract Administrator.
2. Working face height shall not exceed 15 feet.
3. Waste material and oversize material to be placed as directed by the Contract Administrator.
4. Suitable drainage shall be maintained at all times.
5. Pit face to be sloped at 1 1/2:1 upon completion of activities.



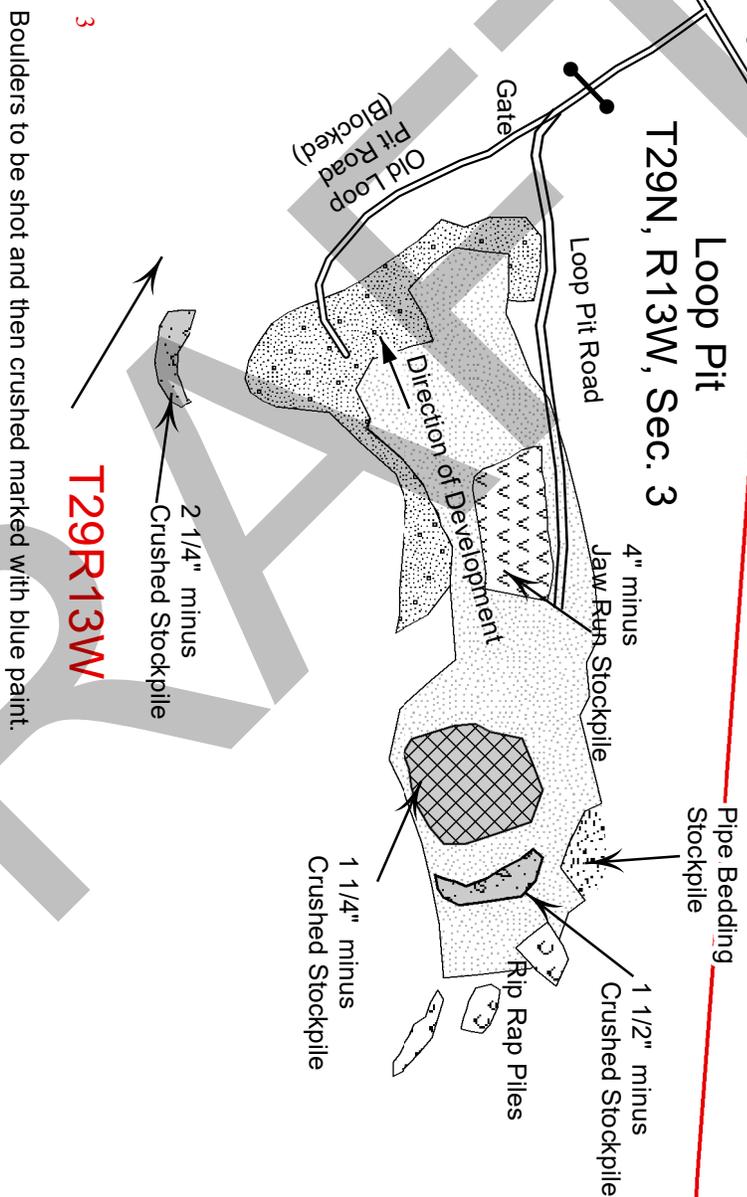
34

T30R13W



8/11/2020

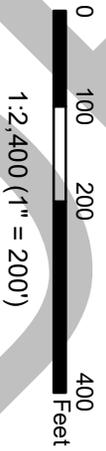
Loop Pit
T29N, R13W, Sec. 3



3

T29R13W

Boulders to be shot and then crushed marked with blue paint.



Legend

	Existing Roads
	Existing Crushed Stockpiles
	1 1/4" Minus Stockpile
	4" minus Jaw Run Stockpile
	Rip Rap
	Pipe Bedding Material
	Pit Floor
	Stripped Area

Map Drawn by
Jed Nowak
Updated 07/01/2019

Pit Development and Reclamation Plan

1. Areas to be developed as directed by the Contract Administrator.
2. Working face height shall not exceed 15 feet.
3. Boulders shall be maintained along the top of the pit face and along the haul road in the pit at all times as directed by the Contract Administrator.
4. Suitable drainage shall be maintained at all times.
5. Rock pit operations, or operation of heavy equipment is not permitted from two hours before official sunset to two hours after official sunrise, from April 1 through September 23.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides from ditches and the roadway. Repair fill-failures in accordance with Clause 4-6 Embankment Slope Ratio, and with material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

- Grade, shape, and compact the road surface, turnouts, and shoulders to the original shape on the Typical Section Sheet, to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

- Prevent silt bearing road surface and ditch runoff from delivering sediment to any streams or wetlands.
- Maintain rolling dips and drivable waterbars as needed to keep them functioning as intended.
- Maintain culvert headwalls to a level slightly below the road shoulder with material that will resist erosion. This is to allow for culverts that are overtopped to keep the water in the ditchline.
- Maintain energy dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

Preventative Maintenance

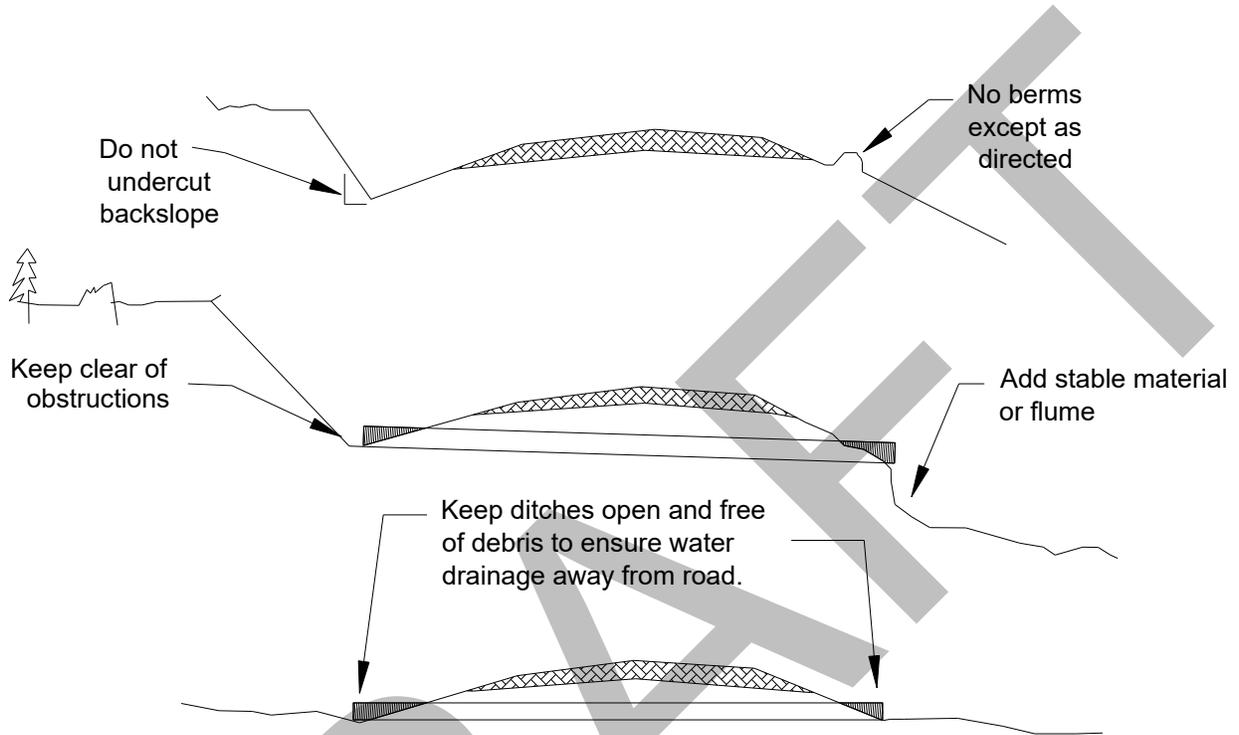
Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

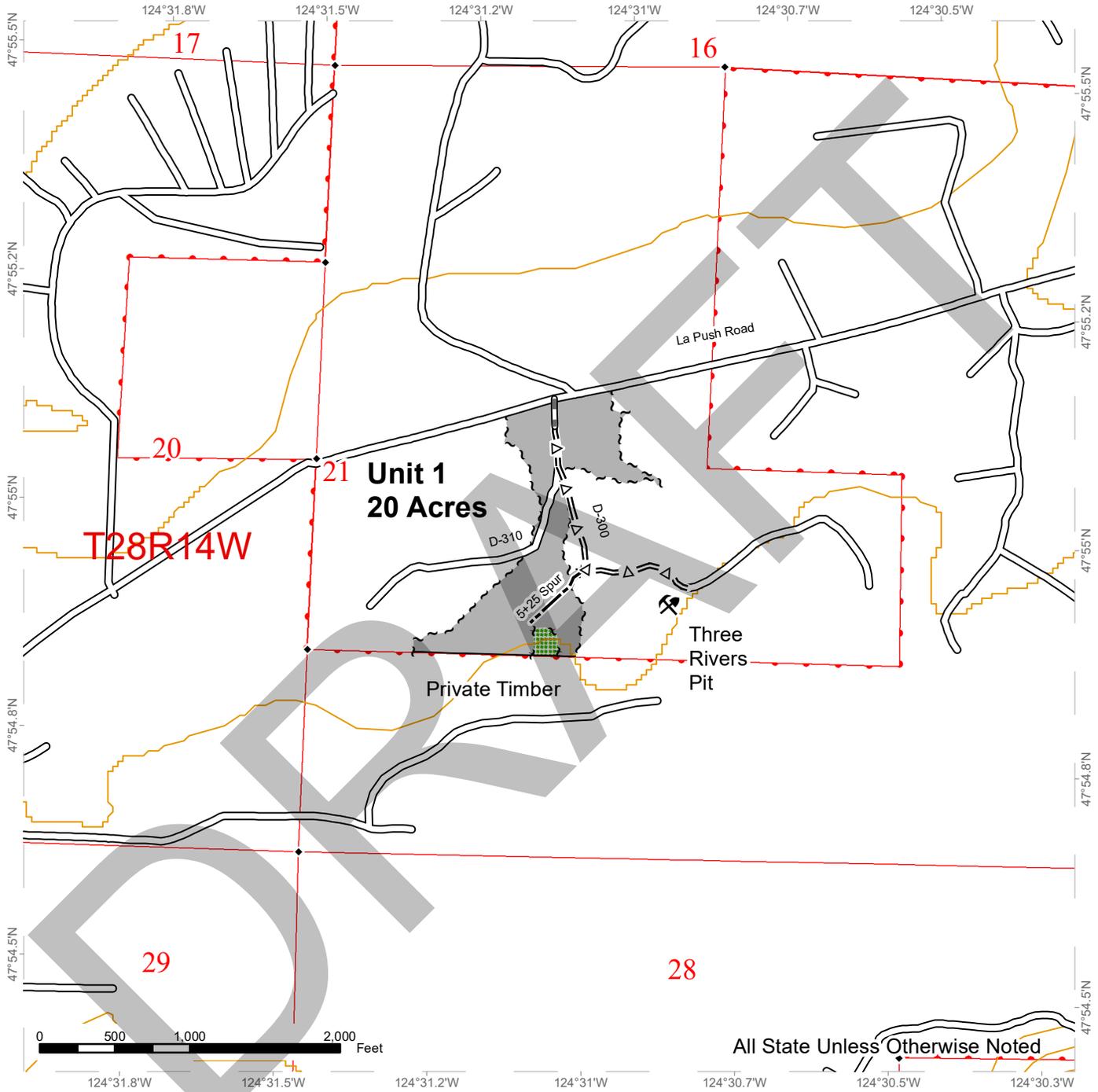
Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



LOGGING PLAN MAP

SALE NAME: HOMEWARD
AGREEMENT#: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 80'-120'

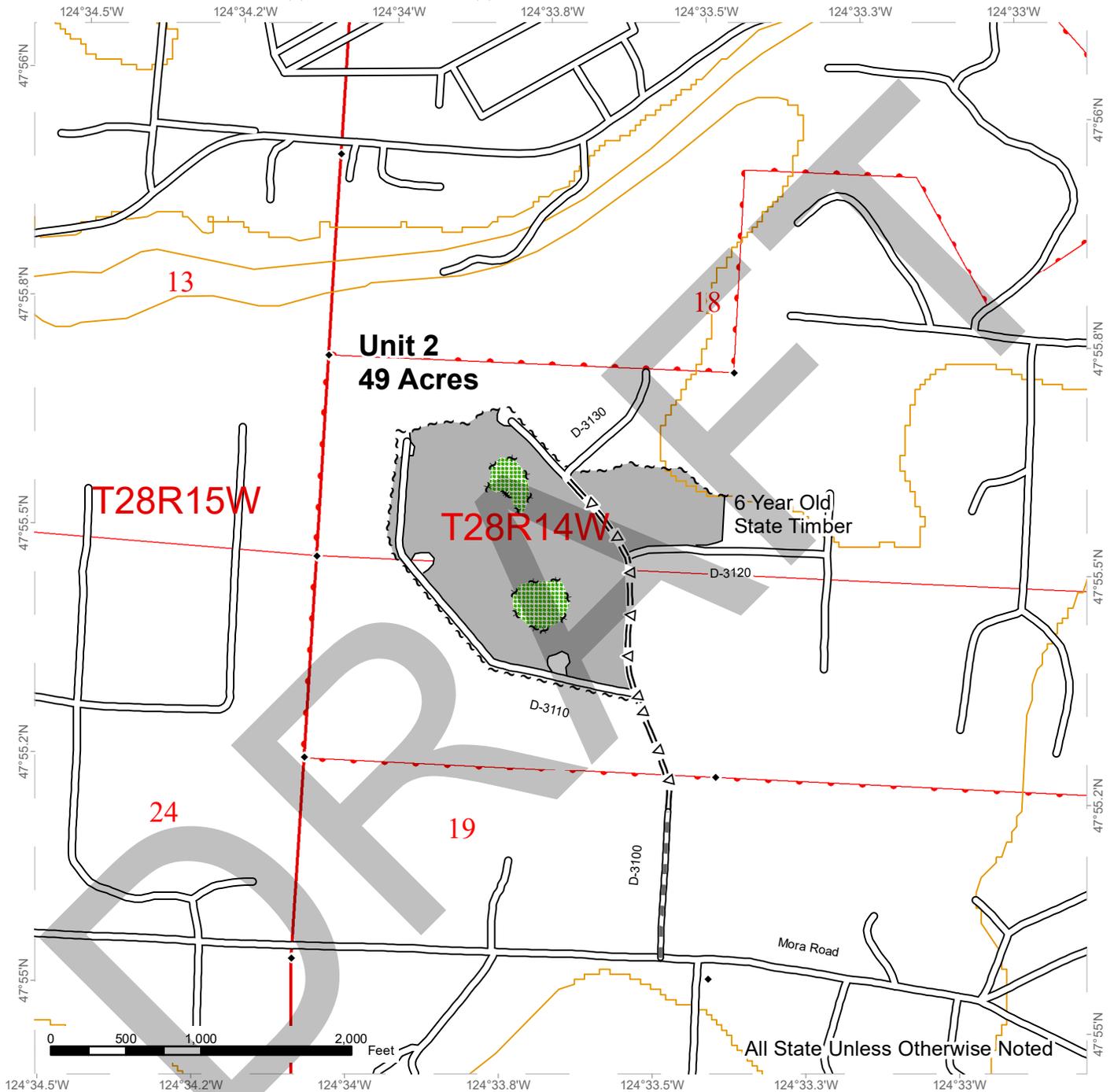


Rock Pit	Property Lines	Leave Tree Tags
Survey Monument	Existing Roads	Right of Way Tags
Ground Based	Required Pre-Haul Maintenance	Contours 40-foot
Leave Tree Area	Optional Pre-Haul Maintenance	
Hazard Abatement Area	Optional Construction	
Township/Range Lines	Timber Sale Boundary Tags	
Section Lines	Timber Type Change	

LOGGING PLAN MAP

SALE NAME: HOMEWARD
AGREEMENT#: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 80'-120'

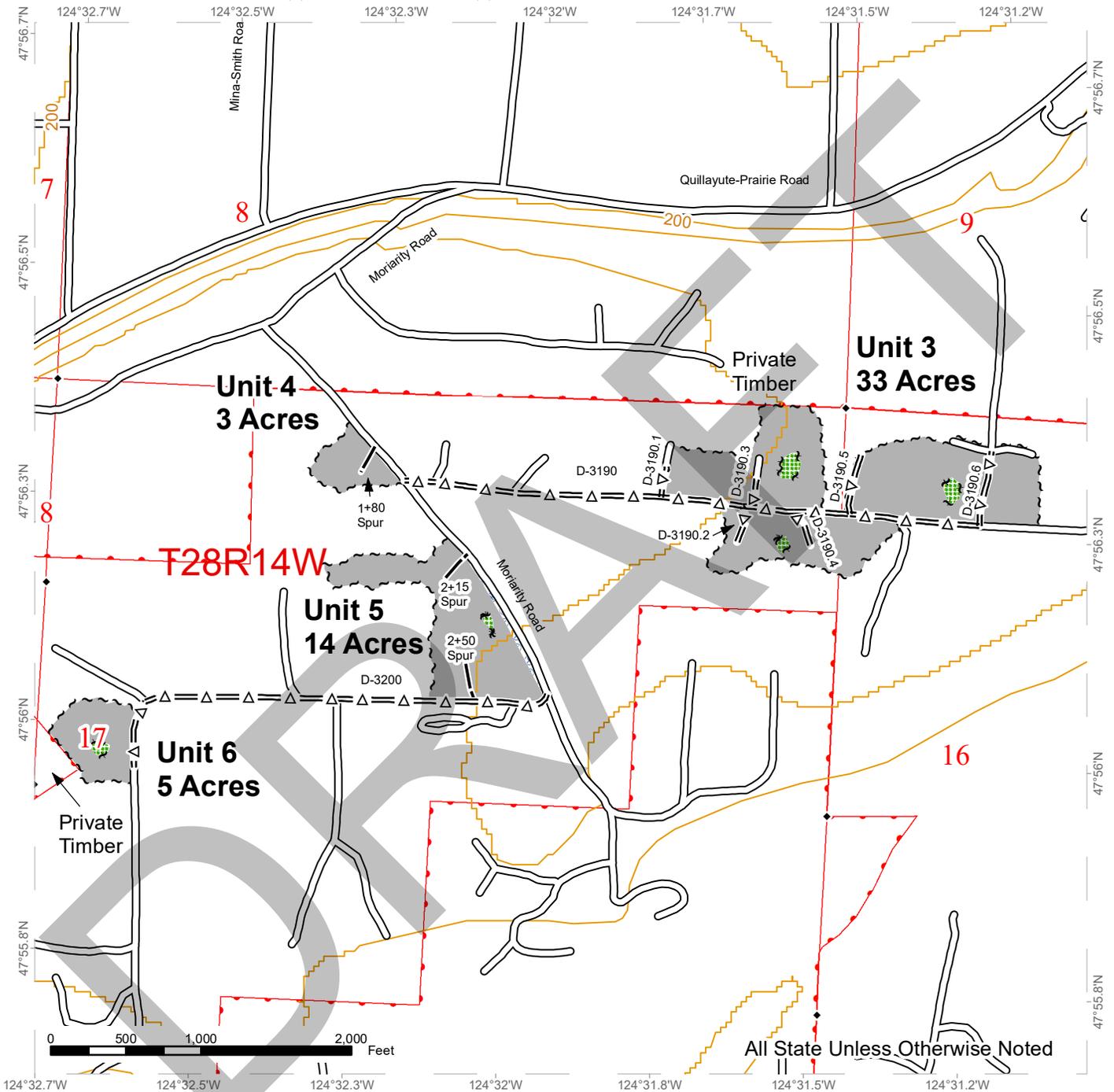


◆ Survey Monument	▬▬▬ Required Pre-Haul Maintenance
■ Ground Based	=△= Optional Pre-Haul Maintenance
■ Leave Tree Area	~ ~ ~ Timber Sale Boundary Tags
▭ Township/Range Lines	— Timber Type Change
▭ Section Lines	~ ~ ~ Leave Tree Tags
▭ Property Lines	— Contours 40-foot
▭ Existing Roads	

LOGGING PLAN MAP

SALE NAME: HOMEWARD
AGREEMENT#: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

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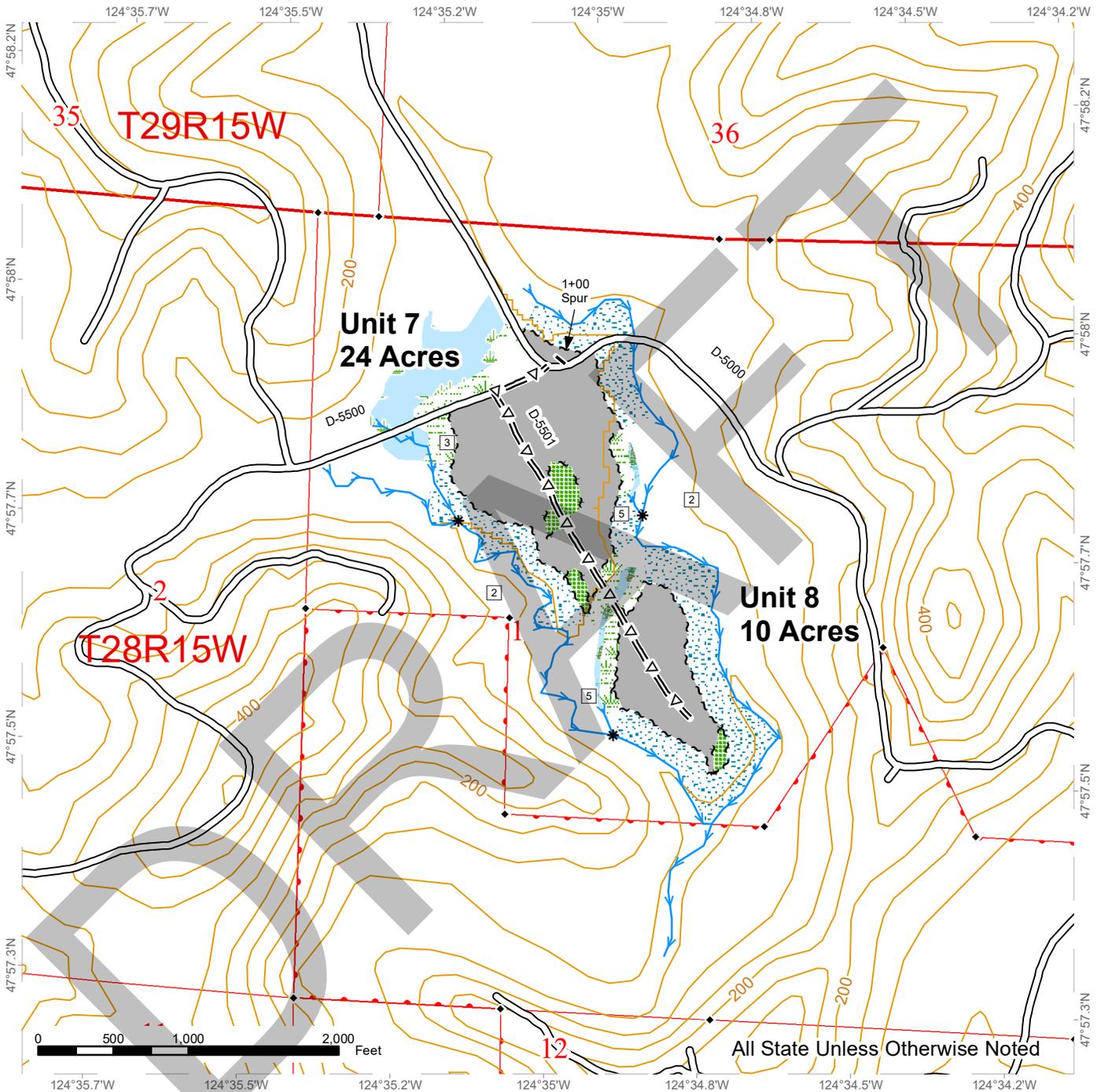


◆ Survey Monument	Existing Roads
Ground Based	=Δ= Optional Pre-Haul Maintenance
Leave Tree Area	Optional Construction
Hazard Abatement Area	~ ~ ~ Timber Sale Boundary Tags
Township/Range Lines	~ ~ ~ Leave Tree Tags
Section Lines	Contours 40-foot
Property Lines	

LOGGING PLAN MAP

SALE NAME: HOMEWARD
AGREEMENT#: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

REGION: Olympic Region
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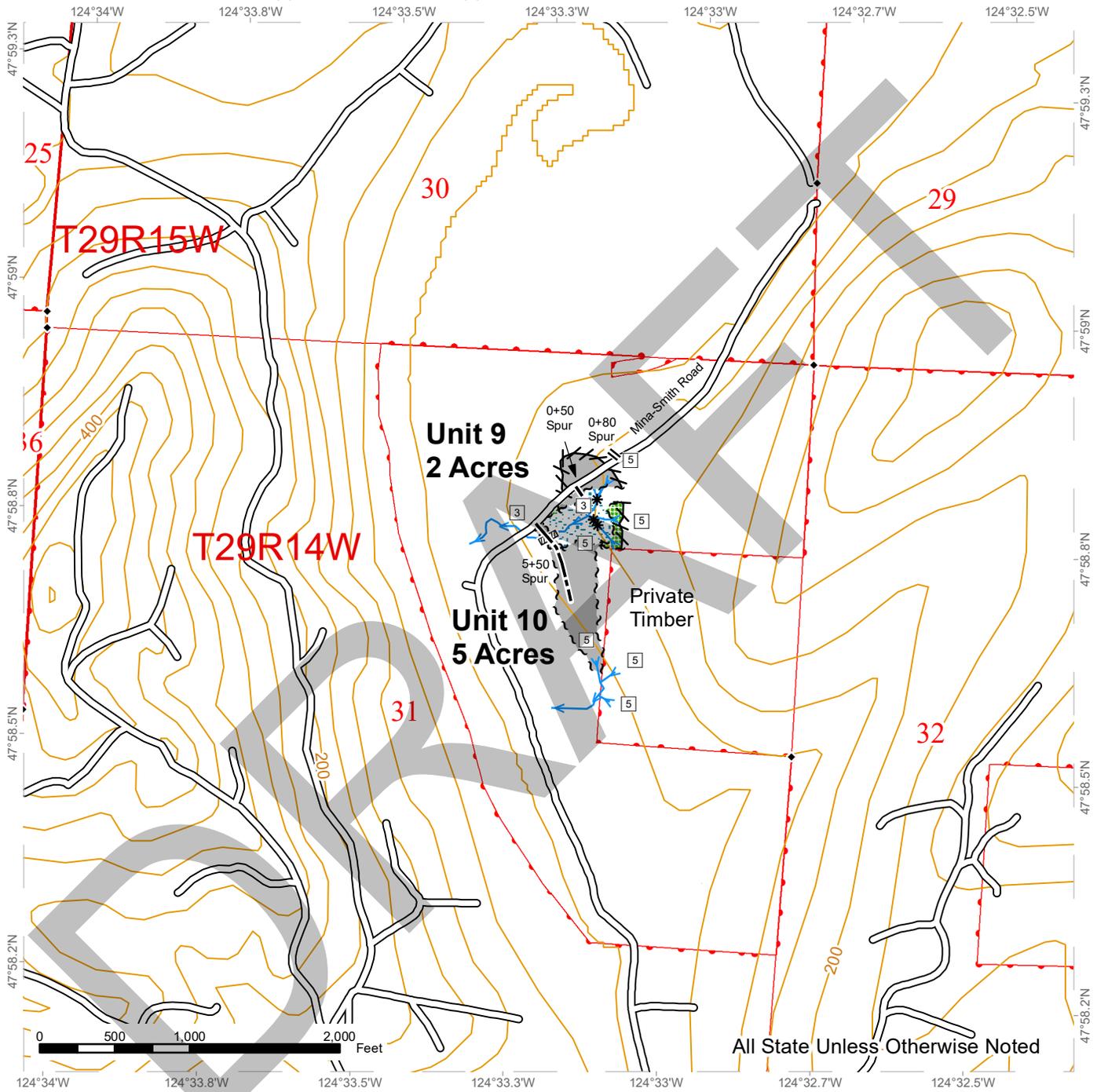


◆ Survey Monument	Forested Wetland	=Δ= Optional Pre-Haul Maintenance
□ Stream Type	Wetland Management Zone	--- Optional Construction
* Stream Type Break	Township/Range Lines	~ ~ ~ Timber Sale Boundary Tags
Ground Based	Section Lines	+ + + Leave Tree Tags
Leave Tree Area	Property Lines	~ ~ ~ Right of Way Tags
Riparian Management Zone	Streams	Contours 40-foot
Wetlands - Non-forested	Existing Roads	

LOGGING PLAN MAP

SALE NAME: HOMEWARD
AGREEMENT#: 30-101114
TOWNSHIP(S): T28R14W, T28R15W, T29R14W
TRUST(S): Capitol Grant (7), State Forest Transfer (1)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 80'-120'



All State Unless Otherwise Noted

Culvert	Hazard Abatement Area	Optional Construction
Survey Monument	Township/Range Lines	Timber Sale Boundary Tags
Stream Type	Section Lines	Leave Tree Tags
Stream Type Break	Property Lines	Right of Way Tags
Ground Based	Streams	Flag Line
Leave Tree Area	Existing Roads	Contours 40-foot
Riparian Management Zone	Optional Pre-Haul Maintenance	

