



"STEWARDSHIP IN FORESTRY"

Timber Sale Appraisal
GM GNA
Sale SW-341-2020-GF8919-01

District: S Cascade

Date: March 02, 2020

Cost Summary

	Conifer	Hardwood	Total
Gross Timber Sale Value	\$1,294,328.92	\$0.00	\$1,294,328.92
		Project Work:	(\$236,430.68)
		Advertised Value:	\$1,057,898.24



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Timber Description

Location: Portions of Sections 7, 18, & 19, T17S, R5E, W.M., Lane County, Oregon.

Stand Stocking: 60%

Specie Name	AvgDBH	Amortization (%)	Recovery (%)
Douglas - Fir	14	0	98
Western Hemlock / Fir	13	0	98
Red Cedar	13	0	98

Volume by Grade	2S	3S & 4S 6"-11"	3S	4S	Total
Douglas - Fir	684	3,459	0	0	4,143
Western Hemlock / Fir	58	834	0	0	892
Red Cedar	0	0	32	5	37
Total	742	4,293	32	5	5,072

Comments: SOURCE OF POND VALUES

Local Pond Values, March, 2020.

PRICING FOR ANY SPECIES THAT DOES NOT HAVE ANY VOLUME LISTED IN THE APPRAISAL

Red Alder and Other Hardwoods Stumpage Price = Pond Value minus Logging Cost:
\$132.79/MBF = \$526/MBF - \$393.21/MBF

PULP PRICE

Pulp (Conifer and Hardwood) Price = \$1/Ton

OTHER COSTS WITH PROFIT & RISK TO BE ADDED

Equipment move-in: (((\$120/hr + (\$22/hr x 2 pilots)) x 5 hr move cycle x 5 machines = \$4,100

Equipment weed wash: (((\$120/hr + (\$22/hr x 2 pilots)) x 2.5 hr wash = \$410 x 5 machines = \$2,050

Temporary road construction: \$10,000/mi x 1.83 mi (9,648 ft.) = \$18,300

Prior to wet weather season or heavy rain events, landings and temporary roads water barred: \$2,000 x 3 wet seasons = \$6,000

Temporary road subsoiled to depth of 20 inches, water bars installed, seeded, mulched and entrance blocked: \$4,000/mi x 1.83 mi = \$7,320

Landing subsoiled to depth of 20 inches, seeded, and application of mulch or weed-free straw: \$100 x 65

landings = \$6,500

Primary skid trail subsoiled to depth of 20 inches, water bars installed, seeded, mulched and entrance blocked = \$2,000

Seeding and application of weed-free straw of all disturbed sites with seed provided by STATE (disposal sites and other areas determined by STATE) = \$2,000

Fire trail construction: \$1/foot x 9,309 feet = \$9,309

TOTAL Other Cost (with Profit & Risk to be added) = \$57,579

SLASH DISPOSAL COSTS

Move-In: (((\$120/hour loaded transport) + (\$22/hour x 2 pilots)) X 4 hour Move-In Cycle = \$656 X 1 Excavator = \$656

Equipment weed wash: (((\$120/hour loaded transport) + (\$22/hour X 1 pilot/wash personnel)) X 2.5 hour wash time = \$355 X 1 Excavator = \$355

Roadside grapple piling along temporary and system roads: \$1,000/mi x 4.5 mi = \$4,500

Pile landing slash: 65 Landings (65hrs @ \$100/hr) = \$6,500

Covering piles: (\$12/pile x 260 piles) + (\$22/hr x 2 covering personnel x 40 hours) = \$4,880

TOTAL Slash Disposal Costs = \$16,891

ROAD MAINTENANCE COSTS

TOTAL Road Maintenance: \$60,753.06/5,072MBF = \$11.98/MBF

See the attached 'Commodity Haul Road Maintenance Cost Estimating Sheet' for cost estimates of dust abatement, blading, brushing, etc. for maintenance of USFS system roads by Purchaser.

ROADSIDE HAZARD TREE FELLING PROJECT COSTS

Tree felling: \$500/ac x 13.5ac = \$6,750

Move-In: (((\$120/hour loaded transport) + (\$22/hour x 2 pilots)) X 4 hour Move-In Cycle = \$656 X 1 Excavator = \$656

Equipment weed wash: (((\$120/hour loaded transport) + (\$22/hour X 1 pilot/wash personnel)) X 2.5 hour wash time = \$355 X 1 Excavator = \$355

Excavator removing trees from road prism: 16hrs @ \$150/hr = \$2,400

TOTAL Roadside Hazard Tree Felling Project Costs = \$10,161

ROAD RECONSTRUCTION PROJECT COSTS

TOTAL Road Reconstruction Cost: \$226,269.68

See the attached 'Timber sale summary of reconstruction costs' for cost estimates of the work specified in Exhibit E.



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Logging Conditions

Combination#: 1

Douglas - Fir	57.01%	
Western Hemlock / Fir	57.06%	
Red Cedar	56.76%	

Logging System: Cable: Large Tower >=70 **Process:** Harvester Head Delimiting

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

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

loads / day: 7 **bd. ft / load:** 4000

cost / mbf: \$285.01

machines: Log Loader (A)
Forwarder
Harvester
Tower Yarder (Large)

Combination#: 2

Douglas - Fir	42.99%	
Western Hemlock / Fir	42.94%	
Red Cedar	43.24%	

Logging System: Shovel **Process:** Feller Buncher

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

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

loads / day: 5 **bd. ft / load:** 4000

cost / mbf: \$176.90

machines: Feller Buncher w/ Delimber



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Logging Costs

Operating Seasons: 4.00	Profit Risk: 12%
Project Costs: \$236,430.68	Other Costs (P/R): \$57,579.00
Slash Disposal: \$16,891.00	Other Costs: \$0.00

Miles of Road

Road Maintenance: \$11.98

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

Hauling Costs

Species	\$ / MBF	Trips/Day	MBF / Load
Douglas - Fir	\$0.00	3.0	4.0
Western Hemlock / Fir	\$0.00	3.0	4.0
Red Cedar	\$0.00	3.0	4.0



"STEWARDSHIP IN FORESTRY"

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Logging Costs Breakdown

Logging	Road Maint	Fire Protect	Hauling	Other P/R appl	Profit & Risk	Slash Disposal	Brand & Paint	Other	Total
Douglas - Fir									
\$238.54	\$12.22	\$3.46	\$80.75	\$11.35	\$41.56	\$3.33	\$2.00	\$0.00	\$393.21
Western Hemlock / Fir									
\$238.59	\$12.22	\$3.46	\$80.75	\$11.35	\$41.56	\$3.33	\$2.00	\$0.00	\$393.26
Red Cedar									
\$238.26	\$12.22	\$3.46	\$80.75	\$11.35	\$41.52	\$3.33	\$2.00	\$0.00	\$392.89

Specie	Amortization	Pond Value	Stumpage	Amortized
Douglas - Fir	\$0.00	\$679.25	\$286.04	\$0.00
Western Hemlock / Fir	\$0.00	\$499.76	\$106.50	\$0.00
Red Cedar	\$0.00	\$778.49	\$385.60	\$0.00



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Summary

Amortized

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

Unamortized

Specie	MBF	Value	Total
Douglas - Fir	4,143	\$286.04	\$1,185,063.72
Western Hemlock / Fir	892	\$106.50	\$94,998.00
Red Cedar	37	\$385.60	\$14,267.20

Gross Timber Sale Value

Recovery: \$1,294,328.92

Prepared By: Kyle Sullivan

Phone: 541-285-8685

COMMODITY HAUL ROAD MAINTENACE COST ESTIMATING SHEET																
Sale Project Name:		GNA GM Timber Sale				DISTRICT:		McKenzie River Ranger District								
Units	CCF	9819	Road Completion Date:													
			T-811	T-812	T-813	T-831	T-834	T-836	T-838	T-839	T-841	T-842	T-851	T-891	T-854	
Road Number	Termini		Actual Miles	Blade	Dust	Surface	Ditch Mtc.	Drain Struct.	Joint Limited	Joint Use	Project Use	Veg Estab.	Cut Veg.	Log Out	Water	Danger Trees
	From	To		Lane Mile	M-gal	C.Y.	Mile	EA.	Mile	Mile	Mile	Mile	Acre	Mile	Mile	M-Gal.
1986	Unit 10a	JCT 1986132	0.1	0.10					\$ 132	\$0.00					0.25	
1986132	Unit 10a	JCT 1986	0.08	0.08		20			\$0.00	\$83					0.25	
1986	JCT 1986132	JCT 1986138	0.33	0.66					\$ 436	\$0.00					2.25	
1986138	End	JCT 1986	0.10						\$0.00	\$0.00	0.10				0.5	
1986	JCT 1986138	JCT 1986125	1.00	3.00					\$ 1,322	\$0.00					10.5	
1986125	End	Y INT.	0.40	0.40					\$0.00	\$413					1.5	
1986125	WEST Y INT.	JCT 1986	0.11	0.11					\$0.00	\$114					0.5	
1986125	EAST Y INT.	JCT 1986	0.07	0.07					\$0.00	\$72					0.25	
1986	JCT 1986125	JCT 1986124	0.02	0.06					\$ 26	\$0.00					0.25	
1986124	End	JCT 1986	0.20						\$0.00	\$0.00	0.20				0.75	
1986	JCT 1986124	MP 3.25	1.17	3.51					\$ 1,547	\$0.00					12.5	
1986	MP 3.25	JCT 1986	0.41	1.23		50			\$ 542	\$0.00					4.25	
1986120	End	JCT 1986	0.12						\$0.00	\$0.00	0.12				0.5	
1986	JCT 1986120	JCT 1986118	0.21	0.63		30			\$ 278	\$0.00					2.25	
1986118	End	JCT 1986	0.04						\$0.00	\$0.00	0.04				0.25	
1986	JCT 1986118	1985	2.63	10.52	20	400			\$ 3,477	\$0.00					37	
1985	JCT 1986	JCT 1900	1.33	5.32	20	200			\$ 1,758	\$0.00					19	
1900	JCT 1985	Hwy 126	8.38						\$0.00	\$0.00						
									\$0.00	\$0.00						
									\$0.00	\$0.00						
									\$0.00	\$0.00						
									\$0.00	\$0.00						
Total Cost =				\$20,586.68	\$1,000.00	\$25,839.24	\$ -	\$ -	\$ 9,518	\$ 681	\$ 766.07	\$ -	\$ -	\$ -	\$2,362.11	\$ -
											Total Purchaser Mtce. Cost =		\$ 60,753.08			
											Total Rate/CCF =		\$ 6.19			

SCHEDULE OF ITEMS					
GNA GM TIMBER SALE					
WILLAMETTE NATIONAL FOREST MCKENZIE RIVER RANGER DISTRICT LANE COUNTY					
NFSR #1900 MP 54.57 - 55.07					
PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT \$	TOTAL \$
15101	MOBILIZATION	LUMP SUM	ALL	\$ 23,700.00	\$ 23,700.00
32450	CRUSHED AGGREGATE SURFACING, COMPACTION METHOD B	CUBIC YARD*	50	\$ 48.00	\$ 2,400.00
40401	MINOR HOT ASPHALT CONCRETE	TON	900.00	\$ 135.00	\$ 121,500.00
62509	MULCHING, DRY METHOD	LUMP SUM	ALL	\$ 1,500.00	\$ 1,500.00
* DENOTES CONTRACT QUANTITY				TOTAL	\$ 149,100.00

SCHEDULE OF ITEMS**GNA GM TIMBER SALE****WILLAMETTE NATIONAL FOREST
MCKENZIE RIVER RANGER DISTRICT
LANE COUNTY****NFSR #1986
MP 3.25 - 5.87**

PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT \$	TOTAL \$
15757A	EROSION CONTROL AND POLLUTION PREVENTION	EACH	2	\$ 421.00	\$ 842.00
15757B	STRAW WATTLES	EACH	4	\$ 84.00	\$ 336.00
20103	CLEARING AND GRUBBING, DISPOSAL OF TOPS AND LIMBS (f), LOGS (f), STUMPS (f)	MILE	2.62	\$ 1,937.81	\$ 5,077.06
20253	REMOVAL OF INDIVIDUAL TREES, MISCELLANEOUS: DISPOSAL OF TOPS AND LIMBS (f), LOGS (f)	EACH	14	\$ 205.00	\$ 2,870.00
20358	REMOVAL OF CORRUGATED METAL PIPE, DISPOSAL METHOD (a)	EACH	5	\$ 166.00	\$ 830.00
20416	WASTE	CUBIC YARD*	50	\$ 19.00	\$ 950.00
20419	DRAINAGE EXCAVATION, TYPE CULVERT INLET DITCH	FOOT*	40	\$ 15.00	\$ 600.00
20462	UNCLASSIFIED BORROW, COMPACTION METHOD E	CUBIC YARD*	20	\$ 28.00	\$ 560.00
25101	PLACED RIP RAP, CLASS 4	CUBIC YARD*	1	\$ 265.00	\$ 265.00
30304	ROAD RECONDITIONING, DITCH	MILE	0.65	\$ 772.32	\$ 502.01
30359	ROADWAY RECONDITIONING, COMPACTION METHOD E	MILE	2.62	\$ 1,737.49	\$ 4,552.22
32222	PIT RUN MAXIMUM SIZE 3", COMPACTION METHOD B	CUBIC YARD*	20	\$ 27.00	\$ 540.00
32450	CRUSHED AGGREGATE SURFACING, COMPACTION METHOD B	CUBIC YARD*	590	\$ 46.00	\$ 27,140.00
60276A	18-INCH CORRUGATED ALUMINIZED STEEL PIPE, 0.064-INCH THICKNESS, METHOD B	FOOT	128	\$ 46.00	\$ 5,888.00

**NFSR #1986
CONTINUED**

PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT \$	TOTAL \$
60276B	24-INCH CORRUGATED ALUMINIZED STEEL PIPE, 0.064-INCH THICKNESS, METHOD B	FOOT	116	\$ 63.00	\$ 7,308.00
60708	CLEANING CULVERTS IN PLACE	EACH	1	\$ 188.00	\$ 188.00
60710	RECONDITION DRAINAGE STRUCTURES, JACK OPEN CULVERT OUTLET	EACH	2	\$ 158.00	\$ 316.00
*DENOTES CONTRACT QUANTITY				TOTAL	\$ 58,764.29

SCHEDULE OF ITEMS**GNA GM TIMBER SALE****WILLAMETTE NATIONAL FOREST
MCKENZIE RIVER RANGER DISTRICT
LANE COUNTY****NFSR #1986125
MP 0.00 - 0.47**

PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT \$	TOTAL \$
15757A	EROSION CONTROL AND POLLUTION PREVENTION	EACH	1	\$ 412.00	\$ 412.00
15757B	STRAW WATTLES	EACH	2	\$ 84.00	\$ 168.00
20103	CLEARING AND GRUBBING, DISPOSAL OF TOPS AND LIMBS (f), LOGS (f), STUMPS (f)	MILE	0.47	\$ 2,321.19	\$ 1,090.96
20253	REMOVAL OF INDIVIDUAL TREES, MISCELLANEOUS: DISPOSAL OF TOPS AND LIMBS (f), LOGS (f)	EACH	5	\$ 209.00	\$ 1,045.00
20358	REMOVAL OF CORRUGATED METAL PIPE, DISPOSAL METHOD (a)	EACH	3	\$ 197.00	\$ 591.00
20462	UNCLASSIFIED BORROW, COMPACTION METHOD E	CUBIC YARD*	20	\$ 28.00	\$ 560.00
30304	ROAD RECONDITIONING, DITCH	MILE	0.10	\$ 772.32	\$ 77.23
30359	ROADWAY RECONDITIONING, COMPACTION METHOD E	MILE	0.47	\$ 1,831.70	\$ 860.90
32450	CRUSHED AGGREGATE SURFACING, COMPACTION METHOD B	CUBIC YARD*	50	\$ 46.00	\$ 2,300.00
60276A	18-INCH CORRUGATED ALUMINIZED STEEL PIPE, 0.064-INCH THICKNESS, METHOD B	FOOT	60	\$ 46.00	\$ 2,760.00
60276B	24-INCH CORRUGATED ALUMINIZED STEEL PIPE, 0.064-INCH THICKNESS, METHOD B	FOOT	50	\$ 63.00	\$ 3,150.00
*DENOTES CONTRACT QUANTITY				TOTAL	\$ 13,015.09

SCHEDULE OF ITEMS

GNA GM TIMBER SALE

**WILLAMETTE NATIONAL FOREST
MCKENZIE RIVER RANGER DISTRICT
LANE COUNTY**

**NFSR #1980138
MP 0.00 - 0.10**

PAY ITEM	DESCRIPTION	UNIT	QUANTITIES	UNIT \$	TOTAL \$
21201	LINEAR GRADING	MILE	0.10	\$ 18,803.00	\$ 1,880.30
32222	PIT RUN MAXIMUM SIZE 3", COMPACTION METHOD B	CUBIC YARD*	130	\$ 27.00	\$ 3,510.00
* DENOTES CONTRACT QUANTITY				TOTAL:	\$ 5,390.30

CRUISE REPORT
GM GNA
Contract No. SW-341-2020-GF8919-01

1. Locations: Portions of Sections 7, 18 & 19, T17S, R5E, W.M., Lane County, Oregon.

2. Cruise Design:

A Coefficient of Variation of 50% and an average stand diameter of 12 inches (take trees) is estimated prior to cruising. For sales of this size and approximate value, ODF cruise standards require a sampling error of 11% at a 68% confidence level. The cruise design chosen for this sale is a variable radius sample plot cruise that is broken up into 2 strata based on silviculture prescription. Strata 1 is Areas 1, 2, 3, 4, 5, 5a, 5b, 5c, 5d, 6, 7, 8, 9, and 10. Strata 2 is Areas 1a, 2a, 8a, 8b, 8c, 9a, and 9b. Strata 1 used a 20 BAF. Strata 2 used a 40 BAF.

3. Sampling Methods:

Plots were laid out on a 300 ft. x 300 ft. grid. Plots falling on or near the Timber Sale Boundary or existing roads were offset 1 chain (66 ft.). A grade to count plot ratio of 1:2 was used for strata 1 (Count odd plots, measure even plots). A ratio of 1:1 grade to count (measure all) was used for strata 2. The 'likely take' trees were cruised based on each Area's silviculture prescription.

4. Cruise Report:

Additional and more specific cruise summaries are included in the SuperAce outputs: Project Statistics, Stand Table Summary, Log Stock Table, and Species, Sort, Grade Table.

5. Tree Measurement and Grading:

All grade plot sample trees were measured and graded following Columbia River Log Scale grade rules.

a) **Height Standards:** Total tree heights were measured to the nearest foot. Bole heights are measured to a minimum of a 6" DIB.

b) **Diameter Standards:** Diameters were measured outside bark at breast height to the nearest tenth of an inch. Minimum merchantable diameter is 8" DBH for all conifers.

c) **Form Factors:** Measured or estimated for each grade tree using a form point of 16 feet.

d) **Tree Segments:** Log segments were recorded in 40' lengths whenever possible. Preferred lengths are 40', 38', 36', 32', 28', 26', and descending 2' multiples. The maximum segment is 40' and the minimum is 12' for all grades.

e) **Sort and Grade:** Conifer will be graded to a merchantable top specified by the official log scaling rules. For all Douglas-fir, 2S segments were graded to a 12" top DIB and minimum net volume 60 bf (12' @ 12"), 3S to 6" top DIB and minimum net volume 50 bf (34' @ 6") and 4S to a 6" top DIB and minimum net volume 10 bf (5' @ 6").

f) **Field Procedures:** Mark plot center with blue pin flag or a stick with green flagging with plot number written on it. Flag 'likely take' trees in green.

5. Data Processing:

a) **Volumes and Statistics,** Cruise, volume estimates and sampling statistics were derived from Super Ace 2008 cruise software.

b) **Deductions:** An estimate visible defect or damage as a length deduction, diameter deduction, or percentage deduction was made. A 5 percent volume deduction will be used for all species and log segments to account for hidden defect and breakage in addition to any visible defect.

c) **Acreage:** The total timber sale area is 220 net acres.

6. Cruisers: The sale was cruised by ODF cruisers Patten, Fuller, Heflin, Cline, and Sullivan

TC P5PCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

Sullivan

T17S R05E S19 TyS1	198.00
T17S R05E S19 TyS2	22.00

Project: **GM**
Acres **220.00**

Page **1**
Date **3/2/2020**
Time **10:46:04AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99							
WH	DO	CU														18	19		0.00	.1			
WH	DO	2M		6	7.8	283	261	58			76	24				40	14	293	1.60	.9			
WH	DO	3M		76	9.1	3,347	3,044	670			91	6	3	1	1	8	90	38	83	0.67	36.5		
WH	DO	4M		18	7.1	739	686	151			95	5		32	44	8	16	19	24	0.33	29.2		
WH	Totals			17	8.7	4,370	3,992	878			86	10	4	6	8	7	78	29	7	60	0.59	66.7	
DF	DO	CU														12	14		0.00	1.0			
DF	DO	2M		16	6.7	3,333	3,111	684			0	93	7	0			100	39	13	238	1.45	13.1	
DF	DO	3M		74	7.5	14,985	13,868	3,051			92	8			2	6	92	38	8	86	0.60	160.9	
DF	DO	4M		10	6.6	1,983	1,853	408			96	4		29	41	12	18	15	6	20	0.36	93.6	
DF	Totals			82	7.2	20,302	18,832	4,143			77	21	1	3	6	6	86	30	7	70	0.61	268.6	
RC	DO	3M		86	5.0	153	145	32			100						100	38	7	62	0.58	2.3	
RC	DO	4M		14	5.0	24	23	5			100			100				15	6	19	0.23	1.2	
RC	Totals			1	5.0	177	168	37			100			14			86	30	6	47	0.52	3.5	
NF	DO	3M		84	8.3	53	49	11			100						100	40	9	110	0.68	.4	
NF	DO	4M		16		9	9	2			100						100	22	5	20	0.29	.4	
NF	Totals			0	7.1	62	58	13			15	85					15	31	7	65	0.54	.9	
Totals					7.5	24,910	23,048	5,078			20	79	19	2	4	6	6	85	30	7	68	0.61	339.8

TC PSTATS		PROJECT STATISTICS								PAGE	1
Sullivan		PROJECT		GM				DATE	3/2/2020		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
17S	05E	19	GM	S1		220.00	101	681	S	W	
17S	05E	19	GM	S2							
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		101	681	6.7							
CRUISE		55	352	6.4	40,492	.9					
DBH COUNT REFOREST COUNT		43	329	7.7							
BLANKS		3									
100 %											
STAND SUMMARY											
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR		268	139.3	14.1	87	40.2	151.1	20,302	18,832	4,958	
WHEMLOCK		81	41.9	13.1	72	10.8	39.0	4,370	3,992	1,169	
WR CEDAR		2	2.3	13.0	76	0.6	2.2	177	168	56	
NOB FIR		1	.4	14.3	62	0.1	.5	62	58	15	
TOTAL		352	184.1	13.9	84	51.8	192.8	24,910	23,048	6,197	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		67.7	4.1	176	184	192					
WHEMLOCK		83.8	9.3	128	142	155					
WR CEDAR		28.3	26.5	52	71	90					
NOB FIR											
TOTAL		71.5	3.8	167	173	180	204	51	23		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		61.9	3.8	46	48	50					
WHEMLOCK		71.2	7.9	37	40	43					
WR CEDAR		21.3	19.9	19	24	28					
NOB FIR											
TOTAL		64.2	3.4	44	46	48	165	41	18		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		68.4	6.8	130	139	149					
WHEMLOCK		185.2	18.4	34	42	50					
WR CEDAR		368.3	36.6	1	2	3					
NOB FIR		707.1	70.3	0	0	1					
TOTAL		57.2	5.7	174	184	195	131	33	15		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		64.3	6.4	141	151	161					
WHEMLOCK		168.5	16.8	32	39	46					
WR CEDAR		368.3	36.6	1	2	3					
NOB FIR		707.1	70.3	0	0	1					
TOTAL		51.7	5.1	183	193	203	107	27	12		
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		67.5	6.7	17,567	18,832	20,096					
WHEMLOCK		173.9	17.3	3,301	3,992	4,682					
WR CEDAR		370.9	36.9	106	168	230					
NOB FIR		707.1	70.3	17	58	98					

Sullivan

PROJECT GM

DATE 3/2/2020

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17S	05E	19	GM	S1	220.00	101	681	S	W
17S	05E	19	GM	S2					
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10
TOTAL			56.2	5.6	21,760	23,048	24,337	126	32
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10
DOUG FIR			66.7	6.6	4,625	4,954	5,282		
WHEMLOCK			172.1	17.1	968	1,168	1,368		
WR CEDAR			369.9	36.8	35	56	76		
NOB FIR			707.1	70.3	4	15	25		
TOTAL			54.9	5.5	5,854	6,192	6,531	121	30

Log Stock Table - MBF

T17S R05E S19 TyS1	198.00
T17S R05E S19 TyS2	22.00

Project: GM
Acres 220.00

Page 1
Date 3/2/2020
Time 10:46:04AM

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
WH		DO	2M	40	62	7.8	58	6.5					23	8	27							
WH		DO	3M	18	8	36.7	5	.6							5							
WH		DO	3M	25	2	5.0	2	.3			2											
WH		DO	3M	26	2	5.0	2	.2			2											
WH		DO	3M	30	3	5.0	3	.3			3											
WH		DO	3M	31	13	5.0	12	1.4			12											
WH		DO	3M	32	14	5.0	13	1.5			13											
WH		DO	3M	34	14	5.0	14	1.5			14											
WH		DO	3M	35	15	5.0	14	1.6			14											
WH		DO	3M	36	23	8.9	21	2.4			21											
WH		DO	3M	37	9	5.0	9	1.0			9											
WH		DO	3M	39	11	5.0	10	1.1			10											
WH		DO	3M	40	623	9.3	565	64.4			142	204	166	10	30	14						
WH		DO	4M	12	3	5.0	3	.4			3											
WH		DO	4M	13	7	5.0	7	.8			7											
WH		DO	4M	14	3	5.0	2	.3			2											
WH		DO	4M	15	8	5.0	8	.9			8											
WH		DO	4M	16	2	5.0	2	.2			2											
WH		DO	4M	17	15	5.0	14	1.6			14											
WH		DO	4M	18	7	5.0	7	.8			7											
WH		DO	4M	19	4	5.0	4	.4			4											
WH		DO	4M	20	2	5.0	2	.2			2											
WH		DO	4M	21	6	5.0	6	.6			6											
WH		DO	4M	22	19	5.0	18	2.1			18											
WH		DO	4M	23	7	5.0	7	.7			7											
WH		DO	4M	24	11	5.0	11	1.2			3			8								
WH		DO	4M	26	9	5.0	8	.9			8											
WH		DO	4M	29	7	5.0	7	.8			7											
WH		DO	4M	30	10	5.0	10	1.1			10											
WH		DO	4M	32	10	5.0	9	1.0			9											
WH		DO	4M	33	3	5.0	3	.3			3											
WH		DO	4M	36	5	5.0	5	.5			5											
WH		DO	4M	37	4	5.0	4	.4			4											
WH		DO	4M	40	21	21.6	16	1.9			6		10									
WH		Totals			961	8.7	878	17.3			374	204	176	32	46	46						
DF		DO	2M	18	3	5.0	3	.1			3											
DF		DO	2M	40	731	6.7	682	16.5					315	267	101							

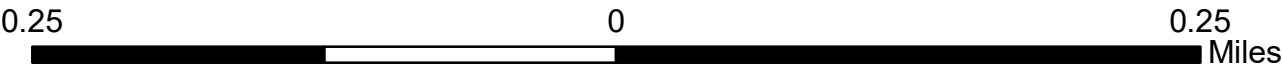
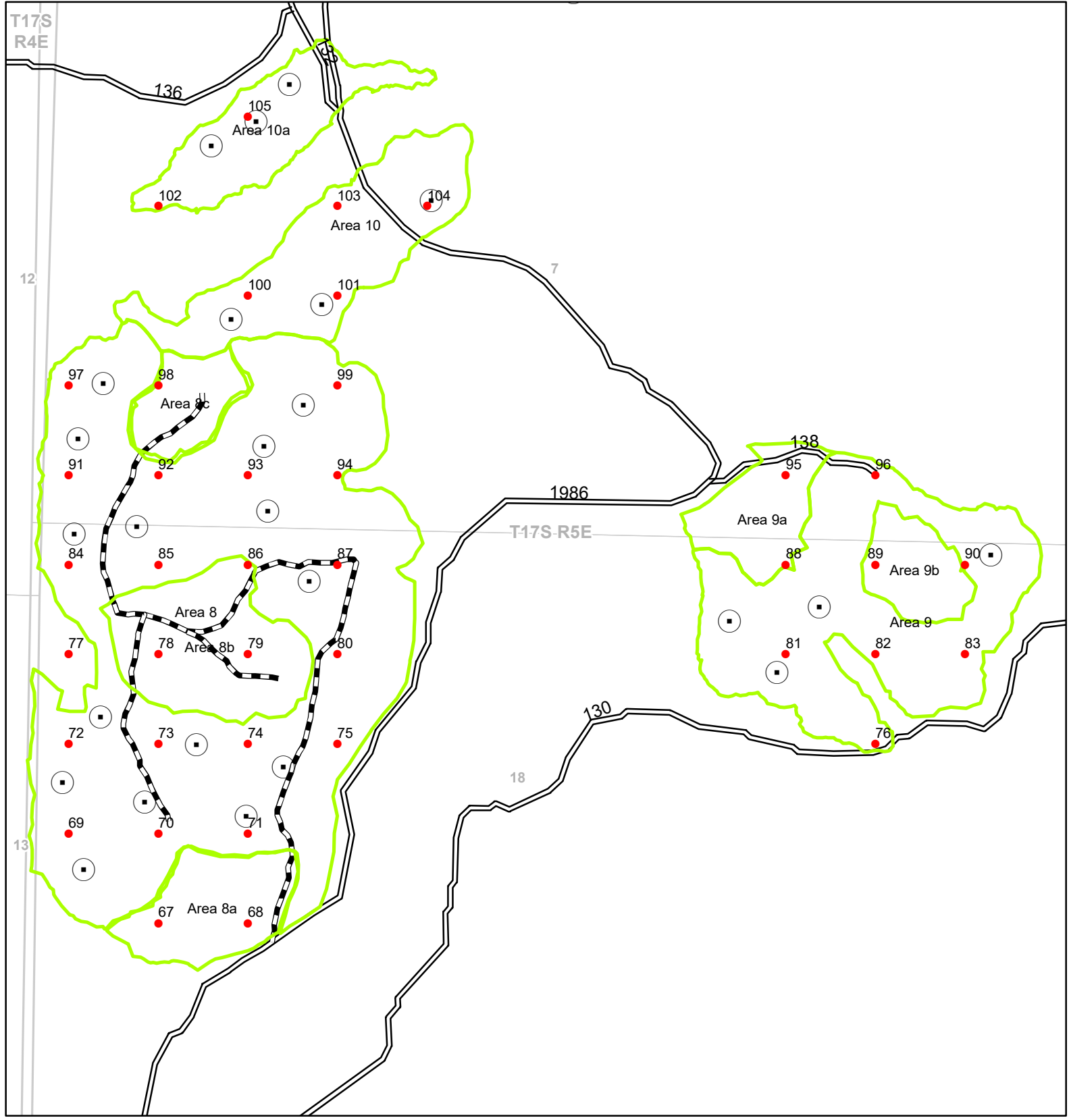
Log Stock Table - MBF

T17S R05E S19 TyS1	198.00
T17S R05E S19 TyS2	22.00

Project: GM
Acres 220.00

Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches											
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+
DF		DO	4M	30	11	5.0	10	.3			10									
DF		DO	4M	31	4	5.0	4	.1			4									
DF		DO	4M	32	31	5.0	29	.7			17	12								
DF		DO	4M	33	4	5.0	4	.1			4									
DF		DO	4M	34	9	5.0	9	.2			9									
DF		DO	4M	35	6	5.0	5	.1			5									
DF		DO	4M	36	20	5.0	19	.4			19									
DF		DO	4M	37	4	5.0	4	.1			4									
DF		DO	4M	38	3	5.0	3	.1			3									
DF		DO	4M	40	54	11.7	48	1.1			11	7	14	15						
DF		Totals			4,466	7.2	4,143	81.7			1297	983	928	549	278	109				
RC		DO	3M	36	15	5.0	14	39.1			14									
RC		DO	3M	40	18	5.0	17	47.3			17									
RC		DO	4M	15	5	5.0	5	13.5			5									
RC		Totals			39	5.0	37	.7			37									
NF		DO	3M	40	12	8.3	11	84.6				11								
NF		DO	4M	22	2		2	15.4		2										
NF		Totals			14	7.1	13	.2		2		11								
Total		All Species			5,480	7.5	5,071	100.0		2	1707	1198	1103	581	324	155				

TC PSTNDSUM		Stand Table Summary											Page	1		
Sullivan													Date:	3/2/2020		
T17S R05E S19 TyS1		198.00		Project				GM		Time:			10:46:05AM			
T17S R05E S19 TyS2		22.00		Acres				220.00		Grown Year:						
S Spc	T	DBH	Sample Trees	FF 16'	Av Ht	Trees/ Acre	BA/ Acre	Logs Acre	Average Log		Tons/ Acre	Net Cu.Ft. Acre	Net Bd.Ft. Acre	Totals		
									Net Cu.Ft.	Net Bd.Ft.				Tons	Cunits	MBF
DF		8	2	86	52	3.100	1.18	3.10	3.5	13.9	.33	11	43	72	24	9
DF		9	7	86	79	9.344	4.11	9.34	8.6	39.9	2.31	81	373	509	177	82
DF		10	7	85	81	7.624	4.22	8.87	10.8	46.6	2.74	96	413	603	211	91
DF		11	23	85	79	20.553	13.38	30.30	10.4	39.4	8.98	314	1,193	1,975	691	262
DF		12	16	86	85	11.650	9.00	19.14	12.7	46.1	6.91	243	883	1,520	534	194
DF		13	29	86	89	18.227	16.86	33.27	15.0	55.2	14.16	498	1,838	3,115	1,095	404
DF		14	28	87	94	14.742	15.66	30.00	16.4	62.7	14.03	491	1,880	3,087	1,080	414
DF		15	29	86	102	13.831	16.80	29.92	18.9	71.1	16.14	565	2,127	3,552	1,243	468
DF		16	28	87	109	11.547	15.72	28.88	19.5	75.1	16.09	564	2,171	3,540	1,242	478
DF		17	29	86	106	10.524	16.51	25.58	23.3	86.0	17.00	596	2,200	3,740	1,312	484
DF		18	21	87	111	6.594	11.61	17.58	25.2	93.6	12.62	443	1,645	2,776	975	362
DF		19	17	86	113	4.901	9.61	11.90	30.1	108.0	10.21	358	1,286	2,245	788	283
DF		20	15	88	119	3.567	7.78	10.26	31.7	123.9	9.27	325	1,271	2,040	716	280
DF		21	4	90	117	.817	1.95	2.45	33.5	137.4	2.34	82	337	515	181	74
DF		22	4	86	114	.845	2.22	2.54	35.3	138.3	2.55	89	351	561	197	77
DF		23	4	88	132	.753	2.14	2.49	38.7	160.1	2.74	96	398	602	212	88
DF		24	2	90	115	.282	.88	.85	42.6	173.4	1.03	36	147	226	79	32
DF		25	2	94	133	.292	.98	.88	55.5	264.2	1.38	49	232	305	107	51
DF		27	1	84	84	.125	.50	.25	65.4	180.5	.47	16	45	103	36	10
DF	Totals		268	86	93	139.320	151.11	267.60	18.5	70.4	141.30	4,954	18,832	31,086	10,899	4,143
WH		8	3	81	38	4.276	1.54	4.28	4.0	15.9	.55	17	68	121	37	15
WH		9	3	83	54	3.284	1.46	3.28	7.2	28.5	.75	23	94	165	52	21
WH		10	4	84	62	3.515	1.89	3.52	11.8	47.5	1.32	41	167	291	91	37
WH		11	7	80	75	5.608	3.69	7.15	13.1	43.3	2.99	94	309	658	206	68
WH		12	7	86	86	4.252	3.20	7.80	12.2	42.1	3.05	95	329	670	210	72
WH		13	11	82	82	6.045	5.54	10.42	15.6	46.7	5.22	163	487	1,148	358	107
WH		14	8	84	78	3.559	3.77	6.27	17.5	55.2	3.50	109	346	771	241	76
WH		15	12	85	92	4.696	5.68	9.84	19.4	67.6	6.11	191	665	1,345	420	146
WH		16	5	85	97	1.739	2.34	3.48	24.4	87.0	2.72	85	303	598	187	67
WH		17	6	81	96	1.945	3.08	3.89	26.4	85.2	3.29	103	332	723	226	73
WH		18	3	88	90	.750	1.31	1.74	26.0	94.3	1.45	45	164	320	100	36
WH		19	4	81	97	1.023	2.02	2.05	35.5	115.4	2.32	73	236	511	160	52
WH		20	1	85	108	.207	.47	.41	31.0	104.5	.41	13	43	91	28	10
WH		21	2	96	118	.295	.73	.59	44.9	178.5	.84	26	105	185	58	23
WH		23	1	88	105	.162	.46	.49	38.6	155.2	.60	19	75	132	41	17
WH		24	4	85	108	.588	1.82	1.38	51.4	194.8	2.27	71	268	499	156	59
WH	Totals		81	83	77	41.945	39.00	66.58	17.5	59.9	37.39	1,168	3,992	8,227	2,570	878
RC		13	2	80	76	2.345	2.16	3.54	15.7	47.4	1.31	56	168	288	123	37
RC	Totals		2	80	76	2.345	2.16	3.54	15.7	47.4	1.31	56	168	288	123	37
NF		14	1	90	82	.443	.49	.89	16.7	65.0	.36	15	58	79	32	13
NF	Totals		1	90	82	.443	.49	.89	16.7	65.0	.36	15	58	79	32	13
Totals			352	85	89	184.052	192.77	338.60	18.3	68.1	180.36	6,192	23,048	39,679	13,623	5,071




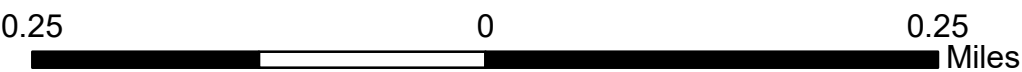
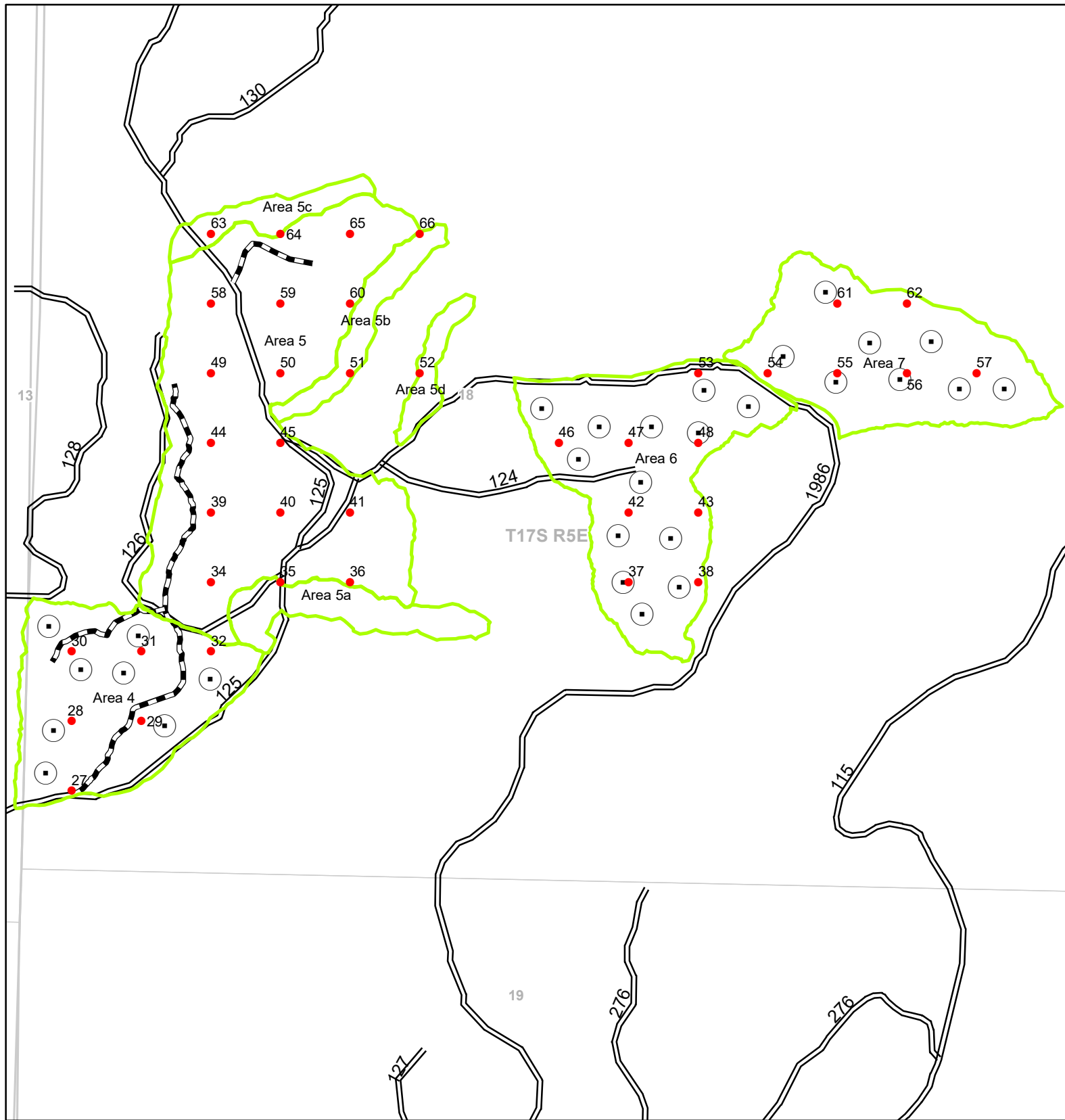
Legend

- Cruise Points
- ▭ Timber Sale Boundary
- ◻ DTR
- Temporary Road
- == USFS System Road

**GM GNA TS Cruise Map
300' x 300' Spacing
BAF: 20 (Strata 1) and 40 (Strata 2)**

Springfield GIS
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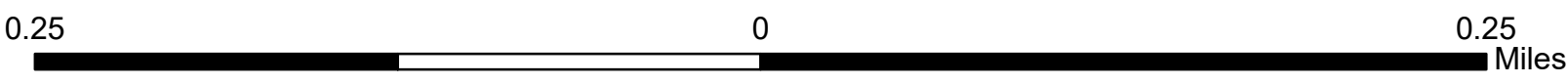
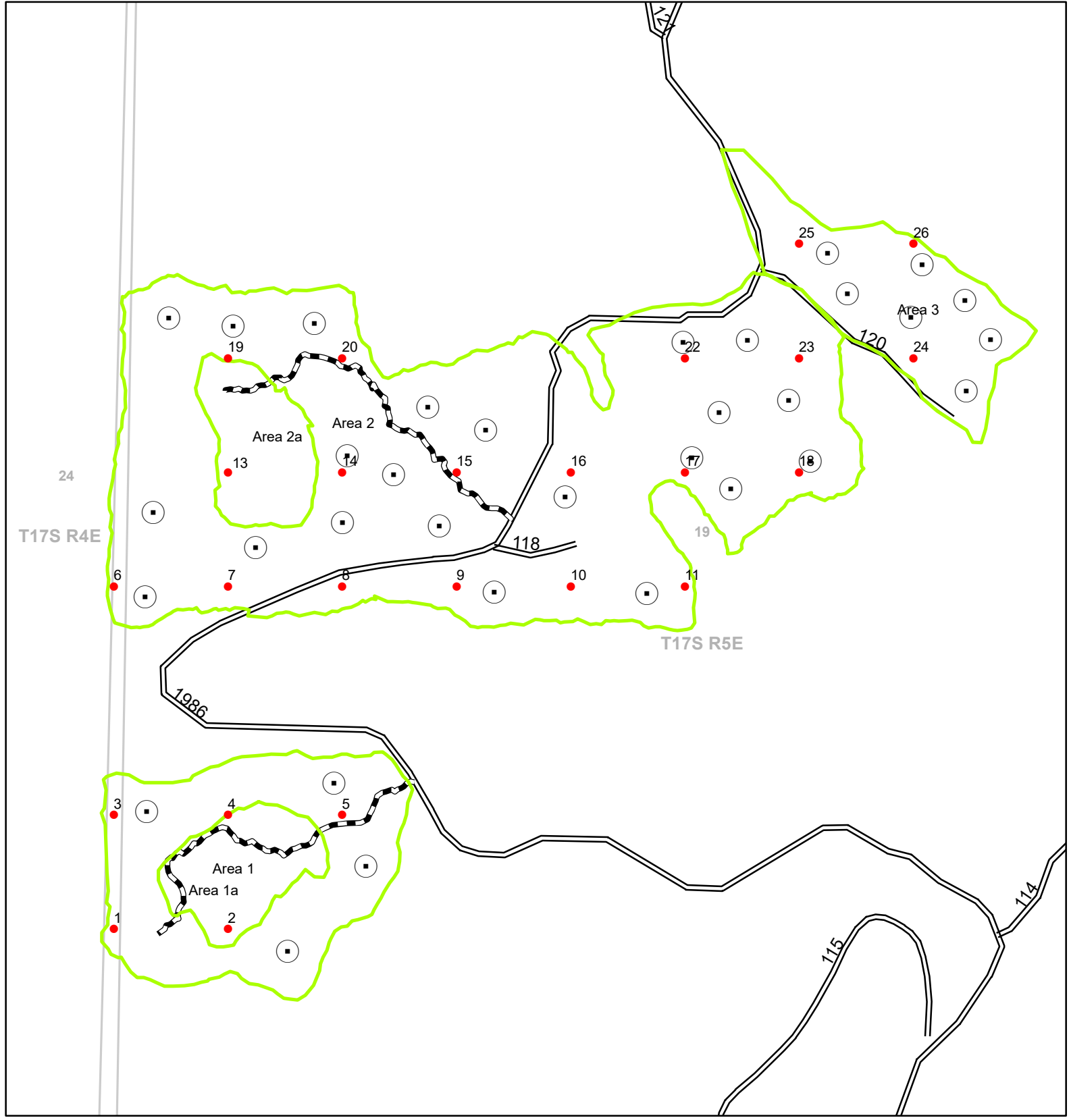
Legend

- Cruise Points
- Timber Sale Boundary
- DTR
- Temporary Road
- USFS System Road

**GM GNA TS Cruise Map
300' x 300' Spacing
BAF: 20 (Strata 1) and 40 (Strata 2)**

Springfield GIS
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Legend

- Cruise Points
- Timber Sale Boundary
- ⊠ DTR
- ▬ Temporary Road
- ▬▬ USFS System Road

GM GNA TS Cruise Map
300' x 300' Spacing
BAF: 20 (Strata 1) and 40 (Strata 2)

Springfield GIS
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TIMBER SALE SUMMARY
GM GNA
Contract No. SW-341-2020-GF8919-01

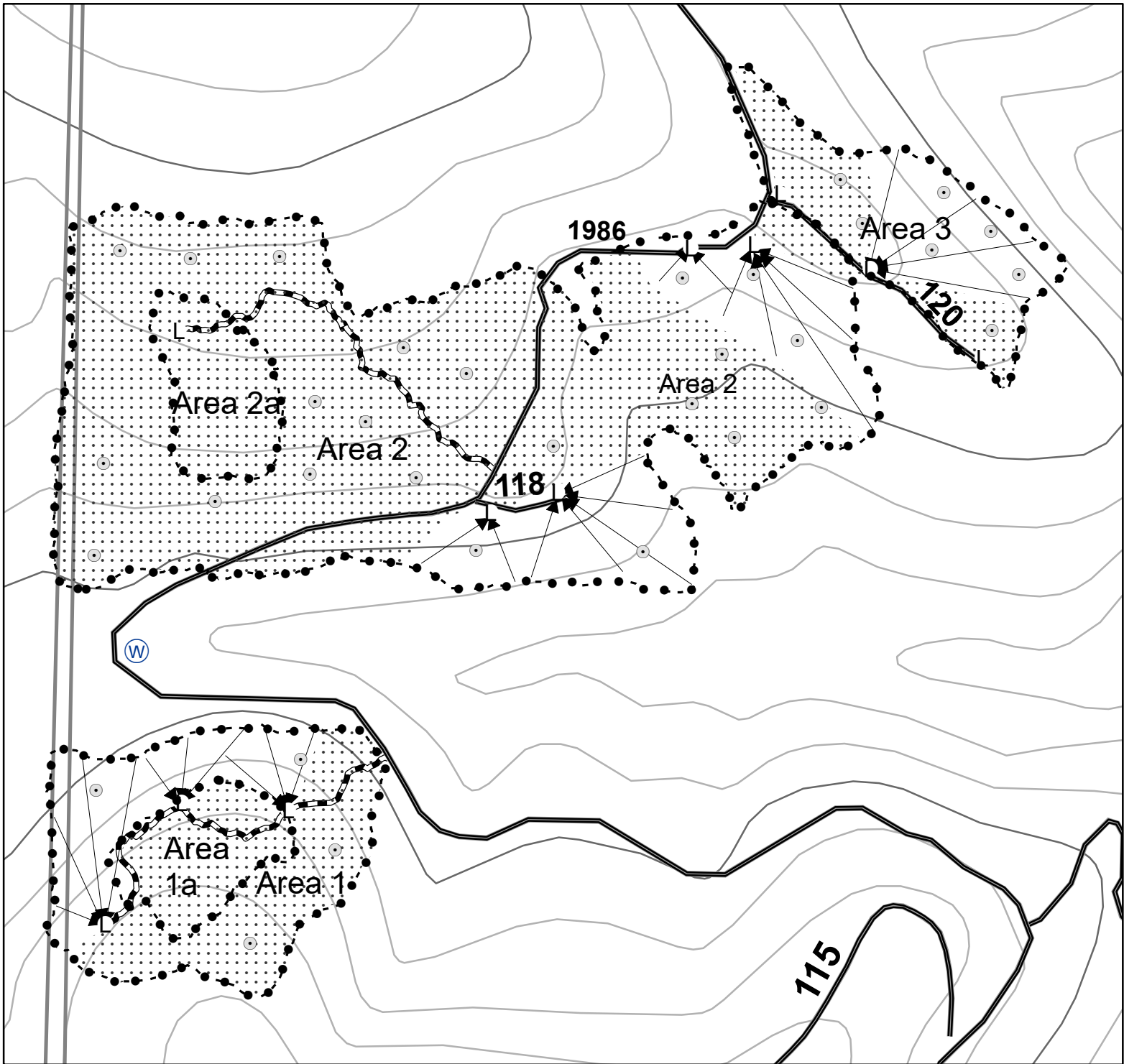
1. **Location:** Portions of Section 7, 18, & 19, T17S, R5E, W.M., Lane County, Oregon.
2. **Type of Sale:** This timber sale has 22 Areas; 15 Areas of partial cut harvest (198 ac.) and 7 Areas of patch cut harvest with reserves (22 ac.). The timber will be sold on a recovery basis at a sealed bid auction.
3. **Sale Acreage:** Acreage was determined by traversing with a Trimble TDC 100 and ESRI ArcMap GIS software. Total sale acreage is 220 acres.
4. **Cruise:** The Timber Sale was cruised by ODF Cruisers in November of 2019. For more information see the Cruise Report.
5. **Timber Description:** The Timber Sale Area consists of stands ranging from 26 to 46 years old. The predominate tree species is Douglas-fir with a moderate component of western hemlock. A minor component of western red cedar, true firs, and hardwood spp. are also present. The average DBH for all species is 14" for take trees. The estimated net volume/ac. for all take species and trees is 23 MBF/Acre.
6. **Volume Summary:**

SPECIES	DBH	Grade			
		2S	3S	4S	Total
Douglas fir	14.1	684	3,051	408	4,143
Western hemlock	13.1	58	670	151	879
Western red cedar	13		32	5	37
Noble Fir	14.3		11	2	13
Total MBF of Take Trees:		742	3,764	566	5,072

Total harvest volume is estimated to be 5,072 ± 284 at a 68% confidence level and a sampling error of 5.6%. See attached SuperAce outputs: Project Statistics, Stand Table Summary, Log Stock Table, and Species, Sort, Grade Table for more cruise volume summary information.

7. **Topography and Logging Method:** The elevation for the Timber Sale ranges from 2,800 to 3,500 feet. Slopes within the sale areas range from 5-75%. The Timber Sale Area is 43% ground-based and 57% cable logging.
8. **Access:** The Timber Sale Area is located southeast of Blue River, Oregon, within the Willamette National Forest on the McKenzie River Ranger District. Access to the Timber Sale Area is as follows: from the town of Blue River, Oregon, continue on Hwy. 126 east for approximately 4.5 miles until you reach the Cougar Dam Road, turn right. Continue on Cougar Dam Road for approximately 0.5 miles take a right on Aufderheide Drive. Continue on Aufderheide Drive for 7.9 miles until you reach NF-1985 or Green Mountain Road, turn right. After 1.3 miles take a right on NF-1986 road. Drive approximately 1 mile down the 1986 road to reach the southern end of the Timber Sale Area.
9. **Projects:**

Project No. 1: Roadside Hazard Tree Felling (13.5 ac.)	\$10,161.00
Project No. 2: Road Reconstruction (4.32 mi.)	\$226,269.68
Total Credit for all Projects	\$236,430.68



- Legend**
- Timber Sale Boundary
 - USFS System Road
 - Dominant Tree Release Gap
 - Temporary Road
 - Landing
 - Ground Based
 - Cable Yarding Corridor

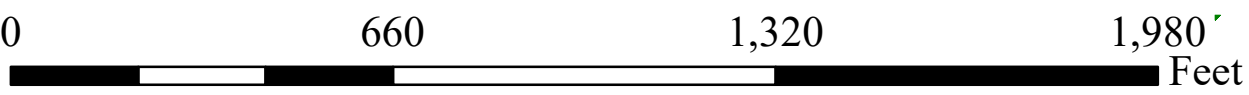
LOGGING PLAN
 Sale No. SW-341-2020-GF8919-01
 GM GNA Timber Sale
 Sections 7, 18, & 19 T17S, R5E W.M.
 Lane County, Oregon
 Regulated Use Area WL-2
 Willamette National Forest

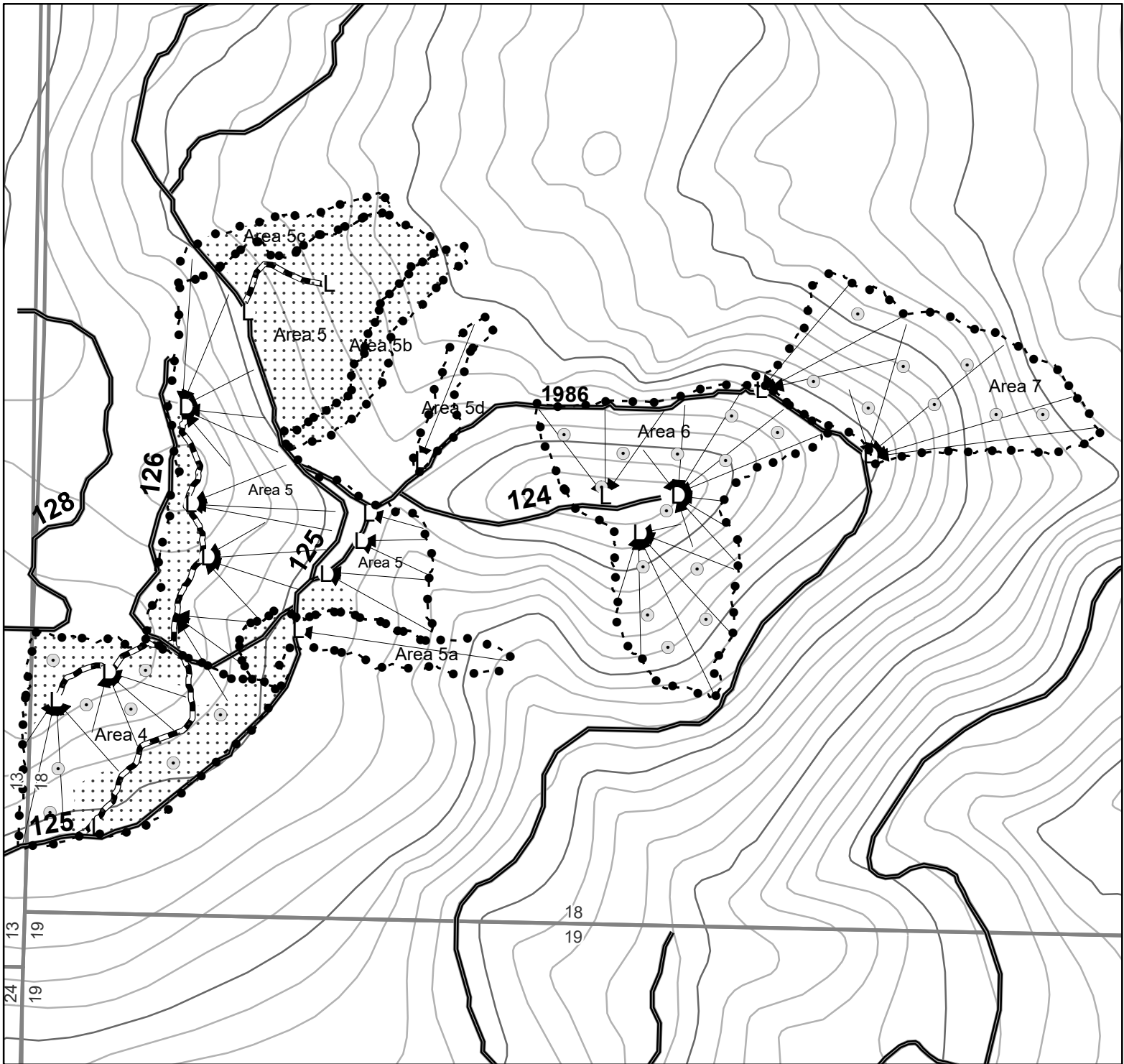


Approximate Net Acres	
Area #	Acres
Area 1	7
Area 1a	2
Area 2	30
Area 2a	2
Area 3	5
Area 4	15
Area 5	33
Area 5a	4
Area 5b	3
Area 5c	2
Area 5d	1
Area 6	18
Area 7	15
Area 8	39
Area 8a	4
Area 8b	6
Area 8c	2
Area 9	14
Area 9a	3
Area 9b	2
Area 10	8
Area 10a	5
Total	220

Contours = 40 ft.

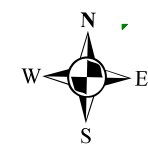
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- Legend**
- Timber Sale Boundary
 - USFS System Road
 - Dominant Tree Release Gap
 - Temporary Road
 - Landing
 - Ground Based
 - Cable Yarding Corridor

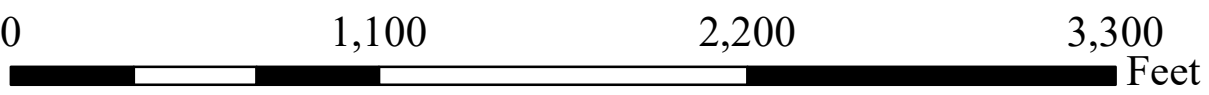
LOGGING PLAN
 Sale No. SW-341-2020-GF8919-01
 GM GNA Timber Sale
 Sections 7, 18, & 19 T17S, R5E W.M.
 Lane County, Oregon
 Regulated Use Area WL-2
 Willamette National Forest

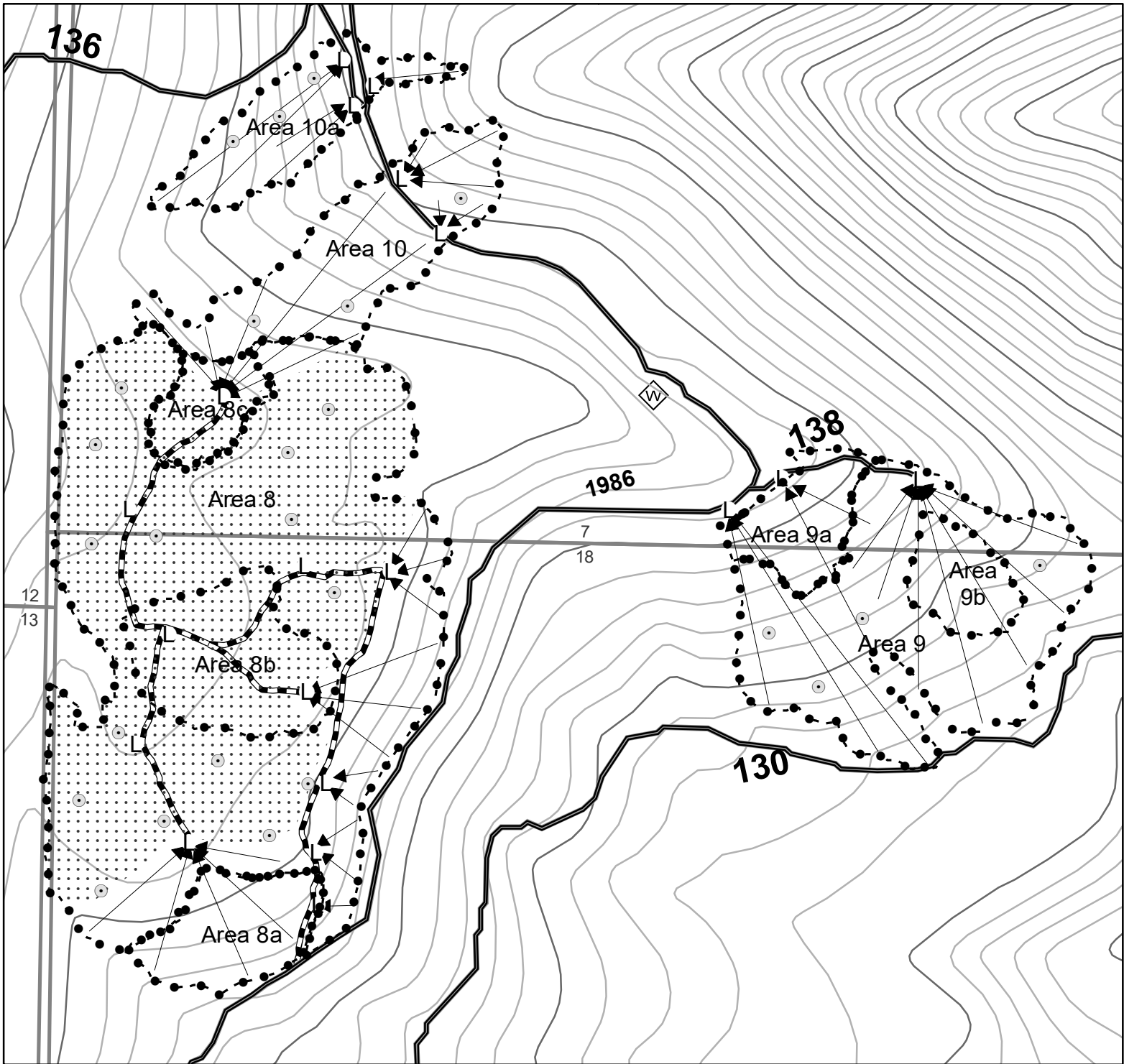


Contours = 40 ft.

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Approximate Net Acres	
Area #	Acres
Area 1	7
Area 1a	2
Area 2	30
Area 2a	2
Area 3	5
Area 4	15
Area 5	33
Area 5a	4
Area 5b	3
Area 5c	2
Area 5d	1
Area 6	18
Area 7	15
Area 8	39
Area 8a	4
Area 8b	6
Area 8c	2
Area 9	14
Area 9a	3
Area 9b	2
Area 10	8
Area 10a	5
Total	220





- Legend**
- Timber Sale Boundary
 - Dominant Tree Release Gap
 - Landing
 - Ground Based
 - Cable Yarding Corridor
 - USFS System Road
 - Temporary Road

LOGGING PLAN
 Sale No. SW-341-2020-GF8919-01
 GM GNA Timber Sale
 Sections 7, 18, & 19 T17S, R5E W.M.
 Lane County, Oregon
 Regulated Use Area WL-2
 Willamette National Forest



Contours = 40 ft.

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Approximate Net Acres	
Area #	Acres
Area 1	7
Area 1a	2
Area 2	30
Area 2a	2
Area 3	5
Area 4	15
Area 5	33
Area 5a	4
Area 5b	3
Area 5c	2
Area 5d	1
Area 6	18
Area 7	15
Area 8	39
Area 8a	4
Area 8b	6
Area 8c	2
Area 9	14
Area 9a	3
Area 9b	2
Area 10	8
Area 10a	5
Total	220

