

# P R O S P E C T U S

## LUMP SUM SALE

BUTTE FALLS RESOURCE AREA  
JACKSON MASTER UNIT

Medford Sale # ORM05- TS-2017.0005  
September 14, 2017 (TG)

# 3 Shady Elk (5900) Jackson County, O&C, P.D.

BID DEPOSIT REQUIRED: \$ 58,700.00

All timber designated for cutting in E $\frac{1}{2}$ SE $\frac{1}{4}$ , Sec. 11, NW $\frac{1}{4}$ SW $\frac{1}{4}$ , Sec. 12, N $\frac{1}{2}$ NW $\frac{1}{4}$ , Sec. 13, N $\frac{1}{2}$ NE $\frac{1}{4}$ , SE $\frac{1}{4}$ NE $\frac{1}{4}$ , Sec. 23, E $\frac{1}{2}$ SE $\frac{1}{4}$ , Sec. 26, NW $\frac{1}{4}$ NE $\frac{1}{4}$ , SW $\frac{1}{4}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ NW $\frac{1}{4}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 27, T32S., R1W, SE $\frac{1}{4}$ , Sec. 3, Govt. Lot 2, Sec. 10, SW $\frac{1}{4}$ NW $\frac{1}{4}$ , Sec. 13, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , N $\frac{1}{2}$ SW $\frac{1}{4}$ , Govt. Lot 3, 4, N $\frac{1}{2}$ SE $\frac{1}{4}$ , Govt. Lot 1, 2, Sec. 14, NE $\frac{1}{4}$ NE $\frac{1}{4}$ , Sec.23, T33S., R1W, Govt. Lot 6, 7, 8, 9, Sec. 7, SE $\frac{1}{4}$ NW $\frac{1}{4}$ , E $\frac{1}{2}$ SW $\frac{1}{4}$ , E $\frac{1}{2}$ SE $\frac{1}{4}$ , Sec. 11, W $\frac{1}{2}$ , NW $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 13, Govt. Lot 4, Sec. 30, N $\frac{1}{2}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ NW $\frac{1}{4}$ , Sec. 31, E $\frac{1}{2}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec.35, T32S., R1E, E $\frac{1}{2}$ NE $\frac{1}{4}$ , NE $\frac{1}{4}$ SE $\frac{1}{4}$ , Sec. 21, SE $\frac{1}{4}$ NE $\frac{1}{4}$ , Sec. 35, T33S., R1E, N $\frac{1}{2}$ NE $\frac{1}{4}$ , Sec. 32, T32S., R2E, Willamette Meridian.

Approx. Number Merch. Trees	Est. Volume MBF 32' Log	Species	Est. Volume MBF 16' Log	Appr. Price Per MBF*	Est. Volume Times Appraised Price
27,183	4,077	Douglas-fir	5,102	\$108.40	\$553,056.80
2,589	442	White Fir	584	\$42.80	\$24,995.20
933	159	Ponderosa Pine	196	\$30.50	\$5,978.00
528	37	Incense-cedar	47	\$49.80	\$2,340.60
135	16	Sugar Pine	20	\$29.40	\$588.00
<b>31,368</b>	<b>4,731</b>	<b>Totals</b>	<b>5,949</b>		<b>\$586,958.60</b>

\*Stumpage values have been determined by market value estimates and analytical appraisal methods were used to compute the appraised price. Additional information concerning the appraised price is available at the Medford District Office.

**CRUISE INFORMATION** - Douglas-fir, White fir, Ponderosa Pine, Incense Cedar and Sugar Pine have been cruised using the 3-P sampling methods to select sample trees. Maps showing the location and description of these sample trees are available at the Medford District Office. The sample trees have been measured using the volt system of measurement, and the volume expanded to a total sale volume.

With respect to merchantable DF trees: the average tree is 14.4 inches DBHOB; the average gross merchantable log contains 56 bd. ft.; the total gross volume is approximately 6,831 M bd. Ft. and 87% recovery is expected.

Bidders will be restricted to bidding on a unit (MBF) rate of the Douglas-fir volume. All other species will be sold at appraised price per unit (MBF). The minimum bid increment will be \$0.10 per MBF.

**LOG EXPORT AND SUBSTITUTION RESTRICTIONS** All timber sold to the Purchaser under the terms of the contract, except exempted species, is restricted from export from the United States in the form of unprocessed timber and is prohibited from use as a substitute for exported private timber.

The BLM has revised the log export restrictions special provision to reduce the log branding and painting requirements. The new requirements include branding of one end of all logs with a scaling diameter of over 10 inches. All loads of 11 logs or more, regardless of the diameter of the logs, will have a minimum of 10 logs branded on one end. All logs will be branded on loads of 10 logs or less. One end of all branded logs will be marked with yellow paint. At the discretion of the Contracting Officer, the Purchaser may be required to brand and paint all logs. The Purchaser shall bear any increased costs for log branding and painting.

CUTTING AREA Thirty Five (35) units containing six hundred ninety one (691) acres must logged.

CUTTING TIME Contract duration will be thirty-six (36) months for cutting and removal of timber.

ACCESS - Access to the sale area is available via public roads and through the contract area using BLM Roads and Right-of-way and Road Use Agreement M-M660I with Hancock Timberlands X, Inc., via Right-of-way and Road Use Agreement M-M660J with AP Timber, LLC, via Right-of-way and Road Use Agreement M-M660K with System Global, LLC, via Right-of-way and Road Use Agreement M-M660L with Murphy Timber Investments, and via Right-of-Way and Road Use Agreement M-2000D with Juniper Properties.

Among other conditions, agreement M-660I with Hancock Timberlands X, Inc. requires completion of a license agreement between the Purchaser and Hancock Timberlands X, Inc., road maintenance to be performed by the Purchaser or BLM and an estimated payment of a road surface replacement fee of \$161.77. Among other conditions, agreement M-660J with AP Timber, LLC requires completion of a license agreement between the Purchaser and AP Timber, LLC, road maintenance to be performed by the Purchaser or BLM and an estimated payment of a road surface replacement fee of \$161.57. Among other conditions, agreement M-660K with System Global, LLC requires completion of a license agreement between the Purchaser and System Global, LLC and road maintenance to be performed by the Purchaser or BLM. Among other conditions, agreement M-660L with Murphy Timber Investments requires completion of a license agreement between the Purchaser and Murphy Timber Investments, road maintenance to be performed by the Purchaser or BLM and an estimated payment of a road surface replacement fee of \$237.23. Among other conditions, agreement M2000D with Juniper Properties, requires completion of a license agreement between the Purchaser and Juniper Properties and road maintenance to be performed by the Purchaser or BLM.

ROAD MAINTENANCE – The Purchaser will be required to maintain all the temp routes and existing decommissioned roads he constructs/reconstructs plus 20.38 miles of existing BLM and private roads. The BLM will maintain the approximately 40.86 miles of existing BLM and private roads.

ROAD CONSTRUCTION – The contract will require the Purchaser to construct 3.70 stations of temporary roads and reconstruct 53.86 stations of roads.

SOIL DAMAGE PREVENTION: Pursuant to Section 26 of Form 5450-3, Timber Sale Contract, the Purchaser shall not operate or cause to have operated on the contract area any tractor-type logging equipment when soil moisture content at six (6) inch depth exceeds twenty five (25) percent by weight as determined by the oven dry method.

#### EQUIPMENT REQUIREMENTS

1. A yarding tractor not greater than 9 feet in track width equipped with a integral arch and winch system capable of lining logs at least 75 feet.
2. Track log loader with sufficient boom reach and swing torque to yard tree length material to roadside with one end free of ground (unit 35-1).
3. A tractor equipped with winged-toothed rippers.
4. A skyline yarder capable of one end suspension of logs during in-haul and with a minimum lateral yarding capability of 75 feet while maintaining a fixed position of the carriage during lateral in-haul.
5. A helicopter equipped with a dropline with a minimum length of 150 feet and capable of lifting logs vertically to a height above adjacent trees without horizontal movement.

SLASH DISPOSAL Perform logging residue reduction and site preparation work on approximately three hundred sixty six (366) acres of harvest area as directed by the Authorized Officer.

CONTRACT TERMINATION A revised Special Provision has been added to the contract which enables the Contracting Officer to suspend the contract to facilitate protection of certain plant or animal species, and /or to modify or terminate the contract when necessary to:

1. Comply with the Endangered Species Act, or;
2. Comply with a court order, or;
3. Protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP.

This contract provision limits the liability of the Government to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area.

PERFORMANCE BOND A performance bond in the amount of 20% of the total purchase price will be required.

OTHER

- 1.No extension of time beyond the normal 30 days will be granted for completing bonding and contract signing requirements.
- 2.This contract includes an additional special provision to ensure the Purchaser understands he/she is required to conduct all operations in compliance with Contract Section 12 (Purchaser's Contractual Responsibilities for Liability) and Contract Section 29 (Safety and Health) and the Special Provisions included in Section 42 of this Contract.
3. Purchaser shall be responsible for complying with all county, state, and federal laws and regulations that relate to the execution of this contract (See Sec. 29 of contract).
4. Directional falling is required
5. There are daily and seasonal restrictions in place on this sale.
6. Cleaning of equipment to eliminate noxious weed seeds is required prior to move-in of equipment onto federal lands.
7. Log hauling on road 32-1E-11.0 and use of the low water ford across Sugar Pine Creek shall be conducted between June 15 and September 15 of the same calendar year and all log hauling will need to be completed in one (1) season.
8. Dust abatement is required.
9. Helicopter landing 14-1L has special construction provisions attached (see Section 42, L-32).
10. There are slash treatment and pile placement requirements in place for this sale (see SD-1 in the contract)
11. Purchaser should be aware there are logging residue reduction costs assessed under SD-1. Refer to the appraisal for total assessed costs of logging residue reduction.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA

From the town of Shady Cove, Proceed northeast on highway 62 approximately 5 miles to the junction of Highways 62 and Elk Creek Road. Turn left onto Elk Creek Road and proceed north into the sale area.

ENVIRONMENTAL ASSESSMENT – An environmental assessment (DOI-BLM-ORWA M050-2017-0001-EA) was prepared for this sale, and a Finding of No Significant Impact has been documented for this environmental assessment. This document is available for inspection as background for this sale at the Medford District Office.





# Seasonal Restriction Matrix

Sheet 1 of 1  
 Shady Elk Timber Sale  
 ORM05-TS17-0

 \*Possible Waived Times are Hatched  
 \*Restricted Times are Shaded

Sale Area	Activity	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
		1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15
<b>Units</b> 13-1, 21-1 (Peregrine)	Hand timber falling and bucking												
	Helicopter operations												
	Log processing, loading, log hauling <sup>1,2</sup>												
	Road and/or landing construction <sup>1</sup>												
	Road renovation, reconstruction, or closure <sup>1</sup>												
	Road decommissioning, or blocking <sup>1</sup>												
	Barricade and/or waterbar construction, <sup>1</sup>												
	Road grading, watering, or rocking, <sup>1</sup>												
	Road hauling <sup>2</sup>												
	Soil ripping, seeding, mulching <sup>1</sup>												
Fuels chainsaw site prep, prescribed burning													
<b>Units</b> 27-1, 27-2 (Spotted Owl)	Hand timber falling and bucking												
	Logging/harvesting activities												
	Log processing, loading, log hauling <sup>1,2</sup>												
	Road and/or landing construction <sup>1</sup>												
	Road renovation, reconstruction, or closure <sup>1</sup>												
	Road decommissioning, or blocking <sup>1</sup>												
	Barricade and/or waterbar construction, <sup>1</sup>												
	Road grading, watering, or rocking, <sup>1</sup>												
	Road hauling <sup>2</sup>												
	Soil ripping, seeding, mulching <sup>1</sup>												
Fuels chainsaw site prep, prescribed burning													
<b>All Other Units</b>	Hand timber falling and bucking												
	Helicopter operations												
	Log processing, loading, log hauling <sup>1,2</sup>												
	Road and/or landing construction <sup>1</sup>												
	Road renovation, reconstruction, or closure <sup>1</sup>												
	Road decommissioning, or blocking <sup>1</sup>												
	Barricade and/or waterbar construction, <sup>1</sup>												
	Road grading, watering, or rocking, <sup>1</sup>												
	Road hauling <sup>2</sup>												
	Soil ripping, seeding, mulching <sup>1</sup>												
Fuels chainsaw site prep, prescribed burning													

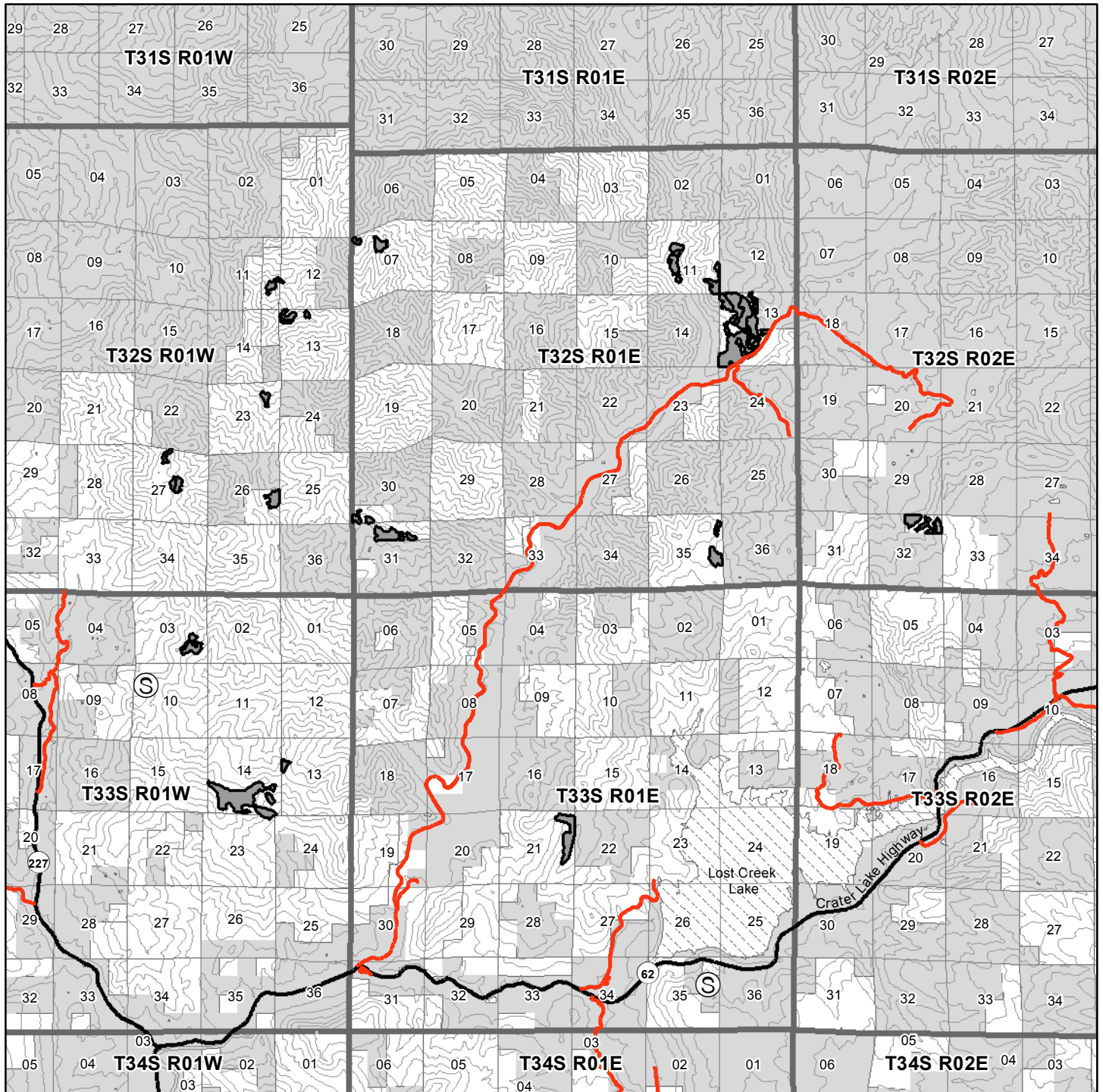
<sup>1</sup> Wet season restrictions may be shortened or extended depending on weather conditions.

<sup>2</sup> Hauling restriction may be shortened or extended (see L-19 in contract)



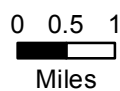
U.S.D.I. BLM MEDFORD DISTRICT SALE NO.2017-05  
 SHADY ELK TIMBER SALE  
 BUTTE FALLS RESOURCE AREA  
 JACKSON COUNTY

TIMBER SALE LOCATION MAP  
 CONTRACT NO.ORM05-TS-2017-05



Medford District BLM - August 2017

	Service Landings
	Shady Elk Units
	BLM
	Other

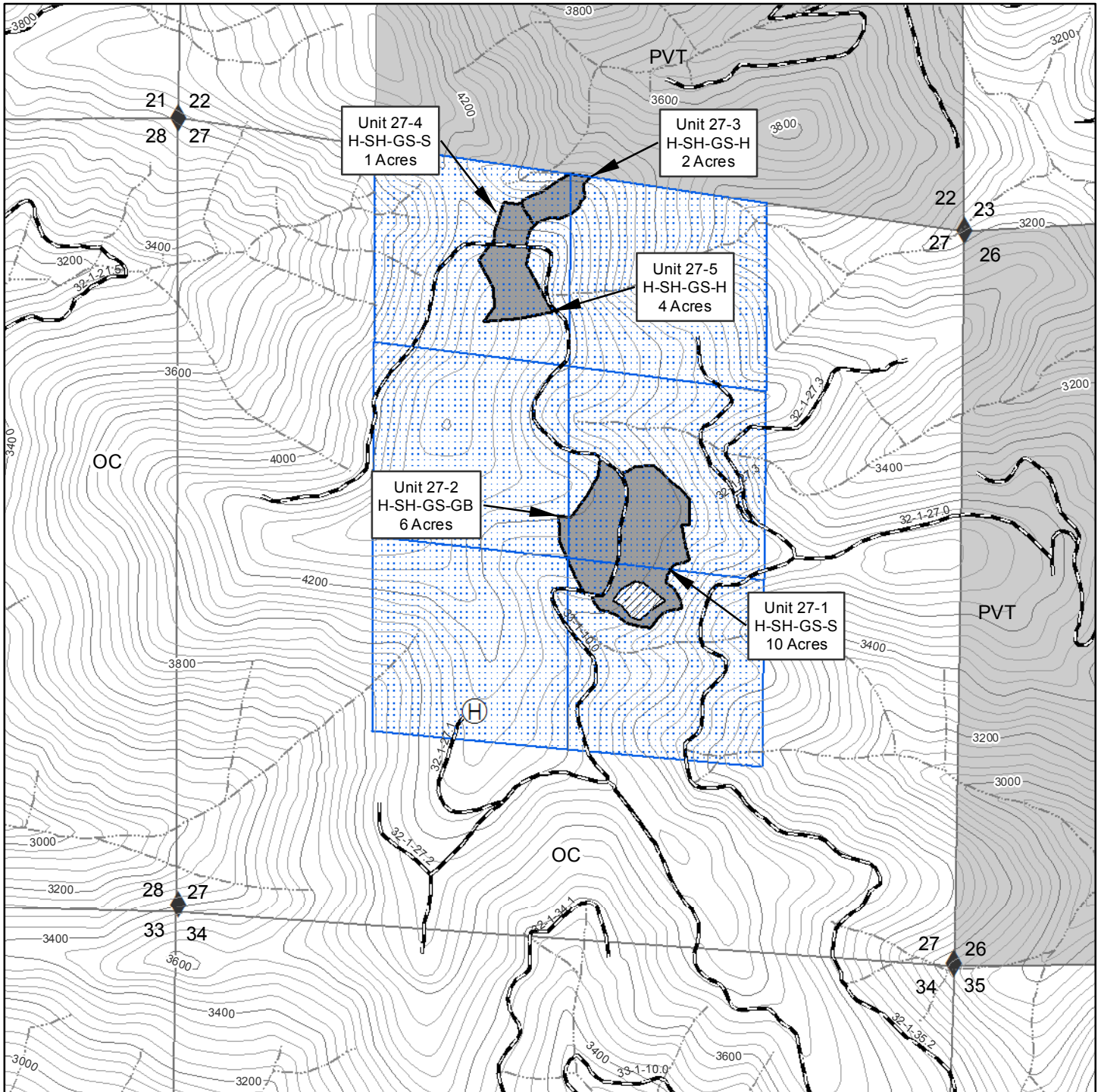


1 inch = 2 miles  
 Contours = 40 feet

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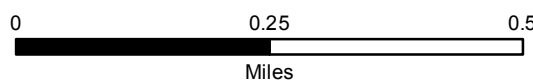






Medford District BLM  
July 2017

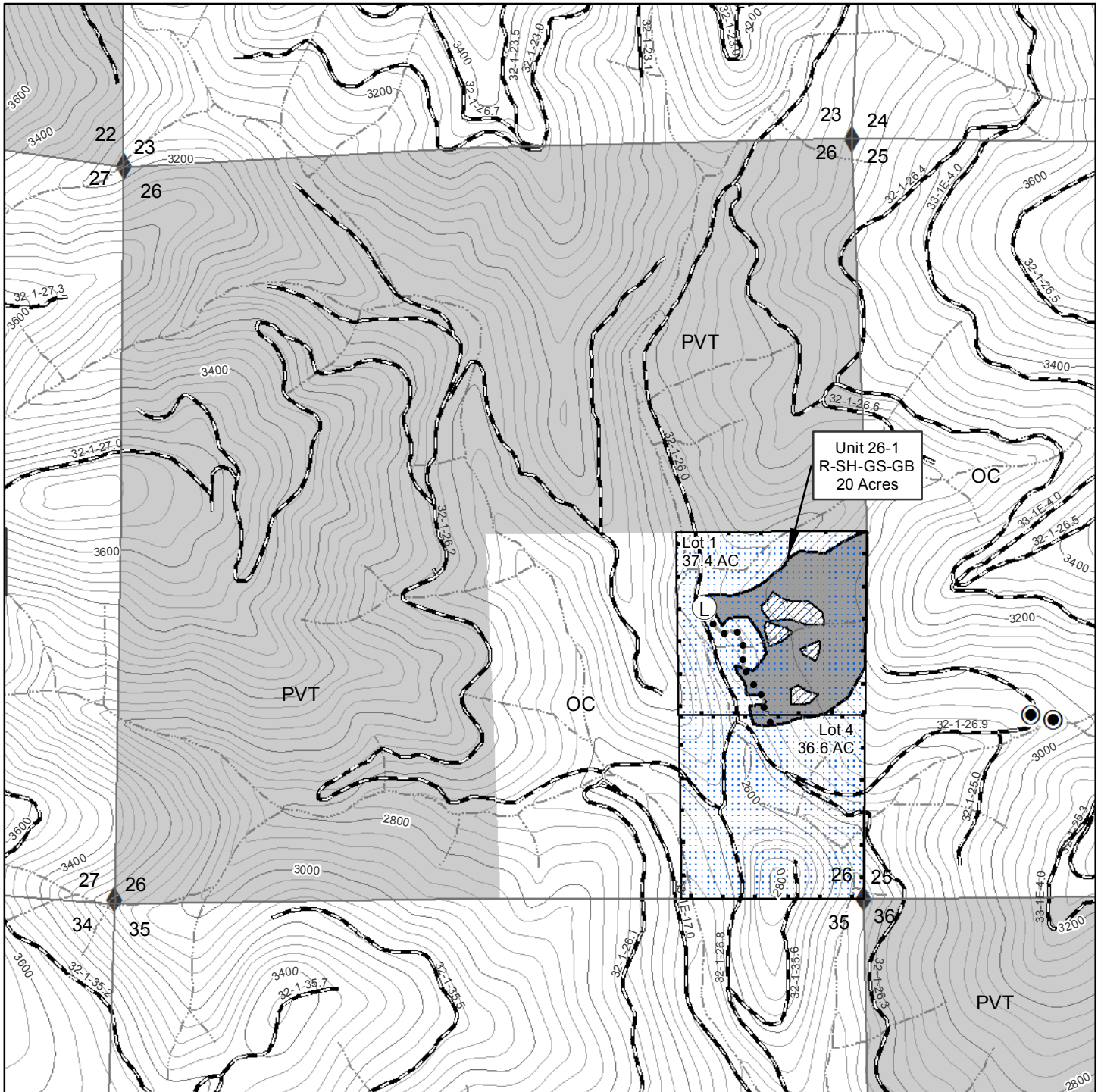
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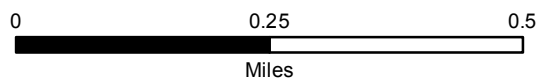




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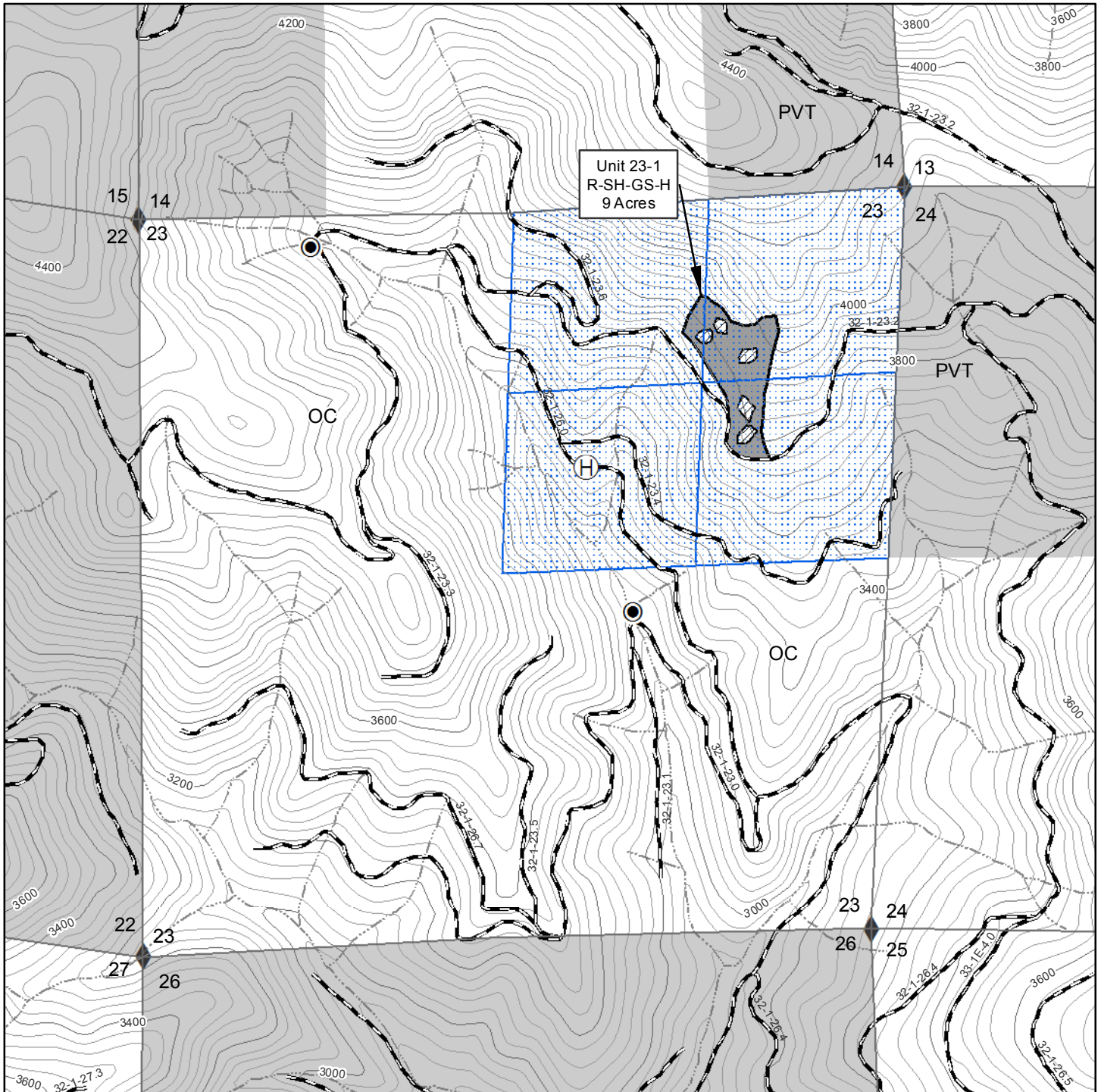
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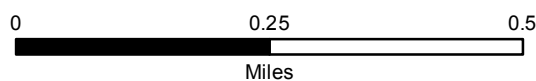






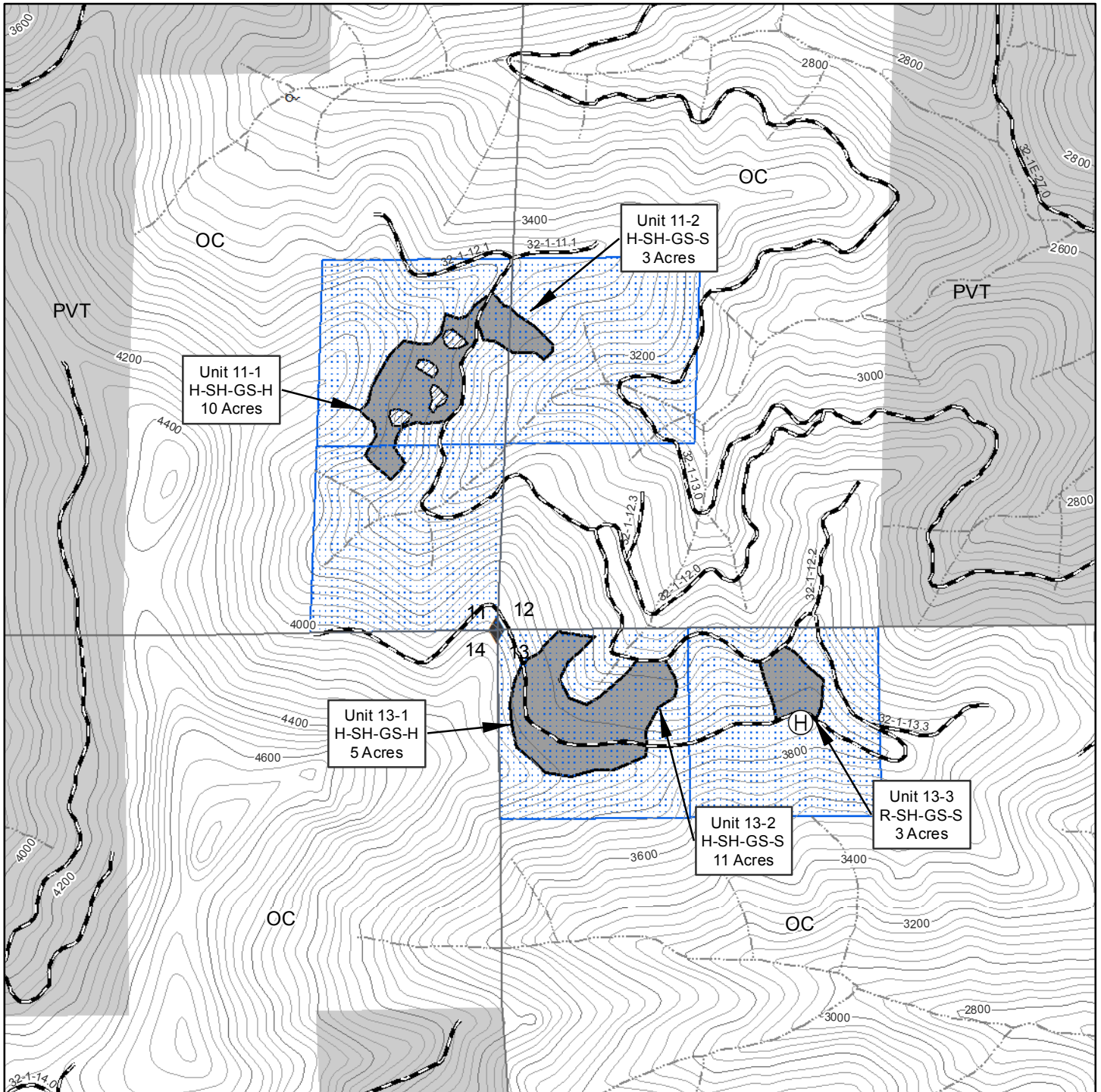
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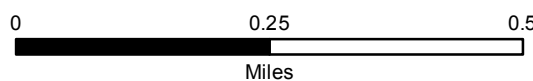




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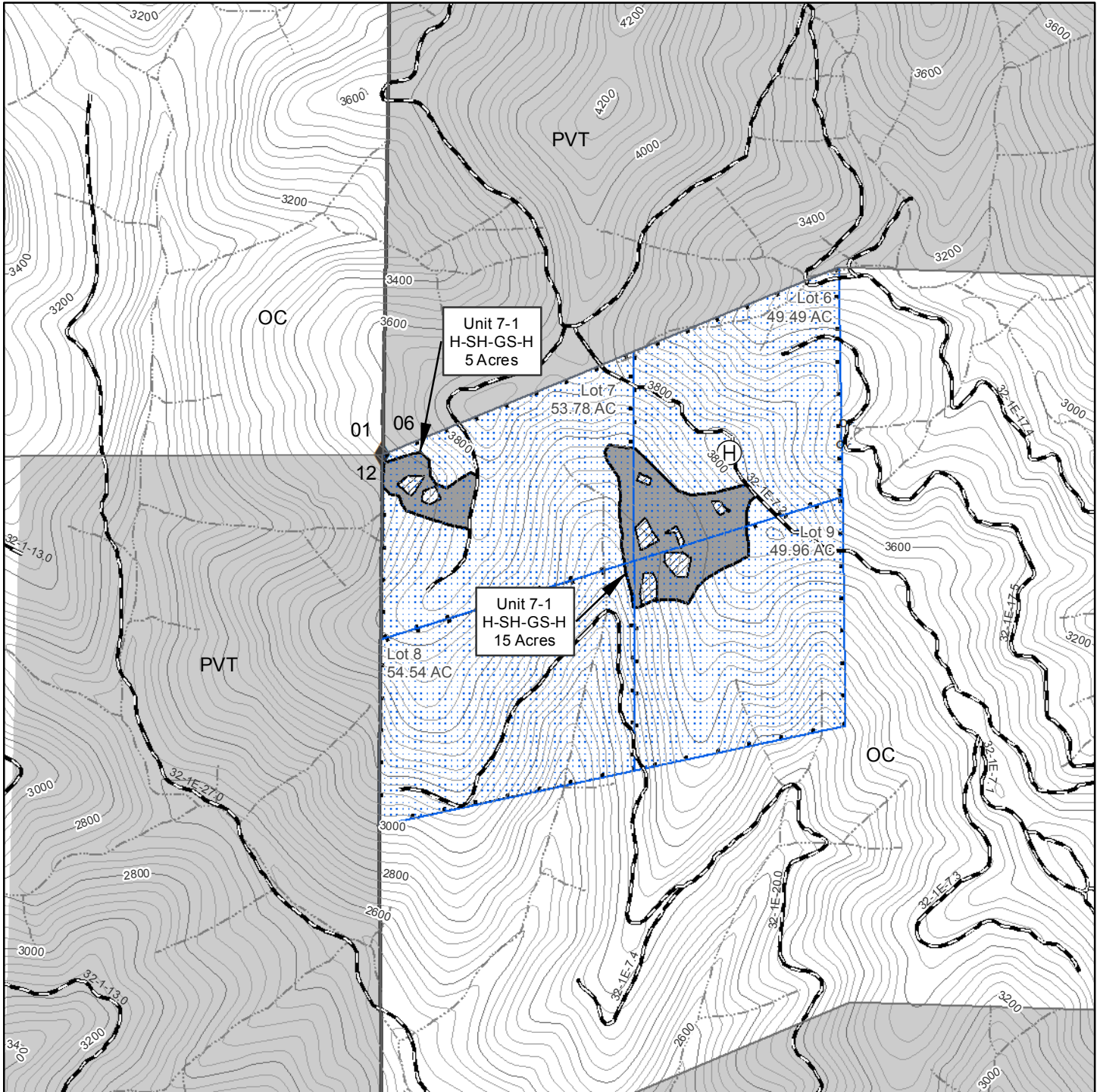
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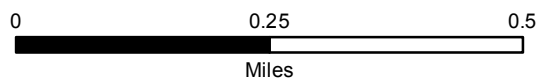






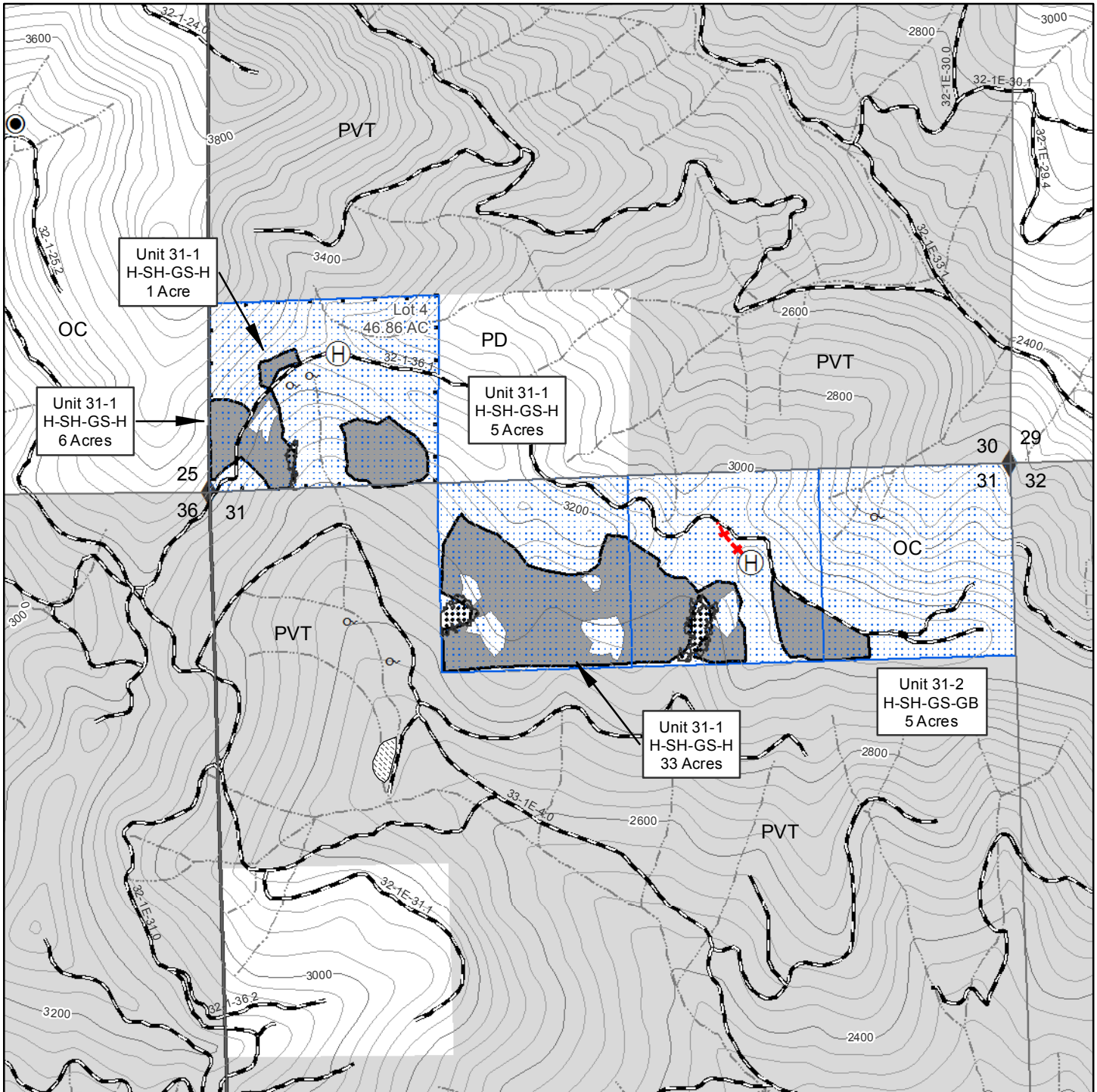
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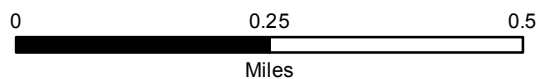
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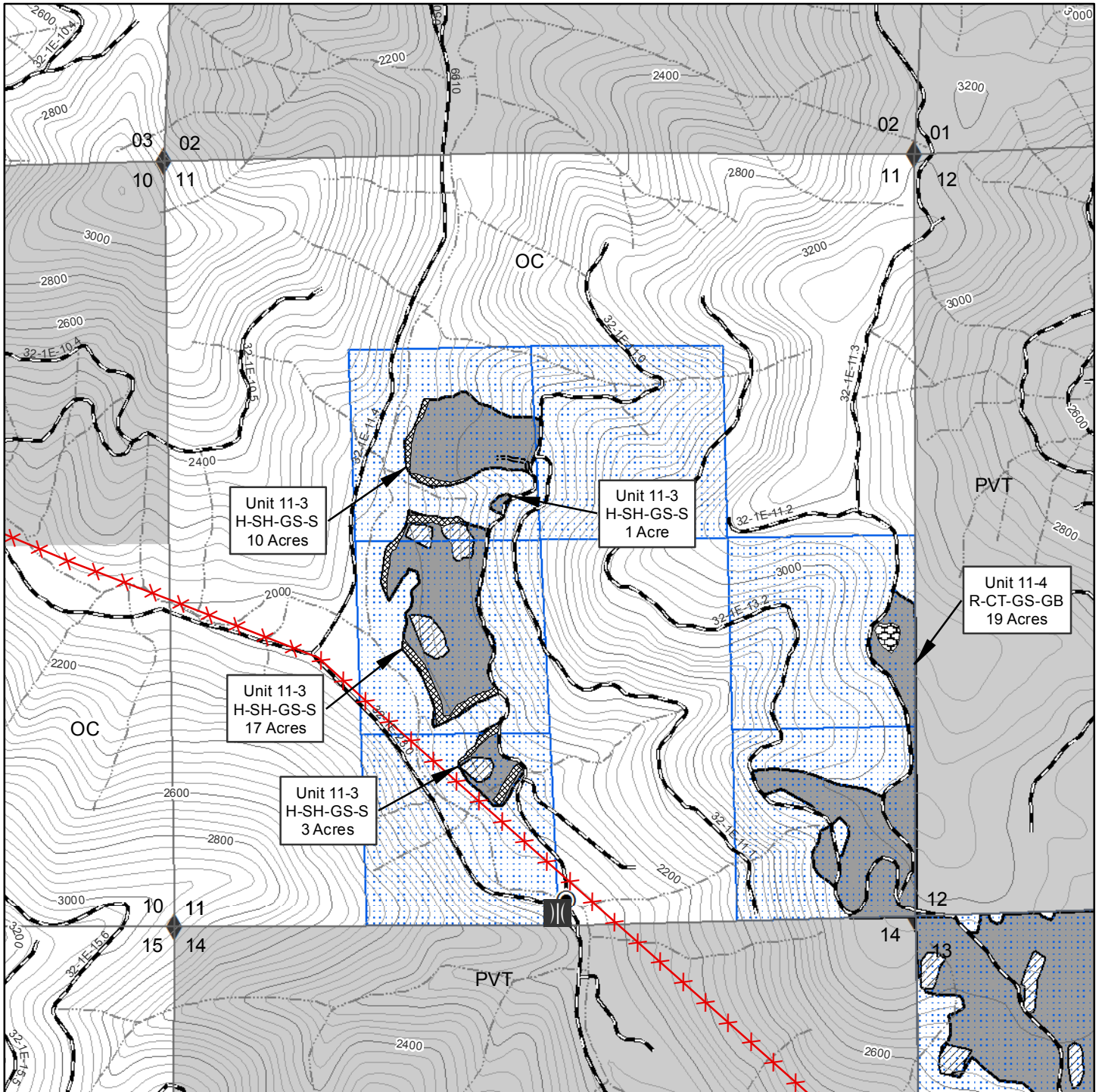
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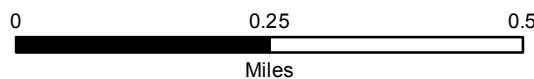




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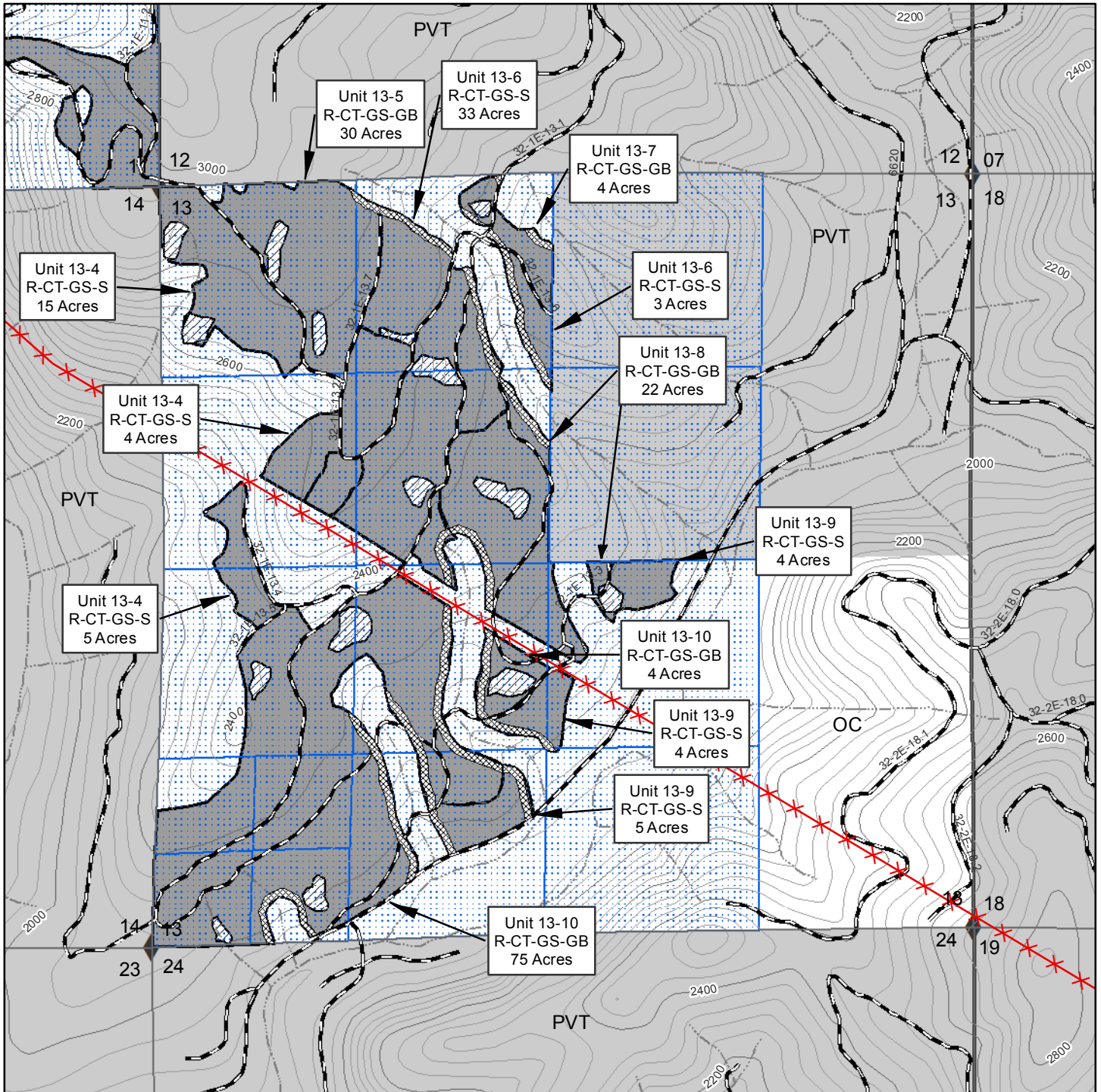
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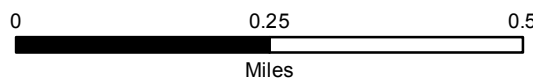
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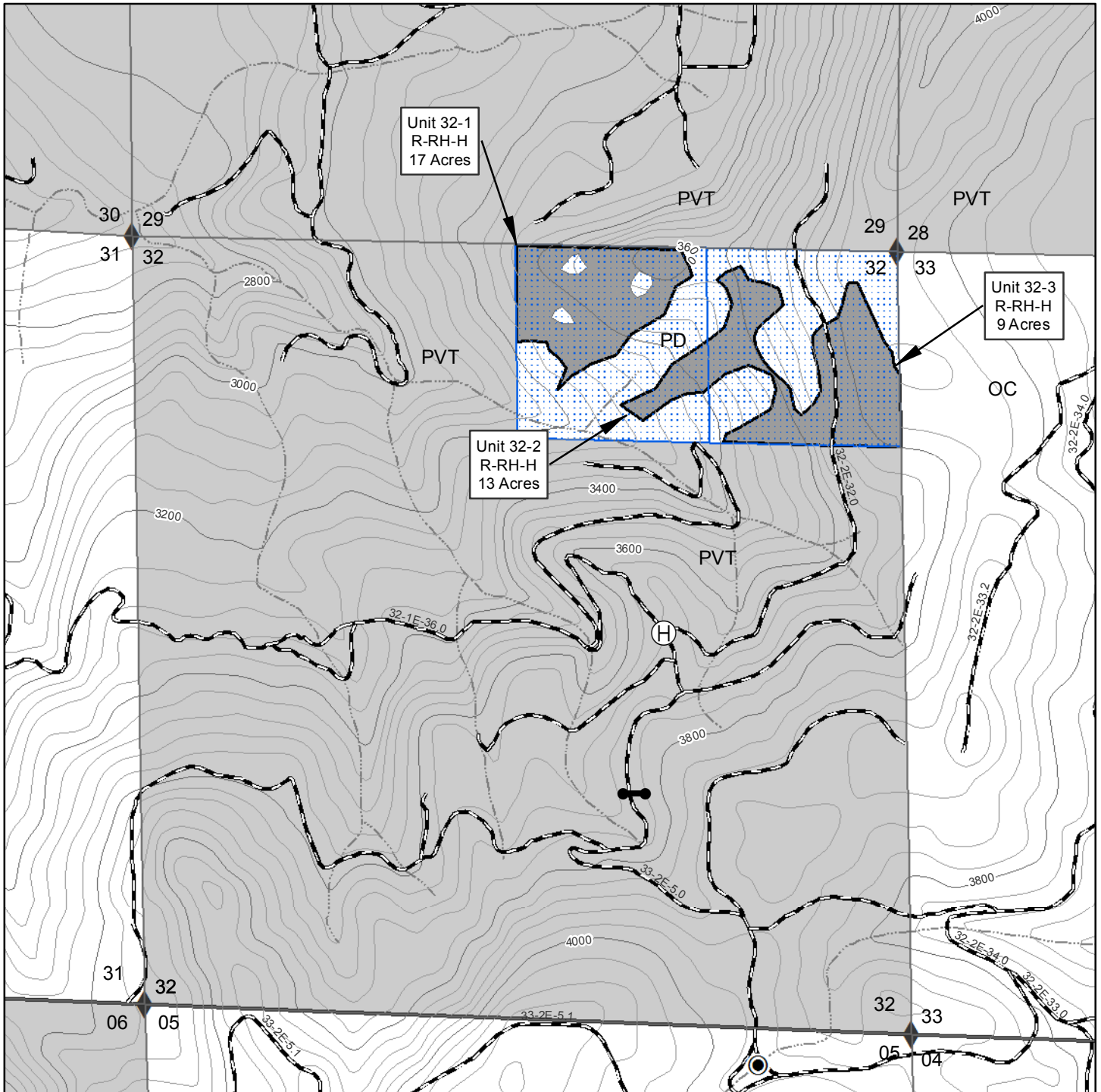
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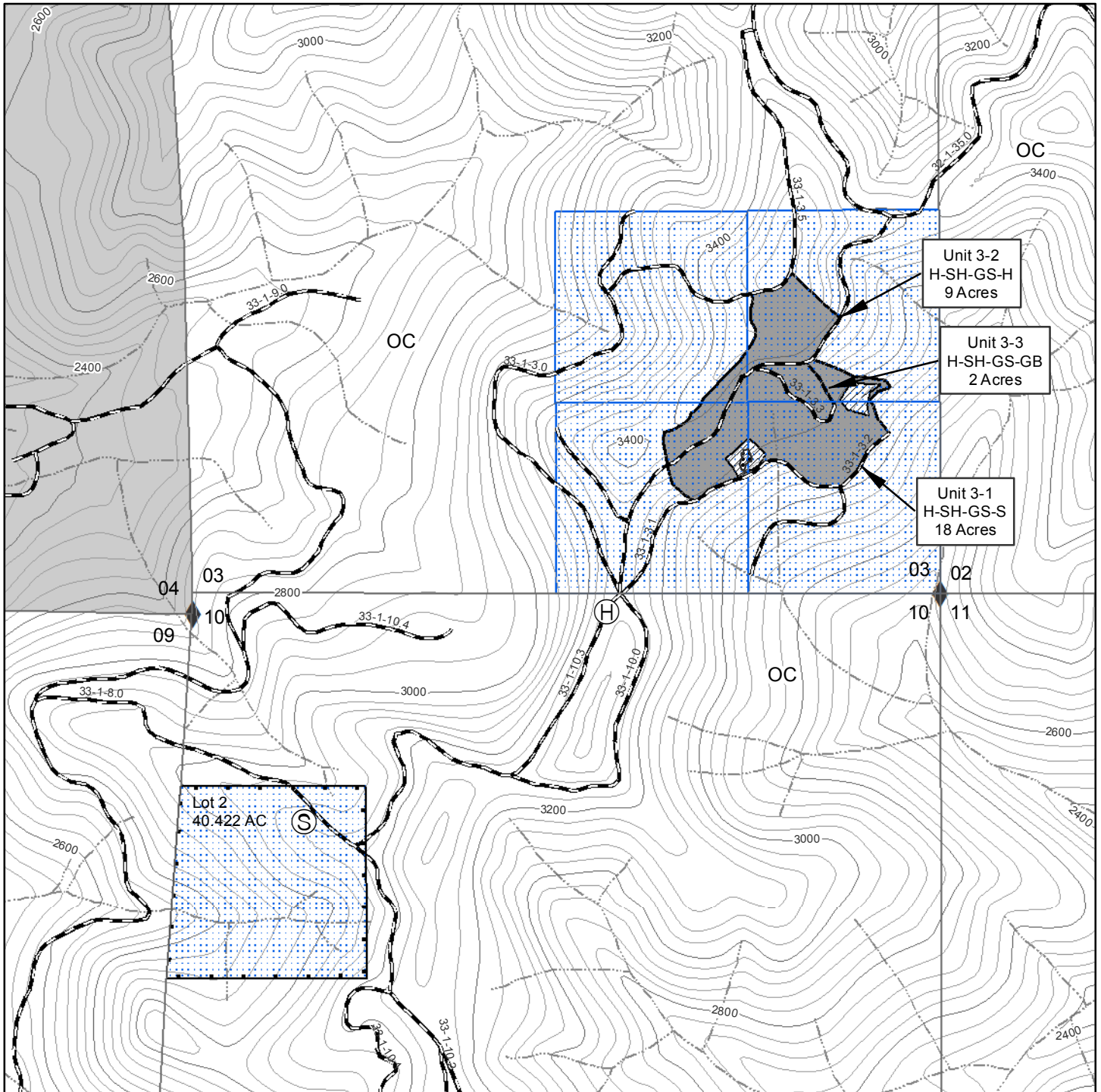
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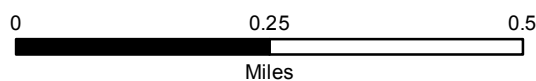




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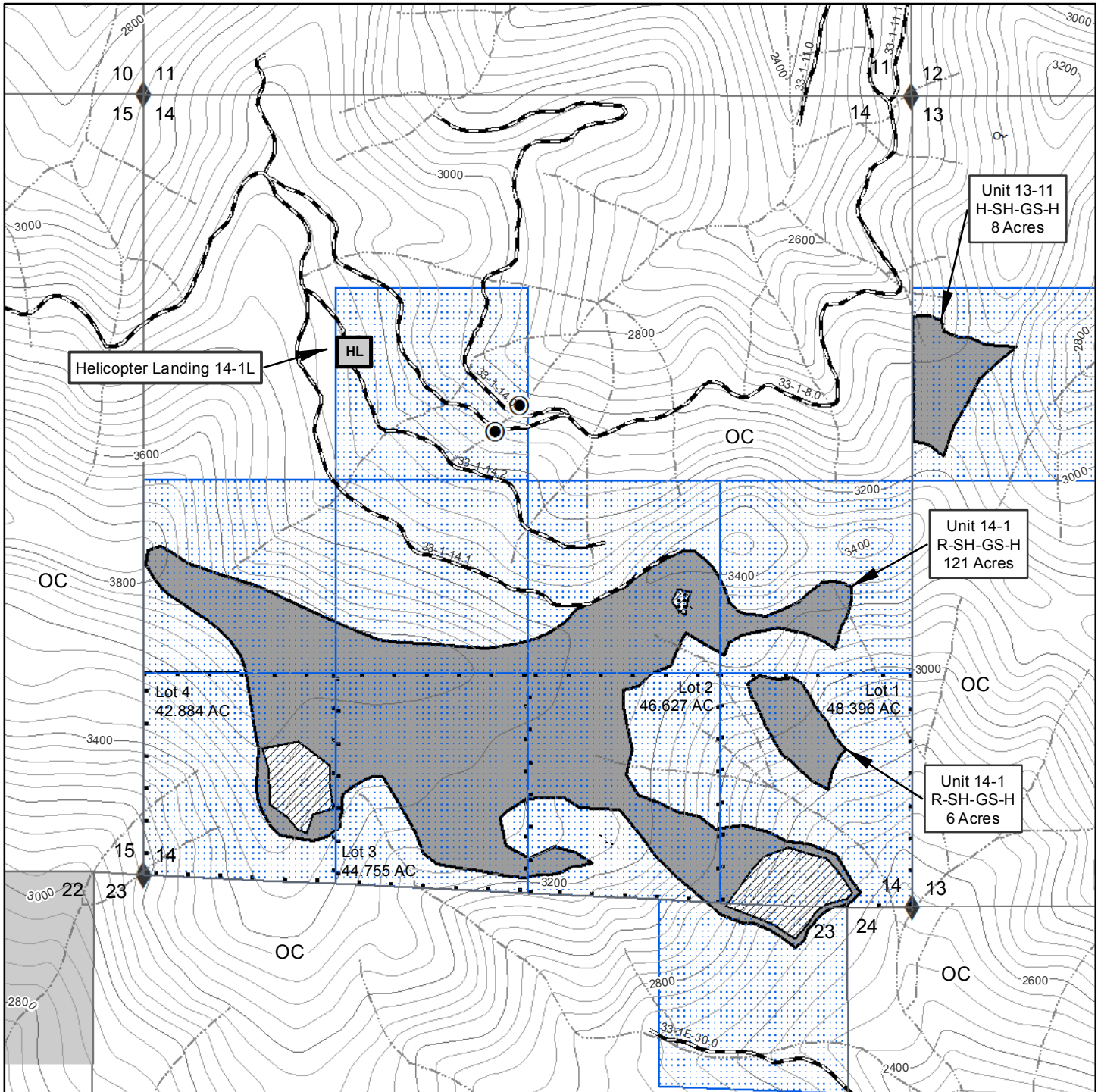
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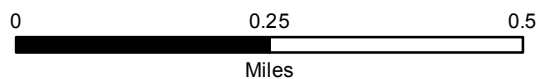
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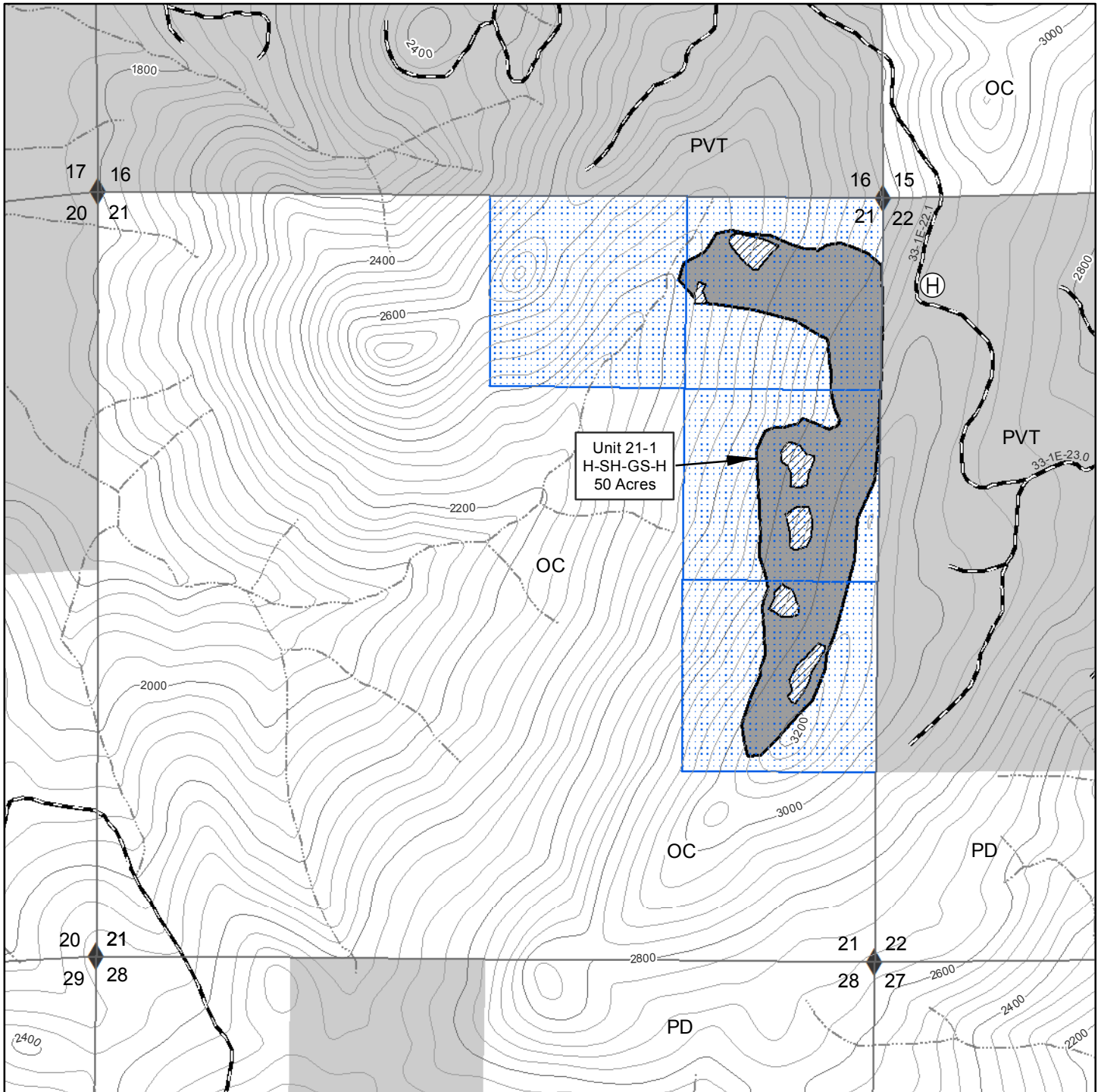
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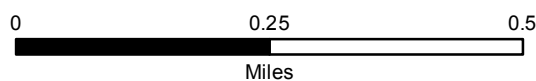




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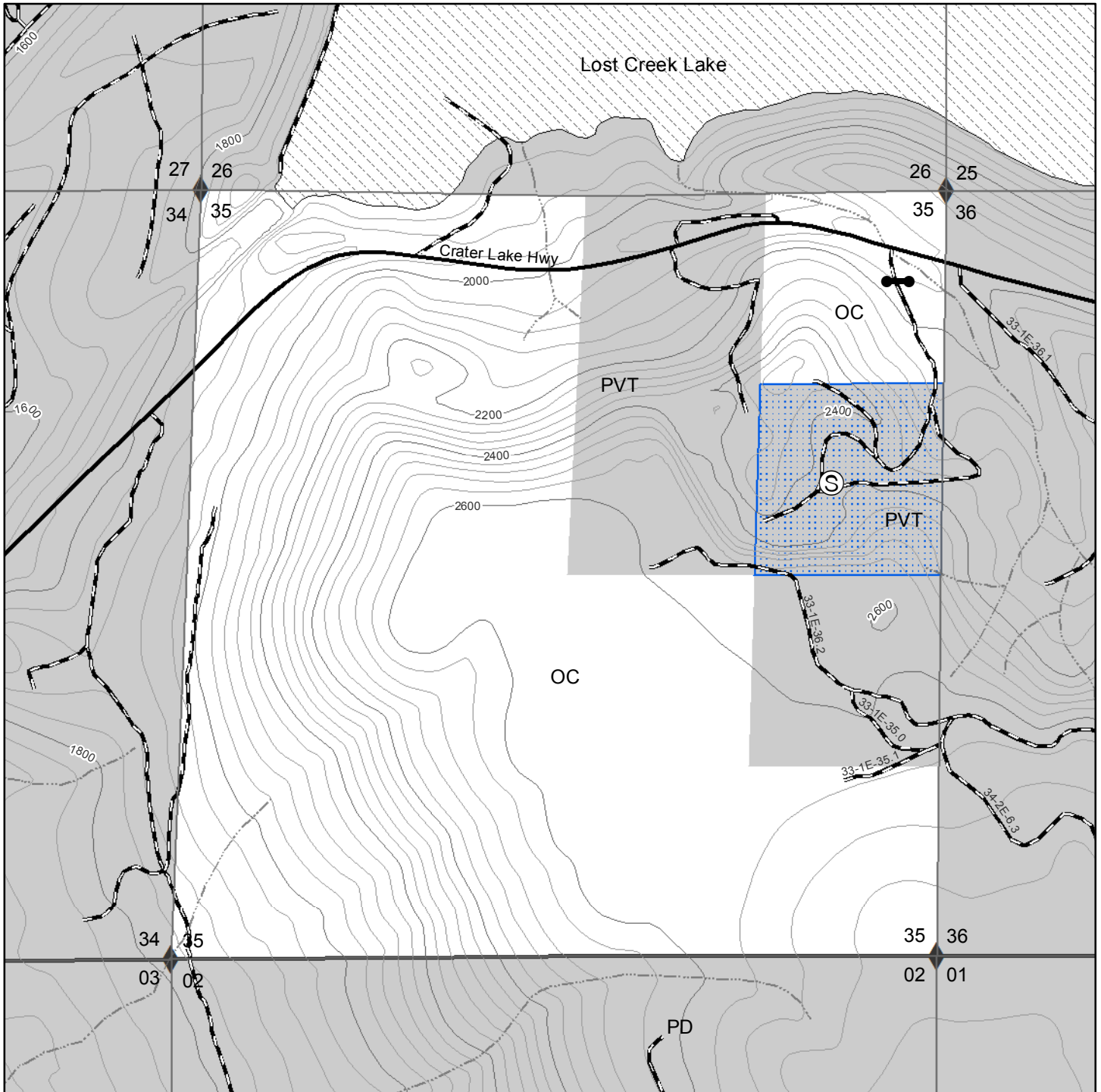
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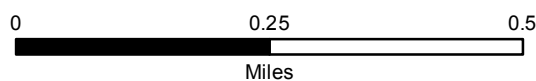






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









U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 2017-05  
 T. 32S. R. 01W., SEC 11, 12, 13, 23, 26, 27 WILL. MER.  
 T. 32S. R. 01E., SEC 07, 11, 13, 30, 31, 35 WILL. MER.  
 T. 32S. R. 02E., SEC 32 WILL. MER.  
 T. 33S. R. 01W., SEC 03, 13, 14, 23 WILL. MER.  
 T. 33S. R. 01E., SEC 21 WILL. MER.  
 SHADY ELK TIMBER SALE

TIMBER SALE CONTRACT MAP  
 CONTRACT NO. ORM05- TS-2017-05  
 EXHIBIT A  
 PAGE 15 OF 17

## Legend

- |  |   |
|--|---|
|  Helicopter                 |  Transmission Line           |
|  Log                        |  Stream                      |
|  Service                    |  40 ft. Intermediate Contour |
|  Found Corner               |  200 ft. Index Contour       |
|  Spring                     |  Boundary of Cutting Area    |
|  Quarry                     |  Riparian                    |
|  Water Source              |  Waterbody                   |
|  Low Water Crossing       |  Protected Site             |
|  Gate, Existing           |  Soil Buffer               |
|  Barricade, Existing      |  Government Lot            |
|  Road                     |  Contract Area             |
|  Swing Road               |  BLM Administered Land     |
|  Temporary Spur Road      |  Non-BLM Land              |
|  Pre-Designated Skid Road |  Skip Reserve Areas        |



U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 2017-05  
 T. 32S. R. 01W., SEC 11, 12, 13, 23, 26, 27 WILL. MER.  
 T. 32S. R. 01E., SEC 07, 11, 13, 30, 31, 35 WILL. MER.  
 T. 32S. R. 02E., SEC 32 WILL. MER.  
 T. 33S. R. 01W., SEC 03, 13, 14, 23 WILL. MER.  
 T. 33S. R. 01E., SEC 21 WILL. MER.  
 SHADY ELK TIMBER SALE

TIMBER SALE CONTRACT MAP  
 CONTRACT NO. ORM05- TS-2017-05  
 EXHIBIT A  
 PAGE 16 OF 17

R - CT - GS - GB	COMMERCIAL THIN, GROUP SELECTION (ORANGE PAINT) GROUND BASED: UNITS: 11-4, 13-5, 13-7, 13-8, 13-10
R - CT - GS - S	COMMERCIAL THIN, GROUP SELECTION (ORANGE PAINT) SKYLINE: UNITS: 13-4, 13-6, 13-9
R- RH - H	REGENERATION HARVEST (ORANGE PAINT) HELICOPTER: UNITS: 32-1, 32-2, 32-3
H - SH - GB	SELECTION HARVEST (BLUE PAINT) GROUND BASED: UNITS: 31-2
R - SH - GS- TS	SELECTION HARVEST, GROUP SELECTION (ORANGE PAINT) TRACTOR/SHOVEL: UNITS: 35-1
H - SH - GS - H	SELECTION HARVEST, GROUP SELECTION (BLUE PAINT) HELICOPTER: UNITS: 3-2, 7-1, 11-1, 13-1, 13-11, 21-1, 27-3, 27-5, 31-1
R - SH - GS- H	SELECTION HARVEST, GROUP SELECTION (ORANGE PAINT) HELICOPTER: UNITS: 23-1
R - SH - GS- H	SELECTION HARVEST, GROUP SELECTION (YELLOW PAINT) HELICOPTER: UNITS: 14-1
H - SH - GS - GB	SELECTION HARVEST, GROUP SELECTION (BLUE PAINT) GROUND BASED: UNITS: 3-3, 27-2
R - SH - GS - GB	SELECTION HARVEST, GROUP SELECTION (ORANGE PAINT) GROUND BASED: UNITS: 26-1, 35-2
H - SH - GS - S	SELECTION HARVEST, GROUP SELECTION (BLUE PAINT) SKYLINE: UNITS: 3-1, 11-2, 11-3, 13-2, 27-1, 27-4
R - SH - GS- S	SELECTION HARVEST, GROUP SELECTION (ORANGE PAINT) SKYLINE: UNITS: 13-3



U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 16-0015  
 T. 32S. R. 1W., SEC.11\*, 12, 13\*, 23\*, 26, 27, WILL. MER.  
 T. 33S. R. 1W., SEC. 3, 10, 13\*\*, 14, 23\*\*, Will. MER.  
 T. 32S. R. 1E., SEC. 7, 11\*\*, 13\*\*\*, 30, 31, 35, Will. MER.  
 T. 33S. R. 1E., SEC.21, 35, WILL. MER.  
 T. 32S. R. 2E., SEC.32, WILL. MER.  
 SHADY ELK TIMBER SALE

TIMBER SALE CONTRACT MAP  
 CONTRACT NO. ORM05-TS17-05  
 EXHIBIT A

Section Number	Unit Number	Unit Acres	Reserve Acres	Contract Acres
3	3-1, 3-2, 3-3	29	131	160
7	7-1	20	188	208
11*	11-1, 11-2	13	107	120
11**	11-3, 11-4	49	191	240
13*	13-1, 13-2, 13-3	19	61	80
13**	13-4, 13-5, 13-6, 13-7, 13-8, 13-9, 13-10	209	191	400
13***	13-11	8	32	40
14	14-1	127	233	360
21	21-1	50	110	160
23*	23-1	9	111	120
26	26-1	20	54	74
27	27-1, 27-2, 27-3, 27-4, 27-5	23	217	240
31	31-1, 31-2	50	117	167
32	32-1, 32-2, 32-3	39	41	80
35	35-1, 35-2	26	94	120
10	Service Landing	N/A	N/A	N/A
35	Service Landing	N/A	N/A	N/A
14	14-1L Helicopter landing	N/A	N/A	N/A
Totals		691	1878	2569





**Stumpage Summary**

**Stumpage Computation**

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value
Douglas Fir	27,183	5,102.0	\$583.15	\$58.32	\$416.47	\$0.00	\$108.40	\$553,056.80
White Fir	2,589	584.0	\$427.63	\$42.76	\$416.47	\$0.00	\$42.80 *	\$24,995.20
Ponderosa Pine	933	196.0	\$304.85	\$30.48	\$416.47	\$0.00	\$30.50 *	\$5,978.00
Incensecedar	528	47.0	\$497.51	\$49.75	\$416.47	\$0.00	\$49.80 *	\$2,340.60
Sugar Pine	135	20.0	\$293.44	\$29.34	\$416.47	\$0.00	\$29.40 *	\$588.00
<b>Totals</b>	<b>31,368</b>	<b>5,949.0</b>						<b>\$586,958.60</b>

\* Minimum Stumpage values were used to compute the Appraised Price/MBF (10% of Pond Value)

**Percent of Volume By Log Grade**

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Douglas Fir			2.0 %	50.0 %	42.0 %	6.0 %	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
White Fir				53.0 %	44.0 %	3.0 %	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill	No. 6 Sawmill	Camp Run

**Shady Elk TS**

**ORM05-TS-2017.0005**

<b>Ponderosa Pine</b>				72.0 %	26.0 %	2.0 %	
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<b>Species</b>	<b>No. 1 Sawmill</b>	<b>No. 2 Sawmill</b>	<b>No. 3 Sawmill</b>	<b>No. 4 Sawmill</b>	<b>No. 5 Sawmill</b>	<b>No. 6 Sawmill</b>	<b>Camp Run</b>
<b>Incense-cedar</b>				19.0 %	66.0 %	15.0 %	

<b>Species</b>	<b>No. 1 Sawmill</b>	<b>No. 2 Sawmill</b>	<b>No. 3 Sawmill</b>	<b>No. 4 Sawmill</b>	<b>No. 5 Sawmill</b>	<b>No. 6 Sawmill</b>	<b>Camp Run</b>
<b>Sugar Pine</b>				50.0 %	42.0 %	8.0 %	

**Unit Summary**

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<b>Species</b>	<b>Net</b>	<b>Gross Merch</b>	<b>Gross</b>	<b># of Trees</b>
<b>Douglas Fir</b>	43.0	48.0	50.0	123

<b>Totals:</b>	<b>43.0</b>	<b>48.0</b>	<b>50.0</b>	<b>123</b>
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Regeneration Harvest	0.0
Partial Cut	10.0
Right of Way	0.0

# Shady Elk TS

ORM05-TS-2017.0005

Unit: 3-1

Net Volume/Acre: 4.1 MBF

Total Acres:	10.0
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Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	69.0	76.0	79.0	358
White Fir	3.0	3.0	3.0	11
Ponderosa Pine	2.0	2.0	2.0	5
<b>Totals:</b>	<b>74.0</b>	<b>81.0</b>	<b>84.0</b>	<b>374</b>

Regeneration Harvest	0.0
Partial Cut	18.0
Right of Way	0.0
<b>Total Acres:</b>	<b>18.0</b>

Unit: 3-2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	40.0	44.0	46.0	177
White Fir	1.0	1.0	1.0	5
<b>Totals:</b>	<b>41.0</b>	<b>45.0</b>	<b>47.0</b>	<b>182</b>

Regeneration Harvest	0.0
Partial Cut	9.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

Unit: 3-3

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	12.0	53
<b>Totals:</b>	<b>10.0</b>	<b>11.0</b>	<b>12.0</b>	<b>53</b>

Regeneration Harvest	0.0
Partial Cut	2.0
Right of Way	0.0
<b>Total Acres:</b>	<b>2.0</b>

Unit: 7-1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	127.0	140.0	147.0	446
<b>Totals:</b>	<b>127.0</b>	<b>140.0</b>	<b>147.0</b>	<b>446</b>

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0

<b>Total Acres:</b>	<b>20.0</b>
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**Unit: 11-1**

**Net Volume/Acre: 4.3 MBF**

<b>Species</b>	<b>Net</b>	<b>Gross Merch</b>	<b>Gross</b>	<b># of Trees</b>
Douglas Fir	69.0	76.0	80.0	319

# Shady Elk TS

ORM05-TS-2017.0005

<b>Totals:</b>	<b>69.0</b>	<b>76.0</b>	<b>80.0</b>	<b>319</b>
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Regeneration Harvest	0.0
Partial Cut	11.0
Right of Way	0.0



**Unit: 11-2****Net Volume/Acre: 5.0 MBF****Total Acres:****11.0**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	15.0	16.0	17.0	28
<b>Totals:</b>	<b>15.0</b>	<b>16.0</b>	<b>17.0</b>	<b>28</b>

Regeneration Harvest	0.0
Partial Cut	3.0
Right of Way	0.0
<b>Total Acres:</b>	<b>3.0</b>

**Unit: 11-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	149.0	164.0	172.0	880
White Fir	118.0	129.0	131.0	498
<b>Totals:</b>	<b>267.0</b>	<b>293.0</b>	<b>303.0</b>	<b>1,378</b>

Regeneration Harvest	0.0
Partial Cut	31.0
Right of Way	0.0
<b>Total Acres:</b>	<b>31.0</b>

**Unit: 11-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	130.0	143.0	150.0	839
Ponderosa Pine	17.0	18.0	19.0	104
White Fir	4.0	5.0	5.0	21
Sugar Pine	1.0	1.0	1.0	7
<b>Totals:</b>	<b>152.0</b>	<b>167.0</b>	<b>175.0</b>	<b>971</b>

Regeneration Harvest	0.0
Partial Cut	19.0
Right of Way	0.0
<b>Total Acres:</b>	<b>19.0</b>

**Unit: 13-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	20.0	22.0	23.0	82

Regeneration Harvest	0.0
Partial Cut	5.0
Right of Way	0.0

**Shady Elk TS**

<b>Totals:</b>	<b>20.0</b>	<b>22.0</b>	<b>23.0</b>	<b>82</b>
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**ORM05-TS-2017.0005**

<b>Total Acres:</b>	<b>5.0</b>
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**Unit: 13-2**

**Net Volume/Acre: 6.3 MBF**

**Unit: 13-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	19.0	20.0	83
<b>Totals:</b>	<b>17.0</b>	<b>19.0</b>	<b>20.0</b>	<b>83</b>

**Unit: 13-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	222.0	244.0	255.0	1,519
Ponderosa Pine	9.0	9.0	10.0	47
Sugar Pine	1.0	1.0	1.0	7
<b>Totals:</b>	<b>232.0</b>	<b>254.0</b>	<b>266.0</b>	<b>1,573</b>

**Unit: 13-5**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	324.0	357.0	373.0	1,876
Ponderosa Pine	6.0	7.0	7.0	36
White Fir	1.0	1.0	1.0	3
Sugar Pine	1.0	1.0	2.0	10
Incense-cedar	1.0	1.0	1.0	6
<b>Totals:</b>	<b>333.0</b>	<b>367.0</b>	<b>384.0</b>	<b>1,931</b>

**Unit: 13-6****Net Volume/Acre: 5.7 MBF**

Regeneration Harvest	0.0
Partial Cut	3.0
Right of Way	0.0
<b>Total Acres:</b>	<b>3.0</b>

**Net Volume/Acre: 9.7 MBF**

Regeneration Harvest	0.0
Partial Cut	24.0
Right of Way	0.0
<b>Total Acres:</b>	<b>24.0</b>

**Net Volume/Acre: 11.1 MBF**

Regeneration Harvest	0.0
Partial Cut	30.0
Right of Way	0.0
<b>Total Acres:</b>	<b>30.0</b>

**Net Volume/Acre: 11.7 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	358.0	395.0	413.0	2,190
White Fir	57.0	62.0	63.0	265
Ponderosa Pine	5.0	6.0	6.0	29
Sugar Pine	1.0	1.0	2.0	8
Incense-cedar	1.0	1.0	1.0	8
<b>Totals:</b>	<b>422.0</b>	<b>465.0</b>	<b>485.0</b>	<b>2,500</b>

**Unit: 13-7**

Regeneration Harvest	0.0
Partial Cut	36.0
Right of Way	0.0
<b>Total Acres:</b>	<b>36.0</b>

**Net Volume/Acre: 11.3 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	37.0	41.0	42.0	287
White Fir	8.0	9.0	9.0	56
<b>Totals:</b>	<b>45.0</b>	<b>50.0</b>	<b>51.0</b>	<b>343</b>

**Unit: 13-8**

Regeneration Harvest	0.0
Partial Cut	4.0
Right of Way	0.0
<b>Total Acres:</b>	<b>4.0</b>

**Net Volume/Acre: 12.9 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	257.0	283.0	296.0	1,638
White Fir	17.0	19.0	19.0	75
Ponderosa Pine	7.0	8.0	8.0	42
Sugar Pine	1.0	1.0	2.0	11
Incense-cedar	1.0	1.0	1.0	12
<b>Totals:</b>	<b>283.0</b>	<b>312.0</b>	<b>326.0</b>	<b>1,778</b>

**Unit: 13-9**

Regeneration Harvest	0.0
Partial Cut	22.0
Right of Way	0.0
<b>Total Acres:</b>	<b>22.0</b>

**Net Volume/Acre: 10.2 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	76.0	84.0	88.0	509
White Fir	55.0	60.0	61.0	254
Ponderosa Pine	1.0	1.0	1.0	5
Sugar Pine	1.0	1.0	1.0	4
<b>Totals:</b>	<b>133.0</b>	<b>146.0</b>	<b>151.0</b>	<b>772</b>

**Unit: 13-10**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	649.0	715.0	748.0	4,085
White Fir	44.0	48.0	49.0	163
Ponderosa Pine	12.0	13.0	13.0	77
Sugar Pine	3.0	3.0	3.0	22
Incense-cedar	1.0	1.0	1.0	10
<b>Totals:</b>	<b>709.0</b>	<b>780.0</b>	<b>814.0</b>	<b>4,357</b>

**Unit: 13-11**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	23.0	25.0	26.0	96
<b>Totals:</b>	<b>23.0</b>	<b>25.0</b>	<b>26.0</b>	<b>96</b>

**Unit: 14-1**

Regeneration Harvest	0.0
Partial Cut	13.0
Right of Way	0.0
<b>Total Acres:</b>	<b>13.0</b>

**Net Volume/Acre: 9.0 MBF**

Regeneration Harvest	0.0
Partial Cut	79.0
Right of Way	0.0
<b>Total Acres:</b>	<b>79.0</b>

**Net Volume/Acre: 2.9 MBF**

Regeneration Harvest	0.0
Partial Cut	8.0
Right of Way	0.0
<b>Total Acres:</b>	<b>8.0</b>

**Net Volume/Acre: 8.4 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	931.0	1,024.0	1,075.0	5,417
White Fir	94.0	104.0	106.0	397
Ponderosa Pine	25.0	28.0	29.0	107
Sugar Pine	9.0	11.0	11.0	64
Incense-cedar	9.0	10.0	10.0	153
<b>Totals:</b>	<b>1,068.0</b>	<b>1,177.0</b>	<b>1,231.0</b>	<b>6,138</b>

**Unit: 14-1L**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	20.0	21.0	22.0	34
White Fir	10.0	10.0	12.0	66
Incense-cedar	1.0	1.0	1.0	6
<b>Totals:</b>	<b>31.0</b>	<b>32.0</b>	<b>35.0</b>	<b>106</b>

**Unit: 21-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	264.0	292.0	305.0	1,268
Incense-cedar	2.0	3.0	3.0	27
Ponderosa Pine	1.0	1.0	1.0	2
<b>Totals:</b>	<b>267.0</b>	<b>296.0</b>	<b>309.0</b>	<b>1,297</b>

**Unit: 23-1**

Regeneration Harvest	0.0
Partial Cut	127.0
Right of Way	0.0
<b>Total Acres:</b>	<b>127.0</b>

**Net Volume/Acre: 31.0 MBF**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	1.0
<b>Total Acres:</b>	<b>1.0</b>

**Net Volume/Acre: 5.3 MBF**

Regeneration Harvest	0.0
Partial Cut	50.0
Right of Way	0.0
<b>Total Acres:</b>	<b>50.0</b>

**Net Volume/Acre: 11.2 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	79.0	87.0	91.0	240
White Fir	22.0	24.0	24.0	59
<b>Totals:</b>	<b>101.0</b>	<b>111.0</b>	<b>115.0</b>	<b>299</b>

**Unit: 26-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	87.0	96.0	100.0	460
Ponderosa Pine	64.0	69.0	71.0	335
White Fir	6.0	7.0	7.0	21
Incense-cedar	1.0	1.0	1.0	8
<b>Totals:</b>	<b>158.0</b>	<b>173.0</b>	<b>179.0</b>	<b>824</b>

**Unit: 27-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	41.0	45.0	47.0	139
White Fir	22.0	24.0	24.0	87
Incense-cedar	3.0	3.0	3.0	18
<b>Totals:</b>	<b>66.0</b>	<b>72.0</b>	<b>74.0</b>	<b>244</b>

**Unit: 27-2**

Regeneration Harvest	0.0
Partial Cut	9.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

**Net Volume/Acre: 7.9 MBF**

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0
<b>Total Acres:</b>	<b>20.0</b>

**Net Volume/Acre: 6.6 MBF**

Regeneration Harvest	0.0
Partial Cut	10.0
Right of Way	0.0
<b>Total Acres:</b>	<b>10.0</b>

**Net Volume/Acre: 4.7 MBF**



Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	18.0	19.0	59
White Fir	9.0	10.0	10.0	40
Incense-cedar	2.0	2.0	2.0	15
<b>Totals:</b>	<b>28.0</b>	<b>30.0</b>	<b>31.0</b>	<b>114</b>

**Unit: 27-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	11.0	44
White Fir	1.0	1.0	1.0	5
<b>Totals:</b>	<b>11.0</b>	<b>12.0</b>	<b>12.0</b>	<b>49</b>

**Unit: 27-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	12.0	52
White Fir	1.0	1.0	1.0	4
<b>Totals:</b>	<b>11.0</b>	<b>12.0</b>	<b>13.0</b>	<b>56</b>

**Unit: 27-5**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	27.0	29.0	31.0	116
White Fir	7.0	8.0	8.0	29
<b>Totals:</b>	<b>34.0</b>	<b>37.0</b>	<b>39.0</b>	<b>145</b>

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
<b>Total Acres:</b>	<b>6.0</b>

**Net Volume/Acre: 5.5 MBF**

Regeneration Harvest	0.0
Partial Cut	2.0
Right of Way	0.0
<b>Total Acres:</b>	<b>2.0</b>

Regeneration Harvest	0.0
Partial Cut	1.0
Right of Way	0.0
<b>Total Acres:</b>	<b>1.0</b>

Regeneration Harvest	0.0
Partial Cut	4.0
Right of Way	0.0
<b>Total Acres:</b>	<b>4.0</b>

**Unit: 31-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	200.0	220.0	230.0	851
Ponderosa Pine	2.0	3.0	3.0	11
White Fir	1.0	1.0	1.0	3
<b>Totals:</b>	<b>203.0</b>	<b>224.0</b>	<b>234.0</b>	<b>865</b>

**Unit: 31-2**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	25.0	28.0	29.0	123
Ponderosa Pine	4.0	4.0	4.0	12
White Fir	2.0	2.0	2.0	8
Sugar Pine	2.0	2.0	2.0	2
<b>Totals:</b>	<b>33.0</b>	<b>36.0</b>	<b>37.0</b>	<b>145</b>

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	239.0	263.0	276.0	663
White Fir	15.0	16.0	17.0	53
Ponderosa Pine	9.0	9.0	10.0	23

**Net Volume/Acre: 4.5 MBF**

Regeneration Harvest	0.0
Partial Cut	45.0
Right of Way	0.0
<b>Total Acres:</b>	<b>45.0</b>

**Net Volume/Acre: 6.6 MBF**

Regeneration Harvest	0.0
Partial Cut	5.0
Right of Way	0.0
<b>Total Acres:</b>	<b>5.0</b>

Incense-cedar	8.0	9.0	10.0	95
<b>Totals:</b>	<b>271.0</b>	<b>297.0</b>	<b>313.0</b>	<b>834</b>

**Unit: 32-1 Net Volume/Acre:  
10.8 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	170.0	187.0	196.0	718
Ponderosa Pine	9.0	10.0	10.0	33
Incense-cedar	4.0	4.0	4.0	36
White Fir	1.0	1.0	1.0	7
<b>Totals:</b>	<b>184.0</b>	<b>202.0</b>	<b>211.0</b>	<b>794</b>

Regeneration Harvest	0.0
Partial Cut	17.0
Right of Way	0.0
<b>Total Acres:</b>	<b>17.0</b>

**Unit: 32-2**

**Net Volume/Acre: 23.4 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	259.0	285.0	299.0	836
Ponderosa Pine	21.0	22.0	23.0	54
White Fir	13.0	15.0	15.0	44
Incense-cedar	11.0	13.0	13.0	113
<b>Totals:</b>	<b>304.0</b>	<b>335.0</b>	<b>350.0</b>	<b>1,047</b>

Regeneration Harvest	13.0
Partial Cut	0.0
Right of Way	0.0
<b>Total Acres:</b>	<b>13.0</b>

**Unit: 32-3 Net Volume/Acre: 30.1 MBF Unit: 35-1 Net Volume/Acre: 2.8 MBF**

Regeneration Harvest	9.0
Partial Cut	0.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	18.0	19.0	81
<b>Totals:</b>	<b>17.0</b>	<b>18.0</b>	<b>19.0</b>	<b>81</b>

**Unit: 35-2**

Species	Net	Gross Merch	Gross	# of Trees
White Fir	72.0	79.0	81.0	415
Douglas Fir	71.0	79.0	82.0	494
Ponderosa Pine	2.0	2.0	3.0	11
Incense-cedar	2.0	2.0	2.0	21
<b>Totals:</b>	<b>147.0</b>	<b>162.0</b>	<b>168.0</b>	<b>941</b>

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
<b>Total Acres:</b>	<b>6.0</b>

**Net Volume/Acre: 7.4 MBF**

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0
<b>Total Acres:</b>	<b>20.0</b>

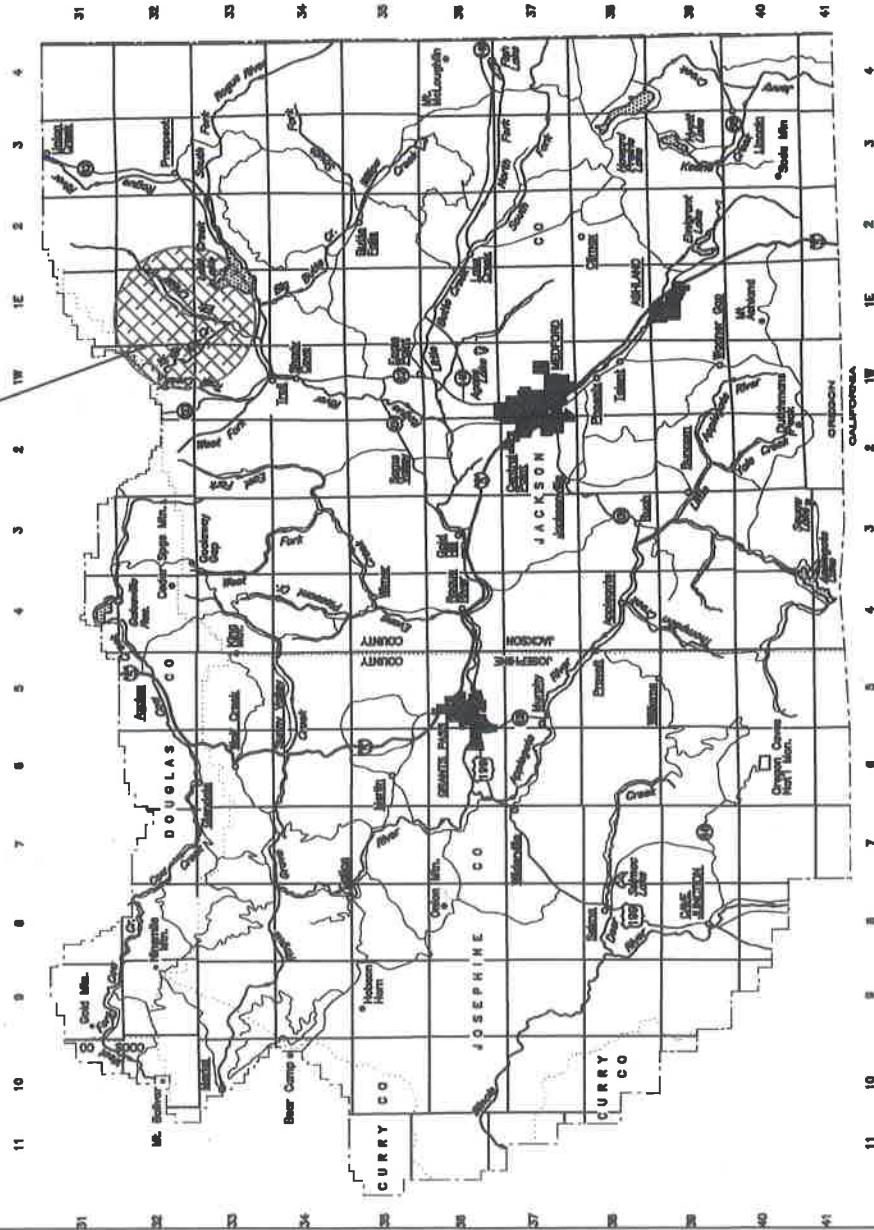


**EXHIBIT C-1  
SHEET 1 OF 1**

**UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT  
SHADY ELK TIMBER SALE  
TRACT NO. ORM05-TS-2017-0005**

Exhibit No.	Description
C-1	TITLE SHEET
C-2	ROAD LOCATION MAP
C-3	ESTIMATE OF QUANTITIES
C-4	TYPICAL ROAD DATA
C-5	CULVERT LIST
C-6	CULVERT INSTALLATION DETAILS
C-7	CULVERT BAND DETAILS
C-8	DRAINAGE AND EROSION CONTROL DETAILS
C-9	TYPICAL ARMORED WATER DIP DETAILS
C-10	STEEL PIPE GATE FABRICATION
C-11	STEEL PIPE GATE INSTALLATION
C-12	ROADSIDE BRUSHING DETAILS
C-13	ROAD RENOVATION WORK LIST
C-14	TEMP ROUTE WORK LIST
C-15	ROAD SPECIFICATIONS
C-16	SPECIAL PROVISIONS
D-1	ROAD MAINTENANCE SPECIFICATIONS
D-2	ROAD MAINTENANCE MAP
D-3	ROAD DECOMMISSIONING WORK LIST
D-4	ROAD DECOMMISSIONING MAP

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REV. NO.	DESCRIPTION	DATE	APPROV.
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON		
<b>SHADY ELK T.S. TITLE SHEET</b>			
	DESIGNED	1/14/17	[Signature]
	REVIEWED		[Signature]
	APPROVED		[Signature]
	DRAWN	JAB	SCALE AS SHOWN
	DATE	JULY 2017	SHEET 1 OF 1
	DRAWING NO.	ORM05-TS-2017-0005-C1	







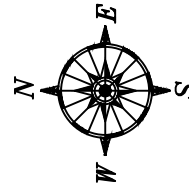


# EXHIBIT C-2

SHEET 2 OF 6

SHADY ELK TIMBER SALE  
TRACT NO.:  
ORM05-TS-2017-0005

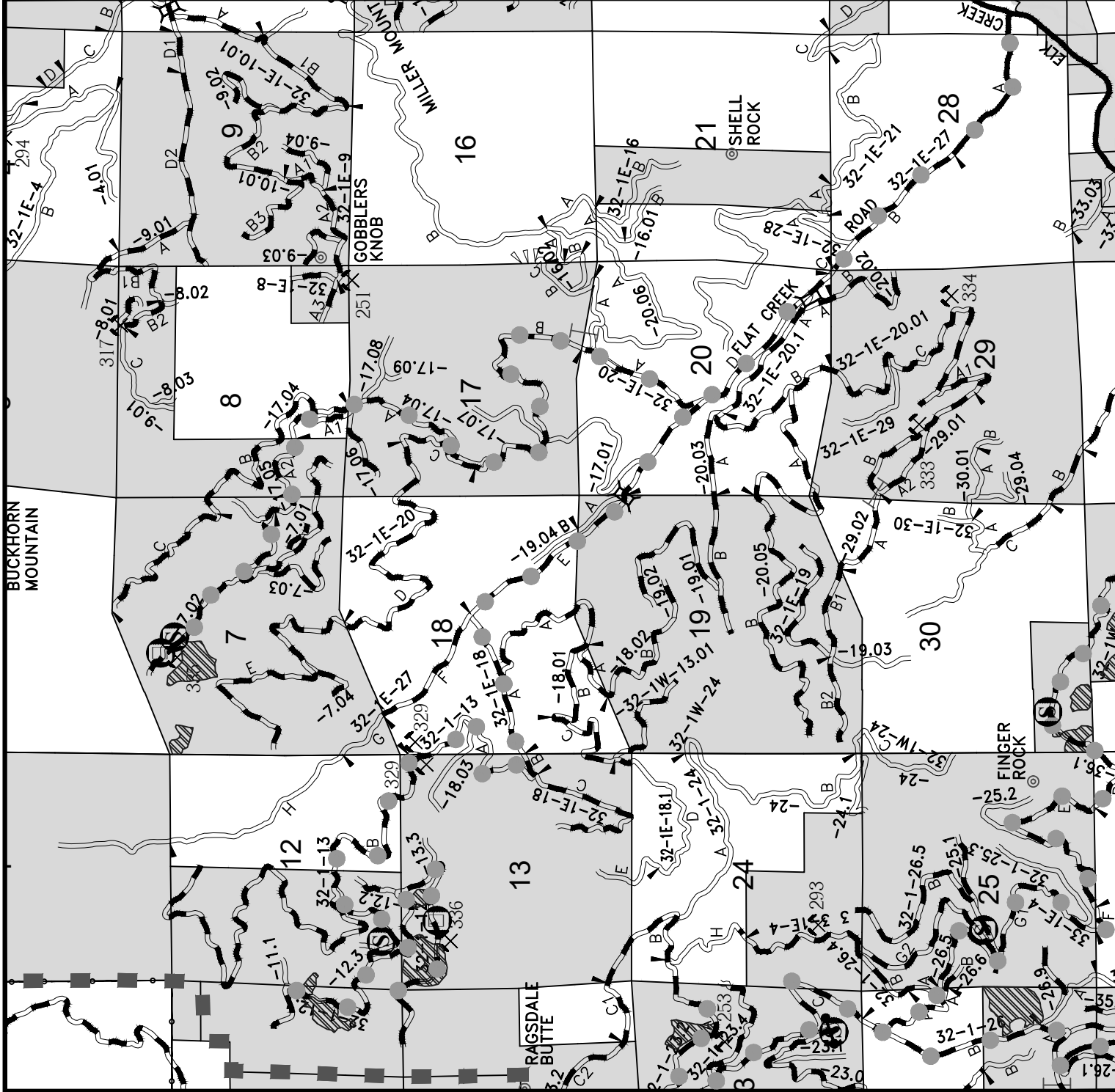
- BLM OWNERSHIP
- T.S. UNITS
- BST ROAD
- ROCKED ROAD
- NAT. SURFACE ROAD
- PRIMITIVE ROUTE
- ROAD RENOVATION & ROADSIDE BRUSHING
- STOCKPILE SITE
- CONSTRUCT HELICOPTER LANDING



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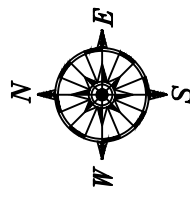
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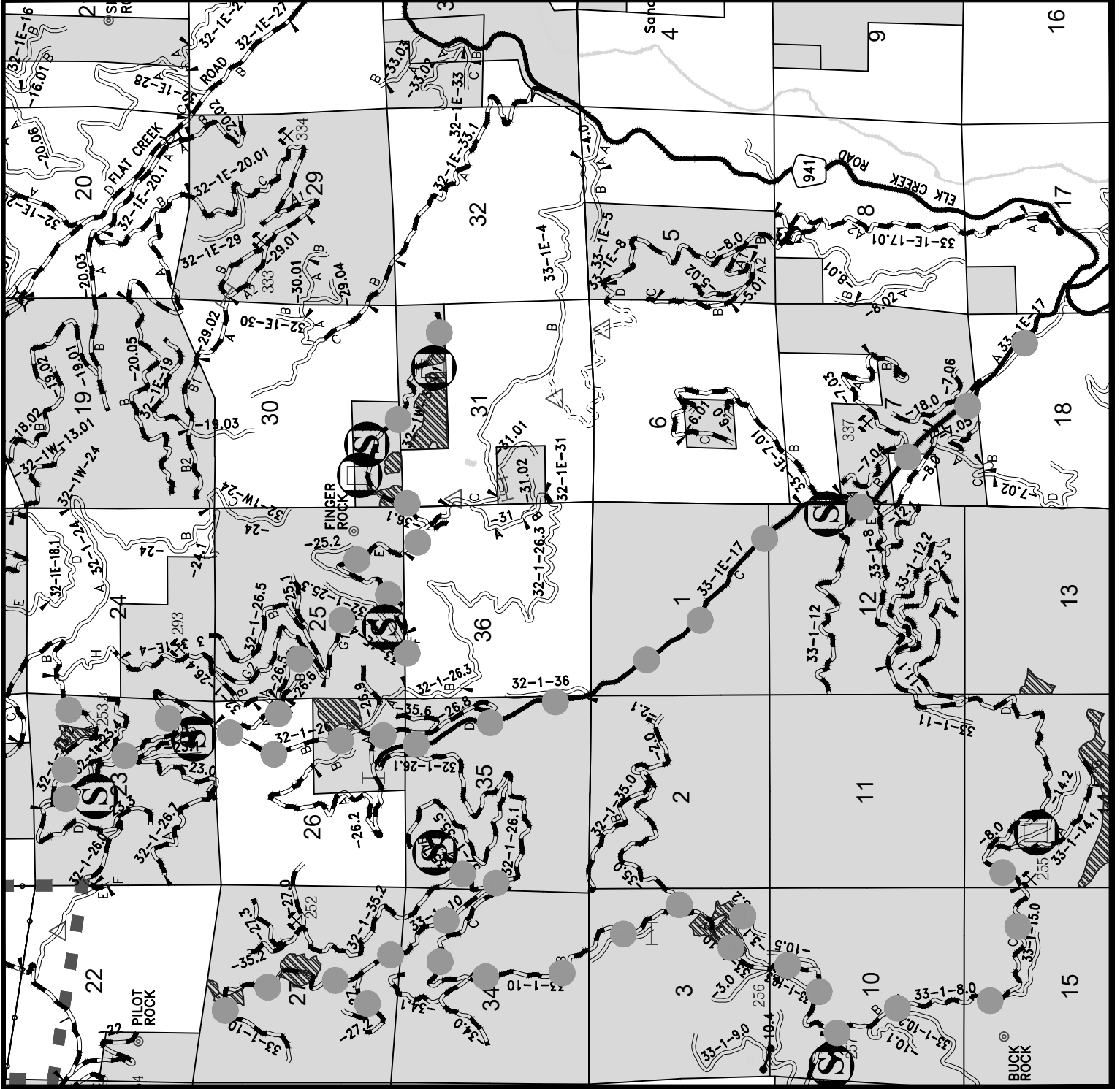
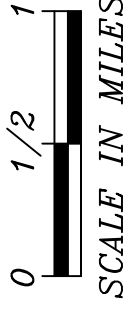


**EXHIBIT C-2**  
**SHEET 3 OF 6**  
**SHADY ELK TIMBER SALE**  
**TRACT NO.:**  
**ORM05-TS-2017-0005**

-  BLM OWNERSHIP
-  T.S. UNITS
-  BST ROAD
-  ROCKED ROAD
-  NAT. SURFACE ROAD
-  PRIMITIVE ROUTE
-  ROAD RENOVATION & ROADSIDE BRUSHING
-  TEMP ROUTES
-  STOCKPILE SITE
-  CONSTRUCT HELICOPTER LANDING



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# EXHIBIT C-2

SHEET 4 OF 6

SHADY  L  TIMBER SAL

TRACT  O

ORM05-TS-201  0005

BLM  O  R  S  H  I  P

T.S.   I  T  S

B  S  T  R  O  A  D

R  O  C  C  R  O  A  D

A  T  S  R  F  A  C  R  O  A  D

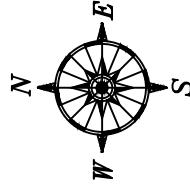
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R  O  A  D  R  O  O  V  A  T  I  O  N   R  O  A  D  S  I  D  B  R  O  S  H  I  G

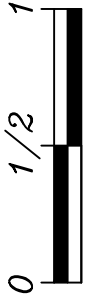
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S  T  O  C  P  I  L  O  S  I  T

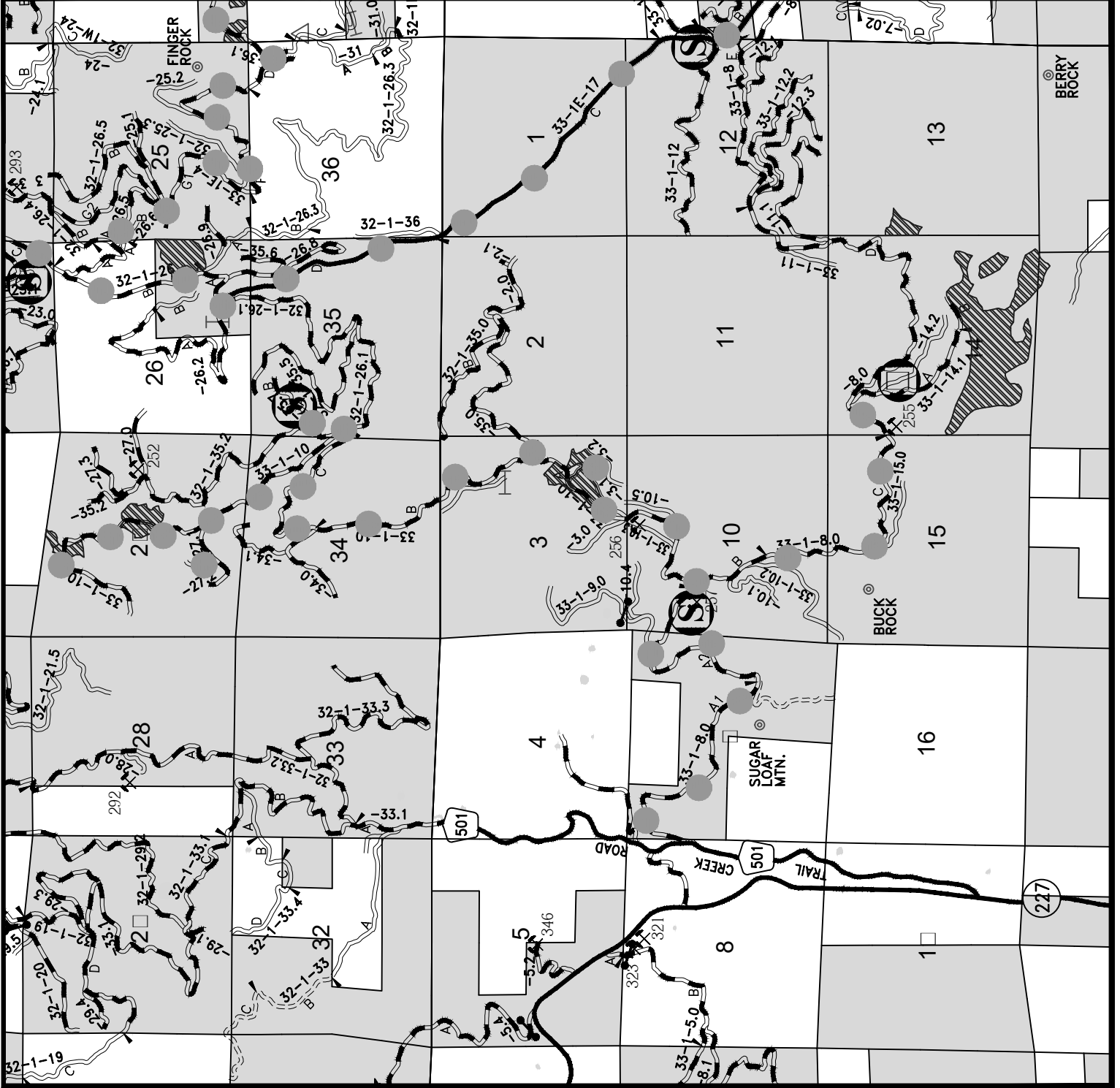
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SCALE IN MILES



















ROAD NUMBER	FROM	TO	LENGTH	CLEARING AND GRUBBING	EXCAVATION		CORRUGATED METAL PIPE						RENOVATION	ROAD RECONSTRUCTION	ARMORED WATER DIPS***	Slope Protection - Class III Rip Rap	AGGREGATE**			SOIL STABILIZATION	ROADSIDE BRUSHING - CHIP	MEGA GATE INSTALLATION	WATERBARS ****	EARTHEN BARRICADE ****	DECOMMISSION****		
					ROCK	COMMON	SIZE										Remove 18"	18" DS	24" DS							30" DS	Pit Run
SPECIFICATION NO.	MP/STA	MP/STA	MILE/STA	ACRE	300	400	400	400	400	400	400	400	400	400	400	400	400	700	1200	400	1800	2100	2100	EA.	EA.	MILE	
32-1W-23.02 A	0.00	0.89	0.89																								
32-1W-26.00A-C	0.00	2.66	2.66		300														50			0.89					
32-1W-26.04 A	0.00	0.42	0.42																								
32-1W-26.05 A	0.00	0.60	0.60																								
32-1W-27.01	0.00	0.38	0.38																								
32-1W-35.02	0.00	0.26	0.26																								
32-1W-35.07	0.00	0.12	0.12																								
32-1W-36.01	0.00	1.49	1.49	0.40																							
32-2E-34.00 A-D	0.00	3.80	3.80																								
33-1E-4.00 D-G1	0.00	2.13	2.13																								
33-1E-17.00 A	0.00	4.66	4.66																								
33-1E-22.01	0.00	0.38	0.38	0.75																							
33-1E-23.00A2-B	0.00	1.61	1.61																								
33-1E-27.00 B-M	0.00	6.93	6.93																								
33-1W-3.01	0.00	0.38	0.38																								
33-1W-3.02	0.00	0.10	0.10																								
33-1W-3.03	0.00	0.15	0.15																								
33-1W-8.00 A-D	0.00	5.23	5.23																								
33-1W-10.00 A-D	0.00	5.65	5.65																								
33-1W-14.01 A-C	0.00	0.88	0.88	0.75																							
33-1W-14.02	0.00	0.14	0.14	1.50																							
33-1W-14.02	0.00	0.84	0.84																								
33-2E-5.00 A-C	0.00	0.84	0.84		40																						
PAGE 1 TOTALS																											
PAGE 2 TOTALS																											
PROJECT TOTALS																											

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ITEM 1200

SIZE GRADE  
1 1/2inch C-C-1  
1 inch D-F  
3/4inch E-E-1 (Stockpile Rock)

\*\*Indicate gradation.

\*\*\*Armored water dip aggregate quantities calculated at 40 CY per AWD and are accounted for in aggregate column under 4" minus grade A and 20 CY per AWD are accounted under crushed surface (stockpiled). AWDs on natural surface will not be surfaced with 20 CY of stockpiled crushed surfacing.

\*\*\*\* Work to be completed under Exhibit D.

\*\*\*\*\* Quantities costs covered for under splash pads under drainage.

UNITED STATES DEPARTMENT OF THE  
INTERIOR BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT MEDFORD, OREGON

ESTIMATE OF QUANTITIES\*

\* FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

DRAWN: JAB SCALE NONE  
DATE: JULY 2017 SHEET 2 OF 3  
DRAWING NO. ORM05-TS-2017-0005-C3

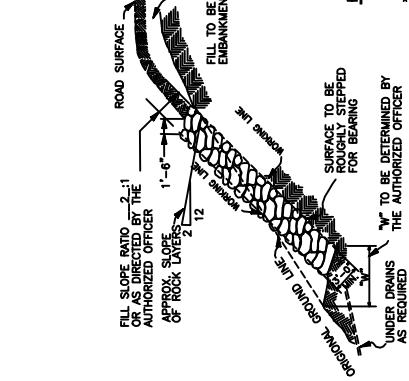
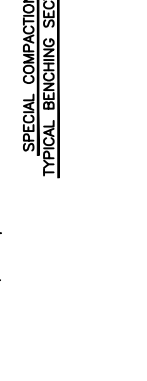
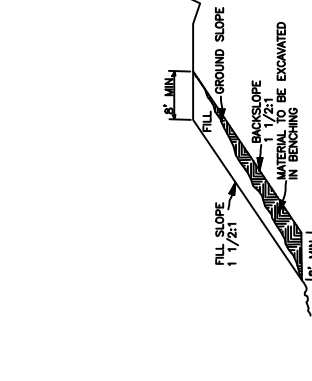
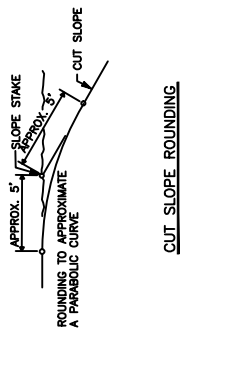
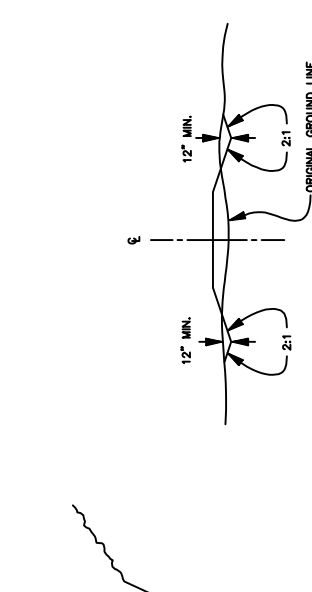
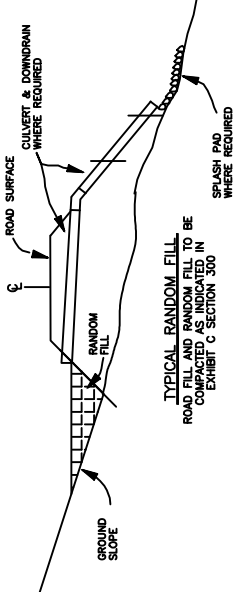
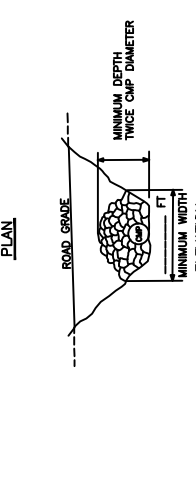
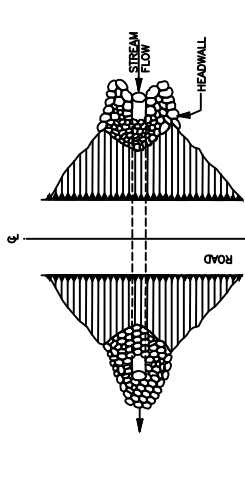
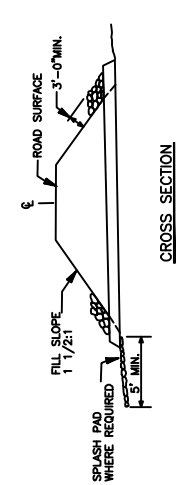




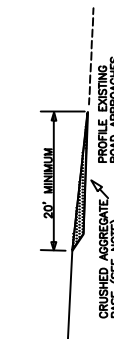
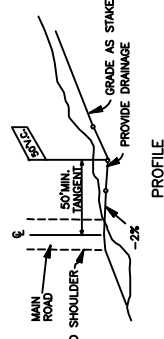
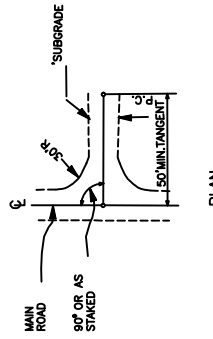




EXHIBIT C-4  
SHEET 1 OF 1  
SHADY ELK T.S.



TYPICAL ROAD APPROACHES



- NOTES:
- THE PROFILE OF EXISTING APPROACH ROADS SHALL BE MAINTAINED UNLESS OTHERWISE INDICATED BY THE ROAD DESIGNER.
  - THE CRUSHED AGGREGATE BASE SHALL BE OF THE SAME GRADATION AS USED IN THE ADJACENT ROADWAYS.
  - APPROACHES SHALL BE FINISHED WITH THE SAME TREATMENT AS SHOWN FOR THE ADJACENT ROADWAYS.

- NOTES:
- RIPRAP SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT DAMAGE THE CULVERT.
  - TRENCHING WILL BE DONE AS REQUIRED BY THE AUTHORIZED OFFICER.
  - MINIMUM DEPTH OF SPLASH PADS SHALL BE 1 FT.
  - SPLASH PAD MINIMUM QUANTITY DESIGNATED IN WORK LIST.
  - RIPRAP SHALL BE PLACED BEFORE OCTOBER 15TH OF THE YEAR THE CMP IS INSTALLED.

REV. NO.	DESCRIPTION	DATE	APPROVED

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT MEDFORD, OREGON

TYPICAL  
ROAD DATA

DESIGNED	BLM
REVIEWED	
APPROVED	
DRAWN	BLM
SCALE	NONE
DATE	JULY 2017
SHEET	1 OF 1
DRAWING NO.	ORMD05-TS-2017-0005-C4

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SLOPE PROTECTION ROCK  
SEE EXHIBIT C SECTION 1400

ROCK BLANKETS AND STRUCTURE  
SEE EXHIBIT C SECTION 1400

\* AS SHOWN IN RENOVATION WORKLIST.



CULVERT LOCATIONS										REMARKS				
DESIGNED					AS BUILT						SPASH PADS CUBIC YARDS			
ROAD NO.	STATION OR M.P.	SIZE	GAGE	LENGTH	SKEW ANGLE	STATION OR M.P.	SIZE	GAGE	LENGTH					
										1/2 ROUND	FULL ROUND	RECT. FLUME		
										LENGTH	LENGTH	LENGTH	LENGTH	
32-1E-7.01	0.12	18" 16 34'									18" 20'			Installation Type 2
	0.29	18" 16 30'									18" 20'			Installation Type 2
32-1E-11.00 A	0.35	18" 16 40'											2	Installation Type 2
	0.50	18" 16 30'									18" 20'			Installation Type 2
	0.66	18" 16 40'											2	Installation Type 2
	0.73	18" 16 40'											2	Installation Type 2
32-1E-11.02 A	0.21	18" 16 40'											2	Installation Type 2
	0.33	18" 16 40'								18" 20'			2	Installation Type 3
	0.43	18" 16 36'									18" 20'			Re-attache existing half round downspout
32-1E-13.01 A1	0.16	18" 16 32'									18" 20'			Installation Type 2
	0.20	24" 16 42'											2	Installation Type 1
	0.67	24" 16 50'											2	Installation Type 3
	0.72	24" 16 40'											2	Installation Type 3
	0.78	18" 16 40'											2	Installation Type 3
	1.38	18" 16 50'											2	Installation Type 3
	1.46	18" 16 30'											2	New Installation
	1.53	18" 16 40'											2	Installation Type 3
	1.72	18" 16 40'									18" 20'			Installation Type 2
	1.75	18" 16 40'											2	Installation Type 3
	1.86	18" 16 40'											2	Installation Type 3
32-1E-13.02 A	0.14	18" 16 42'											2	Installation Type 3
	0.71	18" 16 36'											2	Installation Type 3
	0.83	18" 16 46'											2	Installation Type 3
PAGE 1 TOTAL 18" CMP: 766 Linear Feet														
PAGE 1 TOTAL 18" FRDS: 120 Linear Feet														
PAGE 1 TOTAL 24" CMP: 132 Linear Feet														
PAGE 1 TOTAL RIPRAP: 32 Cubic Yards														

NOTES:

- A. Designed culvert lengths and locations are approximate. Actual lengths and locations will be staked in the field.
- B. Summary of quantities are shown on drawing Exhibit C-3 (Estimate of Quantities).
- C. All culverts and bands shall be aluminized.



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT - MEDFORD, OREGON

SHADY ELK T.S.  
CULVERT LIST

DRAWN: JAB SCALE: AS SHOWN  
DATE: JULY 2017 SHEET 1 OF 4  
DRAWING NO. ORM05-TS-2017-0005-C5



NOTES:

- A. Designed culvert lengths and locations are approximate. Actual lengths and locations will be staked in the field.
- B. Summary of quantities are shown on drawing Exhibit C-3 (Estimate of Quantities).
- C. All culverts and bands shall be aluminized.



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT - MEDFORD, OREGON

SHADY ELK T.S.  
CULVERT LIST

DRAWN: JAB SCALE: AS SHOWN  
DATE: JULY 2017 SHEET 2 OF 4  
DRAWING NO. ORM05-TS-2017-0005-C5

ROAD NO.		CULVERT LOCATIONS										DOWNSPOUTS						REMARKS	
		DESIGNED					AS BUILT					1/2 ROUND		FULL ROUND		RECT. FLUME			SPASH PADS CUBIC YARDS
		STATION OR M.P.	SIZE	GAGE	LENGTH	SKEM ANGLE	STATION OR M.P.	SIZE	GAGE	LENGTH	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH		
32-1E-13.03	0.06	24" 16	34'														2	Installation Type 1	
	0.34	18" 16	40'														2	Installation Type 3	
32-1E-17.04 A	0.02	24" 16	50'														2	Installation Type 1	
	0.22	18" 16	30'									18" 20'					2	Installation Type 2	
32-1E-17.05 A1	0.08	18" 16	30'														2	Installation Type 2	
32-1E-18.00 A	0.11	24" 16	36'														2	Installation Type 2	
	0.61	42" 14	36'														2	Installation Type 1	
32-1E-27.00 E	3.04	24" 16	36'														2	Installation Type 3	
	3.33	18" 16	34'														2	Installation Type 3	
32-1W-12.00	0.32	24" 16	40'														2	Installation Type 1	
	0.39	18" 16	30'									18" 20'					2	Installation Type 2	
	0.46	36" 14	40'														2	Installation Type 1	
	0.65	18" 16	32'														2	Installation Type 3	
	0.82	24" 16	40'														2	Installation Type 1	
	0.89	18" 16	36'														2	Installation Type 2	
	1.04	18" 16	32'									18" 20'						Installation Type 2	
	1.16	18" 16	30'									18" 20'						Installation Type 2	
	1.30	18" 16	30'									18" 20'						Installation Type 2	
	1.40	18" 16	30'														2	Installation Type 2	
32-1E-12.01	0.00	24" 16	50'														2	Installation Type 3	
	0.08	18" 16	30'									18" 20'						Installation Type 2	
	0.25	24" 16	50'														2	New Installation	
	0.38	18" 16	30'									18" 20'						Installation Type 2	
		PAGE 2 TOTAL 18" CMP: 414 Linear Feet																	
		PAGE 2 TOTAL 18" FRDS: 140 Linear Feet																	
		PAGE 2 TOTAL 24" CMP: 336 Linear Feet																	
		PAGE 2 TOTAL 36" CMP: 40 Linear Feet																	
		PAGE 2 TOTAL 42" CMP: 36 Linear Feet																	
		PAGE 2 TOTAL RIPRAP: 32 Cubic Yards																	





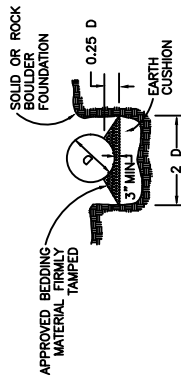




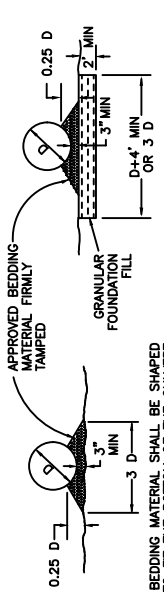




**EXHIBIT C-6**  
**SHEET 1 OF 1**  
**SHADY ELK T.S.**

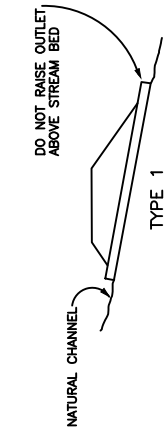


BEDDING MATERIAL SHALL BE SHAPED TO FIT THE CURVED SURFACE OF THE SOLID ROCK OR BOULDER FOUNDATION. APPROVED BEDDING MATERIAL SHALL BE USED. IF MATERIAL CAN BE PLACED IN THE DRY CONDITION, IF THE EXCAVATION IS MET, USE GRANULAR FILL MATERIAL. MAINTAIN 8" MIN. DEPTH BETWEEN HIGH POINTS OF ROCKS AND/OR BOULDERS AND THE BOTTOM OF THE CULVERT.

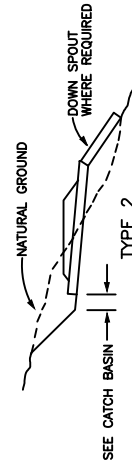


BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT. BEDDING OF CULVERTS ON NATURAL GROUND FOUNDATION OR COMPACTED EMBANKMENT SHALL BE ON STABLE SOIL FOUNDATION.

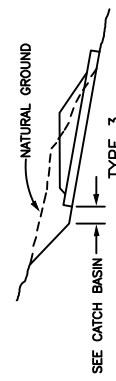
**BEDDING OF CULVERTS**



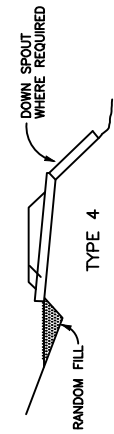
TYPE 1



TYPE 2

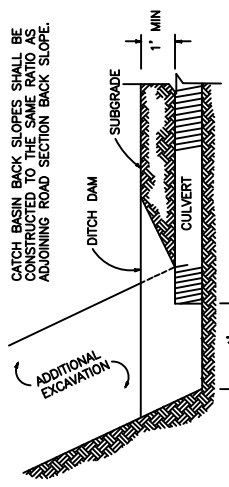


TYPE 3

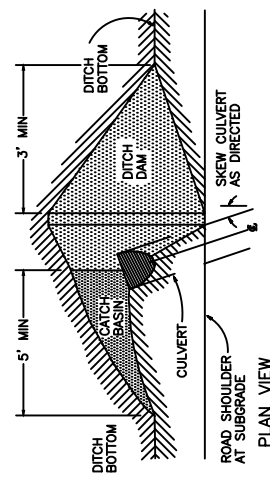


TYPE 4

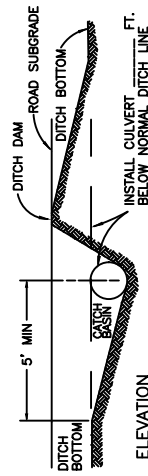
**CULVERT INSTALLATION TYPES**



CROSS SECTION AT CATCH BASIN

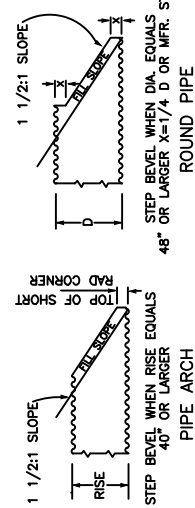


PLAN VIEW



ELEVATION

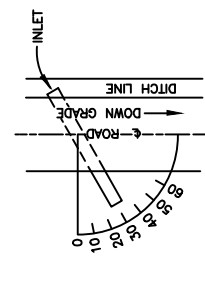
**CATCH BASIN**



**BEVELED END DETAIL**

**Surfacing:**  
 Place 20 CY crushed rock over installation unless otherwise noted in the work list.

**ALWAYS THINK SAFETY**



**SKEW DIAGRAM**

REV.	NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON				

**CULVERT INSTALLATION DETAILS**

DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	1 OF 1
DRAWING NO. ORM05-TS-2017-0005-C6			

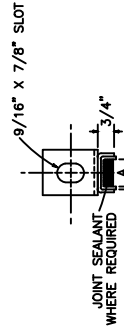
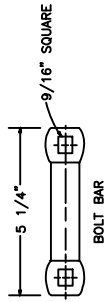
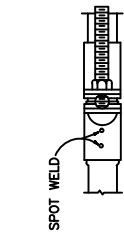
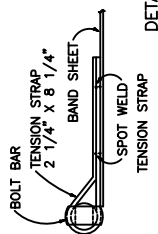


# EXHIBIT C-7

## SHEET 1 OF 1

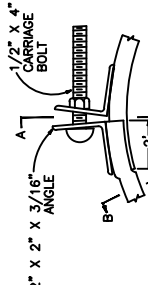
### SHADY ELK T.S.

NOTE:  
DESIGN VARIATIONS IN FASTENERS,  
(STRAPS, BARS & WELDS) WHICH  
PROVIDE A TENSILE STRENGTH OF  
7500 LBS. ARE PERMISSIBLE.



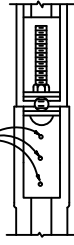
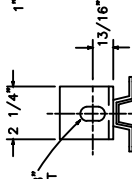
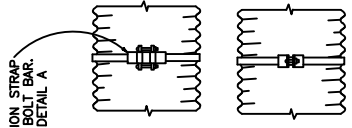
DIMENSIONS IN INCHES

T	A	PIPE WALL THICKNESS
.079	3/4	.109 OR LIGHTER
.109	1	.138 OR HEAVIER

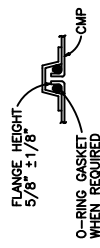
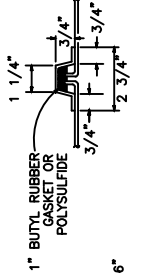


NOTE:  
AS AN ALTERNATE TO SWEDGE, AN  
OVERSIZE BRIDGE CLIP MAY BE USED.

### CHANNEL BAND COUPLER

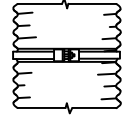


SECTION C-C



SECTION D-D

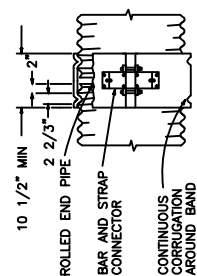
SHOWN WITH ALTERNATE TYPES  
OF JOINT SEALERS



### FLANGED END COUPLER

THE HUGGER COUPLER BAND OR AN APPROVED EQUIVALENT  
COUPLER BAND SHALL BE MADE OF THE SAME MATERIAL AND  
FINISH AS THE PIPES JOINED. THE COUPLER BANDS SHALL  
BE MADE OF A MATERIAL WHICH IS NOT LESS THAN THE  
NUMERICAL THICKNESSES LIGHTER THAN THE GAGE OR  
THICKNESS DESIGNATED FOR THE CONDUIT JOINED. THE BAND  
SHALL BE DESIGNED TO BE DRAWN TOGETHER WITH TWO  
1/2 INCH BOLTS THROUGH USE OF A BAR AND STRAP SUITABLY  
WELDED TO THE BAND. THE BAND SHALL ENGAGE AND MESH  
WITH THE SECOND ANNULAR CORRUGATION INWARD FROM  
THE END OF EACH OF THE CONDUIT SECTIONS JOINED.

WHEN DESIGNATED ON THE PLANS OR IN THE SPECIAL  
PROVISIONS, GASKETS SHALL BE INSTALLED WHEN THE  
HUGGER TYPE OR AN APPROVED EQUIVALENT COUPLER  
BAND IS INSTALLED ON SPILLWAY, OVERSIDE OR DOWN DRAINS.



STANDARD CONSTRUCTION IS 1 PIECE 12\"/>

CULVERT SIZE INCHES	CORRUGATED		HELICAL		3\"/>	
	NO. OF BOLTS	WIDTH	NO. OF BOLTS	WIDTH	NO. OF DIMPLES	NO. OF ROWS OF DIMPLES
UNDER 18	7	2	7	2	10 1/2	2
18 TO 54	12	3	12	3	10 1/2	2
OVER 54	24	5	24	5	16 1/2	4

DATA IN THIS BLOCK DOES NOT APPLY TO PERFORATED PIPE UNDERDRAIN.  
FOR BANDS WITH "PUNCH-OUT" TYPE CONNECTIONS, 2 BOLTS ARE  
PERMISSIBLE FOR EACH JOINT. BANDS SHALL HAVE 1/2 WIDTH ONTO EACH  
SECTION OF PIPE AND BE FULLY SPACED. THE JOINT FORMING A  
NEARLY WATERTIGHT CONNECTION. SEE SECTION 400.

- Ⓐ BANDS WITH ANGLES
- Ⓑ BANDS WITH TENSION TYPE CONNECTIONS

ALWAYS  
**THINK**  
SAFETY

### "HUGGER" COUPLER BANDS

## CULVERT BAND DETAILS

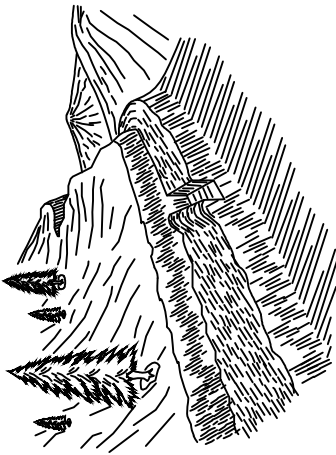
DRAWN: JAB	SCALE: NONE
DATE: JULY 2017	SHEET 1 OF 1
DRAWING NO. ORM05-TS-2017-0005-C7	

REV. NO. | DESCRIPTION | DATE | APPROV.  
UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT - MEDFORD, OREGON

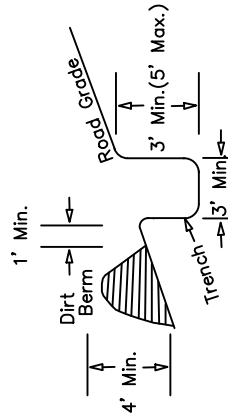




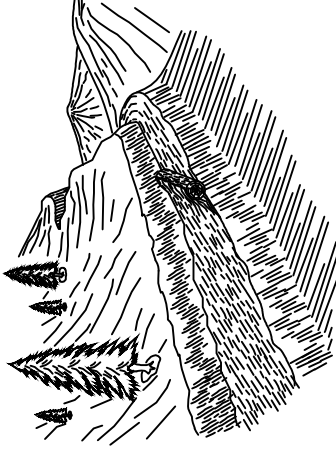
**EXHIBIT C-8**  
**SHEET 1 OF 2**  
**SHADY ELK T.S.**



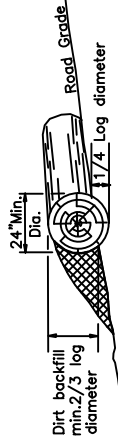
TRENCH BARRICADE



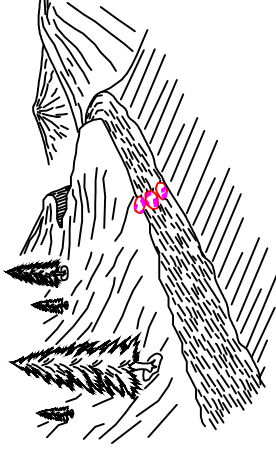
1. BARRICADE LENGTH SHALL EXTEND ACROSS THE ENTIRE ROAD SURFACE TO A POINT SUFFICIENT TO PROHIBIT MOTOR VEHICLE TRAFFIC.
2. THE EXACT LOCATION SHALL BE AS STAKED IN THE FIELD.
3. THE BARRICADE SHALL BE SKEWED AS NEEDED TO DRAIN OR AS DIRECTED BY THE AUTHORIZED OFFICERS REPRESENTATIVE.
4. A MINIMUM OF 1' IS OF LEVEL GROUND IS NEEDED BETWEEN TOE OF THE DIRT BERM AND THE EDGE OF THE TRENCH.



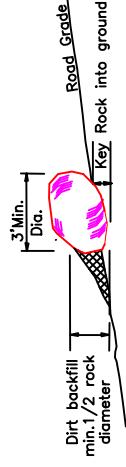
LOG BARRICADE



1. LOG BARRICADE SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL BARRICADES SHALL BE SKEWED 30 DEGREES.
4. THE LENGTH SHALL BE SUFFICIENT TO EXTEND FROM THE CUT BANK TO THE FILL SLOPE.
5. THE MINIMUM SMALL END DIAMETER OF THE LOG BARRICADE SHALL BE 24".

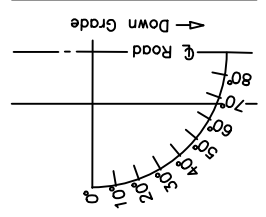


ROCK BARRICADE



1. ROCK BARRICADE SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. THE LENGTH SHALL BE SUFFICIENT TO BLOCK ROAD FROM VEHICLE USE.
4. THE MINIMUM DIAMETER OF ROCK SHALL BE 3 FEET.
5. THE MAXIMUM SPACE BETWEEN ROCKS SHALL BE 36" OR AS APPROVED BY THE AUTHORIZED OFFICER.

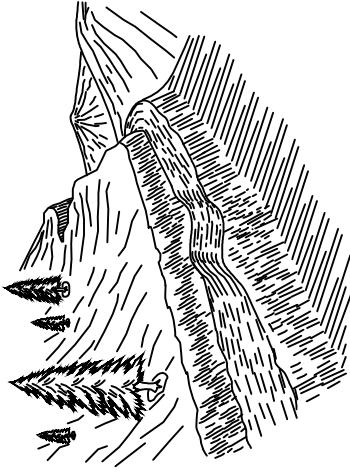
SKREW DIAGRAM



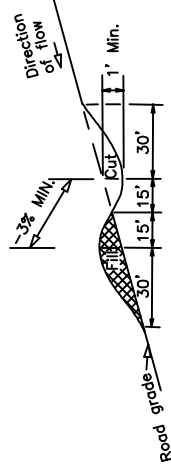
REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT — MEDFORD, OREGON			
<b>DRAINAGE &amp; EROSION</b>		<b>CONTROL DETAILS</b>	
DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	1 OF 2
DRAWING NO. ORM05-TS-2017-0005-C8			



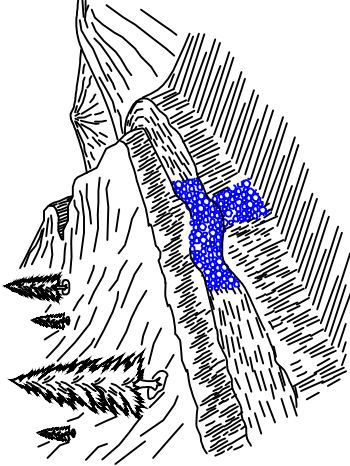
EXHIBIT C-8  
SHEET 2 OF 2  
SHADY ELK T.S.



WATER DIP

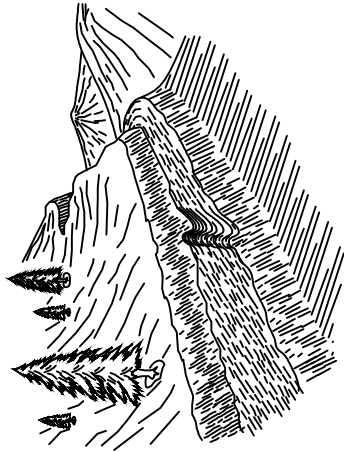


1. WATER DIPS SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL WATER DIPS SHALL BE SKEWED 30 DEGREES.
4. THE LENGTH SHALL BE SUFFICIENT TO EXTEND FROM THE CUT BANK TO THE FILL SLOPE AND BE READILY CROSSED BY HIGH CLEARANCE TYPE VEHICLES.

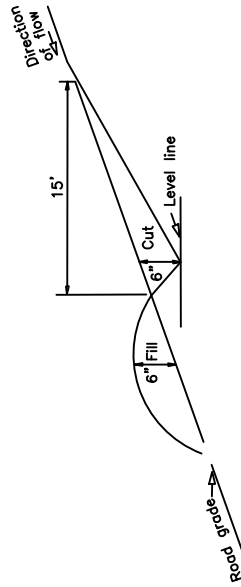


ARMORED WATER DIP

1. SEE EXHIBIT C-9 FOR ARMORED WATER DIP DETAILS.

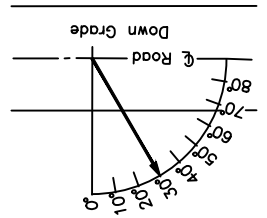


WATER BAR



1. CROSS-DRAINS SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL CROSS DRAINS SHALL BE SKEWED 30 DEGREES.
4. THE CROSS-DRAINS INVERT SHALL BE SMOOTH AND FREE DRAINING.

SKREW DIAGRAM



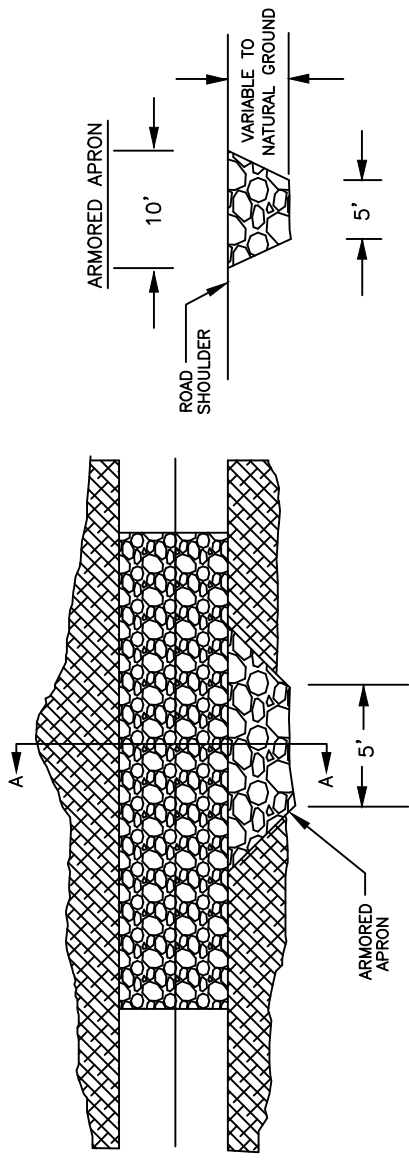
REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
<b>DRAINAGE &amp; EROSION CONTROL DETAILS</b>			
DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	2 OF 2
DRAWING NO. ORM05-TS-2017-0005-C8			



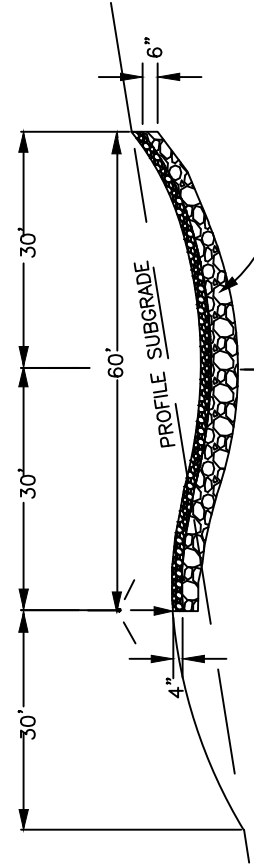
EXHIBIT C-9  
SHEET 1 OF 1  
SHADY ELK T.S.

TYPICAL ARMORED WATER DIP CONSTRUCTION DETAIL

PLAN

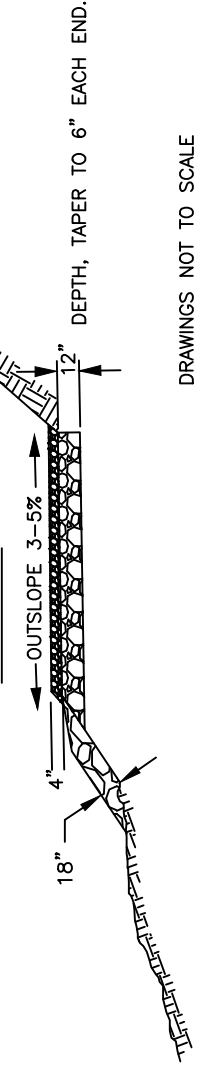


PROFILE



STATION OR MILEPOST LOCATION





SECTION A-A



NOTES

- 1) THE WATER DIP INVERT SHALL BE SMOOTH AND FREE DRAINING.
- 2) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE CUTSLOPE HINGE POINT IS 1.0 FEET.
- 3) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE FILLSLOPE SHOULDER IS 1.5 FEET.
- 4) SKEW DIP MINIMUM 15-30 DEGREES FROM PERPENDICULAR TO CENTERLINE.
- 5) EXCAVATED MATERIAL SHALL BE UTILIZED IN CONSTRUCTION OF WATER DIP. SIDECASTING IS NOT PERMITTED.
- 6) PIT RUN ROCK MATERIAL SHALL BE PLACED ON FILL SLOPE OF ARMORED WATERDIP.
- 7) SEE ROAD RENOVATION WORKLIST FOR WATER DIPS TO BE ARMORED.
- 8) EACH DIP SHALL BE REINFORCED WITH 40 CUBIC YARDS OF 4" MINUS ROCK, ON ROADWAY AND PIT RUN AT OUTFALL.
- 9) EACH DIP ON EXISTING ROCKED ROADS SHALL BE SURFACED WITH 20 CUBIC YARDS OF 3/4" MINUS ROCK, EXTENDING AND TAPERING IN DEPTH 20' ON EACH SIDE OF THE AWD, TO MEET THE EXISTING ROAD SURFACE. NATURAL SURFACE ROADS WILL JUST USE THE 4" MINUS AGGREGATE.

LEGEND

-  CUT/FILL SLOPES
-  SUBGRADE ARMOR MATERIAL (4" minus)
-  FILL SLOPE ARMOR MATERIAL PIT RUN OR OTHER APPROVED MATERIAL.
-  SURFACE COURSE AGGREGATE (3/4" minus - from BLM Stockpiles)

REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
<b>ARMORED WATER DIP DETAILS</b>			
DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	1 OF 1
DRAWING NO.	ORM05-TS-2017-0005-C9		

DRAWINGS NOT TO SCALE

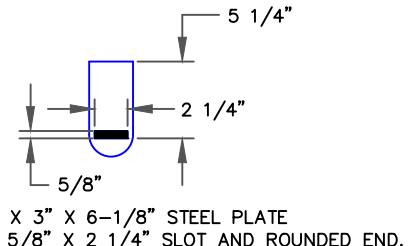
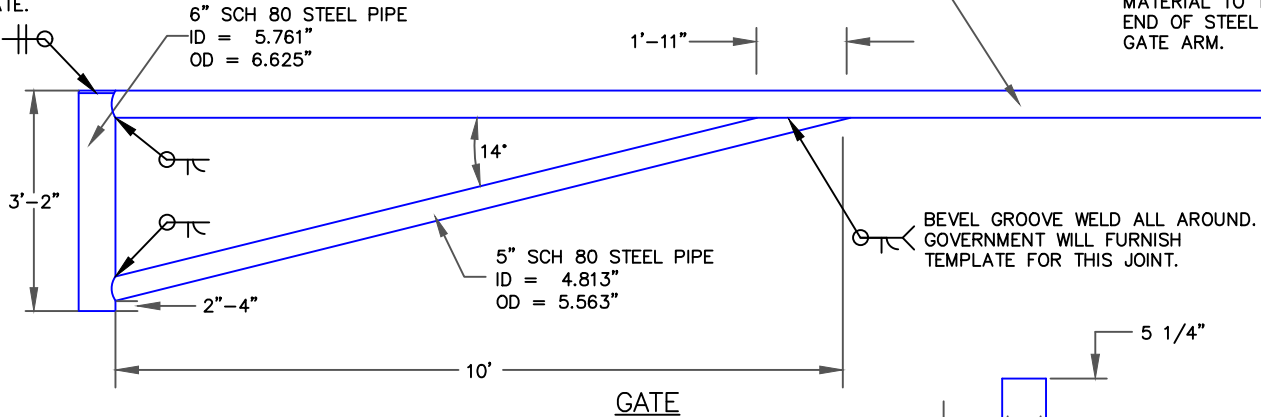


**EXHIBIT C-10**  
**SHEET 1 OF 1**  
**SHADY ELK T.S.**

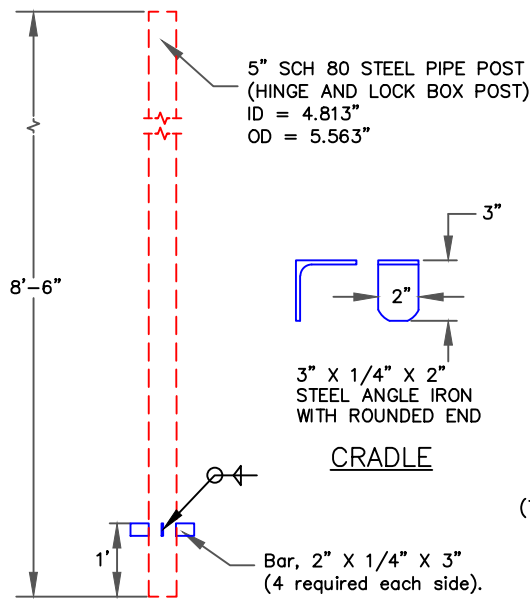
WELD CAP, 1/2" STEEL PLATE MATERIAL TO THE TOP OF STEEL PIPE GATE.

18' SWING ARM  
 5" SCH 80 STEEL PIPE  
 ID = 4.813"  
 OD = 5.563"

WELD CAP, 1/2" STEEL PLATE MATERIAL TO THE END OF STEEL PIPE GATE ARM.

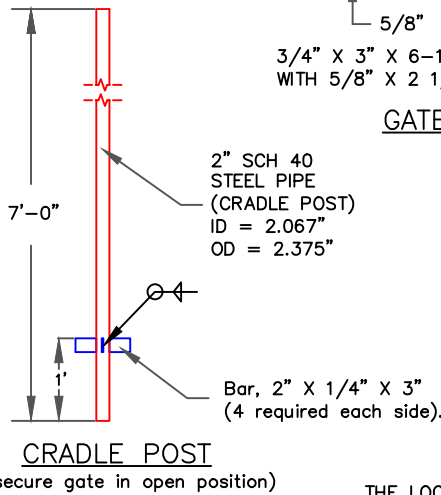


**GATE PIN**



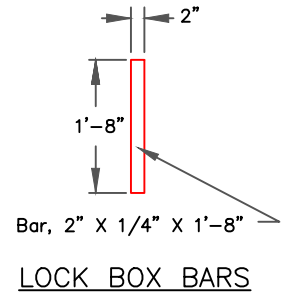
**GATE POST**

**CRADLE**

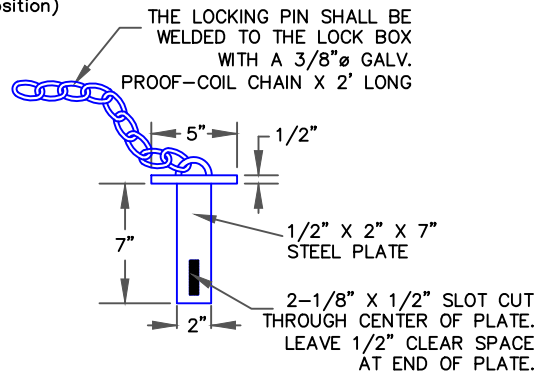


**CRADLE POST**

(To secure gate in open position)

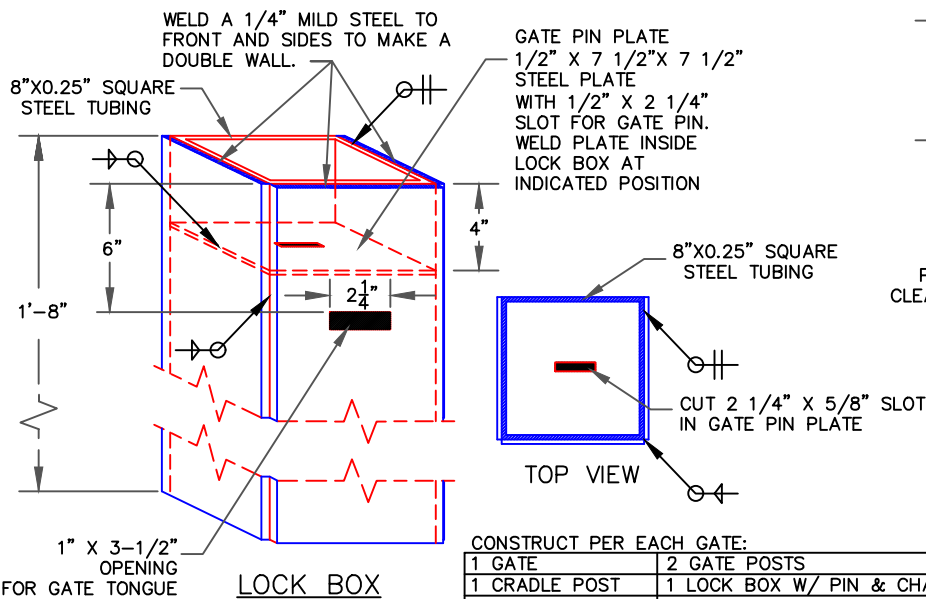


**LOCK BOX BARS**



**GATE PIN DETAIL**

THE ENTIRE ASSEMBLY, INCLUDING GATE, POSTS, LOCKBOX AND LOCKING PIN SHALL BE CLEANED AND GIVEN ONE COAT OF RUST-OLEUM #7769 METAL PRIMER OR EQUIVALENT.



**LOCK BOX**

**TOP VIEW**

CONSTRUCT PER EACH GATE:

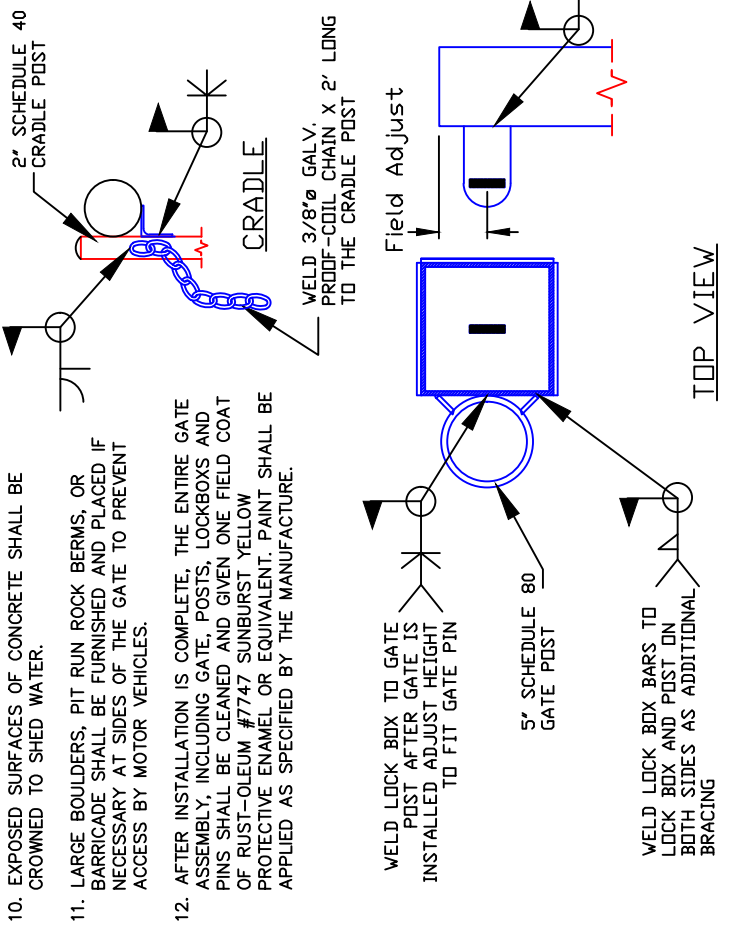
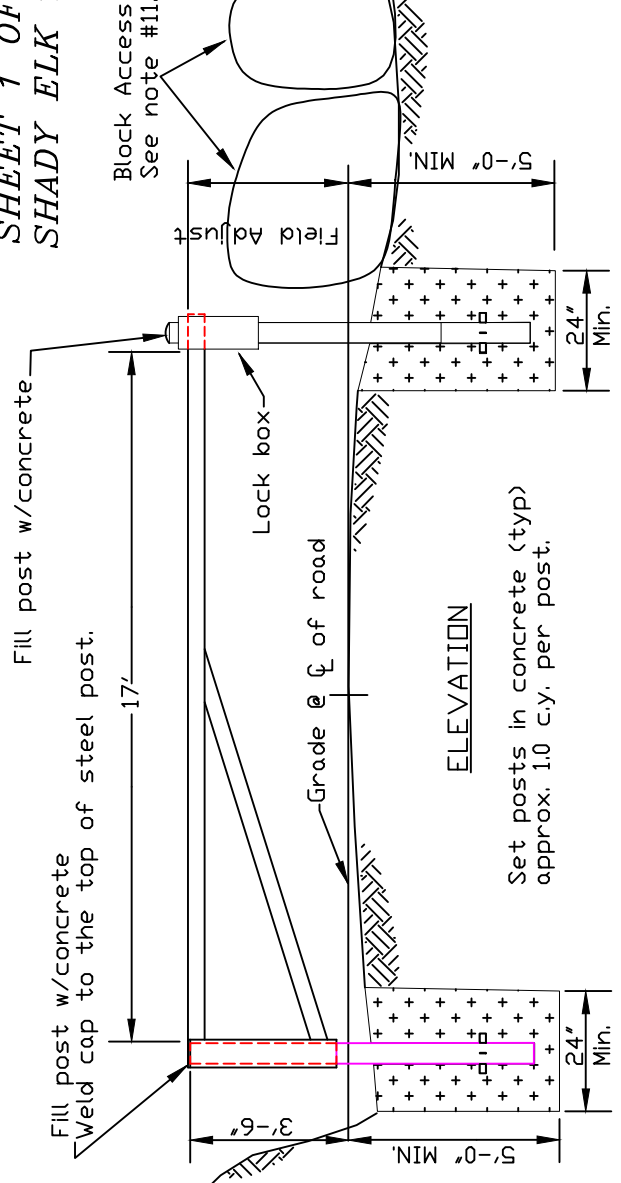
1 GATE	2 GATE POSTS
1 CRADLE POST	1 LOCK BOX W/ PIN & CHAIN
2 LOCK BOX BARS	1 GATE PIN
1 CRADLE	1 3/8" x 2' GALV. CHAIN

REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON			
<b>STEEL PIPE GATE FABRICATION</b>			
DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	1 OF 1
DRAWING NO.	DRM05-TS-2017-0005-C10		

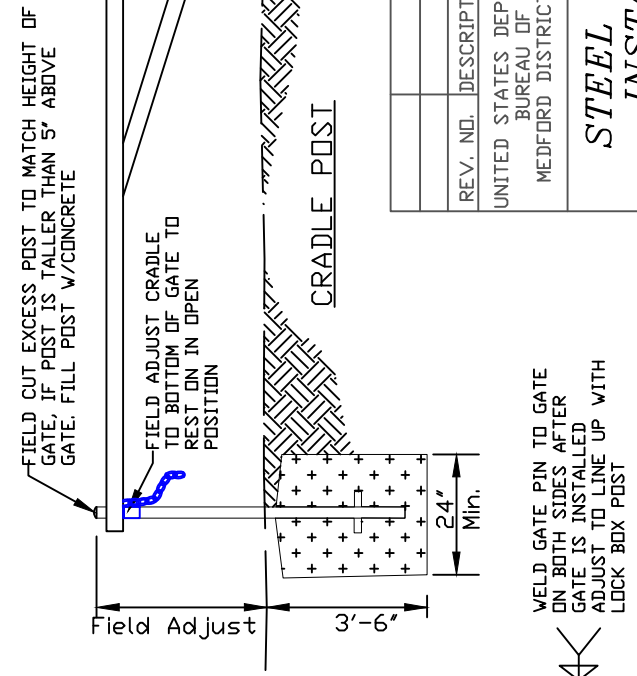




**EXHIBIT C-11**  
**SHEET 1 OF 1**  
**SHADY ELK T.S.**



- NOTES:**
1. PRIOR TO INSTALLATION, ANY BARE METAL SHALL BE CLEANED AND GIVEN ONE COAT OF RUST-OLEUM #7769 METAL PRIMER OR EQUIVALENT.
  3. PRIOR TO FIELD INSTALLATION, FINAL GATE LOCATION SHALL BE DETERMINED OR APPROVE BY THE GOVERNMENT.
  4. POST HOLES WALLS SHALL BE NEAR VERTICAL AS SHOWN. CONSTRUCTION BY BACK HOE IS NOT PERMITTED.
  5. GATE, POSTS AND LOCKBOXES SHALL BE INSTALLED AS SHOWN. POSTS SHALL BE SET PLUMB IN THE CONCRETE AND GATE SHALL HANG STRAIGHT AND LEVEL.
  6. GATE UNIT SHALL BE INSTALLED WITH HINGED SECTION ON THE CUTSLOPE SIDE OF THE ROAD UNLESS OTHERWISE DIRECTED THE GOVERNMENT.
  7. GATE SHALL BE INSTALLED TO OPEN IN THE DIRECTION SPECIFIED BY THE GOVERNMENT.
  8. FIELD WELDS SHALL BE SLAGGED AND CLEANED.
  9. CONCRETE SHALL BE 3000 PSI MINIMUM. CURE TIME: ALLOW CONCRETE TO CURE A MINIMUM OF 72 HOURS BEFORE PERFORMING OTHER WORK ON POSTS.
  10. EXPOSED SURFACES OF CONCRETE SHALL BE CROWNED TO SHED WATER.
  11. LARGE BOULDERS, PIT RUN, ROCK BERMS, OR BARRICADE SHALL BE FURNISHED AND PLACED IF NECESSARY AT SIDES OF THE GATE TO PREVENT ACCESS BY MOTOR VEHICLES.
  12. AFTER INSTALLATION IS COMPLETE, THE ENTIRE GATE ASSEMBLY, INCLUDING GATE, POSTS, LOCKBOXES AND PINS SHALL BE CLEANED AND GIVEN ONE FIELD COAT OF RUST-OLEUM #7747 SUNBURST YELLOW PROTECTIVE ENAMEL OR EQUIVALENT. PAINT SHALL BE APPLIED AS SPECIFIED BY THE MANUFACTURE.



REV. NO.	DESCRIPTION	DATE	APPROV.

UNITED STATES DEPARTMENT OF THE INTERIOR  
 BUREAU OF LAND MANAGEMENT  
 MEDFORD DISTRICT - MEDFORD, OREGON

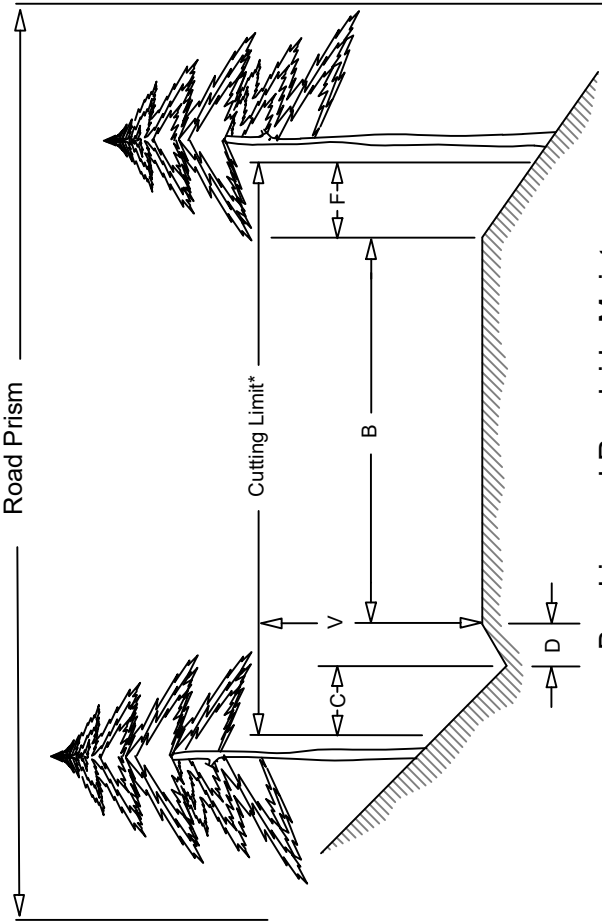
**STEEL PIPE GATE  
 INSTALLATION**

DRAWN	JAB	SCALE	NONE
DATE	JULY 2017	SHEET	1 OF 1
DRAWING NO.	DRM05-TS-2017-0005-C11		

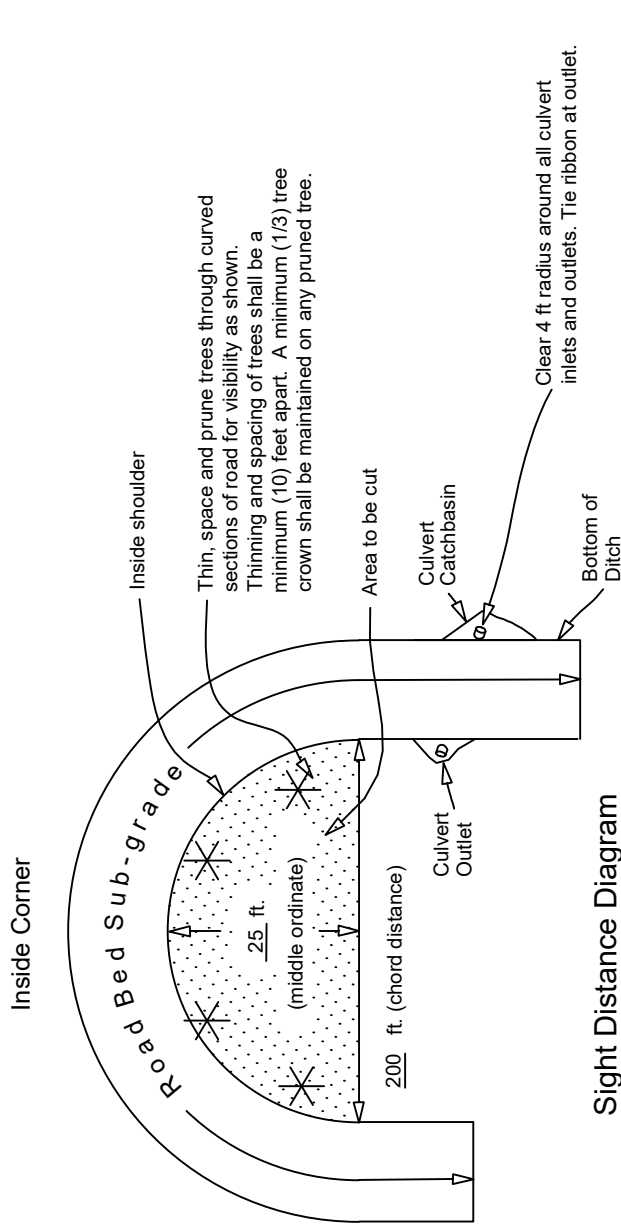


EXHIBIT C 12  
SHEET 1 OF 1

- Cutting Limit = C + D + B + F
- B = Road Bed Subgrade (includes turnouts)  
Cut all vegetation to max. height of 1".
- C = 4 ft - Distance to be brushed on cut slope  
beyond centerline of ditch. Cut all vegetation to max height of 6".
- D = Centerline of ditch to inside shoulder. Cut all vegetation to max. height of 1".
- F = 4 ft - Distance to be brushed on fill slope beyond outside shoulder  
Cut all vegetation to max. height of 6".
- V = 14 ft - Height of vertical cutting limit



Brushing and Roadside Maintenance



Sight Distance Diagram  
Road Side Brushing\*\*

ALWAYS  
**THINK**  
SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.
UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT -- MEDFORD, OREGON			
<b>ROADSIDE BRUSHING DETAILS</b>			
DRAWN:	JAB	SCALE:	NONE
DATE:	JULY 2017	SHEET:	1 OF 1
DRAWING NO.	ORM05-TS-2017-0005-C12		

All distances shown are horizontal except for V



## Road Renovation Work List

**Renovation:** This consists of road work to be performed on the road prior to its use. The work includes, but not limited to; blading and/or rolling the road surface, cleaning ditches where needed, cleaning or enlarging catch basins and outlets, cleaning the entire barrel of all culverts, furnishing and replacing/installing corrugated metal pipes and/or culverts, maintaining and/or constructing water dips (WDs), maintaining and/or constructing armored water dips (AWDs) with 4" minus screened rock, spot rocking, and constructing barricades. All drainage structures including culverts, and water dips shall be inspected and required work performed so that water flow is not impeded, and brought to the design standard as shown on the plans. Remove all down trees from roadways. All culvert replacements shall be capped with 20 cubic yards of government furnished ¾" minus crushed aggregate from stockpiles located on Exhibit C-2 maps. Constructed armored water dips on existing rocked roads shall be capped with 20 cubic of government furnished ¾" minus crushed aggregate from stockpiles located on Exhibit C-2 maps.

**Roadside Brushing:** This consists of road work to be performed on the road prior to its use. The work includes, but not limited to; brushing 4 horizontal feet from the centerline of the ditch and 4 horizontal feet from the outside shoulder of the road prism, removing brush near inlet or outlet of CMPs, removing brush, limbs, and trees along the roadway to improve sight distance. Vegetation to be cut and disposed of will generally be 6 inches in diameter at breast height or less. Disposal from roadside brushing shall be lop and scatter unless otherwise noted as chipping in the work list. In sections where road crosses through private property, conifer trees shall be pruned rather than cut down. Brush shall be cut to meet regular specifications.

Jct. – Junction	CY – Cubic Yards
AWD – Armored Water Dip	WD – Water Dip
CMP – Corrugated Metal Pipe	ASC – Aggregate Surface Course
PRR – Pit Run Rock	BST – Bituminous Surface Treatment
GRR – Grid Rolled Rock	NAT – Natural Surface Roads
DO – Ditch Out	WB – Water Bar
COE – Corps of Engineers	PVT - Private

### **Road 32-1E-7.01 (Hole in Rock TS Sp) ASC**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-1E-17.04. Begin road renovation and roadside brushing and chipping.
0.06	Existing culvert w/ a 10' half round downspout, cross drain.
0.12	Replace existing 18" cross drain culvert w/ a 10' half round downspout with an 18" x 34' CSP with a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.17	Existing culvert w/ a 20' full round downspout, cross drain.
0.22	Existing culvert w/ a 10' half round downspout, cross drain.
0.29	Replace existing 18" cross drain culvert w/ a 10' half round downspout with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.36	Existing culvert, cross drain.

0.39 Jct. w/ 32-1E-7.02 right. End road renovation and roadside brushing and chipping.

**Road 32-1E-7.02 (Hole in Rock TS Sp)**

**Segment A ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-7.01. Begin road renovation and roadside brushing and chipping.

0.45 Existing quarry. Existing BLM stockpile (300CY). Widen quarry floor to construct helicopter landing. Drilling and shooting may be required. Submit blast plan if drilling and shooting is required.

0.60 End segment A. End road renovation and roadside brushing and chipping.

**Road 32-1E-11.00 (Sugar Pine Creek Sp)**

**Segment A ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-23.00. Begin road renovation and roadside brushing and chipping.

0.04 Install mega gate.

0.05 Low water ford. Place ¾" BLM stockpiled rock for 100' both sides of low water ford to a width of 15 feet and a compacted depth of 6 inches.

0.07 Jct. w/ powerline road right.

0.08 Existing culvert, cross drain.

0.19 Existing culvert, draw.

0.21 Ditch out, left.

0.23 Jct. w/ un-numbered road right.

0.24 Ditch out, right.

0.35 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

0.41 Existing culvert, cross drain.

0.50 Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 with new culvert outlet 2' lower than existing culvert outlet (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

0.66 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

0.72 Jct. w/ 32-1E-11.01 right.

0.73 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

0.82 Existing culvert, cross drain. End road renovation and roadside brushing and chipping.

**Road 32-1E-11.02 (Hawk Point Sp)**

**Segment A ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-13.02. Begin road renovation and roadside brushing. Existing culvert,

- cross drain.
- 0.21 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 0.33 Replace existing 18" cross drain culvert w/ a 20' half round downspout with an 18" x 40' CSP. Re-use existing half round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 0.43 Replace existing 18" cross drain culvert with an 18" x 36' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 0.59 Jct. w/ 32-1E-11.03 right. End segment A. End road renovation and roadside brushing.

**Road 32-1E-13.01 (Hawk Point ML)**  
**Segment A1 ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>   |
|------------------|---|
| 0.00             | Jct. w/ Elk Creek County Road. Begin road renovation and roadside brushing. Existing culvert, cross drain.  |
| 0.10             | Existing culvert, cross drain.  |
| 0.16             | Replace existing 18" cross drain culvert with an 18" x 32' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.20             | Replace existing 18" draw culvert with a 24" x 42' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).         |
| 0.28             | Jct. w/ un-numbered road right.   |
| 0.32             | Jct. w/ 32-1E-13.03 right.  |
| 0.40             | Existing culvert, draw.   |
| 0.50             | Existing culvert, cross drain.  |
| 0.67             | Replace existing 18" cross drain culvert with a 24" x 50' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.72             | Replace existing 18" cross drain culvert with a 24" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.78             | Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type). |
| 0.81             | Jct. w/ private road left.  |
| 0.86             | Existing culvert, cross drain.  |
| 0.90             | Existing culvert, cross drain.  |
| 1.11             | Existing culvert, cross drain.  |
| 1.26             | Existing culvert, cross drain.  |
| 1.37             | Jct. w/ 32-1E-13.04 left.   |
| 1.38             | Replace existing 18" cross drain culvert with an 18" x 50' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation                                       |

- Details Sheet for installation type).
- 1.43 Overhead power line.
  - 1.44 Remove existing 18" cross drain culvert.
  - 1.46 Install new 18" x 30' CSP at a 30° angle with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 1.53 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 1.65 Existing culvert, cross drain.
  - 1.72 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 1.75 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 1.86 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
  - 1.89 Existing culvert with a half round downspout, draw.
  - 1.90 Jct. w/ 32-1E-13.06 right and jct. w/ 32-1E-13.02 left. End segment A.

**Segment B ASC**

**MP Remarks**

- 1.90 Continue road renovation and roadside brushing.
- 1.92 Existing private mega gate.
- 1.99 Property line. End road renovation and roadside brushing.

**Un-numbered Spur Road off 32-1E-13.01 NAT**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-13.02. Begin road renovation and roadside brushing and chipping.
- 0.09 End road renovation and roadside brushing and chipping.

**Road 32-1E-13.02 (Hawk Point TS ML)**

**Segment A ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-13.01. Begin road renovation and roadside brushing.
- 0.02 Existing culvert, draw.
- 0.14 Replace existing 18" cross drain culvert with an 18" x 42' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.26 Existing culvert, cross drain. Cut and remove tree off culvert inlet.
- 0.35 Jct. w/ un-numbered power line road left.
- 0.40 Existing culvert, cross drain.
- 0.45 Jct. w/ un-numbered and barricaded road left.
- 0.47 Jct. w/ 32-1E-13.07 right.



- 0.49 Existing culvert, cross drain.
- 0.60 Existing culvert, cross drain.
- 0.71 Replace existing 18" cross drain culvert with an 18" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.83 Replace existing 18" cross drain culvert with an 18" x 46' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.84 Property line.
- 0.88 Property line.
- 0.90 Jct. w/ 32-1E-11.02 right. End segment A.

**Segment B NAT**

**MP Remarks**

- 0.90 Continue road renovation and roadside brushing.
- 0.91 Existing barricade. Re-establish barricade after use. Road has been previously ripped and water barred from this point on. Re-rip and water bar after use.
- 1.25 End road renovation and roadside brushing.

**Un-numbered Spur Road off 32-1E-13.02 NAT**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-13.02. Begin road renovation and roadside brushing and chipping.
- 0.01 Existing barricade. Re-establish barricade after use.
- 0.09 End road renovation and roadside brushing and chipping.

**Road 32-1E-13.03 ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-13.01. Begin road renovation and roadside brushing.
- 0.06 Replace existing 18" draw culvert with a 24" x 34' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.22 Overhead power line.
- 0.28 Jct. w/ un-numbered road left. Existing culvert, cross drain.
- 0.34 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.42 End road renovation and roadside brushing.

**Un-numbered Spur Road off 32-1E-13.03 NAT**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-13.03. Begin road renovation and roadside brushing.
- 0.03 Overhead power line.
- 0.14 Overhead power line.
- 0.52 End road renovation and roadside brushing.

**Road 32-1E-13.04 (Mule Hill TS SP)**

**Segment A ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-13.01. Begin road renovation and roadside brushing.  
0.06 Existing culvert, cross drain.  
0.10 Jct. w/ 32-1E-13.05 left.  
0.26 End segment A. Existing Pacific Power gate. End road renovation and roadside brushing.

**Road 32-1E-13.05 (Mule Hill TS Sp) ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-13.04. Begin road renovation and roadside brushing.  
0.09 End road renovation and roadside brushing.

**Road 32-1E-13.06 (Mule Hill TS Sp) ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-13.01. Begin road renovation and roadside brushing.  
0.15 End road renovation and roadside brushing.

**Road 32-1E-13.07 (Mule Hill TS Sp) ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-13.02. Begin road renovation and roadside brushing.  
0.27 End road renovation and roadside brushing.

**Road 32-1E-17.04 (White Rock ML)**

**Segment A ASC**

**MP Remarks**

0.00 Jct. w/ 32-1E-20.00. Begin road renovation and roadside brushing.  
0.02 Replace existing 18" draw culvert with a 24" x 50' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  
0.07 Existing culvert, cross drain.  
0.15 Existing culvert, cross drain.  
0.22 Replace existing 18" cross drain culvert w/ a 20' half round downspout with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  
0.31 Existing culvert, cross drain.  
0.38 Existing culvert, cross drain.  
0.46 Existing culvert, cross drain.  
0.55 Existing culvert, cross drain.  
0.64 Existing culvert, cross drain.  
0.70 Jct. w/ 32-1E-17.08 right.  
0.75 Jct. w/ 32-1E-17.05 left. End segment A. End road renovation and roadside brushing.

**Road 32-1E-17.05 (White Rock ML)**

**Segment A1 ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-17.04. Begin road renovation and roadside brushing.
- 0.04 Jct. w/ 32-1E-17.06 left.
- 0.08 Replace existing 18" cross drain culvert with an 18" x 30' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.14 Existing culvert, cross drain.
- 0.22 Existing culvert, cross drain.
- 0.32 Existing culvert, cross drain.
- 0.38 Property line. End segment A1.

**Segment A2 ASC**

**MP Remarks**

- 0.38 Continue road renovation and roadside brushing.
- 0.65 Existing culvert, cross drain.
- 0.85 Jct. w/ 32-1E-7.01 left. Existing culvert, cross drain. End segment A2. End road renovation and roadside brushing.

**Road 32-1E-18.00 (Ragsdale Sp)**

**Segment A ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-27.00. Begin road renovation and roadside brushing.
- 0.11 Replace existing 18" cross drain culvert with a 24" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.26 Existing culvert, draw.
- 0.30 Jct. w/ 32-1E-18.01 left.
- 0.31 Existing culvert, cross drain.
- 0.32 Concrete bridge.
- 0.49 Existing culvert, cross drain.
- 0.55 Place 30 cubic yards of crushed rock to smooth road surface.
- 0.61 Replace existing 24" draw culvert with a 42" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.63 Property line. End segment A.

**Segment B ASC**

**MP Remarks**

- 0.63 Continue road renovation and roadside brushing.
- 0.75 Jct. w/ 32-1W-13.00 right. End road renovation and roadside brushing.

**Road 32-1E-20.00 (Gobblers Knob)**

**Segment A (Private) ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-27.00. Begin road renovation and roadside brushing.
- 0.08 Existing culvert, cross drain.
- 0.19 Existing culvert, cross drain.
- 0.27 Existing culvert, cross drain.
- 0.42 Jct. w/ 32-1E-20.04 right.
- 0.56 Existing culvert, draw.
- 0.58 Property line. End segment A.

**Segment B ASC**

**MP Remarks**

- 0.58 Continue road renovation and roadside brushing.
- 0.64 Existing culvert, draw.
- 0.69 Existing culvert, draw.
- 0.79 Existing culvert, cross drain.
- 0.90 Jct. w/ 32-1E-17.00 right (barricaded).
- 0.97 Existing culvert, draw.
- 1.05 Jct. w/ 32-1E-17.02 left (barricaded).
- 1.06 Jct. w/ 32-1E-17.03 right (barricaded).
- 1.18 Existing culvert, cross drain.
- 1.30 Existing culvert, cross drain.
- 1.52 Existing culvert, cross drain.
- 1.64 Jct. w/ 32-1E-17.01 left (barricaded).
- 1.65 Jct. w/ 32-1E-17.07 right.
- 1.66 Existing culvert, cross drain.
- 1.78 Existing culvert, cross drain.
- 1.86 Existing culvert, cross drain.
- 2.02 Jct. w/ 32-1E-17.04 right. End segment B. End road renovation and roadside brushing.

**Road 32-1E-23.00 (Sugar Pine – Timber Creek)**

**Segment A BST**

**MP Remarks**

- 0.00 Jct. w/ 32-1E-28.00. Begin cleaning ditches where needed, cleaning culvert inlets and outlets, and roadside brushing and chipping. Haul waste material from ditch and culvert cleaning to the waste disposal site at milepost 1.80 or where approved by the Authorized Officer.
- 0.01 Existing culvert, cross drain.
- 0.02 Existing cattle guard.
- 0.14 Jct. w/ spur left. Existing culvert, cross drain.
- 0.19 Driveway right.
- 0.21 Driveway right.
- 0.33 Jct. w/ spur left. Existing culvert, cross drain.
- 0.36 Driveway right.
- 0.44 Existing culvert, cross drain.
- 0.54 Existing culvert, cross drain.
- 0.59 Existing culvert, draw.
- 0.60 Driveway right.

- 0.81 Existing culvert, cross drain.
- 0.93 Existing culvert, cross drain.
- 1.06 Existing culvert, cross drain.
- 1.07 Driveway right.
- 1.12 Existing culvert, draw.
- 1.14 Existing culvert, draw.
- 1.19 Existing culvert, cross drain.
- 1.30 Driveway right.
- 1.31 Existing culvert, draw.
- 1.36 Jct. w/ 32-1E-11.00 right. End cleaning ditches where needed, cleaning culvert inlets and outlets, and roadside brushing and chipping.
- 1.80 Waste disposal site.

**Road 32-1E-27.00 (Flat Creek)**

**Segment A BST/ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>  |
|------------------|--|
| 0.00             | Jct. w/ Elk Creek County Road. Begin roadside brushing and chipping. |
| 0.02             | Existing culvert, cross drain.                                       |
| 0.08             | Jct. w/ private road right.  |
| 0.13             | Existing culvert, cross drain.                                       |
| 0.25             | Jct. w/ driveway left and jct. w/ private road right.                |
| 0.36             | Private mega gate. Begin road renovation. End chipping.              |
| 0.41             | Existing culvert, cross drain.                                       |
| 0.47             | End BST – Begin ASC.   |
| 0.48             | Existing culvert, cross drain.                                       |
| 0.55             | Existing culvert, cross drain.                                       |
| 0.60             | Existing culvert, cross drain.                                       |
| 0.67             | Existing culvert, draw.  |
| 0.73             | Existing culvert, cross drain. End segment A.                        |

**Segment B (Private) ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>                           |
|------------------|---|
| 0.14             | Continue road renovation and roadside brushing. |
| 0.78             | Existing culvert, cross drain.                  |
| 0.85             | Existing culvert, cross drain.                  |
| 0.95             | Existing culvert, cross drain.                  |
| 0.98             | Existing culvert, cross drain.                  |
| 1.05             | Existing culvert, cross drain.                  |
| 1.11             | Existing culvert, cross drain.                  |
| 1.14             | Existing culvert, draw.                         |
| 1.28             | Existing culvert, draw.                         |
| 1.29             | Jct. w/ 32-1E-28.00 right.                      |
| 1.37             | Existing culvert, cross drain.                  |
| 1.41             | Existing culvert, cross drain.                  |
| 1.43             | Property line. End segment B.                   |

**Segment C ASC**

**MP**    **Remarks**

- 1.43 Continue road renovation and roadside brushing.
- 1.46 Property line. End segment C.

**Segment D (Private) ASC**

**MP**    **Remarks**

- 1.46 Continue road renovation and roadside brushing.
- 1.63 Existing culvert, cross drain.
- 1.65 Jct. w/ 32-1E-20.01 left.
- 1.79 Existing culvert, draw.
- 1.84 Existing culvert, cross drain.
- 2.18 Existing culvert, cross drain.
- 2.21 Jct. w/ 32-1E-20.00 right.
- 2.25 Existing culvert, cross drain.
- 2.30 Existing culvert, draw.
- 2.40 Existing culvert, cross drain.
- 2.52 Existing culvert, cross drain.
- 2.68 Existing culvert, cross drain.
- 2.77 End segment D.

**Segment E ASC**

**MP**    **Remarks**

- 2.77 Continue road renovation and roadside brushing.
- 2.78 Bridge.
- 2.88 Existing culvert, cross drain.
- 3.00 Existing culvert, draw.
- 3.04 Replace existing 18" cross drain culvert with a 24" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 3.14 Existing culvert, cross drain.
- 3.27 Existing culvert, draw.
- 3.33 Replace existing 18" cross drain culvert with an 18" x 34' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type). Culvert outlet ditch shall be cleaned for 40' to drain water away from culvert outlet.
- 3.46 Existing culvert, cross drain.
- 3.57 Existing culvert, cross drain.
- 3.62 Jct. w/ 32-1E-18.00 left. End road renovation and roadside brushing.

**Road 32-1E-36.00 (East Fork Dodes Creek)**

**Segment A3 (Private) NAT**

**MP**    **Remarks**

- 0.00 Jct. w/ 33-2E-5.00. Begin road renovation and roadside brushing.
- 0.09 Jct. w/ 32-2E-32.00 right. Construct helicopter landing. End road renovation and roadside brushing.

**Road 32-1W-12.00 (County Line TS Spur Left) ASC**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-1W-13.00. Begin road renovation and roadside brushing. Use rock for culvert replacements from BLM pit run stockpile at milepost 0.53.
0.05	Existing culvert, cross drain.
0.22	Existing culvert, cross drain.
0.32	Replace existing 18" draw culvert with a 24" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.39	Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.46	Replace existing 18" draw culvert with a 36" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.47	Begin placing pit run rock to a width of 15' and compacted depth of 6" to shore up surface.
0.53	End placing pit run rock. Existing BLM stockpile of pit run rock (300CY).
0.54	Jct. w/ 32-1W-12.03 right (overgrown).
0.60	Jct. w/ 32-1W-12.01 right.
0.65	Replace existing 18" cross drain culvert with an 18" x 32' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.82	Replace existing 18" draw culvert with a 24" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 with new culvert outlet 3' lower than existing culvert outlet (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
0.89	Replace existing 18" cross drain culvert with an 18" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 2 with new culvert outlet 2' lower than existing culvert outlet (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
1.04	Replace existing 18" cross drain culvert with an 18" x 32' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
1.14	Jct. w/ 32-1W-12.02 left.
1.16	Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
1.30	Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
1.31	Jct. w/ 32-1W-13.03 left.
1.40	Replace existing 18" cross drain culvert with an 18" x 30' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation

- Details Sheet for installation type).
- 1.54 Existing quarry left. Lower road grade approximately 8'. Use material from lowering road grade to construct helicopter landing within quarry limits. Drilling and shooting may be required. Submit blast plan if drilling and shooting is required.
- 1.82 Existing culvert, cross drain.
- 2.05 Existing culvert, cross drain.
- 2.07 End road renovation and roadside brushing.

**Road 32-1W-12.01 (County Line TS Spur Right) ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>   |
|------------------|---|
| 0.00             | Jct. w/ 32-1W-12.00. Begin road renovation and roadside brushing and chipping. Use rock for culvert replacements from BLM pit run stockpile at milepost 0.53 on BLM Road #32-1W-12.00. Replace existing 18" cross drain culvert with a 24" x 50' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type). |
| 0.08             | Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.25             | Install new 24" x 50' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.28             | Existing culvert, draw.   |
| 0.38             | Replace existing 18" cross drain culvert with an 18" x 30' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.49             | Replace existing 18" cross drain culvert with an 18" x 28' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).  |
| 0.57             | Replace existing 18" cross drain culvert with an 18" x 34' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).   |
| 0.65             | Jct. w/ 32-1W-11.01 right. End road renovation and roadside brushing and chipping.  |

**Road 32-1W-13.00 (County Line TS Mainline)**  
**Segment A ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>  |
|------------------|--|
| 0.00             | Jct. w/ 32-1E-18.00. Begin road renovation and roadside brushing and chipping.   |
| 0.08             | Existing culvert, cross drain.   |
| 0.29             | Replace existing 24" draw culvert with a 36" x 60' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).        |
| 0.34             | Existing culvert, cross drain.   |
| 0.39             | Property line.   |
| 0.49             | Replace existing 18" cross drain culvert with an 18" x 50' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type). |



- 0.61 Jct. w/ 32-1E-18.03 left.
- 0.62 Replace existing 18" cross drain culvert with an 18" x 38' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.93 Property line. End segment A.

**Segment B** ASC

**MP** **Remarks**

- 0.93 Continue road renovation and roadside brushing and chipping.
- 0.95 Existing quarry left.
- 0.99 Existing culvert, cross drain.
- 1.12 Replace existing 18" cross drain culvert with an 18" x 40' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.15 Property line.
- 1.29 Replace existing 18" cross drain culvert with an 18" x 36' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.50 Replace existing 18" draw culvert with a 24" x 44' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.60 Existing culvert, cross drain.
- 1.74 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.92 Install new 24" x 40' CSP w/ a 20' full round downspout. Culvert installation shall be a Type 2 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type). Excavate approximately 20 cubic yards of unsuitable material where hole has formed in road and replace with suitable material from quarry located at milepost 0.95.
- 1.95 Jct. w/ 32-1W-12.00 left. End road renovation and roadside brushing and chipping.

**Road 32-1W-23.02 (Wild Lily)**

**Segment A** ASC

**MP** **Remarks**

- 0.00 Jct. w/ 32-1W-26.00. Begin road renovation and roadside brushing.
- 0.06 Existing culvert, cross drain.
- 0.15 Jct. w/ 32-1W-23.06 left.
- 0.16 Existing culvert, cross drain. Jack culvert inlet open. Culvert outlet ditch shall be cleaned for 25' to drain water away from culvert outlet.
- 0.18 Existing culvert, cross drain.
- 0.27 Existing culvert, cross drain.
- 0.36 Existing culvert, draw.
- 0.46 Existing culvert, cross drain.
- 0.50 Existing culvert w/ a 20' half round downspout, cross drain.
- 0.66 Existing culvert, cross drain.
- 0.75 Existing culvert, cross drain.

- 0.83 Existing culvert, draw.
- 0.89 Property line. End road renovation and roadside brushing.

**Road 32-1W-26.00 (North Mainline – West Branch Elk Creek)**  
**Segment A ASC**

**MP**    **Remarks**

- 0.00 Jct. w/ 33-1E-17.00. Begin road renovation and roadside brushing.
- 0.01 Existing culvert, draw.
- 0.02 Jct. w/ 32-1W-26.02 left.
- 0.03 Existing culvert, draw.
- 0.07 Existing culvert, cross drain.
- 0.16 Jct. w/ 32-1W-26.08 right.
- 0.27 Existing culvert, draw.
- 0.28 Jct. w/ 32-1W-26.03 right. End segment A.

**Segment B ASC**

**MP**    **Remarks**

- 0.28 Continue road renovation and roadside brushing.
- 0.34 Existing culvert, cross drain.
- 0.37 Existing culvert, draw.
- 0.50 Existing culvert, draw.
- 0.55 Existing culvert, cross drain.
- 0.60 Existing culvert, cross drain.
- 0.64 Existing culvert, cross drain.
- 0.66 Excavate unsuitable material and replace with Class III rip rap material from the BLM quarry located at milepost 2.26. Haul unsuitable material to waste disposal site located at milepost 1.75. Excavation dimensions are approximately 15' deep, 50' in length along the road, and 7' into the road surface. Compaction of rip rap material shall be by running tracked equipment across site in layers. Road repair shall have crushed aggregate placed on surface of road for 150' over excavation, 15' wide, and to a compacted depth of 6". Crushed aggregate can be obtained from a BLM stockpile located at milepost 2.26.
- 0.68 Existing culvert, cross drain.
- 0.73 Existing culvert, draw.
- 0.77 Existing culvert, cross drain.
- 0.82 Existing culvert, cross drain.
- 0.94 Existing culvert, cross drain.
- 1.04 Jct. w/ 32-1W-26.04 right.
- 1.07 Existing culvert, cross drain.
- 1.11 Property line. End segment B.

**Segment C ASC**

**MP**    **Remarks**

- 1.11 Continue road renovation and roadside brushing.
- 1.15 Existing culvert, draw.
- 1.20 Existing culvert, cross drain.
- 1.25 Existing culvert, draw.
- 1.31 Existing culvert, draw.
- 1.38 Existing culvert with a 10' half round downspout, cross drain.

- 1.50 Existing culvert, draw.
- 1.52 Existing culvert, cross drain.
- 1.65 Existing culvert, cross drain.
- 1.75 Jct. w/ 32-1W-23.00 left. Existing BLM stockpile (100CY).
- 1.76 Existing culvert, cross drain.
- 1.94 Existing culvert, draw.
- 2.07 Existing culvert, cross drain.
- 2.16 Existing culvert, cross drain.
- 2.25 Existing culvert, draw.
- 2.26 Jct. w/ 32-1W-23.04 right. Existing quarry. Existing BLM stockpile (400CY).
- 2.36 Existing culvert, cross drain.
- 2.46 Existing culvert, cross drain.
- 2.55 Existing culvert, cross drain.
- 2.66 Jct. w/ 32-1W-23.02 right. Existing culvert, draw. End segment C. End road renovation and roadside brushing.

**Road 32-1W-26.04 (Alco Rock)**

**Segment A (Private) ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>  |
|------------------|--|
| 0.00             | Jct. w/ 32-1W-26.00. Begin road renovation and roadside brushing and chipping.     |
| 0.02             | Private mega gate.   |
| 0.10             | Existing culvert, cross drain.   |
| 0.25             | Existing culvert, cross drain.   |
| 0.42             | Jct. w/ 32-1W-26.05 right. End road renovation and roadside brushing and chipping. |

**Road 32-1W-26.05 (Alco Honey Bee Sp)**

**Segment A ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>  |
|------------------|--|
| 0.00             | Jct. w/ 32-1W-26.04. Begin road renovation and roadside brushing and chipping.                                   |
|                  | Existing culvert, cross drain.   |
| 0.22             | Existing culvert, cross drain.   |
| 0.29             | Existing culvert, cross drain.   |
| 0.32             | Existing culvert, draw.  |
| 0.43             | Existing culvert, cross drain.   |
| 0.57             | Jct. w/ 33-1E-4.00 right.  |
| 0.60             | Existing BLM stockpile (100CY). Jct. w/ 33-1E-4.00 left. End road renovation and roadside brushing and chipping. |

**Road 32-1W-27.01 (Blue Chip Quarry Road) ASC**

- | <b><u>MP</u></b> | <b><u>Remarks</u></b>  |
|------------------|--|
| 0.00             | Jct. w/ 33-1W-10.00. Begin road renovation and roadside brushing. Existing culvert, cross drain. |
| 0.10             | Existing culvert, cross drain.   |
| 0.14             | Jct. w/ 32-1W-27.02.   |
| 0.18             | Existing culvert, cross drain.   |

- 0.29 Existing quarry.
- 0.38 End road renovation and roadside brushing.

**Road 32-1W-35.02 (Oliver Springs Sp) ASC**

**MP Remarks**

- 0.00 Jct. w/ 33-1W-10.00. Begin road renovation and roadside brushing.
- 0.23 Existing culvert, cross drain.
- 0.26 Jct. w/ 32-1W-35.07 right. End road renovation and roadside brushing.

**Road 32-1W-35.07 (Sawed Off Sp)**

**Segment A ASC**

**MP Remarks**

- 0.00 Jct. w/ 32-1W-35.02. Begin road renovation and roadside brushing.
- 0.11 Existing BLM stockpile (750CY).
- 0.12 End road renovation and roadside brushing.

**Road 32-1W-36.01 (Middle Creek Ridge) ASC**

**MP Remarks**

- 0.00 Jct. w/ 33-1E-4.00. Begin road renovation and roadside brushing.
- 0.02 Existing culvert, cross drain.
- 0.09 Existing culvert, cross drain.
- 0.17 Property line.
- 0.19 Existing culvert, cross drain.
- 0.32 Existing culvert, cross drain.
- 0.37 Existing culvert, cross drain.
- 0.45 Construct helicopter landing. Use cut material as fill material to level out landing on both sides of road. Compact fill material. Use 50CY of BLM stockpile rock from milepost 0.47 to surface landing.
- 0.47 Existing BLM stockpile (50CY).
- 0.59 Existing culvert, cross drain.
- 0.66 Existing culvert, cross drain.
- 0.76 Existing culvert, cross drain.
- 0.86 Existing culvert with a 20' half round downspout, cross drain.
- 0.98 Existing culvert, cross drain.
- 1.19 Existing culvert, cross drain.
- 1.37 Jct. w/ un-numbered road left (barricaded).
- 1.49 End road renovation and roadside brushing.

**Road 32-2E-34.00 (Flounce Rock)**

**Segment A ASC**

**MP Remarks**

- 0.00 Jct. w/ Ulrich County Road. Begin road renovation and roadside brushing.
- 0.01 Replace existing 18" cross drain culvert with an 18" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.03 "Y" Jct. w/ Ulrich County Road right.

- 0.08 Replace existing 18" cross drain culvert with an 18" x 44' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.17 Existing culvert, draw.
- 0.29 Existing culvert, cross drain. End segment A.

**Segment B** ASC

**MP** **Remarks**

- 0.29 Continue road renovation and roadside brushing.
- 0.39 Existing culvert, draw.
- 0.43 Existing culvert, draw.
- 0.55 Replace existing 18" cross drain culvert with a 24" x 38' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.74 Existing culvert, cross drain.
- 0.81 End segment B.

**Segment C** ASC

**MP** **Remarks**

- 0.81 Continue road renovation and roadside brushing.
- 0.85 Replace existing 18" cross drain culvert with a 24" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.91 Existing culvert, draw.
- 0.93 Jct. w/ pump chance road left. Pump chance left.
- 1.11 Replace existing 30" cross drain culvert with a 36" x 42' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.32 Replace existing 18" cross drain culvert with a 30" x 42' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.45 Replace existing 36" cross drain culvert with a 42" x 38' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 1.63 Jct. w/ 32-2E-33.01 left (barricaded).
- 1.70 Jct. w/ 32-2E-33.03 right.
- 1.88 Replace existing 18" cross drain culvert with a 30" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 2.24 Jct. w/ 32-2E-33.02 right (barricaded).
- 2.38 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 2.74 Replace existing 18" cross drain culvert with an 18" x 34' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 2.93 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash

pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

3.01 Replace existing 18" cross drain culvert with an 18" x 36' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

3.10 End segment C.

**Segment D** ASC

**MP** **Remarks**

3.10 Continue road renovation and roadside brushing.

3.19 Existing culvert, draw.

3.28 Jct. w/ 32-2E-33.00 left.

3.62 Existing culvert, cross drain.

3.79 Replace existing 18" cross drain culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 3 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).

3.80 Jct. w/ 33-2E-5.00 right. End segment D. End road renovation and roadside brushing.

**Road 33-1E-4.00 (Alco Creek)**

**Segment G1** ASC

**MP** **Remarks**

0.00 Jct. w/ 32-1W-26.05. Begin road renovation and roadside brushing.

0.21 Existing culvert, cross drain.

0.31 Existing culvert, cross drain.

0.41 Existing culvert, cross drain.

0.51 Existing culvert, cross drain.

0.62 Existing culvert, cross drain.

0.63 Jct. w/ 32-1W-25.03 left (barricaded).

0.74 Existing culvert, cross drain.

0.78 Property line. End segment G1.

**Segment F (Private)** ASC

**MP** **Remarks**

0.78 Continue road renovation and roadside brushing.

0.84 Existing culvert, cross drain.

0.92 Property line. End segment F.

**Segment E** ASC

**MP** **Remarks**

0.92 Continue road renovation and roadside brushing.

1.02 Existing culvert, cross drain.

1.16 Existing culvert, cross drain.

1.26 Existing culvert, cross drain.

1.36 Existing culvert, cross drain.

1.40 Jct. w/ 32-1W-25.02 left.

1.54 Existing culvert, draw.

1.60 Existing culvert, cross drain.

1.65 Existing culvert, cross drain.

- 1.84 Existing culvert, cross drain.
- 1.88 Existing culvert, cross drain.
- 1.94 Property line. End segment E.

**Segment D (Private) ASC**

**MP**   **Remarks**

- 1.94 Continue road renovation and roadside brushing.
- 1.97 Existing culvert, cross drain.
- 2.06 Existing culvert, cross drain.
- 2.13 Jct. w/ 32-1W-36.01 left. End road renovation and roadside brushing.

**Road 33-1E-17.00 (West Branch Elk Creek)**

**Segment A BST**

**MP**   **Remarks**

- 0.00 Jct. w/ Elk Creek County Road. Begin cleaning ditches where needed, cleaning culvert inlets and outlets, and roadside brushing. Haul waste material from ditch and culvert cleaning to the waste disposal sites at mileposts 1.17 or 1.75, or where approved by the Authorized Officer.
- 0.65 Jct. w/ 33-1E-18.00 right.
- 0.74 Cattle guard.
- 1.09 Jct. w/ 33-1W-8.00 left.
- 1.17 Waste disposal site left.
- 1.20 Jct. w/ spur road left.
- 1.38 Jct. w/ 33-1E-7.03 right (gated).
- 1.62 Bridge.
- 1.73 Jct. w/ 33-1E-7.01 right.
- 1.75 Waste disposal site right.
- 1.76 Jct. w/ 33-1E-7.01 right. Jct. w/ 33-1W-12.00 left. Existing BLM stockpile (1,000CY).
- 3.57 Jct. w/ 32-1W-36.00 right (gated).
- 3.64 Jct. w/ 32-1W-35.00 left (barricaded).
- 4.66 Jct. w/ 32-1W-26.01 left and 32-1W-26.00 straight. End cleaning ditches where needed, cleaning culvert inlets and outlets, and roadside brushing.

**Road 33-1E-22.01 (Yellow Rock R/W)**

**(Private) NAT**

**MP**   **Remarks**

- 0.00 Jct. w/ 33-1E-23.00. Begin road renovation and roadside brushing. Replace all water bars after use.
- 0.01 Existing water bar.
- 0.05 Existing water bar.
- 0.08 Existing water bar.
- 0.14 Existing water bar.
- 0.20 Existing water bar.
- 0.23 Existing culvert, cross drain.
- 0.26 Existing water bar.
- 0.32 Existing water bar.

0.38 Construct helicopter landing. End road renovation and roadside brushing.

**Road 33-1E-23.00 (Lower Lost Creek Spur)**

**Segment A2 ASC/NAT**

**MP Remarks**

0.00 Jct. w/ 33-1E-27.00. Begin road renovation and roadside brushing. Replace all water bars after use.  
0.01 Existing pipe gate.  
0.13 Existing culvert, draw.  
0.20 Existing water bar.  
0.23 Existing water bar.  
0.25 End ASC, begin NAT.  
0.29 Jct. w/ 33-1E-22.03 left. Jct. w/ private road left. End segment A2.

**Segment B (Private) NAT**

**MP Remarks**

0.29 Continue road renovation and roadside brushing.  
0.38 Existing culvert, cross drain.  
0.46 Existing culvert, cross drain.  
0.51 Ditch out left.  
0.53 Existing water bar.  
0.55 Existing culvert, cross drain.  
0.66 Existing culvert, draw.  
0.73 Existing culvert, draw.  
0.76 Property line.  
0.79 Existing culvert, draw.  
0.80 Property line.  
0.83 Ditch out right.  
0.88 Existing culvert, draw.  
0.90 Existing water bar.  
0.92 Existing culvert, draw.  
0.98 Existing water bar.  
1.04 Jct. w/ private road right.  
1.07 Existing water bar.  
1.15 Existing culvert, cross drain.  
1.17 Existing water bar.  
1.21 Ditch out left.  
1.26 Jct. w/ private road left.  
1.28 Existing water bar.  
1.33 Existing water bar.  
1.35 Jct. w/ private road right.  
1.41 Existing water bar.  
1.42 Ditch out left.  
1.48 Existing water bar.  
1.57 Existing water bar.  
1.60 Existing culvert, cross drain.



1.61 Jct. w/ 33-1E-22.01 right. End road renovation and roadside brushing.

**Road 33-1E-27.00 (Burnt Peak Road)**

**Segment B ASC**

**MP   Remarks**

0.00 Jct. w/ Takelma County Road. Begin road renovation and roadside brushing.  
0.03 Existing culvert, cross drain.  
0.10 Jct. w/ substation road left.  
0.16 Substation left.  
0.17 Existing culvert, draw.  
0.19 Jct. w/ power line road left.  
0.35 Existing culvert, cross drain.  
0.64 Existing culvert with half round downspout, cross drain.  
0.91 Existing culvert, cross drain.  
1.00 Existing culvert, draw.  
1.05 Existing culvert, draw.  
1.16 Existing culvert, cross drain.  
1.22 Jct. w/ 33-1E-23.00 left and right. End segment B.

**Segment C ASC**

**MP   Remarks**

1.22 Jct. w/ 33-1E-23.00. Continue road renovation and roadside brushing.  
1.31 Existing culvert, draw.  
1.46 Existing culvert, cross drain.  
1.57 Existing culvert, cross drain.  
1.67 Existing culvert, draw.  
1.82 Jct. w/ 33-1E-14.02 left and right (fenced). End segment C.

**Segment D ASC**

**MP   Remarks**

1.82 Jct. w/ 33-1E-14.02. Continue road renovation and roadside brushing.  
1.92 Existing culvert, cross drain.  
1.98 Existing culvert, draw.  
2.01 Existing culvert, draw.  
2.06 Existing culvert, draw.  
2.18 Existing culvert, draw.  
2.24 Existing culvert, draw.  
2.29 Existing culvert, cross drain.  
2.48 Existing culvert, cross drain.  
2.53 Existing culvert, draw.  
2.55 Jct. w/ road left.  
2.65 Jct. w/ 33-1E-11.02 left.  
2.67 Existing culvert, draw.  
2.72 Existing culvert, draw.  
2.78 Existing culvert, draw.  
2.80 Jct. w/ 33-1E-14.01 left. End segment D.

**Segment E ASC**

**MP**    **Remarks**

- 2.80 Jct. w/ 33-1E-14.01. Continue road renovation and roadside brushing.
- 3.09 Existing culvert, draw.
- 3.19 Existing culvert, draw.
- 3.29 Existing culvert, draw.
- 3.37 Jct. w/ trailhead access road right. End segment E.

**Segment F**    **ASC**

**MP**    **Remarks**

- 3.37 Jct. w/ trailhead access road. Continue road renovation and roadside brushing.
- 3.42 Existing culvert, draw.
- 3.48 Jct. w/ road powerline access road left.
- 3.49 Jct. w/ 33-1E-11.01 right. End segment F.

**Segment G**    **ASC**

**MP**    **Remarks**

- 3.49 Jct. w/ 33-1E-11.01 right. Continue road renovation and roadside brushing.
- 3.53 Existing culvert, cross drain.
- 3.60 Existing culvert, cross drain.
- 3.72 Existing culvert, cross drain.
- 3.84 Existing culvert, draw.
- 3.92 Existing culvert, draw.
- 4.00 Existing culvert, cross drain.
- 4.05 Property line. End segment G.

**Segment H (Private)**    **ASC**

**MP**    **Remarks**

- 4.05 Property line. Continue road renovation and roadside brushing.
- 4.11 Existing culvert, draw.
- 4.12 Property line. End segment H.

**Segment I**    **ASC**

**MP**    **Remarks**

- 4.12 Property line. Continue road renovation and roadside brushing.
- 4.14 Existing culvert, cross drain.
- 4.19 Jct. w/ 33-1E-2.00 left.
- 4.30 Property line. End segment I.

**Segment J (Private)**    **ASC**

**MP**    **Remarks**

- 4.30 Property line. Continue road renovation and roadside brushing.
- 4.31 Existing culvert, cross drain.
- 4.36 Existing culvert, cross drain.
- 4.48 Existing culvert, cross drain.
- 4.57 Existing culvert, cross drain.
- 4.69 Existing culvert, cross drain.
- 4.76 Existing culvert, cross drain.
- 4.88 Jct. w/ private road left. Existing culvert, cross drain.
- 5.05 Existing culvert, cross drain.
- 5.15 Existing culvert, cross drain.

5.23 Existing culvert, cross drain. End segment J.

**Segment K** ASC

**MP** **Remarks**

5.23 Existing culvert. Continue road renovation and roadside brushing.

5.27 Existing culvert, cross drain.

5.31 Existing culvert, cross drain.

5.35 Jct. w/ private road left.

5.38 Existing culvert, draw.

5.41 Existing culvert, cross drain.

5.48 Existing culvert, cross drain.

5.55 Existing culvert, cross drain.

5.58 Jct. w/ 32-1E-35.00 left. End segment K.

**Segment L** ASC

**MP** **Remarks**

5.58 Continue road renovation and roadside brushing.

5.64 Existing culvert, draw.

5.66 Existing culvert, draw.

5.67 Jct. w/ 32-1E-35.04 right (barricaded).

5.71 Existing culvert, cross drain.

5.78 Existing culvert, cross drain.

5.82 Jct. w/ 32-1E-35.05 right (barricaded).

5.87 Existing culvert, cross drain.

5.92 Existing culvert, draw.

5.99 Jct. w/ 32-1E-35.06 left (barricaded).

6.07 Jct. w/ 32-1E-13.00 right. End segment L.

**Segment M** ASC

**MP** **Remarks**

6.07 Continue road renovation and roadside brushing.

6.14 Existing culvert, cross drain.

6.20 Existing culvert, cross drain.

6.30 Existing culvert, cross drain.

6.45 Existing culvert, cross drain.

6.53 Existing culvert, cross drain.

6.67 Existing culvert with a 10' half round downspout, cross drain.

6.72 Existing culvert with a 20' half round downspout, cross drain.

6.93 Existing culvert, cross drain. End road renovation and roadside brushing.

**Road 33-1W-3.01 (USFS RD #6605 130) NAT**

**MP** **Remarks**

0.00 Jct. w/ 33-1W-10.00. Begin road renovation and roadside brushing and chipping.

0.03 Existing barricade. Re-establish barricade after use.

0.20 Remove 50 cubic yard slide. Haul waste material to quarry across from the beginning of the road.

0.29 Existing culvert, cross drain.

0.38 Jct. w/ 33-1W-3.02 left. End road renovation and roadside brushing and chipping.

**Road 33-1W-3.02 (USFS RD #6605 135) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1W-3.01. Begin road renovation and roadside brushing and chipping.
0.10	End road renovation and roadside brushing and chipping.

**Road 33-1W-3.03 (USFS RD #6605 140) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1W-10.00. Begin road renovation and roadside brushing and chipping.
0.04	Place 10 cubic yards of pit run in hole in road to make passable for sale.
0.05	Existing water dip.
0.09	Existing water dip.
0.15	End road renovation and roadside brushing and chipping.

**Road 33-1W-8.00 (Buck Rock Road)**  
**Segment A ASC**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ East Trail Creek County Road. Begin road renovation and roadside brushing.
0.11	Existing culvert, cross drain. Property line.
0.21	Existing culvert, cross drain.
0.27	Existing culvert, cross drain.
0.40	Existing culvert, cross drain.
0.43	Jct. w/ private driveway left.
0.50	Existing culvert, cross drain.
0.58	Existing culvert, cross drain.
0.64	Existing culvert, draw.
0.83	Jct. w/ private driveway right.
0.85	Existing culvert, draw.
1.00	Existing culvert, cross drain.
1.04	Existing culvert, cross drain.
1.12	Existing culvert, draw.
1.23	Existing culvert, cross drain.
1.35	Existing culvert, cross drain.
1.44	Jct. w/ 33-1W-9.01 right (gated).
1.46	Existing culvert, draw.
1.55	Existing culvert, cross drain.
1.62	Existing culvert, cross drain.
1.74	Existing culvert with a 10' half round downspout, cross drain.
1.82	Existing culvert, draw.
1.94	Existing culvert with a 10' half round downspout, cross drain.
2.03	Existing culvert with an 8' half round downspout, cross drain.
2.13	Existing culvert, cross drain.
2.15	Jct. w/ 33-1W-9.00 left (gated).
2.27	Existing culvert, cross drain.

- 2.34 Existing culvert, cross drain.
- 2.44 Existing culvert, cross drain.
- 2.51 Existing culvert, cross drain.
- 2.55 Existing culvert, cross drain.
- 2.56 Jct. w/ lower Buck Rock Quarry entrance left. Move existing stockpile rock to upper quarry bench. Use as waste disposal site.
- 2.57 Jct. w/ upper Buck Rock Quarry entrance left. Service landing.
- 2.65 Jct. w/ 33-1W-10.00 left. End segment A.

**Segment B ASC**

**MP Remarks**

- 2.65 Continue road renovation and roadside brushing.
- 2.67 Existing culvert, cross drain.
- 2.77 Existing culvert, cross drain.
- 2.88 Jct. w/ 33-1W-10.01 right (barricaded).
- 2.91 Existing culvert, cross drain.
- 2.95 Jct. w/ old temp route left (barricaded).
- 2.98 Jct. w/ 33-1W-10.02 right.
- 3.08 Existing culvert, cross drain. End segment B.

**Segment C ASC**

**MP Remarks**

- 3.08 Continue road renovation and roadside brushing.
- 3.29 Existing culvert, cross drain.
- 3.45 Existing culvert, cross drain.
- 3.58 Existing culvert, cross drain.
- 3.67 Jct. w/ 33-1W-15.00 right.
- 3.73 Existing culvert, cross drain.
- 3.79 Existing culvert, cross drain.
- 3.87 Existing culvert, cross drain.
- 4.01 Existing culvert, cross drain.
- 4.19 Existing culvert, cross drain.
- 4.32 Existing culvert, draw.
- 4.43 Existing quarry right. End segment C.

**Segment D ASC**

**MP Remarks**

- 4.43 Continue road renovation and roadside brushing.
- 4.65 Existing culvert, cross drain.
- 4.69 Existing culvert, cross drain.
- 4.81 Existing culvert, draw.
- 5.02 Existing culvert, draw.
- 5.06 Existing culvert, cross drain.
- 5.14 Existing culvert, draw.
- 5.23 Jct. w/ 33-1W-14.00 left. End road renovation and roadside brushing.

**Road 33-1W-10.00 (Oliver Springs)**

**Segment A ASC**

**MP**    **Remarks**

- 0.00 Jct. w/ 33-1W-8.00. Begin road renovation and roadside brushing.
- 0.01 Existing culvert, cross drain.
- 0.11 Existing culvert with a 10' half round downspout, cross drain.
- 0.24 Existing culvert with a 20' half round downspout, cross drain.
- 0.34 Jct. w/ 33-1W-10.03 left (barricaded).
- 0.51 Existing culvert with a 10' half round downspout, cross drain.
- 0.72 Existing culvert, cross drain.
- 0.74 Jct. w/ Road 33-1W-10.03 and 33-1W-3.00 left. Existing quarry left. Jct. w/ 33-1W-3.01 right.
- 0.84 Jct. w/ jeep road left.
- 0.88 Existing culvert, cross drain.
- 0.96 Existing culvert with a 10' half round downspout, cross drain.
- 1.10 Jct. w/ 33-1W-3.03 right.
- 1.15 Existing culvert with an 8' half round downspout, cross drain.
- 1.23 Existing culvert with a 20' half round downspout, cross drain.
- 1.33 Existing culvert with a 30' half round downspout, cross drain.
- 1.43 Jct. w/ 32-1W-35.00 right. Existing BLM stockpile (100CY). End segment A.

**Segment B**    **ASC**

**MP**    **Remarks**

- 1.43 Continue road renovation and roadside brushing.
- 1.52 Existing culvert, cross drain.
- 1.60 Existing culvert, cross drain. Culvert outlet ditch shall be cleaned for 20' to drain water away from culvert outlet.
- 1.68 Existing culvert with an 8' half round downspout, cross drain.
- 1.74 Existing culvert, cross drain.
- 1.75 Jct. w/ 33-1W-3.05 left.
- 1.89 Existing culvert, cross drain.
- 2.00 Existing culvert with an 8' half round downspout, cross drain.
- 2.09 Existing culvert, cross drain.
- 2.22 Existing culvert, cross drain.
- 2.34 Jct. w/ jeep road left.
- 2.43 Existing culvert, cross drain.
- 2.50 Existing culvert with an 8' half round downspout, cross drain.
- 2.61 Existing culvert, draw.
- 2.71 Existing culvert, cross drain.
- 2.73 Jct. w/ 32-1W-34.00 left. End segment B

**Segment C**    **ASC**

**MP**    **Remarks**

- 2.73 Continue road renovation and roadside brushing.
- 2.77 Existing culvert, cross drain.
- 2.96 Existing culvert, draw.
- 3.09 Existing culvert, draw.
- 3.22 Existing culvert with a 20' half round downspout, cross drain.
- 3.37 Existing culvert, cross drain.

- 3.55 Existing culvert, cross drain.
- 3.71 Jct. w/ 32-1W-26.01 right. End segment C.

**Segment D ASC**

**MP Remarks**

- 3.71 Continue road renovation and roadside brushing.
- 3.75 Existing culvert, cross drain.
- 3.76 Jct. w/ 32-1W-35.02 right.
- 4.00 Existing culvert, cross drain.
- 4.06 Existing culvert, cross drain.
- 4.14 Existing culvert, cross drain.
- 4.25 Existing culvert, cross drain.
- 4.35 Existing culvert, cross drain. Culvert outlet ditch shall be cleaned for 10' to drain water away from culvert outlet.
- 4.45 Existing culvert, cross drain.
- 4.64 Jct. w/ 32-1W-27.01 left.
- 4.67 Place 10 cubic yards of ASC to repair hole in road.
- 4.75 Existing culvert, cross drain.
- 4.81 Remove large tree from roadway.
- 4.86 Existing culvert, cross drain.
- 4.94 Existing culvert, cross drain.
- 5.02 Existing culvert, cross drain.
- 5.15 Existing culvert, cross drain.
- 5.24 Existing culvert, cross drain.
- 5.30 Existing culvert, cross drain.
- 5.33 Existing culvert with a 12' half round downspout, cross drain.
- 5.36 Existing culvert, cross drain.
- 5.49 Existing culvert with a 14' half round downspout, cross drain.
- 5.57 Existing culvert, cross drain.
- 5.65 End road renovation and roadside brushing.

**Road 33-1W-14.01 (West Side Road)**

**Segment A PRR**

**MP Remarks**

- 0.00 Jct. w/ 33-1W-8.00. Begin road reconstruction and roadside brushing and chipping. Reconstruction includes re-establishing ditch lines, turnouts, and full driving surfaces. Stumps from cut trees shall be grubbed and the road repaired. Slash from reconstruction shall be hauled (if needed) and piled where room allows along road. Begin placing 8" of BLM stockpiled ASC 14' wide on road.
- 0.10 Remove existing 18" cross drain culvert. Construct AWD (see Exhibit C-9; Armored Water Dip Construction Sheet for details).
- 0.19 Jct. w/ 33-1W-14.02 left. End placing 8" of BLM stockpiled ASC 14' wide on road.

**Segment B PRR**

**MP Remarks**

- 0.19 Continue road reconstruction and roadside brushing and chipping.
- 0.24 Remove existing 18" cross drain culvert. Construct AWD (see Exhibit C-9; Armored

- Water Dip Construction Sheet for details).
- 0.34 Remove existing 18" cross drain culvert. Construct AWD (see Exhibit C-9; Armored Water Dip Construction Sheet for details).
- 0.47 Replace existing 18" draw culvert with a 24" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 with new culvert outlet 2' lower than existing culvert outlet (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.66 Construct AWD (see Exhibit C-9; Armored Water Dip Construction Sheet for details).
- 0.72 Remove existing 18" cross drain culvert. Construct AWD (see Exhibit C-9; Armored Water Dip Construction Sheet for details).
- 0.79 Remove existing 18" cross drain culvert. Construct AWD (see Exhibit C-9; Armored Water Dip Construction Sheet for details).
- 0.88 End road reconstruction and roadside brushing and chipping.

**Road 33-1W-14.02 NAT**

**MP Remarks**

- 0.00 Jct. w/ 33-1W-14.01. Begin road reconstruction and roadside brushing and chipping. Begin rocking road with 12" of pit run rock. Pit Run rock can be used from the BLM Buck Rock Quarry at milepost 2.57 on BLM Road 33-1W-8.00.
- 0.02 Existing guardrail gate. Re-close guardrail gate after use.
- 0.11 Construct helicopter landing.
- 0.14 End road reconstruction and roadside brushing and chipping. End rocking road with 12" of pit run rock.

**Road 33-2E-5.00 (Section 32 Connect)**

**Segment A NAT**

**MP Remarks**

- 0.00 Jct. w/ 32-2E-34.00. Begin road renovation and roadside brushing. Replace water bars after use.
- 0.01 Replace existing 18" draw culvert with an 18" x 40' CSP with a 2 cubic yard splash pad. Culvert installation shall be a Type 1 (refer to Exhibit C-6; Culvert Installation Details Sheet for installation type).
- 0.07 Pump Chance right.
- 0.10 Property line. End segment A.

**Segment B (Private) NAT**

**MP Remarks**

- 0.10 Continue road renovation and roadside brushing.
- 0.23 Jct. w/ private road right.
- 0.26 Jct. w/ private road right.
- 0.60 Existing culvert, draw. Pump chance right.
- 0.64 Private mega gate. Property line. End segment B.

**Segment C (Private) NAT**

**MP Remarks**

- 0.64 Continue road renovation and roadside brushing.
- 0.84 Jct. w/ 32-1E-36.00 left and right. End road renovation and roadside brushing.



**SHADY ELK TIMBER SALE**  
**Temp Route Work List**

**Temp Route 31-1 T32S-R01E-Section 31 NAT.**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-1W-36.01. Begin temp route construction. Road shall be decommissioned after use (See Exhibit D-3; Road Decommissioning Work List for details).
0.07	End temp route construction. Construct helicopter landing.

## TIMBER SALE ROAD SPECIFICATIONS

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**GENERAL – 100**

101 - Pre-work Conference(s):

A pre-work conference will be held prior to the start of new construction, improvement, and renovation operations. The Purchaser shall request the conference at least 72 hours prior to the time it is to be held. The conference will be attended by the Purchaser and/or his representative(s), subcontractor(s) and/or his or their representative(s) and the Authorized Officer and/or his representative(s).

The purpose of the pre-work conference will be to review the required work, exhibits and specifications, and to establish a work schedule and a list of the Purchaser's representatives and subcontractor(s).

102 - Definitions:

AASHTO - American Association of State Highway and Transportation Officials.  
Current editions of tests and specifications.

Abrasion Resistance - The ability of a fabric surface to resist wear by friction.

ACI - American Concrete Institute

Apparent Opening Size (AOS) - Number of the U.S. Bureau of Standard sieve (or its opening size in millimeters or inches) having openings closest in size to the diameter of uniform particles which will allow 5 percent by weight to pass through the geotextile material when shaken in a prescribed manner. This is also referred to as Equivalent Opening Size (EOS).

ASTM - American Society for Testing and Materials.

Base Course - Surfacing structure consisting of crushed gravel or stone, crushed sandstone, pitrun rock, bank or river-run gravels, etc., to provide support and, in the event no surface course is placed, the running surface for traffic load.

BLM - Bureau of Land Management

Borrow - Excavated material required for embankments and other portions of the work.

Burst Strength - The resistance of a geotextile material to rupture from pressure applied at right angles to the plane of the geotextile material under specified conditions, usually expressed as the amount of pressure causing failure. Rupture or burst results from tensile failure of the geotextile material.

Culvert - A pipe, pipe-arch, arch, or box structure constructed of metal, concrete, plastic or wood which provides an opening under the roadway primarily for the conveyance of

liquids, pedestrians or livestock.

Curve Widening - Widening required on inside of curves to accommodate long log and equipment hauling trucks.

Embankment - A structure of soil, aggregate, or rock material placed on a prepared ground surface and constructed to subgrade.

End Haul - Excavated material moved, other than by dozer, to an embankment or waste area to prevent sidecasting material outside of the road prism.

Excess Excavation - Material from the roadway in excess of that needed for construction of the designed roadway (waste).

Grab Tensile Strength - A modified tensile strength of a geotextile material. The strength of a specific width of geotextile material together with the additional strength contributed by adjacent areas. Typically, grab strength is determined on a 12-inch-wide strip of geotextile material, with the tensile load applied at the midpoint of the geotextile material width through 1-inch-wide jaw faces.

Grading - Leveling to grade, shaping and smoothing of a road subgrade; the shaping of roadside ditches as to grade and contour. In some instances includes smoothing of the cut bank.

Nonwoven Geotextile Material - A textile structure produced by bonding or interlocking of fibers, or both, accomplished by mechanical or chemical means.

Overhaul - Distance excavated material is transported in excess of the distance included in the cost for excavation.

Penetration Resistance - The geotextile material property determined by the force required to penetrate a geotextile material with a sharp pointed object. Initial penetration is by separating the fibers. Further penetration is essentially a tearing process.

Percent Open Area - The net area of a geotextile material that is not occupied by geotextile material filaments, normally determinable only for woven and nonwoven geotextile material having distinct, visible, and measurable openings that continue directly through the geotextile material.

Permeability - The geotextile material property which permits water to be transmitted in the longitudinal or transverse planes of the geotextile material.

Pioneer Road - Temporary construction access built along the route of the project.

Piping - The process by which soil particles are washed in or through pore spaces in drains and filters or poorly compacted fill/backfill material.

Plans - The approved drawings, or exact reproductions thereof which show the locations, character, dimensions, and details of the work to be done.

Pore Size - The size of an opening between geotextile material filaments; apparent opening size (AOS) is used to quantify this geotextile material property.

Puncture Resistance - The geotextile material property determined by the force required to penetrate a geotextile material with a blunt object. Failure results in a tearing of the geotextile material.

Purchaser - The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through their, or its agents, employees, or contractors.

Reasonably Close Conformity - Compliance with reasonable and customary manufacturing and construction tolerances where working tolerances are not specified.

Reinforcement - Strengthening of concrete with iron bars or mesh: geotextile with geotextile material inclusion: subgrade with aggregate: etc.

Roadbed - The graded portion of the road within top and side slopes, prepared as a foundation for the pavement structure and shoulders.

Road Centerline - The longitudinal center of a roadbed.

Road Improvement - Work done to an existing road which improves it over its original design standard.

Road Renovation - Work done to an existing road which restores it to its original design.

Roadway - The portion of a road within limits of construction. Usually from the toe of the fill slope to a point where the cut slope intersects natural ground line. Synonym - road prism.

Scale - In quarrying, consists of the removal of loose or overhanging rock adhering to the solid face after a shot or a round of shots has been fired.

Scarification - The process of loosening or breaking up of the surface layer of soil or road, usually to a specified depth.

Separation - Function of geotextile material as a partition between adjacent materials to prevent mixing of those materials.

Shoulder - The portion of the roadbed contiguous with the traveled way designed for accommodation of stopped vehicles, safety, and lateral support of base and surface

courses.

Spalls - Flakes or chips of stone.

Specifications - A general term applied to all directions, provisions, and requirements pertaining to performance of the work.

Specific Gravity - The ratio of the density of a material to the density of water obtained by weighing known volumes of both items in air. A specific gravity less than one implies that the material will float.

Structures - Bridges, culverts, catch basins, retaining walls, underdrains, flumes, splash pads, downspouts, and other project features which may be involved in the work and not otherwise classified in these specifications.

Subbase - Reinforcement of the subgrade with large particles of pitrun rock or crushed stone. Usually confined to roads having wet subgrades or subgrades with weak support characteristics.

Surface Course - Top layer of a road structure consisting of finely crushed gravels or asphalt designed to provide a smooth running surface for traffic load.

Subgrade - The top surface of a roadbed upon which the traveled way and shoulders are constructed.

Tensile Strength - The strength shown by a geotextile material subjected to tension as distinct from torsion, compression, or shear.

Tensile Stress - Strain Modulus - A measure of the resistance to elongation under stress. The ratio of the change in tensile stress to the corresponding change in strain.

Tensile Test - A test which subjects geotextile material to tensile forces and measures resultant stresses and strains.

Timber - Standing trees, downed trees, or logs which can be measured in board feet.

Traveled Way - The portion of the roadbed used for the movement of vehicles, exclusive of shoulders.

Typical Cross Sections - Cross-sectional plane of a typical roadway; showing natural ground line and designed roadway in relation to cut and fill, through cut, and through fill.

Turnout - Extra widening of the roadbed at appropriate intervals on single-lane roads for passing purposes.

Ultraviolet (UV) Radiation Stability - The ability of geotextile material to resist deterioration from exposure to sunlight.

Unaged Cloth - Cloth in condition received from the manufacturer or distributor.

Woven Geotextile Material - A textile structure comprising two or more sets of filaments of yarns interlaced in such a way that the elements pass each other at essentially right angles with one set of elements parallel to the geotextile material axis.

102a - Tests Used in These Specifications:

AASHTO T 11 Quantity of rock finer than No. 200 sieve.

AASHTO T 27 Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.

AASHTO T 89 Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.

AASHTO T 90 Plastic limits and plasticity index of soil.  
Plastic limit - lowest water content at which the soil remains plastic.  
Plasticity index - range of water content, within which the material is in a plastic state.  
Numerical difference between the liquid and plastic limits of the soil.

AASHTO T 96 Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.

AASHTO T 99 Relationship between soil moisture and density of soil.  
Method A - 4" mold, soil passing a No. 4 sieve 25 blows/layer & 3 layers.  
Method C - 4" mold, soil passing a 3/4 inch sieve 25 blows/layer & 3 layers.  
Method D - 6" mold, soil passing a 3/4 inch sieve. 56 blows/layer & 3 layers.

AASHTO T 119 Slump of hydraulic cement concrete.

AASHTO T 152 Air content of freshly mixed concrete.

AASHTO T 166 Specific Gravity of compacted Bituminous Mixtures.

AASHTO T 176 Shows relative portions of fine dust or claylike materials in soil or graded aggregate.

AASHTO T 180 (OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop height.

AASHTO T 191 Sand Cone. Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.

AASHTO T 205 Rubber balloon. Density of soil in place. Use for compacted or firmly bonded soil.

AASHTO T 209 Maximum Specific Gravity of Bituminous Paving Mixtures.

AASHTO T 210 Durability of aggregates based on resistance to produce fines.

AASHTO T 224 Correction for coarse particles in the soil.

AASHTO T 238 Density of Soil and Soil-Aggregate in place by nuclear methods.

AASHTO T 248 Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.

ASTM D 4564 Determination of relative density of cohesionless soils.

DMSO (dimethyl sulfide) Determines volume of expanding clays in aggregates. Usually associated with marine basalts.

103 - Compaction equipment shall meet the following requirements:

103b - Sheepfoot rollers. A tamping roller unit shall consist of two watertight metal drums mounted in frames in such manner as to be fully oscillating, together with a tractor having sufficient weight and power under actual working conditions to pull the roller drums at a minimum speed of 2.5 miles per hour. The drums shall be no less than 60 inches in diameter and no less than 54 inches in length, measured at the drum's surface, and shall be studded with tamping feet projecting not less than 7 inches from the face of the drums.

The distance between circumferential rows of tamper feet shall be such that the diagonal distance from any foot to the nearest foot in each adjacent row shall be not more than 12 inches. The cross-sectional area of the face of each tamper foot, measured perpendicular to the axis of the stud, shall be not less than 5-1/2 square inches nor more than 8 square inches.

The weight of the tamping-roller unit shall be such as to exert a minimum pressure of 250 pounds per square inch on the ground area in contact with the tamping feet, and the roller shall be so designed that the weight may be increased to exert a pressure up to 500 pounds per square inch on the ground area in contact with the tamping feet. The ground pressure shall be determined by dividing the total weight of the roller unit, not including the weight of the tractor, by the total cross-sectional area of the tamping feet in one row of tamping feet parallel to the axis of the roller.

103f - Vibratory roller. The drum diameter shall be not less than 48 inches, the drum width not less than 58 inches, and have a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 vibrations per minute (VPM),



corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 RPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled or drawn by a vehicle of sufficient horsepower to enable the unit to travel through a loose layer of material at a speed ranging from 0.9 mile to 1.8 miles per hour, as directed by the Authorized Officer.

The towing vehicle and roller or self-propelled unit meeting the above requirements shall be considered a vibratory roller unit.

- 103g - Vibratory compactor. Vibratory compactors shall consist of multiple or gang- type compacting units or pads with a minimum variable width of 2 feet. It shall be self-contained and capable of compacting material as required.
- 103h - Drum drive self-propelled vibratory grid roller. The unit shall consist of one cylindrical drum with a drum diameter of not less than 56 inches, nor more than 66 inches and the drum width shall be 84 inches. Vibratory frequency shall be regulated in seeps from 1200 to 1800 vibrations per minute (VPM), and the centrifugal force developed shall be at least 40,000 pounds at 1800 RPM. The vibratory grid roller shall be self-propelled and have a power unit of not less than 112 horsepower. The "grid" design shall be a herringbone or z-bar pattern around the circumference of the drum. The grid bars shall be 1 inch in height and spaced not more than 8-1/2 inches apart.
- 103i - Other. Compaction equipment approved by the Authorized Officer.

### **CLEARING AND GRUBBING - 200**

- 201 - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans (and as staked on the ground).
- 202 - Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend 10 feet back of the top of the cut slope and 5 feet out from the toe of the fill slope.
- 203 - Clearing shall consist of the removal and disposal of trees, logs, rotten material, brush, and other vegetative materials and surface objects in accordance with these specifications and within the limits established for clearing as specified under Subsection 202, as shown on the plans, and as posted.
- 203b - Standing trees and snags to be cleared shall be felled within the limits established for clearing unless otherwise authorized.
- 204 - Grubbing shall consist of the removal and disposal of stumps, roots, and other wood

material embedded in the ground and protruding obstacles remaining as a result of the clearing operation (in accordance with Subsections 204a, 204c, and 204d between the top of the cut slope and the toe of the fill slope.

- 204a - Stumps including those overhanging cut banks, shall be removed within the required excavation limits.
- 204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.
- 204d - On areas to be occupied by embankments having heights greater than 4 feet, no stump or portion thereof shall remain within 3 feet of embankment subgrades or slope surfaces after grubbing is completed.
- 205 - Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections.
- 206 - Clearing and grubbing debris shall be disposed of by scattering in accordance with Subsection 210 and/or piling in accordance with Subsection 211 and at the following road locations.

Road No.	From M.P.	To M.P.	Disposal Method
33-1W-14.01	0.00	0.88	Haul (if needed) and Pile
Temp Route 31-1 & Helicopter Landing	0.00	0.07	Pile
Helicopter Landing Section 7	0.00	0.00	Scatter
Helicopter Landing Section 13	0.00	0.00	Pile
Helicopter Landing Section 31	0.00	0.00	Pile
Helicopter Landing Section 14	0.00	0.00	Pile
Helicopter Landing Section 32 (PVT)	0.00	0.00	Pile
Helicopter Landing Section 22 (PVT)	0.00	0.00	Pile

- 208b - Trees, firm logs, and other firm large pieces, 4 inches in diameter and 8 feet in length and larger and not removed from the contract area by the Purchaser, shall be piled at locations determined by the Authorized Officer.
- 210 - Disposal of clearing and grubbing debris or stumps and cull logs as designated in Section 206 shall be by scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. The areas for such scattering shall have the prior approval of the Authorized Officer.

- 210a - Disposal of clearing and grubbing debris or stumps and cull logs on non-Government property by piling this material **outside** of clearing limits will be permitted provided the Purchaser obtains a written permit from the property owner on whose property the disposal is to be made. The Purchaser shall furnish the Authorized Officer a certified copy of the permit and a written release from the property owner absolving the Government from responsibilities in connection with the disposal of debris on said property.
- 211 - Disposal of clearing and grubbing debris and stumps and cull logs as designated in Section 206 shall be by piling on government lands outside of established clearing limits in an area and in a manner acceptable to the Authorized Officer.
- 212 - No grading will be permitted prior to completion and approval by the Authorized Officer of the required clearing and grubbing work, except that stump grubbing may proceed with the excavation of the road prism.
- 213 - No clearing or grubbing debris shall be left lodged against standing trees.

### **EXCAVATION AND EMBANKMENT - 300**

- 301 - This work shall consist of excavating, overhaul, placement of embankments, backfilling, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 302 - Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as marked on the ground with stakes.
- 303 - Suitable material removed from the excavation shall be used in the formation of embankment subgrade, shoulders, slopes, bedding, backfill for structures, and for other purposes as shown on the plans.
- 304 - Borrow shall consist of suitable material required for the construction of embankments or for other portions of the work; such material shall be obtained from sources selected by the Purchaser at his option and approved by the Authorized Officer.
- 305 - Embankment construction shall consist of the placement of excavated and borrowed materials, backfilling, leveling, grading, compaction, and other earth-moving work necessary for the construction of the roadway and landings in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as marked on the ground with stakes.

- 305a - Material used in the construction of embankment sections shall be free of stumps, cull logs, brush, muck, sod, roots, frozen material, and other deleterious materials and shall be placed and compacted as specified.
- 305b - Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 8 inches in depth.
- 306 - Layers of embankment material as specified under Subsections 305a and 305b, and 317 shall be moistened or dried to a uniform optimum moisture content suitable for maximum density and compacted to full width with compacting equipment conforming to requirements of Subsections 103b, 103f, 103g, 103h, and 103i.
- 306e - The final subgrade except Temp Route 31-1 shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103b, 103f, 103g, 103h, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 6 stations of road or a fraction of as measured along the center line of the constructed road. Landings and Temp Route 31-1 shall be compacted by routing construction equipment over full width.
- 306f - Compaction of embankment layers placed as specified under Subsection 305b above for the fill road repair at milepost 0.66 on BLM Road #32-1W-26.00 shall be accomplished by routing construction equipment over full width of embankment structures.
- 306g - All fill slopes shall be compacted to 75 percent of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.
- 308 - In the case of rock fills, placement of material in layers is not required and such material may be placed by end-dumping or other methods approved by the Authorized Officer provided that the rock be reasonably prevented from escaping beyond the embankment toe.
- 312 - When material, except solid rock, encountered in cuts at subgrade, is suitable for use in forming the finished roadbed, the top 6-inch layer of the subgrade shall be thoroughly scarified for the full width of the roadbed. Roots, sod, and other deleterious material or stones that will not pass a 6-inch square opening shall be removed. The scarified material shall be processed to the optimum moisture content suitable for maximum density and compacted in accordance with with Subsection 306.
- 314 - When heavy clays, muck, clay shale, or other deleterious material for forming the roadbed is encountered in cuts at subgrade, it shall be excavated to a minimum depth of 2 feet below the subgrade elevation and the excavated area backfilled with a selected borrow material approved by the Authorized Officer. The backfill material shall be uniformly moistened or dried to the optimum moisture content suitable for maximum

density in accordance with the requirements of Subsection 306. Unsuitable material shall be disposed of as directed by the Authorized Officer.

- 316 - Borrow material from sources selected at the Purchaser's option shall be inspected and approved in writing by the Authorized Officer prior to placement.
- 317 - Selected borrow shall consist of talus material, finely broken rock, gravel, or other material of granular or favorable characteristics from sources shown on the plans.
- 318 - Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed in lifts not to exceed 6 inches in depth until the required thickness shown on the plans is attained.

Each layer shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.

- 320 - Ditches shall conform to the slope, grade, dimensions, and shape of the required cross section shown on the plans. Roots, stumps, rocks, and other projections shall be removed to form smooth, even slopes.
- 321 - Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on a stream course or other body of water. Such materials shall be disposed of in accordance with Subsection 321c. Materials not disposed of in this manner shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.
- 321c - End-dumping will be permitted for the placement of excess materials under Subsection 321 in designated disposal areas or within areas approved by the Authorized Officer. Watering, rolling, and placement in layers are required. Materials placed shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.
- 322 - When so indicated on the plans, selected coarse rock encountered in the excavation shall be conserved for slope protection or special rock embankment purposes and placed in accordance with the requirements and details of section 1400 of these specifications and as shown on the plans.
- 323 - In the construction of channel changes and stream-crossing embankment sections, natural stream flow shall be maintained unless otherwise provided.
- 324 - Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of (2) feet on the uphill side.
- 327 - The finished grading shall be approved in writing by the Authorized Officer for the total project. The Purchaser shall give the Authorized Officer 3 days' notice prior to final inspection of the grading operations.

- 328 - The Purchaser shall adopt methods and procedures in using explosives, which will prevent damage to adjacent landscape features, and which will minimize scattering rocks and other debris outside the road prism.

**PIPE CULVERTS - 400**

- 401 - This work shall consist of furnishing and installing pipe culverts, full round downspouts, and other erosion control devices in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Individual lengths and locations are approximate; final lengths and locations will be determined by the Authorized Officer from established construction stakes. Additional pipe and erosion control devices may be required at the option of the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost of furnishing and installing such items. Costs will be based upon the unit prices set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 403 - Grade culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade. Grade culverts shall be skewed down grade 30 degrees as measured from the perpendicular to the centerline unless otherwise specified on the plans.
- 404 - Damage to the spelter, or burn back in excess of 3/8 inch, shall be wire brushed and painted with two coats of zinc-rich paint on zinc-coated, steel pipe and aluminum-rich paint on aluminum or aluminum-coated pipe.
- 405a - Corrugated-aluminized steel-welded pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 36 and AASHTO M 218, AASHTO M 274, or AASHTO M 289 as specified on the plans.
- 406 - Coupling bands shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 with the exception of band widths and the "Hugger"-type band which shall conform to the details, dimensions, and typical diagram shown on the plans.
- 406a - "Hugger"-type coupling bands shall only be used with annular corrugated pipe and pipe-arch culverts, or helically corrugated pipe and pipe-arch culverts having annular reformed ends. Annular reformed ends shall consist of two annular corrugations.
- 407 - Special sections, such as elbows, branch connections, and flared-end sections, shall be of the same gauge as the pipe to which they are joined, and shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274.
- 407b - Full round culvert downspouts conforming to the material and construction requirements shall be constructed for culverts at the following locations:
-

Road No.	M.P.
32-1E-7.01	0.12
	0.29
32-1E-11.00 A	0.50
32-1E-11.02	0.43
32-1E-13.01 A1	0.16
	1.72
32-1E-17.04 A	0.22
32-1W-12.00	0.39
	1.04
	1.16
	1.30
32-1W-12.01	0.08
	0.38
	0.49
32-1W-13.00 A-B	0.49
	0.62
	1.12
	1.29
	1.74
	1.92

- 408 - Pipe culverts and pipe-arch culverts shall be placed on the bed starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Coupling bands of the type required under these specifications shall be installed so as to provide the circumferential and longitudinal strength necessary to preserve the pipe alignment, prevent separation of the pipe sections, and minimize infiltration of fill material.
- 410 - Pipe shall be unloaded and handled with reasonable care. If the Authorized Officer determines any structure is damaged to the extent that it is unsuitable for use in the road construction, it shall be replaced at the Purchaser's expense.
- 411 - Trenches necessary for the installation of pipe culverts shall conform to the lines, grades, dimensions, and typical diagram included in the plans and the Culvert Installation Detail Sheet.
- 412 - Where ledge rock, boulders, soft, or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled with selected granular or fine readily compactable soil material.
- 413 - Pipe culverts and pipe-arch culverts shall be bedded on a selected granular, crushed rock material from BLM stockpiles shown on the plans, or fine readily compactable soil

material having a depth of not less than 6 inches as shown on plans. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.

416 - Side-fill material for pipe culverts at the following locations:

Road No.	M.P.
32-1E-7.01	0.12
	0.29
32-1E-11.00 A	0.35
	0.50
	0.66
	0.73
32-1E-11.02	0.21
	0.33
	0.43
32-1E-13.01 A1	0.16
	0.20
	0.67
	0.72
	0.78
	1.38
	1.46
	1.53
	1.72
	1.75
	1.86
32-1E-13.02 A	0.14
	0.71
	0.83
32-1E-13.03	0.06
	0.34
32-1E-17.04 A	0.02
	0.22
32-1E-17.05 A1	0.08
32-1E-18.00 A	0.11
	0.61
32-1E-27.00 E	3.04
	3.33
32-1W-12.00	0.32
	0.39



	0.46
	0.65
	0.82
	0.89
	1.04
	1.16
	1.30
	1.40
32-1W-12.01	0.00
	0.08
	0.25
	0.38
	0.49
	0.57
32-1W-13.00 A-B	0.29
	0.49
	0.62
	1.12
	1.29
	1.50
	1.74
	1.92
32-2E-34.00 A-D	0.01
	0.08
	0.55
	0.85
	1.11
	1.32
	1.45
	1.88
	2.38
	2.74
	2.93
	3.01
	3.79
33-1W-14.01 A-C	0.47
33-2E-5.00 A	0.01

shall be placed within 1 pipe diameter, or a minimum of 2 feet, of the sides of the pipe barrel, and to 1 foot over the pipe with fine, readily compactable soil, crushed rock material from BLM stockpiles shown on the plans, or granular fill material free of excess moisture, muck, frozen material, roots, sod, or other deleterious or caustic material and devoid of rocks or stones of sizes which may impinge upon and damage the pipe or otherwise interfere with proper compaction.

- 417 - For pipe culverts listed in Section 416, side-fill material conforming to the requirements

of Subsection 416 shall be placed and compacted under the haunches of the pipe, and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe, in layers not exceeding 6 inches in depth and 1 pipe diameter/span, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of 85 percent of the maximum density.

- 418 - Side fills beyond the compaction limits specified under Subsection 417 shall be compacted as specified under Section 300.
- 419 - The pipe culverts after being bedded and backfilled as required by these specifications shall be protected by a 2 foot cover of fill before heavy equipment is permitted to cross the drainage structures. Removal of the protection fill shall be as directed by the Authorized Officer.
- 424 - Construction of splash pads conforming to lines, grades, dimensions and typical diagram shown on the plans, shall be required for culverts at the following locations:

Road No.	M.P.
32-1E-11.00 A	0.35
	0.66
	0.73
32-1E-11.02	0.21
32-1E-13.01 A1	0.20
	0.67
	0.72
	0.78
	1.38
	1.46
	1.53
	1.75
	1.86
32-1E-13.02 A	0.14
	0.71
	0.83
32-1E-13.03	0.06
	0.34
32-1E-17.04 A	0.02
32-1E-17.05 A1	0.08
32-1E-18.00 A	0.11
	0.61
32-1E-27.00 E	3.04
	3.33
32-1W-12.00	0.32
	0.46
	0.65

	0.82
	0.89
	1.40
32-1W-12.01	0.00
	0.25
	0.57
32-1W-13.00 A-B	0.29
	1.50
32-2E-34.00 A-D	0.01
	0.08
	0.55
	0.85
	1.11
	1.32
	1.45
	1.88
	2.38
	2.74
	2.93
	3.01
	3.79
33-1W-14.01 A-C	0.47
33-2E-5.00 A	0.01

- 427 - Record culvert sizes, lengths and location actually installed on a copy of the culvert list. This culvert list shall be furnished to the Authorized Officer.
- 428 - Remove and dispose of old culverts in a legal manner, and for any fees required. The Purchaser shall remove the old culverts from the work site within 3 working days of completion of the culvert replacement work for each road.
- 429 - Keep the excavation site dewatered so that the installation of culverts is completed under dry conditions. Dispose of excess water by using pumping or natural drainage ways near the site in a manner that will avoid damage to adjacent property. Provide for downstream waterflow with no more that 10% increase in natural stream turbidity due to transport of excavated material or sediment during construction. Diversion streams shall not be returned to the natural channel until all in-stream work has been completed.

**RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500**

- 501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, minor excavation and/or embankment, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications, as shown on the plans and as marked on the ground with stakes.
- 502 - The existing road surface shall be bladed and shaped to the lines, grades, dimensions,

and typical cross sections shown on the plans and as marked on the ground with stakes at the following locations:

Road No.	From M.P.	To M.P.
32-1E-7.01	0.00	0.39
32-1E-7.02 A	0.00	0.60
32-1E-11.00 A	0.00	0.82
32-1E-11.02 A	0.00	0.59
32-1E-13.01 A1-B	0.00	1.90
Un-numbered Spur off -13.01	0.00	0.09
32-1E-13.02 A-B	0.00	1.25
Un-numbered Spur off -13.02	0.00	0.09
32-1E-13.03	0.00	0.42
Un-numbered Spur off -13.03	0.00	0.52
32-1E-13.04 A	0.00	0.26
32-1E-13.05	0.00	0.09
32-1E-13.06	0.00	0.15
32-1E-13.07	0.00	0.27
32-1E-17.04 A	0.00	0.75
32-1E-17.05 A1-A2	0.00	0.85
32-1E-18.00 A-B	0.00	0.75
32-1E-20.00 A-B	0.00	2.02
32-1E-23.00 A	0.00	1.36
32-1E-27.00 A-E	0.00	3.62
32-1E-36.00 A3	0.00	0.09
32-1W-12.00	0.00	2.07
32-1W-12.01	0.00	0.65
32-1W-13.00 A-B	0.00	1.95
32-1W-23.02 A	0.00	0.89
32-1W-26.00 A-C	0.00	2.66
32-1W-26.04 A	0.00	0.42
32-1W-26.05 A	0.00	0.60
32-1W-27.01	0.00	0.38
32-1W-35.02	0.00	0.26
32-1W-35.07 A	0.00	0.12
32-1W-36.01	0.00	1.49
32-2E-34.00 A-D	0.00	3.80
33-1E-4.00 G1-D	0.00	2.13
33-1E-17.00 A	0.00	4.66
33-1E-22.01	0.00	0.38
33-1E-23.00 A2-B	0.00	1.61
33-1E-27.00 B-M	0.00	6.93
33-1W-3.01	0.00	0.38
33-1W-3.02	0.00	0.10

33-1W-3.03	0.00	0.15
33-1W-8.00 A-D	0.00	5.23
33-1W-10.00 A-D	0.00	5.65
33-1W-14.01 A-C	0.00	0.88
33-1W-14.02	0.00	0.14
33-2E-5.00 A-C	0.00	0.84

502b - Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.

504 - Existing road surface shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsections 103b, 103f, 103g, 103h, and 103i and in accordance with the following table:

Road No.	From M.P.	To M.P.
32-1E-7.01	0.00	0.39
32-1E-7.02 A	0.00	0.60
32-1E-11.00 A	0.00	0.82
32-1E-11.02 A	0.00	0.59
32-1E-13.01 A1-B	0.00	1.90
32-1E-13.02 A-B	0.00	0.90
32-1E-13.03	0.00	0.42
32-1E-13.04 A	0.00	0.26
32-1E-13.05	0.00	0.09
32-1E-13.06	0.00	0.15
32-1E-13.07	0.00	0.27
32-1E-17.04 A	0.00	0.75
32-1E-17.05 A1-A2	0.00	0.85
32-1E-18.00 A-B	0.00	0.75
32-1E-20.00 A-B	0.00	2.02
32-1E-23.00 A	0.00	1.36
32-1E-27.00 A-E	0.00	3.62
32-1W-12.00	0.00	2.07
32-1W-12.01	0.00	0.65
32-1W-13.00 A-B	0.00	1.95
32-1W-23.02 A	0.00	0.89
32-1W-26.00 A-C	0.00	2.66
32-1W-26.04 A	0.00	0.42
32-1W-26.05 A	0.00	0.60
32-1W-27.01	0.00	0.38
32-1W-35.02	0.00	0.26
32-1W-35.07 A	0.00	0.12
32-1W-36.01	0.00	1.49
32-2E-34.00 A-D	0.00	3.80
33-1E-4.00 G1-D	0.00	2.13

33-1E-17.00 A	0.00	4.66
33-1E-23.00 A2-B	0.00	0.25
33-1E-27.00 B-M	0.00	6.93
33-1W-8.00 A-D	0.00	5.23
33-1W-10.00 A-D	0.00	5.65
33-1W-14.01 A-C	0.00	0.88

504a - Minimum compaction required shall be 1 hour of continuous rolling for each 5 stations of road, or fraction thereof, as measured along the centerline per layer of material.

506 - The inlet end of existing drainage structures shall be cleared of vegetative debris and boulders that are of sufficient size to obstruct normal stream flow. Pipe inverts shall be cleared of sediment and other debris lodged in the barrel of the pipe. The outflow area of pipe structures shall be cleared of rock and vegetative obstructions which will impede the structure's designed outflow configuration. Catch basins shall conform to the lines, grade, dimensions, and typical diagram shown on the plans.

507 - Existing and new drainage structures at the following locations:

Road No.	M.P.
32-1E-7.01	0.12
	0.29
32-1E-11.00 A	0.35
	0.50
	0.66
	0.73
32-1E-11.02	0.21
	0.33
	0.43
32-1E-13.01 A1	0.16
	0.20
	0.67
	0.72
	0.78
	1.38
	1.46
	1.53
	1.72
	1.75
	1.86

32-1E-13.02 A	0.14
	0.71
	0.83
32-1E-13.03	0.06
	0.34
32-1E-17.04 A	0.02
	0.22
32-1E-17.05 A1	0.08
32-1E-18.00 A	0.11
	0.61
32-1E-27.00 E	3.04
	3.33
32-1W-12.00	0.32
	0.39
	0.46
	0.65
	0.82
	0.89
	1.04
	1.16
	1.30
	1.40
32-1W-12.01	0.00
	0.08
	0.25
	0.38
	0.49
	0.57
32-1W-13.00 A-B	0.29
	0.49
	0.62
	1.12
	1.29
	1.50
	1.74
	1.92
32-2E-34.00 A-D	0.01
	0.08
	0.55
	0.85
	1.11
	1.32
	1.45
	1.88
	2.38
	2.74
	2.93

	3.01
	3.79
33-1W-14.01 A-C	0.47
33-2E-5.00 A	0.01

shall be replaced and placed with structures of the type, gauge, diameter, and length shown on the plans and in accordance with the placement requirements set forth under section 400 of these specifications.

- 508 - Vegetation encroaching on the roadbed and the drainage ditches of existing roads at the following locations:

Road No.	From M.P.	To M.P.	Total Miles	Type
32-1E-7.01	0.00	0.39	0.39	Chip
32-1E-7.02 A	0.00	0.60	0.60	Chip
32-1E-11.00 A	0.00	0.82	0.82	Chip
32-1E-11.02 A	0.00	0.59	0.59	Scatter
32-1E-13.01 A1-B	0.00	1.90	1.90	Scatter
Un-numbered Spur off -13.01	0.00	0.09	0.09	Chip
32-1E-13.02 A-B	0.00	1.25	1.25	Scatter
Un-numbered Spur off -13.02	0.00	0.09	0.09	Chip
32-1E-13.03	0.00	0.42	0.42	Scatter
Un-numbered Spur off -13.03	0.00	0.52	0.52	Scatter
32-1E-13.04 A	0.00	0.26	0.26	Scatter
32-1E-13.05	0.00	0.09	0.09	Scatter
32-1E-13.06	0.00	0.15	0.15	Scatter
32-1E-13.07	0.00	0.27	0.27	Scatter
32-1E-17.04 A	0.00	0.75	0.75	Scatter
32-1E-17.05 A1-A2	0.00	0.85	0.85	Scatter
32-1E-18.00 A-B	0.00	0.75	0.75	Scatter
32-1E-20.00 A-B	0.00	2.02	2.02	Scatter
32-1E-23.00 A	0.00	1.36	1.36	Chip
32-1E-27.00 A	0.00	0.36	0.36	Chip
32-1E-27.00 A-E	0.36	3.62	3.26	Scatter
32-1E-36.00 A3	0.00	0.09	0.09	Scatter
32-1W-12.00	0.00	2.07	2.07	Scatter
32-1W-12.01	0.00	0.65	0.65	Chip
32-1W-13.00 A-B	0.00	1.95	1.95	Chip
32-1W-23.02 A	0.00	0.89	0.89	Scatter
32-1W-26.00 A-C	0.00	2.66	2.66	Scatter
32-1W-26.04 A	0.00	0.42	0.42	Chip
32-1W-26.05 A	0.00	0.60	0.60	Chip
32-1W-27.01	0.00	0.38	0.38	Scatter
32-1W-35.02	0.00	0.26	0.26	Scatter



32-1W-35.07 A	0.00	0.12	0.12	Scatter
32-1W-36.01	0.00	1.49	1.49	Scatter
32-2E-34.00 A-D	0.00	3.80	3.80	Scatter
33-1E-4.00 G1-D	0.00	2.13	2.13	Scatter
33-1E-17.00 A	0.00	4.66	4.66	Scatter
33-1E-22.01	0.00	0.38	0.38	Scatter
33-1E-23.00 A2-B	0.00	1.61	1.61	Scatter
33-1E-27.00 B-M	0.00	6.93	6.93	Scatter
33-1W-3.01	0.00	0.38	0.38	Chip
33-1W-3.02	0.00	0.10	0.10	Chip
33-1W-3.03	0.00	0.15	0.15	Chip
33-1W-8.00 A-D	0.00	5.23	5.23	Scatter
33-1W-10.00 A-D	0.00	5.65	5.65	Scatter
33-1W-14.01 A-C	0.00	0.88	0.88	Chip
33-1W-14.02	0.00	0.14	0.14	Chip
33-2E-5.00 A-C	0.00	0.84	0.84	Scatter

shall be removed by cutting and disposed of in accordance with Subsection 2100 of these specifications.

- 509 - The finished grading shall be approved in writing by the Authorized Officer 3 days prior to surfacing operations. The Purchaser shall give the Authorized Officer 3 days' notice prior to final inspection of the grading operations.

**WATERING - 600**

- 601 - This work shall consist of furnishing and applying water required for the compaction of embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with these specifications.
- 602 - Water, when needed for compaction or laying dust, shall be applied at the locations, in the amounts, and during the hours as directed by the Authorized Officer. Amounts of water to be provided will be the minimum needed to properly execute the compaction requirements in conformance with these specifications, and for laying dust during work periods.
- 603 - Water trucks used in this work shall be equipped with a distributing device of ample capacity and of such design as to ensure uniform application of water on the road bed.
- 605 - The Purchaser shall secure the necessary water permits and pay all required water fees for use of water source(s) selected by the Purchaser and approved by the Authorized Officer.

**AGGREGATE BASE COURSE - 700 PITRUN ROCK MATERIAL**

- 701 - This work shall consist of hauling and placing one or more layers of pitrun rock material on roadbeds approved for placing pitrun materials in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans.
- 702 - Pitrun rock materials used in this work shall be obtained from pitrun stockpile at milepost 0.53 on BLM Road #32-1W-12.00 shown on the plans.
- 702a - Pitrun rock materials used in this work may be obtained from sources selected by the Purchaser at his option, providing the materials furnished comply with these specifications and the sources are approved in writing by the Authorized Officer prior to use.
- 703 - Pitrun rock materials shall consist of talus rock, bank run or river run gravels, partly decomposed granite or basalt, cinders, or other approved materials. The materials shall be reasonably free from vegetative matter or other deleterious material.
- 704 - Pitrun rock material shall consist of native materials of such a size and grading that it can be taken directly from the source and placed on the road without crushing or screening. The material shall contain only occasional oversize particles to be removed. The term "oversize" shall be construed to mean material greater than  $\frac{2}{3}$  the compacted thickness of the layer in which it is placed.
- 705 - Pitrun rock material shall be placed in layers of sufficient thickness to accommodate the material, except that the maximum thickness of any layer shall not exceed 6 inches. Where the total specified thickness is greater than 6 inches the material shall be placed in two or more layers of equal thickness.
- 706 - Oversize material that cannot be accommodated in the layer shall be removed at the source or on the road, and shall be disposed of as directed by the Authorized Officer.
- 708 - The roadbed as shaped and compacted under section 500 of these specifications shall be approved in writing by the Authorized Officer prior to placement of pitrun rock material.
- 709 - Pitrun rock material shall be placed on roadbed, blade processed and spread to required dimensions.
- 711 - Layers of pitrun rock material placed and shaped as specified shall be uniformly moistened or dried to the optimum moisture content for maximum density and compacted to full width by compacting equipment conforming to the requirements of Subsections 103b, 103g, 103h, and 103i. Minimum compaction shall be 6 passes over each full-width layer, or fraction thereof.

- 712 - Pitrun rock material shall be surface bladed during the compaction operation to remove irregularities and to produce a smooth running surface.

**AGGREGATE SURFACE COURSE - 1200 CRUSHED ROCK MATERIAL**

- 1201 - This work shall consist of hauling, and placing one or more layers of crushed rock material on roadbeds and base courses approved for placing crushed rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road at the purchaser's expense.
- 1202 - Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from sources (BLM stockpiles) shown on the plans.
- 1202a - Crushed rock materials used in this work may be obtained from commercial source(s) selected by the Purchaser at his option and expense, providing the rock materials furnished comply with the specifications.
- 1203 - When crushed rock material is produced from gravel, not less than 65 percent by weight of the particles retained on the No. 4 sieve will have 2 manufactured fractured faces.
- 1204 - Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1204

**AGGREGATE SURFACE COURSE CRUSHED ROCK MATERIAL**  
 Percentage by weight passing square mesh sieves AASHTO T 11 & T 27  
**GRADATION**

Sieve Designation	C	C-1	D	D-1	E	E-1
1-1/2-inch	100	<b>100</b>	-	-	-	-
1-inch	-	-	100	100	-	-
3/4-inch	50-90	<b>60-90</b>	-	70-98	100	100
1/2-inch	-	-	-	-	-	70-98
No. 4	25-50	<b>30-55</b>	30-60	36-60	40-75	44-70
No. 8	-	<b>22-43</b>	-	25-47	-	30-54

No. 30	-	<b>11-27</b>	-	12-31	-	15-34
No. 40	5-25	-	5-30	-	5-35	-
No. 200	2-15	<b>3-15</b>	3-15	3-15	2-15	3-15

- 1205 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T210.
- 1207a - That portion of crushed rock material passing No. 4 sieve, including blending filler, shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalence of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1207a

Sand Equivalent	Percent Passing #200 Sieve AASHTO T 27
34	9
33	8
32	7
31	6
30	5
29 or less	4

- 1208 - If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1208a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- 1209 - Shaping and compacting of roadbed and/or base course shall be completed and approved in writing, prior to placing crushed rock material, in accordance to the requirements of Subsections 300 and 500 for placing on the roadbed.

- 1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and staked on the ground. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved in writing by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.
- 1210a - Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification.
- 1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsections 103f, 103g, 103h, and 103i . Minimum compaction shall be 6 passes over each full-width layer, or fraction thereof.
- 1215 - The Purchaser is authorized to remove crushed rock material, from BLM stockpiles for placement on the roads in accordance with the requirements and details shown on the plans and as follows:

Stockpile No.	Willamette Meridian			Available Cu. Yds.	Road No.	M.P.
	Sec.	T.	R.			
1	07	32S	01E	300	32-1E-7.02	0.45
2	27	32S	01E	250	Elk Cr. County Rd	8.30
3	12	33S	01W	1,000	33-1E-17.00	1.76
4	12	33S	01W	300	32-1W-12.00	0.53
5	23	32S	01W	400	32-1W-26.00	2.26
6	23	32S	01W	100	32-1W-26.00	1.75
7	35	32S	01W	750	32-1W-35.07	0.11
8	30	32S	01E	50	32-1W-36.01	0.47
9	10	33S	01W	1,500	33-1W-8.00	2.57

Approximately **1,960** cubic yards of additional crushed rock material required to complete the surfacing shall be furnished by the Purchaser in accordance with these specifications and as shown on the plans.

**SLOPE PROTECTION - 1400**

- 1401 - This work shall consist of hauling and placing stone materials for slope protection structures in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross- sections shown on the plans. Material not conforming to

these specifications will be rejected and shall be removed from the slope protection structure at the purchaser's expense and as directed by the Authorized Officer.

- 1402 - Stone material shall consist of hard angular quarry rock of such quality that it will not disintegrate on exposure to water or weathering, and shall be graded in accordance with these specifications.

*NOTE: Guide for relation between volume, size and weight. (175 lbs./cu./ft.):*

<i>Volume/ Cubic Foot</i>	<i>Average Dimension in inches</i>	<i>Approximate Weight in Pounds</i>
12	27.5 x 27.5 x 27.5	2100
6	21.8 x 21.8 x 21.8	1050
4	19.1 x 19.1 x 19.1	700
3	17.3 x 17.3 x 17.3	525
1	12.0 x 12.0 x 12.0	175
2/3	10.5 x 12.0 x 12.0	120
1/2	9.5 x 9.5 x 9.5	88
1/3	8.3 x 8.3 x 8.3	60
1/4	7.6 x 7.6 x 7.6	44
1/6	6.6 x 6.6 x 6.6	30
1/8	6.0 x 6.0 x 6.0	22
1/100	2.6 x 2.6 x 2.6	2

- 1404 - The material shall be well graded from the smallest to the maximum size specified. Stones smaller than the specified 10 percent size shall consist of spalls and fine rock fragments so distributed as to provide a stable compact mass.

- 1405 - Rip rap shall conform to the following gradations:

TABLE 1405

Class	Approx. Cubic Dimension (inches)	Sphere Diameter (inches)	% of Total Volume Smaller than Size of Stone
1	6-8	8	100
	5-6	6	80
	2-5	6	50
	0-2	2	10
2	8-10	12	100
	6-8	8	80
	3-6	6	50
	0-3	4	10
3	<b>14-16</b>	<b>21</b>	<b>100</b>
	<b>10-14</b>	<b>18</b>	<b>80</b>
	<b>5-10</b>	<b>12</b>	<b>50</b>

	<b>0-5</b>	<b>6</b>	<b>10</b>
4	18-20	24	100
	14-18	22	80
	6-14	18	50
	0-6	8	10

5	26-28	36	100
	20-26	32	80
	8-20	25	50
	0-8	10	10
6	28-34	42	100
	22-28	34	80
	10-22	27	50
	0-10	12	10

\*Rocks smaller than six inches in diameter are not counted.

- 1406 - The placement of slope protection stones by the end dumping method shall be conducted to prevent the stones from escaping beyond the embankment toe.
- 1407 - Determination of the acceptability of the slope protection material gradation will be through visual inspection by the Authorized Officer.
- 1408b - The Purchaser shall excavate unsuitable roadway material as shown on the plans or directed by the Authorized Officer prior to the placement of the required rock blanket or structure at the following locations:

Road No.	M.P.
32-1W-26.00	0.66

**EROSION CONTROL - 1700**

- 1701 - This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans.
- 1704 - The erosion control provisions specified under this Subsection shall be coordinated with the Soil Stabilization requirements of Section 1800.
- 1705 - The surface area of erodible earth material exposed at any one time by clearing and grubbing shall not exceed 21,780 square feet (0.50 acres) after October 15 without

prior approval by the Authorized Officer.

- 1706 - The surface area of erodible earth material exposed at one time by excavation, borrow, or fill within the right-of-way shall not exceed 21,780 square feet (0.50 acres) after October 15 without prior approval by the Authorized Officer.
- 1707 - Completed and partially completed segments of the roads at the following location:

Road No.	From M.P.	To M.P.
Temp Route 31-1	0.00	0.07

carried over the winter and early spring periods shall be stabilized by seeding and mulching in accordance with Section 1800.

- 1708 - Newly constructed roads to be carried over the winter period, shall be blocked to vehicular traffic.
- 1708a - Road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway using water bars, maintaining drainage, and performing additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer. Portions of roads not having surface rock in place will be blocked or barricaded to prevent vehicular traffic.
- 1711 - The Purchaser shall construct energy dissipaters (splash pads) for pipe culverts conforming to the requirements and details shown on the respective exhibits and on the plans.

**SOIL STABILIZATION – 1800**

- 1801 - This work shall consist of seeding and mulching on designated cut, fill, borrow, disposal, and special areas in accordance with these specifications. This work is required for road acceptance under Section 18 of this contract.
- 1802 - Soil stabilization work consisting of seeding and mulching shall be performed on existing roads and designated locations (culvert replacements and installations) in accordance with these specifications at the following locations:

Road No.	M.P.
32-1E-7.01	0.12
	0.29
32-1E-11.00 A	0.35
	0.50



	0.66
	0.73
32-1E-11.02	0.21
	0.33
	0.43
32-1E-13.01 A1	0.16
	0.20
	0.67
	0.72
	0.78
	1.38
	1.46
	1.53
	1.72
	1.75
	1.86
32-1E-13.02 A	0.14
	0.71
	0.83
32-1E-13.03	0.06
	0.34
32-1E-17.04 A	0.02
	0.22
32-1E-17.05 A1	0.08
32-1E-18.00 A	0.11
	0.61
32-1E-27.00 E	3.04
	3.33
32-1W-12.00	0.32
	0.39
	0.46
	0.65
	0.82
	0.89
	1.04
	1.16
	1.30
	1.40
32-1W-12.01	0.00
	0.08
	0.25
	0.38

	0.49
	0.57
32-1W-13.00 A-B	0.29
	0.49
	0.62
	1.12
	1.29
	1.50
	1.74
	1.92
32-2E-34.00 A-D	0.01
	0.08
	0.55
	0.85
	1.11
	1.32
	1.45
	1.88
	2.38
	2.74
	2.93
	3.01
	3.79
33-1W-14.01 A-C	0.47
33-2E-5.00 A	0.01

1802a - Soil stabilization work consisting of seeding and mulching shall be performed on new road construction, landings, disturbed areas, and waste disposal sites in accordance with these specifications and as shown on the plans.

1803 - Soil stabilization work as specified under Subsections 1802 and 1802a shall be performed during the following seasonal periods:

From: August 1	To: October 31 (of the same year )
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If soil stabilization of disturbed areas is not completed by the specified fall date, the Purchaser shall treat disturbed areas in accordance with Subsection 1707 and then complete the requirements of Section 1800 the next construction season. The Authorized Officer may modify the above seasonal dates to conform to existing weather conditions and changes in the construction schedule.

1803a - The Purchaser shall begin soil stabilization work within 10 days of the starting work date when notified by the Authorized Officer.

1806a - Additional soil stabilization work consisting of seeding and mulching, may be required at the option of the Authorized Officer. Providing the additional stabilization is not due

to Purchaser negligence as specified in Sec. 12 of the contract, a reduction in the total purchased price shall be made to offset the cost of furnishing and applying such additional stabilization material. Cost shall be based upon the unit price set forth in the current BLM Timber Appraisal Production Cost Schedule.

- 1808 - Mulch materials conforming to the requirements of Subsection 1808a shall be furnished by the Purchaser in the amounts specified under Subsection 1811 and applied in accordance with Subsection 1812.
- 1808a - Straw mulch shall be certified weed free from commercial grain fields and native grass fields. Straw mulch shall be from oats, wheat, rye, or other approved grain crops and shall be free from, mold, or other objectionable material. Straw mulch shall be in an air-dry condition and suitable for placement.
- 1809 - Mulch material shall be delivered to the work area in a dry state. Material found to be wet will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state and has the approval of the Authorized Officer.
- 1810 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string or hemp rope. Wire binding will not be permitted.
- 1811 - The Purchaser shall furnish and apply to approximately **2.30** acres designated for treatment as shown on the plans and as specified under Subsections 1802 and 1806a, a mixture of grass seed and mulch material at the following rate of application:

a. Two Stage:

Grass Seed	20 lbs./acre
Mulch	3,000 lbs./acre

The above proportion and application rate are subject to adjustment by the Authorized Officer during the application operation.

- 1812 - The Purchaser shall furnish and apply to the area designated for treatment as shown on the plans and as specified under Subsections 1802 and 1806a, a mixture of grass seed and mulch, material at the application rate to be determined by the Authorized Officer based on visual observation of trial applications.

Mulches shall be spread/placed in treatment areas to a depth of 2 inches to allow seed germination or as directed by the Authorized Officer. Treatment area will be covered evenly and completely. Mulch can be broadcast onto the soil surface by hand or with hand/mechanical operated spreaders.

- 1814 - The Purchaser may reduce the application rate on partially covered slopes and refrain

from application on areas already well stocked with grass or on rock surfaces as determined by the Authorized Officer.

- 1815 - The seed and mulch materials shall be placed by the dry method in accordance with the requirements set forth in Subsection 1815b.
- 1815b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipaker seeders, fertilizer spreaders, or other approved mechanical seeding equipment may be used when seed and fertilizer are to be applied in dry form.
- 1819 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.
- 1821 - Mulch that collects at the end of culverts or accumulates to excessive depths on the slopes shall be evenly spread by hand methods, as directed by the Authorized Officer.
- 1822 - No materials shall be applied when wind velocities would prevent a uniform application of the mix or slurry or when winds would drift the mix or slurry spray outside of the designated treatment area.
- 1824 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operation shall be picked up and disposed of to the satisfaction of the Authorized Officer.

### **ROADSIDE BRUSHING - 2100**

- 2101 - This work shall consist of the removal of vegetation from the road prism - variable distance, and inside curves in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing and Roadside Vegetation Maintenance Detail Sheet (C-12) of this exhibit, at designated locations as shown in the plans.
- 2102 - Roadside brushing may be performed mechanically with self-powered, self-propelled equipment and/or manually with hand tools, including chain saws.
- 2103 - Vegetation cut manually and/or mechanically less than 6 inches in diameter when measured at D.B.H. shall be cut to a maximum height of 1 inch above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 2 inch area will be severed from the trunk.
- 2103a - Vegetation shall be cut and removed from the road bed between the outside shoulder(s) and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. Limbs below the 1 inch area will be severed from the trunk. Sharp pointed ends will not be permitted. Cuts shall be parallel to the ground line or running surface.
- 2104 - Trees in excess of 6 inches in diameter at D.B.H. shall be limbed, so that no limbs

extend into the treated area or over the roadbed to a height of 14 feet above the running surface of the roadway on cut and fill slopes, within the road prism-variable distance. Limbs shall be cut to within 1 inch of the trunk to produce a smooth vertical face. Removal of trees larger than 6 inches in diameter for sight distance or safety may be directed by the Authorized Officer.

- 2105 - Vegetation that is outside of the road prism-variable distance that protrudes into the road prism and within 14 feet in elevation above the running surface shall be cut, to within 1 inches of the trunk to produce a smooth vertical face.
- 2106 - Vegetative growth capable of growing 1 foot in height or higher shall be cut, within the road prism-variable distance or as directed by the Authorized Officer.
- 2107 - Inside curves shall be brushed out for a sight distance of 200 feet chord distance or a middle ordinate distance of 25 feet, whichever is achieved first. Overhanging limbs and vegetation in excess of 1 foot in height, shall be cut within these areas.
- 2108 - Self propelled equipment shall not be permitted on cut and fill slopes or in ditches.
- 2109 - Debris resulting from this operation shall be scattered (unless otherwise noted in the work list) downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.

Road No.	From M.P.	To M.P.	Total Miles	Type
32-1E-7.01	0.00	0.39	0.39	Chip
32-1E-7.02 A	0.00	0.60	0.60	Chip
32-1E-11.00 A	0.00	0.82	0.82	Chip
32-1E-11.02 A	0.00	0.59	0.59	Scatter
32-1E-13.01 A1-B	0.00	1.90	1.90	Scatter
Un-numbered Spur off -13.01	0.00	0.09	0.09	Chip
32-1E-13.02 A-B	0.00	1.25	1.25	Scatter
Un-numbered Spur off -13.02	0.00	0.09	0.09	Chip
32-1E-13.03	0.00	0.42	0.42	Scatter
Un-numbered Spur off -13.03	0.00	0.52	0.52	Scatter
32-1E-13.04 A	0.00	0.26	0.26	Scatter
32-1E-13.05	0.00	0.09	0.09	Scatter
32-1E-13.06	0.00	0.15	0.15	Scatter
32-1E-13.07	0.00	0.27	0.27	Scatter
32-1E-17.04 A	0.00	0.75	0.75	Scatter
32-1E-17.05 A1-A2	0.00	0.85	0.85	Scatter
32-1E-18.00 A-B	0.00	0.75	0.75	Scatter
32-1E-20.00 A-B	0.00	2.02	2.02	Scatter

32-1E-23.00 A	0.00	1.36	1.36	Chip
32-1E-27.00 A	0.00	0.36	0.36	Chip
32-1E-27.00 A-E	0.36	3.62	3.26	Scatter
32-1E-36.00 A3	0.00	0.09	0.09	Scatter
32-1W-12.00	0.00	2.07	2.07	Scatter
32-1W-12.01	0.00	0.65	0.65	Chip
32-1W-13.00 A-B	0.00	1.95	1.95	Chip
32-1W-23.02 A	0.00	0.89	0.89	Scatter
32-1W-26.00 A-C	0.00	2.66	2.66	Scatter
32-1W-26.04 A	0.00	0.42	0.42	Chip
32-1W-26.05 A	0.00	0.60	0.60	Chip
32-1W-27.01	0.00	0.38	0.38	Scatter
32-1W-35.02	0.00	0.26	0.26	Scatter
32-1W-35.07 A	0.00	0.12	0.12	Scatter
32-1W-36.01	0.00	1.49	1.49	Scatter
32-2E-34.00 A-D	0.00	3.80	3.80	Scatter
33-1E-4.00 G1-D	0.00	2.13	2.13	Scatter
33-1E-17.00 A	0.00	4.66	4.66	Scatter
33-1E-22.01	0.00	0.38	0.38	Scatter
33-1E-23.00 A2-B	0.00	1.61	1.61	Scatter
33-1E-27.00 B-M	0.00	6.93	6.93	Scatter
33-1W-3.01	0.00	0.38	0.38	Chip
33-1W-3.02	0.00	0.10	0.10	Chip
33-1W-3.03	0.00	0.15	0.15	Chip
33-1W-8.00 A-D	0.00	5.23	5.23	Scatter
33-1W-10.00 A-D	0.00	5.65	5.65	Scatter
33-1W-14.01 A-C	0.00	0.88	0.88	Chip
33-1W-14.02	0.00	0.14	0.14	Chip
33-2E-5.00 A-C	0.00	0.84	0.84	Scatter

- 2110 - Vegetation 6 inches and smaller in diameter shall be chipped where indicated in the work list. Chips shall be scattered downslope from the roadway. Vegetation over 6 inches in diameter shall be disposed of by direction of the Authorized Officer.
- 2114 - Sections of roadway to have vegetation removed will be marked at start and stop points with red-topped painted stakes.
- 2115 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.
- 2116 - Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Devices.

## SPECIAL PROVISIONS

1. **CULVERTS / CMPs:**
  - When removing culverts unless constructing armored water dips, pull slopes back to the natural slope, or at least 2:1, to minimize sloughing, erosion, and the potential for the stream to undercut stream banks during periods of high stream flows. Remove excess sediment from stream channels during culvert removal, replacement, and installation activities. Apply seed and mulch to all disturbed or exposed soils at each stream culvert removal site.
2. **DAMAGE:**
  - The contractor shall protect and is responsible for any damage to existing telephone lines, transmission lines, fiber optic lines, fences, ditches, and other existing improvements as required in Section 14. Damage to utilities and existing improvements shall be promptly paid for or repaired to a condition which is, in the opinion of the Authorized Officer and the governing utility company, at least as good as the condition just prior to such damage.
3. **DUST ABATEMENT:**
  - The application of dust abatement materials such as Lignin, Mag-chloride, or approved petroleum based dust abatement products shall be restricted from application just after severely wet weather, at stream crossings, or other locations that could result in direct delivery to a water body.
  - All dust abatement applications shall be approved by the Authorized Officer prior to application.
4. **PERMITS:**
  - All permits required are the responsibility of the Purchaser.
5. **WATER SOURCE:**
  - The Purchaser is responsible for obtaining water and associated rights and permits.
6. **EQUIPMENT**
  - Construction equipment shall be washed prior to entering BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required. Equipment shall be inspected by CO prior to entering BLM lands. Provide 48 hours' notice of inspection to BLM prior to mobilization.
7. **SOIL STABILIZATION:**
  - All disturbed soil shall be seeded and mulched. Purchaser shall apply native grass seed and Certified Weed Free straw mulch for soil stabilization operations. BLM will furnish native grass seed, if available. The Purchaser shall supply certified weed free straw.

8. ROAD RENOVATION:

- Road renovation shall generally take place between May 15<sup>th</sup> and October 15<sup>th</sup> of the same year. Waivers may be granted from the Authorized Officer for working outside of this time period. Seasonal restrictions for stream work and wildlife may still apply.

9. STREAMS:

- All in-stream work shall be done from June 15 thru September 15 both days included.
- Construct silt fences 25 and 50 feet below culvert replacement sites (on live streams) to trap sediment and prevent it from entering nearby stream channels.
- Live streams shall be diverted around or through the work area in a manner that will minimize sedimentation downstream. Keep excavation site dewatered so that installation of culverts can be carried out only under dry conditions. Dispose of excess water by using natural drainage ways or devices near the site to the extent of their natural capacity and in a manner that will avoid damage to adjacent property. Utilize dewatering methods such as temporary sediment traps and/or silt fences for areas to be excavated. Provide for downstream water flow without significant transport of excavated material or sediment during construction. At no time shall turbidity limits exceed DEQ's water quality standards.
- Ensure that all large wood is retained in the stream channel during culvert cleaning activities by moving logs which had accumulated on the stream side of a culvert to the downstream side of the culvert.

10. TEMPORARY ROUTES

- All temp routes and native surfaced roads (that were previously closed before timber sale activities began) shall be winterized if access is needed over two dry seasons by October 15<sup>th</sup>. Winterization includes water barring, seeding, mulching, and barricading. All temp routes shall be ripped, water barred, barricaded, seeded, and mulched after use unless otherwise specified.
- Clearing, grubbing, and excavation activities of temporary spur routes shown on Exhibit C shall be performed in accordance with Exhibit C-15.
- Construction of temporary spur routes shall be to minimum width.

11. ROADSIDE BRUSHING

- While roadside brushing, there shall be no scarring or any other damage of the tree trunk or bole allowed. Use of Excavators for brush removal will be at the discretion of the Authorized Officer. All culvert inlets and outlets shall be brushed for a radius of 4 feet. All bridges shall be brushed 8 horizontal feet from the outer most portion of the structure.

12. COMMERCIAL AGGREGATE

- Aggregate furnished for this work shall be from an accredited weed free quarry or shall have been stockpiled in the period between November 1<sup>st</sup> and June 15<sup>th</sup> immediately prior to application. Aggregate which has been stockpiled between June 16<sup>th</sup> and October 31<sup>st</sup> of prior years will not be accepted. Aggregate crushed between June 16<sup>th</sup> and October 31<sup>st</sup> of the same application year shall not be stockpiled for more



than two weeks before application.

13. WILDLIFE RESTRICTIONS

- Seasonally restrict roadside brushing and heavy equipment use for the following roads:

Road Number	Segment	Starting M.P.	Ending M.P.	Starting Seasonal Restriction	Ending Seasonal Restriction
32-1W-26.00	C	1.30	2.00	March 1	June 30

Wildlife seasonal restrictions may be waived if nesting is not determined by the wildlife biologist.

14. WET SEASON HAUL

- The Purchaser may wet season haul, with the Authorized Officer's approval on the following roads 32-1E-7.01, 32-1E-7.02, 32-1E-17.04 A, 32-1E-17.05 A1-A2, 32-1E-20.00 A-B, 32-1E-23.00 A, 32-1E-27.00 A-E, 32-1W-26.00 A-C, 32-1W-27.01, 32-2E-34.00 A-D, 33-1E-17.00, 33-1E-27.00 A-M, 33-1W-8.00 A-D, and the 33-1W-10.00 A-D (portion). If the use of these roads during the wet season causes or begins to cause road damage or the transport of sediment into streams, the Authorized Officer may suspend wet season haul or require additional erosion control devices to prevent damage or off-site transportation of sediment. Additional rock may be required at the Purchaser's expense to repair any damage that occurs to the road during wet season haul.
- The Purchaser shall have the option to rock road numbers 32-1E-11.02 A, 32-1E-13.01 A1, 32-1E-13.02 A, 32-1E-13.04, 32-1E-13.05, 32-1E-13.06, 32-1E-18.00 A-B, 32-1W-12.00, 32-1W-12.01, 32-1W-13.00 A-B, 32-1W-26.04 A, 32-1W-26.05 A-B, 32-1W-36.01, 33-1E-4.00 D-G1, and the 33-1W-10.00 D (portion) for wet weather haul. Purchaser option rocking depths will be determined and approved by the Authorized Officer. Any costs for rocking and installation of additional drainage features will be at the Purchaser's expense and shall be completed in accordance with the plans and specifications show in Exhibit C of this contract.

15. HELICOPTER LANDING CONSTRUCTION

- All helicopter landings shall be constructed with a minimum 2% grade to allow for drainage. Landings may either be outsloped or crowned. Helicopter landings that are built on one or both sides of an existing road shall be outsloped a minimum of 2% away from the existing road to allow for drainage.



## ROAD MAINTENANCE SPECIFICATIONS

SECTION	DESCRIPTION
3000	General
3100	Operational Maintenance
3200	Seasonal Maintenance
3300	Final Maintenance
3400	Other Maintenance
3500	Decommissioning

## **ROAD MAINTENANCE SPECIFICATIONS**

### **GENERAL - 3000**

- 3001 The Purchaser shall be required to maintain all roads as shown on the Exhibit D-2 maps of this contract in accordance with Sections 3000, 3100, 3200, 3300, and 3400 of this exhibit.
- 3001a The Purchaser shall be required to provide maintenance on roads in accordance with Subsections 3403 and 3404.
- 3002 The Purchaser shall maintain the cross section of existing dirt or graveled roads to the existing geometric standards. Any roads required to be constructed, improved, or renovated under terms of this contract shall be maintained to the geometric standards required in Exhibit C of this contract.
- 3003 The minimum required maintenance on any roads shall include the provisions specified in Subsections 3101, 3104, and 3105.
- 3004 The Purchaser shall be responsible for providing timely maintenance and cleanup on any roads with logging units substantially completed prior to moving operations to other roads. The maximum length of non-maintained or non-cleanup of the road prism shall not exceed the sum of one (1) mile at any time. Release of maintenance requirements may be granted, upon written request, when the conditions specified in Sections 3300 and 3400 are met satisfactorily.

### **OPERATIONAL MAINTENANCE - 3100**

- 3101 The Purchaser shall blade and shape the road surface and shoulders with a motor grader. Banks shall not be undercut. Back blading with tractors or similar equipment will be allowed only around landings and other areas when approved by the Authorized Officer.
- 3102 The Purchaser shall place **250** cu. yds. of stockpiled aggregate conforming to the requirements in Section 1200 of Exhibit C of this contract on the roadway at locations and in the amounts designated by the Authorized Officer.

Stockpiled aggregate shall be obtained from the following BLM stockpiles:

## ROAD MAINTENANCE SPECIFICATIONS

Stockpile No.	Willamette Meridian			Available Cu. Yds.	Road No.	M.P.
	Sec.	T.	R.			
1	07	32S	01E	300	32-1E-7.02	0.45
2	27	32S	01E	250	Elk Cr. County Rd	8.30
3	12	33S	01W	1,000	33-1E-17.00	1.76
4	12	33S	01W	300	32-1W-12.00	0.53
5	23	32S	01W	400	32-1W-26.00	2.26
6	23	32S	01W	100	32-1W-26.00	1.75
7	35	32S	01W	750	32-1W-35.07	0.11
8	30	32S	01E	50	32-1W-36.01	0.47
9	10	33S	01W	1,500	33-1W-8.00	2.57

This aggregate shall be used to repair surface failures and areas of depleted surface depth excluding damages covered by Section 12 of this contract. The aggregate shall be hauled, placed, spread, and compacted by use of dump trucks, water trucks, and motor grader or similar equipment.

- 3103 The purchaser shall maintain established berms and place additional berms using adjacent material where needed to protect fills as directed by the Authorized Officer.
- 3104 The purchaser shall perform other road cleanup including removal of debris, fallen timber, bank slough, and slides which can practicably be accomplished by a motor grader, rubber tired front end bucket loader, rubber tired backhoe or comparable equipment, and by the use of hand tools.
- 3104a Removal of bank slough and slide material includes placement of material at the nearest designated, suitable disposal site where material cannot erode into streams, lakes, or reservoirs or cause undue damage to road fill slopes which have been planted or mulched to control soil erosion as directed by the Authorized Officer.
- 3104b The Purchaser shall be responsible for removal of all slides or slough, up to fifteen station yards in quantity, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the purchaser.

Prior to removal of any slough or slide material exceeding fifteen station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material,

## ROAD MAINTENANCE SPECIFICATIONS

method of disposal, and the disposal site. Work may commence immediately after agreement.

Upon completion of agreed upon work, a reduction in timber sale purchase price will be made to offset the cost of the work, based on current BLM Road Cost Guide. Adjustments in purchase price for completed work shall be made as necessary and no less than once per year when actual work is ongoing.

3105 The Purchaser shall be responsible for maintaining normal flow in drainage structures. This includes cleaning out drainage ditches, catch basins, clearing pipe inverts of sediment and other debris lodged in the barrel of the pipe, and maintaining water dips and water-bars using equipment specified in Subsection 3104 and other culvert cleaning and flushing equipment.

3106 The Purchaser shall be responsible for repair and replacement of all materials eroded from road shoulders and fill slopes, up to fifteen station yards in quantity, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to repair and replacement of eroded material exceeding fifteen station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, borrow source and method of repair. Work may commence immediately after agreement.

Upon completion of agreed upon work, a reduction in timber sale purchase price will be made to offset the cost of the work based upon current BLM Road Cost Guide. Adjustments in purchase price for completed work shall be made as necessary and no less than once per year when actual work is ongoing.

3107 The Purchaser shall cut or trim trees and brush which obstructs vision or prevents the safe passage of traffic along the traveled way when directed by the Authorized Officer.

The Purchaser shall also cut trees or brush encroaching on the road prism that are a result of his activities or winter damage during the contract period. Disposal of such vegetative material shall be by scattering below the road in accordance with Section 2100 of Exhibit C.

3108 The Purchaser shall avoid fouling gravel or bituminous surfaces through covering with earth and debris from side ditches, slides or other sources. The Purchaser shall also avoid blading surfacing material off the running surface of the roadway.

Skidding of logs on the roadway in or outside designated logging units is not

## **ROAD MAINTENANCE SPECIFICATIONS**

authorized without prior written approval by the Authorized Officer. Repair required caused by such skidding activity is not considered maintenance and shall be repaired at the Purchaser's expense.

- 3108a The Purchaser shall perform logging operations on gravel and/or bituminous roadways only where the locations have been marked on the ground and/or approved by the Authorized Officer. The Purchaser shall furnish oil, asphalt, gravel for necessary repairs at designated locations. Repair of the road(s) is not considered maintenance and shall be repaired at the Purchaser's expense.

### **SEASONAL MAINTENANCE - 3200**

- 3201 The Purchaser shall perform preventative maintenance at the end of Purchaser's hauling each season and during non-hauling periods which occur between other operations on the contract area. This includes requirements specified in Section 3100.
- 3202 The purchaser shall perform and complete maintenance specified in Sections 3000, 3100, and 3200 on all roads maintained by him, prior to October 15 each year, except as specified in Subsection 3203, after initial commencement of construction or logging operations. Thereafter, all roads shall have continuous preventive maintenance and road cleanup until suspension of seasonal operations. This includes all roads used and not used during the proceeding operating seasons.
- 3203 The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any roads located in an area separate from the area where logging activities will resume.
- 3204 The Purchaser shall be responsible for performing post storm inspections and maintenance during the winter season to minimize erosion and potential road or watershed damage.

### **FINAL MAINTENANCE - 3300**

- 3301 The Purchaser shall complete final maintenance and/or damage repairs on all roads used under terms of their contract within thirty 30 calendar days following the completion of hauling and in accordance with Sec. 16(b) of this contract. This work shall include any maintenance and/or damage repairs specified in Sections 3000, 3100, and 3200 necessary to meet the conditions specified in Subsection 3002 and shall be executed in accordance with Subsection 3302 of

## **ROAD MAINTENANCE SPECIFICATIONS**

this section.

The Authorized Officer may grant acceptance of Purchaser's maintenance responsibility in part where certain individual roads or road segments are no longer of any use to the Purchaser's remaining removal operations, providing that all contract requirements as specified under Sec. 16(b), Special Provisions Sections 3000, 3100, 3200 and 3300 of the maintenance specifications have been completed and a relinquishment of cutting and removal rights on cutting units tributary to these roads is signed by the Purchaser. Request for partial acceptance must be submitted in writing by the Purchaser.

- 3302 The Purchaser shall perform final road maintenance only when weather or soil moisture conditions are suitable for normal maintenance equipment operations as determined by the Authorized Officer.

If final maintenance is delayed after the date required in Subsection 3301 of this contract by adverse soil moisture or unsuitable equipment operating conditions, the Purchaser will be notified by the Authorized Officer when soil moisture and equipment operating conditions are suitable. The Purchaser shall then be required to complete final maintenance within 30 days.

### **OTHER MAINTENANCE - 3400**

- 3401 The Purchaser shall repair any damage to road surfaces that was specified under Subsection 3108 and 3108a. This repair includes restoring the roadway to the designed standard and replacement of surfacing with approved surface material. This repair is not limited to use of equipment specified in Subsection 3104.

- 3402 The Purchaser shall be permitted to remove ice and snow from roads authorized for use under this contract only when prior written approval has been secured from the Authorized Officer. The Purchaser shall submit a written request for permission to remove ice and snow in advance of the date operations are to begin.

Upon receiving written authorization for ice or snow removal, the Purchaser will perform the work according to the conditions and equipment requirements set forth in the authorization.

- 3403 The Purchaser shall be required to furnish and apply non-saline water during dry hauling periods, when directed by the Authorized Officer, for the purpose of laying dust and to prevent loss of surface material. The first application of water



## ROAD MAINTENANCE SPECIFICATIONS

shall be made at the rate of one-half gallon per yd<sup>2</sup> of road surface traveled. Subsequent applications shall be made for each 40 MBF of timber or 120 yds<sup>3</sup> of rock hauled. Subsequent watering may be done at a rate less than one-half gallon per yd<sup>2</sup> when a specified lesser rate is approved by the Authorized Officer.

The following roads shall be watered:

Road Number	From M.P.	to M.P.
32-1E-13.01	0.00	1.90
32-1E-13.03	0.00	0.42
33-1E-27.00 A-E	0.00	3.37
33-1W-8.00 A	0.00	2.65

The Purchaser shall secure any necessary water permits and pay all required water fees for use of the water source(s) selected by the Purchaser and approved by the Authorized Officer.

During drought periods when the transportation of water from the source to the roads noted above exceeds 15 miles, a reduction shall be made in the total purchase price to reflect the additional haul or the substitution of other acceptable dust palliatives in lieu of watering based on equipment rental rates from the current BLM Road Cost Guide.

3404 The Purchaser may at his option and expense substitute lignin sulfonate, for water on any or all road segments listed in Subsection 3403 provided that written approval is received from the Authorized Officer. Such authorization shall include the approval of product specifications for the application of the product to be used. Multiple applications may be required to maintain the conditions specified in Subsection 3403.

3408 Dust palliatives shall be applied with standard commercial distribution equipment operated in a manner that the material is uniformly applied on variable widths of surface at controlled rates.

3409 The Purchaser shall notify the Authorized Officer a minimum of 3 days in advance of application of required dust palliative.

3410 The Purchaser shall submit an application schedule for all dust palliative work to the Authorized Officer for approval. All work shall be in accordance with the approved plan.

**ROAD MAINTENANCE SPECIFICATIONS**

**DECOMMISSIONING – 3500**

3501 Decommissioning work includes ripping, installing water bars, placement of soil stabilization material, and blocking road from access by vehicles. This work is required for road acceptance under Section 18 of this contract.

3503 Decommissioning shall be performed on existing roads in accordance with these specifications, and as shown on the plans at the following locations:

Road No or Site	From M.P.	To M.P.	(D)ecommission or (O)bliterate
Un-numbered Sp -13.01	0.00	0.09	Barricade & Water Bar
32-1E-13.02 B	0.91	1.25	Re-Decommission
Un-numbered Sp -13.02	0.00	0.09	Re-barricade & Water Bar
Un-numbered Sp -13.03	0.00	0.52	Barricade & Water Bar
33-1W-22.01	0.00	0.38	Re-water Bar
33-1E-23.00	0.00	1.61	Re-water Bar
33-1W-3.01	0.03	0.38	Re-barricade
33-1W-3.03	0.00	0.15	Barricade & Water Bar
33-2E-5.00 A-C	0.00	0.84	Re-water Bar
Temp 31-1	0.00	0.07	Decommission

3504 Decommissioning work shall be completed after road use. All decommissioning work shall be performed during the following seasonal periods:

From: August 1	To: October 15 (of the same year)
----------------	-----------------------------------

3506 Stockpiled slash can be used to protect exposed areas created by the Purchaser’s decommissioning operations described in these sections. Slash shall be uniformly spread and placed without bunching. The operation shall produce a dense, uniform mat. Where slash is not available, exposed soil areas shall be stabilized in accordance with Section 1800.

3508 Protect areas mulched and treated with slash placement from damage by Purchaser traffic or construction equipment. Damaged areas shall be repaired by the Purchaser.

3509 Access shall be blocked with barricades as shown on the typical detail sheet Drainage and Erosion Control Detail Sheet Exhibit C-8 and at locations as shown on Exhibits D-3 and D-4.

3511 Ripping and water barring shall be done on designated roadway. Ripping shall

## **ROAD MAINTENANCE SPECIFICATIONS**

be performed with wing-toothed rippers or excavators modified for tillage.

- 3513 Water bars shall be installed across full width of roadway at spacing shown in the specifications. Water bars shall be constructed as shown on Exhibit C-8.
- 3514 Protection of exposed surfaces shall be accomplished by placement of soil stabilization material in accordance with Section 1800 and/or placement of slash described in Subsection 3506 on designated roadways, temporary roads, landings, other areas disturbed by the purchaser's decommissioning operations in accordance with these specifications and as shown in the plans.



# EXHIBIT D-2

SHEET 1 OF 6

SHADY  L  TIMBER SAL

TRACT  O

ORM05-TS-201 -0005

BLM OWNERSHIP

T.S. RIGHTS

BEST ROAD

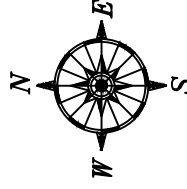
ROCK ROAD

AT. SURFACE ROAD

PRIMITIVE ROAD

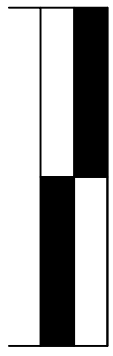
PURCHASE RIGHT

BLM MAINTAINED

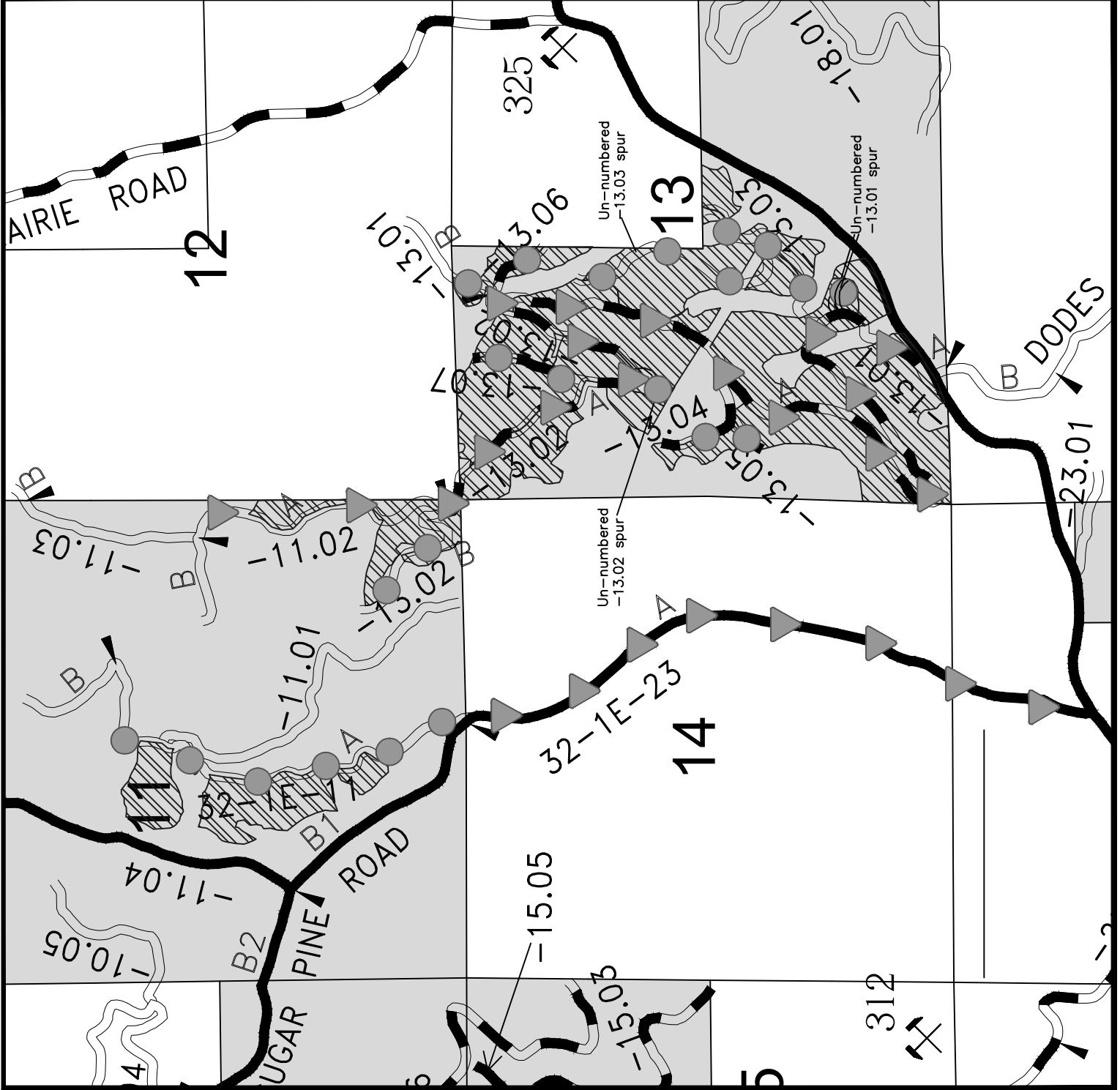


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SAFETY

0 1/2



SCALE IN MILES





# EXHIBIT D-2

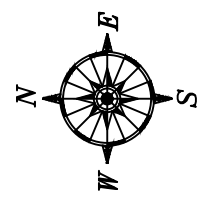
SHEET 2 OF 6

SHADY ELK TIMBER SALE

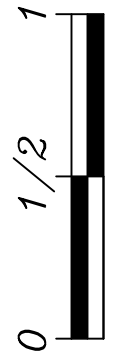
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ORM05-TS-2017-0005

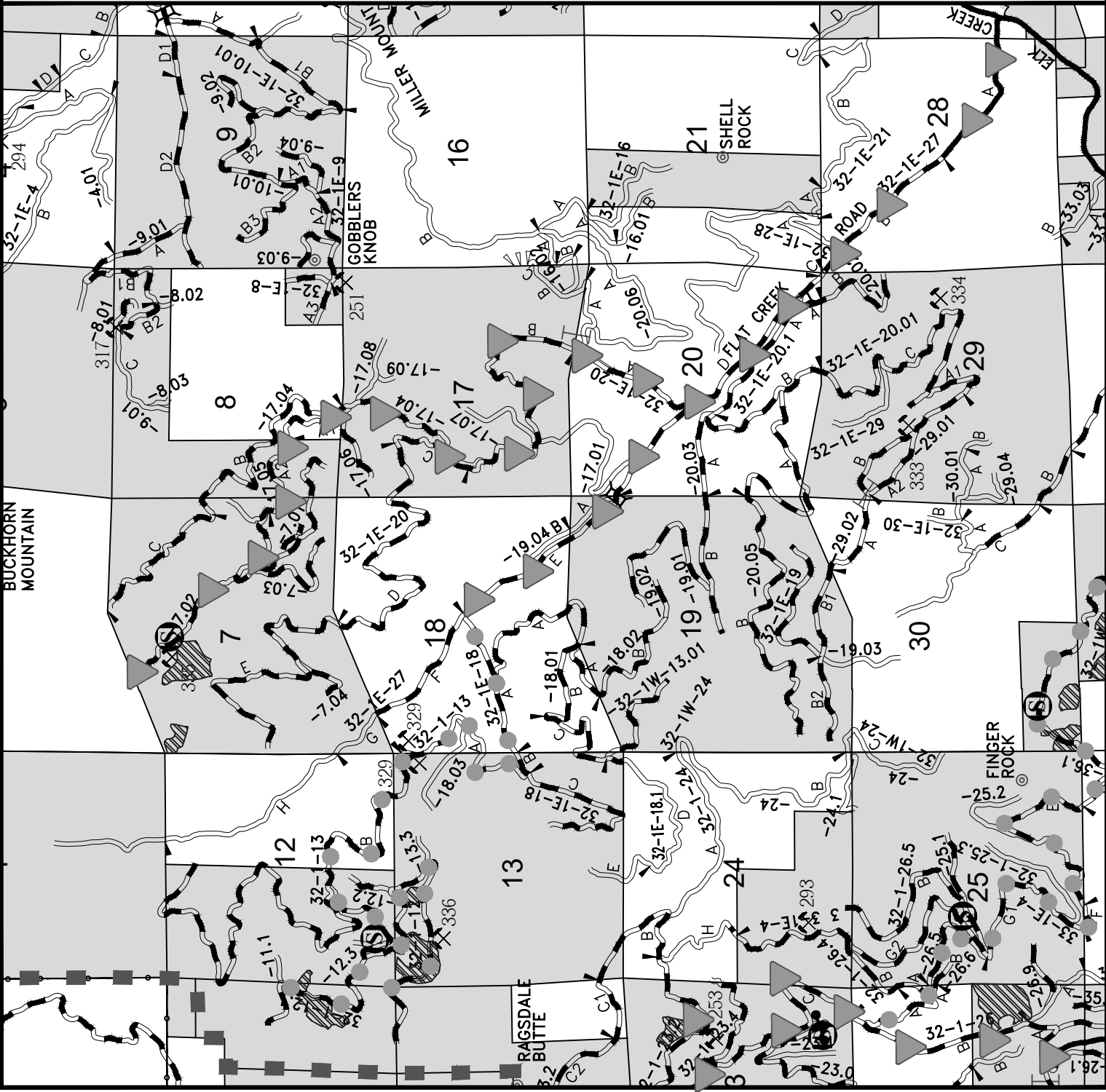
- BLM OWNERSHIP
- T.S. UNITS
- BST ROAD
- ROCKED ROAD
- NAT. SURFACE ROAD
- PRIMITIVE ROUTE
- Purchaser Maintenance
- BLM Maintenance
- STOCKPILE SITE



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SCALE IN MILES





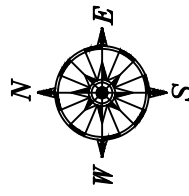


# EXHIBIT D-2

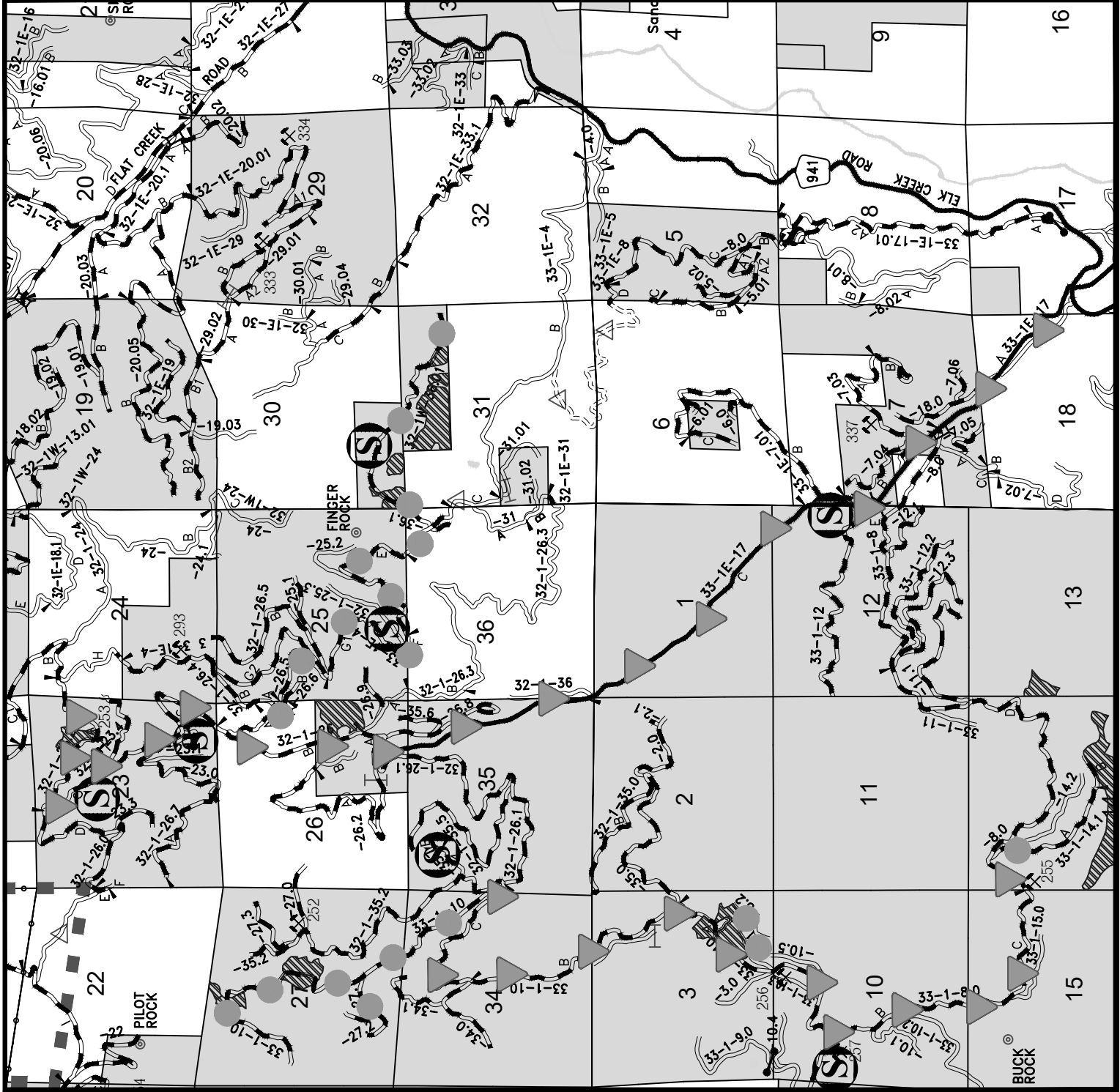
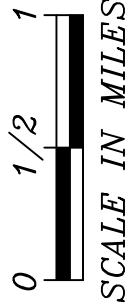
SHEET 3 OF 6

SHADY ELK TIMBER SALE  
TRACT NO.:  
ORM05-TS-2017-0005

- BLM OWNERSHIP
- T.S. UNITS
- BST ROAD
- ROCKED ROAD
- NAT. SURFACE ROAD
- PRIMITIVE ROUTE
- Purchaser Maintenance
- BLM Maintenance
- STOCKPILE SITE



ALWAYS  
**THINK**  
SAFETY





# EXHIBIT D-2

SHEET 4 OF 6

SHADY  L  TIMBER SAL

TRACT  O

ORM05-TS-201  0005

BLM  OW  RSHIP

T.S.  ITS

BST ROAD

RO  D ROAD

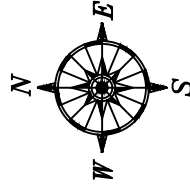
AT. S  R  FAC  ROAD

PRIMITIVE  RO  T

Purchaser Maintenance

BLM Maintenance

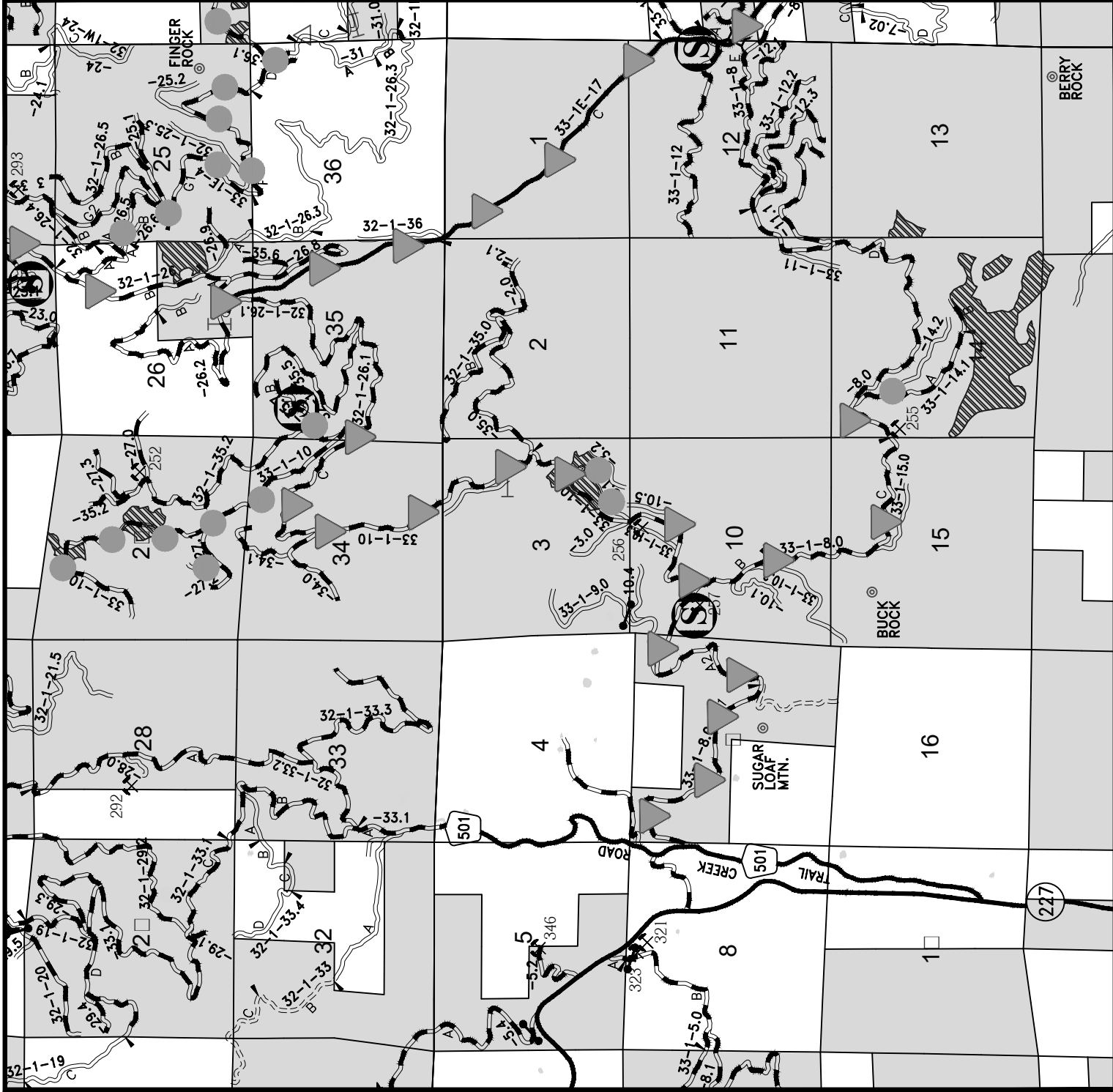
STOCK  P  I  L  S  I  T



ALWAYS  
**THINK**  
SAFETY



SCALE IN MILES



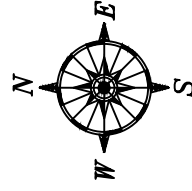


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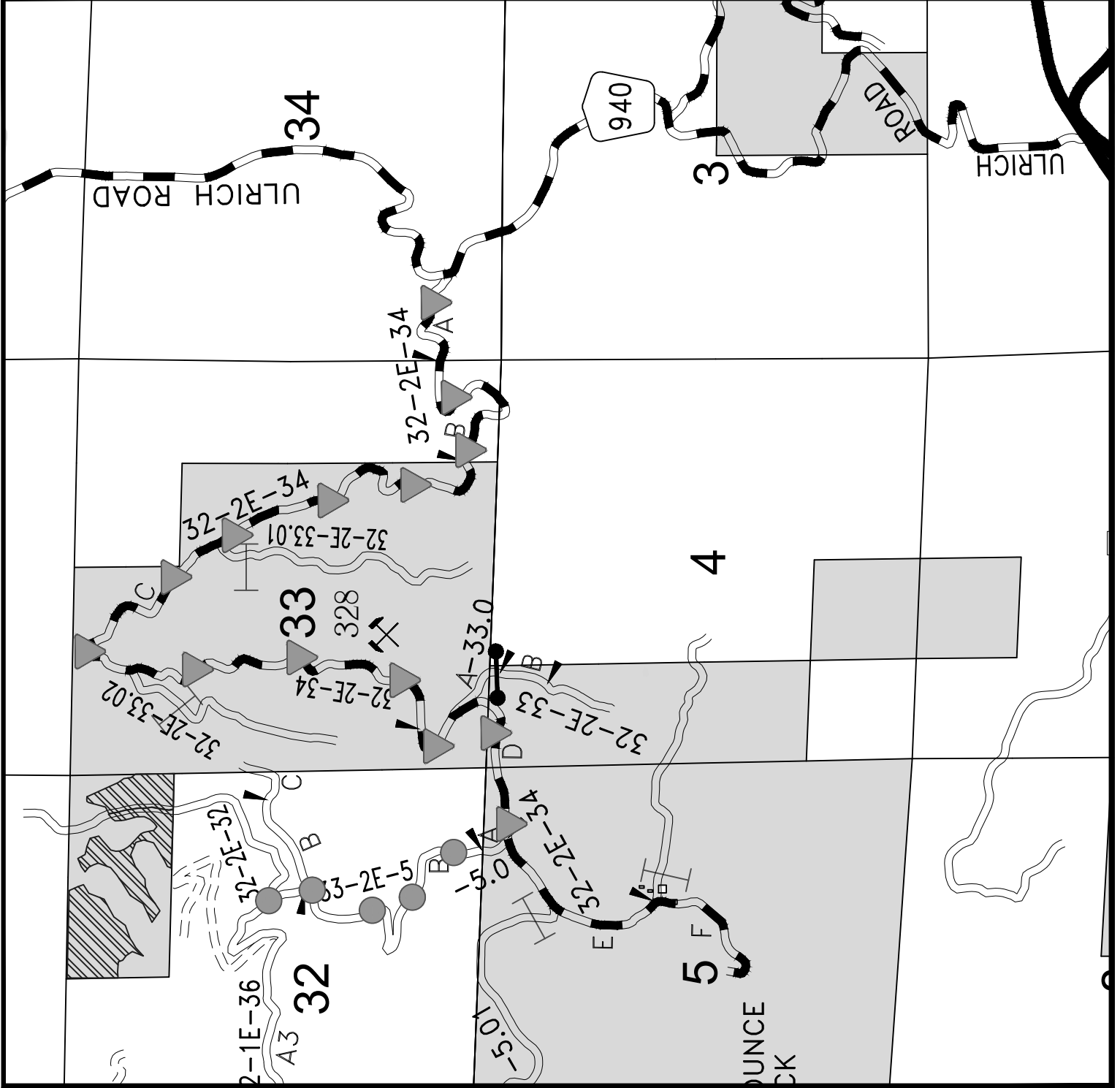
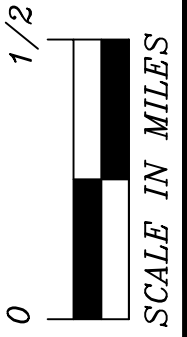
SHEET 5 OF 6

SHADY  L  TIMB  R SAL   
TRACT  O   
ORM05-TS-201 -0005

- BLM  O  R  S  H  I  P
- T.S.   I  T  S
- BST ROAD
- ROC   D ROAD
- AT. S  R  F  A  C  ROAD
- PRIMITIV   R  O  T
- Purchaser Maintenance
- BLM Maintenance



ALWAYS  
**THINK**  
SAFETY





# EXHIBIT D-2

SHEET 6 OF 6

SHADY  L  TIMBER SAL

TRACT  O

ORM05-TS-201  0005

BLM  OW  RSHIP

T.S.   ITS

BST ROAD

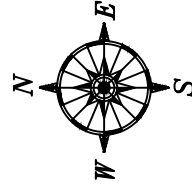
RO   D ROAD

AT.  S  RFAC  ROAD

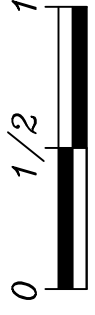
PRIMITIV   RO  T

Purchaser Maintenance

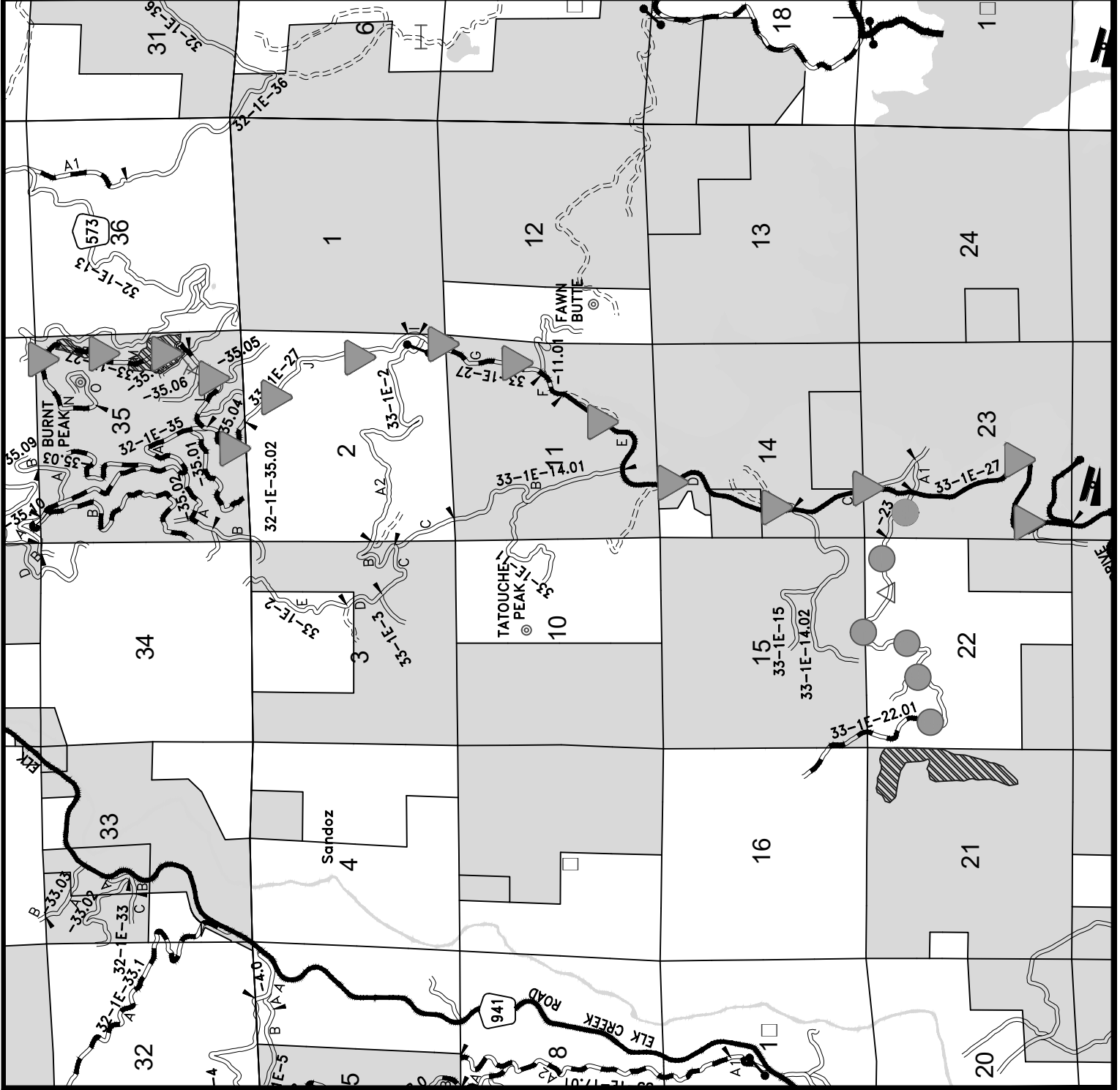
BLM Maintenance



ALWAYS  
**THINK**  
SAFETY



SCALE IN MILES







## SHADY ELK TIMBER SALE Road Decommissioning Work List

**GENERAL DEFINITIONS:**

**Decommission (Full)** = Rip, Water bar (every 150' for grades <10% - every 100' grades >10%) unless otherwise noted in the work list, Barricade, and/or Remove Culverts (Armor if needed) and Seed and Mulch.

**Decommission (Partial)** = Water bar (every 150' for grades <10% - every 100' grades >10%) unless otherwise noted in the work list, Barricade, and/or Remove culverts (Armor if needed) and Seed and Mulch disturbed areas.

**Barricade** = Barricade only.

ASC - Aggregate Surface Course  
CMP – Corrugated metal pipe  
D.B.H.- Diameter breast height  
NAT – Natural surface  
WD – Water Dip

AWD – Armored water dip  
Cu. Yds = CY = Cubic Yards  
Jct.– Junction  
PRR - Pit Run Rock  
DS – Down Spout

### Un-numbered Spur Road off 32-1E-13.01 NAT

<u>MP</u>	<u>Remarks</u>
0.00	Jct. w/ 32-1E-13.02. Begin partial road decommissioning.
0.02	Construct earth barricade.
0.09	End partial road decommissioning.

### Road 32-1E-13.02 (Hawk Point TS ML)

#### Segment A ASC

<u>MP</u>	<u>Remarks</u>
0.00	Jct. w/ 32-1E-13.01.
0.47	Jct. w/ 32-1E-13.07 right.
0.90	Jct. w/ 32-1E-11.02 right. End segment A.

#### Segment B NAT

<u>MP</u>	<u>Remarks</u>
0.90	Jct. w/ 32-1E-11.02 right.
0.91	Begin full road decommissioning. Construct earth barricade.
1.25	End full road decommissioning.

### Un-numbered Spur Road off 32-1E-13.02 NAT

<u>MP</u>	<u>Remarks</u>
0.00	Jct. w/ 32-1E-13.02. Begin partial road decommissioning.
0.01	Construct earth barricade.
0.09	End partial road decommissioning.

**Un-numbered Spur Road off 32-1E-13.03 NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-1E-13.03.
0.03	Overhead power line.
0.14	Overhead power line.
0.15	Begin partial road decommissioning.
0.16	Construct earth barricade.
0.52	End partial road decommissioning.

**Road 33-1E-22.01 (Yellow Rock R/W)  
(Private) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1E-23.00. Begin replacing existing water bars mile posted on Shady Elk Road Renovation Work List Exhibit C-13, Pages 19-20.
0.38	End water barring.

**Road 33-1E-23.00 (Lower Lost Creek Spur)  
Segment A2 ASC/NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1E-27.00. Begin replacing existing water bars mile posted on Shady Elk Road Renovation Work List Exhibit C-13, Pages 20-21.
0.29	Jct. w/ 33-1E-22.03 left. Jct. w/ private road left. End segment A2.

**Segment B (Private) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.29	Continue water barring.
0.76	Property line.
0.80	Property line.
1.04	Jct. w/ private road right.
1.26	Jct. w/ private road left.
1.35	Jct. w/ private road right.
1.61	Jct. w/ 33-1E-22.01 right. End water barring.

**Road 33-1W-3.01 (USFS RD #6605 130) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1W-10.00.
0.03	Construct earth barricade.
0.38	Jct. w/ 33-1W-3.02 left.

**Road 33-1W-3.03 (USFS RD #6605 140) NAT**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 33-1W-10.00. Begin partial road decommissioning.
0.02	Construct earth barricade.
0.15	End partial road decommissioning.

**Road 33-2E-5.00 (Section 32 Connect)**

**Segment A** NAT

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-2E-34.00. Begin water barring.
0.07	Pump Chance right.
0.10	Property line. End segment A.

**Segment B (Private)** NAT

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.10	Continue water barring.
0.23	Jct. w/ private road right.
0.26	Jct. w/ private road right.
0.64	Private mega gate. Property line. End segment B.

**Segment C (Private)** NAT

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.64	Continue water barring.
0.84	Jct. w/ 32-1E-36.00 left and right. End water barring.

**Temp Route 31-1**

<b><u>MP</u></b>	<b><u>Remarks</u></b>
0.00	Jct. w/ 32-1W-36.01. Begin full decommissioning.
0.07	End full decommissioning. Decommission helicopter landing.







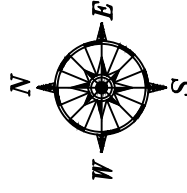
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**SHOOT 2 OF 4**

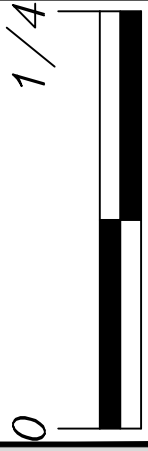
**SHADY L TIMBER SAL TRACT O.**

**ORM05-TS-201-0005**

- BLM OWNERSHIP
- T.S. LOTS
- BST ROAD
- ROCKY ROAD
- AT. SURFACE ROAD
- PRIMITIVE ROAD
- Barricade and Water Bar
- Construct Barricade Only



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**THINK**  
SAFETY



SCALE IN MILES











**XHIBIT D-4**

**SHOOT 4 OF 4**

**SHADY L TIMBER SAL**

**TRACT O.**

**ORM05-TS-201-0005**

BLM OWNERSHIP

T.S. ITS

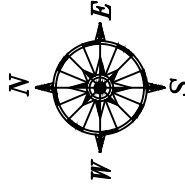
BST ROAD

ROD ROAD

AT. SURFACE ROAD

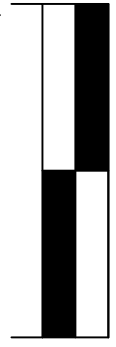
PRIMITIVE ROAD

Water Bar



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**THINK**  
SAFETY

0 1/2



SCALE IN MILES

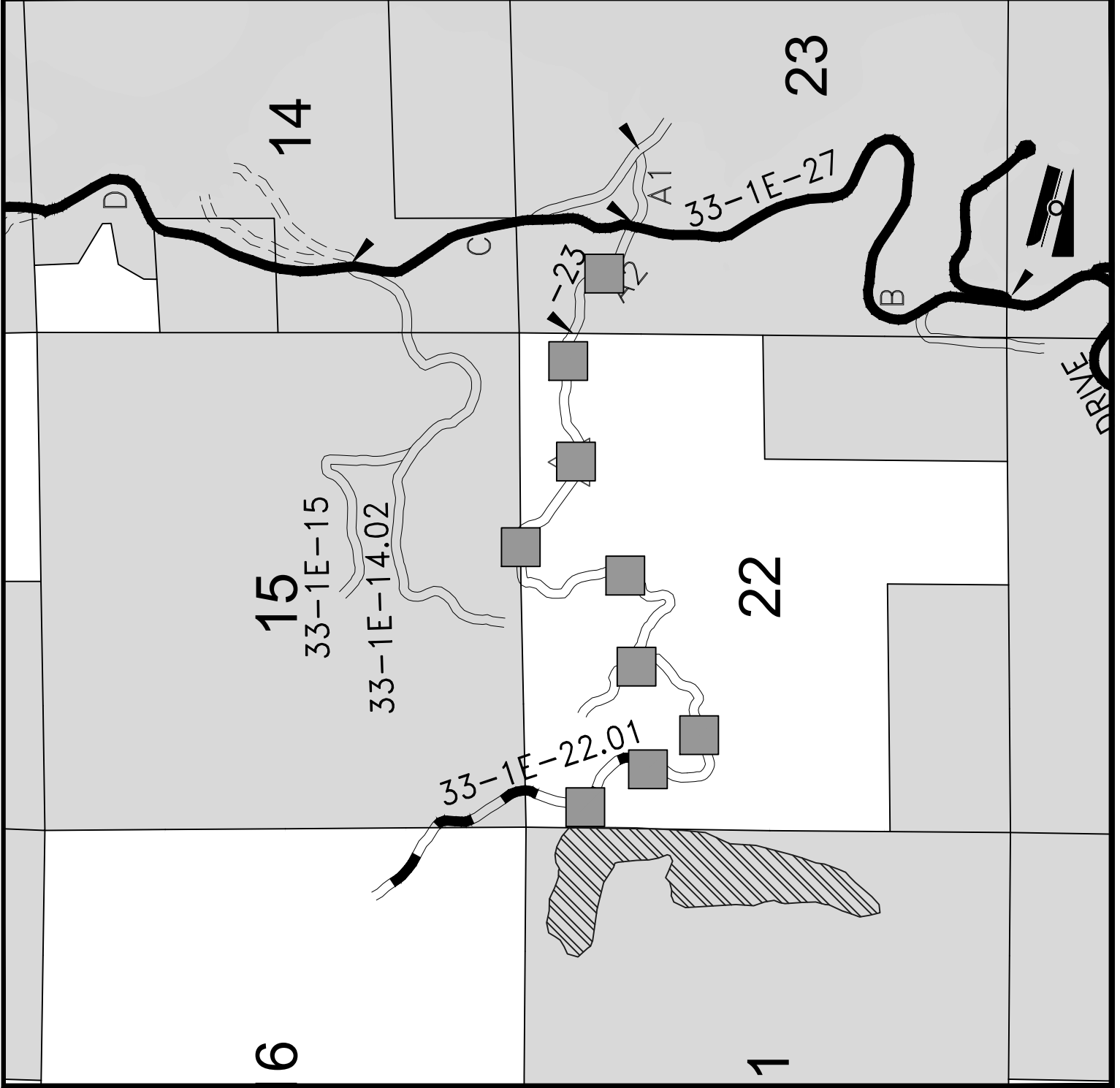
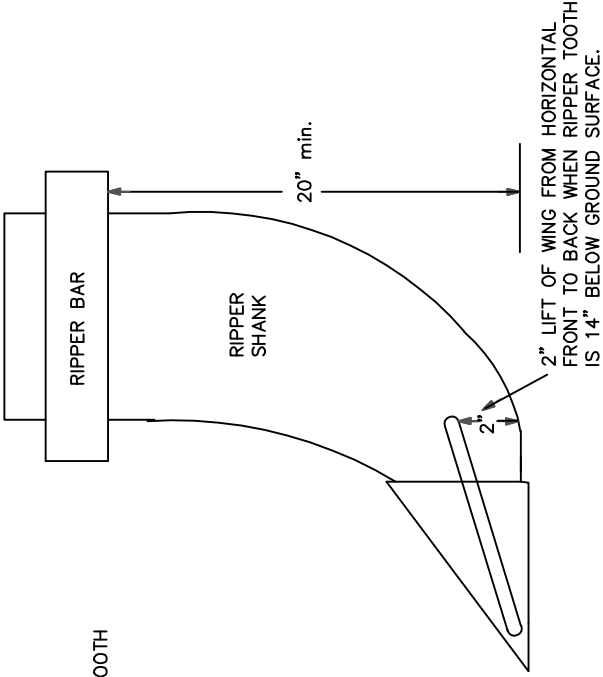
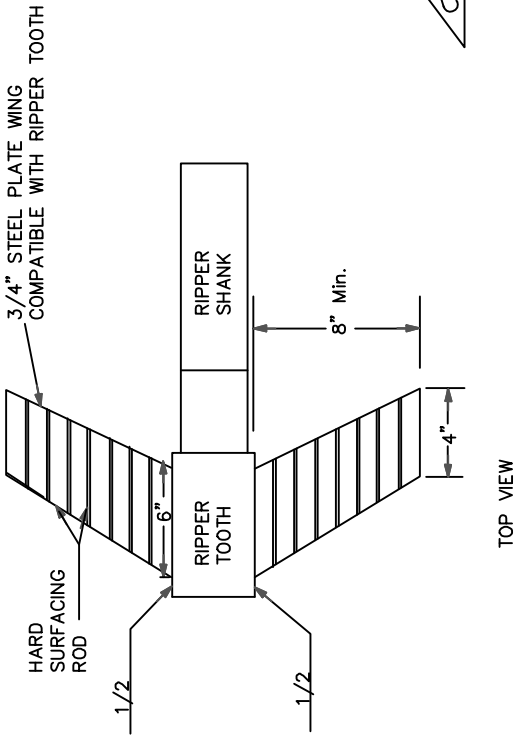




EXHIBIT R  
SHEET 1 OF 1

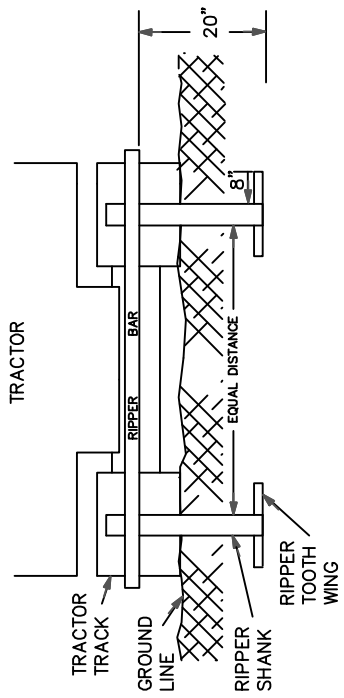


SIDE VIEW



TOP VIEW

TYPICAL RIPPER POSITION

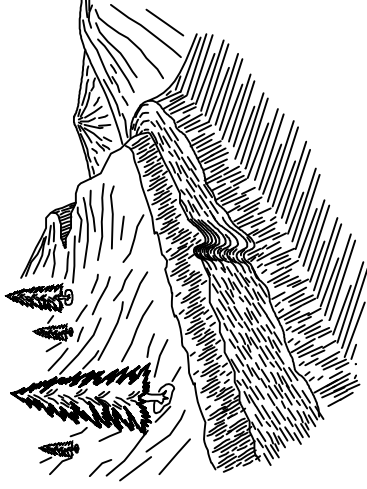


NOTES: TYPICAL RIPPER TOOTH CONSTRUCTION

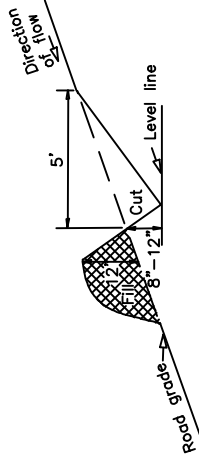
1. USE HARD SURFACING ROD FOR ALL EDGE AND SURFACE REINFORCEMENT.
2. WELD THAT ATTACHES WINGS TO RIPPER TEETH MUST BE COMPATIBLE WITH METAL IN TEETH AND WINGS.
3. RIPPER SHANKS AND RIPPER TEETH MAY BE NEW OR USED.
4. WINGS SHALL PROVIDE TWO (2) INCHES OF LIFT FROM THE HORIZONTAL WHEN TEETH ARE EXTENDED FOURTEEN (14) INCHES BELOW THE GROUND SURFACE.

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT ASHLAND RESOURCE AREA MEDFORD DISTRICT	
<b>WING RIPPER DETAIL</b>	
DESIGNED	
REVIEWED	
APPROVED	
DRAWN: JWR	SCALE: NONE
DATE: October 2009	SHEET 1 OF 1
DRAWING NO.	

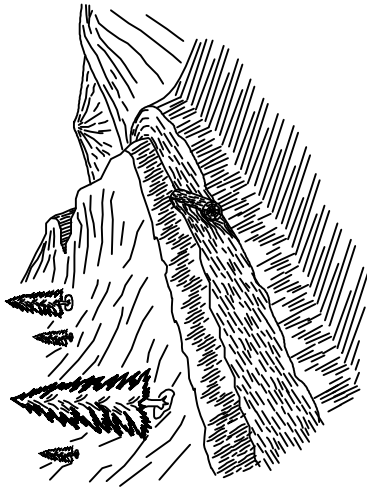




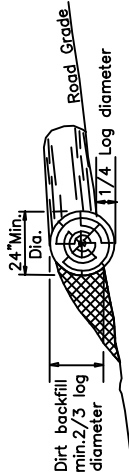
WATER BAR



1. WATER BARS SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL WATER BARS SHALL BE SKEWED 30 DEGREES UPON COMPLETION OF SKIDDING LOGS, FOR THE LOGGING SEASON. EACH SKID ROAD WILL HAVE CROSS DRAINAGE CONSTRUCTED AS SHOWN ABOVE.
4. PRIOR TO BLOCKING, EACH ROAD WILL HAVE CROSS DRAINAGE CONSTRUCTED AS SHOWN ABOVE.

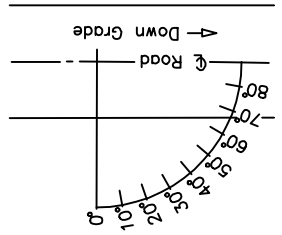


LOG BARRICADE



1. LOG BARRICADE SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL BARRICADES SHALL BE SKEWED 30 DEGREES
4. THE LENGTH SHALL BE SUFFICIENT TO EXTEND FROM THE CUT BANK TO THE FILL SLOPE.
5. THE MINIMUM SMALL END DIAMETER OF THE LOG BARRICADE SHALL BE 24".

SKEW DIAGRAM



WATER BAR SPACING \*

ROAD GRADE %	LOAM OR CLAY	DECOMPOSED LOAM GRANITE	FEET
4-6	400	300	
7-9	300**	200**	
10-14	200	150	
15-20	150	90	
21-40	90	50	
41-60	50	25	

\* DISTANCES ARE MAXIMUM.

\*\* ON GRADES IN EXCESS OF 10% CONSTRUCT WATER BARS.

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
MEDFORD DISTRICT - MEDFORD, OREGON

**DRAINAGE & EROSION  
CONTROL INSTALLATION**

DESIGNED	BLM
REVIEWED	
APPROVED	
DRAWN	DCM
DATE	October 2009
SHEET	1 OF 1
DRAWING NO.	OR-11-9113.4-8
SCALE	NONE







**United States  
Department of the  
Interior  
Bureau of Land  
Management  
Timber Appraisal**

---

**Sale Name:**Shady Elk TS

**BLM District:** Medford DO

**Contract #:**ORM05-TS-2017.0005

**Sale Type:**Advertised

**Sale Date:** Thursday, September 14, 2017

**Unit of Measure:** 16' MBF

**Contract Term:** 36 months

**Contract Mechanism:** 5450-3

Sale of Timber - Lump Sum

---

**Content**

**Timber Appraisal Summary**

**Stumpage Summary**

**Unit Summary**

**Stump to Truck**

**Transportation**

**Engineering Allowances**

**Other Allowances**

**Prepared By:** Parks, Corey J

**Approved By:** Rentz, George C

**Timber Appraisal Summary**

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**Legal Description of Contract  
Area**

Land Status	County	Township	Range	Section	Subdivision	Meridian
O&C	Jackson	33S	1W	23	NE1/4NE1/4.	Willamette
O&C	Jackson	32S	1E	35	E1/2NE1/4, NE1/4SE1/4.	Willamette
O&C	Jackson	33S	1E	21	E1/2NE1/4, NE1/4SE1/4.	Willamette
PD	Jackson	32S	2E	32	N1/4NE1/4.	Willamette
O&C	Jackson	32S	1W	11	E1/2SE1/4.	Willamette
O&C	Jackson	32S	1W	12	NW1/4SW1/4.	Willamette
O&C	Jackson	32S	1W	13	N1/2NW1/4.	Willamette
O&C	Jackson	32S	1W	23	N1/2NE1/4, SE1/4NE1/4.	Willamette
O&C	Jackson	32S	1W	26	E1/2SE1/4.	Willamette
O&C	Jackson	32S	1W	27	NW1/4NE1/4, SW1/4NE1/4, NE1/4NW1/4, NW1/4SE1/4.	Willamette
O&C	Jackson	33S	1W	3	SE1/4.	Willamette
O&C	Jackson	33S	1W	13	SW1/4NW1/4.	Willamette
O&C	Jackson	33S	1W	14	N1/2 SW1/4, GOVT. LOT 3, 4, N1/2SE1/4, GOVT. LOT 1, 2.	Willamette

O&C	Jackson	32S	1E	7	GOVT. LOT 6, 7, 8, 9.	Willamette
O&C	Jackson	32S	1E	11	SE1/4NW1/4, E1/2SW1/4, E1/2SE1/4.	Willamette
O&C	Jackson	32S	1E	13	W1/2, NW1/4SE1/4.	Willamette
PD	Jackson	32S	1E	30	GOVT. LOT 4.	Willamette
O&C	Jackson	32S	1E	31	N1/2NE1/4, NE1/4NW1/4.	Willamette

### Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	5,102.0	5,617.0	5,881.0	100,141	2,230	27,183
White Fir	584.0	640.0	652.0	9,217	594	2,589
Ponderosa Pine	196.0	212.0	220.0	2,359	407	933
Incense-cedar	47.0	52.0	53.0	1,301	67	528
Sugar Pine	20.0	22.0	25.0	398	46	135
<b>Totals</b>	<b>5,949.0</b>	<b>6,543.0</b>	<b>6,831.0</b>	<b>113,416</b>	<b>3,344</b>	<b>31,368</b>

### Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
22.0	669.0	1.0	692.0	8.6

**Timber Appraisal Summary**

<b>Logging Costs</b>	
Stump to Truck	\$1,678,837.88
Transportation	\$229,724.73
Road Construction	\$399,566.44
Maintenance/Rockwear	\$66,978.76
Road Use	\$0.00
Other Allowances	\$102,443.60
<b>Total:</b>	<b>\$2,477,551.41</b>
<b>Total Logging Cost per MBF:</b>	<b>\$416.47</b>

<b>Utilization Centers</b>		
<b>Location</b>	<b>Distance</b>	<b>% of Net Volume</b>
White City, Or	35.0 miles	100 %

<b>Profit &amp; Risk</b>	
Basic Profit & Risk	10 %
Additional Risk	0 %
<b>Total Profit &amp; Risk</b>	<b>10 %</b>

<b>Tract Features</b>	
Quadratic Mean DBH	14.4 in
Average GM Log	58 bf
Average Volume per Acre	8.6 mbf
Recovery	87 %
<b>Net MBF volume:</b>	

<b>Green</b>	5,949.0 mbf
<b>Salvage</b>	0 mbf
<b>Export</b>	0 mbf
<b>Ground Base Logging:</b>	
<b>Percent of Sale Volume</b>	33 %
<b>Average Yarding Slope</b>	15 %
<b>Average Yarding Distance</b>	300 ft
<b>Cable Logging:</b>	
<b>Percent of Sale Volume</b>	22 %
<b>Average Yarding Slope</b>	40 %
<b>Average Yarding Distance</b>	225 ft
<b>Aerial Logging:</b>	
<b>Percent of Sale Volume</b>	45 %
<b>Average Yarding Slope</b>	40 %
<b>Average Yarding Distance</b>	2200 ft
<b>Cruise</b>	

<b>Cruise</b>	July 2017
<b>Completed</b>	
<b>Cruised By</b>	Parks, Rentz, Darner, Siemer, Worman,
	Dotson, Cranmer

**Cruise Method**  
3p cruise

**Stumpage Summary**

**Stumpage Computation**

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value
Douglas Fir	27,183	5,102.0	\$583.15	\$58.32	\$416.47	\$0.00	\$108.40	\$553,056.80
White Fir	2,589	584.0	\$427.63	\$42.76	\$416.47	\$0.00	\$42.80 *	\$24,995.20
Ponderosa Pine	933	196.0	\$304.85	\$30.48	\$416.47	\$0.00	\$30.50 *	\$5,978.00
Incensecedar	528	47.0	\$497.51	\$49.75	\$416.47	\$0.00	\$49.80 *	\$2,340.60
Sugar Pine	135	20.0	\$293.44	\$29.34	\$416.47	\$0.00	\$29.40 *	\$588.00
<b>Totals</b>	<b>31,368</b>	<b>5,949.0</b>						<b>\$586,958.60</b>

\* Minimum Stumpage values were used to compute the Appraised Price/MBF (10% of Pond Value)

**Percent of Volume By Log Grade**

Species	No. 1 & 2 Peeler	No. 3 Peeler	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Douglas Fir			2.0 %	50.0 %	42.0 %	6.0 %	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
White Fir				53.0 %	44.0 %	3.0 %	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill	No. 6 Sawmill	Camp Run

**Shady Elk TS**

**ORM05-TS-2017.0005**

<b>Ponderosa Pine</b>				72.0 %	26.0 %	2.0 %	
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<b>Species</b>	<b>No. 1 Sawmill</b>	<b>No. 2 Sawmill</b>	<b>No. 3 Sawmill</b>	<b>No. 4 Sawmill</b>	<b>No. 5 Sawmill</b>	<b>No. 6 Sawmill</b>	<b>Camp Run</b>
<b>Incense-cedar</b>				19.0 %	66.0 %	15.0 %	

<b>Species</b>	<b>No. 1 Sawmill</b>	<b>No. 2 Sawmill</b>	<b>No. 3 Sawmill</b>	<b>No. 4 Sawmill</b>	<b>No. 5 Sawmill</b>	<b>No. 6 Sawmill</b>	<b>Camp Run</b>
<b>Sugar Pine</b>				50.0 %	42.0 %	8.0 %	

**Unit Summary**

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<b>Species</b>	<b>Net</b>	<b>Gross Merch</b>	<b>Gross</b>	<b># of Trees</b>
<b>Douglas Fir</b>	43.0	48.0	50.0	123

<b>Totals:</b>	<b>43.0</b>	<b>48.0</b>	<b>50.0</b>	<b>123</b>
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Regeneration Harvest	0.0
Partial Cut	10.0
Right of Way	0.0

# Shady Elk TS

ORM05-TS-2017.0005

Unit: 3-1

Net Volume/Acre: 4.1 MBF

Total Acres:	10.0
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Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	69.0	76.0	79.0	358
White Fir	3.0	3.0	3.0	11
Ponderosa Pine	2.0	2.0	2.0	5
<b>Totals:</b>	<b>74.0</b>	<b>81.0</b>	<b>84.0</b>	<b>374</b>

Regeneration Harvest	0.0
Partial Cut	18.0
Right of Way	0.0
<b>Total Acres:</b>	<b>18.0</b>

Unit: 3-2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	40.0	44.0	46.0	177
White Fir	1.0	1.0	1.0	5
<b>Totals:</b>	<b>41.0</b>	<b>45.0</b>	<b>47.0</b>	<b>182</b>

Regeneration Harvest	0.0
Partial Cut	9.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

Unit: 3-3

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	12.0	53
<b>Totals:</b>	<b>10.0</b>	<b>11.0</b>	<b>12.0</b>	<b>53</b>

Regeneration Harvest	0.0
Partial Cut	2.0
Right of Way	0.0
<b>Total Acres:</b>	<b>2.0</b>

Unit: 7-1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	127.0	140.0	147.0	446
<b>Totals:</b>	<b>127.0</b>	<b>140.0</b>	<b>147.0</b>	<b>446</b>

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0



<b>Total Acres:</b>	<b>20.0</b>
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**Unit: 11-1**

**Net Volume/Acre: 4.3 MBF**

<b>Species</b>	<b>Net</b>	<b>Gross Merch</b>	<b>Gross</b>	<b># of Trees</b>
Douglas Fir	69.0	76.0	80.0	319

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<b>Totals:</b>	<b>69.0</b>	<b>76.0</b>	<b>80.0</b>	<b>319</b>
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Regeneration Harvest	0.0
Partial Cut	11.0
Right of Way	0.0

**Unit: 11-2****Net Volume/Acre: 5.0 MBF****Total Acres:****11.0**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	15.0	16.0	17.0	28
<b>Totals:</b>	<b>15.0</b>	<b>16.0</b>	<b>17.0</b>	<b>28</b>

Regeneration Harvest	0.0
Partial Cut	3.0
Right of Way	0.0
<b>Total Acres:</b>	<b>3.0</b>

**Unit: 11-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	149.0	164.0	172.0	880
White Fir	118.0	129.0	131.0	498
<b>Totals:</b>	<b>267.0</b>	<b>293.0</b>	<b>303.0</b>	<b>1,378</b>

Regeneration Harvest	0.0
Partial Cut	31.0
Right of Way	0.0
<b>Total Acres:</b>	<b>31.0</b>

**Unit: 11-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	130.0	143.0	150.0	839
Ponderosa Pine	17.0	18.0	19.0	104
White Fir	4.0	5.0	5.0	21
Sugar Pine	1.0	1.0	1.0	7
<b>Totals:</b>	<b>152.0</b>	<b>167.0</b>	<b>175.0</b>	<b>971</b>

Regeneration Harvest	0.0
Partial Cut	19.0
Right of Way	0.0
<b>Total Acres:</b>	<b>19.0</b>

**Unit: 13-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	20.0	22.0	23.0	82

Regeneration Harvest	0.0
Partial Cut	5.0
Right of Way	0.0

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<b>Totals:</b>	<b>20.0</b>	<b>22.0</b>	<b>23.0</b>	<b>82</b>
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<b>Total Acres:</b>	<b>5.0</b>
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**Unit: 13-2**

**Net Volume/Acre: 6.3 MBF**

**Unit: 13-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	19.0	20.0	83
<b>Totals:</b>	<b>17.0</b>	<b>19.0</b>	<b>20.0</b>	<b>83</b>

**Unit: 13-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	222.0	244.0	255.0	1,519
Ponderosa Pine	9.0	9.0	10.0	47
Sugar Pine	1.0	1.0	1.0	7
<b>Totals:</b>	<b>232.0</b>	<b>254.0</b>	<b>266.0</b>	<b>1,573</b>

**Unit: 13-5**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	324.0	357.0	373.0	1,876
Ponderosa Pine	6.0	7.0	7.0	36
White Fir	1.0	1.0	1.0	3
Sugar Pine	1.0	1.0	2.0	10
Incense-cedar	1.0	1.0	1.0	6
<b>Totals:</b>	<b>333.0</b>	<b>367.0</b>	<b>384.0</b>	<b>1,931</b>

**Unit: 13-6****Net Volume/Acre: 5.7 MBF**

Regeneration Harvest	0.0
Partial Cut	3.0
Right of Way	0.0
<b>Total Acres:</b>	<b>3.0</b>

**Net Volume/Acre: 9.7 MBF**

Regeneration Harvest	0.0
Partial Cut	24.0
Right of Way	0.0
<b>Total Acres:</b>	<b>24.0</b>

**Net Volume/Acre: 11.1 MBF**

Regeneration Harvest	0.0
Partial Cut	30.0
Right of Way	0.0
<b>Total Acres:</b>	<b>30.0</b>

**Net Volume/Acre: 11.7 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	358.0	395.0	413.0	2,190
White Fir	57.0	62.0	63.0	265
Ponderosa Pine	5.0	6.0	6.0	29
Sugar Pine	1.0	1.0	2.0	8
Incense-cedar	1.0	1.0	1.0	8
<b>Totals:</b>	<b>422.0</b>	<b>465.0</b>	<b>485.0</b>	<b>2,500</b>

**Unit: 13-7**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	37.0	41.0	42.0	287
White Fir	8.0	9.0	9.0	56
<b>Totals:</b>	<b>45.0</b>	<b>50.0</b>	<b>51.0</b>	<b>343</b>

**Unit: 13-8**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	257.0	283.0	296.0	1,638
White Fir	17.0	19.0	19.0	75
Ponderosa Pine	7.0	8.0	8.0	42
Sugar Pine	1.0	1.0	2.0	11
Incense-cedar	1.0	1.0	1.0	12
<b>Totals:</b>	<b>283.0</b>	<b>312.0</b>	<b>326.0</b>	<b>1,778</b>

**Unit: 13-9**

Regeneration Harvest	0.0
Partial Cut	36.0
Right of Way	0.0
<b>Total Acres:</b>	<b>36.0</b>

**Net Volume/Acre: 11.3 MBF**

Regeneration Harvest	0.0
Partial Cut	4.0
Right of Way	0.0
<b>Total Acres:</b>	<b>4.0</b>

**Net Volume/Acre: 12.9 MBF**

Regeneration Harvest	0.0
Partial Cut	22.0
Right of Way	0.0
<b>Total Acres:</b>	<b>22.0</b>

**Net Volume/Acre: 10.2 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	76.0	84.0	88.0	509
White Fir	55.0	60.0	61.0	254
Ponderosa Pine	1.0	1.0	1.0	5
Sugar Pine	1.0	1.0	1.0	4
<b>Totals:</b>	<b>133.0</b>	<b>146.0</b>	<b>151.0</b>	<b>772</b>

**Unit: 13-10**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	649.0	715.0	748.0	4,085
White Fir	44.0	48.0	49.0	163
Ponderosa Pine	12.0	13.0	13.0	77
Sugar Pine	3.0	3.0	3.0	22
Incense-cedar	1.0	1.0	1.0	10
<b>Totals:</b>	<b>709.0</b>	<b>780.0</b>	<b>814.0</b>	<b>4,357</b>

**Unit: 13-11**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	23.0	25.0	26.0	96
<b>Totals:</b>	<b>23.0</b>	<b>25.0</b>	<b>26.0</b>	<b>96</b>

**Unit: 14-1**

Regeneration Harvest	0.0
Partial Cut	13.0
Right of Way	0.0
<b>Total Acres:</b>	<b>13.0</b>

**Net Volume/Acre: 9.0 MBF**

Regeneration Harvest	0.0
Partial Cut	79.0
Right of Way	0.0
<b>Total Acres:</b>	<b>79.0</b>

**Net Volume/Acre: 2.9 MBF**

Regeneration Harvest	0.0
Partial Cut	8.0
Right of Way	0.0
<b>Total Acres:</b>	<b>8.0</b>

**Net Volume/Acre: 8.4 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	931.0	1,024.0	1,075.0	5,417
White Fir	94.0	104.0	106.0	397
Ponderosa Pine	25.0	28.0	29.0	107
Sugar Pine	9.0	11.0	11.0	64
Incense-cedar	9.0	10.0	10.0	153
<b>Totals:</b>	<b>1,068.0</b>	<b>1,177.0</b>	<b>1,231.0</b>	<b>6,138</b>

**Unit: 14-1L**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	20.0	21.0	22.0	34
White Fir	10.0	10.0	12.0	66
Incense-cedar	1.0	1.0	1.0	6
<b>Totals:</b>	<b>31.0</b>	<b>32.0</b>	<b>35.0</b>	<b>106</b>

**Unit: 21-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	264.0	292.0	305.0	1,268
Incense-cedar	2.0	3.0	3.0	27
Ponderosa Pine	1.0	1.0	1.0	2
<b>Totals:</b>	<b>267.0</b>	<b>296.0</b>	<b>309.0</b>	<b>1,297</b>

**Unit: 23-1**

Regeneration Harvest	0.0
Partial Cut	127.0
Right of Way	0.0
<b>Total Acres:</b>	<b>127.0</b>

**Net Volume/Acre: 31.0 MBF**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	1.0
<b>Total Acres:</b>	<b>1.0</b>

**Net Volume/Acre: 5.3 MBF**

Regeneration Harvest	0.0
Partial Cut	50.0
Right of Way	0.0
<b>Total Acres:</b>	<b>50.0</b>

**Net Volume/Acre: 11.2 MBF**



Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	79.0	87.0	91.0	240
White Fir	22.0	24.0	24.0	59
<b>Totals:</b>	<b>101.0</b>	<b>111.0</b>	<b>115.0</b>	<b>299</b>

**Unit: 26-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	87.0	96.0	100.0	460
Ponderosa Pine	64.0	69.0	71.0	335
White Fir	6.0	7.0	7.0	21
Incense-cedar	1.0	1.0	1.0	8
<b>Totals:</b>	<b>158.0</b>	<b>173.0</b>	<b>179.0</b>	<b>824</b>

**Unit: 27-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	41.0	45.0	47.0	139
White Fir	22.0	24.0	24.0	87
Incense-cedar	3.0	3.0	3.0	18
<b>Totals:</b>	<b>66.0</b>	<b>72.0</b>	<b>74.0</b>	<b>244</b>

**Unit: 27-2**

Regeneration Harvest	0.0
Partial Cut	9.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

**Net Volume/Acre: 7.9 MBF**

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0
<b>Total Acres:</b>	<b>20.0</b>

**Net Volume/Acre: 6.6 MBF**

Regeneration Harvest	0.0
Partial Cut	10.0
Right of Way	0.0
<b>Total Acres:</b>	<b>10.0</b>

**Net Volume/Acre: 4.7 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	18.0	19.0	59
White Fir	9.0	10.0	10.0	40
Incense-cedar	2.0	2.0	2.0	15
<b>Totals:</b>	<b>28.0</b>	<b>30.0</b>	<b>31.0</b>	<b>114</b>

**Unit: 27-3**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	11.0	44
White Fir	1.0	1.0	1.0	5
<b>Totals:</b>	<b>11.0</b>	<b>12.0</b>	<b>12.0</b>	<b>49</b>

**Unit: 27-4**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	10.0	11.0	12.0	52
White Fir	1.0	1.0	1.0	4
<b>Totals:</b>	<b>11.0</b>	<b>12.0</b>	<b>13.0</b>	<b>56</b>

**Unit: 27-5**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	27.0	29.0	31.0	116
White Fir	7.0	8.0	8.0	29
<b>Totals:</b>	<b>34.0</b>	<b>37.0</b>	<b>39.0</b>	<b>145</b>

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
<b>Total Acres:</b>	<b>6.0</b>

**Net Volume/Acre: 5.5 MBF**

Regeneration Harvest	0.0
Partial Cut	2.0
Right of Way	0.0
<b>Total Acres:</b>	<b>2.0</b>

Regeneration Harvest	0.0
Partial Cut	1.0
Right of Way	0.0
<b>Total Acres:</b>	<b>1.0</b>

Regeneration Harvest	0.0
Partial Cut	4.0
Right of Way	0.0
<b>Total Acres:</b>	<b>4.0</b>

**Unit: 31-1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	200.0	220.0	230.0	851
Ponderosa Pine	2.0	3.0	3.0	11
White Fir	1.0	1.0	1.0	3
<b>Totals:</b>	<b>203.0</b>	<b>224.0</b>	<b>234.0</b>	<b>865</b>

**Unit: 31-2**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	25.0	28.0	29.0	123
Ponderosa Pine	4.0	4.0	4.0	12
White Fir	2.0	2.0	2.0	8
Sugar Pine	2.0	2.0	2.0	2
<b>Totals:</b>	<b>33.0</b>	<b>36.0</b>	<b>37.0</b>	<b>145</b>

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	239.0	263.0	276.0	663
White Fir	15.0	16.0	17.0	53
Ponderosa Pine	9.0	9.0	10.0	23

**Net Volume/Acre: 4.5 MBF**

Regeneration Harvest	0.0
Partial Cut	45.0
Right of Way	0.0
<b>Total Acres:</b>	<b>45.0</b>

**Net Volume/Acre: 6.6 MBF**

Regeneration Harvest	0.0
Partial Cut	5.0
Right of Way	0.0
<b>Total Acres:</b>	<b>5.0</b>

Incense-cedar	8.0	9.0	10.0	95
<b>Totals:</b>	<b>271.0</b>	<b>297.0</b>	<b>313.0</b>	<b>834</b>

**Unit: 32-1 Net Volume/Acre:  
10.8 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	170.0	187.0	196.0	718
Ponderosa Pine	9.0	10.0	10.0	33
Incense-cedar	4.0	4.0	4.0	36
White Fir	1.0	1.0	1.0	7
<b>Totals:</b>	<b>184.0</b>	<b>202.0</b>	<b>211.0</b>	<b>794</b>

Regeneration Harvest	0.0
Partial Cut	17.0
Right of Way	0.0
<b>Total Acres:</b>	<b>17.0</b>

**Unit: 32-2**

**Net Volume/Acre: 23.4 MBF**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	259.0	285.0	299.0	836
Ponderosa Pine	21.0	22.0	23.0	54
White Fir	13.0	15.0	15.0	44
Incense-cedar	11.0	13.0	13.0	113
<b>Totals:</b>	<b>304.0</b>	<b>335.0</b>	<b>350.0</b>	<b>1,047</b>

Regeneration Harvest	13.0
Partial Cut	0.0
Right of Way	0.0
<b>Total Acres:</b>	<b>13.0</b>

**Unit: 32-3 Net Volume/Acre: 30.1 MBF Unit: 35-1 Net Volume/Acre: 2.8 MBF**

Regeneration Harvest	9.0
Partial Cut	0.0
Right of Way	0.0
<b>Total Acres:</b>	<b>9.0</b>

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	17.0	18.0	19.0	81
<b>Totals:</b>	<b>17.0</b>	<b>18.0</b>	<b>19.0</b>	<b>81</b>

**Unit: 35-2**

Species	Net	Gross Merch	Gross	# of Trees
White Fir	72.0	79.0	81.0	415
Douglas Fir	71.0	79.0	82.0	494
Ponderosa Pine	2.0	2.0	3.0	11
Incense-cedar	2.0	2.0	2.0	21
<b>Totals:</b>	<b>147.0</b>	<b>162.0</b>	<b>168.0</b>	<b>941</b>

Regeneration Harvest	0.0
Partial Cut	6.0
Right of Way	0.0
<b>Total Acres:</b>	<b>6.0</b>

**Net Volume/Acre: 7.4 MBF**

Regeneration Harvest	0.0
Partial Cut	20.0
Right of Way	0.0
<b>Total Acres:</b>	<b>20.0</b>

**Stump to Truck Costs**

Total Stump To Truck	Net Volume	\$/MBF
\$1,678,837.88	5,949.0	\$282.21

**Stump to Truck: Falling, Bucking, Yarding, & Loading**

Yarding System	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Helicopter	GM MBF	2,969.0	\$409.23	\$1,215,003.87	
Cable: Small Yarder	GM MBF	1,435.0	\$170.44	\$244,581.40	
Harvester/Skidder	GM MBF	2,139.0	\$95.99	\$205,322.61	
<b>Subtotal</b>				<b>\$1,664,907.88</b>	

**Additional Costs**

Item	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
<b>Subtotal</b>				<b>\$0.00</b>	

**Additional Moves**

Equipment	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Cable: Small Yarder	Hour	16.0	\$150.00	\$2,400.00	Four moves at six hundred dollars a move...
Shovel	Hour	16.0	\$150.00	\$2,400.00	Four moves at six hundred dollars a move (cable side)
Shovel	Hour	20.0	\$150.00	\$3,000.00	Five moves at six hundred dollars a move (CAT)

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Shovel	Hour	24.0	\$150.00	\$3,600.00	Six moves at six hundred a move...
Wheel Skidder	Hour	3.0	\$110.00	\$330.00	one move to sec 13
Harvester/Skidder	Hour	20.0	\$110.00	\$2,200.00	Five moves at four hundred and forty dollars a move
<b>Subtotal</b>				<b>\$13,930.00</b>	

**Transportation**

<b>Total</b>	<b>Net Volume</b>	<b>\$/MBF</b>
\$229,724.73	5,949.0	\$38.62

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	\$/Unit of Measure	Total Cost
White City, Or	35.0	All species	GM MBF	6,543.0	\$35.11	\$229,724.73

**Engineering Allowances**

<b>Total</b>	<b>Net Volume</b>	<b>\$/MBF</b>
\$466,545.20	5,949.0	\$78.42

Cost Item	Total Cost
Road Construction:	\$399,566.44
Road Maintenance/Rockwear:	\$66,978.76
Road Use Fees:	\$0.00

**Other Allowances**

Total	Net Volume	\$/MBF
\$102,443.60	5,949.0	\$17.22

**Environmental Protection**

Cost item	Total Cost
CWD on first 100'	\$1,500.00
Log barricade	\$1,125.00
Waterbar	\$7,500.00
Harvester (washing)	\$250.00
Skidder (washing)	\$250.00
Processor (washing)	\$250.00
Loaders/Yarder (washing)	\$1,110.00
Ripping	\$2,075.00
Seed & Mulch	\$8,800.00
<b>Subtotal</b>	<b>\$22,860.00</b>

**Logging**

Cost item	Total Cost
Directional Falling	\$4,800.00
skid/corridor location	\$1,458.40
RMP Age/DBH Restriction Felling/Yarding	\$793.20
<b>Subtotal</b>	<b>\$7,051.60</b>

**Slash Disposal & Site Prep**

Cost item	Total Cost
Lop and Scatter	\$12,032.00



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Hand Pile and cover	\$60,500.00
<b>Subtotal</b>	<b>\$72,532.00</b>

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**Comments:**

Ripping = newly constructed landings

RMP Age/DBH Restriction= Heli Landing 14-1L Refer to L-32 stip





1) Road Use Fees - Amortization

Details

R/W Number	Road Number	Rd Use Fee x	Vol MBF =	Road Use Obligation
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Subtotal by agreement number

(1.1) Subtotal \$0.00

2) BLM Maintenance - Timber Haul

MAINTENANCE (2.1)					ROCKWEAR (2.2)			
Road Number and Segment	A Surf N Type	Mi	x Fee x	Vol MBF =	Maint	Fee x	MBF =	Rkwear
32-1E-07.01	N ASC	0.39	0.95	127	\$47.05	0.60	127	\$29.72
32-1E-07.02A	N ASC	0.60	0.95	127	\$72.39	0.60	127	\$45.72
32-1E-11.02A	N ASC	0.59	0.95	52	\$29.15	0.60	52	\$18.41
32-1E-13.01A3	A ASC	0.53	0.75	1146	\$455.54	0.60	1146	\$364.43
32-1E-13.01A2	A ASC	1.05	0.75	1603	\$1,262.36	0.60	1603	\$1,009.89
32-1E-13.01A1	A ASC	0.32	0.75	2311	\$554.64	0.60	2311	\$443.71
32-1E-13.02A1	A ASC	0.35	0.75	1046	\$274.58	0.60	1046	\$219.66
32-1E-13.02A2	A ASC	0.12	0.75	657	\$59.13	0.60	657	\$47.30
32-1E-13.02A3	A ASC	0.43	0.75	387	\$124.81	0.60	387	\$99.85
32-1E-17.04A	N ASC	0.75	0.95	127	\$90.49	0.60	127	\$57.15
32-1E-17.05A1A2N	ASC	0.85	0.95	127	\$102.55	0.60	127	\$64.77
32-1E-20.00A	N ASC	0.58	0.95	127	\$69.98	0.00	127	\$0.00
32-1E-20.00B	N ASC	1.44	0.95	127	\$173.74	0.60	127	\$109.73
32-1E-23.00	A A BST	1.36	0.92	267	\$334.07	0.00	267	\$0.00
32-1E-27.00	A A BST	0.47	0.92	291	\$125.83	0.00	291	\$0.00
32-1E-27.00	A A ASC	0.21	0.75	291	\$45.83	0.60	291	\$36.67
32-1E-27.00	B-DN ASC	1.48	0.95	291	\$409.15	0.00	291	\$0.00
32-1E-27.00	D N ASC	0.56	0.95	164	\$87.25	0.00	164	\$0.00
32-1E-27.00	E N ASC	0.85	0.95	164	\$132.43	0.60	164	\$83.64
32-1W-26.00	A-BA ASC	1.04	0.75	337	\$262.86	0.60	337	\$210.29
32-1W-26.00	B-CA ASC	1.22	0.75	101	\$92.42	0.60	101	\$73.93
32-2E-34.00	A-DA ASC	3.80	0.75	760	\$2,166.00	0.60	760	\$1,732.80
33-1E-17.00A	A BST	4.66	0.92	494	\$2,117.88	0.00	494	\$0.00
33-1E-27.00	B A ASC	1.22	0.75	433	\$396.20	0.60	433	\$316.96
33-1E-27.00	C-GA ASC	2.83	0.75	164	\$348.09	0.60	164	\$278.47
33-1E-27.00	H N ASC	0.07	0.95	164	\$10.91	0.00	164	\$0.00
33-1E-27.00	I N ASC	0.18	0.95	164	\$28.04	0.60	164	\$17.71
33-1E-27.00	J N ASC	0.91	0.95	164	\$141.78	0.00	164	\$0.00
33-1E-27.00	K-MN ASC	1.70	0.95	164	\$264.86	0.60	164	\$167.28
33-1W-08.00	A A ASC	2.65	0.75	1393	\$2,768.59	0.60	1393	\$2,214.87
33-1W-08.00	B-DA ASC	2.58	0.75	1121	\$2,169.14	0.60	1121	\$1,735.31
33-1W-10.00	A A ASC	0.74	0.75	272	\$150.96	0.60	272	\$120.77
33-1W-10.00	A A ASC	0.36	0.75	231	\$62.37	0.60	231	\$49.90
33-1W-10.00	A-CA ASC	2.61	0.75	148	\$289.71	0.60	148	\$231.77

(2.1) Subtotal \$15,720.74

(2.2) Subtotal \$9,780.69

3) Third Party Maintenance and Rockwear

MAINTENANCE (3.1)					ROCKWEAR (3.2)		
Agrmnt Number	Surface Type	Road Number	Mi	x Fee x MBF =	Maint	Fee x	MBF = Rkwear
M-2000D	NAT	33-2E-5.00B	0.47			0.00	760 \$0.00
M-660I	ASC	33-1E-4.00 F	0.04			0.60	236 \$5.66
M-660I	ASC	33-1E-4.00 D	0.19			0.60	236 \$26.90
M-660I	ASC	32-1E-27.00B	0.74				

0.60	291	\$129.20					
	M-660J	ASC	33-1E-27.00J	0.91	0.60	164	\$89.54
	M-660J	ASC	33-1E-27.00H	0.07	0.60	164	\$6.89
	M-660J	ASC	32-1W-26.05A	0.03	0.60	236	\$4.25
	M-660J	ASC	32-1W-26.04A	0.43	0.60	236	\$60.89
	M-660K	NAT	33-1E-23.00 B	1.33	0.00	269	\$0.00
	M-660K	NAT	33-1E-22.01	0.52	0.00	269	\$0.00
	M-660L	NAT	33-2E-5.00C	0.21	0.00	760	\$0.00
	M-660L	ASC	32-1E-27.00D	0.56	0.60	164	\$55.10
	M-660L	ASC	32-1E-27.00C-D	0.79	0.60	291	\$137.93
	M-660L	ASC	32-1E-20.00A	0.58	0.60	127	\$44.20

Subtotal of maintenance fees by agreement number:

Subtotal of rockwear fees by agreement number:

M-2000D	\$0.00
M-660I	\$161.77
M-660J	\$161.57
M-660K	\$0.00
M-660L	\$237.23

(3.1) Subtotal \$0.00

(3.2) Subtotal \$560.57

**4) Other Maintenance Payments - USFS or Others Perform Maintenance**

Agency      Road Number      Miles (Log) x Vol (mbf) x Fee MBF/MI = Cost

(4.1) Subtotal \$0.00

**5) Purchaser Maintenance - Rock Wear**

TIMBER HAUL (5.1)

Road No and Segment	A N	RkWear Mi	Vol x Fee	Total MBF = RkWear
32-1E-11.00A	N	0.82	0.60	267 \$131.36
32-1E-13.01B	A	0.09	0.60	10 \$0.54
Un-num -13.01SpA		0.09	0.00	44 \$0.00
Un-num -13.02SpA		0.09	0.00	121 \$0.00
Un-num -13.03SpA		0.52	0.00	284 \$0.00
32-1E-13.02B	N	0.35	0.00	100 \$0.00
32-1E-13.03	A	0.42	0.60	410 \$103.32
32-1E-13.04A	A	0.26	0.60	50 \$7.80
32-1E-13.05	A	0.09	0.60	10 \$0.54
32-1E-13.06	A	0.15	0.60	50 \$4.50
32-1E-13.07	A	0.27	0.60	220 \$35.64
32-1E-18.00A-BN		0.75	0.60	164 \$73.80
32-1E-36.00 A3N		0.09	0.00	760 \$0.00
32-1W-12.00 A N		0.60	0.60	164 \$59.04
32-1W-12.00 B N		1.47	0.60	150 \$132.30
32-1W-12.01	N	0.65	0.60	14 \$5.46

32-1W-13.00 A-BN	1.95	0.60	164	\$191.88
32-1W-26.05B N	0.57	0.60	236	\$80.71
32-1W-27.01 N	0.38	0.60	45	\$10.26
32-1W-36.01A N	0.45	0.60	236	\$63.72
32-1W-36.01B N	1.04	0.60	181	\$112.94
33-1E-04.00G1 N	0.78	0.60	236	\$110.45
33-1E-04.00E N	1.02	0.60	236	\$144.43
33-1E-22.01 N	0.52	0.00	269	\$0.00
33-1E-04.00F N	0.09	0.00	236	\$0.00
33-1E-04.00D N	0.19	0.00	236	\$0.00
32-1W-26.04 A N	0.43	0.00	236	\$0.00
32-1W-26.05 A N	0.03	0.00	236	\$0.00
33-1E-23.00A2 A	0.29	0.60	269	\$46.81
33-1E-23.00B N	1.33	0.00	269	\$0.00
33-1W-03.01 A	0.38	0.00	10	\$0.00
33-1W-03.02 A	0.10	0.00	10	\$0.00
33-1W-03.03 A	0.15	0.00	73	\$0.00
33-1W-10.00 D1A	0.93	0.60	148	\$82.58
33-1W-10.00 D2A	1.01	0.60	103	\$62.42
33-1W-14.01 A-CA	0.19	0.60	1121	\$127.79
33-1W-14.02 A	0.14	0.00	1121	\$0.00
33-2E-05.00 A-CN	0.84	0.00	760	\$0.00

(5.1) Subtotal \$1,588.30

**Purchaser Operational Maintenance**

**Move In**

Equipment	No	Move	Cost/	Dist	Sub-
	Units	x in	50 Mi	x Factor	= total
Motor Grader:	1	5	\$410.00	0.63	\$1,291.50
Back Hoe:	1	5	\$305.00	0.63	\$960.75
Loader:			\$410.00	0.63	\$0.00
Water Truck:	1	5	\$95.00	0.63	\$299.25
Dump Truck:	1	5	\$89.00	0.63	\$280.35
Excavator:			\$410.00	0.63	\$0.00
Roller:			\$410.00	0.63	\$0.00

(5.2A) Total \$2,831.85

**Culvert Maintenance - Including Catch basins and Downpipes**

Miles	x	Cost/Mi	=	Subtotal
10.00		\$365.82		\$3,658.20

(5.2B) Total \$3,658.20

**Grading (Includes Ditches and Shoulders)**

Miles	x	Cost/Mi	x	Freq	=	Subtotal
Blade w/ Ditch:	11.90		\$694.50	1		\$8,264.55
Blade w/o Ditch:	7.62		\$428.91	1		\$3,268.29

(5.2C) Total \$11,532.84

**Slide and Slough removal, Slump Repair (15 sta-yds. ea.)**

Type	No Slides	Hours	Equip		
Equipment	/Slumps	x Each	x Cost	=	Subtotal
Grader:	0		0	\$140.96	\$0.00
Loader:	0	0	\$101.17		\$0.00
Backhoe:	0	0	\$85.84		\$0.00

(5.2D) Total \$0.00

**Dust Palliative (Water)**

Spreading Hours

	No	Freq	Truck				
	Miles	/ MPH	= Hours	x Days	x /Day	= Hours	
	8.34	5	1.7	100	1	170	
Load & Haul =			0.0	0	0	0	
Total Hours =			170				

Truck Cost: \$78.81/Hr. x 170.0 Hours = \$13,397.70

(5.2E) Total \$13,397.70

**Surface Repair (Aggregate)**

Production Cost:	0.0 CY x \$0.00/CY	=	\$0.00
Haul to Stockpile:	0.0 CY x ((\$1.75/CY x 0.00 Mi) + \$0.58)	=	\$0.00
Stockpile:	0.0 CY x \$1.07/CY	=	\$0.00
Load from Stockpile:	0.0 CY x \$1.05/CY	=	\$0.00
Haul from Stockpile:	0.0 CY x ((\$1.75/CY x 0.00 Mi) + \$0.58)	=	\$0.00
Process with Grader:	0.0 CY x \$0.88/CY	=	\$0.00
Compaction:	0.0 CY x \$1.08/CY	=	\$0.00

(5.2F) Total \$0.00

**Other**

Fallen Timber Cutting:	0.0 Hours x \$0.00/Hour	=	\$0.00
Brush Cutting/Tree Trimming:	0.0 Hours x \$0.00/Hour	=	\$0.00
Oil/Asphalt Materials:	Lump Sum	=	\$0.00
Signing for Dust Palliatives:	Lump Sum	=	\$0.00
	Lump Sum	=	\$0.00
	Lump Sum	=	\$0.00
	Lump Sum	=	\$0.00
	Lump Sum	=	\$0.00
	Lump Sum	=	\$0.00

(5.2G) Total \$0.00

**Decommissioning**

**Ripping**

Road Number	Ripping Cost	x	(NumSta or CuYds)	= Total
32-1E-13.02A-B	\$30.34	x	18	= \$546.12

(Ripping) Total \$546.12

**Other Costs**

Road Number	Cubic Yds Pullback Material	Qty Waterbars	Qty Earthen Barriers	= Total
Un-num -13.01Sp	(0x\$1.77)	+ (2x\$55.35)	+ (1x\$166.04)	= \$276.74
32-1E-13.02A-B	(0x\$1.77)	+ (11x\$55.35)	+ (1x\$166.04)	= \$774.89
Un-num -13.02Sp	(0x\$1.77)	+ (2x\$55.35)	+ (1x\$166.04)	= \$276.74
Un-num -13.03Sp	(0x\$1.77)	+ (12x\$55.35)	+ (1x\$166.04)	= \$830.24
33-1E-22.01	(0x\$1.77)	+ (7x\$55.35)	+ (0x\$166.04)	= \$387.45
33-1E-23.00A2-B	(0x\$1.77)	+ (12x\$55.35)	+ (0x\$166.04)	= \$664.20
33-1W-03.01	(0x\$1.77)	+ (0x\$55.35)	+ (1x\$166.04)	= \$166.04
33-1W-03.03	(0x\$1.77)	+ (5x\$55.35)	+ (1x\$166.04)	= \$442.79

33-2E-05.00 A-C (0x\$1.77) + (29x\$55.35) + (0x\$166.04) = \$1,605.15

(Other Cost) Total \$5,424.24

**Time & Equipment**

32-1E-13.02A-B Seed and Mulching: 0.65 AC @ \$1250.00/AC	= \$812.50
Un-num -13.01Sp Seed and Mulching: 0.1 AC @ \$1250.00/AC	= \$125.00
Un-num -13.02Sp Seed and Mulching: 0.1 AC @ \$1250.00/AC	= \$125.00
Un-num -13.03Sp Seed and Mulching: 0.4 AC @ \$1250.00/AC	= \$500.00
33-1W-03.01 Seed and Mulching: 0.1 AC @ \$1250.00/AC	= \$125.00
33-1W-03.03 Seed and Mulching: 0.2 AC @ \$1250.00/AC	= \$250.00

(5.2H) Decommissioning Total \$7,907.86



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Version: 5.2.0.94  
Updated: 6/14/2017

Summary of All Roads and Projects

T.S. Contract Name: Shady Elk T.S.    Tract No:    Sale Date: 9-2017  
Prepared by: Brown Ph: x2322    Print Date: 7/23/2017 2:06:13 PM  
Construction: 3.70 sta  
Improve: 0.00 sta    Renov: 3238.75 sta    Decom: 0.00 sta    Temp: 0.00 sta

200 Clearing and Grubbing: 5.3 acres .....	\$12,099.75
300 Excavation: 300 cy .....	\$3,130.32
Haul < 500 ft: 0 sta-yds	
Haul > 500 ft: 300 yd-mi	
400 Drainage: .....	\$166,403.20
Culvert: 2,724 lf                      DownSpout: 400 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$84,179.76
Blading 55.32 mi	
Slide Removal 50 cy	
700-1200 Surfacing: .....	\$32,470.54
3 Stage Crushed Quarry Name: Elk Creek Road Stock 160 LCY	
3 Stage Crushed Quarry Name: W Elk Sec 12 Stock 860 LCY	
3 Stage Crushed Quarry Name: White Rock Stockpile 210 LCY	
Grid Rolled / Pitrun Quarry Name: County Line Stockpil 320 LCY	
3 Stage Crushed Quarry Name: W Elk Quarry Stockpi 50 LCY	
3 Stage Crushed Quarry Name: 32-1-35.07Stockpile 10 LCY	
Grid Rolled / Pitrun Quarry Name: Buck Rock Quarry 881 LCY	
3 Stage Crushed Quarry Name: Buck Rock Stockpile 670 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$10,760.78
Gradation Class 3: 300 cy	
1800 Soil Stabilization: 8.5 acres .....	\$7,204.92
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing: .....	\$47,840.33
Manual Brushing: 59.7 acres	
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$26,402.24
Mobilization: Const. \$9,074.60 Surf. \$0.00.....	\$9,074.60
Quarry Development: .....	\$0.00

Total: 5,949 mbf @ \$67.165/mbf = \$399,566.44

Notes:

Quantities shown are estimates only and not pay items.  
Surfacing Quantities are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-07.01** Road Name: Hole in Rock TS Sp  
 Road Renovation: 0.39 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$3,965.84
Culvert: 64 lf	
DownSpout: 40 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$540.46
Blading 0.39 mi	
700-1200 Surfacing: .....	\$387.20
Quarry Name: White Rock Stockpile 40 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.2 acres .....	\$171.78
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$607.30
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$131.82 Surf. \$0.00.....	\$131.82
Quarry Development: .....	\$0.00
Total:	\$5,804.40

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-07.02A** Road Name: Hole in Rock TS Sp  
 Road Renovation: 0.60 mi 17 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$452.63
Blading 0.60 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.6 acres .....	\$960.70
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$5,534.72
Mobilization: Const. \$161.46 Surf. \$0.00.....	\$161.46
Quarry Development: .....	\$0.00
Total:	\$7,109.51

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-11.00A** Road Name: Sugar Pine Creek Sp

Road Renovation: 0.82 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$12,139.36
Culvert: 150 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,136.35
Blading 0.82 mi	
700-1200 Surfacing: .....	\$2,492.16
Quarry Name: Elk Creek Road Stock 100 LCY	
Quarry Name: W Elk Sec 12 Stock 100 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.4 acres .....	\$290.76
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.8 acres .....	\$1,280.93
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$5,000.00
Mobilization: Const. \$519.15 Surf. \$0.00.....	\$519.15
Quarry Development: .....	\$0.00

Total: \$22,858.70

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-11.02A** Road Name: Hawk Point Sp

Road Renovation: 0.59 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$6,383.98
Culvert: 116 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$660.92
Blading 0.59 mi	
700-1200 Surfacing: .....	\$755.79
Quarry Name: Elk Creek Road Stock 60 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.3 acres .....	\$257.67
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.6 acres .....	\$398.02
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$196.52 Surf. \$0.00.....	\$196.52
Quarry Development: .....	\$0.00

Total: \$8,652.89

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-13.01A1-B** Road Name: Hawk Point ML  
 Road Renovation: 1.99 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$24,509.70
Culvert: 444 lf	
DownSpout: 40 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,757.72
Blading 1.99 mi	
700-1200 Surfacing: .....	\$3,201.33
Quarry Name: W Elk Sec 12 Stock 220 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 1.1 acres .....	\$944.79
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.9 acres .....	\$1,260.38
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$759.31 Surf. \$0.00.....	\$759.31
Quarry Development: .....	\$0.00
Total:	\$33,433.23

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-13.02A-B** Road Name: Hawk Point TS ML  
 Road Renovation: 1.25 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$6,445.10
Culvert: 124 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,211.17
Blading 1.25 mi	
700-1200 Surfacing: .....	\$916.29
Quarry Name: W Elk Sec 12 Stock 60 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.3 acres .....	\$257.67
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.2 acres .....	\$796.03
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$246.94 Surf. \$0.00.....	\$246.94
Quarry Development: .....	\$0.00
Total:	\$10,873.20

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-13.03** Road Name:

Road Renovation: 0.42 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$4,091.94
Culvert: 74 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$582.03
Blading 0.42 mi	
700-1200 Surfacing: .....	\$566.86
Quarry Name: W Elk Sec 12 Stock 40 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.2 acres .....	\$171.78
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$265.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$131.95 Surf. \$0.00.....	\$131.95
Quarry Development: .....	\$0.00

Total: \$5,809.91

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-13.04A** Road Name: Mule Hill TS Sp

Road Renovation: 0.26 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$360.31
Blading 0.26 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.3 acres .....	\$199.01
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$13.00 Surf. \$0.00.....	\$13.00
Quarry Development: .....	\$0.00
Total:	\$572.31

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-13.05** Road Name: Mule Hill TS SP

Road Renovation: 0.09 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$67.89
Blading 0.09 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$66.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$3.12 Surf. \$0.00.....	\$3.12
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$137.35</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-13.06** Road Name: Mule Hill TS Sp

Road Renovation: 0.15 mi 16 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$113.16
Blading 0.15 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$66.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$4.17 Surf. \$0.00.....	\$4.17
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$183.66</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-13.07** Road Name: Mule Hill TS Sp

Road Renovation: 0.27 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$275.39
Blading 0.27 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.3 acres .....	\$199.01
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$11.02 Surf. \$0.00.....	\$11.02
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$485.42</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-17.04A** Road Name: White Rock ML

Road Renovation: 0.75 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$4,764.02
Culvert: 80 lf	
DownSpout: 20 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,039.34
Blading 0.75 mi	
700-1200 Surfacing: .....	\$432.96
Quarry Name: White Rock Stockpile 40 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.2 acres .....	\$171.78
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.7 acres .....	\$464.35
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$159.71 Surf. \$0.00.....	\$159.71
Quarry Development: .....	\$0.00

Total: \$7,032.16

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-17.05A1A2** Road Name: White Rock ML  
 Road Renovation: 0.85 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$1,603.12
Culvert: 30 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,177.92
Blading 0.85 mi	
700-1200 Surfacing: .....	\$206.80
Quarry Name: White Rock Stockpile 20 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.1 acres .....	\$85.89
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.8 acres .....	\$530.69
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$83.76 Surf. \$0.00.....	\$83.76
Quarry Development: .....	\$0.00
Total:	\$3,688.18

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-18.00A-B** Road Name: Ragsdale Sp

Road Renovation: 0.75 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$5,685.44
Culvert: 72 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,039.34
Blading 0.75 mi	
700-1200 Surfacing: .....	\$999.60
Quarry Name: White Rock Stockpile 70 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.2 acres .....	\$171.78
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.7 acres .....	\$464.35
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$194.29 Surf. \$0.00.....	\$194.29
Quarry Development: .....	\$0.00
Total:	\$8,554.80

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-20.00A-B** Road Name: Gobblers Knob

Road Renovation: 2.02 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,799.30
Blading 2.02 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):2.0 acres .....	\$1,326.72
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$95.88 Surf. \$0.00.....	\$95.88
Quarry Development: .....	\$0.00
Total:	\$4,221.90

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 32-1E-23.00 A Road Name: Sugar Pine - Timber

Road Renovation: 1.36 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$769.52
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.3 acres .....	\$1,612.61
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$55.36 Surf. \$0.00.....	\$55.36
Quarry Development: .....	\$0.00
Total:	\$2,437.48

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1E-27.00 A-E** Road Name: Flat Creek

Road Renovation: 3.62 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$3,911.98
Culvert: 70 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$5,016.56
Blading 3.62 mi	
700-1200 Surfacing: .....	\$526.00
Quarry Name: White Rock Stockpile 40 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.2 acres .....	\$171.78
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):3.5 acres .....	\$2,509.32
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$282.02 Surf. \$0.00.....	\$282.02
Quarry Development: .....	\$0.00

Total: \$12,417.66

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1E-36.00 A3** Road Name: East Fork Dodes Cr  
 Road Renovation: 0.09 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.8 acres .....	\$922.69
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$38.60
Blading 0.09 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$33.17
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$1,308.24
Mobilization: Const. \$53.51 Surf. \$0.00.....	\$53.51
Quarry Development: .....	\$0.00
Total:	\$2,356.21

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1W-12.00** Road Name: County Line TS Sp Le

Road Renovation: 2.07 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$20,889.12
Culvert: 340 lf	
DownSpout: 80 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,868.59
Blading 2.07 mi	
700-1200 Surfacing: .....	\$610.40
Quarry Name: County Line Stockpil 200 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 1.0 acres .....	\$858.90
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):2.0 acres .....	\$1,326.72
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$5,534.72
Mobilization: Const. \$745.70 Surf. \$0.00.....	\$745.70
Quarry Development: .....	\$0.00
Total:	\$32,834.15

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1W-12.01** Road Name: County Line TS Sp R  
 Road Renovation: 0.65 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$13,114.08
Culvert: 222 lf	
DownSpout: 60 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$900.76
Blading 0.65 mi	
700-1200 Surfacing: .....	\$342.48
Quarry Name: County Line Stockpil 120 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.6 acres .....	\$515.34
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.6 acres .....	\$1,171.15
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$372.84 Surf. \$0.00.....	\$372.84
Quarry Development: .....	\$0.00
Total:	\$16,416.66

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1W-13.00 A-B** Road Name: County Line TS ML  
 Road Renovation: 1.95 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$22,363.68
Culvert: 348 lf	
DownSpout: 120 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,702.29
Blading 1.95 mi	
700-1200 Surfacing: .....	\$2,720.96
Quarry Name: W Elk Sec 12 Stock 160 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.8 acres .....	\$687.12
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.9 acres .....	\$2,010.62
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$708.43 Surf. \$0.00.....	\$708.43
Quarry Development: .....	\$0.00
Total:	\$31,193.11

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1W-23.02 A** Road Name: Wild Lily

Road Renovation: 0.89 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,301.53
Blading 0.89 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.9 acres .....	\$597.02
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$44.12 Surf. \$0.00.....	\$44.12
Quarry Development: .....	\$0.00
Total:	\$1,942.68

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 32-1W-26.00 A-C Road Name: N ML - W Br Elk Cr

Road Renovation: 2.66 mi 18 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: 300 cy .....	\$1,233.00
Haul > 500 ft: 300 yd-mi	
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$3,686.20
Blading 2.66 mi	
700-1200 Surfacing: .....	\$497.00
Quarry Name: W Elk Quarry Stockpi 50 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$10,760.78
Gradation Class 3: 300 cy	
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):2.6 acres .....	\$1,724.74
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$416.02 Surf. \$0.00.....	\$416.02
Quarry Development: .....	\$0.00

Total: \$18,317.73

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1W-26.04 A** Road Name: Alco Rock

Road Renovation: 0.42 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$582.03
Blading 0.42 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$602.66
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$27.53 Surf. \$0.00.....	\$27.53
Quarry Development: .....	\$0.00
Total:	\$1,212.23

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 32-1W-26.05 A Road Name: Alco Honey Bee Sp

Road Renovation: 0.60 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$831.47
Blading 0.60 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.6 acres .....	\$735.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$36.41 Surf. \$0.00.....	\$36.41
Quarry Development: .....	\$0.00
Total:	\$1,603.22

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1W-27.01** Road Name: Blue Chip Quarry Rd  
 Road Renovation: 0.38 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$526.60
Blading 0.38 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$265.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$18.40 Surf. \$0.00.....	\$18.40
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$810.35</b>

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 32-1W-35.02** Road Name: Oliver Springs Sp  
 Road Renovation: 0.26 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$360.31
Blading 0.26 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.3 acres .....	\$199.01
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$13.00 Surf. \$0.00.....	\$13.00
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$572.31</b>

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-1W-35.07A** Road Name: Sawed Off Spur

Road Renovation: 0.12 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$122.40
Blading 0.12 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$66.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$4.39 Surf. \$0.00.....	\$4.39
Quarry Development: .....	\$0.00
Total:	\$193.12

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 32-1W-36.01 Road Name: Middle Creek Ridge

Road Renovation: 1.49 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.4 acres .....	\$1,051.96
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,064.83
Blading 1.49 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.4 acres .....	\$928.70
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$1,897.32
Mobilization: Const. \$138.10 Surf. \$0.00.....	\$138.10
Quarry Development: .....	\$0.00
Total:	\$6,080.91

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 32-2E-34.00 A-D** Road Name: Flounce Rock

Road Renovation: 3.80 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$32,117.80
Culvert: 510 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$6,123.82
Blading 3.80 mi	
700-1200 Surfacing: .....	\$4,846.92
Quarry Name: W Elk Sec 12 Stock 260 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 1.3 acres .....	\$1,116.57
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):3.7 acres .....	\$2,454.43
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$1,084.32 Surf. \$0.00.....	\$1,084.32
Quarry Development: .....	\$0.00

Total: \$47,743.86

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1E-04.00G1-D** Road Name: Alco Creek

Road Renovation: 2.13 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$2,951.73
Blading 2.13 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):2.1 acres .....	\$1,393.06
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$100.97 Surf. \$0.00.....	\$100.97
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$4,445.76</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 33-1E-17.00A** Road Name: W Branch Elk Creek  
 Road Renovation: 4.66 mi 18 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$4,387.20
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):4.5 acres .....	\$2,985.12
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$171.32 Surf. \$0.00.....	\$171.32
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$7,543.65</b>

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1E-22.01** Road Name: Yellow Rock R/W

Road Renovation: 0.38 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.8 acres .....	\$1,477.64
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$302.00
Blading 0.38 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$265.34
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$1,264.88
Mobilization: Const. \$76.92 Surf. \$0.00.....	\$76.92
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$3,386.78</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 33-1E-23.00A2-B Road Name: Lower Lost Creek Sp

Road Renovation: 1.61 mi 15 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$1,788.48
Blading 1.61 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):1.6 acres .....	\$1,061.38
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$66.23 Surf. \$0.00.....	\$66.23
Quarry Development: .....	\$0.00
Total:	\$2,916.09

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1E-27.00** Road Name: Burnt Peak Road

Road Renovation: 6.93 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$9,603.52
Blading 6.93 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):6.7 acres .....	\$4,444.51
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$326.46 Surf. \$0.00.....	\$326.46
Quarry Development: .....	\$0.00
<b>Total:</b>	<b>\$14,374.50</b>

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1W-03.01** Road Name: USFS Rd 6605 130

Road Renovation: 0.38 mi 17 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$653.24
Blading 0.38 mi	
Slide Removal 50 cy	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.4 acres .....	\$640.46
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$30.06 Surf. \$0.00.....	\$30.06
Quarry Development: .....	\$0.00

Total: \$1,323.77

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 33-1W-03.02 Road Name: USFS Rd 6605 135

Road Renovation: 0.10 mi 17 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$42.89
Blading 0.10 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$160.12
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$4.72 Surf. \$0.00.....	\$4.72
Quarry Development: .....	\$0.00
Total:	\$207.72

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1W-03.03** Road Name: USFS Rd 6605 140

Road Renovation: 0.15 mi 17 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$64.34
Blading 0.15 mi	
700-1200 Surfacing: .....	\$34.50
Quarry Name: Buck Rock Quarry 10 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$160.12
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$6.02 Surf. \$0.00.....	\$6.02
Quarry Development: .....	\$0.00

Total: \$264.97

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: 33-1W-08.00 A-D Road Name: Buck Rock Road

Road Renovation: 5.23 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$7,247.68
Blading 5.23 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):5.1 acres .....	\$3,383.14
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$247.05 Surf. \$0.00.....	\$247.05
Quarry Development: .....	\$0.00
Total:	\$10,877.87

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017  
**Road Number: 33-1W-10.00 A-D** Road Name: Oliver Springs  
 Road Renovation: 5.65 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$7,829.71
Blading 5.65 mi	
700-1200 Surfacing: .....	\$99.40
Quarry Name: 32-1-35.07Stockpile 10 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):5.5 acres .....	\$3,648.48
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$269.05 Surf. \$0.00.....	\$269.05
Quarry Development: .....	\$0.00

Total: \$11,846.64

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1W-14.01 A-C** Road Name: West Side Road

Road Renovation: 0.88 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.8 acres .....	\$1,952.36
300 Excavation: .....	\$0.00
400 Drainage: .....	\$2,333.82
Culvert: 40 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$4,050.43
Blading 0.88 mi	
700-1200 Surfacing: .....	\$9,574.20
Quarry Name: Buck Rock Quarry 240 LCY	
Quarry Name: Buck Rock Stockpile 670 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 1.5 acres .....	\$1,245.41
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.9 acres .....	\$2,206.01
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$3,900.00
Mobilization: Const. \$587.07 Surf. \$0.00.....	\$587.07
Quarry Development: .....	\$0.00

Total: \$25,849.30

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-1W-14.02** Road Name:

Road Renovation: 0.14 mi 15 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 1.5 acres .....	\$3,704.14
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$649.37
Blading 0.14 mi	
700-1200 Surfacing: .....	\$2,871.05
Quarry Name: Buck Rock Quarry 631 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$638.65
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$1,962.36
Mobilization: Const. \$228.34 Surf. \$0.00.....	\$228.34
Quarry Development: .....	\$0.00

Total: \$10,053.91

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

**Road Number: 33-2E-05.00 A-C** Road Name: Section 32 Connect

Road Renovation: 0.84 mi 15 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$2,084.22
Culvert: 40 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$667.57
Blading 0.84 mi	
700-1200 Surfacing: .....	\$388.64
Quarry Name: W Elk Sec 12 Stock 20 LCY	
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.1 acres .....	\$85.89
Includes Small Quantity Factor of 1.09	
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.8 acres .....	\$530.69
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$87.31 Surf. \$0.00.....	\$87.31
Quarry Development: .....	\$0.00

Total: \$3,844.32

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: Temp 31-1 Road Name:

Road Construction: 0.07 mi 15 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 1.1 acres .....	\$2,990.95
300 Excavation: .....	\$1,897.32
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$0.00
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (NONE):0.0 acres .....	\$0.00
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$113.60 Surf. \$0.00.....	\$113.60
Quarry Development: .....	\$0.00
Total:	\$5,001.87

Notes:

Quantities shown are estimates only and not pay items.  
 Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: Un-num -13.01Sp Road Name:

Road Renovation: 0.09 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$320.52
Blading 0.09 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$217.00
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$12.49 Surf. \$0.00.....	\$12.49
Quarry Development: .....	\$0.00
Total:	\$550.02

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: Un-num -13.02Sp Road Name:

Road Renovation: 0.09 mi 15 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$288.60
Blading 0.09 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.1 acres .....	\$320.23
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$14.15 Surf. \$0.00.....	\$14.15
Quarry Development: .....	\$0.00
Total:	\$622.98

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number: Un-num -13.03Sp Road Name:

Road Renovation: 0.52 mi 15 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: acres .....	\$0.00
300 Excavation: .....	\$0.00
400 Drainage: .....	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation: .....	\$223.03
Blading 0.52 mi	
700-1200 Surfacing: .....	\$0.00
1300 Geotextiles: .....	\$0.00
1400 Slope Protection: .....	\$0.00
1800 Soil Stabilization: 0.0 acres .....	\$0.00
1900 Cattleguards: .....	\$0.00
2100 RoadSide Brushing (Manual):0.5 acres .....	\$663.36
2300 Engineering: 0.00 sta. ....	\$0.00
2400 Minor Concrete: .....	\$0.00
2500 Gabions: .....	\$0.00
8000 Miscellaneous: .....	\$0.00
Mobilization: Const. \$20.60 Surf. \$0.00.....	\$20.60
Quarry Development: .....	\$0.00
Total:	\$906.99

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

**Summary of Construction Quantities**

T.S. Contract Name: Shady Elk T.S. Sale Date: 9-2017

Road Number	Const	Improv	Renov	Decomm	Temp
32-1E-07.01			20.59		
32-1E-07.02A			31.68		
32-1E-11.00A			43.30		
32-1E-11.02A			31.15		
32-1E-13.01A1-B			105.07		
32-1E-13.02A-B			66.00		
32-1E-13.03			22.18		
32-1E-13.04A			13.73		
32-1E-13.05			4.75		
32-1E-13.06			7.92		
32-1E-13.07			14.26		
32-1E-17.04A			39.60		
32-1E-17.05A1A2			44.88		
32-1E-18.00A-B			39.60		
32-1E-20.00A-B			106.66		
32-1E-23.00 A			71.81		
32-1E-27.00 A-E			191.14		
32-1E-36.00 A3			4.75		
32-1W-12.00			109.30		
32-1W-12.01			34.32		
32-1W-13.00 A-B			102.96		
32-1W-23.02 A			46.99		
32-1W-26.00 A-C			140.45		
32-1W-26.04 A			22.18		
32-1W-26.05 A			31.68		
32-1W-27.01			20.06		
32-1W-35.02			13.73		
32-1W-35.07A			6.34		
32-1W-36.01			78.67		
32-2E-34.00 A-D			200.64		
33-1E-04.00G1-D			112.46		
33-1E-17.00A			246.05		
33-1E-22.01			20.06		
33-1E-23.00A2-B			85.01		
33-1E-27.00			365.90		
33-1W-03.01			20.06		
33-1W-03.02			5.28		
33-1W-03.03			7.92		
33-1W-08.00 A-D			276.14		
33-1W-10.00 A-D			298.32		
33-1W-14.01 A-C			46.46		
33-1W-14.02			7.39		
33-2E-05.00 A-C			44.35		
Temp 31-1	3.70				
Un-num -13.01Sp			4.75		
Un-num -13.02Sp			4.75		
Un-num -13.03Sp			27.46		
<b>Total Sta:</b>	<b>3.70</b>		<b>3,238.75</b>		

200 Clearing and Grubbing

Clearing  
acres

32-1E-07.01	0.0
32-1E-07.02A	0.0
32-1E-11.00A	0.0
32-1E-11.02A	0.0
32-1E-13.01A1-B	0.0
32-1E-13.02A-B	0.0
32-1E-13.03	0.0
32-1E-13.04A	0.0
32-1E-13.05	0.0
32-1E-13.06	0.0
32-1E-13.07	0.0
32-1E-17.04A	0.0
32-1E-17.05A1A2	0.0
32-1E-18.00A-B	0.0
32-1E-20.00A-B	0.0
32-1E-23.00 A	0.0
32-1E-27.00 A-E	0.0
32-1E-36.00 A3	0.8
32-1W-12.00	0.0
32-1W-12.01	0.0
32-1W-13.00 A-B	0.0
32-1W-23.02 A	0.0
32-1W-26.00 A-C	0.0
32-1W-26.04 A	0.0
32-1W-26.05 A	0.0
32-1W-27.01	0.0
32-1W-35.02	0.0
32-1W-35.07A	0.0
32-1W-36.01	0.4
32-2E-34.00 A-D	0.0
33-1E-04.00G1-D	0.0
33-1E-17.00A	0.0
33-1E-22.01	0.8
33-1E-23.00A2-B	0.0
33-1E-27.00	0.0
33-1W-03.01	0.0
33-1W-03.02	0.0
33-1W-03.03	0.0
33-1W-08.00 A-D	0.0
33-1W-10.00 A-D	0.0
33-1W-14.01 A-C	0.8
33-1W-14.02	1.5
33-2E-05.00 A-C	0.0
Temp 31-1	1.1
Un-num -13.01Sp	0.0
Un-num -13.02Sp	0.0
Un-num -13.03Sp	0.0

Totals: 5.3

300 Excavation

	Excav LCY.s	Haul sta-yds	Haul yd-mi
32-1W-26.00 A-C	300	0	300
Totals:	<u>300</u>	<u>0</u>	<u>300</u>

Road Construction Temp 31-1

Tractor: D7 with rippers . . . . . 12 hr

400 Drainage

Road Number	Culvert	Polypipe	Downspout
32-1E-07.01	64 lf	0 lf	40 lf
32-1E-11.00A	150 lf	0 lf	20 lf
32-1E-11.02A	116 lf	0 lf	20 lf
32-1E-13.01A1-B			
	444 lf	0 lf	40 lf
32-1E-13.02A-B	124 lf	0 lf	0 lf
32-1E-13.03	74 lf	0 lf	0 lf
32-1E-17.04A	80 lf	0 lf	20 lf
32-1E-17.05A1A2			
	30 lf	0 lf	0 lf
32-1E-18.00A-B	72 lf	0 lf	0 lf
32-1E-27.00 A-E			
	70 lf	0 lf	0 lf
32-1W-12.00	340 lf	0 lf	80 lf
32-1W-12.01	222 lf	0 lf	60 lf
32-1W-13.00 A-B			
	348 lf	0 lf	120 lf
32-2E-34.00 A-D			
	510 lf	0 lf	0 lf
33-1W-14.01 A-C			
	40 lf	0 lf	0 lf
33-2E-05.00 A-C			
	40 lf	0 lf	0 lf
Total Drainage:	2,724 lf		400 lf

Low Water Ford 32-1E-11.00A  
 Install 2 temp 24"x20'CSP Culverts w/ gravel . . . . . 1 LS  
 Re-attach existing downspout 32-1E-11.02A  
 Re-attach existing downspout . . . . . 1 EA

500 Renovation	Blade Miles	Slide cy
32-1E-07.01	0.39	0
32-1E-07.02A	0.60	0
32-1E-11.00A	0.82	0
32-1E-11.02A	0.59	0
32-1E-13.01A1-B	1.99	0
32-1E-13.02A-B	1.25	0
32-1E-13.03	0.42	0
32-1E-13.04A	0.26	0
32-1E-13.05	0.09	0
32-1E-13.06	0.15	0
32-1E-13.07	0.27	0
32-1E-17.04A	0.75	0
32-1E-17.05A1A2	0.85	0
32-1E-18.00A-B	0.75	0
32-1E-20.00A-B	2.02	0
32-1E-27.00 A-E	3.62	0
32-1E-36.00 A3	0.09	0
32-1W-12.00	2.07	0
32-1W-12.01	0.65	0
32-1W-13.00 A-B	1.95	0
32-1W-23.02 A	0.89	0
32-1W-26.00 A-C	2.66	0
32-1W-26.04 A	0.42	0
32-1W-26.05 A	0.60	0
32-1W-27.01	0.38	0
32-1W-35.02	0.26	0
32-1W-35.07A	0.12	0
32-1W-36.01	1.49	0

32-2E-34.00 A-D	3.80	0
33-1E-04.00G1-D	2.13	0
33-1E-22.01	0.38	0
33-1E-23.00A2-B	1.61	0
33-1E-27.00	6.93	0
33-1W-03.01	0.38	50
33-1W-03.02	0.10	0
33-1W-03.03	0.15	0
33-1W-08.00 A-D	5.23	0
33-1W-10.00 A-D	5.65	0
33-1W-14.01 A-C	0.88	0
33-1W-14.02	0.14	0
33-2E-05.00 A-C	0.84	0
Un-num -13.01Sp	0.09	0
Un-num -13.02Sp	0.09	0
Un-num -13.03Sp	0.52	0

Totals:                      55.32                      50

Barricade Removal	Un-num -13.02Sp		
Barricade Removal		1	EA
Barricade Removal	32-1E-13.02A-B		
Barricade Removal		1	EA
Clean ditches where needed	33-1E-17.00A		
Backhoe		12	hr
Motor Grader 14M		12	hr
Cleaning ditches where needed	32-1E-23.00 A		
Cleaning ditches where needed		1.36	Mile
Extra Blading	Un-num -13.01Sp		
Motor Grader 14M		2	hr
Grubbing stumps	33-1W-14.01 A-C		
Tractor: D7 with rippers		16	hr
Jack culvet inlet open	32-1W-23.02 A		
General Laborer		2	hr
Natural Surface Road Rehab	32-1E-13.02A-B		
Motor Grader 14M		4	hr
Shaping Road	33-1W-14.02		
Motor Grader 14M		4	hr

Surfacing (Loose Cubic Yards)

Note: Due to slight rounding differences between total LCY vs. subtotaled LCY, Totals shown here may not be exactly as shown in the road summaries and worksheets.

Quarry Name: Elk Creek Road Stock

3 Stage Crusher	Roadway	Turnouts	Other	
32-1E-11.00A	0	0	100	100
32-1E-11.02A	0	0	60	60
Totals:	0	0	160	160

Quarry Name: W Elk Sec 12 Stock

3 Stage Crusher	Roadway	Turnouts	Other	
32-1E-13.01A1-B	0	0	220	220
32-1E-13.02A-B	0	0	60	60
32-1E-13.03	0	0	40	40
32-1W-13.00 A-B	0	0	160	160
32-2E-34.00 A-D	0	0	260	260
33-2E-05.00 A-C	0	0	20	20
32-1E-11.00A	0	0	100	100
Totals:	0	0	860	860

Quarry Name: White Rock Stockpile

3 Stage Crusher	Roadway	Turnouts	Other	
32-1E-17.04A	0	0	40	40
32-1E-17.05A1A2	0	0	20	20
32-1E-18.00A-B	0	0	70	70
32-1E-27.00 A-E	0	0	40	40
32-1E-07.01	0	0	40	40
Totals:	0	0	210	210

Quarry Name: County Line Stockpil

Grid Rolled / Pitrun	Roadway	Turnouts	Other	
32-1W-12.00	0	0	100	100
32-1W-12.00	0	0	100	100
32-1W-12.01	0	0	120	120
Totals:	0	0	320	320

Quarry Name: W Elk Quarry Stockpi

3 Stage Crusher	Roadway	Turnouts	Other	
32-1W-26.00 A-C	0	0	50	50
Totals:	0	0	50	50

Quarry Name: 32-1-35.07Stockpile

3 Stage Crusher	Roadway	Turnouts	Other	
33-1W-10.00 A-D	0	0	10	10
Totals:	0	0	10	10

Quarry Name: Buck Rock Quarry

Grid Rolled / Pitrun	Roadway	Turnouts	Other	
33-1W-03.03	0	0	10	10
33-1W-14.02	581	0	50	631
33-1W-14.01 A-C	0	0	240	240
Totals:	581	0	300	881

Quarry Name: Buck Rock Stockpile

3 Stage Crusher	Roadway	Turnouts	Other	
33-1W-14.01 A-C	525	25	120	670
Totals:	525	25	120	670

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

32-1W-26.00 A-C

Gradation Class 3: 300 cy

Totals: 300 cy

Continuation of Construction Quantities

Road Repair Costs 32-1W-26.00 A-C

Dump Truck 10 cy . . . . .	24 hr
Front End Loader 962K (4.5 CY) . . . . .	16 hr
Excavator - Large (3 CY) . . . . .	16 hr
Water Truck 3000 Gal . . . . .	16 hr

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
32-1E-07.01	0.0	0.2	
32-1E-11.00A	0.0	0.4	
32-1E-11.02A	0.0	0.3	
32-1E-13.01A1-B	0.0	1.1	
32-1E-13.02A-B	0.0	0.3	
32-1E-13.03	0.0	0.2	
32-1E-17.04A	0.0	0.2	
32-1E-17.05A1A2	0.0	0.1	
32-1E-18.00A-B	0.0	0.2	
32-1E-27.00 A-E	0.0	0.2	
32-1W-12.00	0.0	1.0	
32-1W-12.01	0.0	0.6	
32-1W-13.00 A-B	0.0	0.8	
32-2E-34.00 A-D	0.0	1.3	
33-1W-14.01 A-C	0.0	1.5	
33-2E-05.00 A-C	0.0	0.1	
Totals: 0.0 8.5 0.0			
Small Quantity Factor of 1.09 used			

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing	acres
32-1E-07.01 - Manual Brushing	0.4
32-1E-07.02A - Manual Brushing	0.6
32-1E-11.00A - Manual Brushing	0.8
32-1E-11.02A - Manual Brushing	0.6
32-1E-13.01A1-B - Manual Brushing	1.9
32-1E-13.02A-B - Manual Brushing	1.2
32-1E-13.03 - Manual Brushing	0.4
32-1E-13.04A - Manual Brushing	0.3
32-1E-13.05 - Manual Brushing	0.1
32-1E-13.06 - Manual Brushing	0.1
32-1E-13.07 - Manual Brushing	0.3
32-1E-17.04A - Manual Brushing	0.7
32-1E-17.05A1A2 - Manual Brushing	0.8
32-1E-18.00A-B - Manual Brushing	0.7
32-1E-20.00A-B - Manual Brushing	2.0
32-1E-23.00 A - Manual Brushing	1.3
32-1E-27.00 A-E - Manual Brushing	3.5
32-1E-36.00 A3 - Manual Brushing	0.1
32-1W-12.00 - Manual Brushing	2.0
32-1W-12.01 - Manual Brushing	0.6
32-1W-13.00 A-B - Manual Brushing	1.9
32-1W-23.02 A - Manual Brushing	0.9
32-1W-26.00 A-C - Manual Brushing	2.6
32-1W-26.04 A - Manual Brushing	0.4
32-1W-26.05 A - Manual Brushing	0.6
32-1W-27.01 - Manual Brushing	0.4
32-1W-35.02 - Manual Brushing	0.3
32-1W-35.07A - Manual Brushing	0.1



Continuation of Construction Quantities

32-1W-36.01 - Manual Brushing	1.4
32-2E-34.00 A-D - Manual Brushing	3.7
33-1E-04.00G1-D - Manual Brushing	2.1
33-1E-17.00A - Manual Brushing	4.5
33-1E-22.01 - Manual Brushing	0.4
33-1E-23.00A2-B - Manual Brushing	1.6
33-1E-27.00 - Manual Brushing	6.7
33-1W-03.01 - Manual Brushing	0.4
33-1W-03.02 - Manual Brushing	0.1
33-1W-03.03 - Manual Brushing	0.1
33-1W-08.00 A-D - Manual Brushing	5.1
33-1W-10.00 A-D - Manual Brushing	5.5
33-1W-14.01 A-C - Manual Brushing	0.9
33-1W-14.02 - Manual Brushing	0.1
33-2E-05.00 A-C - Manual Brushing	0.8
Un-num -13.01Sp - Manual Brushing	0.1
Un-num -13.02Sp - Manual Brushing	0.1
Un-num -13.03Sp - Manual Brushing	0.5

Totals: 59.7

Chipping 33-1W-03.02	
Brush Chipper . . . . .	1 hr
Chipping 32-1E-07.02A	
Brush Chipper . . . . .	6 hr
Chipping 32-1E-11.00A	
Brush Chipper . . . . .	8 hr
Chipping Un-num -13.02Sp	
Brush Chipper . . . . .	2 hr
Chipping 32-1E-23.00 A	
Brush Chipper . . . . .	8 hr
Chipping 32-1W-12.01	
Brush Chipper . . . . .	4 hr
Chipping 32-1E-07.01	
Brush Chipper . . . . .	4 hr
Chipping 33-1W-03.01	
Brush Chipper . . . . .	4 hr
Chipping 33-1W-14.02	
Brush Chipper . . . . .	6 hr
Chipping 33-1W-03.03	
Brush Chipper . . . . .	1 hr
Chipping Un-num -13.01Sp	
Brush Chipper . . . . .	1 hr
Chipping 32-1W-26.05 A	
Brush Chipper . . . . .	4 hr
Chipping 32-1W-26.04 A	
Brush Chipper . . . . .	4 hr
Chipping 33-1W-14.01 A-C	
Brush Chipper . . . . .	12 hr
Chipping 32-1W-13.00 A-B	
Brush Chipper . . . . .	8 hr
Chipping next to residence 32-1E-27.00 A-E	
Brush Chipper . . . . .	2 hr

2300 Engineering stations

Totals: 0.00

2400 Minor Concrete

Totals: No Quantities

Continuation of Construction Quantities

2500 Gabions

Totals: No Quantities

8000 Miscellaneous

Construct Heli Landing	32-1E-36.00 A3	
Tractor: D7 with rippers		8 hr
Construct Helicopter Landing	32-1W-36.01	
Tractor: D7 with rippers		12 hr
Construct helicopter landing	33-1E-22.01	
Tractor: D7 with rippers		8 hr
Construct Helicopter Landing	33-1W-14.02	
Tractor: D7 with rippers		12 hr
Install Mega Gate	32-1E-11.00A	
Install Mega Gate		1 EA
Quarry Helicopter Landing	32-1E-07.02A	
Tractor: D7 with rippers		16 hr
Drill and Compressor		16 hr
Quarry Helicopter landing	32-1W-12.00	
Tractor: D7 with rippers		16 hr
Drill and Compressor		16 hr
Remove culverts, cross AWDs	33-1W-14.01 A-C	
Remove culvert		5 EA
Armored Water Dip		6 EA



If sale contract is executed, undersigned is liable for total purchase price even though the quantity cut, removed, or designated for taking is more or less than the total estimated volume or quantity shown above. Undersigned certifies bid was arrived at by bidder or offeror independently, and was tendered without collusion with any other bidder or offeror. In submitting or confirming this bid, undersigned agrees to the foregoing provisions, applicable regulations, and certifies that he is authorized to act as, or on behalf of, the bidder.

Bid submitted on *(date)*

*(Check appropriate box, sign in ink, and complete the following)*

<input type="checkbox"/> Signature, if firm is individually owned	Name of firm <i>(type or print)</i>
<input type="checkbox"/> Signatures, if firm is a partnership or L.L.C.	Business address, include zip code <i>(type or print)</i>
<input type="checkbox"/> Corporation organized under the state laws of	
Signature of Authorized Corporate Signing Officer	<i>(To be completed following oral bidding)</i> I HEREBY confirm the above oral bid By <i>(signature)</i>
Title	Date
Submit bid, in <i>duplicate</i> , to qualify for either an oral auction or sealed bid sale together with the required bid deposit made payable to the Department of the Interior – BLM.  Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.	Sealed Bid – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) “Bid for Timber” (2) Vegetative Resource Other Than Timber (3) Time bids are to be opened (4) Legal description

### NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 38 FR 6280 and 43 CFR 5442.1

**PURPOSE:** To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

**ROUTINE USE:** To determine that an individual is qualified to participate in oral auction bidding, and, as surety that bidder will fulfill contract requirements.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing this deposit and bid information is necessary only when an individual wishes to participate in a sealed or auction bid sale for timber or vegetative resources.

## INSTRUCTIONS TO BIDDERS

1. **AUTHORITY** – Timber located on the revested Oregon and California Railroad Grant Lands and on the reconveyed Coos Bay Wagon Road Grant Lands is administered and sold pursuant to authority of the Act of August 28, 1937 (50 Stat. 874; 43 U.S.C. 1181a); timber located on other lands and other vegetative resources on all public lands of the United States under jurisdiction of the Bureau of Land Management are administered and sold pursuant to authority of the Act of July 31, 1947 (61 Stat. 681), as amended, by the Act of July 23, 1955 (69 Stat. 367; 30 U.S.C. 601 et. seq.). Regulations of the Secretary of the Interior governing sale of timber are codified in 43 CFR Group 5400.

2. **QUALIFICATIONS OF BIDDERS** – A bidder for sale of timber/vegetative resources must be either (a) a citizen of the United States, (b) a partnership composed wholly of such citizens, (c) an unincorporated association composed wholly of such citizens, or (d) a corporation authorized to transact business in the State in which the timber/vegetative resource is located.

3. **INSPECTION OF TIMBER/VEGETATIVE RESOURCES** – Bidder is invited, urged, and cautioned to inspect the timber/vegetative resource prior to submitting a bid. By executing the timber/vegetative resource sale contract, bidder warrants that the contract is accepted on the basis of his examination and inspection of the timber/vegetative resource and his opinion of its value.

4. **DISCLAIMER OF WARRANTY** – Government expressly disclaims any warranty of the fitness of the designated timber/vegetative resource for any purpose of the bidder; all timber/vegetative resources are to be sold “As Is” without any warranty of merchantability by Government. Any warranty as to the quantity or quality of timber/vegetative resource to be sold is expressly disclaimed by Government.

5. **BIDS** – Sealed or written bids for not less than the advertised appraised price, per timber/vegetative resource must be submitted in duplicate to the District Manager who issued *Timber/Vegetative Resource Sale Notice*.

(a) **Sealed Bid Sales** – Bids will be received until time for opening which is set out in the Notice. Enclose both copies of bid with required bid deposit in a sealed envelope marked on the outside *Bid for Timber/Vegetative Resource*, time bid is to be opened, tract number, and legal description of land on which timber/vegetative resource is located. In event of a tie, the high bidder shall be determined by lot from among those who submitted the tie bids.

(b) **Auction Sales** – Submission of the required bid deposit and a written bid is required to qualify for oral bidding. Oral bidding shall begin from the highest written bid. No oral bid will be considered which is not higher than the preceding bid. In the event there is a tie in high written bids, and no oral bidding occurs, the bidder who was the first to submit his bid deposit and written bid shall be declared the high bidder. If the officer conducting the sale cannot determine who made the first submission of high tie written bids, the high bidder shall be determined by lot. High bidder must confirm his bid, in writing, immediately upon being declared high bidder.

(c) Except as otherwise provided in 43 CFR 5442.2, bids will not be considered in resale of timber/vegetative resource remaining from an uncompleted contract from any person or affiliate of such person who failed to complete the original contract because of (1) cancellation for the purchaser’s breach or (2) through failure to complete payment by expiration date.

(d) When it is in the interest of the Government to do so, it may reject any and all bids and may waive minor deficiencies in bids or in sale advertisement.

6. **BID FORMS** – All sealed, written bids, and confirmation of oral bids shall be submitted on forms provided by Government.

(a) **Lump Sum Sales** – Bids shall specify (1) Bureau of Land Management estimated volume, (2) price per unit, and (3) total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, high bidder shall be liable for total purchase price, including any adjustment which may be made as a result of reappraisal if an extension of time is granted, even though quantity of timber/vegetative resource actually cut, removed, or designated for taking is more or less than the estimated volume or quantity listed.

(b) **Timber Scale Sales** – Bids must state price per thousand board feet that will be paid for each species. High bidder will be determined by multiplying bid price per thousand board feet per species by Bureau of Land Management estimate of volume of each species. Purchaser shall be liable for purchase price of all merchantable timber sold under contract even though all such timber is not actually cut

and removed prior to expiration of time for cutting and removal as specified in contract.\*

7. **BID DEPOSIT** – All bidders must make a deposit of not less than the amount specified in the *Timber/Vegetative Resource Notice*. Deposit may be in the form of cash, money orders, bank drafts, cashiers or certified checks made payable to the Department of the Interior – BLM, bid bonds of a corporate surety shown on the approved list of the United States Treasury Department\*, or any approved guaranteed remittance approved by the Authorized Officer. Upon conclusion of bidding, the bid deposit of all bidders, except high bidder, will be returned. The cash deposit of the successful bidder may be applied toward the required sale deposit and/or the purchase price. Cash not applied to the sale deposit or the purchase price, or a corporate surety bid bond, will be returned at the time the contract is signed by the Government.

8. **AWARD OF CONTRACT** – Government may require high bidder to furnish such information as is necessary to determine the ability of bidder to perform the obligation of contract. Contract will be awarded to high bidder, unless he is not qualified or responsible or unless all bids are rejected. If high bidder is not qualified or responsible or fails to sign and return the contract together with required performance bond and any required payment, contract may be offered and awarded to the highest bidders qualified, responsible, and willing to accept the contract.

9. **TIMBER/VEGETATIVE RESOURCE SALE CONTRACT** – To be executed by purchaser, has been prepared by Government, and may be examined in the District Manager’s office.

10. **PERFORMANCE BOND** –

(a) A performance bond in an amount of not less than 20 percent of total purchase price is required, but the amount of the bond shall not be in excess of \$500,000, except when the purchaser opts to increase the minimum bond to permit cutting prior to payment as provided in 43 CFR 5451.2, or in the event the purchaser is a holder of an unresolved default the bond may be increased as provided in 43 CFR 5450.1(b). Performance bond may be (1) bond of a corporate surety shown on approval list issued by the United States Treasury Department and executed on an approved standard form, (2) personal surety bond executed on an approved standard form if Government determines principals and bondsmen are capable of carrying out the terms of the contract, (3) cash bonds, (4) negotiable securities of the United States, or (5) any guaranteed remittance approved by the Authorized Officer.

(b) If purchaser elects to cut timber without skidding or yarding it to a loading point or removing it prior to the payment of the second or subsequent installments, Government shall require an increase in amount of performance bond initially required by an amount equal to the value of timber to be cut. Such increase must be on a bond rider form supplied by Government and be approved, in writing, by Government prior to cutting timber covered by the bond increase. This increased amount of bond shall be used to assure payment for timber cut in advance of payment.\*

11. **PAYMENT BOND** – If purchaser elects to (a) cut and remove timber, or (b) remove timber already cut which has been secured by an increased performance bond as provided in paragraph 10(b) above, before payment of the second or subsequent installments, Government shall require a payment bond on a form supplied by Government. Purchaser shall obtain written approval from Government of payment bond prior to cutting and/or removal of timber covered by the bond. Payment bond shall be used to assure payment for timber cut and/or removed in advance of payment.\*

12. **PAYMENT OF PURCHASE PRICE** – For sales of \$500 or more, Government may allow payment by installments. Except as discussed in paragraphs 10 and 11 above, no part of any timber/vegetative resource sold may be severed, cut, or removed unless advance payment has been made as provided in contract.

13. **LIQUIDATED DAMAGES** – Within thirty (30) days from receipt of *Timber/Vegetative Resource Sale Contract*, the successful bidder shall sign contract and return it to Government, together with required bond and any required payment. If successful bidder fails to comply within the stipulated time, his bid deposit shall be retained by Government as liquidated damages.

14. **NINETY-DAY SALES** – If no bid is received within time specified in the advertisement of sale and if Government determines that there has been no significant rise in the market value of timber/vegetative resource, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

\*Applies to Timber Only

15. *UNAUTHORIZED USE OF GOVERNMENT PROPERTY* – A sale may be refused to high bidder who has been notified that he has failed to make satisfactory arrangements for payment of damages resulting from unauthorized use of, or injury to, property of the United States.

16. *EQUAL OPPORTUNITY CLAUSE* – This contract is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the nondiscrimination clauses. Copies of this order may be obtained from the District Manager. 43 CFR 60-1.7(b) requires that the Equal Opportunity *Compliance Report Certification* will be completed by prospective contractors. Certification may be obtained from District Manager.

17. *LOG EXPORT* – All timber offered for sale except as noted in the *Timber Sale Notice* is restricted from export from the United States in the form of unprocessed timber and cannot be used as a substitute for exported private timber. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs, and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three quarters (8-3/4) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end product use; or (4) western

red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 common or better. Timber manufactured into the following will be considered processed: (1) lumber and construction timbers, regardless of size, manufactured to standards and specifications suitable for end product uses; (2) chips, pulp and pulp products; (3) green or dry veneer and plywood; (4) poles and piling cut or treated for use as such; (5) cants, squares, and lumber cut for remanufacture of eight and three quarters (8-3/4) inches in thickness or less; or (6) shakes and shingles. In event purchaser wishes to sell any or all of timber restricted from export in the form of unprocessed timber, the buyer, exchanges, or recipient shall be required to comply with contractual provisions relating to "*unprocessed timber*". Special reporting, branding and painting of logs may be included in contract provisions.\*

18. *DETAILED INFORMATION* – Detailed information concerning contract provisions, bid, performance bond forms, tract location maps, and access conditions may be obtained from the District Manager. All persons interested in bidding on the products listed are encouraged to familiarize themselves with all such detailed information.