



# PROSPECTUS



United States Department of the Interior  
BUREAU OF LAND MANAGEMENT  
Springfield Interagency Office, Northwest Oregon District  
3106 Pierce Parkway, Suite E, Springfield, Oregon 97477  
<http://www.blm.gov>

July 31, 2024

**Parcel No. 1**  
**Contract No. ORN05-TS-2024.0558**  
**Upper Willamette Field Office**

**Spare Change**  
**\*SBA Set-Aside Sale**

## TIMBER SALE NOTICE

**NOTICE IS HEREBY GIVEN** that the Bureau of Land Management will offer for sale timber as described herein for oral auction, pursuant to Instructions to Bidders, as stated on Form No. 5440-9, attached. Written and oral bids will be received by the District Manager, or their representative, at the **NORTHWEST OREGON DISTRICT'S SPRINGFIELD INTERAGENCY OFFICE, 3106 PIERCE PARKWAY, SPRINGFIELD, OREGON**. The timber sale will commence at 10:00 a.m. on Thursday, **August 29, 2024**.

This Timber Sale Notice does not constitute the decision document for purposes of protest and appeal of a forest management decision. Consistent with 43 CFR Subpart 5003 - Administrative Remedies, the notice of a timber sale, when published as a legal ad in a newspaper of general circulation shall constitute the decision document for purposes of protest and appeal.

**A WRITTEN BID** on Form 5440-9 at not less than the appraised price on a unit basis per species and the required minimum bid deposit shall be required to participate in oral bidding for each tract.

**FOR SBA SET-ASIDE TRACTS**, the bidder must not have been determined by the Small Business Administration to be ineligible for preferential award for set-aside sales and must accompany the bid deposit with a self-certification statement that the bidder is qualified as a small business concern as defined by the Small Business Administration in its regulations, Title 13, Chapter I, Part 121 (Revision 7) as amended, of the Code of Federal Regulations. The Form 5430-1 Self Certification Statement is attached hereto. The successful bidder will be required to sign SBA Form 723 "Small Business Certification Required on All Preferential Sales of Set-Aside Timber" at the time the timber sale contract is signed. Section 2(a) of Form 723 requires that successful bidders on SBA set-aside tracts must comply with delivery requirements pertaining to timber volume. No more than 30 percent of the timber volume from a set-aside sale may be delivered for manufacturing to a business that is not a small business, as defined by the SBA (13 CFR 121.507 (a)). A copy of SBA form 723 is attached.

**THE SUCCESSFUL BIDDER**, as a condition of award, will be required to complete and/or sign the following forms:

1. Form 5430-11, a certification that the bid was arrived at by the bidder or offerer independently, and was tendered without collusion with any other bidder or offerer.
2. Form 5450-17, Export Determination.

**PRE-AWARD QUALIFICATIONS**. The high bidder may be required to furnish information to determine the ability to perform the obligations of the contract. If the high bidder is determined not qualified, not responsible or refuses to respond within 15 days of a request for information pertaining to qualifications, the contract may be offered and awarded for the amount of the high bid to the highest of the bidders who is qualified, responsible, and willing to accept the contract.

**A PERFORMANCE BOND** in an amount not less than 20 percent of the total purchase price will be required for all contracts of \$2,500 or more, but the amount of the bond shall not be in excess of \$500,000, except when the Purchaser opts to increase the minimum bond as provided in 43 CFR 5451.2. A minimum performance bond of not less than \$500 will be required for all installment contracts less than \$2,500.

**INSTALLMENT PAYMENTS** may be authorized for sales of \$500 or more. Required installments will be determined by BLM. For sales under \$500,000, installments will not be less than 10% of the total purchase price. For sales of \$500,000 or more, installment payments shall be \$50,000.

**LOG EXPORT AND SUBSTITUTION.** All timber sales, including timber from Federal rights-of-ways, shall be subject to the restrictions relating to the export and substitution of unprocessed timber from the United States in accordance with P.L. 94-165 and 43 CFR 5400 and 5424, as amended.

**LOG EXPORT AND SUBSTITUTION RESTRICTIONS.** Excepting Port-Orford-cedar, all timber offered for sale hereunder is restricted from export from the United States in the form of unprocessed timber and is prohibited from being used as a substitute for exported private timber.

**SPECIAL PROVISIONS.** 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 to prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or; (2) Comply with a stay or remedy issued by the Interior Board of Land Appeals or a court order, or; (3) Protect species which were identified for protection in accordance with management direction established in the ROD and RMP.

**ADDITIONAL INFORMATION** concerning each timber sale tract described herein is available at the Springfield Interagency Office. A copy of the timber sale contract is also available for inspection at the Springfield Interagency Office. This prospectus includes maps and tables that cannot be made Section 508 compliant. For help with its data or information, please contact the Northwest Oregon District's Springfield Interagency Office at (541) 683-6776.

**THE VOLUMES LISTED** herein are estimates only, based on 16-foot taper breaks, which must be taken into consideration if comparisons are made with volume predictions based on other standards. The volumes based on 32-foot taper breaks are shown for comparison purposes. No sale shall be made for less than the total purchase price, without regard to the amount bid per unit, even though quantity of timber actually cut or removed or designated for taking is more or less than the estimated volume or quantity so listed.

**AN ENVIRONMENTAL ASSESSMENT** was prepared for this sale, and a Finding of No Significant Impact has been documented. These documents are available for inspection as background for this sale at the Northwest Oregon District's Springfield Interagency Office.

**ACCESS** to a sale may be through a locked gate (see individual sale information). Prospective bidders may obtain a key from the Northwest Oregon District's Springfield Interagency Office. Any other persons interested in visiting the timber sale site should first contact this office at (541) 683-6600.

Attachments:

- Form 5440-9
- Form 5430-11
- Form 5450-17
- Form 5450-22
- Form 5430-1
- SBA Form 723

NORTHWEST OREGON DISTRICT  
UPPER WILLAMETTE FIELD OFFICE

**TIMBER SALE NOTICE  
LUMP SUM  
EUGENE MASTER UNIT  
SBA SALE**

PARCEL NO.: 1  
SALE DATE: August 29, 2024

Contract No.: ORN05-TS-2024.0558, Spare Change  
Lane County, Oregon: O&C: Oral Auction

Bid Deposit Required: \$24,200.00

All timber designated for cutting on N1/2SW1/4, N1/2SE1/4, Section 17, T. 17S., R 1 W; NW1/4NW1/4, Section 13, T. 17 S., R 2 W., Will. Mer.

Estimated Volume 32' Log (MBF)	Species	Estimated Volume 16' Log (MBF)	Appraised Price Per MBF	Estimated Volume Times Approx. Price
1,618	Douglas-fir	1,963	\$116.60	\$228,885.80
32	Incense-cedar	41	\$46.90*	\$1,922.90
24	Western hemlock	32	\$42.00*	\$1,344.00
23	Western redcedar	30	\$263.20	\$7,896.00
23	Grandfir	28	\$46.10*	\$1,290.80
16	Bigleaf maple	28	\$18.60*	\$520.80
1,736	Totals	2,122		\$241,860.30

\* = 10% Pond Value

APPRAISED PRICES are calculated by determining market value through the analytical appraisal method. The minimum bid increment will be \$0.10 per MBF or multiples thereof.

LOG EXPORT RESTRICTIONS: All timber offered for sale hereunder is restricted from export from the United States in the form of unprocessed timber and is prohibited from being used as a substitute for exported private timber.

NOTE: The volume for this timber sale has been calculated using 16 foot eastside Scribner rules, and the 32 foot log volumes are estimates derived from the 16 foot volumes.

CRUISE INFORMATION: The timber volumes for Douglas-fir, incense-cedar, western hemlock, western redcedar, and grandfir in the Regeneration Harvest Areas were based on a variable plot cruise for estimating board foot volume. Plots were measured using a 40 basal area factor for a total of 201 plots. Bigleaf maple in all Regeneration Harvest Areas were based on a 100% cruise for estimating board foot volume. The timber volumes for Douglas-fir and incense-cedar in the rights-of-way were based on a 100% cruise for estimating board foot volume. A map showing the location of the plots and sample trees is available at the Springfield Interagency Office.

With respect to merchantable Douglas-fir; the average tree is 17.9" DBHOB; the average log contains 98 bd. ft.; the total gross merchantable volume is approximately 2,071 MBF; and 93% recovery is expected.

CUTTING AREA: Approximately 54 acres shall be regeneration harvested and approximately 1.3 acres of right-of-way shall be cleared.

ACCESS: Access to the sale is provided by:

1. A public road;
2. BLM existing roads;
3. BLM roads to be constructed;
4. Roads covered by Right-of-Way and Road Use Agreement E-662A between Franklin Clarkson Timber Co., LLC and the United States. In the renovation, use, and maintenance of private roads, and in the use of tailholds and guybacks, the Purchaser shall enter into a license agreement with Franklin Clarkson Timber Co., LLC. The license agreement shall be delivered to Franklin Clarkson Timber Co., LLC for execution at least 15 days prior to any use of company roads. See the Prospectus for full terms and conditions of use.
5. Roads covered by Right-of-Way and Road Use Agreement E-662B between Giustina Land and Timber Co., LLC and the United States. In the renovation, use, and maintenance of private roads, the Purchaser shall enter into a license agreement with Giustina Land and Timber Co., LLC. The license agreement shall be delivered to Giustina Land and Timber Co., LLC for execution at least 15 days prior to any use of company roads. See the Prospectus for full terms and conditions of use.

6. Roads covered by Right-of-Way and Road Use Agreement R-767 between Lone Rock Timber Co. and the United States. In the renovation, use, and maintenance of private roads, and in the use of tailholds and guybacks, the Purchaser shall enter into a license agreement with Lone Rock Timber Co. The license agreement shall be delivered to Lone Rock Timber Co. for execution at least 15 days prior to any use of company roads. See the Prospectus for full terms and conditions of use.
7. In the use, renovation, and or maintenance of Road No. 17-1-18 as shown on the Exhibit C, the purchaser shall comply with the conditions of the following Crossing Access Agreements between the United States and the land owners of the easements: RE-E-183 Fisher, RE-E-184 Havens/Holt, and RE-E-418 Christian Logging Co.

**ROAD MAINTENANCE:** The Purchaser shall pay to the BLM a maintenance fee of \$389.63 and a rockwear fee of \$1,734.01. The Purchaser shall pay a use fee of \$8,444.80 to Lone Rock Timber Co., \$1,032.00 to Giustina Land and Timber Co., LLC, and \$1,032.00 to Franklin Clarkson Timber Co., LLC. See the Exhibit D map for specifications of road maintenance responsibility. Only the map page of the Exhibit D is included in the Prospectus. Refer to the contract file for the full Exhibit D.

**In addition to the quantities shown below, 350 cubic yards (truck measure) of maintenance rock is required. Additional road reinforcement (rocking) may be required for wet weather haul and will be at the Purchaser's expense.**

**ROAD CONSTRUCTION:**

Road Nos. 17-1-17.2 Ext.; 17-1-17.3; 17-1-17.4; 17-2-12; and 17-2-14.

Length: 18+60 Stations

Class: SN-16

Special Requirements: Operations limited to periods of dry weather. Installation of stream crossing culverts will be limited to the ODFW in-stream work window, June 1 – October 31.

**ROAD RENOVATION:**

Road Nos. 17-1-17.1; 17-1-18 Segs. A1, A2, B, C, D, and E; 17-2-23 Segs. A, and B; 17-2-11 Segs. A, and B.

Length: 5.55 Miles

Class: SN-16

Special Requirements: Installation of stream crossing culverts will be limited to the ODFW in-stream work window, June 1 – October 31.

**ROAD IMPROVEMENT:**

Road No. 17-1-17.2.

Length: 11+40 Stations

Class: SN-16

Special Requirements: Replacement and installation of stream crossing culverts shall be limited to the ODFW instream work window, June 1 – October 31.

Rock Source: Commercial Quarry

Estimated Rock Quantities (CY truck measure)

<u>3/4" Minus</u>	<u>1-1/2" Minus</u>	<u>3" Minus</u>	<u>6" Minus</u>	<u>6" (Armor)</u>	<u>3/4" (Bedding)</u>
377	1,681	1,661	1,828	32	260

Culverts:

<u>Diameter:</u>	<u>Length:</u>	<u>Number:</u>
18"	360'	12
24"	30'	1
30"	60'	2

**Total Estimated Exhibit C Road Costs (construction, improvement, and renovation): \$294,164.48**

**DURATION OF CONTRACT:** Duration of the contract will be 36 months for cutting and removal of timber.

**SPECIAL PROVISIONS:** The contract will contain special provisions regarding road construction, road renovation, road improvement, road maintenance, road decommissioning, logging methods, prevention of erosion, logging residue reduction, snag creation, and submission of a written logging plan specifying landing locations and logging schedule.

Under Sec. 26 of the timber sale contract, ground-based logging and mechanical felling will be prohibited during periods of excessive soil moisture. This will normally limit ground-based logging and mechanized felling from June 1 to October 15.



OTHER SPECIAL REQUIREMENTS:

1. The Purchaser shall be required to clean logging, road, decommissioning, and slash piling equipment prior to entry on BLM lands.
2. The Purchaser shall be required to cut and process non-merchantable trees in the Regeneration Harvest Areas.
3. The Purchaser shall be required to cut and leave all white painted trees in Road Nos. 17-1-17.2, 17-1-17.2 Ext., and 17-1-17.4.
4. No felling, yarding, or loading is permitted in or through the Reserve Area shown on Exhibit A, except in the Special Operating Areas and Special Yarding Areas.
5. Long reaches, intermediate supports, and lift trees will be needed during cable operations.
6. Upon completion of yarding, the Purchaser shall create sixty-one (61) snags by topping and girdling.
7. The Purchaser shall perform logging residue reduction and site preparation work, to include machine piling, piling at landings and along roadsides, covering, and pile burning.
8. Pile covering shall be completed at the time of piling and no later than September 15<sup>th</sup> of the year it was harvested, or as directed by the Authorized Officer.
9. Whole tree yarding, or yarding with tops attached, will be required in the Regeneration Harvest Areas.
10. At the completion of yarding, the Purchaser shall decompact skid trail prisms.
11. The Purchaser shall be required to spread BLM-provided seed and mulch at culverts and designated areas.
12. The Purchaser shall be required to file a Notification of Operations with the Oregon Department of Forestry for all harvest operations, snag creation, and road construction, renovation, and improvement on BLM and private lands.
13. Residential access will be affected by culvert replacements on Road No. 17-1-18. Purchaser shall notify all residents affected by culvert replacement activities 10 days prior to closures. Culvert replacement operations shall be limited to the hours of 9:00 AM to 3:00 PM.
14. Dust abatement (lignin) is required near residences on Road No. 17-1-18.
15. Prior to the use of tailholds/guylines in T. 17 S., R. 1 W., Sec. 17, Tax Lot 100, the Purchaser shall execute a Short Form Tramway Agreement with Pangaea Pacific Timberlands, LLC. If the purchaser requires the use of tailholds/guylines in T. 17 S., R. 1 W., Sec. 17, Tax Lot 300, the Purchaser must comply with conditions specified by Zip-O-Log Mills Inc.
16. Purchaser shall purchase from Lone Rock Timber Co., and Franklin Clarkson Timber Co. LLC, timber from new road construction.
17. When operating adjacent to BPA Transmission Right-of-Way, the Purchaser shall set up a pre-work meeting with BPA and the Authorized Officer.

OPTIONAL CONTRIBUTIONS: The Purchaser will have the option of performing pile burning and mop-up, or contributing \$4,431.32 in lieu thereof. The option must be declared prior to contract execution. Piling and covering are not included in the Optional Contribution and will remain the responsibility of the Purchaser.

NARRATIVE DESCRIPTION OF HOW TO GET TO SALE AREA:

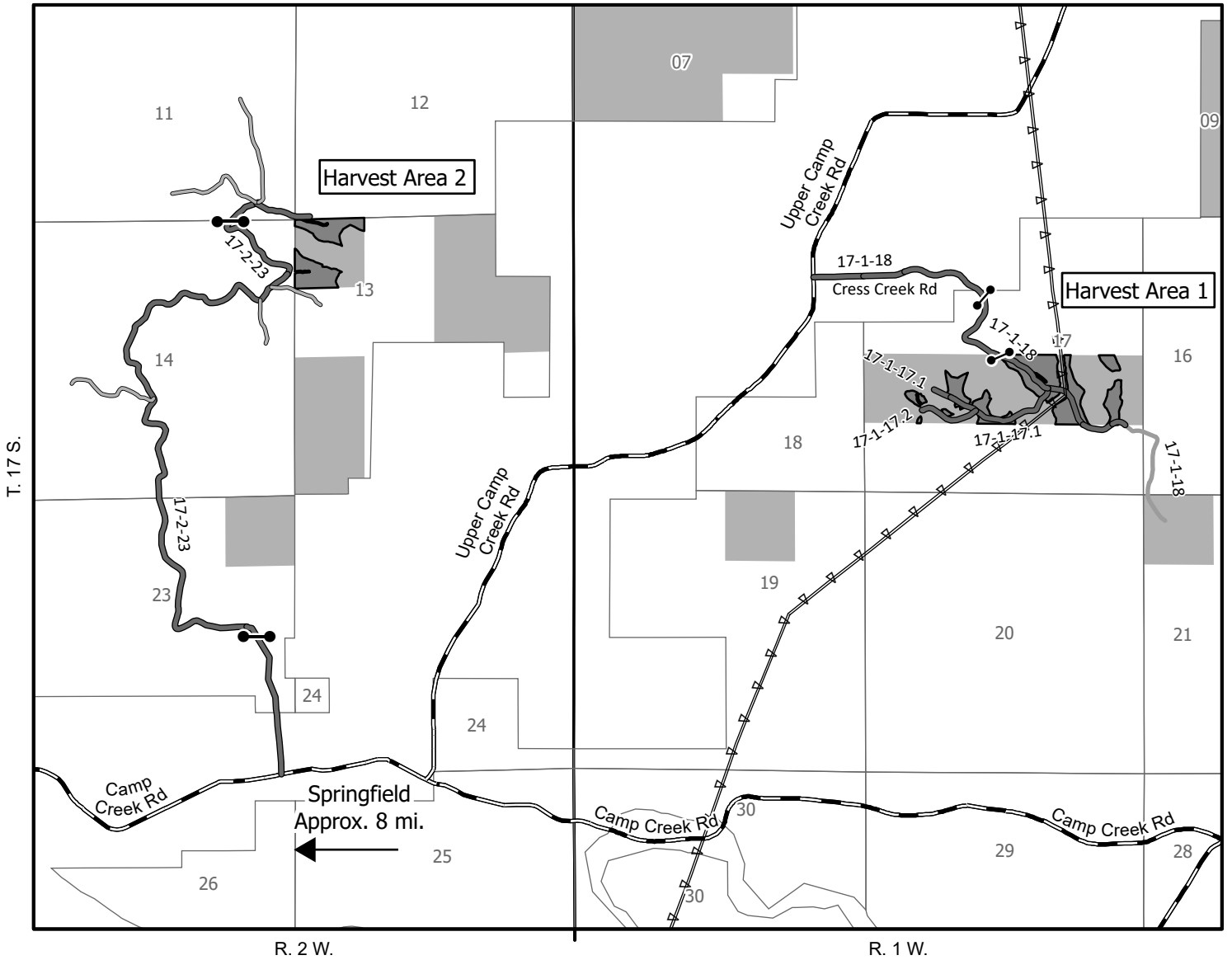
This sale is accessed through locked gates over private land. Prospective bidders may obtain a key from the Springfield Interagency Office and proceed to the sale area. Any other persons interested in visiting the timber sale should first contact Brian Bickford at 541-683-6164.

To Harvest Area No. 2: From Springfield, proceed northeast on Marcola Road for approximately 1.5 miles to the junction of Camp Creek Road. Proceed east on Camp Creek Road for approximately 4 miles to the junction of BLM Road 17-2-23. Proceed north on BLM Road 17-2-23 for approximately 3 miles to Harvest Area No. 2.

To Harvest Area No. 1: From Harvest Area No. 2, head back south on BLM Road 17-2-23 for approximately 3 miles to the junction of Camp Creek Road. Proceed east on Camp Creek Road for approximately 0.2 miles to the junction of Upper Camp Creek Road. Proceed north on Upper Camp Creek Road for approximately 2 miles to the junction of BLM Road 17-1-18 (Cress Creek Rd.). Proceed east on BLM Road 17-1-18 for approximately 1 mile to Harvest Area No. 1.

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Bureau of Land Management**

Spare Change Timber Sale Contract No. ORN05-TS-2024.0558  
T. 17 S., R. 1 W., Sec. 17; T. 17 S., R. 2 W., Sec 13, Will. Mer., Northwest Oregon District



**NARRATIVE DESCRIPTION OF HOW TO GET TO SALE AREA:**

This sale is accessed through locked gates over private land. Prospective bidders may obtain a key from the Springfield Interagency Office and proceed to the sale area. Any other persons interested in visiting the timber sale should first contact Brian Bickford at 541-683-6164.

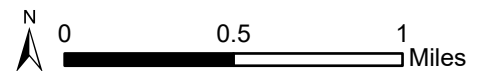
**To Harvest Area No. 2:**

From Springfield, proceed northeast on Marcola Road for approximately 1.5 miles to the junction of Camp Creek Road. Proceed east on Camp Creek Road for approximately 4 miles to the junction of BLM Road 17-2-23. Proceed north on BLM Road 17-2-23 for approximately 3 miles to Harvest Area No. 2.

**To Harvest Area No. 1:**

From Harvest Area No. 2, head back south on BLM Road 17-2-23 for approximately 3 miles to the junction of Camp Creek Road. Proceed east on Camp Creek Road for approximately 0.2 miles to the junction of Upper Camp Creek Road. Proceed north on Upper Camp Creek Road for approximately 2 miles to the junction of BLM Road 17-1-18. Proceed east on BLM Road 17-1-18 (Cress Creek Road) for approximately 1 mile to Harvest Area No. 1.

- |              |                        |
|--------------|------------------------|
| Travel Route | BLM Administered Lands |
| Other Roads  | Section Lines          |
| County Road  | Township Lines         |
| Gates        | BPA Transmission Line  |
| Harvest Area |                        |



United States Department of the Interior  
Bureau of Land Management  
Oregon State Office  
P.O. Box 2965  
Portland, Oregon 97208-2965

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## Seasonal Restriction Matrix

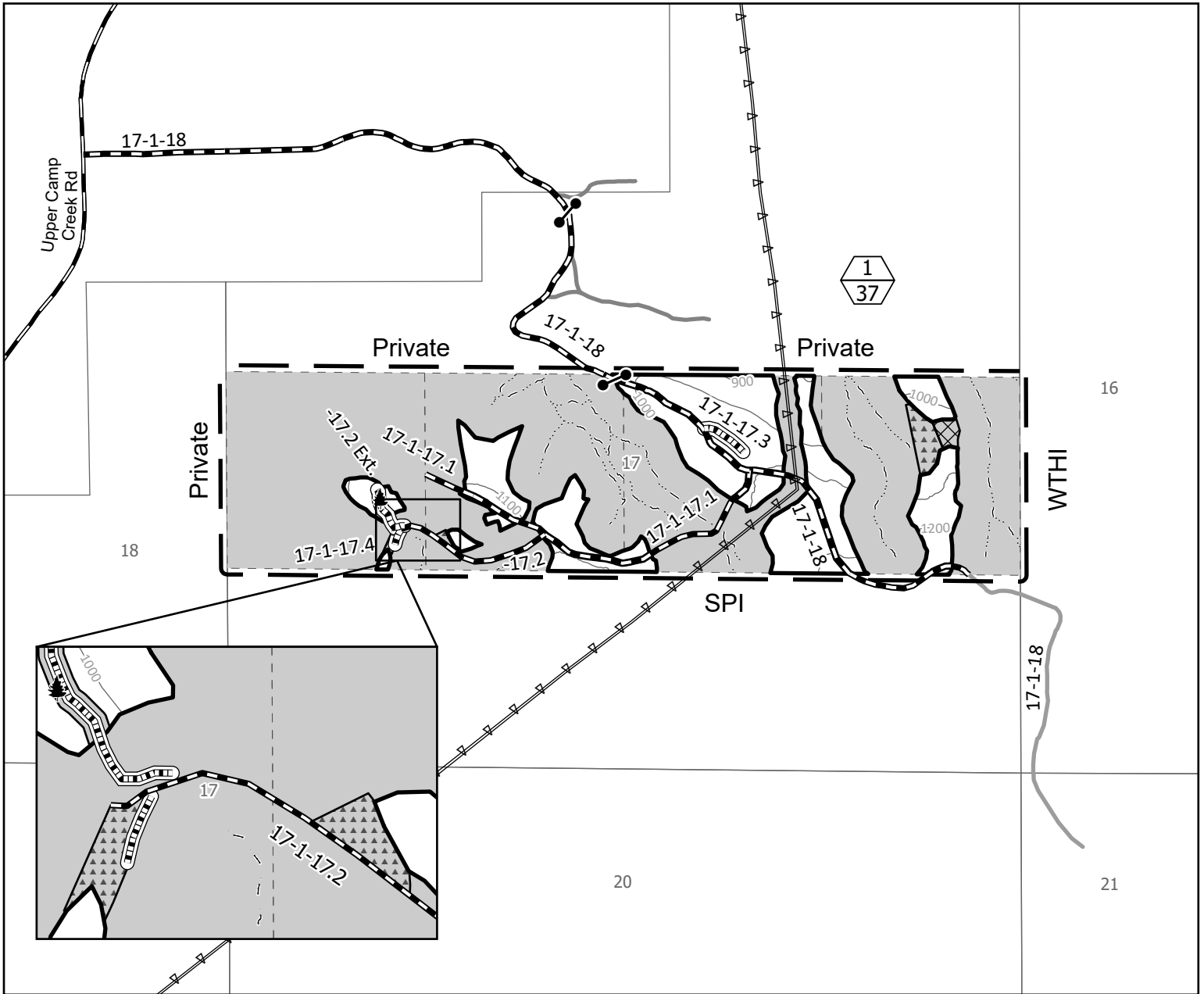


Restricted Activity:	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15	1 15
<b>Road Construction, Renovation, Decommissioning, Dry Season Haul, and Stream Culvert Installation, Replacement, or Removal</b> <ul style="list-style-type: none"> <li>▪ November 1 – May 31, both days inclusive.</li> <li>▪ May vary due to weather conditions; soil moisture still overrides weather conditions.</li> </ul>	X	X	X	X	X	X	X	X			X	X
<b>Partial Harvest Area Yarding-Sap Flow</b> <ul style="list-style-type: none"> <li>▪ April 1 to June 15, both days inclusive.</li> <li>▪ Sap flow restrictions may be conditionally waived at the discretion of BLM.</li> </ul>				X	X	X	X					
<b>Mechanized Felling and Ground Based Yarding</b> <ul style="list-style-type: none"> <li>▪ October 16 – May 31, both days inclusive.</li> <li>▪ May vary due to weather conditions; soil moisture still overrides weather conditions.</li> </ul>	X	X	X	X	X	X	X			X	X	X

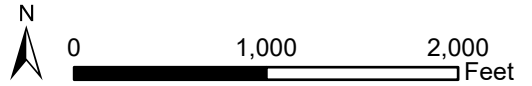
NOTE: This chart is for informational purposes only. Refer to Section 42 Special Provisions of the timber sale contract for exact date restrictions and specifications. Subject to transient winter snow, elevation ranges from 900 – 2000 feet.

**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Bureau of Land Management**

Spare Change Timber Sale Contract No. ORN05-TS-2024.0558  
T. 17 S., R. 1 W., Sec. 17 Will. Mer., Northwest Oregon District



- Contract Area
- Regeneration Harvest Area
- Boundary of Cutting Area-Posted, Painted
- Special Operating Area
- Special Yarding Area
- Reserve Area
- Right of Way (Clearing)
- New Construction - Rocked Surface
- Renovation/Improvement
- Gates
- BPA Transmission Line
- Streams
- Contours (100')
- County Road
- Other Roads
- Approximate Location of Pink-Painted Trees
- Unit Number Acres



<b>Totals for Sale</b>	
Regeneration Harvest Area	54.0
Right-of-Way (Clearing)	1.3
Reserve Area	144.7
<b>Contract Area</b>	<b>200.0</b>

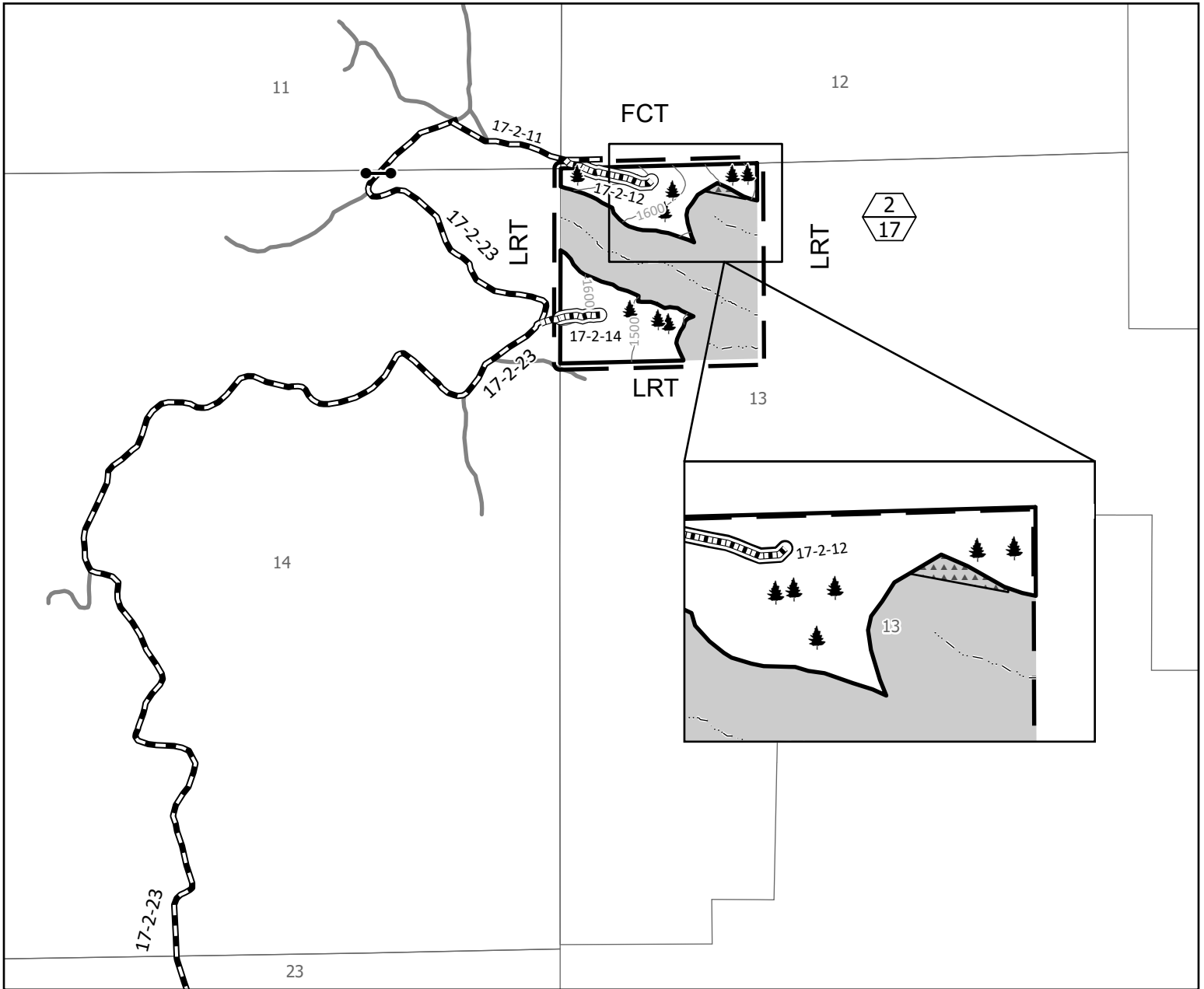
<b>Totals for Section 17</b>	
Regeneration Harvest Area	37.0
Right-of-Way (Clearing)	0.7
Reserve Area	122.3
<b>Contract Area</b>	<b>160.0</b>

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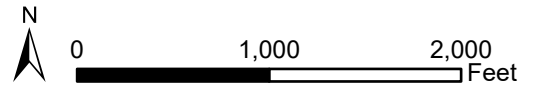
United States Department of the Interior  
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**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Bureau of Land Management**

Spare Change Timber Sale Contract No. ORN05-TS-2024.0558  
T. 17 S., R. 2 W., Sec. 13 Will. Mer., Northwest Oregon District



- |  |  |
|--|--|
| Contract Area                              | New Construction - Rocked Surface          |
| Boundary of Cutting Area - Posted, Painted | Renovation/Improvement                     |
| Regeneration Harvest Area                  | Streams                                    |
| Special Operating Area                     | Contours (100')                            |
| Reserve Area                               | Approximate Location of Pink-Painted Trees |
| Right of Way (Clearing)                    | Unit Number Acres                          |
| Other Roads                                |  |
| Gates                                      |  |



Totals for Section 13	
Regeneration Harvest Area	17.0
Right-of-Way (Clearing)	0.6
Reserve Area	22.4
<b>Contract Area</b>	<b>40.0</b>

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UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

Contract No.  
ORN05-TS-2024.0558

**EXHIBIT B**

LUMP SUM SALE

Spare Change

The following estimates and calculations of value of timber sold are made solely as an administrative aid for determining: (1) adjustments made or credits given in accordance with Secs. 6, 9, or 11; (2) when payments are due; and (3) value of timber subject to any special bonding provisions. The value of timber will be determined by multiplying the value per acre as shown below, times the amount of acreage as determined by the Authorized Officer, which has been cut or removed or designated for taking. Except as provided in Sec. 2, Purchaser shall be liable for total purchase price even though quantity of timber actually cut or removed or designated for taking is less than the estimated volume or quantity shown. Cutting areas are shown on **Exhibit A**.

SPECIES	ESTIMATED VOLUME OR QUANTITY <i>(Units Specified)</i>	PRICE PER UNIT	AMOUNT OF ESTIMATED VOLUME OR QUANTITY X UNIT PRICE
Douglas-fir	1,963.0 MBF		
Incense-cedar	41.0 MBF		
Western hemlock	32.0 MBF		
Western redcedar	30.0 MBF		
Grandfir	28.0 MBF		
Bigleaf maple	28.0 MBF		
<b>TOTALS</b>	<b>2,122.0 MBF</b>		

The apportionment of the total purchase price is as follows:

Regen Harvest Area No. 1 – 37 Acres (36.9 MBF/Acre)  
 Douglas-fir 1,303.0 MBF  
 Western hemlock 22.0 MBF  
 Bigleaf maple 21.0 MBF  
 Grandfir 19.0 MBF  
1,365.0 MBF

Regen Harvest Area No. 2 – 17 Acres (40.5 MBF/Acre)  
 Douglas-fir 598.0 MBF  
 Incense-cedar 35.0 MBF  
 Western redcedar 30.0 MBF  
 Western hemlock 10.0 MBF  
 Grandfir 9.0 MBF  
 Bigleaf maple 7.0 MBF  
689.0 MBF

Right-of-Way Area No. 1 – 0.7 Acres (41.4 MBF/Acre)  
 Douglas-fir 29.0 MBF  
29.0 MBF

Right-of Way Area No. 2 – 0.6 Acres (65.0 MBF/Acre)  
 Douglas-fir 33.0 MBF  
 Incense-cedar 6.0 MBF  
39.0 MBF

SEC. 43 - Timber Reserved From Cutting and/or Removal

- (a) All timber on the Reserve Areas shown on Exhibit A, which is attached hereto and made a part hereof, and all yellow painted and posted trees which are on or mark the boundaries of the Reserve Areas. Exhibit A contains 2 sheets.
- (b) All trees marked with yellow paint above and below stump height in the Regeneration Harvest Areas shown on Exhibit A.
- (c) All trees marked with pink paint above and below stump height in the Approximate Location of Pink Painted Trees shown on Exhibit A. Pink painted trees felled for safety or operational reasons shall remain on site. Where necessary for safety or operational reasons, pink painted trees may be bucked into shorter lengths and/or moved within the unit as close to where felled as safely possible.
- (d) All trees marked with white paint above and below stump height in Road Nos. 17-1-17.2, 17-1-17.2 Ext., and 17-1-17.4 where it passes through the Reserve Area as shown on Sheet 1 of the Exhibit A. White painted trees shall be felled and decked on site in the Reserve Areas.
- (e) All existing decay class 1-2 down wood and snags greater than 20 inches in diameter at the large end and greater than 20 feet in length in the Regeneration Harvest Areas, Special Operating Areas, and Special Yarding Areas shown on Exhibit A. Decay classes are illustrated on Exhibit I and Exhibit L, which are attached hereto and made a part hereof. Where necessary for safety or operational reasons, such down woody material and snags may be felled and/or bucked into shorter lengths and/or moved within the unit.
- (f) All existing decay class 3-5 down wood and snags in the Regeneration Harvest Areas, Special Operating Areas, and Special Yarding Areas shown on Exhibit A. Decay classes are illustrated on Exhibit I and Exhibit L. Where necessary for safety or operational reasons, such down woody material and snags may be felled and/or bucked into shorter lengths and/or moved within the unit.
- (g) In the Regeneration Harvest Areas, Special Operating Areas, and Special Yarding Areas shown on Exhibit A, all oaks and pines which do not present a safety hazard, or where felling is not needed for operational activities, as determined by the Authorized Officer. All oaks and pines that are felled for safety and operational reasons shall remain on site. Where necessary for safety or operational reasons, oaks and pines may be bucked into shorter lengths and/or moved within the unit as close to where felled as safely possible.

SEC. 44 - Special Provisions

- (a) The Purchaser agrees not to sell and/or exchange more than 30 percent of the timber or log volume from this preferential sale to concerns that do not meet the Small Business Administration small business size standard (13 CFR 121).

The Purchaser understands that in addition to other penalties which may be imposed for violating the foregoing, the Purchaser may be declared ineligible to participate in future Federal timber sales that are set-aside for preferential bidding by small business qualified concerns for two semi-annual triggered periods succeeding the violation.

The Purchaser shall provide a current, interim Log Scale and Disposition of Timber Removed Report (Form 5460-15) upon request by the Authorized Officer at any time during the contract period for cutting and removal specified in Section 4 of this contract as amended.

- (b) Logging
  - (1) Before beginning operations on the contract area for the first time or after a shutdown of 14 or more days, the Purchaser shall notify the Authorized Officer in writing of the date they plan to begin operations. This written notification must be received by the Authorized Officer no less than 14 days prior to the date the Purchaser plans to begin or resume operations. The Purchaser shall also notify the Authorized Officer in writing if they intend to cease operations for any period of 10 or more days.

- (2) Prior to the commencement of operations, the Purchaser shall obtain from the Authorized Officer written approval of a written operations and logging plan commensurate with the terms and conditions of the contract which shall include measures needed to assure protection of the environment and watershed. A pre-work conference between the Purchaser's authorized representative and the Authorized Officer's representative must be held at a location designated by the Authorized Officer before the logging plan will be approved. All logging shall be done in accordance with the plan.
- (3) No felling, yarding, or loading is permitted in or through the Reserve Area shown on Exhibit A, except:
  - (aa) When yarding through the Special Operating Area shown on Exhibit A. Only the minimum amount of trees that are needed for safety and operational activities may be cut. Trees felled for corridors within the Special Operating Areas shall remain on site, unless otherwise approved by the Authorized Officer. Where necessary for safety or operational reasons, corridor trees may be felled and bucked into shorter lengths and/or moved within the Reserve Area.
  - (bb) When felling or yarding through the Special Yarding Areas shown on Exhibit A, corridor trees shall be felled and removed in accordance with Section 44(b)(15).
- (4) In the Regeneration Harvest Areas shown on Exhibit A, all trees designated for cutting shall be felled to the lead, whole tree yarded, or yarded with tops attached, except in areas otherwise approved by the Authorized Officer. Trees shall be directionally felled away from Reserve Areas, yellow painted trees, and pink painted trees except when necessary for safety reasons.
- (5) In the Regeneration Harvest Areas shown on Exhibit A, all hardwoods except when reserved in Section 43(g), and more than six (6) inches in diameter shall be felled concurrently with all other trees designated for cutting. All tops and branches must be free of the central stem to the extent that it is within a maximum of twenty (20) inches of the ground at all points.
- (6) In the Regeneration Harvest Areas shown on Exhibit A, at all landings, all non-merchantable logs (including hardwoods) more than 8 inches in diameter at the large end and exceeding 8 feet in length shall be decked at a location designated by the Authorized Officer.
- (7) When operating within 300 feet of the BPA Transmission Right-of-Way shown on Exhibit A, the Purchaser shall comply with the following conditions:
  - (aa) Prior to the start of all cutting and yarding operations, the Purchaser shall meet with BPA representatives and the Authorized Officer.
  - (bb) Keep passage open to at least one vehicle width on all BPA access roads to allow for maintenance of powerline as determined by the Authorized Officer.
  - (cc) No log decking, storage of logs, storage and transportation of flammable materials, or fueling of vehicles shall occur within the BPA Transmission Right-of-Way.
  - (dd) No loading of logging trucks shall be allowed within the BPA Transmission Right-of-Way. All equipment including logging trucks shall not be loaded to a height greater than 14 feet above the road bed when traveling under the power lines
- (8) The purchaser shall provide warning signs and flaggers in accordance with section 29 of this contract to control traffic in the contract area during active operations and within the vicinity of Road No.17-1-18, including timber falling and helicopter operations. Roads shall not be blocked by such operations for more than 20 minutes.
- (9) Haul on all natural surface roads shall be limited to the dry season (typically June 1 through October 31), or as approved by the Authorized Officer.
- (10) Mechanized felling and ground based yarding shall be limited to the dry season typically (June 1 – October 15), or as approved by the Authorized Officer.
- (11) Prior to attaching any logging equipment to a reserve tree, the Purchaser shall obtain approval from the Authorized Officer and shall take precautions to protect the tree from damage as directed in writing by the Authorized Officer.



- (12) In the Regeneration Harvest Areas and Special Yarding Areas shown on Exhibit A, felling and yarding may be done with ground based equipment on slopes of 35% or less. Felling and yarding may be done with specialized ground based equipment on slopes up to 50%. The specialized ground based equipment shall be approved by the Authorized Officer prior to the start of mechanized felling and yarding operations. Only purpose-built carriers with boom-mounted felling heads may be approved. Purpose-built carriers may be of articulated, rubber-tired design, or the leveling track-mounted design.
- (13) In the Regeneration Harvest Areas, Special Operating Areas, and Special Yarding Areas shown on Exhibit A, all slopes greater than 35% or 50% if specialized ground based equipment is used as stated in Section 44(b)(12) shall be yarded with a carriage equipped skyline system capable of laterally yarding at least 75 feet from the skyline road. The carriage shall be capable of being held in position on the skyline during lateral yarding. During yarding, the lead end of the logs shall be suspended clear of the ground. Intermediate supports and/or lift trees may be needed.
- (14) Before clearing any skid trail or skyline road necessary for yarding, the Purchaser shall:
- (aa) Space designated skid trails or skyline roads at a minimum of 150 feet apart unless approved by the Authorized Officer. Parallel settings are preferred if topography allows.
  - (bb) Mark the location of the skid trail or skyline road on the ground with fluorescent pink plastic flagging. Such skid trails or skyline roads shall be limited to the minimum width necessary for yarding of logs. The width of each skid road or skyline road shall not exceed 12 feet.
  - (cc) Place skid trails and skyline roads on the landscape to avoid disturbance to reserved trees, where feasible.
  - (dd) Provide a map of requested skid trail or skyline road locations a minimum of seven (7) working days in advance of cutting to obtain approval of the locations from the Authorized Officer. Proposed skid trails and skyline roads shall remain free from felled trees until approved.
- (15) Before cutting and removing any reserve trees necessary to facilitate logging in the Regeneration Harvest Areas, and Special Yarding Areas shown on Exhibit A, the Purchaser shall identify the location of the skid trails and skyline roads in accordance with Section 44(b)(14) and tieback, guyline, lift, intermediate support, and danger trees on the ground in a manner approved by the Authorized Officer at the pre-work conference and documented in the Logging Plan. Said Purchaser identification of trees to be cut and removed does not constitute authority to proceed with cutting and removal. In addition, before proceeding, the following conditions must be met:
- (aa) All skid trails and/or skyline roads upon which timber is identified by the Purchaser to be cut and removed in accordance with this special provision must be necessary for the safe and expeditious removal of timber sold under this contract and shall be limited to the minimum width necessary for yarding of logs with a minimum of damage to reserve trees, however, unless otherwise approved in writing by the Authorized Officer, the width of each skid trail, and/or skyline road shall be limited to 12 feet.
  - (bb) The Purchaser may immediately cut and remove additional timber to clear skid trails and skyline roads; and provide tailhold, tieback, guyline, lift and intermediate support trees; and clear danger trees when the trees have been marked with blue paint above and below stump height by the Authorized Officer and thereby approved for cutting and removal by the Authorized Officer. The volume of the timber to be sold will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures. No timber may be cut or removed under terms of this provision unless sufficient installment payments have been made in accordance with Section 3(b) of the contract or sufficient bonding has been provided in accordance with Section 3(d) of the contract.
  - (cc) The Purchaser agrees that sale of this additional timber shall be accomplished by a unilateral modification of the contract executed by the Contracting Officer and that such timber shall be sold at the unit prices shown in Exhibit B of this contract unless: the value of the timber must be reappraised subject to the terms for contract extension set forth in Section 9 of the contract.

- (dd) This authorization for the Purchaser to cut and remove additional timber prior to the execution of a modification may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser has cut and removed any tree not previously marked and approved for cutting by the Authorized Officer, which under Section 10 of the contract constitutes a violation of the contract and under Section 13 of the contract may constitute a trespass rendering the Purchaser liable for damages under applicable law.
  - (ee) If authorization is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this special provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least one (1) working day prior to the need for cutting and removing any additional timber, and execute a bilateral modification prior to cutting for such additional approved timber at the unit prices shown in Exhibit B of the contract, or in accordance with Section 8 or Section 9 of the contract, as determined by the Authorized Officer in accordance with this provision. The Contracting Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary and appropriate for the Government to safely measure and mark additional timber.
  - (ff) The Government may reserve trees previously designated for cutting and removal by applying yellow paint in the Regeneration Harvest Areas above and below stump height and the letter “R” on two sides of the trees as replacements for additional trees cut and removed for skid trails, and/or skyline roads, when the Authorized Officer determines such reservation is necessary to maintain stand densities consistent with objectives set forth in the management prescription. This may include the replacement of trees damaged by storm events, insects, or disease. The volume of this timber to be reserved will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures and the value shall be based on the unit prices shown in Exhibit B of the contract. The Purchaser agrees that the Total Purchase Price shall be reduced accordingly through a unilateral modification to the contract executed by the Contracting Officer.
- (16) In accordance with the requirements of Section 8 of the contract it has been determined that it is in the best interest of the Government and within the provisions of 43 CFR 5402.0-6 to sell additional timber located in the Regeneration Harvest Areas and Special Yarding Areas to meet all applicable State safety laws, codes, or regulations. This timber must be cut or removed so that the Purchaser can continue active falling and yarding operations. The Purchaser is, therefore, authorized to cut and remove such additional timber in accordance with the provisions of Section 8 of the contract: provided, that:
- (aa) Pink painted trees felled for safety or operational reasons shall not be removed, in accordance with Section 43(c).
  - (bb) Trees felled for safety or operational reasons in the Special Operating Area shall not be removed, in accordance with Section 44(b)(3)(aa).
  - (cc) The Purchaser shall identify each tree sold and cut in accordance with the provision by marking the cut surface of the stump immediately after falling with a large “X”. The “X” shall be cut with a chain saw. The stump shall be marked by hanging flagging so that the stump can be visually located from a distance of not less than 50 feet. The Purchaser shall also paint an identifiable “X” on the butt log. The butt log shall remain on the contract area until such time as the Authorized Officer has scaled such additional timber and authorizes removal from the contract area.
  - (dd) The volume and price for such timber shall be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures and paid for by the Purchaser in accordance with Section 3(b) or 3(f) of the contract as required by Section 8 of the contract.
  - (ee) No timber may be cut or removed under the terms of this provision if all contract payments required by Section 3(b) or 3(f) of the contract have been made.
  - (ff) The permission to cut and remove additional timber contained in this provision may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser:
    - (1) Failed to properly mark any stump with the “X” cut.

- (2) Failed to identify the location of any stump.
- (3) Cut any reserve tree in or adjacent to skyline yarding roads that was not necessary to facilitate skyline yarding.
- (4) Cut any reserve tree in or adjacent to tractor skid trails that was not necessary to facilitate ground based yarding.
- (5) Failed to properly segregate any pulled over tree that was yarded to the landing.
- (6) Cut any reserve tree that was not severely (as defined during the prework conference and documented in the approved logging plan) damaged from felling and yarding operations.
- (7) Cut more than the minimum number of trees necessary to properly serve as guyline anchor stumps.
- (8) Cut or topped more than the minimum number of trees necessary to properly serve as tailhold trees.
- (9) Failed to maintain accurate and current (no more than 24 hours old) documentation of cut and removed timber.

If the permission to cut and remove additional timber provision is withdrawn, the Purchaser shall inform the Authorized Officer at least five working days prior to the need for cutting and yarding any guyline tree, tailhold tree, tie-back tree, danger tree, corridor tree, pulled over tree, and severely damaged tree. All sales of additional timber shall comply with Section 8 of the contract. The Contracting Officer may order the Purchaser, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the Government to safely measure and mark additional timber.

All skyline yarding and/or ground based equipment skid trails upon which timber may be cut and removed in accordance with this special provision must be needed for the removal of timber sold under this contract and shall be limited to the narrowest width necessary for the yarding of logs with minimum damage to reserved trees.

- (17) The Purchaser shall be liable for damages in accordance with Section 13 of the contract for any reserved timber cut or removed in violation of the terms of this special provision. Unless otherwise authorized in writing by the Contracting Officer, the Purchaser shall brand clearly and legibly one end of all logs with a scaling diameter (small end inside bark) of over ten (10) inches, prior to the removal of timber from the contract area. All loads of eleven (11) logs or more will have a minimum of ten (10) logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of ten (10) logs or less. One end of all branded logs to be processed domestically will be marked with a three (3) square inch spot of highway yellow paint. The purchaser will stop trucks for accountability monitoring at mutually agreed upon locations when notified by the Authorized Officer.

If multiple trailers (mule trains) are used, each bunked load shall be considered an individual load, and these guidelines will apply to each bunked load. If a flatbed stake trailer is used, each bundle will be treated as a separate load.

At the discretion of the Contracting Officer, the Purchaser may be required to brand and paint all logs. Any increased costs for log branding and painting shall be the responsibility of the Purchaser.

(c) Road Construction, Renovation, Improvement, Use, and Maintenance

- (1) The Purchaser shall construct Road Nos. 17-1-17.2 Ext., 17-1-17.3, 17-1-17.4, 17-2-12, and 17-2-14; Renovate Road Nos. 17-1-17.1, 17-1-18 Segs. A1, A2, B, C, D, and E, 17-2-11 Segs. A, and B, and 17-2-23 Segs. A, and B, and Improve 17-1-17.2 in strict accordance with the plans and specifications shown on Exhibit C, which is attached hereto and made a part hereof. Exhibit C contains 39 sheets.
- (2) Prior to removal of any timber, except right-of-way timber, the required construction, renovation, and/or improvement of the haul route for that timber shall be completed as specified in Exhibit C. The required construction, renovation, and/or improvement of roads shall occur between June 1 and October 31, and are subject to dry conditions as determined by the Authorized Officer.

- (3) Culvert replacement/installation on streams shall be done between June 1 and October 31 (both days inclusive), and shall be completed prior to hauling and fall rains. During installation of the stream culverts, dewatering of the culvert bed, silt fences and/or straw bales may be required as directed by the Authorized Officer. All work shall be completed in accordance with the plans and specifications shown in Exhibit C.
- (4) The Purchaser shall furnish and place 350 cubic yards of surface maintenance rock in accordance with Exhibit D, which is attached hereto and made part hereof. Exhibit D contains 7 sheets. Road reinforcement (rocking) and additional maintenance that may be required for wet weather haul shall be at the Purchaser’s expense. Purchaser shall be required to provide to the BLM notice of placement as well as locations of where maintenance rock is placed.
- (5) BLM Maintenance: The Purchaser is authorized to use the roads listed below and shown on Exhibit D, which are under the jurisdiction of the Bureau of Land Management, for the removal of Government timber sold under the terms of this contract, and/or the hauling of rock as required in Exhibits C and D, provided that the Purchaser pay the required maintenance and/or rockwear obligations described in Section 44(c)(8) and Section 44(c)(9). The Purchaser shall pay current Bureau of Land Management maintenance and rockwear fees for the sale of additional timber under modification to the contract.

<u>Road No. and Segment</u>	<u>Length Miles Used</u>	<u>Road Ownership</u>	<u>Road Surface Type</u>
17-1-18 Seg. A1	0.20	BLM	BST
17-1-18 Seg. A2	0.15	BLM	AGG

- (6) Purchaser Maintenance: The Purchaser is authorized to use the roads listed below and shown on Exhibit D which are under the jurisdiction of the Bureau of Land Management, Lone Rock Timber Co., Guistina Land and Timber Co., LLC, and/or Franklin Clarkson Timber Co., LLC, for the removal of Government timber sold under the terms of this contract and/or the hauling of rock as required in Exhibits C and D, provided that the Purchaser comply with the conditions set forth in Sections 44(c)(10), 44(c)(11), and 44(c)(12), and pay the required rockwear obligation described in Sections 44(c)(8), 44(c)(9), 44(c)(10), 44(c)(11), and 44(c)(12). The Purchaser shall pay current Bureau of Land Management rockwear fees for the sale of additional timber under modification to the contract.

<u>Road No. and Segment</u>	<u>Length Miles Used</u>	<u>Road Ownership</u>	<u>Road Surface Type</u>
17-1-17.1	0.50	BLM	AGG
17-1-17.2	0.22	BLM	AGG
17-1-17.2 Ext.	0.07	BLM	AGG
17-1-17.3	0.06	BLM	AGG
17-1-17.4	0.02	BLM	AGG
17-1-18 Seg. B	0.63	BLM	AGG
17-1-18 Seg. C	0.43	BLM	AGG
17-1-18 Seg. D	0.11	BLM	AGG
17-1-18 Seg. E	0.05	BLM	AGG
17-2-11 Seg. A	0.15	GLT	AGG
17-2-11 Seg. B	0.02	FCT	AGG
17-2-12	0.12	BLM	AGG
17-2-14	0.08	BLM	AGG
17-2-23 Seg. A	3.19	LRT	AGG
17-2-23 Seg. B	0.11	GLT	AGG

\*GLT=Giustina Land and Timber Co., LLC.  
 \*FCT=Franklin Clarkson Timber Co., LLC.  
 \*LRT=Lone Rock Timber Co.

- (7) The Purchaser shall perform any required road repair and maintenance work on roads used by them, under the terms of Exhibit D, "Road Maintenance Specifications", of this contract.
- (8) The Purchaser shall pay to the Government a road maintenance obligation in the amount of Three Hundred Eighty-nine and 63/100 dollars (\$389.63) for the transportation of timber included in the contract price over the roads listed in Section 44(c)(5).

This road maintenance fee shall be paid prior to removal of any timber from the contract area; provided, however, that if the total of such amount exceeds One Thousand and 00/100 dollars (\$1,000.00), the Authorized Officer may allow the Purchaser to make the payment in installments of not less than One Thousand and 00/100 dollars (\$1,000.00) in the same manner as and together with payments required in Section 3 of this contract.

- (9) The Purchaser shall pay to the Government a road maintenance obligation for rockwear in the amount of One Thousand Seven Hundred Thirty-four and 01/100 dollars (\$1,734.01) for the transportation of timber included in the contract price over the roads listed in Section 44(c)(6).

This rockwear fee shall be paid prior to removal of any timber from the contract area; provided, however, that if the total of such amount exceeds One Thousand and 00/100 dollars (\$1,000.00), the Authorized Officer may allow the Purchaser to make the payment in installments of not less than One Thousand and 00/100 dollars (\$1,000.00) in the same manner as and together with payments required in Section 3 of this contract.

- (10) In the construction of Road No. 17-2-14, the renovation, use, and maintenance of Road No. 17-2-23 Seg. A, and use of tailholds, and/or guybacks in T. 17 S., R. 2 W., Sec. 13, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. R-767 between the United States of America and Lone Rock Timber Co. Prior to the use of said roads, the Purchaser shall furnish the Authorized Officer a copy of the executed License Agreement. Default by the Purchaser of said Right-of-Way and Road Use Agreement, or any License Agreement executed pursuant thereto, for failure to pay appropriate road use fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. Said agreement is available for inspection at the Bureau of Land Management, Springfield Interagency Office, 3106 Pierce Parkway Suite E, Springfield, Oregon. Such conditions include but are not limited to the following actions by the Purchaser:
- (aa) Obtain a license agreement from Lone Rock Timber Co. The license agreement, bond and insurance certificate shall be delivered to Lone Rock Timber Co. at least 15 days prior to use of company roads.
  - (bb) Furnish a performance bond in the amount of Ten Thousand and 00/100 dollars (\$10,000.00).
  - (cc) Maintain comprehensive liability insurance covering all operations, including vehicles, in amounts not less than One Million and 00/100 dollars (\$1,000,000.00) bodily injury for injury to any one person, One Million and 00/100 dollars (\$1,000,000.00) loggers broad form B for any one occurrence, and One Million and 00/100 dollars (\$1,000,000.00) property damage for any one occurrence.
  - (dd) Pay a lump sum road use fee of Eight Thousand Four Hundred Forty-four and 80/100 dollars (\$8,444.80) prior to log hauling.
  - (ee) The Purchaser shall maintain Road No. 17-2-23 Seg. A, in accordance with Section 44(c)(6).
  - (ff) Prior to cutting or removing any timber from the road right-of-ways, the Purchaser shall purchase approximately 0.2 MBF of timber required for the construction of Road No. 17-2-14 at the price per unit used in the Government's contract as set forth on Exhibit B and according to Lone Rock Timber Co. license agreement specifications.
- (11) In the renovation, use, and maintenance of Road Nos. 17-2-11 Seg. A and 17-2-23 Seg. B, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. E-662B between the United States of America and Giustina Land and Timber Co., LLC. Prior to the use of said roads, the Purchaser shall furnish the Authorized Officer a copy of the executed License Agreement. Default by the Purchaser of said Right-of-Way and Road Use Agreement, or any License Agreement executed pursuant thereto, for failure to pay appropriate road use fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. Said agreement is available for inspection at the Bureau of Land Management, Springfield Interagency Office, 3106 Pierce Parkway Suite E, Springfield, Oregon. Such conditions include but are not limited to the following actions by the Purchaser:

- (aa) Obtain a license agreement from Giustina Land and Timber Co., LLC. The license agreement, bond and insurance certificate shall be delivered to Giustina Land and Timber Co., LLC. at least 15 days prior to use of company roads.
  - (bb) Furnish a performance bond in the amount of Ten Thousand and 00/100 dollars (\$10,000.00).
  - (cc) Maintain comprehensive liability insurance covering all operations, including vehicles, in amounts not less than One Million and 00/100 dollars (\$1,000,000.00) bodily injury for injury to any one person, One Million and 00/100 dollars (\$1,000,000.00) for any one occurrence, and One Million and 00/100 dollars (\$1,000,000.00) property damage for any one occurrence.
  - (dd) Pay a lump sum road use fee of One Thousand Thirty-two and 00/100 dollars (\$1,032.00) prior to log hauling. Additional volume sold by modification will be charged road use fees as a system at the rate of \$3.00 per MBF, if applicable, payable at the time of the modification.
  - (ee) The Purchaser shall maintain Road Nos. 17-2-11 Seg. A, and 17-2-23 Seg. B, in accordance with Section 44(c)(6).
- (12) In the construction of Road No. 17-2-12, the renovation, use, and maintenance of Road No. 17-2-11 Seg. B, and use of tailholds, and/or guybacks in T. 17 S., R. 2 W., Sec. 12, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. E-662A between the United States of America and Franklin Clarkson Timber Co., LLC. Prior to the use of said roads, the Purchaser shall furnish the Authorized Officer a copy of the executed License Agreement. Default by the Purchaser of said Right-of-Way and Road Use Agreement, or any License Agreement executed pursuant thereto, for failure to pay appropriate road use fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision. Said agreement is available for inspection at the Bureau of Land Management, Springfield Interagency Office, 3106 Pierce Parkway Suite E, Springfield, Oregon. Such conditions include but are not limited to the following actions by the Purchaser:
- (aa) Obtain a license agreement from Franklin Clarkson Timber Co., LLC. The license agreement, bond and insurance certificate shall be delivered to Franklin Clarkson Timber Co., LLC. at least 15 days prior to use of company roads.
  - (bb) Furnish a performance bond in the amount of Ten Thousand and 00/100 dollars (\$10,000.00).
  - (cc) Maintain comprehensive liability insurance covering all operations, including vehicles, in amounts not less than One Million and 00/100 dollars (\$1,000,000.00) bodily injury for injury to any one person, One Million and 00/100 dollars (\$1,000,000.00) for any one occurrence, and One Million and 00/100 dollars (\$1,000,000.00) property damage for any one occurrence.
  - (dd) Pay a lump sum road use fee of One Thousand Thirty-two and 00/100 dollars (\$1,032.00) prior to log hauling. Additional volume sold by modification will be charged road use fees as a system at the rate of \$3.00 per MBF, if applicable, payable at the time of the modification.
  - (ee) The Purchaser shall maintain Road No. 17-2-11 Seg. B, in accordance with Section 44(c)(6).
  - (ff) Prior to cutting or removing any timber from the road right-of-ways, the Purchaser shall purchase approximately 1.2 MBF of timber required for the construction of Road No. 17-2-12 at the price per unit used in the Government's contract as set forth on Exhibit B and according to Franklin Clarkson Timber Co., LLC license agreement specifications.
- (13) In the use of tailholds/guylines, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement E-656 between the United States of America and Pangaea Pacific Timberlands, LLC.
- (aa) Prior to the use of tailholds/guylines, the Purchaser shall execute a Short Form Tramway Agreement with Pangaea Pacific Timberlands, LLC. The Short Form Tramway Agreement shall be delivered to Pangaea Pacific Timberlands, LLC at least 15 days prior to use.
  - (bb) Prior to use, Licensee agrees to provide Licensor an insurance certificate (listing Licensor as an additional insured) evidencing general and automobile liability insurance, including loggers broad form property damage, in single limit amounts of One Million and 00/100 dollars (\$1,000,000.00) each.

- (14) In the use of tailholds/guylines, the Purchaser shall comply with the conditions of the letter dated April 10, 2024 from Zip-O-Log Mills, Inc.
  - (aa) Reasonable measures must be taken to minimize damage to seedlings.
  - (bb) If equipment anchors are used, equipment must not leave the existing road. Existing road surface must be left in equal or better condition than prior to use. Post harvest road grading may be required if excessive damage is incurred to the road surface, as directed by the Authorized Officer.
- (15) In the use, renovation and / or maintenance of Road No. 17-1-18 as shown on Exhibit C, the Purchaser shall comply with the conditions of Road Easement Nos. RE-E-183 Fisher, RE-E-184 Havens/Holte, and RE-E-418 Christian Logging Co. between the United States and land owners of these easements. Said easements are available for inspection at the Bureau of Land Management, Northwest Oregon District, Upper Willamette Field Office, Oregon.
- (16) With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users on roads included in Section 44(c)(6) of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of their liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. Prior to hauling, the Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreement(s) entered into with other users on these roads.
- (17) The Purchaser also agrees that if they elect to use any private road which is the subject of a right-of-way agreement with the Government, for the removal of Government timber sold under the terms of this contract, they shall request and agree to the modification of this contract to provide for such use.

(d) Environmental Protection

- (1) The Purchaser shall be required to clean logging, piling, road, and decommissioning equipment to remove dirt and plant debris that may contain noxious weed seeds from the undercarriage, tracks and tire treads prior to entry on BLM. The Authorized Officer shall require inspection of equipment to see that it was cleaned prior to arrival on site.
- (2) In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall apply native seed and certified weed-free mulch to cut and fill slopes and ditch lines with the potential for sediment delivery to wetlands, Riparian Reserves, floodplains, and waters of the State, as determined by the Authorized Officer. The BLM will provide native seed and mulch as needed.
- (3) Snag Creation
  - (aa) Snag creation shall be completed within 90 days upon receiving notification from the Authorized Officer.
  - (bb) Purchaser shall select and top 18 trees and girdle 43 standing trees greater than 20 inch DBH. Location of selected trees shall be in accordance with and approved in writing by the Authorized Officer. Portions of trees topped shall remain reserved.
  - (cc) Purchaser shall top trees at a height between 40 and 60 feet. Trees shall have the top completely severed.
  - (dd) The Purchaser shall girdle the stem of the tree at a height of 2 to 5 feet from the ground line. The Purchaser shall complete three parallel cuts spaced 10 to 12 inches apart around the entire stem of the tree for each girdle. The Purchaser shall make cuts to penetrate into the wood and cambium layer of the tree. Trees selected shall be greater than 20 inch DBH or as directed by the Authorized Officer.
  - (ee) No adjustment of volume or value shall be made to meet these requirements.
  - (ff) The Purchaser shall tally all trees by diameter class and species on a daily basis. The tally may be requested by the Authorized Officer at any time during falling/girdling operations. At the end of falling/girdling operations, a completed tree tally shall be submitted to the Authorized Officer.

- (gg) Topping and girdling shall occur after completion of yarding, as directed by the Authorized Officer.
- (4) Cable yarding corridors shall be waterbarred and covered with slash immediately after use if necessary to prevent erosion, as determined by the Authorized Officer.
- (5) Upon each season's shutdown and prior to fall rains, the Purchaser shall block skid trails and natural surfaced roads and shall place them in an erosion-resistant condition by constructing waterbars and/or lead-off ditches. Rocked roads on which Exhibit D final maintenance has not been completed, and that have been determined by the Authorized Officer to not be in an erosion-resistant condition shall have waterbars and/or lead-off ditches constructed. Waterbars shall be constructed in accordance with the specifications shown on Exhibit H, which is attached hereto and made a part hereof. Exhibit H contains 2 sheets. Blocking and water bars shall be completed as directed by the Authorized Officer.
- (6) In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall, upon completion of hauling, and yarding, complete skid trail decommissioning measures. Skid trail decommissioning shall be completed during the dry season, typically between June 1 and October 31, as determined by the Authorized Officer.
- (aa) Purchaser shall decompact skid trails, to a depth of 18 inches with decompaction equipment such as a track mounted excavator with ripping teeth and an opposable thumb. Minimize damage to residual tree roots. The Purchaser shall decompact the entire trail prism. If equipment other than an excavator is used, it shall be approved by the Authorized Officer. It shall also be capable of decompacting to the required depth and provide lateral shatter of compacted layer.
- (bb) Construct drainage dips, waterbars and/or lead-off ditches as directed by the Authorized Officer. Waterbars and drainage dips shall be constructed in accordance with the specifications shown on Exhibit H. Exhibit H contains 2 sheets.
- (e) Fire Prevention
- (1) Primarily for purposes of fire prevention and control, the Purchaser shall, prior to the operation of power driven equipment in construction or logging operations under this contract during fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the Authorized Officer.
- (f) Logging Residue Reduction
- (1) In addition to the requirements of Sections 15 and 26 of this contract, and notwithstanding the Purchaser's satisfactory compliance with State laws and regulations regarding offsetting or abating the additional fire hazard created by this operation and the State's willingness to release the Purchaser from liability for such hazard, the Purchaser shall remain responsible to the Government for performance of the following logging residue reduction and/or site preparation measures required by this contract: Perform logging residue reduction and site preparation work on approximately thirty (30) acres of Regeneration Harvest Areas. Slash, as defined for this section, shall mean all material (brush, limbs, tops, unmerchantable stems, and chunks) severed or knocked over as a result of purchaser's operations under the terms of this contract.
- (aa) Prior to commencement of any logging residue reduction and/or site preparation, a pre-work conference between the Purchaser's representative and the Authorized Officer must be held at a location designated by the Authorized Officer. All logging residue reduction and/or site preparation shall be done in accordance with the plans developed at the pre-work conference.
- (bb) Machine pile and cover slash within ground-based harvested portions of the Regeneration Harvest Areas as directed by the Authorized Officer. Slash shall be piled by a machine equipped with a hydraulic thumb or a controllable, grapple head. If the purchaser elects to cable yard areas that were planned for ground based harvest (areas less than 35% slope or 50% slope if specialized equipment was used) and the slash exceeds 6 inches in depth, piling will be required as directed by the Authorized Officer.
- (1) Unmerchantable logs greater than six (6) inches on the small end shall be left in place, or positioned so that they will not be burned.



- (2) Machine piles shall be located as far as possible from reserve trees, culverts, or unit boundaries to minimize damage.
  - (3) Machine piles shall be kept free of dirt and other non-woody debris and constructed as compactly as possible. There should be an adequate supply of finer fuels located within and under the covered area of the pile to ensure ignition of the larger fuels. Slash left on the ground shall not exceed 6 inches in depth.
  - (4) All piles shall be covered with black six (6) Mil polyethylene plastic to cover at least fifty (50) percent of the surface of each pile, minimum plastic size of 10' x 10' cover. Plastic shall be held in place with woody debris and tied with combustible cord. The plastic must be secured so that it is held in place during strong wind conditions and maintains coverage for at least one year. The Purchaser is required to furnish the covering materials. Covering shall be completed at the time of piling and no later than September 15<sup>th</sup> of the year it was harvested, or as directed by the Authorized Officer.
  - (5) Regeneration Harvest Areas shall be piled during the same season that they are logged, unless otherwise directed by the Authorized Officer.
- (cc) Pile and cover landing slash and slash within twenty five (25) feet of all roads within or adjacent to the harvest units. All tops, broken pieces, limbs and debris more than two (2) inches in diameter at the large end and longer than three (3) feet in length shall be piled within fifteen (15) days of completion of hauling logs from that landing. Landing piles shall be kept free of dirt and located at least twenty (20) feet from any reserve tree and/or as directed by the Authorized Officer.
- (1) All logs greater than six (6) inches in diameter at the large end and longer than eight (8) feet in length shall be decked or windrowed at the location designated by the Authorized Officer, except logs sold and removed from the contract area.
  - (2) Upon completion of landing and roadside piling, the Purchaser shall prepare the piles for burning by securely covering each pile with black six (6) Mil polyethylene plastic. Landing and roadside piles shall be at least fifty (50) percent covered with the covering extending half of the way down all sides, minimum plastic size of 10' x 10'. There should be an adequate supply of finer fuels located within and under the covered area of the pile to ensure ignition of the larger fuels. Plastic shall be held in place with woody debris and tied with combustible cord. The plastic must be secured so that it is held in place during strong wind conditions and maintains coverage for at least one year. The Purchaser is required to furnish the covering materials. Covering shall be completed at the time of piling and no later than September 15<sup>th</sup> of the year it was harvested, or as directed by the Authorized Officer. If the structure of the landing piles will not permit adequate consumption of piled debris by burning, the Purchaser shall re-pile them at the direction of the Authorized Officer.
- (2) Notwithstanding the provisions of Sec. 15 of this contract, the Government shall assume all obligations for disposal or reduction of fire hazards created by Purchaser's operations on Government lands, except for burning and mop-up assistance as required herein and measures required in Section 44(e). In accordance with written instruction to be issued by the Authorized Officer at least 10 days in advance of the earliest date of required performance, the Purchaser shall, under supervision of the Authorized Officer or designated representative, assist in preparing units for burning, mop-up, and patrol by furnishing, at the Purchaser's own expense, the services of personnel and equipment on harvest area as shown below:
- (aa) For Igniting, Holding, and Mop-Up of Piles:
- (1) One (1) work leader (Firefighter Type 1 (FFT1)) to supervise crew and equipment operations, and to serve as Purchaser's representative.
  - (2) Two (2) person crew (Firefighter Type 2 (FFT2)).
  - (3) Sufficient fuel for burning, five (5) drip torches or propane burners, one (1) power saw, one (1) backpack pump, and one (1) tool for each crew member.

- (4) Radios capable of inter-crew communications and communication with a BLM representative at a ratio of one (1) radio per every five (5) crew members.
- (5) All ignition, holding, and mop-up personnel will be directly supervised by a BLM representative.

Aircraft and pilots used for Logging Residue Reduction or the suppression of escaped fires from Logging Residue Reduction operations, shall be acquired from a list of aircraft and pilots approved (i.e., carded for these specific activities) by the Office of Aircraft Services or the U.S. Forest Service. This list is available from BLM District Offices upon request.

All listed personnel shall be physically fit, experienced and fully capable of functioning as required. In addition, all listed personnel shall be qualified according to the National Wildfire Coordinating Group (NWCG) Wildland Fire Qualification System Guide, PMS-310-1 and provide documentation of these qualifications. On the day of ignition all listed personnel shall be fluent in speaking and understanding English, clothing shall consist of long pants and long sleeved shirts, and be of approved aramid fabric (Nomex™ or equivalent), as well as being free of diesel fuel oil. All personnel shall wear boots with minimum eight (8) inch tall uppers that provide ankle support, approved hardhats and leather gloves. Personnel who do not meet these requirements or do not have proper clothing and personal protective equipment (PPE) will not be allowed to participate. All listed tools and equipment shall be in good usable condition. All power-driven equipment shall be fully fueled and available for immediate use. During periods of use under this subsection, the Purchaser shall provide fuel and maintenance for all such power-driven equipment.

Except as provided hereafter for fire escapement, the Purchaser shall continue the required assistance in mop up on each cutting unit shown on Exhibit A for seventy-two (72) hours, as directed by the Authorized Officer within a five (5) day period commencing at 8:00 a.m. the day following the completion of ignition in that unit, or until released from such service by the Government, whichever occurs first.

In event of a fire escapement, the Purchaser's personnel and equipment shall, under supervision of the Authorized Officer, take action to control and mop up the escaped fire until released from such service by the Government. If it becomes necessary to use furnished personnel and equipment for the suppression of a fire which escapes from the prescribed fire area for a period beyond the remainder of the day in which the fire escapes, then the Government shall, at its option: (1) reimburse the Purchaser for such additional use of personnel and equipment at wage rates shown in the current Administratively Determined Pay Rates for the Western Area and at equipment rates shown in the current Oregon-Washington Interagency Fire Fighting Equipment Rental Rates schedule until the Purchaser is released from such service by the Government; or (2) release the Purchaser from additional suppression work and assume responsibility for suppressing the escaped fire.

In situations where an escaped fire is controlled and contained by an adequate fire break (i.e., trail, road, stream, rock formation, etc.), the Government may permit the Purchaser to remove personnel for that day; provided that all mop up work on the escaped fire is included with mop up work on the prescribed fire area. In such an event, the Purchaser must sign a statement of agreement to complete mop up work on all escaped fire areas concurrently with mop up work on the prescribed fire area.

In case of injury to personnel or damage to equipment furnished as required by this subsection, liability shall be borne by the Purchaser, unless such injury or damage is caused by Government negligence.

Time is of the essence in complying with this provision. In the event the Purchaser fails to provide the personnel and equipment required herein, the Purchaser shall be responsible for all additional cost incurred by the Government in disposing of slash including but not limited to the wages and other costs of providing federal employees and others as substitute labor force, the cost of providing substitute equipment and appropriate additional overhead expenses. If the Purchaser's failure results in a deferral of burning and new conditions necessitate additional personnel and equipment to accomplish the planned burn, the Purchaser also shall be responsible for such additional costs.

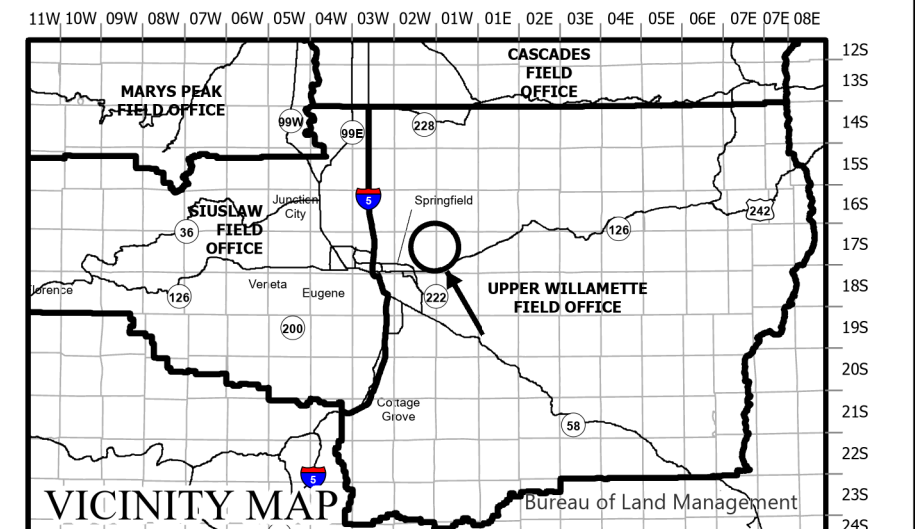
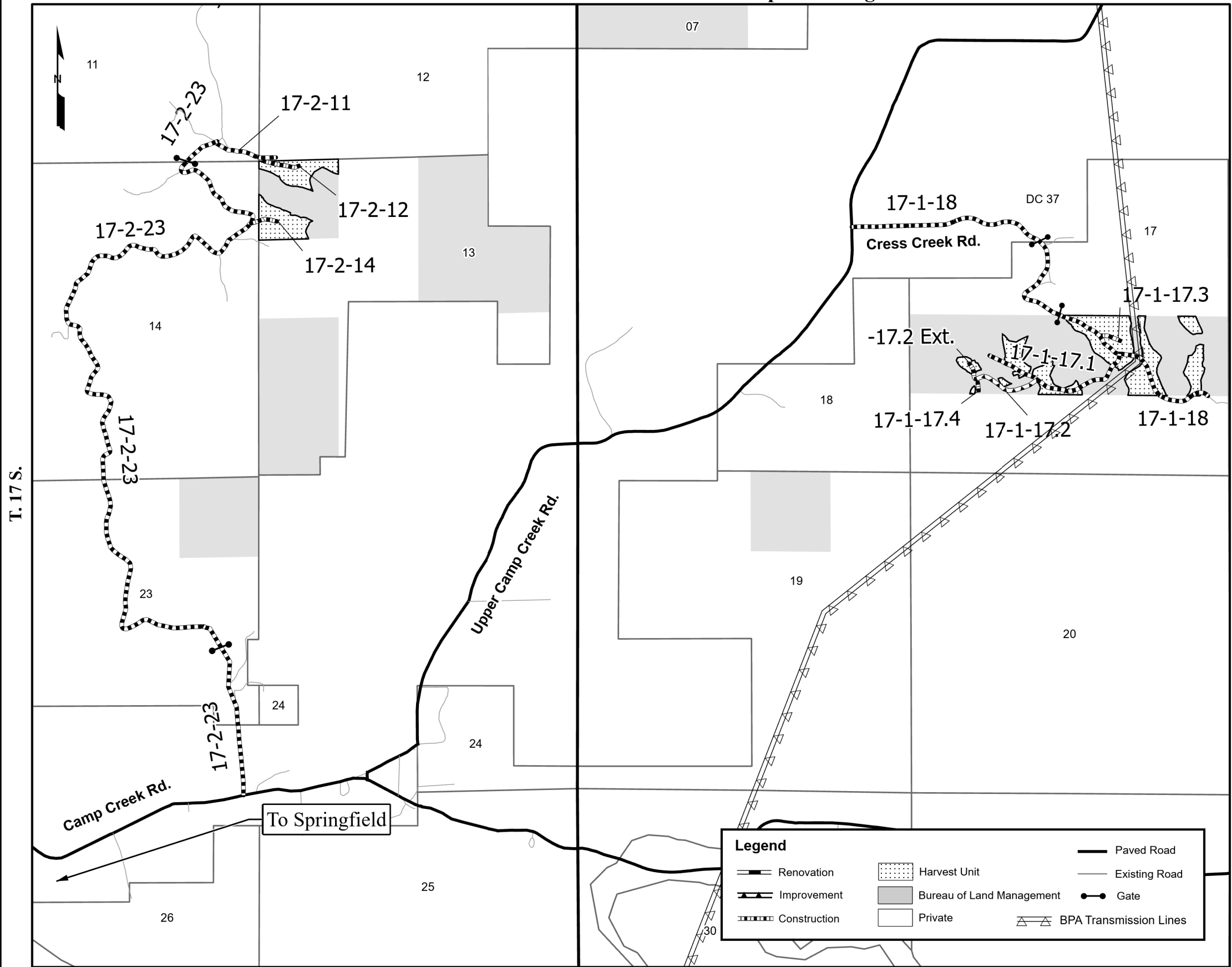
(g) Optional Contributions

- (1) The Purchaser shall assist the Government in pile burning of slash in accordance with Section 44(f)(2). The Purchaser shall have the option of completing this work, or in lieu of, may make a buyout security deposit to the Bureau of Land Management in the amount Four Thousand Four Hundred Thirty-One and 32/100 dollars (\$4,431.32), and upon making such deposit, the Purchaser shall be relieved of the pile burning obligations set out in this subsection. The Purchaser shall notify the Authorized Officer of their intention to make this deposit prior to the date of execution of this contract, and the Purchaser shall pay such amount in full prior to the commencement of operations.



**UNITED STATES  
DEPARTMENT OF THE INTERIOR  
Bureau of Land Management, Northwest Oregon District  
Spare Change Timber Sale**

Exhibit C



Index	
Sheet	Contents
1	Cover Sheet
2-3	Special Provisions
4-28	General Specifications
29-32	Section Map Worklists
33	Typical Cross Sections
34	Landing Details
35	Culvert Summary
36	Culvert Installation Details
37	Culvert Bedding & Backfill Details
38	Slope Protection Details
39	Typical Roadside Brushing

**Sale Name:** Spare Change Timber Sale  
**Contract No.:** ORN05-TS-2024.0558

**Construction:**  
 Road No. 17-1-17.2 Ext; 17-1-17.3; 17-1-17.4; 17-2-12; and 17-2-14.

**Renovation:**  
 Road Nos. 17-1-17.1; 17-1-18 Segs. A1, A2, B, C, D and E; 17-2-11; and 17-2-23.

**Improvement:**  
 Road No. 17-1-17.2.

T. 17 S., R. 1 W., Sec. DC 37 & 17.  
 T. 17 S., R. 2 W., Sec. 11, 12, 13, 14 & 23.  
 Willamette Meridian, Lane County, Oregon

Designed: E. Bundy Recommended

Drawn: E. Bundy Lead Engineer

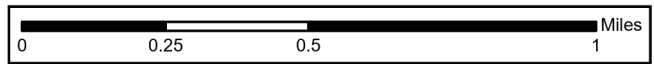
Checked: Approved

Date: 01/31/2024 Field Manager

Always Think *Safety*

R. 02 W.

R. 01 W.



### SPECIAL PROVISIONS

1. The Purchaser shall clean road equipment to remove dirt and plant debris that may contain noxious weed seeds from the undercarriage, tracks, and tire treads prior to entry on BLM lands.
2. All road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway by water barring, maintaining drainage and any additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer. Any portion of road not having surfacing rock in place will be water-barred and blocked or barricaded to prevent vehicular traffic.
3. Before beginning road renovation, improvement or construction operations for the first time or after a shutdown of 7 or more days, the Purchaser shall notify the Authorized Officer of the date he plans to begin operations. The Purchaser shall also notify the Authorized Officer if they intend to cease operations for any period of 30 or more days.
4. Residential access will be affected by culvert replacements on Road No. 17-1-18, from mile post 0 to mile post 0.65. Purchaser shall notify all residents affected by culvert replacement activities 10 days prior to closures. Culvert replacement operations shall be limited to the hours of 9:00 AM to 3:00 PM.
5. Purchaser shall provide proof at the pre-work conference that operations permits with the Oregon Department of Forestry have been obtained for road work on federal and private land.
6. The P-lines, as shown on Exhibit C, are intended to be used as a control and should be considered as being in the area of the finished grade.
7. Suggested Rock Source: Commercial Quarry.

<b>Estimated Quantities: Crushed Rock</b>	<b>Gradation:</b>	<b>Truck Yards:</b>
Exhibit C: Surfacing/Base Rock	3/4" Minus	377 CY
	1-1/2" Minus	1,681 CY
	3" Minus	1,661 CY
	6" Minus	1,828 CY
Culvert Bedding/Back Fill Armoring	3/4" Minus	260 CY
	6" Minus	32 CY
Exhibit D: Maintenance Rock		350 CY
<b>TOTAL:</b>		<b>6,189 Truck Yds</b>

**Note: Surfacing & bedding rock quantities shown above are estimates.**

8. The Purchaser will be required provide 350 CY of rock to be used for maintenance during hauling as well as final road maintenance. Additional road reinforcement (rocking) may be required for wet weather haul and will be at the Purchaser's expense.

9. The removal and installation of all culverts shall comply with the following requirements:
  - (a) The Authorized Officer shall be given 2 business days' notice prior to the commencement of stream culvert installations.
  - (b) Road closed signs or traffic control flaggers shall be used above and below the culvert replacement site whenever the situation is unsafe for through traffic as determined by the Authorized Officer. Road closure plans shall be coordinated with other users.
  - (c) Culvert replacement/installation on streams shall be done between June 1st and October 31st (both days inclusive), and all removal and replacement/installation shall be completed prior to hauling and fall rains. During installation of stream culverts, silt fences and/or straw bales may be required as directed by the Authorized Officer. All work shall be completed in accordance with the plans and specifications shown on the Exhibit C.
  - (d) Dewatering of the culvert is required on all live streams and as directed by the Authorized Officer.
  - (e) No bedding shall be done on culvert installation of CMPs or CPPs 30" in diameter and greater unless the Authorized Officer is present. Backfill material shall not be placed prior to approval from the Authorized Officer.
  - (f) All culvert replacements on existing rocked roads shall be resurfaced in accordance with the Worklist Maps and surfacing detail sheets. In addition to surfacing requirements on the Worklist Maps and surfacing detail sheets, culvert replacements on existing roads shall require an additional 12" lift of surface replacement base rock, as determined by the Authorized Officer.
  - (g) All CMPs shall use an "O" ring neoprene gasket to insure a water-tight joint.
  - (h) All excess and unsuitable material from culvert removals shall be hauled to waste area locations approved by the Authorized Officer. All borrow site locations shall be approved by the Authorized Officer.
10. Seed and mulch will be required at all culvert installation/replacement sites, and waste disposal sites in accordance with Section 1800 of this Exhibit.
  - (a) Additional seed and mulch may be required if renovation, construction and/or improvement occurs outside of the dry season, June 1 – October 31. Additional seeding and mulching may consist of treating ditch lines, creating mulch check dams, and other measures, as directed by the Authorized Officer, to ensure erosion control.
11. When work is occurring within 300 feet of the BPA Transmission Right-of-Way shown on Exhibit A, the Purchaser shall comply with the following conditions:
  - (a) Prior to the start of all road construction, renovation or improvement operations, the Purchaser shall meet with BPA representatives and the Authorized Officer.
  - (b) Keep passage open to at least one vehicle width on all BPA access roads to allow for maintenance of transmission lines as determined by the Authorized Officer.
  - (c) No log decking, storage of logs, storage and transportation of flammable materials, or fueling of vehicles shall occur within the BPA Transmission Right-of-Way.
  - (d) No loading of logging trucks shall be allowed within the BPA Transmission Right-of-Way. All equipment including logging trucks shall not be loaded to a height greater than 14 feet above the roadbed when traveling under the transmission lines.

## TIMBER SALE ROAD SPECIFICATIONS

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600	Watering
1000	Aggregate Base Course - Crushed Rock
1200	Aggregate Surface Course - Crushed Rock
1400	Slope Protection
1600	Quarry and Borrow Pit Development
1700	Erosion Control
1800	Soil Stabilization
2100	Roadside Brushing

**GENERAL – 100**

101 — Prewrite Conference:

A prework conference will be held prior to the start of new construction, renovation, improvement, quarry development, and surfacing operations. The Purchaser shall request the conference at least 48 hours prior to the time it is to be held. The conference will be attended by the Purchaser and/or his representatives, subcontractors and/or his or their representatives and the Authorized Officer and/or his representatives.

The purpose of the prework 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 subcontractors. A prework conference shall be scheduled at the worksite for quarry development and stream culvert installations.

102 — Definitions:

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

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.

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 side casting material outside of the road prism.

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

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

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.

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.

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.

Slope ratio notation (horizontal/vertical) – Slope ratios for constructed cut and fill slopes are expressed as a ratio of horizontal units to vertical units.

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 pit run 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 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.

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.

102a — Tests Used in These Specifications:

<u>AASHTO T 11</u>	Quantity of rock finer than No. 200 sieve.
<u>AASHTO T 27</u>	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
<u>AASHTO T 89</u>	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
<u>AASHTO T 90</u>	Plastic limits and plasticity index of soil. a. Plastic limit - lowest water content at which the soil remains plastic. b. 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.
<u>AASHTO T 96</u>	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.

<u>AASHTO T 99</u>	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.
<u>AASHTO T 176</u>	Shows relative portions of fine dust or claylike materials in soil or graded aggregate.
<u>AASHTO T 180</u>	(OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop height.
<u>AASHTO T 191</u>	<u>Sand Cone.</u> 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.
<u>AASHTO T 205</u>	<u>Rubber balloon.</u> Density of soil in place. Use for compacted or firmly bonded soil.
<u>AASHTO T 209</u>	Maximum Specific Gravity of Bituminous Paving Mixtures.
<u>AASHTO T 210</u>	Durability of aggregates based on resistance to produce fines.
<u>AASHTO T 224</u>	Correction for coarse particles in the soil.
<u>AASHTO T 238</u>	Density of Soil and Soil-Aggregate in place by nuclear methods.
<u>AASHTO T 248</u>	Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.
<u>ASTM D 4564</u>	Determination of relative density of cohesionless soils.
<u>DMSO (dimethyl sulfide)</u>	Determines volume of expanding clays in aggregates. Usually associated with marine basalts.

- 103 — Compaction equipment shall meet the following requirements:
- 103a — Padded Drum (Tamping) Rollers. The unit shall consist of a drum with pads, be either self-propelled or towed by a tractor, and capable of operating at a speed of 6 mph. The drum shall be no less than 48 inches in diameter over the pads and not less than 60 inches in width. The pads shall have a minimum height of 3 inches, and a face area of not less than 14 square inches. The weight at drum shall be no less than 8000 lb.
- 103c — Smooth-wheel power rollers. Smooth-wheel power rollers shall either be of the 3-wheel type, weighing not less than 10 tons, or of the tandem type, 2-wheel or 3-wheel, weighing not less than 8 tons. Smooth-wheel roller shall provide compression of 325 pounds per linear inch of width of rear wheels or drum.

- 103d — Pneumatic-tired rollers. Pneumatic-tired rollers shall be of the double-axle type equipped with pneumatic tires each of equal size and type. The spacing between the sidewalls of adjacent tires shall not exceed 5 inches and the rear tires shall be staggered in relation to the front tires. The rolling width of the unit shall be not less than 60 inches, exclusive of the power unit.

The roller shall be so constructed that the contact pressure is uniformly distributed on all of the tires, and the tires shall be inflated to maintain the air pressure in the several tires within a total tolerance of 5 pounds per square inch. The roller shall be so constructed that the total weight shall be between 1,000 and 2,000 pounds per tire. The actual operating weight of the rollers shall be as ordered by the Authorized Officer.

Each pneumatic-tired roller shall be drawn by equipment having sufficient power and weight under normal working condition to pull the roller at a minimum speed of 5 miles per hour, or it may be self-propelled to obtain a minimum speed of 5 miles per hour.

- 103e — Grid roller. A grid roller shall consist of two or more cylindrical drums independently mounted on a common shaft in a rigid frame. Each drum shall have a minimum outside diameter of 5 feet and a minimum width of 2 feet 6 inches. The overall width of the roller exclusive of frame shall be not less than 5 feet 6 inches of which not more than 6 inches shall be used for center spacing between two roller drums. The face of the drums shall have the appearance of woven open-mesh made by interlacing bars of not less than 1-1/4 inches nor more than 1-3/4 inches diameter spaced on 4-1/2 inches to 5-1/2 inches center. Net opening between the bars shall be not less than 3 inches nor more than 4 inches. The roller shall be so constructed that counterweights can be used to adjust the gross weight of the roller to not less than 27,000 pounds. The grid roller shall be drawn by a power unit capable of propelling the fully loaded roller through 6 inches of loose embankment material at a speed of at least 4 miles per hour.

- 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.
- 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.
- 201a — This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects and protruding obstructions from borrow pits, quarries, channel changes, stockpile sites, etc.,

in accordance with these specifications.

- 202 — Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend 5 feet back of the top of the cut slope and 5 feet out from the toe of the fill slope.
- 202a — Where clearing limits for quarries, stockpile sites, and ditches have not been staked or shown on the plans, the limits shall extend 5 feet back of the top of the cut slope and 5 feet outside of the outside slope lines.
- 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 Subsections 202, 202a, 202b, and as posted on the ground.
- 203a — Brush under 2 feet in height need not be cut within the limits established for clearing.
- 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, 204b, 204c, 204d, and 204e between the top of the cut slope and the toe of the fill slope. Undisturbed stumps, roots and other solid objects which will be a minimum of 3 feet below subgrades or slope surfaces or embankments are excluded.
- 204a — Stumps, including those overhanging cut banks, shall be removed within the required excavation limits.
- 204b — Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than 4 feet. When authorized, stumps and other nonperishable objects may be left provided they do not extend more than 6 inches above the existing ground line.
- 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.
- 204e — Roots and embedded wood material shall be removed to a depth not less than 1 foot below embankment subgrades or slope surfaces.
- 205 — Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections. Such debris will, however, be permitted to remain under waste material from full-bench construction on steep side slopes.
- 206 — Clearing and grubbing debris shall be disposed of by scattering in accordance with Subsection 210.
- 206a — Notwithstanding Subsections 204, 204a, 204d, and 205, clearing and grubbing debris resulting from landing construction, shall be placed at disposal sites and shall not be covered with excavated material. Location of disposal sites will be determined by the Authorized Officer.

- 210 — Disposal of clearing and grubbing debris and stumps and cull logs 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, stumps and cull logs on non-government property by scattering 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.
- 210b — Clearing and grubbing debris, stumps and cull logs resulting from road construction on non-Government property shall be disposed of as stated in the terms and conditions of the License Agreement between the Purchaser and non-Government land owner.
- 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.
- 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.
- 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 6 inches in depth.
- 306 — Layers of embankment, selected borrow, and selected roadway excavation material as specified under Subsections 305a, 305b, 317, and 317a 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 103a, 103c, 103d, 103e, 103f, 103g, and 103i.
- 306a — Minimum compaction for each layer of embankment, selected borrow, and selected roadway excavation material placed at optimum moisture shall be 1 hour of continuous compacting for each 150 cubic yards in place or 4 stations of road or fraction thereof.
- 306d — Compacted materials within 3 feet of the established subgrade elevation shall have a density in place of not less than 95 percent of maximum density, and below the 3-foot limit, these materials shall have a density in place of not less than 90 percent of maximum density. Maximum density shall be determined by AASHTO T 99, Method A or Method D.
- 306e — The final subgrade including landings shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103a, 103c, 103d, 103e, 103f, 103g, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 4 stations of road or a fraction of as measured along the center line of the constructed road.
- 311 — In solid rock cuts where pockets that will not drain are formed by blasting below the subgrade elevation, drainage shall be provided by ditching to the edge of the subgrade and backfilling to grade and compacting the pockets and the ditch with rock fragments, gravel, or other suitable porous material.
- 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 Subsection 306.
- 313 — In cut areas where solid rock is encountered at, or near subgrade, the rock shall be excavated to a minimum depth of 6 inches below subgrade elevation and the excavated area backfilled with suitable material. The backfill material shall be processed to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of 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.

- 317a — Where indicated on the plans, the Purchaser shall conserve excavation material consisting of talus material, gravel, finely broken rock or other material of granular or favorable characteristics for placement on the top portions of the roadbed as shown on the plans and as directed by the Authorized Officer.
- 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.
- 318a — Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed to a depth which, after compaction, will provide the depth shown on the plans. Compaction shall be accomplished by 1 hour of continuous compaction per 4 stations of road.
- 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 not required. Materials placed shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.
- 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 in segments or for the total project. The Purchaser shall give the Authorized Officer 3 days notice prior to final inspection of the grading operations and start of surfacing operations.

#### **PIPE CULVERTS – 400**

- 401 — This work shall consist of furnishing and installing pipe culverts 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 upon completion of the roadbed. 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 1 percent to 4 percent greater than the adjacent road grade. Grade culverts shall be skewed down grade 15-30 degrees as measured from a line perpendicular to the centerline unless otherwise specified on the plans.



- 405e — Corrugated-polyethylene pipe for culverts 12-inch through 36-inch diameter shall meet the requirements of AASHTO M 294.
- Corrugated-polyethylene pipe for culverts 42-inch through 60-inch diameter shall meet the requirements of AASHTO M 294-03, Type D or Type S.
- Corrugated-polyethylene pipe for culverts to be used for downspouts 12-inch through 60-inch diameter shall meet the requirements of AASHTO M 294-03, Type C.
- Installation will be subject to the same specification as other pipe materials.
- 405f — Ring gaskets for rigid pipe shall meet the requirements of AASHTO M 198. Continuous flat gaskets for flexible metal pipe shall meet the requirements of ASTM D 1056, with grade RE 41 used for bands with projections or flat bands, and grade RE 43 used for corrugated bands. When used with metal pipe with annular reformed ends, the ring gasket shall be one-fourth greater in diameter than the depth of the corrugation. Gasket thickness for bands with projections or flat bands shall be 1/2 inch greater than the nominal depth of the corrugation and shall be 3/8 inch for corrugated bands. For pipe with flanged ends, a butyl-rubber-strip gasket shall be placed inside the channel band.
- 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 plus 2 feet on each side of the pipe and shall be backfilled with crushed rock material in accordance with Section 1200 gradation E.
- 413 — Pipe culverts shall be bedded on a crushed rock material in accordance with Section 1200 gradation E 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.
- 414a — The invert grade of the bedding shall be cambered at the middle ordinate a minimum of 1 percent of the total length of the drainage structure. Camber shall be developed on a parabolic curve.
- 415 — Inspection of pipe culverts having a diameter of 30 inches or larger shall be made before backfill is placed. Culverts found to be out of alignment or damaged shall be replaced, reinstalled or repaired as directed by the Authorized Officer at the Purchaser's expense.
- 416 — Back-fill material for all pipe culverts shall be placed at a minimum of 2 feet of the sides of the pipe barrel, and to 1 foot over the pipe with crushed rock material in accordance with Section 1200 gradation E or granular fill material that has been approved by the Authorized Officer and is 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 — Back-fill material for all pipe culverts shall conform to the requirements of Subsection 416 and 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 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 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 is attained as determined by AASHTO T 99, Method C.
- 418 — Back-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.
- 423 — Construction of catch basins and ditch dams conforming to lines, grades, dimensions and typical diagrams shown on the plans, shall be required as directed by the Authorized Officer.
- 424 — Construction of splash pads and/or energy dissipaters conforming to lines, grades, dimensions and typical diagram shown on the plans, shall be required as specified on the Culvert Worksheet and Worklist Maps.
- 425 — Where pervious materials are used for backfill and bedding, collars consisting of selected impervious material shall be placed at the inlet and at various intervals along the pipe barrel as shown on the plans and as directed by the Authorized Officer.
- 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 pay any fees required. The Purchaser shall remove the old culverts from the work site prior to road acceptance.
- 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 than 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, and as marked on the ground.
- 501a — This work shall include the removal and disposal of slides in accordance with these specifications and as marked on the ground.
- 502 — The existing road surface shall be scarified to its full width and to a depth of 6 inches to eliminate

surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections shown on the plans and shown on the Worklist Maps

- 502a — Rocks larger than 4 inches in maximum dimension shall be removed from the scarified layers of the roadbed. Material so removed will not be permitted to remain on road shoulders or in ditches.
- 502b — Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.
- 503 — Debris from slides shall be disposed of as directed by the Authorized Officer.
- 504 — Scarified material or 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 103a, 103c, 103d, 103e, 103f, 103g, and 103i.
- 504a — Minimum compaction required shall be 1 hour of continuous rolling for each 4 stations of road, or fraction thereof, as measured along the centerline per layer of material.
- 504c — A uniform density of not less than 95 percent of the maximum density as determined by AASHTO T 99, Method A, C, or D shall be attained.
- 506 — The inlet end of all 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 designated 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 shown on the Culvert Worklist sheet shall be replaced or installed 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 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 1 day 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

- 604 — such design as to ensure uniform application of water on the roadbed.  
 — Water required under these specifications shall be obtained from a source approved by the Authorized Officer.

Willamette Meridian

Common Name	Section	T.	R.
17-2-23 Pump Chance	11	17 S	2 W

Use of water sources are subject to applicable State water regulations. In the event that the required water is not available at the locations specified, water shall be obtained from a source approved by the Authorized Officer. A reduction shall be made in the total purchase price to reflect additional hauling distance based on rental rates from current BLM Timber Appraisal Cost Schedules.

- 605 — The Purchaser shall secure the necessary water permits and pay all required water fees for use of the water sources specified under Subsection 604 and for use of water sources selected by the Purchaser and approved by the Authorized Officer.

**AGGREGATE BASE COURSE – 1000**  
**CRUSHED ROCK MATERIAL**

- 1001 — This work shall consist of furnishing, hauling, and placing one or more lifts of crushed rock material on roadbeds and landings 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.
- 1002 — Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from the source shown on the plans. Development and mining of such source shall be in accordance with Subsections 1601 and 1602 of these specifications.
- 1002a — Crushed rock materials may be obtained from commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.
- 1003 — Crushed rock material produced from gravel shall have 2 manufactured fractured faces on 65 percent, by weight, of the material retained on the No. 4 sieve. If necessary to meet the above requirement, or to eliminate an excess of filler, the gravel shall be screened before crushing.
- 1004 — Crushed rock materials shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1004

AGGREGATE BASE COURSE  
CRUSHED ROCK MATERIAL  
 Percentage by Weight Passing Square  
 Mesh Sieves  
 (AASHTO T 11 & T 27)

Sieve Designation	GRADATION	
	A	I
6-inch	-	100
3-inch	100	45-65
2-inch	90-95	-
1-1/2-inch	-	-
1-inch	45-75	-
3/4-inch	-	-
1/2-inch	-	-
3/8-inch	-	-
No. 4	15-45	0-10
No. 8	-	-
No. 10	-	-
No. 30	-	-
No. 40	5-25	-
No. 200	2-15	-

- 1004a — The Purchaser shall be required to take one (1) sample of each 1,000 cubic yards of crushed rock material produced, using approved AASHTO sampling procedures. The Purchaser shall submit samples to a certified lab or shall perform testing for gradation requirements using ASHTO T 11 and AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample with proper identification available for testing by the Authorized Officer. Each sample and the results of Purchaser testing shall be made available to the Authorized Officer within twenty-four 24 hours of sampling. The Purchaser shall provide test results for the first five hundred 500 cubic yards produced prior to commencing production crushing and hauling.
  
- 1005 — 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.
  
- 1006 — Crushed rock material shall show durability value of not less than 35, as determined by AASHTO T 210.
  
- 1007 — That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have liquid limits of not more than 35, and a plasticity index of not less than 4 and not more than 12 as determined by AASHTO T 89 and AASHTO T 90.
  
- 1007a — 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 equivalent of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1007a

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

- 1008 — If additional binder or filler is necessary in order 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.
- 1008a — 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.
- 1009 — The roadbed, as shaped and compacted under Sections 300 and 500 of these specifications, shall be approved in writing by the Authorized Officer prior to placement of crushed rock materials. Notification for final inspection prior to rocking shall be 72 hours prior to that inspection and shall be 10 days prior to start of rocking operations.
- 1010 — Crushed rock materials shall be placed and processed 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 as staked on the ground and compacted in layers not to exceed 6 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 adding or removing crushed rock material until the surface is smooth and uniform.
- 1010a — Crushed rock material used to repair or reinforce a soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing under this specification unless approved as such by the Authorized Officer prior to placement.
- 1012 — Each layer of crushed rock material shall be placed, processed, shaped, moistened or dried to a uniform moisture content suitable for maximum compaction, and compacted to full width by compaction equipment conforming to the requirements of Subsections 103a, 103c, 103d, 103e, 103f, 103g, and 103i. Minimum compaction shall be one 1 hour of continuous compacting for each 150 cubic yards, or fraction thereof, of crushed rock material placed per layer and deemed adequate when the surface can withstand five passes of a truck with H-20 loading without appreciable deformation.
- 1013 — Each layer of crushed rock material for base placed, processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and

compacted to full width until a uniform density of not less than 85 percent of the maximum density is attained as determined by AASHTO T 99, Method D.

- 1018 — The equipment and methods used for stockpiling crushed rock material and for removing material from the stockpiles shall be such that minimum degradation or segregation of the material will result and that minimal amounts of foreign material will be incorporated into the crushed base material. There will be no intermingling of stockpiled materials.
- 1020 — Crushed rock material required under Section 1000 of these specifications shall first be placed in stockpile after crushing. The Purchaser shall notify the Authorized Officer a minimum of 3 days in advance of the date he intends to commence the crushing and stock-piling operation so that progressive test samples can be taken as the crushed rock material is produced. Sample material shall remain in stockpile until such time the Authorized Officer receives test results which indicate compliance with Subsections 1003, 1004, 1005, 1006, 1007, 1007a, and 1008. Crushed rock material so tested shall be approved in writing by the Authorized Officer within 6 days from sampling date. Approved material may then be removed from stockpile for placement on the designated road. In no event shall the Purchaser place crushed rock materials on the road from sources other than the tested and approved stockpiles. Noncompliance with the requirements of this subsection shall constitute grounds for the rejection of crushed rock materials furnished under this contract.

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

- 1201 — This work shall consist of furnishing, 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 source shown on the plans. Development and mining of such sources shall be in accordance with Subsection 1601 and 1602 of these specifications.
- 1202a — Crushed rock materials used in this work may be obtained from commercial sources 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. If necessary to meet the above requirements or to eliminate an excess of filler, the gravel shall be screened before crushing.
- 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)

Sieve Designation	GRADATION		
	A	C	E
6 - inch	-		
3 - inch	100		
2 - inch	90-95		
1-1/2-inch	-	100	
1-inch	15-75	-	-
3/4-inch	-	50-90	100
1/2-inch	-	-	-
No. 4	-	25-50	40-75
No. 8	-	-	-
No. 30	-	-	-
No. 40	5-25	5-25	5-35
No. 200	2-15	2-15	2-15

- 1204a — The Purchaser shall be required to take one sample for each 1,000 cubic yards of crushed rock material to be utilized or a minimum of 1 sample per day using AASHTO sampling procedures. The Purchaser shall submit samples to a certified lab or perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures and also perform testing for sand equivalency requirements using AASHTO T 176 testing procedures. Prior to testing, each sample shall be split, making one half of the sample, with proper identification, available for testing by the Authorized Officer. Each sample and the results of Purchaser testing shall be made available to the Authorized Officer within 24 hours of sampling. The Purchaser shall provide test results for the first 500 cubic yards produced prior to commencing production crushing and hauling.
- 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 and will be accepted if it complies with the additional DMSO requirements as shown on Table 1206a.
- 1206a — The crushed rock material shall show a loss of not more than the percentage shown in Table 1206a, when submerged in DMSO, dimethyl sulfoxide, for five days, according to Federal Highway Administration Region 10 Accelerated Weathering Test Procedure.



TABLE 1206a

<b>Durability</b>	<b>DMSO (% loss by wt.)</b>
35	20
40	25
45	30
50	35
55	40
60	45

- 1207 — That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have a liquid limit of not more than 35 and a plasticity index not more than 12 as determined by AASHTO T 89 and AASHTO T 90.
- 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

<b>Sand Equivalent</b>	<b>Percent Passing #200 Sieve AASHTO T 27</b>
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 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 and landings and Subsection 1000 for placing on the base course. Notification for final inspection prior to rocking shall be 72 hours prior to the inspection and shall be 10

days prior to start of surfacing operations.

- 1210 — Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed, landings, and base course 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 unless approved by the Authorized Officer.
- 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 103a, 103c, 103d, 103e, 103f, 103g, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards of crushed rock material placed per layer or for each 4 stations, or fraction thereof.
- 1213 — Each layer of crushed rock material placed, uniformly processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width until a uniform density of not less than 95 percent of maximum density is attained as determined by AASHTO T 99, Method C or D.
- 1216 — The Purchaser shall place in stockpile 250 cubic yards truck measure of gradation 1-1/2" minus and 200 cubic yards truck measure of gradation 3" minus crushed rock material. This work is required for road acceptance under Section 18 of this contract.
- Such material shall be used to reinforce and repair areas of deficient support which appear during the hauling operation. Crushed rock material so stockpiled shall be placed on the designated road prior to termination of the timber sale contract.
- 1218 — The equipment and methods used for stockpiling crushed rock material and for removing material from the stockpiles shall be such that minimum degradation or segregation of the material will result and that minimal amounts of foreign material will be incorporated into the crushed base material and that there will be no intermingling of stockpiled materials.
- 1220 — Crushed rock material required under Section 1200 of these specifications shall first be placed in stockpile after crushing. The Purchaser shall notify the Authorized Officer a minimum of 3 days in advance of the date he intends to commence the crushing and stockpiling operations so that progressive test samples can be taken as the crushed rock material is produced. Sampled materials shall remain in stockpile until such time the Authorized Officer receives test results which indicate compliance with Subsections 1203, 1204, 1205, 1206, 1207, 1207a, and 1208. Crushed rock material so tested shall be approved in writing by the Authorized Officer within 6 days from sampling date. Approved material may then be removed from stockpile for placement on the designated road. In no event shall the Purchaser place crushed rock materials on the road from sources other than the tested and approved stockpiles. Noncompliance with the requirements of this subsection shall constitute grounds for the rejection of all crushed rock materials furnished under this contract.

**SLOPE PROTECTION – 1400**

- 1401 — This work shall consist of furnishing, 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 or blasted rock and coarse stone from roadway excavation of such quality that it will not disintegrate on exposure to water or weathering and shall be graded in accordance with these specifications.
- 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

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

- 1405a — Stone materials shall show a durability value of not less than 50 as determined by AASHTO T 210.
- 1405b — Stone materials shall conform to a minimum apparent specific gravity of 2.50 and a maximum absorption of 4.2 percent as determined by AASHTO T 85.
- 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.
- 1406a — The embankment shall be placed in successive horizontal layers of sufficient depth to contain the maximum size rock present in the material. Spalls and finer fragments of stone other than specified in Subsection 1405 shall be used to chock the larger stones solidly in position and to fill voids between the major stones as laid in the embankment. The exposed face of the embankment shall be reasonably smooth and uniform; material shall be prevented from escaping beyond the toe of the structure.

- 1406b — Spaces in back of hand-laid embankment shall be filled with hand-tamped or rammed rock-spall material.
- 1407 — Determination of the acceptability of the slope protection material gradation will be through visual inspection and physical measurements by the Authorized Officer.
- 1408 — Trenches for slope protection structures shall be excavated to the lines, elevations, and typical diagram shown on the plans. They shall be of sufficient size to permit the placing of structure footing of the full widths and length shown. Trenches shall be approved by the Authorized Officer prior to placement of slope protection material.
- 1408a — Foundation trenches and other required excavation as shown on the plans shall be approved prior to placing the slope protection material.
- 1409 — Slope protection material shall be placed so as to form the cross sections shown on the plans. The face of the slope protection structure above the low-water line shall be uniform, free from humps, depressions, or large cavities.

#### **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.
- 1702 — The Purchaser shall construct dikes, dams, diversion channels, settling basins, and other erosion control structures located outside of the road right-of-way in accordance with the requirements and details as directed by the Authorized Officer.
- 1703 — This work shall consist of furnishing and installing brush barriers or sediment fences in accordance with these specifications as directed by the Authorized Officer.
- 1704 — The erosion control provisions specified under this Subsection shall be coordinated with the Soil Stabilization requirements of Section 1800.
- 1708 — Newly constructed or graded native surfaced roads to be carried over the winter period, shall be blocked to vehicular traffic as directed by the Authorized Officer.
- 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 sedimentation pools, temporary berms, brush barriers, sediment and check dams, catch basins, energy dissipators for pipe culverts, and diversion channels conforming to the requirements and details shown on the respective exhibits and on the plans.
- 1712 — Where shown on the plans or as directed by the Authorized Officer, the Purchaser shall provide erosion control measures for newly constructed ditches on steep grades which include but are not limited to, dumped stone, jute mesh, sod, check dams consisting of hay bales, and earth or stone.

Width of protective lining or dam should extend far enough up the ditch slopes to effectively contain the runoff and prevent erosion and washout at the edges and prevent sediment from reaching live water.

**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 and as shown on the plans. This work is not required for road acceptance under Section 18 of this contract.
- 1802 — Soil stabilization work consisting of seeding and mulching shall be performed at all culvert installations and replacements, waste areas and borrow sites, and as requested by the Authorized Officer in accordance with these specifications.
- a) Additional seeding and mulching may be required, as directed by the Authorized Officer if renovation, construction and/or improvement occurs outside of the dry season, June 1 – October 15. Additional seeding and mulching may consist of treating ditchlines, creating mulch check dams, and other measures, as directed by the Authorized Officer, to ensure erosion control.
- 1803 — Soil stabilization work as specified under Subsection 1802 shall be performed during the following seasonal periods:
- From: May 15 to November 30  
Or as permitted
- 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 promptly after machine operations.
- 1804 — The BLM shall provide native grass/forb seed and mulch for this project. If BLM is unable to provide native seed or other plant materials, the contract may be modified to delete the requirement to complete soil stabilization work and to increase the Total Purchase Price by the cost of this work as appraised at the time of sale.
- 1809 — After seed and mulch material is furnished to the Purchaser, it shall be maintained in a dry state. 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.
- 1812 — The Purchaser shall apply to the area designated for treatment as shown on the plans and as specified under Subsection 1802, 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.

- 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 Detail Sheet of this exhibit, at designated locations as shown in the plans.
- 2102 — Roadside brushing shall be performed mechanically with self powered, self-propelled equipment and/or manually with hand tools, including chain saws.
- 2103 — Vegetation cut manually or mechanically less than 6 inches in diameter at DBHOB, shall be cut to a maximum height of 2 inches 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 shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 2 inches above the ground and running surface. Limbs below the 2 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 when measured 6 inches above the ground line 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 15 feet in elevation above the running surface shall be cut to within 1 inch 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 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.
- 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 Control Devices.

**17-2-23 (Seg. A) – Renovation (Lone Rock)**

0.00 – Begin renovation at junction with Camp Creek Rd.  
Blade/shape, brush, clean ditches and culverts and **rock:**

**Apply 500 CY 1.5" minus (Spot Rock)**

0.19 – **Rock TO (Right) 15 CY 3" minus**

0.36 – Junction Right, Private Road

0.47 – Gate

0.56 – Junction Right, Private Road

0.73 – **Rock TO (Left) 15 CY 3" minus**

1.82 – Junction Right, Private Road

Re-establish ditch on Right to MP 1.98

1.98 – Junction Left, Private Road

2.05 – Quarry on Left

2.68 – Junction Right, Private Road

2.75 – Junction Right, Private Road

2.83 – Junction Right, 17-2-14 (New Construction)

2.97 – 4-Way Intersection

3.15 – Junction Left, Private Road (Road continues to Right)

3.19 – Gate, Property line With Giustina L&T (Seg. B of 17-2-23)

**End rocking, end renovation.**

**17-2-23 (Seg. B) – Renovation (Giustina)**

0.00 – Begin renovation at end of 17-2-23 (Seg. A)

Blade/shape, brush, clean ditches and culverts and **rock:**

**Apply 4" lift of 1.5" minus – Surface course**

0.06 – Crossdrain (ensure inlet and outlet are clear)

0.11 – Junction Right, 17-2-11 (Seg. A)

**End rocking, end renovation**

**17-2-11 (Seg. A) – Renovation (Giustina)**

0.00 – Begin renovation at Junction with 17-2-23 (Seg. B)

Blade/shape, brush, clean ditches and culverts and **rock:**

**Apply 4" lift of 3" minus – Surface course**

0.02 – Junction Left, Shu-Fly (Back to 17-2-23)

0.05 – Begin Heavy roadside brushing

0.15 – Property line with Franklin Clarkson (Seg. B of 17-2-11)

**End rocking, end renovation.**

**17-2-11 (Seg. B) – Renovation (Franklin Clarkson)**

0.00 – Begin renovation at end of 17-2-11 (Seg. A)

Blade/shape, brush, clean ditches and culverts and **rock:**

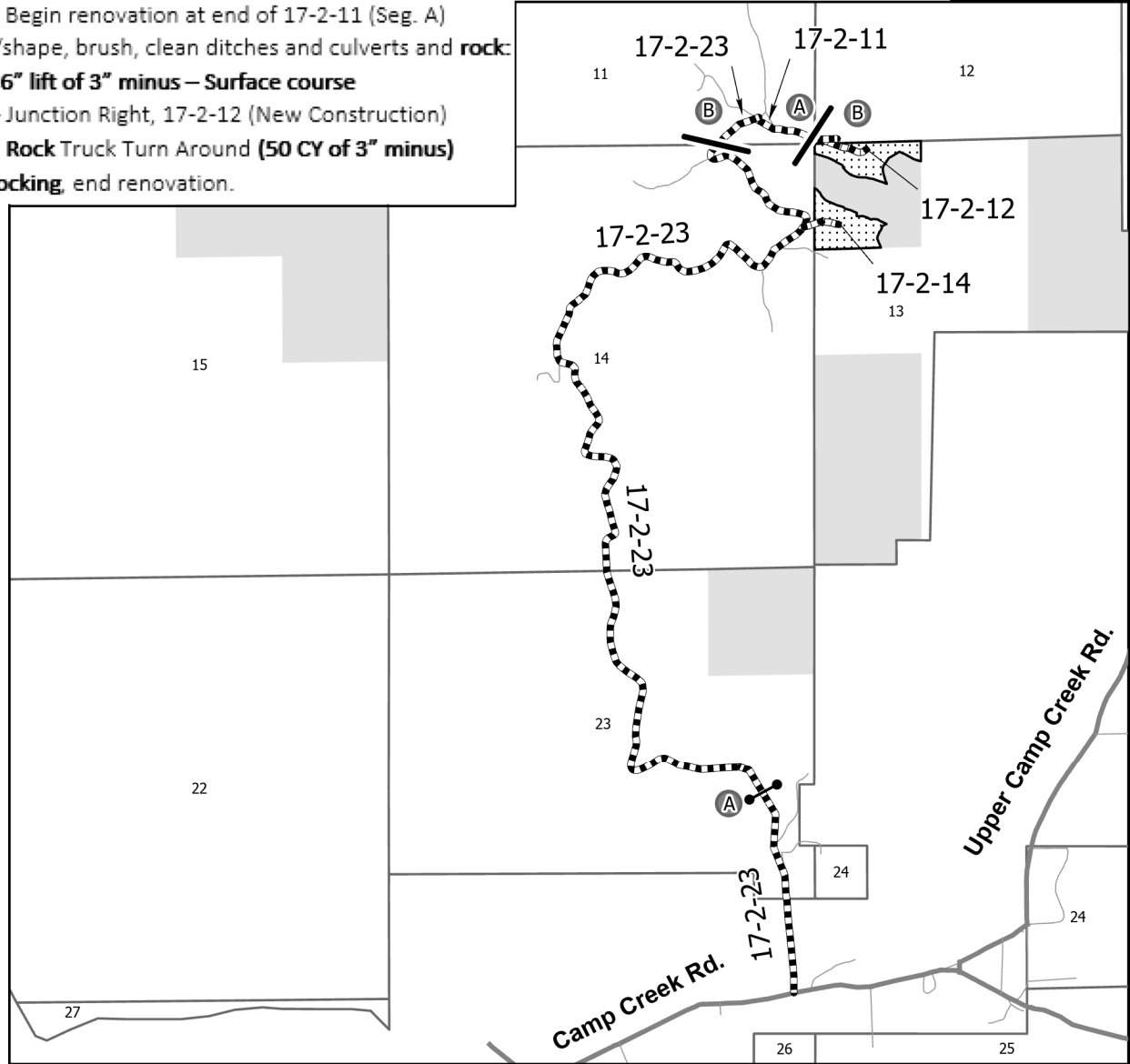
**Apply 6" lift of 3" minus – Surface course**

0.01 – Junction Right, 17-2-12 (New Construction)

0.02 – **Rock Truck Turn Around (50 CY of 3" minus)**

**End Rocking, end renovation.**

T. 17 S.



Legend	
	Paved Road
	Renovation
	Improvement
	Construction
	Existing Road
	Gate / Segment/Portion
	Harvest Unit
	Bureau of Land Management
	Private
	Segment/Portion Identifier

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NORTHWEST OREGON DISTRICT SPRINGFIELD, OREGON	
SECTION MAP & WORKLIST SPARE CHANGE TIMBER SALE T. 17 S., R. 2 W., Sections 11, 12, 13, 14, and 23.	
DRAWN: E. BUNDY	NO SCALE
DATE: MAR 2023	SHEET: 29 OF 39

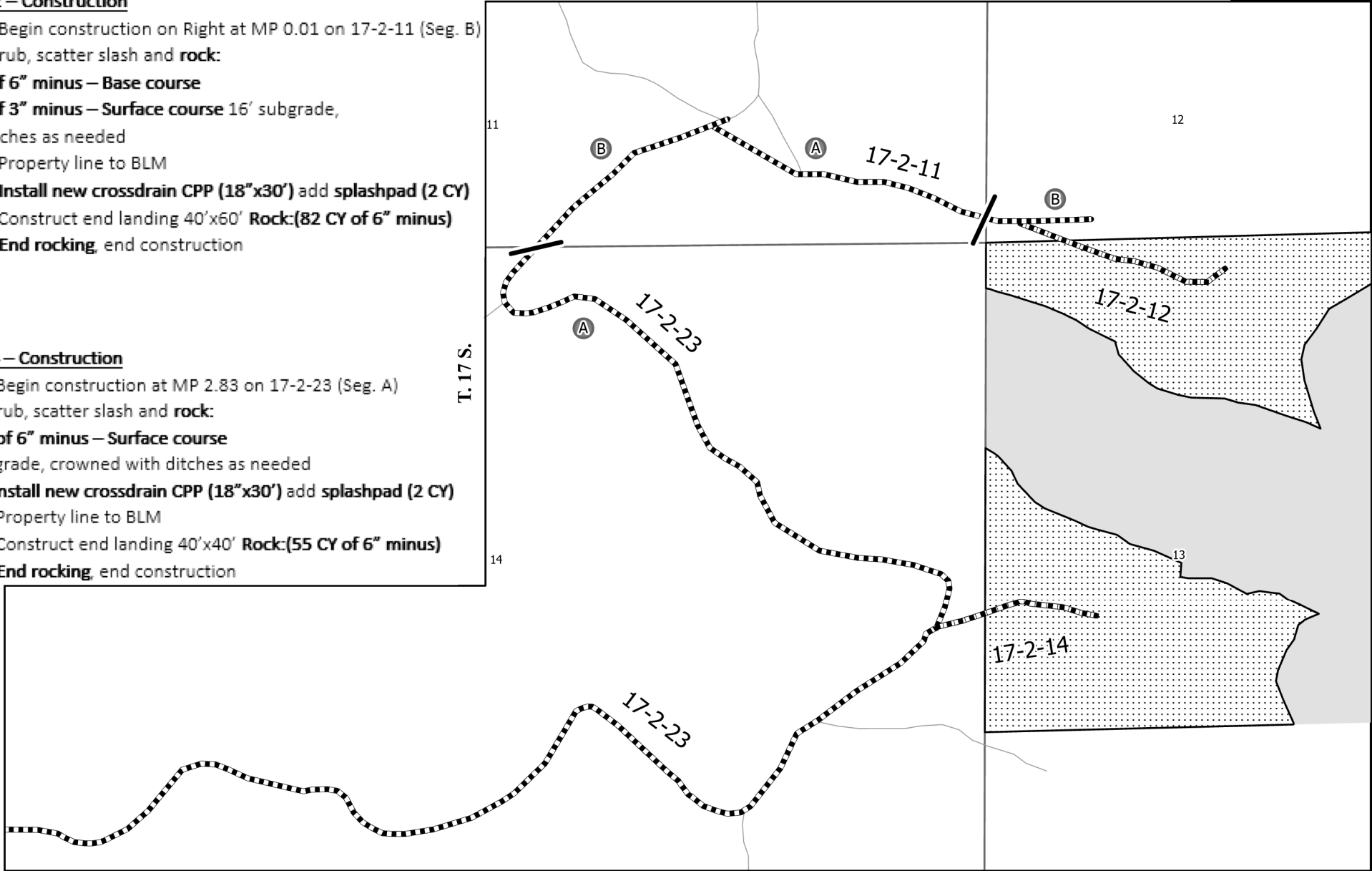


**17-2-12 – Construction**

0+00 – Begin construction on Right at MP 0.01 on 17-2-11 (Seg. B)  
 Clear, grub, scatter slash and **rock:**  
**9" lift of 6" minus – Base course**  
**3" lift of 3" minus – Surface course** 16' subgrade,  
 with ditches as needed  
 1+30 – Property line to BLM  
 4+92 – **Install new crossdrain CPP (18"x30')** add splashpad (2 CY)  
 5+90 – Construct end landing 40'x60' **Rock:(82 CY of 6" minus)**  
 6+50 – **End rocking**, end construction

**17-2-14 – Construction**

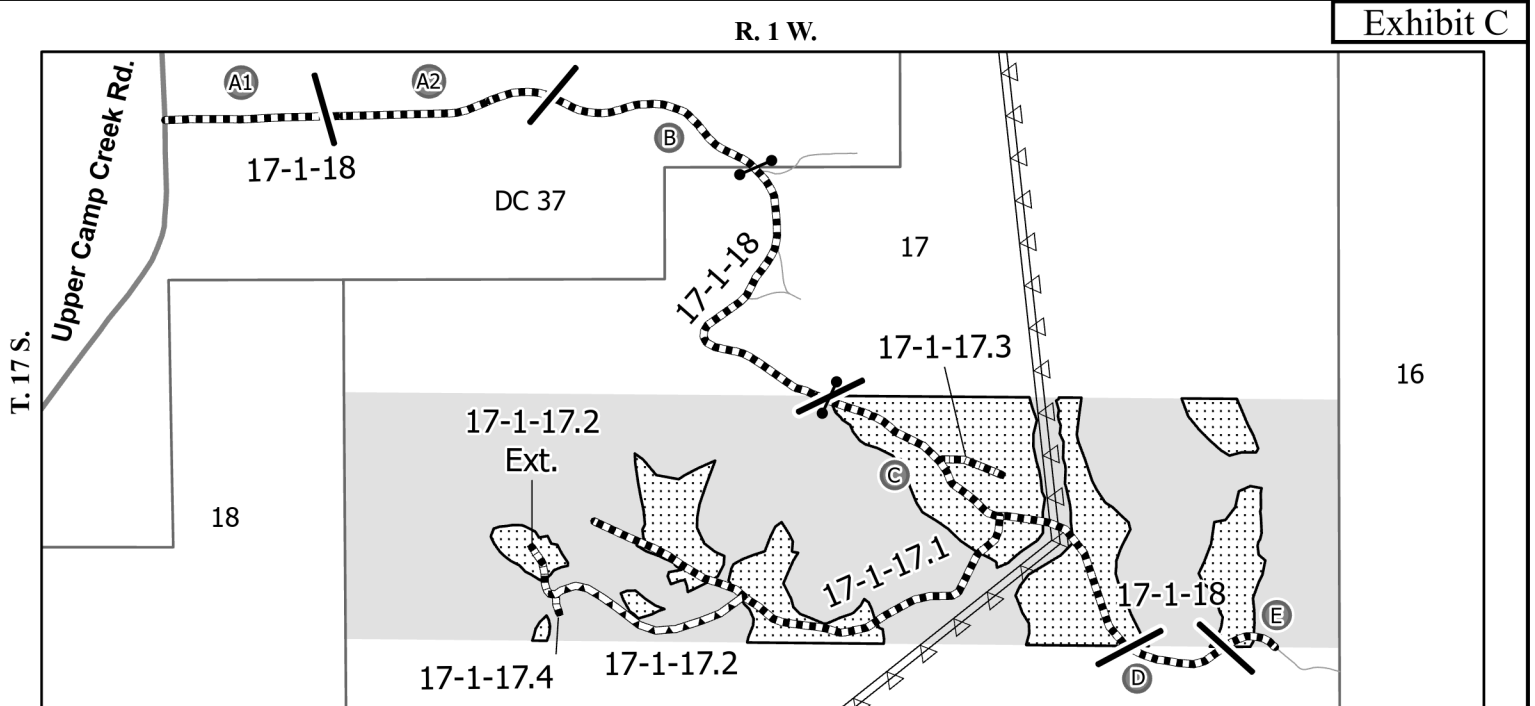
0+00 – Begin construction at MP 2.83 on 17-2-23 (Seg. A)  
 Clear, grub, scatter slash and **rock:**  
**12" lift of 6" minus – Surface course**  
 16' subgrade, crowned with ditches as needed  
 0+97 - **Install new crossdrain CPP (18"x30')** add splashpad (2 CY)  
 1+63 – Property line to BLM  
 4+01 – Construct end landing 40'x40' **Rock:(55 CY of 6" minus)**  
 4+41 – **End rocking**, end construction



R. 2 W.

Legend	
Paved Road	Harvest Unit
Renovation	Bureau of Land Management
Improvement	Private
Construction	Segment/Portion Identifier
Existing Road	
Gate / Segment/Portion	

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT <small>NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON</small>	
<b>SECTION MAP &amp; WORKLIST</b> SPARE CHANGE TIMBER SALE T. 17 S., R. 2 W., Sections 11, 12, 13, and 14.	
DRAWN: E. BUNDY	NO SCALE
DATE: MAR 2023	SHEET: 30 OF 39



**17-1-18 – Renovation**

- 0.00 – Begin renovation at junction with Upper Camp Creek Rd.  
Brush, clean ditches, and culverts
- 0.20 – Pavement ends  
Begin blading and rock:
- Apply 4" lift of 1.5" minus – Surface Course**
- 0.22 – Stream Crossing, **Replace with CPP (24"x30')** add **Armor to outlet (4 CY)**  
Ensure fence on adjacent property is left in original condition
- 0.39 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**
- 0.44 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**
- 0.47 – Junction Right, Private driveway
- 0.53 – End heavy brushing
- 0.62 – Junction Left, Private driveway, road continues Right
- 0.65 – Gate

**Change rocking: Apply 3" lift of ¾" minus – Surface course**

- 0.97 – Gate and Property line to BLM  
Repair or replace gate post
- 1.05 – **Rock TO (Left) 15 CY 3" minus**
- Change rocking: Apply 3" lift of 3" minus – Surface course**
- 1.06 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**
- 1.12 – Junction Left, 17-1-17.3 (New Construction)
- 1.15 – Crossdrain, ensure inlet and outlet are clear
- 1.20 – Junction Right, 17-1-17.1
- 1.31 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**
- 1.35 – Construct Roadside Landing 30'x30' **Rock: (40 CY of 6" minus)**
- 1.41 – Property line to Private
- 1.48 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**
- 1.52 – Property line to BLM
- 1.55 – Construct Roadside Landing 30'x30' **Rock: (40 CY of 6" minus)**
- 1.58 – **End rocking**, end renovation

**17-1-17.1 – Renovation**

- 0.00 – Begin renovation (Right) at MP 1.20 on 17-1-18  
Blade/shape, brush, clean ditches and culverts and rock:
- Apply 4" lift of 1.5" minus – Surface course**
- 0.05 – **Rock TO (Right) 12CY of 3" minus**
- 0.08 – Stream Crossing, **Replace with CMP (30"x30')** add **Armor to outlet (2 CY)**
- 0.10 – Stream Crossing, **Replace with CMP (30"x30')** add **Armor to outlet (2 CY)**
- 0.14 – Crossdrain, **Replace with CPP (18"x30')** add **Armor to outlet (2 CY)**
- 0.18 – Enter TS boundary
- Change Rocking: Apply 4" lift of 3" minus – Surface Course**
- 0.25 – Crossdrain (ensure inlet and outlet are clear)
- 0.31 – Junction Left, 17-1-17.2 (Improvement)
- 0.39 – Construct Roadside Landing 30'x30' **Rock: (40 CY of 6" minus)**
- 0.45 – Construct Roadside Landing 60'x30' **Rock: (60 CY of 6" minus)**
- 0.50 – **Rock Truck Turn Around (50 CY of 3" minus)**
- End rocking**, end renovation

Legend			
	Paved Road		Transmission Lines
	Renovation		Harvest Unit
	Improvement		Bureau of Land Management
	Construction		Private
	Existing Road		Segment/Portion Identifier
	Gate / Segment/Portion		

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NORTHWEST OREGON DISTRICT SPRINGFIELD, OREGON	
<b>SECTION MAP &amp; WORKLIST</b> SPARE CHANGE TIMBER SALE T. 17 S., R. 1 W., Sections DC37, AND 17.	
DRAWN: E. BUNDY	NO SCALE
DATE: MAR 2023	SHEET: 31 OF 39

**17-1-17.3 – Construction**

0+00 – Begin construction at MP 1.12 on 17-1-18  
 Clear, grub, scatter slash and **rock:**  
**10" lift of 6" minus – Surface course**  
 16' subgrade, crowned with ditches as needed  
 2+79 – Construct end landing 40'x60' **Rock:(82 CY of 6" minus)**  
 3+39 – **End rocking**, end construction

**17-1-17.2 – Improvement**

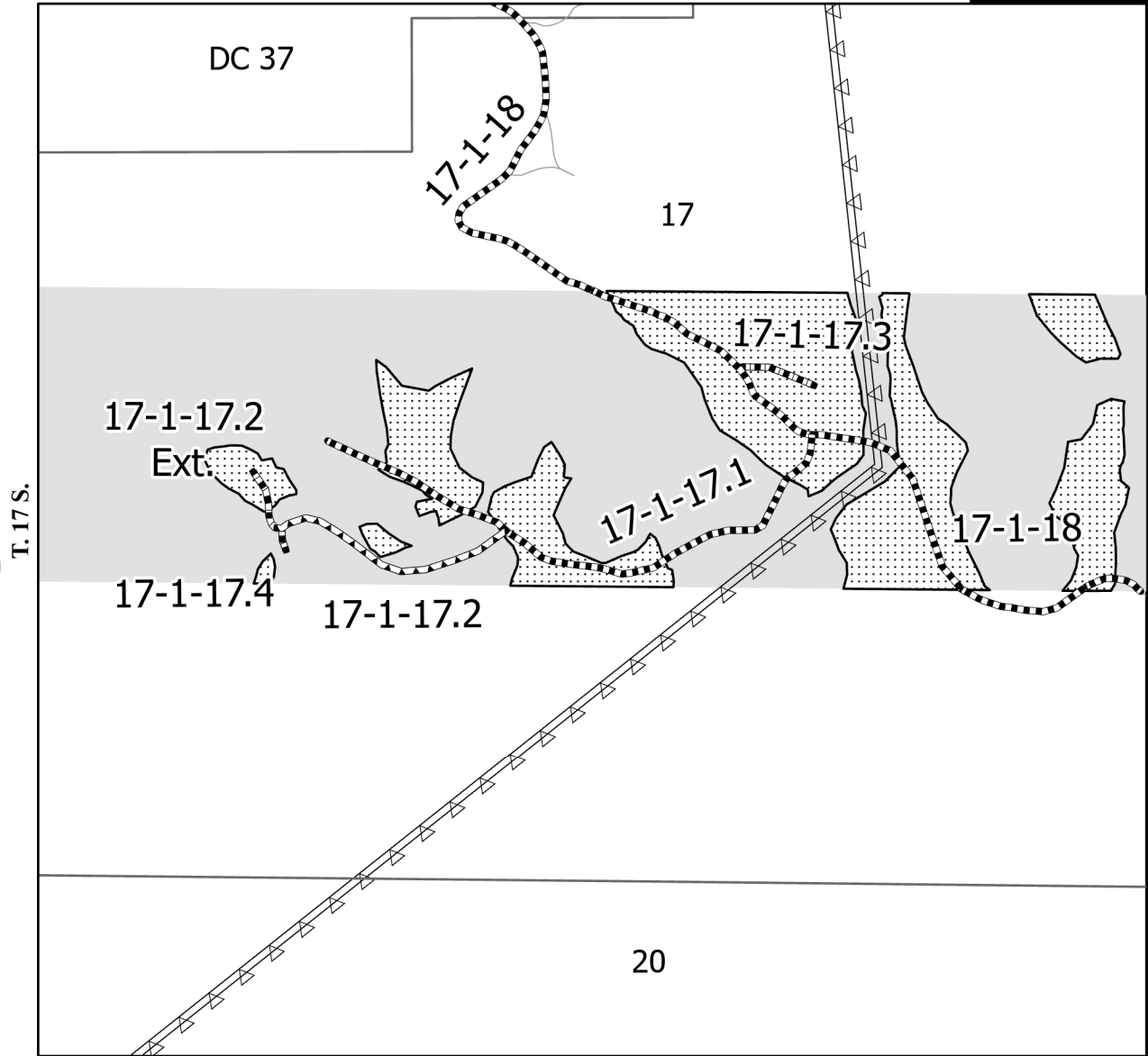
0+00 – Begin improvement at MP 0.31 on 17-1-17.1  
 Blade, brush, establish ditches and **rock:**  
**4" lift of 6" minus – Base course**  
**3" lift of 3" minus – Surface course**  
 16' subgrade, crowned with ditches as needed  
 2+00 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**  
 3+20 – Begin grubbing of trees in roadway  
 3+75 – Remove Waterbar/Tank trap  
 5+40 – Remove Waterbar/Tank trap  
**Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**  
 7+15 – Construct Roadside landing 30'x30' **Rock: (40 CY of 6" minus)**  
 10+15 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**  
 Above new construction on Right  
 10+55 – Junction Right, 17-1-17.2 Ext. (Construction)  
 11+00 – Construct Truck Turn Around **(50 CY of 3" Minus)**  
 11+40 – **End rocking**, end construction

**17-1-17.2 Ext. – Construction**

0+00 – Begin construction on Right at STA 10+55 on 17-1-17.2(Improvement)  
 Clear, grub, scatter slash and **rock:**  
**6" lift of 6" minus – Base Course**  
**4" lift of 3" minus – Surface course**  
 16' subgrade with ditches as needed  
 1+20 – Enter Harvest Boundary  
 1+79 – **Install new crossdrain CPP (18"x30')** add **splashpad (2 CY)**  
 3+10 – Construct end landing 40'x40' **Rock:(55 CY of 6" minus)**  
 3+50 – **End rocking**, end construction

**17-1-17.4 – Construction**

0+00 – Begin construction on Left at end of 17-1-17.2 (Improvement)  
 Clear, grub, scatter slash and **rock:**  
**10" lift of 6" minus – Surface course**  
 16' subgrade with ditches as needed  
 0+40 – Construct end landing 40'x40' **Rock:(55 CY of 6" minus)**  
 0+80 – **End rocking**, end construction



T. 17 S.

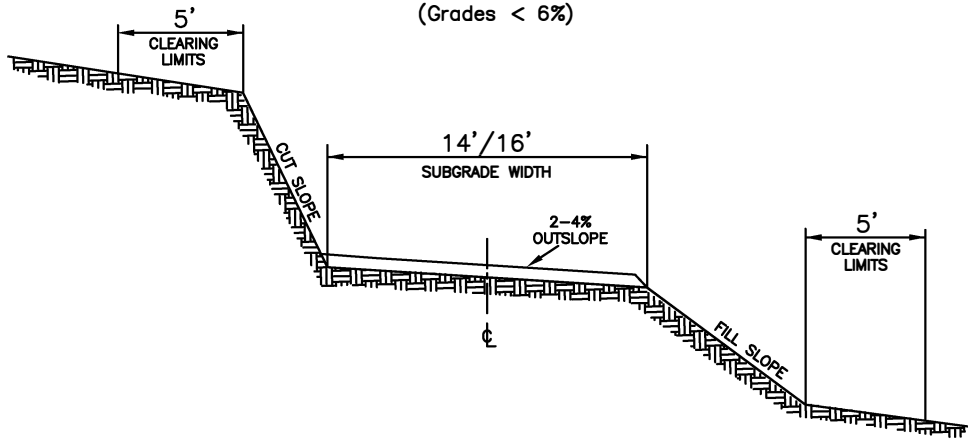
R. 1 W.

Legend	
	Paved Road
	Renovation
	Improvement
	Construction
	Existing Road
	Gate / Segment/Portion
	Harvest Unit
	Bureau of Land Management
	Private
	Segment/Portion Identifier

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT <small>NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON</small>	
<b>SECTION MAP &amp; WORKLIST</b> SPARE CHANGE TIMBER SALE T. 17 S., R. 1 W., Section 17.	
DRAWN: E. BUNDY	NO SCALE
DATE: MAR 2023	SHEET: 32 OF 39

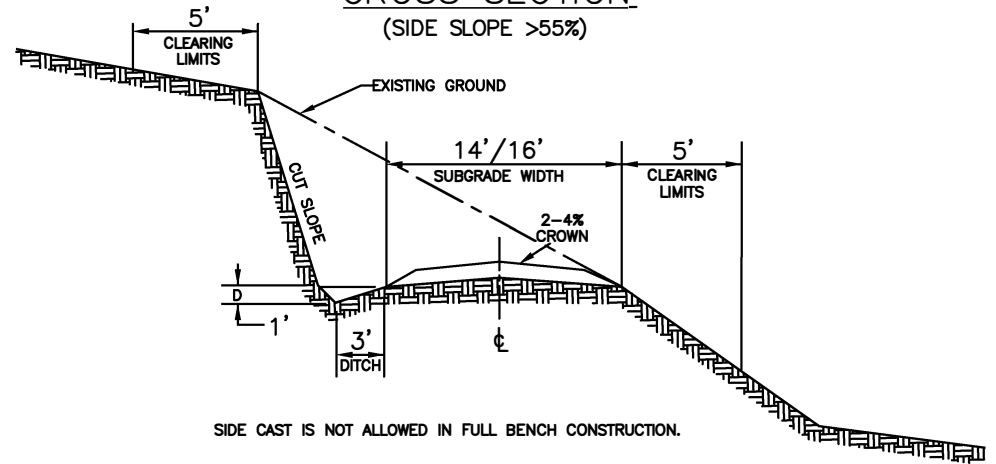
### TYPICAL OUTSLOPED CROSS SECTION

(Grades < 6%)



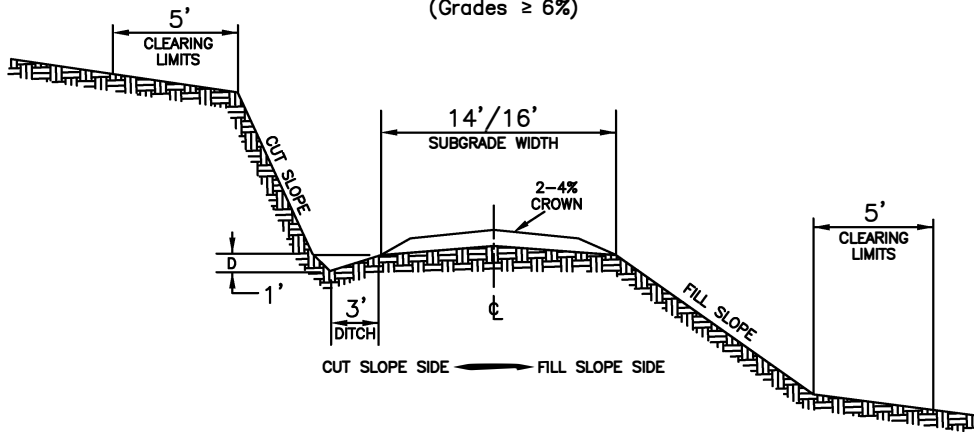
### TYPICAL FULL BENCH CROSS SECTION

(SIDE SLOPE >55%)



### TYPICAL CROWNED CROSS SECTION

(Grades ≥ 6%)



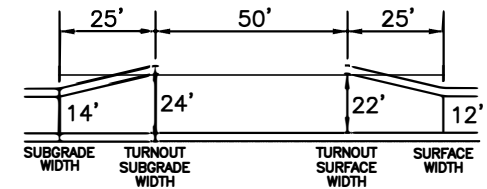
#### CUT SLOPE RATIO

- 1:1 COMMON, CUTS TO 6 FT.
- 1/2:1 COMMON, CUTS > 6 FT.
- 1/4:1 SOLID ROCK
- 1/4:1 SOFT ROCK OR HARDPAN

#### FILL SLOPE RATIO

- 1 1/2:1 COMMON
- 1 1/4:1 ROCK

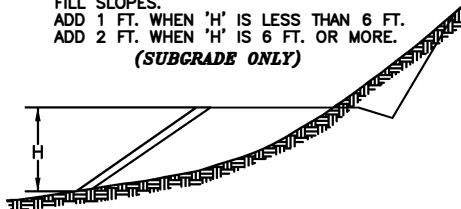
### TURNOUTS RIGHT OR LEFT



NOTE: TURNOUT WIDTHS CAN VARY. STANDARD IS 10 FEET ADDITIONAL WIDTH. SEE WORKLIST FOR VARIED WIDTHS.

### FILL WIDENING

EXTRA WIDENING REQUIRED ON ALL FILL SLOPES.  
 ADD 1 FT. WHEN 'H' IS LESS THAN 6 FT.  
 ADD 2 FT. WHEN 'H' IS 6 FT. OR MORE.  
 (SUBGRADE ONLY)

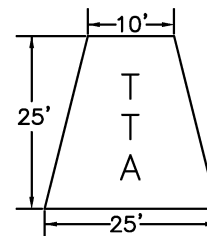


### CURVE WIDENING

$$CW = 400/R$$

R = CURVE RADIUS (FT)  
 CW = CURVE WIDENING (FT)

### TRUCK TURNAROUND



ALWAYS THINK **SAFETY**

- NOTES:
- 1) THROUGH CUTS SHALL CONFORM TO CUT SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
  - 2) THROUGH FILLS SHALL CONFORM TO FILL SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
  - 3) CURVE WIDENING SHALL BE APPLIED TO THE INSIDE OF ALL CURVES UNLESS OTHERWISE SPECIFIED.

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

TYPICAL SUBGRADE CROSS SECTIONS, TURNOUTS,  
 TRUCK TURNAROUNDS, AND FILL WIDENING

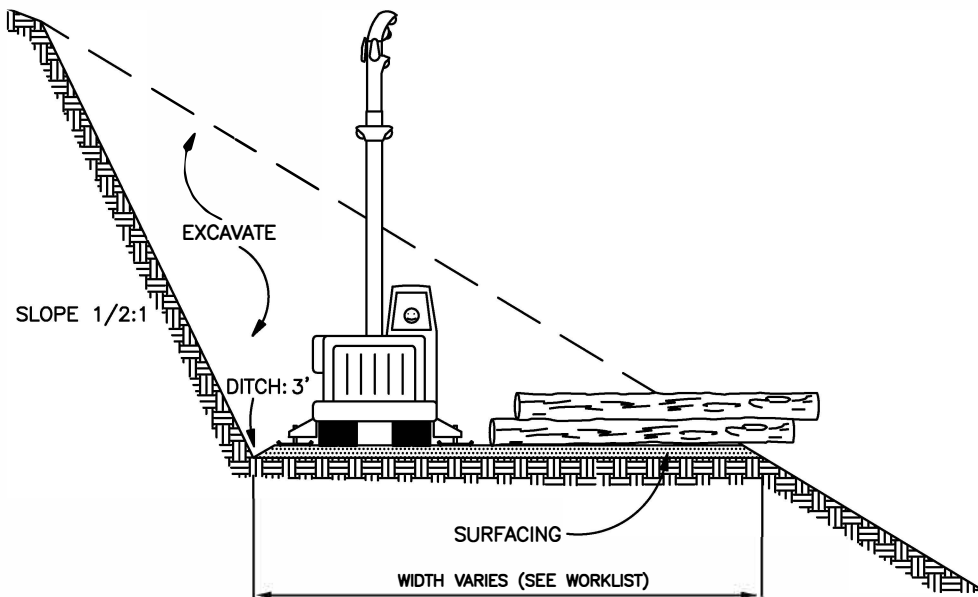
DRAWN: E. BUNDY

SCALE: NOT TO

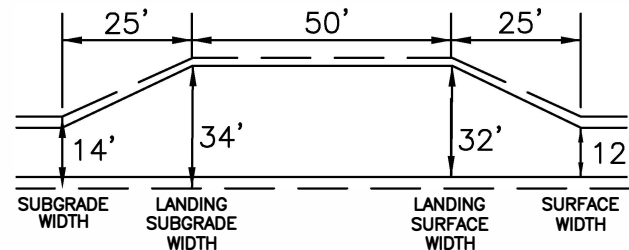
DATE: APRIL 2023

SCALE SHEET: 33 of 39

TYPICAL FULL BENCH LANDING CONSTRUCTION CROSS SECTION

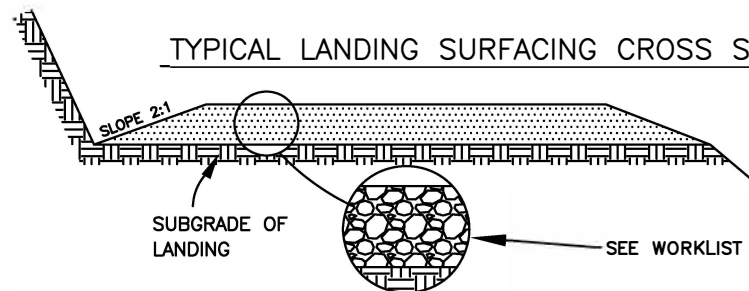


ROADSIDE LANDINGS RIGHT OR LEFT

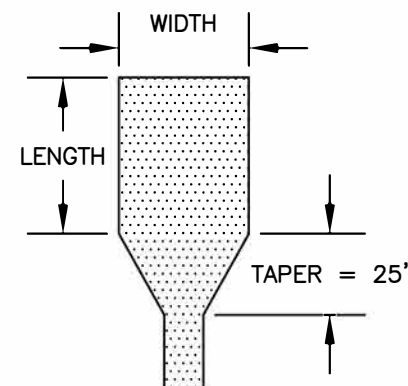


NOTE: ROADSIDE LANDING WIDTHS CAN VARY. STANDARD IS 20 FEET ADDITIONAL WIDTH. WIDTHS SHOWN ARE FOR A 14' SUBGRADE. SEE WORKLIST FOR VARIED WIDTHS.

TYPICAL LANDING SURFACING CROSS SECTION

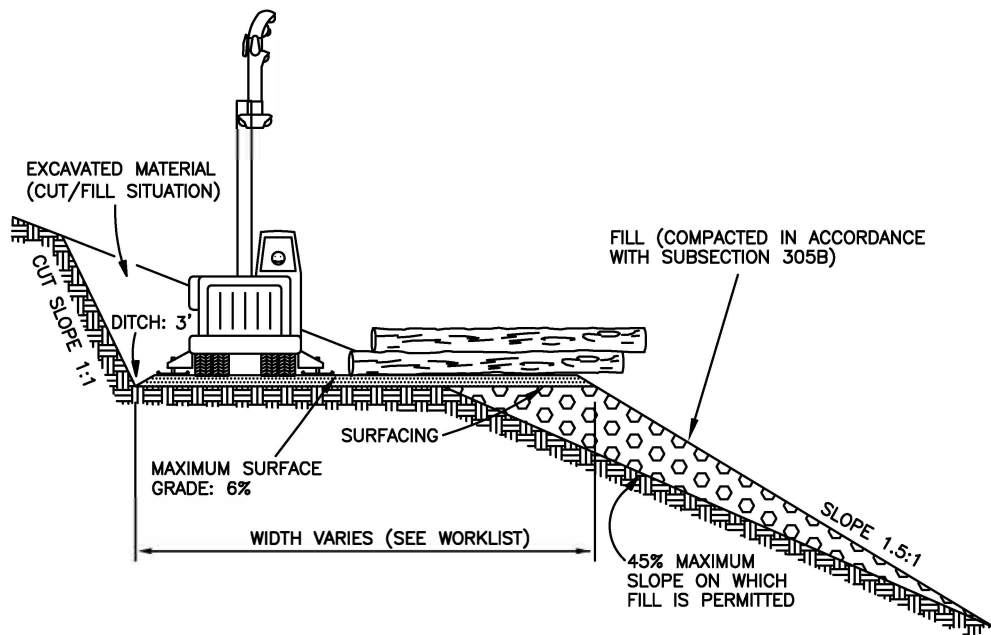


PLAN VIEW TYPICAL LANDING CONSTRUCTION



LANDING SPECIFICATIONS

1. ALL EXCAVATED MATERIAL SHALL BE END-HAULED TO DISPOSAL AREAS AS SPECIFIED BY THE AUTHORIZED OFFICER.
2. THE LANDING LENGTH IS MEASURED PARALLEL THE ROAD WHILE THE WIDTH IS MEASURED PERPENDICULAR
3. DITCH LINES SHALL BE LEAD-OFF WHERE APPROPRIATE
4. 25' TAPER LENGTH IS INCLUDED IN THESE SPECIFICATIONS.



TYPICAL LANDING CONSTRUCTION CROSS SECTION

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON	
<b>LANDING CONSTRUCTION &amp; SURFACING DETAILS</b>	
DRAWN: E. BUNDY	SCALE: NOT TO SCALE
DATE: APRIL 2023	SHEET 34 OF 39

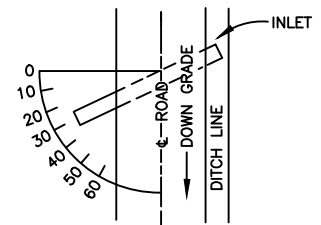
# CULVERT LIST

CULVERT REPLACEMENTS/ADDITIONS						ENERGY DISSIPATER		REMARKS
ROAD NO. STATION OR M.P.	SIZE	LENGTH	GAGE	SKEW ANGLE	INSTALLATION TYPE	INLET (CY)	OUTLET (CY)	
<b>Road No. 17-1-17.1</b>								
0.08	30"	30'	GAL	Match Stream	1		2	Replacement
0.10	30"	30'	GAL	Match Stream	1		2	Replacement
0.14	18"	30'	CPP	Match Existing	2		2	Replacement
<b>Road No. 17-1-17.2</b>								
02+00	18"	30'	CPP	30 Degrees	2		2	Installation
05+40	18"	30'	CPP	30 Degrees	2		2	Installation
10+15	18"	30'	CPP	30 Degrees	2		2	Installation
<b>Road No. 17-1-17.2 Ext.</b>								
01+79	18"	30'	CPP	30 Degrees	2		2	Installation
<b>Road No. 17-1-18</b>								
0.22	24"	30'	CPP	Match Existing	1		4	Replacement
0.39	18"	30'	CPP	30 Degrees	2		2	Installation
0.44	18"	30'	CPP	30 Degrees	2		2	Installation
1.06	18"	30'	CPP	30 Degrees	2		2	Installation
1.31	18"	30'	CPP	30 Degrees	2		2	Installation
1.48	18"	30'	CPP	30 Degrees	2		2	Installation
<b>Road No. 17-2-12</b>								
04+92	18"	30'	CPP	30 Degrees	2		2	Installation
<b>Road No. 17-2-14</b>								
00+97	18"	30'	CPP	30 Degrees	2		2	Installation

NOTES:

1. ALL CULVERTS SHALL BE CORRUGATED POLYETHYLENE PIPE (CPP) CONFORMING TO SPECIFICATION 405e UNLESS NOTED OTHERWISE.
2. ALL CORRUGATED METAL PIPE (CMP) CULVERTS SHALL CONFORM TO SPECIFICATION 405a.
3. SEE CULVERT INSTALLATION DETAIL.
4. DESIGNED CULVERT LENGTHS AND LOCATIONS ARE APPROXIMATE.
5. ALL CULVERTS SHALL HAVE A MINIMUM 6" BEDDING OF 3/4" MINUS CRUSHED ROCK MATERIAL CONFORMING TO SEC. 1200 UNLESS NOTED OTHERWISE.
6. EXCESS EXCAVATED MATERIAL SHALL BE PLACED AT WASTE SITES AS DIRECTED BY THE AUTHORIZED OFFICER'S REPRESENTATIVE. END DUMPING SHALL BE PERMITTED FOR PLACEMENT OF MATERIAL. WASTE PILES SHALL BE SLOPED, SHAPED, AND OTHERWISE BROUGHT TO A NEAT AND SIGHTLY CONDITION, AS DIRECTED BY THE AUTHORIZED OFFICER'S REPRESENTATIVE. WASTE MATERIAL SHALL NOT BE PLACED ON AREAS WHERE THE MATERIAL WILL ENCROACH ON A STREAM COURSE OR OTHER BODY OF WATER.
7. ENERGY DISSIPATORS = 2 LCY PIT RUN
8. SEED AND MULCH CULVERT SITES AS DESCRIBED IN THE 1800 SPECIFICATIONS.

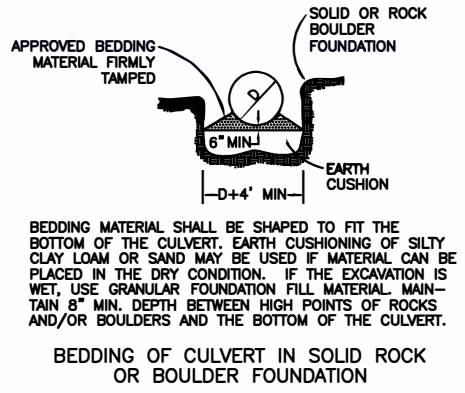
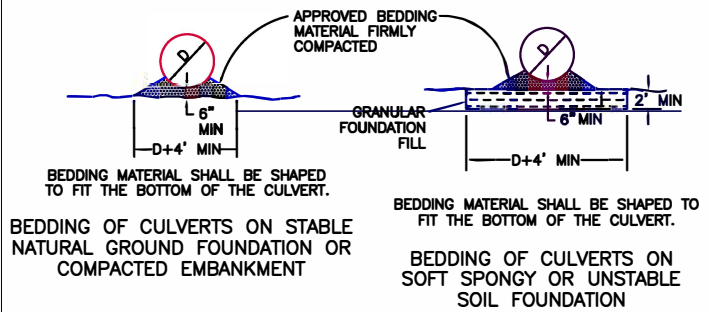
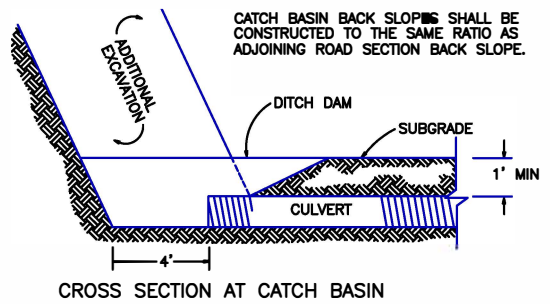
SKEW DIAGRAM



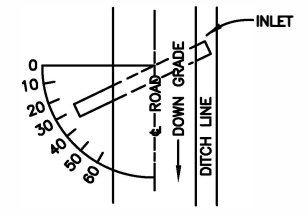
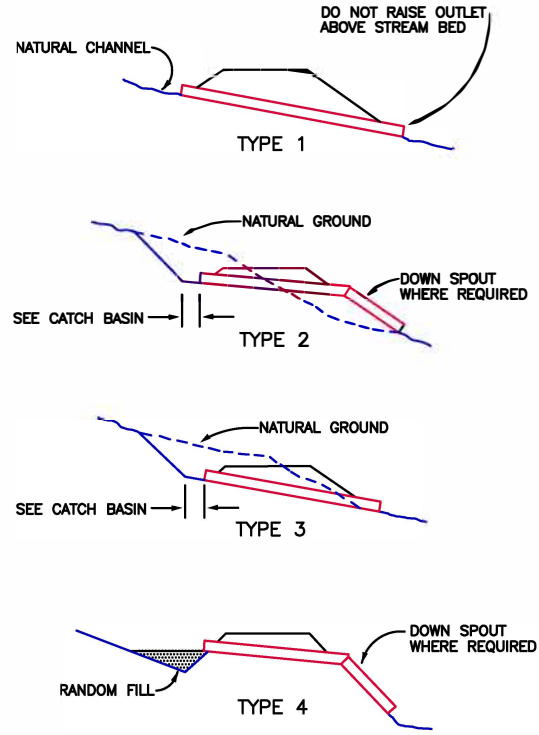
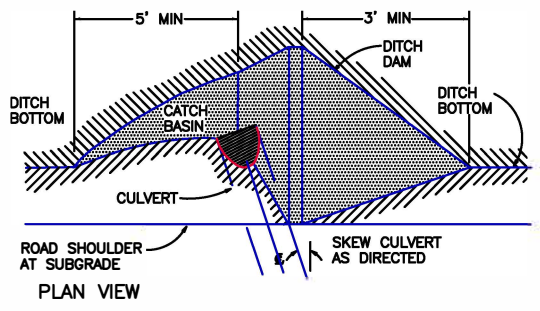
SUMMARY	TOTAL (FT)
18" CORRUGATED POLY PIPE	360
24" CORRUGATED POLY PIPE	30
30" CORRUGATED GAL PIPE	60

ALWAYS THINK **SAFETY**

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	
NORTHWEST OREGON DISTRICT	SPRINGFIELD, OREGON
<b>CULVERT SUMMARY</b>	
DRAWN: E. BUNDY	SCALE: N/A
DATE: APRIL 2024	SHEET 35 OF 39

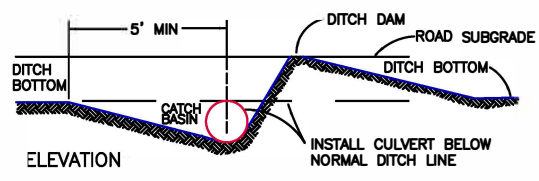


CULVERT BEDDING DETAILS



THE GRADE OF CROSSDRAINS SHALL BE AT LEAST 2% GREATER THAN THE GRADE OF THE DITCH.

SKEW DIAGRAM

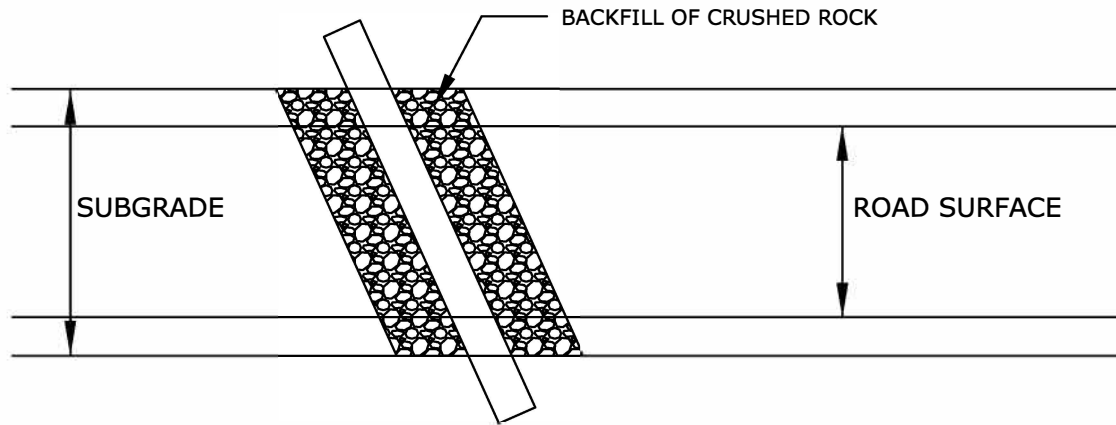


CATCH BASIN DETAIL

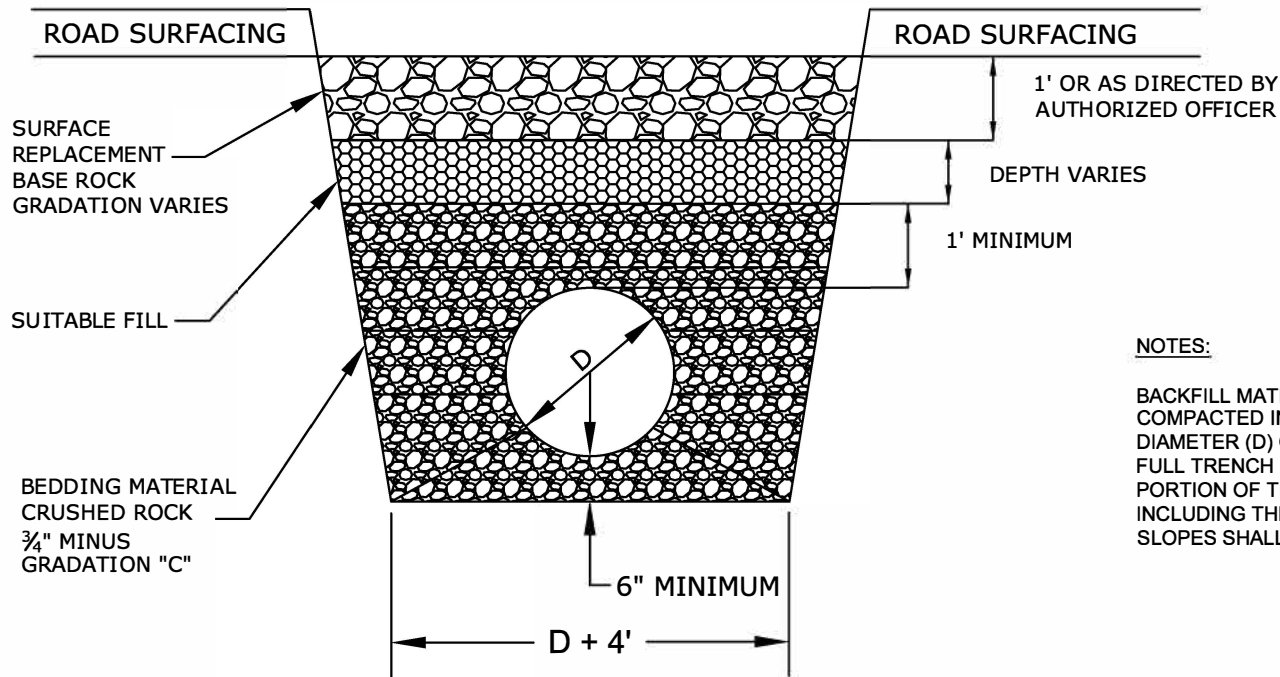
CULVERT INSTALLATION TYPES



UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON	
<b>CULVERT INSTALLATION DETAILS</b>	
DRAWN: E. BUNDY	SCALE: NOT TO SCALE
DATE: APRIL 2023	SHEET: 36 OF 39



PLAN VIEW



PROFILE VIEW

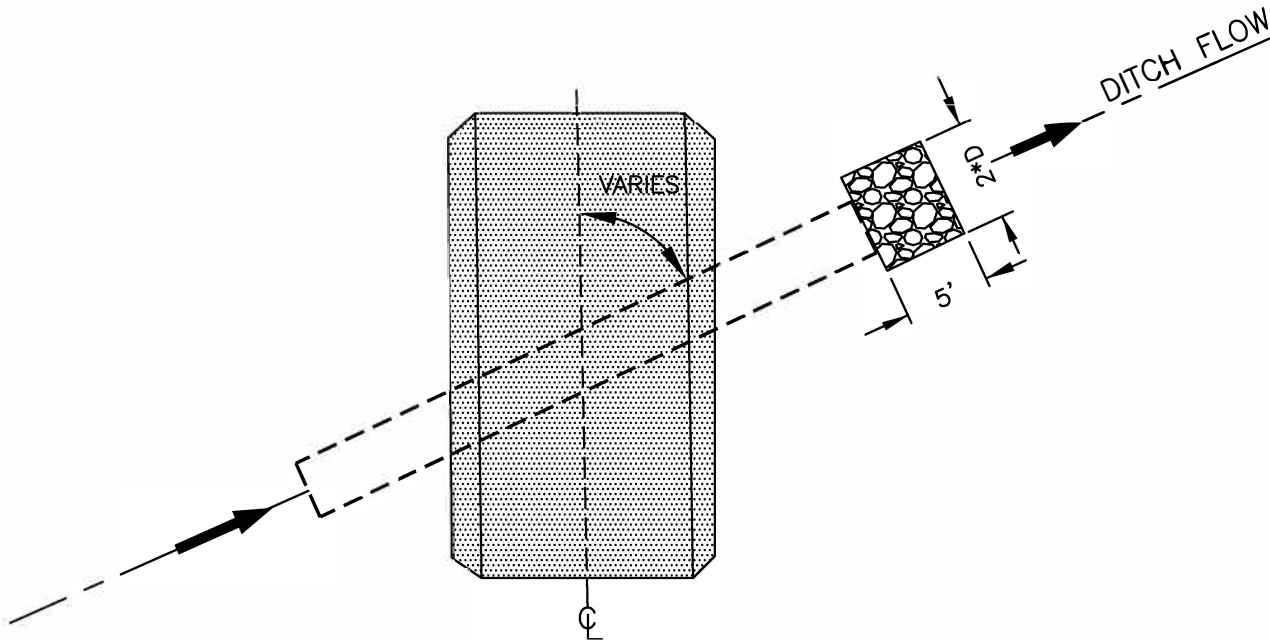
NOTES:

BACKFILL MATERIAL SHALL BE 3/4" MINUS CRUSHED ROCK COMPACTED IN LAYERS OF 6" MAXIMUM DEPTH, ONE PIPE DIAMETER (D) OR MINIMUM OF 2' WIDTH ON EACH SIDE, FOR THE FULL TRENCH LENGTH. THE MINIMUM DEPTH OVER ANY PORTION OF THE PIPE SHALL BE 1' OF CRUSHED ROCK, NOT INCLUDING THE CRUSHED ROCK FOR THE ROAD. ALL SIDE SLOPES SHALL CONFORM TO OSHA REGULATIONS.

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON	
<b>CULVERT BEDDING &amp; BACKFILL DETAILS</b>	
DRAWN: E. BUNDY	SCALE: NOT TO SCALE
DATE: APRIL 2023	SHEET: 37 OF 39



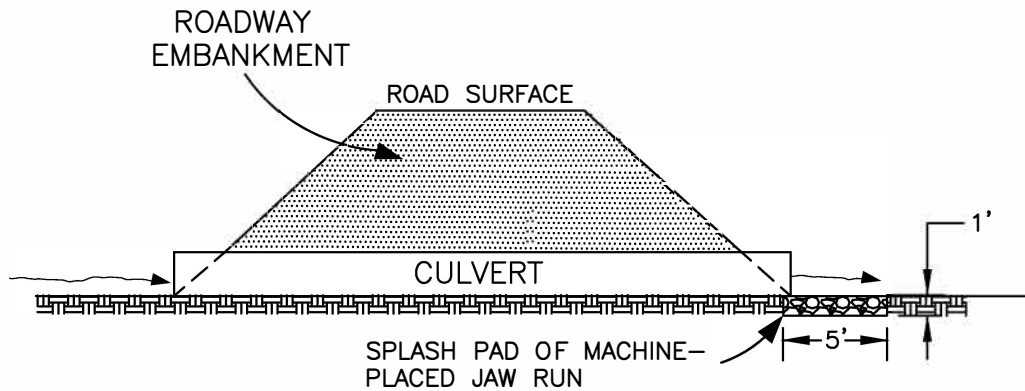




NOTES:

- 1 - SKEW ANGLES ARE MEASURED FROM THE CENTERLINE OF THE ROAD.
- 2 - APPROXIMATELY 2 CY OF JAW RUN IS NEEDED TO CREATE THE APPROPRIATE SIZED SPLASH PAD FOR A CROSS DRAIN.

CROSS DRAIN SLOPE PROTECTION PLAN VIEW

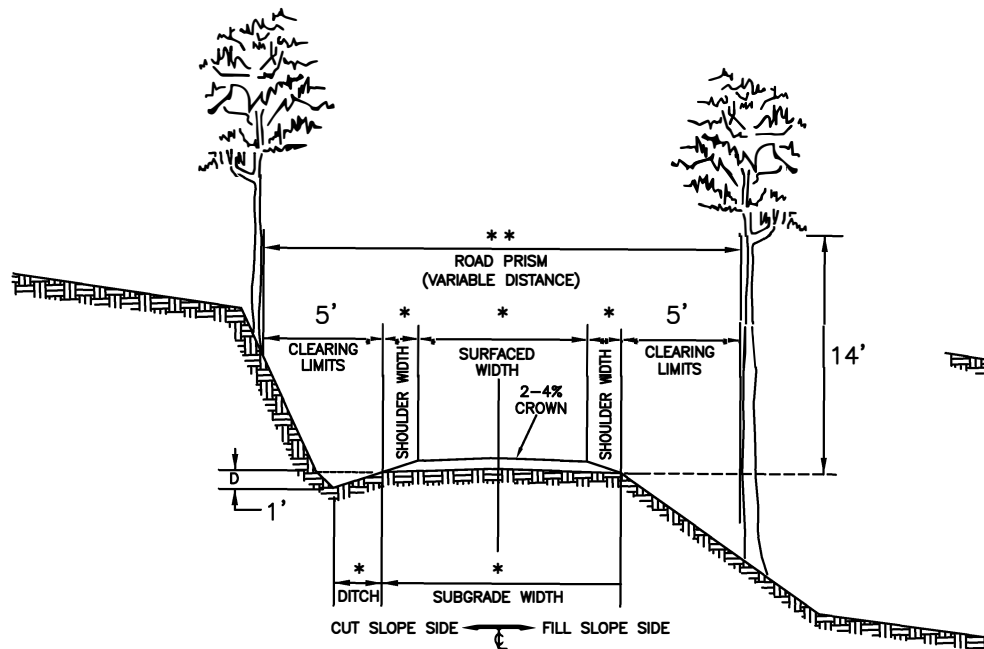


CROSS DRAIN SLOPE PROTECTION PROFILE VIEW

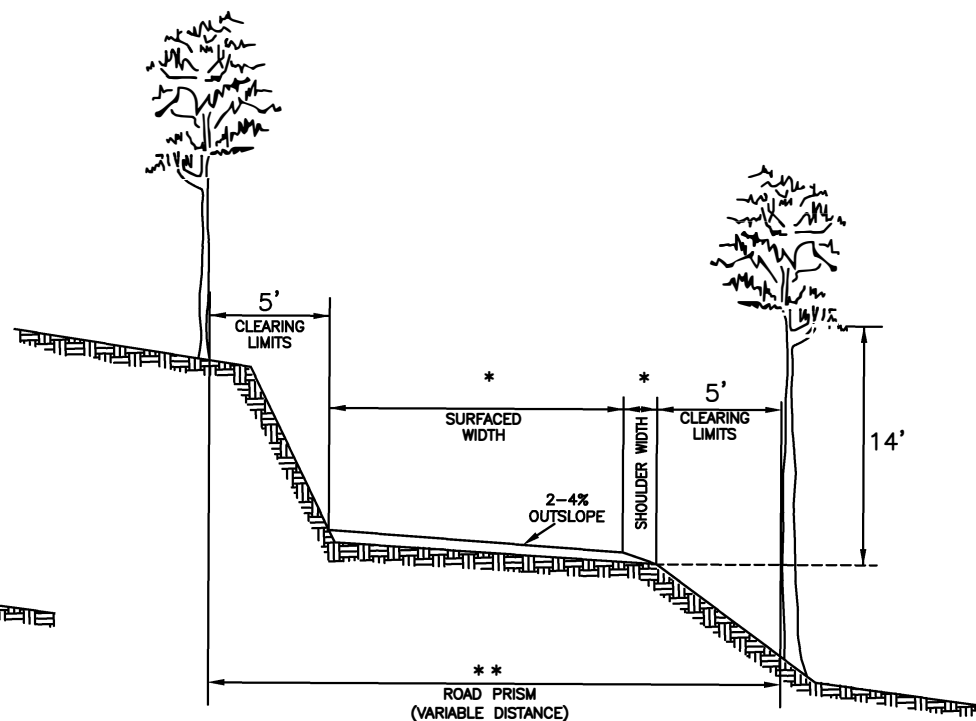


UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	
NORTHWEST OREGON DISTRICT	SPRINGFIELD, OREGON
CROSS DRAIN SLOPE PROTECTION DETAILS	
DRAWN: E. BUNDY	SCALE: NOT TO SCALE
DATE: APRIL 2023	SHEET: 38 OF 39

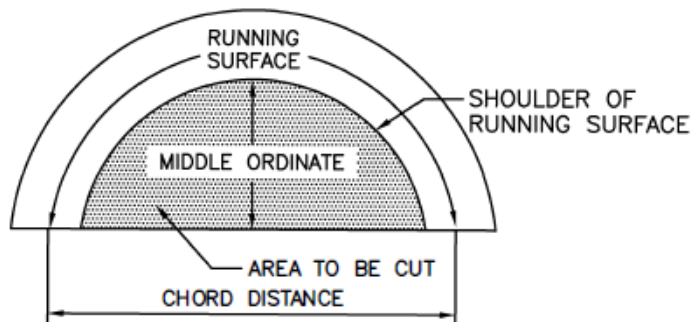
BRUSHING  
TYPICAL CROWNED CROSS SECTION



BRUSHING  
TYPICAL OUTSLOPED CROSS SECTION



SIGHT DISTANCE  
DIAGRAM



- \* VARIABLE DISTANCE BETWEEN RUNNING SURFACE AND START OF FILL AND CUT SLOPE
- \*\* ALL AREAS WITHIN THE VARIABLE DISTANCE SHALL BE FREE OF ALL VEGETATION CAPABLE OF GROWING 1 FOOT IN HEIGHT OR HIGHER AND ALL OVERHANGING LIMBS AND BRANCHES 14 FEET IN ELEVATION ABOVE THE SUBGRADE.

NOTES:

- 1) BRUSHING OF THROUGH CUTS SHALL CONFORM TO CUT SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.
- 2) BRUSHING OF THROUGH FILLS SHALL CONFORM TO FILL SLOPE SIDE OF THE TYPICAL CROWNED CROSS SECTION.

**ALWAYS THINK SAFETY**

UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

NORTHWEST OREGON DISTRICT      SPRINGFIELD, OREGON

ROADSIDE BRUSHING DETAIL

DRAWN: E. BUNDY	SCALE: NOT TO
DATE: APRIL 2023	SCALE SHEET: 39 of 39

**ROAD MAINTENANCE SPECIFICATIONS**

General road maintenance specifications are designated by numeric symbols according to the type of work performed as follows:

SECTION	DESCRIPTION
	Special Provisions
3000	General
3100	Operational Maintenance
3200	Seasonal Maintenance
3300	Final Maintenance
3400	Other Maintenance

**SPECIAL PROVISIONS**

1. The Purchaser shall clean road maintenance equipment to remove dirt and plant debris that may contain noxious weed seeds from the undercarriage, tracks, and tire treads prior to entry on BLM lands.
2. 350 CY (truck measure) of crushed rock is to be used for maintenance during hauling as well as final road maintenance. Purchaser shall be required to provide to the BLM notice of placement as well as locations of where maintenance rock is placed. Additional road reinforcement (rocking) may be required for wet weather haul and will be at the Purchaser's expense.
3. The Purchaser shall be permitted to remove ice or snow from roads authorized for use under this contract subject to the following terms and conditions:
  - (aa) Snowplowing shall be performed by utilizing a motor patrol grader or similar machine as approved by the Authorized Officer. Grader blades shall be equipped with shoes, runners, or other device to keep the grader blade a minimum of four inches (4") above the road surface or Purchaser agrees to maintain the blade height as such.
  - (bb) Snow shall be plowed to the outside shoulder of the road and not into the ditchline; in through-cut sections, snow shall be plowed to the short ditchline. Snow berms created on the shoulder of the road must be swept off the road surface or day lighted to allow surface water to drain off. Ditches and culverts shall be kept functional both during and upon completion of operations.
  - (cc) Banks shall not be undercut, nor shall gravel or other surfacing material be bladed off the road.
  - (dd) No chemical and/or salt-based de-icer is allowed for use. Pea gravel or ¾" minus rock may be applied to the road surface for additional traction on iced sections, at the Purchasers expense. Traction rock shall be uniformly distributed and no greater than 1" depth. Purchaser shall clear road surface of traction rock as directed by the Authorized Officer.
  - (ee) Permission to remove snow/ice from Permittee maintained roads must be obtained from the Licensor prior to snow removal activities.

**GENERAL - 3000**

- 3001 — The Purchaser shall be required to maintain all roads listed and/or referenced in Section 44(c)(6), Special Provisions and as shown on the Exhibit map 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, 3403a, 3404, 3405, 3406.

- 3002 — Purchaser shall maintain the cross section of existing native or aggregate surfaced 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.
- 3102a — Crushed rock materials used in this work may be obtained from commercial sources selected by the Purchaser at their option and expense, providing the rock materials furnished conform to the requirements in Section 1200 of Exhibit C of this contract
- 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, 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 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 roadways only where the locations have been marked on the ground and/or approved by the Authorized Officer. The Purchaser shall furnish gravel for necessary repairs at designated locations. Repair of the roads 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 1 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 preceding 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 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 45 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 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 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 Purchaser shall secure any necessary water permits and pay all required water fees for use of the water sources selected by the Purchaser and approved by the Authorized Officer.

Water required under these specifications shall be obtained at the times and at the locations indicated below:

Willamette Meridian

Common Name	Section	T.	R.
17-2-23 Pump Chance	11	17 S	2 W

- 3405 — The Purchaser shall be required to furnish and apply lignin sulfonate dust palliatives in accordance with these specifications.

This work shall be performed upon acceptance of the required road construction, renovation, or improvement work and be placed prior to any timber hauling other than right-of-way timber and rock hauling.

When timber hauling has commenced during the wet weather season, the Purchaser shall apply the required dust palliative during the subsequent summer hauling season as directed by the Authorized Officer.

Other means of dust abatement needed prior to the application of the required dust palliative shall be applied as approved by Authorized Officer.

The specified dust palliative shall be applied evenly over the specified road surface width of the following roads:

Road Number	From Sta./M.P.	to Sta./M.P.	Spread Width
17-1-18	0.20	0.65	16'

Turnouts and extra widening shall not be included in addition to the spread width.

- 3405a — Additional lignin sulfonate dust palliative may be required at the option of the Authorized Officer when the functional qualities of the dust palliative have been reduced or become ineffective due to third party damage, rain, or other events not under the control of the purchaser.

All materials and labor shall be furnished by the Purchaser and placed in amounts and locations designated by the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost. Costs will be based upon the unit prices set forth in the current BLM Road Cost Guide.

If additional dust palliative is required due to events controlled by the Purchaser, such as split hauling season, the Purchaser shall furnish and place such material at his own expense.

- 3405b — The Purchaser shall notify affected residents along the roads to be treated of the planned application of lignin sulfonate dust palliatives at least 3 days prior to the work. Warning signs shall be posted at key intersections to alert users that the road is being treated. All signs shall be removed by the Purchaser within thirty days of treatment.
- 3406 — Prior to the application of lignin sulfonate dust palliatives, the roadbed shall be bladed and shaped to remove surface irregularities and excess loose material. The prepared surface must have 1/2 to 1 inch of relatively loose material and be visibly moist and drying.
- 3406b — A light application of water to promote penetration shall be made in advance of the application of the specified dust palliative to allow the drying process to begin and to eliminate any saturated surface conditions.
- 3406c — The prepared roadbed shall be approved by the Authorized Officer prior to application of the specified dust palliative.
- 3407 — The Purchaser may be required to furnish commercial certification signed by vendor of compliance with the lignin sulfonate dust palliatives material requirements specified under Subsection 3412b. Commercial certification includes the date, identification number of truck or trailer, net mass, and brand name with each shipment. Also provide the net volume and specific gravity at 60 degrees F, percent solids by mass, and PH.
- 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.
- 3411 — Required lignin sulfonate dust palliatives shall only be applied when the atmospheric temperature is 45° F and steady or rising and when the weather is not foggy or rainy. Do not apply dust palliative if rain is anticipated within 24 hours of application or when the ground is frozen.
- 3412 — The Purchaser shall apply to the prepared roadbed specified under Subsection 3405, a lignin

sulfonate dust palliative conforming to the material requirements of Subsection 3412b. The rate of application shall be 0.5 gallons per yd<sup>2</sup> surface. A second application at the rate of 0.3 gallons per yd<sup>2</sup> shall be applied at a time designated by the Authorized Officer.

Applied materials not penetrating the road surface shall be blade mixed with additional water into the top 1 to 1½ inches of the surfacing at the Contractor's expense.

- 3412a — If required, the lignin sulfonate shall be field diluted within the application vehicle and be circulated at least 5 minutes to assure mixing. An air gap shall be provided between any water source and the materials being diluted. Accidental spills shall be contained to prevent entry in water courses or ponded water. The surface of adjacent structures and trees shall be protected from spattering or marring.

A wetting agent may be used in addition to the certified compound or mixed with the road surface preparation watering. A mix of less than 1:6000 is recommended.

Water used to dilute lignin sulfonate concentrate shall be clean and free of oil, salt, acid, alkali, vegetable matter, or any other substance that contaminates the finished product.

- 3412b — Specifications for Lignin Sulfonate:

Lignin sulfonate shall be the chemical residue produced as a byproduct of the acid sulfite pulping process and supplied as a water solution. The base cation shall be ammonia, calcium, or sodium. The product shall be water soluble to allow field dilution. Dilute with water until the mixture contains a minimum 48 percent concentration with the following properties:

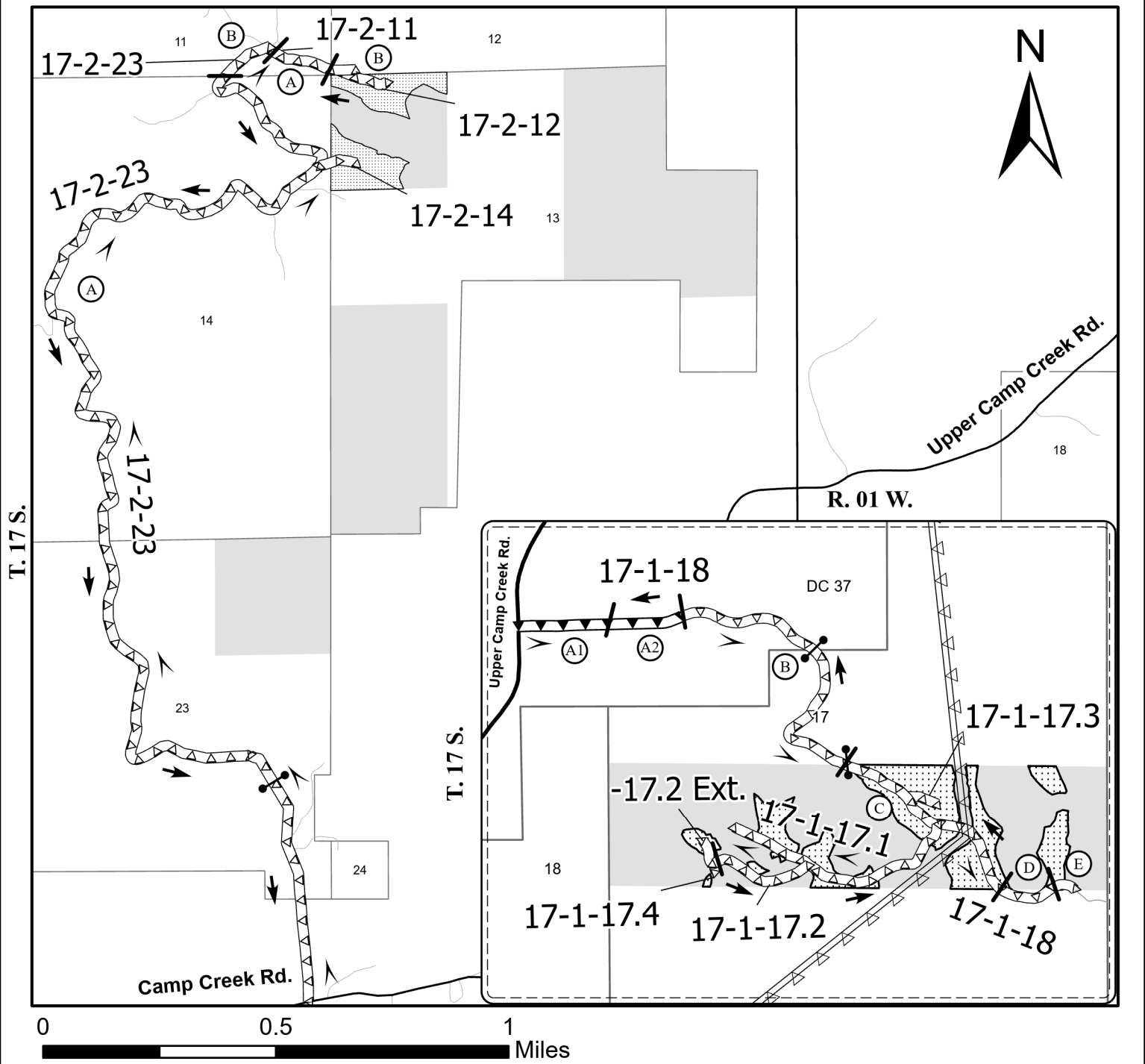
Solids	50%
Specific gravity	1.25
PH, AASHTO T289	4.5 min.

Ensure that the material does not exceed the following chemical constituents:

phosphorous	25.00 ppm
cyanide	0.20 ppm
arsenic	5.00 ppm
copper	0.20 ppm
lead	1.00 ppm
mercury	0.05 ppm
chromium	0.50 ppm
cadmium	0.20 ppm
barium	10.00 ppm
selenium	5.00 ppm
zinc	10.00 ppm

Apply when the ambient air temperature is 45° F or above.





SALE NAME: Spare Change  
 CONTRACT NO.: ORN05-TS-2024.0558

United States Department of the Interior  
 Bureau of Land Management  
 Northwest Oregon District, Upper Willamette Field Office

**Legend**

Harvest Unit	Bureau of Land Management
Purchaser Maintenance	Private
BLM Maintenance	Segment Breaks
County Road	Segment Identifier
Existing Road	Gate
Mineral Haul Route	BPA Transmission Lines
Timber Haul Route	

**Road Maintenance Map**  
 T. 17 S., R. 1 W., Sec. DC 37 & 17  
 T. 17 S., R. 2 W., Sec. 11, 12, 13, 14 & 23.  
 Willamette Meridian, Lane County, Oregon

Designed By: E. Bundy  
 Drawn By: E. Bundy  
 Date: July 1, 2024



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

**Timber Appraisal**

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<b>Sale Name:</b> Spare Change	<b>Sale Date:</b> Thursday, August 29, 2024
<b>BLM District:</b> NW Oregon DO	<b>Unit of Measure:</b> 16' MBF
<b>Contract #:</b> ORN05-TS-2024.0558	<b>Contract Term:</b> 36 months
<b>Sale Type:</b> Advertised	<b>Contract Mechanism:</b> 5450-003 Lump Sum Sale of Timber and other Wood Products

**SBA Set-Aside**

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**Content**

**Timber Appraisal Summary**  
**Stumpage Summary**  
**Unit Summary**  
**Stump to Truck**  
**Transportation**  
**Engineering Allowances**  
**Other Allowances**

**Prepared By:** Dotson, Bryan J - 7/16/2024

**Approved By:** Rainey, Matthew D - 7/16/2024

## Legal Description of Contract Area

Land Status	County	Township	Range	Section	Subdivision	Meridian
O&C	Lane	17 S	1 W	17	N1/2SW1/4, N1/2SE1/4	Willamette
O&C	Lane	17 S	2 W	13	NW1/4NW1/4	Willamette

## Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	1,963.0	2,071.0	2,108.0	21,060	1,111	4,523
Incense-cedar	41.0	45.0	45.0	369	1	75
Western Hemlock	32.0	34.0	34.0	562	9	174
Western Redcedar	30.0	33.0	35.0	389	32	90
Grandfir	28.0	30.0	31.0	330	21	84
Bigleaf Maple	28.0	29.0	29.0	690	0	299
<b>Totals</b>	<b>2,122.0</b>	<b>2,242.0</b>	<b>2,282.0</b>	<b>23,400</b>	<b>1,174</b>	<b>5,245</b>

## Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
54.0	0.0	1.3	55.3	38.4

**Logging Costs**

Stump to Truck	\$415,105.74
Transportation	\$94,164.00
Road Construction	\$294,164.48
Maintenance/Rockwear	\$48,663.62
Road Use	\$11,540.80
Other Allowances	\$25,773.00
<b>Total:</b>	<b>\$889,411.64</b>
<b>Total Logging Cost per MBF:</b>	<b>\$419.14</b>

**Utilization Centers**

<u>Location</u>	<u>Distance</u>	<u>% of Net Volume</u>
Jasper, Oregon	17.0 miles	100%

**Profit & Risk**

Profit	11%
Risk	0%
<b>Total Profit &amp; Risk</b>	<b>11%</b>

**Tract Features**

<b>Quadratic Mean DBH</b>	17.7 in
<b>Average GM Log</b>	96 bf
<b>Average Volume per Acre</b>	38.4 mbf
<b>Recovery</b>	93%
<b><u>Net MBF volume:</u></b>	
<b>Green</b>	2,122.0 mbf
<b>Salvage</b>	0 mbf
<b>Export</b>	0 mbf
<b><u>Ground Base Logging:</u></b>	
<b>Percent of Sale Volume</b>	40%
<b>Average Yarding Slope</b>	20%
<b>Average Yarding Distance</b>	150 ft
<b><u>Cable Logging:</u></b>	
<b>Percent of Sale Volume</b>	60%
<b>Average Yarding Slope</b>	45%
<b>Average Yarding Distance</b>	235 ft
<b><u>Aerial Logging:</u></b>	
<b>Percent of Sale Volume</b>	0%
<b>Average Yarding Slope</b>	0%
<b>Average Yarding Distance</b>	0 ft

## **Cruise**

**Cruise Completed**

July 2023

**Cruised By**

Dotson, Cranmer

### **Cruise Method**

CRUISE INFORMATION: The timber volumes for Douglas-fir, incense-cedar, western hemlock, western redcedar, and grandfir in the Regeneration Harvest Areas were based on a variable plot cruise for estimating board foot volume. Plots were measured using a 40 basal area factor for a total of 201 plots. Bigleaf maple in all Regeneration Harvest Areas were based on a 100% cruise for estimating board foot volume. The timber volumes for Douglas-fir and incense-cedar in the rights-of-way were based on a 100% cruise for estimating board foot volume. A map showing the location of the plots and sample trees is available at the Springfield Interagency Office. With respect to merchantable Douglas-fir; the average tree is 17.9" DBHOB; the average log contains 98 bd. ft.; the total gross merchantable volume is approximately 2,071 MBF; and 93% recovery is expected. CUTTING AREA: Approximately 54 acres shall be regeneration harvested and approximately 1.3 acres of right-of-way shall be cleared.

## Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value (\$)
Douglas Fir	4,523	1,963.0	\$601.91	\$66.21	\$419.14	\$0.00	\$116.60	\$228,885.80
Incense-cedar	75	41.0	\$468.30	\$51.51	\$419.14	\$0.00	\$46.90 *	\$1,922.90
Western Hemlock	174	32.0	\$419.48	\$46.14	\$419.14	\$0.00	\$42.00 *	\$1,344.00
Western Redcedar	90	30.0	\$766.70	\$84.34	\$419.14	\$0.00	\$263.20	\$7,896.00
Grandfir	84	28.0	\$460.81	\$50.69	\$419.14	\$0.00	\$46.10 *	\$1,290.80
Bigleaf Maple	299	28.0	\$185.70	\$20.43	\$419.14	\$0.00	\$18.60 *	\$520.80
<b>Totals</b>	<b>5,245</b>	<b>2,122.0</b>						<b>\$241,860.30</b>

\* Minimum Stumpage values were used to compute the Appraised Price/MBF (10.00% 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%	71.0%	26.0%	1.0%	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill	No. 6 Sawmill	Camp Run
Incense-cedar							100.0%

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Western Hemlock				58.0%	35.0%	7.0%	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill			Camp Run
Western Redcedar							100.0%

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill		Camp Run
Bigleaf Maple							100.0%

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Grandfir				76.0%	22.0%	2.0%	

**Spare Change**

**Unit Summary**

**ORN05-TS-2024.0558**

**Unit: 1 RH**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	1,303.0	1,375.0	1,399.0	2,996
Western Hemlock	22.0	23.0	23.0	119
Bigleaf Maple	21.0	22.0	22.0	228
Grandfir	19.0	21.0	21.0	57
<b>Totals:</b>	<b>1,365.0</b>	<b>1,441.0</b>	<b>1,465.0</b>	<b>3,400</b>

**Net Volume/Acre: 36.9 MBF**

Regeneration Harvest	37.0
Partial Cut	0.0
Right of Way	0.0
<b>Total Acres:</b>	<b>37.0</b>

**Unit: 2 RH**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	598.0	632.0	643.0	1,377
Incense-cedar	35.0	39.0	39.0	61
Western Redcedar	30.0	33.0	35.0	90
Western Hemlock	10.0	11.0	11.0	55
Grandfir	9.0	9.0	10.0	27
Bigleaf Maple	7.0	7.0	7.0	71
<b>Totals:</b>	<b>689.0</b>	<b>731.0</b>	<b>745.0</b>	<b>1,681</b>

**Net Volume/Acre: 40.5 MBF**

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

**Unit: ROW 1**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	29.0	30.0	31.0	71
<b>Totals:</b>	<b>29.0</b>	<b>30.0</b>	<b>31.0</b>	<b>71</b>

**Net Volume/Acre: 41.4 MBF**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	0.7
<b>Total Acres:</b>	<b>0.7</b>

**Unit: ROW 2**

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	33.0	34.0	35.0	79
Incense-cedar	6.0	6.0	6.0	14
<b>Totals:</b>	<b>39.0</b>	<b>40.0</b>	<b>41.0</b>	<b>93</b>

**Net Volume/Acre: 65.0 MBF**

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	0.6
<b>Total Acres:</b>	<b>0.6</b>



Total Stump To Truck	Net Volume	\$/MBF
\$415,105.74	2,122.0	\$195.62

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

Yarding System	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Cable: Medium Yarder	GM MBF	818.0	\$230.84	\$188,827.12	5,000/LD, 6 Loads/Day, \$3.40 Gal, Uphill Yarding, 21 Acres, Regen, Unit 1
Cable: Medium Yarder	GM MBF	516.0	\$197.86	\$102,095.76	5,000/LD, 7 Loads/Day, \$3.40 Gal, Uphill Yarding, 12 Acres, Regen, Unit 2
Shovel	GM MBF	10.0	\$171.75	\$1,717.50	5,000/LD, 5 Loads/Day, \$3.40 Gal, Ground Based, White Painted Trees
Shovel	GM MBF	70.0	\$171.75	\$12,022.50	5,000/LD, 5 Loads/Day, \$3.40 Gal, Ground Based, 1.3 Acres, All ROW's
Shovel	GM MBF	1.4	\$171.75	\$240.45	5,000/LD, 5 Loads/Day, \$3.40 Gal, Ground Based, Private ROW Volumes
Shovel	GM MBF	215.0	\$149.99	\$32,247.85	5,000/LD, 9 Loads/Day, \$3.40 Gal, Ground Based, 5 Acres, Regen, Unit 2
Shovel	GM MBF	623.0	\$122.72	\$76,454.56	5,000/LD, 11 Loads/Day, \$3.40 Gal, Ground Based, 16 Acres, Regen, Unit 1
<b>Subtotal</b>				<b>\$413,605.74</b>	

**Additional Costs**

Item	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Intermediate Support	Each	5.0	\$300.00	\$1,500.00	
<b>Subtotal</b>				<b>\$1,500.00</b>	

### Additional Moves

Equipment	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Subtotal				\$0.00	

**Comments:**

Logging cost printouts are located in the Spare Change contract office folder.

Total	Net Volume	\$/MBF
\$94,164.00	2,122.0	\$44.38

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	\$/Unit of Measure	Total Cost	% of Sale Volume
Jasper, Oregon	17.0	Log Haul	GM MBF	2,242.0	\$42.00	\$94,164.00	100%

**Comments:**

\$105.00/hour x 2.0 Hours round trip (60min delay included) = \$210 per trip / 5.0 mbf per load = \$42.00  
SBA Natron Wood Products

**Engineering Allowances**

Total	Net Volume	\$/MBF
\$354,368.90	2,122.0	\$167.00

Cost Item	Total Cost
Road Construction:	\$294,164.48
Road Maintenance/Rockwear:	\$48,663.62
Road Use Fees:	\$11,540.80

**Comments:**

See Spare Change contract office folder for Road Construction & Road Maintenance and Road Use appraisals.

Total	Net Volume	\$/MBF
\$25,773.00	2,122.0	\$12.15

### Environmental Protection

Cost item	Total Cost
Logging Equipment Washing	\$400.00
<b>Subtotal</b>	<b>\$400.00</b>

### Logging

Cost item	Total Cost
Additional Tree Cutting	\$696.00
Snag Creation	\$4,884.00
<b>Subtotal</b>	<b>\$5,580.00</b>

### Road Construction, Maintenance, Use, & Decommissioning

Cost item	Total Cost
Skid Trail/Landing Deom	\$2,768.00
<b>Subtotal</b>	<b>\$2,768.00</b>

### Slash Disposal & Site Prep

Cost item	Total Cost
Slash Disposal Appraisal	\$17,025.00
<b>Subtotal</b>	<b>\$17,025.00</b>

#### Comments:

For More Information on Snag Creation: Tree Topping and Basal Girdle, Equipment Washing, Additional Tree Cutting Submerch, Slash Disposal Appraisal, and Skid Trial/Landing Decommissioning cost sheet are located in the Spare Change contract office folder.