P R O S P E C T U S

SCALE SALE

ASHLAND RESOURCE AREA
JACKSON MASTER UNIT

Medford Sale # ORM06-TS-2026.0001
February 26, 2026

THOM BONE (5900) Jackson & Josephine County, O&C

BID DEPOSIT REQUIRED: $34,400.00

All timber designated for cutting in:

T38S R04W-Lot 6, SW¼ NE¼, SE¼ SW¼ Sec 20, NW¼ NE¼, NE¼ NW¼, W½ NW¼, NE¼ SW¼, W½ SW¼ Sec 29, Lot 9, 10, 11, 12, SE¼ NE¼ Sec 30, Lot 3, 4, NW¼ NE¼, E½ NW¼, E½ SW¼, NW¼ SE¼ Sec 31; T39S R04W-Lot 4, SW¼ NW¼ Sec 5, Lot 1, 2, 3, 4, SE¼ NE¼, SE¼ NW¼ Sec 6, W½ NW¼, SW¼, W½ SE¼, SE¼ SE¼ Sec 17, E½ NE¼ Sec 18, Lot 2, 3, NE¼, SE¼ NW¼, NE¼ SW¼ Sec 19, NE¼, NW¼, NE¼ SW¼ Sec 20 ; T39S R05W-Lot 1, SE¼ NE¼, N½ SE¼, SE¼ SW¼, SW¼ SE¼ Sec 1. Willamette Meridian.

Approx. Number Merch. Trees	Est. Volume MBF 32' Log	Species	Est. Volume MBF 16' Log	Appr. Price Per MBF*	Est. Volume Times Appraised Price
24,083	4,743	Douglas-fir	5,958	$57.70	$343,776.60

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

CRUISE INFORMATION – Douglas-fir has been cruised using the variable plot PCM Tree sampling methods to select sample trees. Maps showing the location and description of these sample trees are available at the Medford District Office. The sample trees have been measured using the volt system of measurement, and the volume expanded to a total sale volume.

With respect to all merchantable trees: the average tree is 18.1 inches DBHOB; the average gross merchantable log contains 94 bd. ft.; the total gross volume is approximately 8,989 MBF bd. Ft. and 65% recovery is expected.

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

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

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

CUTTING AREA Ten (10) harvest units comprising two hundred eighty-five 284 acres; Three (3) Linear Feature units comprising two hundred forty-six (246) acres; and Two (2) Roadside Vegetation Management units comprising fifty-five (55) acres. Total: Fifteen (15) units comprising five hundred eighty-five (585) layout acres.

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

ACCESS – Access to the sale area is available via public road through the contract area, existing BLM roads.

ROAD MAINTENANCE - The Purchaser will be required to maintain all temp routes constructed plus **16.74** miles of existing road listed in Section 3100 of Exhibit D1. An allowance in the amount of **$135,933.85** has been made for the maintenance of these roads. BLM will maintain **2.21** miles of roads listed in Section 3100 of Exhibit D1. The Purchaser will be required to pay a road maintenance obligation and/or a payment of a surface replacement fee for the use of these roads as listed in Provision R-2d.

ROAD CONSTRUCTION – The Purchaser will be required to construct **0.51** miles of temporary road and **0.19** miles of re-alignment.

DECOMMISSIONING – An allowance in the amount of **$24,841.06** has been made for decommissioning. Decommissioning work to be performed is described in Section 3500 of Exhibit D1.

SOIL DAMAGE PREVENTION: Pursuant to Section 26 of Form 5450-4, Timber Sale Contract, the Purchaser shall not operate or cause to have operated on the contract area any tractor-type logging equipment when soil moisture content at six (6) inch depth exceeds twenty-five (25) percent by weight as determined by the oven dry method.

EQUIPMENT REQUIREMENTS

1. A yarding tractor not greater than 9 feet in track width equipped with an integral arch and winch system capable of lining logs at least 75 feet.
2. A tractor equipped with winged-toothed rippers.
3. Cable yarding system with skyline carriage system capable of reaching at least 1800 feet from landing to bottom of units. With a minimum reach of 75 feet for lateral yarding.

SLASH DISPOSAL Perform logging residue reduction and site preparation work on five hundred eighty-five (585) acres of harvest area as directed by the Authorized Officer.

CONTRACT TERMINATION A revised Special Provision has been added to the contract which enables the Contracting Officer to suspend the contract to facilitate protection of certain plant or animal species, and /or to modify or terminate the contract when necessary to:
1. Comply with the Endangered Species Act, or;
2. Comply with a court order, or;
3. Protect species which were identified for protection standards and guidelines established in the ROD and RMP. This contract provision limits the liability of the Government to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area.

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

OTHER

1. Timber Designation:
   a. **RVM-DXD units** (Five feet above cut bank and six feet below the outside edge of road). Ground-based/reachable from road. Rocking will occur post-harvest road maintenance.
   b. **LF-DXP units** (Up to 300 feet both sides of road) Logging system hybrid. Potential for DOWNHILL YARDING.
   c. **Area units** are **retention marked in ORANGE** for salvage harvest. All unmarked Douglas-fir trees meeting minimum merchantability specifications have been deemed dead or dying and need to be cut and removed regardless of individual tree value.
2. Approximately five thousand one hundred thirty-nine (5,139) trees have been marked with **ORANGE** paint at base and DBH for retention.
3. Ponderosa pine, incense-cedar, yew, and hardwoods are reserved from cutting.
4. Trees which are greater than or equal to thirty-six (36) inch DBH that need to be cut for safety or operations shall be retained in a safe and stable manner within the unit.
5. Yarding of Unmerchantable Material (YUM) will be required to decrease excess fuel loading. The appraisal will show allowances for YUM activities. Additionally, all YUM logs will be sorted and hauled for biomass where feasible and as determined by Authorized Officer.
6. During Fire Season, purchaser and contractors required to follow all Oregon and BLM requirements for operating and equipment regulations.

7. No extension of time beyond the normal 30 days will be granted for completing bonding and contract signing requirements.
8. This contract includes an additional special provision to ensure the Purchaser understands he/she is required to conduct all operations in compliance with Sec. 12 (Hold Harmless and Responsibility for Damages) and Sec. 29 (Safety and Health) and the Special Provisions included in Sec. 43 and Sec. 44 of this Contract.
9. Purchaser shall be responsible for complying with all county, state, and federal laws and regulations that relate to the execution of this contract (Sec. 29).
10. Directional falling is required
11. There are daily and seasonal restrictions in place on this sale.
12. Cleaning of equipment to eliminate noxious weed seeds is required prior to move-in of equipment onto federal lands.
13. Dust abatement is required.
14. There are slash treatment and pile placement requirements in place for this sale Sec. 44(F)(SD)(1).
15. Activity fuel residue reduction is required. Five hundred thirty (530) acres will be Hand Piled. Fifty-five (55) acres will be Machine Piled, as determined by the Authorized Officer and specified in writing by the Contracting Officer.
16. Fuels and Slash disposal prices will be displayed under Sec. 44(F)(SD)(5) provision in the contract. Amount of slash and appropriate treatments will be determined by Authorized officer upon completion of cutting and removal of timber. After a complete review of each unit, the contract price will be modified to reflect most accurate prices for appropriate treatments in each unit based on the slash remaining after completion of logging. The estimated costs of fuels treatments will be agreed on by both the BLM and the purchaser.
17. OPTIONAL CONTRIBUTIONS (C-1) The Purchaser shall perform HAND AND MACHINE PILE BURNING in accordance with Sec. 44(G)(7)(b) SD-5. The Purchaser shall have the option of completing the hand and machine pile burning work, or in lieu thereof, may make a contribution to the Bureau of Land Management in the amount of thirty-nine thousand one hundred twenty-five dollars ($39,125.00) and upon making such contribution, the Purchaser shall be relieved of the obligations set out in this subsection. The Purchaser shall notify the Authorized Officer of their intention to make this contribution prior to the date of execution of this contract.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA

Ninemile Units: From the city of Medford take Hwy 238 west 15.4 miles to a left turn on Thompson Creek Road continue for 7.1 miles to a left turn on Ninemile Creek Road.
Ferris Units: From the city of Medford take Hwy 238 west 17.1 miles to a left turn on Ferris Gulch Road.

ENVIRONMENTAL ASSESSMENT - Environmental assessment DOI-BLM-ORWA-M060-2025-0001-EA 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 Medford District Office and at https://eplanning.blm.gov.

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ORM06-TS-2026.0001 THOM BONE TIMBER SALE
SPECIAL PROVISIONS

THESE ARE THE SPECIAL PROVISIONS AS THEY WILL BE WRITTEN IN THE CONTRACT. ATTACHMENTS MAY NOT INCLUDE ALL EXHIBITS REFERRED TO IN THE CONTRACT PROVISIONS. THE COMPLETE CONTRACT, INCLUDING ALL EXHIBITS, IS AVAILABLE FOR INSPECTION AT THE MEDFORD INTERAGENCY OFFICE.

Sec. 43. TIMBER RESERVED FROM CUTTING - The following timber on the contract area is hereby reserved from cutting and removal under the terms of this contract and is retained as the property of Government.

(A) AR-1 All timber on the Reserve Area(s) as shown on Exhibit A and all orange painted and posted trees which are on or mark the boundaries of the Reserve Area(s).

(B) IR-1 Approximately five thousand one hundred thirty-nine (5,139) trees marked with ORANGE paint above and below stump height in units, as shown on Exhibit A.

(C) IR-2 All timber except approximately four hundred thirty-two (432) trees designated for cutting heretofore by the Government in RVM-DXD units as shown on Exhibit A.

(D) IR-5 All young growth conifers less than eight (8) inches in diameter D.B.H.O.B. not damaged in the normal course of logging in all units as shown on Exhibit A.

(E) IR-6 Reserve all healthy, green trees in all DXP-LF units as shown on Exhibit A, except where falling is necessary for safety or operational reasons.

(F) IR-6 Reserve all cedar, pine, hardwoods, and Pacific yew in all units as shown on Exhibit A, except where falling is necessary for safety or operational reasons. If such trees need to be cut for safety or operational reasons, retain cut trees in the stand.

(G) IR-13 All non-hazardous snags in all units as shown on Exhibit A. Any felled hazard snags must remain where felled or as directed by the Authorized Officer

(H) IR-14 All pre-existing dead and down wood in all units as shown on Exhibit A.

Sec. 44.

(A) Log Branding

(1) LE-1 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.

(B) Logging

(1) L-1 Before beginning operations on the contract area for the first time or after a shutdown of seven (7) days or more, the Purchaser shall notify the Authorized Officer in writing of the date they plan to begin operations. The Purchaser shall also notify the Authorized Officer in writing if they intend to cease operations for any period of seven (7) or more days.

(2) L-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) L-4 All trees designated for cutting shall be cut so that the resulting stumps shall not be lower than six (6) inches nor higher than twelve (12) inches measured from the ground on the uphill side of the tree. This height requirement may be reduced if approved by the Authorized Officer.

(4) L-5 All trees eight (8) inches or larger D.B.H.O.B. and not reserved shall be felled in all units shown on Exhibit A. All trees eight (8) inches or larger D.B.H.O.B. required to be cut shall be felled concurrently.

(5) L-7 In all skyline units as shown on Exhibit A, all trees designated for cutting shall be felled and cut into log lengths not to exceed forty-four (44) feet and be completely limbed prior to being yarded.

(6) L-7 In all tractor units, as shown on Exhibit, fell trees over twenty-one (21) inches DBH designated for cutting into log lengths not to exceed forty-four (44) feet. Log segments would be completely limbed prior to yarding.

(7) L-8 In all tractor units, as shown on Exhibit A, all trees twenty-one (21) inches DBH and smaller designated for cutting shall be felled and yarded to approved landing locations either whole tree, or as log segments (segment length not to exceed forty-four (44) feet). If excessive stand damage occurs from whole tree yarding as determined by the Authorized Officer, bucking and/or limbing will be required.

(8) L-10 In the units shown on Exhibit A, all trees designated for cutting which are within one hundred-sixty (160) feet of unit or reserve area boundaries, BLM improvements, private property lines, corner monuments, or resource buffers shall be felled away from the features. The Purchaser shall notify the Authorized Officer three (3) days before beginning felling operations in the above area(s).

(9) L-12 Yarding on the areas designated herein and shown on Exhibit A shall be done in accordance with the yarding requirements or limitations for the designated area.

Designated Area	Yarding Requirements or Limitations
Cable units: 5-11, 6-2, 17-1, 17-2, 20-1, 29-1, 29-2, 30-2, 31-5, 31-7	Yarding will be done with a skyline yarder system capable of suspending one end of the log clear of the ground during inhaul on the yarding corridor. A carriage which will maintain a fixed position on the skyline during lateral yarding and has a minimum lateral yarding capability of seventy-five (75) feet is required. A minimum of one end suspension is required in all skyline units. Prior to marking or falling any timber in the unit, all landings, yarding corridors, tail/lift trees and/or intermediate support trees shall be identified by the purchaser and approved by the Authorized Officer. Limit the width of skyline corridors to be as narrow as

	operationally feasible; do not exceed a 15-foot width. As practicable, set corridor spacing where they cross the streams to no less than 100 feet apart when physical, topography, or operational constraints demand, with an overall desire to keep an average spacing of 200 feet apart. Immediately after use, implement erosion control measures such as waterbars, slash placement, and seeding in cable yarding corridors or in special yarding areas where substantial gouging occurs that could lead to the capture and conveyance of water and/or contribute to soil erosion to waterbodies, floodplains, and wetlands, as determined by the hydrologist and as directed by the Authorized Officer. Restrict the amount of total area of detrimental soil disturbance (i.e. compaction, displacement, erosion, burning) to below 20% in a timber harvest unit. Minimize downhill yarding. Log landing size shall not exceed one-quarter (¼) acre.
RVM-DXD units:	(Five feet above cut bank and six feet below the outside edge of road)-Ground-based/reachable from road. Remove bark and debris from road after use. To protect road, minimize move-ins and trips along road and turns at landings. Ditch and culvert protection required. Rocking will occur post-harvest road maintenance.
LF-DXP units:	(Up to 300 feet both sides of road, depending on stand conditions) Logging system hybrid. Potential for DOWNHILL YARDING. Highly variable stand types and conditions. To protect road, minimize move-ins and trips along road and turns at landings. Ditch and culvert protection required. Rocking will occur post-harvest road maintenance. Yarding tractor width will not be greater than twelve (12) feet as measured from the outer edges of the standard width dozer blade in the straight position, or nine (9) feet as measured from the outer edges of standard width track shoes. Yarding tractors will be equipped with integral arches capable of suspending one end of the log clear of the ground and winch systems capable of lining logs at least seventy-five (75) feet. One end suspension is required in all ground-based units.

	Avoid skidding across or through sites with BLM improvements. The location of landings and skid trails must be clearly flagged by the Purchaser's Representative on the ground, and the locations shall be approved by the Authorized Officer prior to use. Incorporate existing skid trails and landings as a priority over creating new trails and landings where feasible, into a designated trail network for ground-based harvesting equipment. When new skid trails are needed, limit total (existing and new) designated skid trails to <15% of the harvest unit area to reduce displacement or compaction to acceptable limits. Consider proper spacing (on average 100 feet), skid trail direction and location relative to terrain and stream channel features. Locate skid trails to minimize disturbance to coarse woody material. Where skid trails encounter large coarse woody material a section would be bucked out for equipment access. The remainder would be left in place and would not be disturbed. Restrict tractor and mechanical operations to slopes generally less than 35%. In areas where it is necessary to exceed these gradients to access adjacent tractor area, use ridge tops where possible. Minimize the area where more than half of the depth of the organically-enriched upper horizon (topsoil) is removed when conducting forest management operations. Restrict the amount of total area detrimental soil disturbance (i.e. compaction, displacement, erosion, burning) to below 20% in a timber harvest unit. Immediately after use, implement erosion control measures such as water bars, slash placement, and seeding on skid trails where substantial gouging occurs that could lead to the capture and conveyance of water and/or contribute to soil erosion to waterbodies, floodplains, and wetlands, as determined by the hydrologist and as directed by the Authorized Officer If operators are using feller-bunchers or cut-to-length harvesters from designated skid trails: -Allow mechanized equipment capable of creating and walking on slash (such as a cut-to-length system) to work off designated skid trails for one or two passes on at least eight inches of slash and under dry soil conditions (less than 25% soil moisture content); -Allow mechanized equipment (feller-buncher systems) to work off designated skid trails during the dry season (soil

	moisture content less than 20%) for one or two passes only (one round-trip); -Use low, ground-pressure equipment off designated skid trails -Restrict all other use of ground-based equipment to designated skid trails; and Mechanized felling equipment must have an arm capable of reaching at least twenty (20) feet. No front-end loaders are permitted. No yarding up or down draw bottoms is permitted. The use of ground-based equipment on unstable areas within units is not permitted. Log landing size shall not exceed one-half (1/2) acre. See 44(B)(9) L-12 Cable unit sections of this provision, above, for additional requirements.

(10) L-14 No yarding or loading is permitted in or through plant sites, BLM improvements, or protected sites, in all units as shown on Exhibit A unless approved by the Authorized Officer.

(11) L-19 No road construction, landing construction, skid trail construction, road renovation, road reconstruction, road decommissioning, road blocking/barricade construction, rocking, water bar construction, soil ripping, shall be conducted within contract area between October 15th of one calendar year and May 15th of the following calendar year, both days inclusive, or when soil moisture exceeds 25%, as determined by the Authorized Officer.

No ground-based yarding or soil decompaction operations shall be conducted within contract area between October 15th to May 15th, or when soil moisture exceeds 25%.
Block skid trails to prevent public motorized vehicle use and other unauthorized use by October 15th of the year of harvest unless a waiver is in place for ground-based yarding to extend the dry season.

(12) L-19 Apply native, site-specific seed approved by the field office botanist and weed-free straw to all temporary roads, and newly constructed landings, the top fifty (50) feet of the skyline-cable yarding corridor where yarding logs to the road results in extended soil exposure, all predesignated skid trails, designated skid trails, and forwarder trails used for logging activities in all ground based units as shown on Exhibit A, beginning where the trail takes off of system roads, or landing areas for a distance of one hundred (100) feet, or as needed, as determined by the Authorized Officer.

Seeding and mulching would occur in the same operational season that construction activities occur. If hauling is not completed in the same year the route is constructed, storm proof and block the route by October 15th or when soil moisture exceeds 25%. Seeding and mulching would occur between September 1st and October 31st, or February 1st and March 31st or as approved by the Authorized Officer.

(13) L-19 Restrict all timber hauling and landing operations on native surface or rocked roads whenever soil moisture conditions or rain events could result in road damage or the transport of sediment to nearby stream channels, generally October 15 to May 15. If the Authorized Officer, in consultation with Field Office watershed specialists and engineers, determines that hauling would not result in road damage or the transport of sediment to nearby stream channels based on soil moisture conditions or rain events, a conditional waiver for hauling may be granted. The conditional waiver may be suspended or revoked if conditions become unacceptable as determined by the Authorized Officer.

(14) L-19 The Purchaser may wet season haul, with the Authorized Officer's approval on the following roads: 38-4W-17.00, 39-5W-1.00, 39-5W-1.01, 39-5W-2.00, and 39-5W-24.00. If the use of these roads during the wet season causes or begins to cause road damage or the transport of sediment into streams, the Authorized Officer may suspend wet season haul or require additional erosion control devices to prevent damage or off-site transportation of sediment. Additional rock may be required at the Purchaser's expense to repair any damage that occurs to the road during wet season haul.

The Purchaser may wet season haul on these roads that will be rocked under Exhibit C work, with the Authorized Officer's approval on the following roads: 38-4W-29.00 and 39-4W-6.00, If the use of these roads during the wet season causes or begins to cause road damage or the transport of sediment into streams, the Authorized Officer may suspend wet season haul or require additional erosion control devices to prevent damage or off-site transportation of sediment. Additional rock may be required at the Purchaser's expense to repair any damage that occurs to the road during wet season haul.

The Purchaser shall have the option to rock road numbers 38-4W-20.01, 39-4W-17.00, 39-4W-19.01, and NS 38-4W-31.01 for wet weather haul. Purchaser option rocking depths will be determined and approved by the Authorized Officer. Any costs for rocking and installation of additional drainage features will be at the Purchaser's expense and shall be completed in accordance with the plans and specifications show in Exhibit C of this contract.

(15) L-19 There are no known NSO sites within 0.25 miles of proposed harvest units. If discovery of any new owls occurs within 0.25 miles of harvest units following the sale date, seasonally restrict harvest activities from March 1st to September 30th within 0.25 mile of new NSO sites.

(16) L-20 No operations shall be conducted within all harvest units, as shown on Exhibit A, between March 1st through July 15th of the same calendar year, both days inclusive. This restriction will not apply if it can be shown from Northern Spotted owl protocol surveys conducted by the Bureau of Land Management in accordance with accepted standards that Northern Spotted owl nesting and/or fledging activities are not occurring during the year or time of harvest.

(17) L-24 Before cutting and removing any trees necessary to facilitate logging in all units as shown on Exhibit A, the Purchaser shall identify the location of skid roads, cable yarding roads, and tailhold, 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:

(a) All skid roads, cable yarding roads, and tailhold, tieback, guyline, lift, intermediate support, and danger trees 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 contact 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 road shall be limited to twelve (12) feet, and cable yarding roads shall be limited to fifteen (15) feet.

(b) The Purchaser may immediately cut and remove additional timber to clear skid roads, cable yarding roads, and tailhold, tieback, guyline, lift, intermediate support, and danger trees when the trees have been marked with pink 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 Sec. 3.(b) of the contract or sufficient bonding has been provided in accordance with Sec. 3.(e). of the contract.

(c) 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 Sec. 9 of the contract; or, the Authorized Officer determines that all trees otherwise reserved in section 43 of the contract or any tree that exceeds 28 inches

diameter at breast height shall be appraised and sold by bilateral modification of the contract at current fair market value in accordance with Sec. 8 of the contract.

(d) 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.

(e) 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 Sec. 8 or Sec. 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.

(f) The Government may reserve trees previously designated for cutting and removal by applying orange paint or blacking out white paint as replacements for additional trees cut and removed for skid roads and/or cable yarding roads when the Authorized Officer determines such reservation is necessary to maintain stand densities consistent with objectives set forth in the management prescription(s). 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.

(18) L-25M Except for logs sold and removed from the contract area, all logs from areas specified below and shown on Exhibit A, which meet the length and diameter specifications shown below, shall be yarded and hauled off the sale area. If a log or piece of log meeting the specifications shown below is bucked and left in place, all

portions of that log shall be yarded and decked or windrowed to the following described log destination area(s).

Specified Areas	Log Destination Areas	Log Specifications
All Units as shown on Exhibit A.	Hauled off sale area	Logs, including hardwoods, which are [8] inches DBH or larger, and longer than [17] feet in length.

(19) L-25 In the skyline units shown on Exhibit A, the Purchaser shall make cable road changes by completely re-spooling the cables and restringing the layout from the head spar to the new tailhold to protect the advance reproduction present on these areas.

(20) L-32 In all units as shown on Exhibit A, trees which are greater than or equal to thirty-six (36) inch DBH that need to be cut for safety or operations shall be retained in a safe and stable manner within the unit, unless otherwise agreed to by the Authorized Officer.

(R) ROAD CONSTRUCTION, MAINTENANCE, AND USE

(1) R-1 The Purchaser shall construct, improve, renovate, and/or decommission all roads and structures in strict accordance with the plans and specifications shown on Exhibit C and Exhibit D, which is attached hereto and made a part hereof.

(2) R-1a Any required construction, improvement, or renovation of structures and roads shall be completed and accepted, in accordance with Section 18, prior to the removal of any timber, except right-of-way timber, over that road.

(3) R-1b The Purchaser shall construct temporary routes TR 17-1, TR 29-2, and TR 31-7 in strict accordance with the plans and specifications shown on Exhibit C, which is attached hereto and made a part hereof. The Purchaser shall construct, use and decommission all temporary routes by October 15th of the same respective operating season.

(4) R-2 The Purchaser is authorized to use the roads listed and shown on Exhibit D Section 3001 for the removal of Government timber sold under the terms of this contract, provided that the Purchaser pay the required maintenance obligations described in Provision R-2d. Any road listed on Exhibit D and requiring construction, improvement, or renovation in Exhibit C of this contract, shall be maintained by the Purchaser until receiving written acceptance of the construction, improvement, or renovation from the Contracting Officer. The Purchaser shall pay current Bureau of Land Management maintenance fees for the sale of additional timber under modification to the contract.

(5) R-2a With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users of roads included in Provision R-2f of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of his liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. The Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreements entered into with other users on these roads.

(6) R-2d For road numbers 38-4W-17.00 A-C1 and 39-5W-24.00 the Purchaser shall pay a road maintenance of $0.82 per thousand board feet log scale per mile for the use of said roads. For road numbers 38-4W-17.00 C2-D2, 38-4W-29.00, 39-4W-6.00, 39-4W-19.01 A-B2, 39-5W-1.00, 39-5W-1.01, and 39-5W-2.00 the Purchaser shall pay a rockwear fee of $0.85 per thousand board feet log scale per mile for the use of said roads. The total maintenance and rockwear fees due shall be based upon volumes determined pursuant to Exhibit B of this contract and mileage of roads used as determined by the Authorized Officer. Prior to the use of such roads, the Purchaser shall give written notice to the Authorized Officer of the roads intended for use in the removal of timber purchased under this contract, together with an estimate of the volume to be hauled over such roads. **The Purchaser will be required to label, with a permanent ink marker, each load ticket with the corresponding unit number as directed by the Authorized Officer.** The Authorized Officer shall establish an installment schedule of payment of the maintenance obligation. If it is determined by the Authorized Officer, after all merchantable timber has been cut and scaled, that the total maintenance payments made under this contract exceed the total maintenance payment due, such excess shall be returned to the Purchaser after such determination is made.

(7) R-2e The Contracting Officer may at any time, by written notice, terminate the Purchaser's operator road maintenance obligations and require instead payment of current Bureau of Land Management road maintenance and rockwear fees for the particular surface type of the roads involved. These fees will be applied to the remaining contract volume on the sale area, as determined by the Authorized Officer, to be transported over the roads listed in Exhibit D Section 3100. If the total road maintenance and rockwear fee does not exceed five hundred and no/100 dollars ($500.00), the Purchaser shall pay such amount in full prior to use of such roads. If the total road maintenance and rockwear fee exceeds five hundred and no/100 dollars ($500.00), the Authorized Officer shall establish an installment schedule of payments of the maintenance and rockwear obligations.

(8) R-2f The Purchaser shall perform any required road repair and maintenance work on roads identified as Purchaser maintenance, under the terms of Exhibit D, Road Maintenance Specifications, of this contract, which is attached hereto and made a part hereof. 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, which is attached hereto and made a part hereof.

(9) R-3c The Purchaser agrees that if they elect to use any other 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, Purchaser shall request and agree to the modification of this contract to provide for such use and for allowances for amortization of the Government's share of the capital investment of any such road.

(10) R-4 The Purchaser shall be required to secure written approval to use vehicles or haul forest products and equipment over Government owned or controlled roads when such vehicles or equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles operating without a permit or if vehicles meet allowable non-permitted State vehicle weights, but the haul route crosses a structure or segment of road that is posted for reduced weights. The Purchaser agrees to abide by any special requirements included in said written approval.

Details of such equipment shall be furnished to the Authorized Officer for evaluation of load characteristics at least fifteen (15) days prior to proposed move in.

Details shall include:

A. Axle weights when fully loaded.
B. Axle spacing.
C. Transverse wheel spacing.
D. Tire size.
E. Outside width of vehicle.
F. Operating speed.
G. Frequency of use.
H. Special features (e.g., running tracks, overhang loads, etc.).

The Purchaser shall be responsible for repair of any damage to roads or structures caused by the use of overweight or over-dimension vehicles or equipment: (1) without written approval; (2) in violation of the conditions of a written approval; or, (3) in a negligent manner.

The amount of actual damage shall be determined by the Authorized Officer following a technical inspection and evaluation.

(11) R-5 Tracked type equipment shall not be allowed to cross over concrete bridge decks, other concrete surfaced structures or asphalt surfaced roads without the proper protection of that surface. Prior approval shall be obtained from the Authorized Officer when crossing with protective devices.

The Purchaser shall be responsible for repair of any damage to roads or structures caused by the use tracked vehicles or equipment: (1) without written approval; (2) in violation of the conditions of a written approval; or, (3) in a negligent manner. The amount of actual damage shall be determined by the Authorized Officer following a technical inspection and evaluation.

(D) Environmental Protection

(1) E-1 During operations the operator would be required to have a BLM-approved spill plan or other applicable contingency plan. In the event of any release of oil or hazardous substance, as defined in Oregon Administrative Rules (OAR) 340-142-0005 (9)(d) and (15), into the soil, water, or air, the operator would immediately implement the site's plan. As part of the plan, the operator would be required to have spill containment kits present on the site during operations. The operator would be required to be in compliance with OAR 629-605-0130 of the Forest Practices Act, Compliance with the Rules and Regulations of the Department of Environmental Quality. Notification, removal, transport, and disposal of oil, hazardous substances, and hazardous wastes would be accomplished in accordance with OAR 340-142, Oil and Hazardous Materials Emergency Response Requirements, contained in Oregon Department of Environmental Quality regulations (SP-05, SP-06, and SP-07).

In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall prepare a Spill Prevention, Control, and Countermeasure Plan for all hazardous substances to be used in the contract area. Such plan shall include identification of Purchaser's representatives responsible for supervising initial containment action for releases and subsequent cleanup. In addition, such plan shall follow all applicable State of Oregon Department of Environmental Quality guidelines for spill prevention and containment of petroleum products (Oregon Administrative Rules, Chapter 340, Department of Environmental Quality, Division 142, Oil and Hazardous Materials Emergency Response Requirements).

(2) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall Store all hazardous materials and petroleum products in durable containers placed outside of Riparian Reserves. Locate so an accidental spill would be contained nor drain into any stream system (SP-03).

Refuel equipment a minimum of 175 feet from streams, ponds, or other wet areas. Store equipment containing reportable quantities of toxic fluids outside of the Riparian Reserve. Hydraulic fluid and fuel lines would be in proper working condition in order to minimize leakage into streams (SP-03).

(3) E-1 In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall only be allowed to use equipment that is free of noxious weed seeds prior to entering federal lands in the contract area as shown on Exhibit A.

If equipment is not considered free of noxious weed seeds by the Government, it shall be cleaned prior to entering federal lands. Cleaning shall be defined as removal from all surfaces including the under carriage any dirt, grease, plant parts, and material that may carry noxious weed seeds onto federal lands. Cleaning prior to entering federal lands may be accomplished by using a pressure hose.

Equipment shall be subject to visual inspection by the Government to certify that the equipment is free of noxious weed seeds. Only equipment inspected by the government shall be allowed to operate on federal lands within the contract area. The purchaser shall make equipment available for government inspection at an agreed upon location off federal lands prior to any move-in of equipment.

Requirements as outlined above may be waived by the Government if move-in is from one "weed free area" to another "weed free area", as determined by the Government, or as conditions warrant.

(4) E-1 In addition to the requirement set forth in Sec. 26 of this contract and as directed by the Authorized Officer, the Purchaser shall block all temporary roads, and newly constructed landings (except landings located along temp spurs to be decommissioned), and at any location where an existing barricade has been removed to provide access to units as shown on Exhibit A. Temporary roads, and newly constructed landings (except landings located along temp spurs to be decommissioned), shall be blocked in the same season of use (generally by October 15th). If hauling on a temporary route or its associated landings is not completed in the same year the route is constructed, the route will be storm-proofed and blocked by October 15th or before soil moisture exceeds 25%.

Road renovation would occur during the dry season (May 15th to October 15th). Variations in these dates would be permitted dependent upon weather and soil moisture conditions and with a specific erosion control plan (e.g., rocking, water-barring, seeding, mulching, barricading) as determined by the Authorized Officer in consultation with aquatic and/or soils scientists. All road and landing construction activities would be stopped when a storm event resulted in degrading conditions as evidenced by turbid runoff, turbid ditch flow, ponding, or rutting or other displacement in excess of two inches. Watershed specialists would closely monitor storms that result in precipitation and would convey pertinent information to the Authorized Officer. Similarly, the Authorized Officer would convey road, landing, and ditch conditions to the aquatic and/or soil specialists.

De-compact skid trails, landings, and temporary roads where needed to achieve no more than 20% detrimental soil conditions and to minimize runoff. Construct water bar all temporary routes and associated landings, and roads identified for full decommissioning to a depth of 18 inches or bedrock (whichever is shallower). Avoid subsoiling areas near tree roots and where there are rocks larger than 2 feet across. Apply native, site-specific seed approved by the field office botanist and weed-free straw, and block upon completion of use. Seeding and mulching would occur in the same operational season that construction activities occur. If hauling is not completed in the same year the route is constructed, storm proof and block the route by October 15th or before soil moisture exceeds 25%.

Place woody debris or other appropriate barriers (e.g., rocks, logs, and slash) on the first 100 feet of skid trails leading off system roads in all ground-based yarding units upon completion of yarding to block and discourage unauthorized vehicle use.

In addition to the requirement set forth in Sec. 26 of this contract, the Purchaser shall construct road barricades as specified on Exhibit C, at locations where an existing barricade has been removed to provide for harvest access. Barricades shall be in place by October 15th of each calendar year.

Block skid trails by October 15th of the year of harvest unless a waiver is in place for ground-based yarding to extend the dry season.

(5) E-1 In addition to the requirements set forth in Sec. 26 of this contract, the Purchaser shall seed and mulch all temporary roads, and newly constructed landings within the project area as shown on Exhibit A.

Apply native, site-specific seed approved by the field office botanist, weed-free straw, and/or water-bars to the top 50 feet of the skyline-cable yarding corridor where yarding logs to the road results in extended soil exposure.

Seed and mulch all predesignated skid trails, designated skid trails, and forwarder trails used for logging activities in all ground-based units as shown on Exhibit A, beginning where the trail takes off of system roads, or landing areas for a distance of one hundred (100) feet, or as needed as determined by the authorized officer

Seed must be native species, site-specific, and approved by the resource area botanist. If hauling on a temporary route or its associated landings is not completed in the same year the route is constructed, the route will be storm-proofed and blocked by October 15 or when soil moisture exceeds 25%.

Apply native, site-specific seed and straw between September 1st and October 31st, and/or between February 1st and March 31st of the year of harvest, unless otherwise approved by Authorized Officer.

The Purchaser shall furnish the specific seed mixture prescribed by the Authorized Officer, which will include up to 3 grasses and 2 forbs from the following list, but may include substitutions approved by the Authorized Officer:
Grasses: *Achnatherum lemmonii, Bromus carinatus, Brumus vulgaris, Elymus glaucus, Festuca californica, Festuca roemeri, Koeleria macrantha, Poa secunda, Vulpia microstachys*
Forbs: *Achillea millefolium, Clarkia purpurea, Clarkia rhomboidea, Collinsia grandiflora, Eriophyllum lanatum, Lupinus bicolor, Madia elegans, Madia gracilis*
The proportion of each species in the mixture shall be prescribed by the Authorized Officer.
The Purchaser shall apply prescribed seed and straw mulch to acres designated for treatment, as directed by the Authorized Officer, at the following rates of application:

Grass seed	20 to 25 lbs/acre (cumulative, all species)
Forb seed	0.5 to 2 lbs/acre (cumulative, all species)
Straw mulch	1000 lbs/acre

The Purchaser shall apply seed and straw mulch between September 1st and October 31st, and/or between February 1st and March 31st of the year of harvest. Deviations from that timing must be approved by the Authorized Officer. The Purchaser shall notify the Authorized Officer at least 5 days in advance of the date that he/she intends to commence revegetation and soil stabilization work.

If the Purchaser furnishes seed from any source other than the BLM, that seed shall meet the following minimum test standards:

Test	Grasses (%)	Forbs (%)
Purity:	95	80
Germination:	85	70
Other species/weed content (max):	0.2	0.2
Noxious weed content:	Prohibited	Prohibited

Furnished seed shall meet the minimum requirements for either Yellow Tag Source Identified Seed or Blue Tag Certified Class Seed, as defined by the Association of Official Seed Certifying Agencies. Seed source shall be approved by the Authorized Officer and shall be from the EPA Level III Ecoregion in which the project occurs. For each lot of seed, the Purchaser shall furnish the Authorized Officer a Seed Test result from a certified seed testing lab (e.g., Oregon State University), which shall include: test date; lot number; seed source; and results of test for purity, germination, and weed content. All seed lots must have been tested within the previous 12 months to be accepted. Seed that has become wet, moldy, or otherwise damaged shall not be accepted. Seed must be available to the Authorized Officer for inspection at least 5 days in advance of commencing revegetation work.

If the Purchaser furnishes straw mulch from any source other than the BLM, the material must be from native grass or other approved sterile grain crops that are certified weed free and free of mold or other objectionable materials. Straw mulch shall be in an air-dry condition and suitable for spreading in a uniform manner. Straw mulch must be available to the Authorized Officer for inspection at least 5 days in advance of commencing revegetation work.

(6) E-2 The water bars to be constructed as required by Sec. 26(c) shall be constructed in accordance with the specifications shown on Exhibit W (special provisions), which is attached hereto and made a part hereof.

(a) Water-bar all skid trails and yarding corridors as needed to prevent erosion by October 15th of the year of harvest.

(b) Install water-bars at the same time as subsoiling (if both are required) unless skid trails are needed to complete harvest the following season. In that case, water bars would be constructed and straw would be applied to exposed soil prior to fall rains to reduce sedimentation during winter months. Water-bar spacing on tractor skid trails would be based on the RMP erosion-control measures for timber harvest, which considers slope and soil series.

(7) E-3 The Purchaser shall immediately discontinue specified construction or timber harvesting operations upon written notice from the Contracting Officer that:

(a) threatened or endangered plants or animals protected under the Endangered Species Act of 1973, as amended, may be affected by the operation, and a determination is made that consultation or reinitiation of consultation is required concerning the species prior to continuing operation, or;

(b) when, in order to 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), the Contracting Officer determines it may be necessary to modify or terminate the contract, or;

(c) Federal proposed, Federal candidate, Bureau sensitive or State listed species protected under BLM Manual 6840 - Special Status Species Management - have been identified, and a determination is made that continued operations would affect the species or its habitat, or;

(d) when, in order to comply with a court order, which enjoins operations on the sale or otherwise requires the Bureau of Land Management to suspend operations, or;

(e) when, in order to comply with a court order, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;

(f) when, in order to comply with a stay or other remedy issued by the Interior Board of Land Appeals (IBLA) the Contracting Officer determines it may be necessary to modify or terminate the contract, or;

(g) species have been discovered which were identified for protection in accordance with management direction established in the ROD and RMP, and the Contracting Officer determines that continued operations would affect the species or its habitat, or;

(h) when, in order to protect species which were identified for protection in accordance with management direction established in the ROD and RMP, the Contracting Officer determines it may be necessary to modify or terminate the contract.

Those operations necessary for a safe removal of personnel and equipment from the contract area and those directed by the Contracting Officer, which are required in order to leave the contract area in an acceptable condition will be permitted. Discontinued operations may be resumed upon receipt of written instructions and authorization by the Contracting Officer.

During any period of suspension, the Purchaser may withdraw performance and payment bond coverage aside from that deemed necessary by the Authorized Officer to secure cut and/or removed timber for which the Bureau of Land Management has not received payment, and/or unfulfilled contract requirements associated with harvest operations that have already occurred and associated post-harvest requirements.

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the First Installment held on deposit may be temporarily reduced upon the written request of the Purchaser. For the period of suspension extending beyond 30 days, the First Installment on deposit may be reduced to five (5) percent of the First Installment amount listed in Section 3.b. of the contract. Any First Installment amount temporarily reduced may be refunded or transferred to another BLM contract at the request of the Purchaser. However, if the Purchaser has outstanding debt owing the United States, the Contracting Officer must first apply the amount of First Installment that could be refunded to the debt owed in accordance with the Debt Collection Improvement Act, as amended (31 USC 3710, et seq.). Upon Purchaser's receipt of a bill for collection and written notice from the Contracting Officer lifting the suspension, the Purchaser shall restore the First Installment to the full amount shown in Section 3.b. of the contract within 15 days after the bill for collection is issued, subject to Section 3.j. of the contract. The Purchaser shall not resume contract operations until the First Installment amount is fully restored.

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the unamortized Out-of-Pocket Expenses for road or other construction required pursuant to Exhibit C of the contract shall be refunded or transferred to another BLM contract at the request of the Purchaser. Upon written notice from the Contracting Officer lifting the suspension, the Purchaser shall reimburse the Government the amounts refunded or transferred. The Purchaser may choose to pay this reimbursement at once or in installments payable at the same time as payments are due for the timber under the contract and in amounts approximately equal to the expenses associated with the timber for which payment is due.

In the event that operating time is lost as a result of the incorporation of additional contract requirements, or delays due to Endangered Species Act consultation with the U.S. Fish and Wildlife Service or U.S. National Marine

Fisheries Service, court-ordered injunctions, or an IBLA issued stay or remedy, the Purchaser agrees that an extension of time, without reappraisal, will constitute a full and complete remedy for any claim that delays due to the suspension hindered performance of the contract or resulted in damages of any kind to the Purchaser.

The Contracting Officer may determine that it is necessary to modify the contract or terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, prevent incidental take of northern spotted owls in accordance with the ROD and RMP, protect species that have been discovered which were identified for protection in accordance with management direction established in the ROD and RMP, or comply with a court order or an IBLA issued stay or remedy. Following the issuance of a written notice that cutting and removal rights will be terminated, the Purchaser will be permitted to remove timber cut under the contract, if allowed by the Endangered Species Act, if able to proceed without causing incidental take of northern spotted owls in accordance with the ROD and RMP, if consistent with species protection in accordance with management direction established in the ROD and RMP, or if consistent with a court order or an IBLA issued stay or remedy.

In the event the contract is modified or cutting and removal rights are terminated under this subsection, the Purchaser agrees that the liability of the United States shall be limited to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area. This calculation of liability shall utilize actual Purchaser costs and Government estimates of timber volumes. At the Authorized Officer's request, the Purchaser agrees to provide documentation of the actual costs incurred in the performance of the contract. In addition, the Purchaser shall be released from the obligation to pay the contract price for any timber which is not authorized to be removed from the contract area.

The Purchaser specifically and expressly waives any right to claim damages, other than those described in the preceding paragraphs, based on an alleged breach of any duty to the Purchaser, whether express or implied, in regard to the manner in which the Government defended the litigation which resulted in the court order affecting the operation of the contract. This waiver also extends to any claims based on effects on the operation of the contract that arise from litigation against another agency. Furthermore, the Purchaser specifically acknowledges and agrees that a court ruling that the Government violated the Administrative Procedures Act cannot be interpreted, in itself, to mean that the Government had not acted reasonably in regard to its duties to the Purchaser under this contract.

(8) E-5 There are no known NSO sites within 0.25 miles of proposed harvest units. If discovery of any new owls occurs within 0.25 miles of harvest units following the

sale date, seasonally restrict harvest activities from March 1st to September 30th within 0.25 mile of new NSO sites. The Purchaser shall notify the Authorized Officer in writing by February 1 of each calendar year in which operations are expected to take place on the contract area between March 1 and September 30, both days inclusive. If notification is not received by the Authorized Officer by February 1, felling, bucking, yarding, road construction, or any other activity with the potential to disturb nesting owls may not be allowed during this time period.
Units started before February 1 may operate up to and concurrently with BLM NSO surveys starting March 1.

(E) Miscellaneous

(1) M-2 The Government at its option may check scale any portion of the timber removed from the contract area. The Purchaser hereby agrees to make such contract timber available for scaling at a location designated by the Authorized Officer. In the event that BLM elects to check scale and if such check scaling causes a delay in log transportation time, an adjustment will be made to the purchase price as follows. If the entire sale is check scaled, the purchase price of this contract shall be reduced Five Thousand Nine Hundred Fifty-Eight Dollars ($5,958.00). In the event that only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of $0.75 per net thousand board foot of timber scaled which is equal to the percentage of timber sold which was actually scaled by the Government. For purposes of computing this price reduction, the percentage of timber sold which has been scaled shall be determined by the Government. Any reduction in purchase price under the terms of this provision shall be full compensation to the Purchaser for any expense or loss incurred as a result of such scaling in log transportation and/or yard operations. Such adjustment to the total purchase price shall be made by unilateral modification of the contract executed by the Contracting Officer. Scaling will be conducted by BLM scalers, and/or independent scalers contracted to BLM. A copy of the scale report will be made available to the Purchaser upon request.

(F) Fire Prevention and Control

1. F-1a Fire Prevention and Control. Primarily for purposes of fire prevention and control, the Purchaser shall comply with the following provisions:

   (a) Prior to the operation of power driven equipment in construction or logging operations under this contract during the closed fire season or periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the State of Oregon, Department of Forestry.

   (b) Provide and maintain in good repair, on the contract area, the following equipment for use during closed fire season or periods of fire danger:

2. F-2a Fire fighting tools shall be kept at each landing or at such other place as the Authorized Officer shall designate whenever people are working on the contract area. All fire fighting tools shall be kept in a sturdily constructed box which shall be painted red and lettered on the front or top in large letters, "For Fire Only." The box shall have a hinged lid and a hasp by which the lid can be sealed. One box may serve two landings not over six hundred (600) feet apart. When filled, the box shall not weigh over two hundred (200) pounds. The fire tools shall be in good condition, be tight on strong handles, and have sharp cutting edges. There shall not be less than four (4) tools in each box nor less than one (1) tool for each person working on the contract area. Three-fourths (¾) of all fire tools shall be shovels, hazel hoes, or other scraping tools. The fire tools shall be used only for fighting fire.

3. F-2b A round pointed size zero (0) or larger shovel in good condition, shall be within fifty (50) feet of any power saw when in operation.

4. F-2c At each landing during periods of operation one (1) tank truck. Each truck shall have three hundred (300) gallons minimum capacity with five hundred (500) feet minimum of hose and a nozzle acceptable to the Authorized Officer and a mounted or portable pump conforming to the standards set forth in Oregon Revised Statute (ORS) 477.645 through ORS 477.670 and any rule promulgated pursuant to those statutes. All hose couplings shall have the standard thread adopted by the State Fire Marshall pursuant to ORS 476.410 as amended or be provided with suitable adapters. At the close of each working day, all bulldozers and tank trucks shall be filled with fuel and made ready for immediate use. All tank trucks and portable tanks shall be filled with water and made available for immediate use.

5. F-2d Serviceable radio or radio-telephone equipment able to provide prompt and reliable communication between the contract area and Medford, Oregon. Such

communication shall be available during periods of operation including the time watch-service is required.

6. F-2e A pair of headlights capable of being quickly attached to each bulldozer used on the contract area. The headlights shall be adequate to provide illumination sufficient to allow use of the bulldozers for fire fighting and construction of fire trails at night.

7. F-2f A headlight for each person in the woods crew adequate to provide sufficient illumination for night fire fighting. A headlight shall be of the type that can be fastened to the head so as to allow independent use of the hands. It shall be equipped with a battery case so designed that it can be either carried in the hip pocket or fastened to the belt. The head of the light and the battery case shall be connected by insulated wires. At least one extra set of batteries shall be provided for each such headlight.

8. F-2g Two (2) back-pack pumps at each landing and one (1) at each tail block, all to be kept full of water and in good operating condition.

9. F-2h A chemical fire extinguisher of at least eight (8) ounces minimum capacity of a type approved by the Oregon State Forester shall be carried during the closed fire season or periods of fire danger by each saw operator using a power saw on the contract area. Such fire extinguisher shall be filled and in effective operating condition and shall at all times be immediately available to the operator when the saw is being fueled or the motor of the saw is running. A size "0" or larger shovel shall be available with each gas can when refueling. Any fueling of a power saw shall be done in an area which has first been cleared of all flammable material. Power saws shall be moved at least twenty (20) feet from the place of fueling before the engine is started. Each power saw shall be equipped with an exhaust system and a spark arresting device which are of types approved by the Oregon State Forester.

10. F-5 Where blocks and cables are used on the contract area during periods of fire danger, the Purchaser shall remove all flammable material at least ten (10) feet from the place where the tail or any other block will hang when the cable is tight. Such clearings shall be inspected periodically by the Purchaser and shall be kept free of flammable material.

11. F-8 Blasting caps and fuses shall not be used during closed fire season or any period of fire danger on any land administered by the Government. Blasting with electric detonators during the closed fire season or periods of fire danger is permitted only between the hours of 4:00 a.m. and 10:00 a.m.

(G) Slash Disposal and Site Preparation

1. SD-1c EXCAVATOR PILE AND BURN. Pile all slash in units or portions of units as determined by the Authorized officer in accordance with the following specifications:

   a. Piling shall be accomplished with a track-mounted excavator with track shoes producing less than ten (10) pounds per square inch ground pressure. The excavator shall be equipped with a hydraulic thumb or rotating, controllable grapple head. The machine shall have a minimum reach of twenty-five (25) feet. Finished piles shall be tight and free of earth. No portion of the Excavator pile will be within 25 feet of the dripline of any living conifer tree.

   b. Pile all slash, brush and downed hardwoods which are greater than two (2) inch and less than sixteen (16) inches in diameter on the large end and exceed two (2) feet in length. Existing reproduction of commercial coniferous species shall be protected where feasible.

   c. Unmerchantable logs greater than sixteen (16) inches on the small end shall be left in place or positioned so that they will not be burned.

   d. Prior to the commencement of piling work, all equipment shall meet the approval of the Authorized Officer.

   e. Excavators are limited to designated skid roads approved by the Authorized Officer.

   f. Additional trails needed shall be approved by the Authorized Officer, and the excavator shall be limited to one pass on these trails. The excavator shall pile by walking over the slash and working back to the designated trails. Existing reproduction of commercial coniferous species shall be protected where feasible.

   g. A ten (10) foot by ten (10) foot cover of four (4) mil black plastic or equivalent material shall cap each excavator pile to maintain a dry ignition point. The cover shall be firmly fixed to each pile to hold it in place. Covering shall be done at time of piling.

   h. Operations required by this provision shall be kept current with yarding as directed by the Authorized Officer and shall be conducted as follows: Units shall be piled and covered during the same season that they are logged. Piling shall be completed in each unit or portion thereof, within eight (8) weeks after being notified of BLM site treatment determination.

2. SD-1f LOP AND SCATTER Lop and scatter all slash as directed by the Authorized Officer, concurrently with normal felling operations. All tops and side branches must be free of the central stem so that such slash is reduced to the point that it is within eighteen (18) inches of the ground at all points.

3. SD-1h HANDPILE Handpile all slash as directed by the Authorized Officer in accordance with the following specifications:

   (a) Piling shall be accomplished by hand. Finished piles shall be tight and free of earth.

   (b) Pile all slash which is between one (1) and six (6) inches in diameter on the large end and exceeds three (3) feet in length.

   (c) A six (6) foot by six (6) foot sheet of four (4) mil polyethylene black plastic shall be placed in each pile in a manner such that approximately one-third (⅓) of the pile lies above it to hold it in place and so that a two (2) foot by two (2) foot dry ignition point is maintained for one (1) year or until burned. The ignition point will consist of fine fuel material such as needles, small limbs, and branches less than one-half (½) inch in diameter and free of dirt. Piles shall be constructed by aligning individual pieces in the same direction and placing the heavier slash on top. Piles shall have a stable base to prevent toppling. The long axis of individual pieces shall be oriented up and down the slope. Protruding pieces shall be trimmed to allow covering in a manner that permits the pile to shed water. Pile size shall be a maximum of eight (8) feet in diameter and eight (8) feet in height and minimum size of six (6) feet in diameter and five (5) feet in height. No piles shall be circular and not windrowed. No pile shall be located within sixty (60) feet of fish-bearing, perennial streams or within thirty-five (35) feet from non-fish-bearing, intermittent streams. Piles shall not be located on down logs, stumps, talus slopes, roadways, or drainage ditches. No pile shall be located within ten (10) feet of reserve trees, any other pile, or unit boundary. No pile shall be located within fifteen (15) feet of official BLM recreation trail centerlines. No pile shall be located within twenty-five (25) feet of designated wildlife trees. No portion of the pile will be under the crown of any living conifer tree. Do not hand pile slash within 35 feet from intermittent stream channels and 120 feet from perennial streams.

   (d) Operations required by this provision shall be kept current with yarding as directed by the Authorized Officer and shall be conducted as follows:

(I) Units shall be piled and covered during the same season that they are logged. Piling shall be completed in each unit or portion thereof, within eight (8) weeks after being notified of BLM site treatment determination.

(4) SD-1i LANDING PILES In all units as shown in the Exhibit A, pile all slash located within fifty (50) feet on each side of each landing. Slash shall be piled by a grapple loader. Finished piles shall be tight and free of earth. Do not machine pile slash within riparian areas, unless otherwise directed by the Authorized Officer.

(a) A ten (10) foot by ten (10) foot cover of four (4) mil black plastic shall cap each pile to maintain a dry ignition point that contains fine fuels (i.e. kindling). The cover shall be firmly fixed to each pile to hold it in place. Landings shall be piled and covered during the same season that they are. No portion of the landing pile will be within 50 feet of the dripline of any living conifer tree. Utilize areas with existing disturbed soils for machine piles where feasible.

(5) SD-4 Logging Residue Reduction. In addition to the requirements of Sect.15 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 site preparation measure(s) required by this contract:

Prior to commencement of any operation under this section of the contract, a slash disposal and site preparation pre-work conference between the purchaser's representative and the Authorized Officer must be held at a location designated by the Authorized Officer. All slash disposal and site preparation shall be done in accordance with the plans developed at this pre-work conference.

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, including material cut during slashing activities for the purposes of fuels reduction.

Refueling of chainsaws and other equipment will be done no closer than one hundred fifty (150) feet of any stream or wet area. Spilled fuel and oil would be cleaned-up and would be disposed of at an approved disposal site.

(6) SD-4a SLASHING DAMAGED RESIDUALS. Slash all sprung or otherwise severely damaged trees greater than one (1) inch and less than six (6) inches D.B.H.O.B. concurrently with logging as designated by the Authorized Officer. All slashing is to be completed prior to any required piling of slash.

(7) SD-5 Perform logging residue reduction and site preparation work on approximately two hundred and one (200) acres of harvest area as directed by the Authorized Officer.

(a) The required work shall consist of any treatment or combination of treatments listed in the table below, as determined by the Authorized Officer and specified in writing by the Contracting Officer. The number of acres of each treatment shall be determined by the Authorized Officer.

(b) The following treatments were assumed for appraisal purposes on this contract:

Treatment Level	Cost Per Acre	Number of Acres	Total Cost Per Treatment Type
Handpile	$325.00	530	$172,250.00
Hand Pile Burn	$65.00	530	$34,450.00
Machine Pile Burn	$85.00	55	$4,675.00
Lop and Scatter	$72.00	0	0

Handpile:	$172,250.00
Burn Total:	$39,125.00
Complete Total:	$211,375.00

(c) The total Purchase Price set forth in Section 2 shall be adjusted by the amount that the total cost of the site preparation treatments designated pursuant to Section 44(G(7)(a) differs from: two hundred eleven thousand three hundred seventy-five dollars ($211,375.00) as calculated by using the estimated acres determined by the Authorized Officer and the per acre costs listed in Section 44(G(7)(a).

In case of injury to personnel or damage to equipment furnished by the Purchaser 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 costs 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 and new conditions necessitate additional site preparation work and/or use of additional personnel and equipment to accomplish planned burning, the

Purchaser also shall be responsible for such additional costs.

(H) CONTRIBUTIONS

(1) C-1 The Purchaser shall perform HAND AND MACHINE PILE BURNING in accordance with Section 44(G)(7). The Purchaser shall have the option of completing the hand and machine pile burning work, or in lieu thereof, may make a contribution to the Bureau of Land Management in the amount of thirty-nine thousand one hundred twenty-five dollars ($39,125.00) and upon making such contribution, the Purchaser shall be relieved of the obligations set out in this subsection. The Purchaser shall notify the Authorized Officer of their intention to make this contribution prior to the date of execution of this contract. If the total contribution does not exceed five hundred and no/100 dollars ($500.00), the Purchaser shall pay such amount in full prior to the commencement of operations. If the total contribution exceeds five hundred and no/100 dollars ($500.00), the Authorized Officer shall establish an installment schedule of payments.

(I) Equal Opportunity in Employment

(1) Certification of Nonsegregated Facilities attached hereto and made a part hereof.

EXHIBIT W
*SHEET _1_ OF _1_*

LOG BARRICADE

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

SKEW DIAGRAM

WATER BAR

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

WATER BAR SPACING *

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

* DISTANCES ARE MAXIMUM.
** ON GRADES IN EXCESS OF 10% CONSTRUCT WATER BARS.

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

DRAINAGE & EROSION CONTROL INSTALLATION

DRAWN JWR	SCALE NONE
DATE August 2013	SHEET 1 OF 1
DRAWING NO. OR–11–9113.4–8	

Seasonal Restriction Matrix

Thom Bone Timber Sale
ORM06-TS-2026.0001

***Restricted Times are Shaded**
****Areas are available for a waiver by contracting officer, see contract for guidelines.**

		Jan		Feb		Mar		Apr		May		June		July		Aug		Sept		Oct		Nov		Dec	
Sale Unit	Activity	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
ALL UNITS	Ground-based yarding; road and landing construction; road renovation: road closure and decommissioning work; and soil de-compaction operations [1]																								
	Hauling on natural surface or inadequately surfaced roads [2]																								
	Seeding [3]																								
ANY UNIT WITH NSO SPOT CHECKING	All timber harvest activities [4]																								
ANY UNIT WITH NEW OWL	All timber harvest activities [5]																								

[1] Wet season restrictions may be shortened or extended depending on weather conditions.

[2] Hauling restriction may be shortened or extended based on site specific current road and ground conditions (see L-19 in contract)

[3] Seeding dates may be extended if approved by appropriate specialists

[4] If a unit has no resident owl(s), projects may be initiated, or continue if ongoing, during the breeding season concurrent with spot checks. If a unit has no resident owl(s), but known spotted owl sites occur in the survey area, projects may be initiated during the breeding season (or continue if ongoing) concurrent with spot checks. If a unit has no resident owl(s), and no known spotted owl sites occur in the survey area, BUT portions of spotted owl habitat within the survey area is unsurveyed during protocol surveys, spot checks must be completed prior to operations occurring after February 1. Operations cannot be done concurrently. If a unit has a resident owl(s), spot checks must be completed prior to operations occurring after February 1. Operations cannot be done concurrently. If spotted owls are detected in the spot check area, ALL ongoing operations that have a likelihood of direct harm to a spotted owl and/or creating above-ambient noise shall be postponed. If spotted owls are not detected, the project may continue through that breeding season. Should the project continue into the following breeding season, spot checks should be repeated.

[5] Spotted Owl seasonal restrictions from July 16 through September 30 may be shortened if it is determined that spotted owl nesting and/or fledgling activities are not occurring in the area.

RESERVE TREE MARK, WHITE, SALVAGE HARVEST, CABLE	RTM-SH-C	5-11, 6-2, 17-1, 17-2, 20-1, 29-1, 29-2, 30-2, 31-5, 31-7
DXP, SALVAGE HARVEST, GROUND-BASED/CABLE, LINEAR FEATURE	DXP-SH-GB/C-LF	38-4-29, 39-5-1, 39-4-19.1
DXD, GROUND-BASED, ROADSIDE VEGETATION MANAGEMENT	DXD-GB-RVM	RVM-1(Ferris), RVM-2 (Ninemile)
HARVEST ACTIVITY SLASH DISPOSAL	SD	ALL UNITS

RTM-Reserve Tree Mark, SH-Salvage Harvest, GB-Ground-Based, RVM-Roadside Vegetation Management, LF-Linear Feature, SD-Slash Disposal, C-Cable, LF-Linear Feature, DXD-Designation by Description

Area Unit Acres	284
Linear Feature Acres	246
Roadside Vegetation Management Acres	55
Total Acres	585

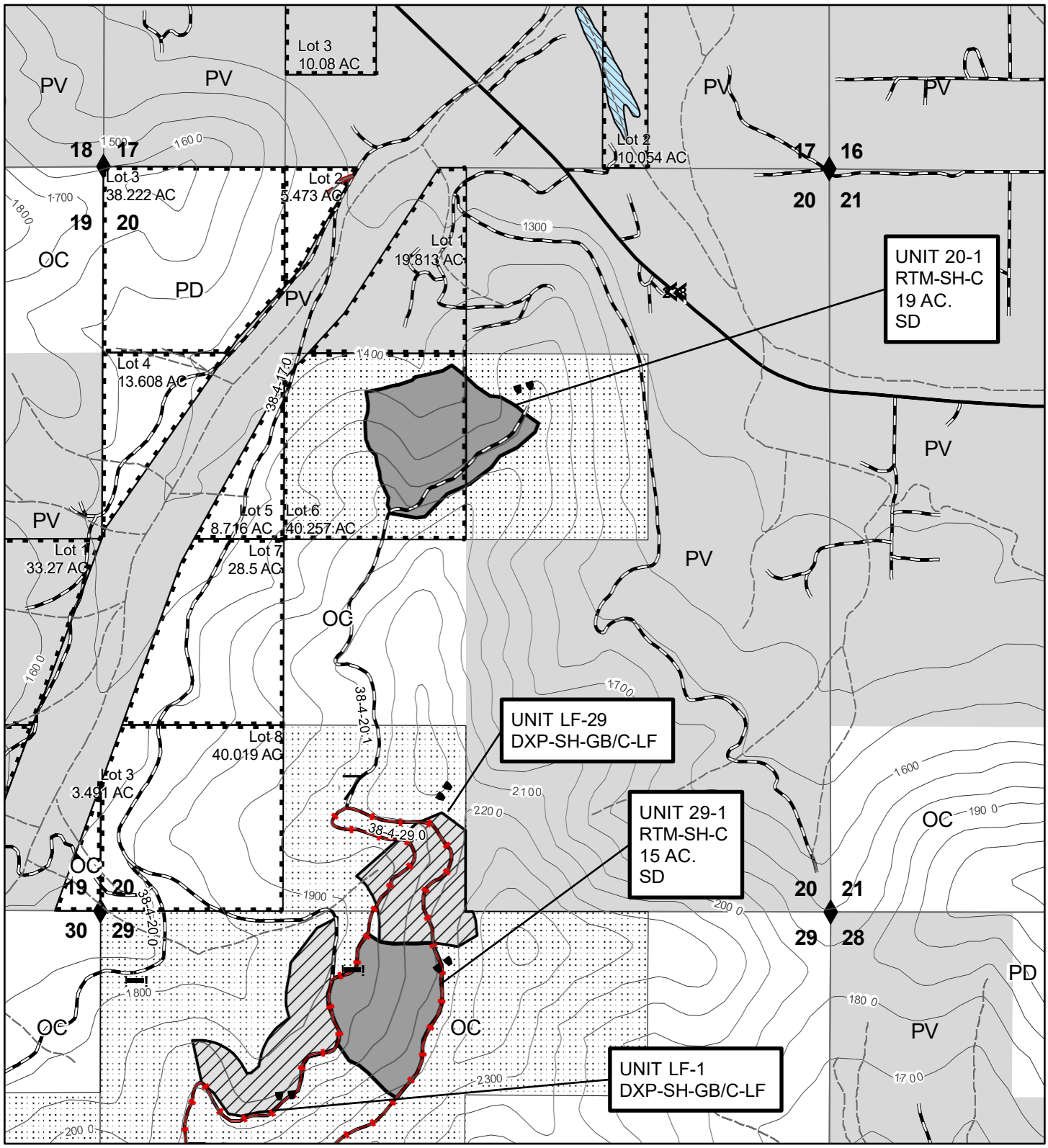
Legend

- Found Corner
- Barricade, Existing
- Road
- Roadside Vegetation Maintenance
- Temporary Road Construction
- Designated Tractor Swing Road
- Stream
- 100 ft. Index Contour
- Government Lot
- Contract Area
- Linear Feature
- BLM Administered Land
- Non-BLM Land
- Skips
- Cutting Area

RTM-SH-C	RESERVE TREE MARK, SALVAGE HARVEST, CABLE UNITS
SD	HARVEST ACTIVITY SLASH DISPOSAL (ALL UNITS)
DXP-GB/C-LF	DESIGNATION BY PRESCRIPTION, GROUND-BASED CABLE HYBRID, LINEAR FEATURE

U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 38 S. R. 04W., SEC. 20 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



100 FOOT CONTOURS

0 0.25 0.5 Miles

1:12,000

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.

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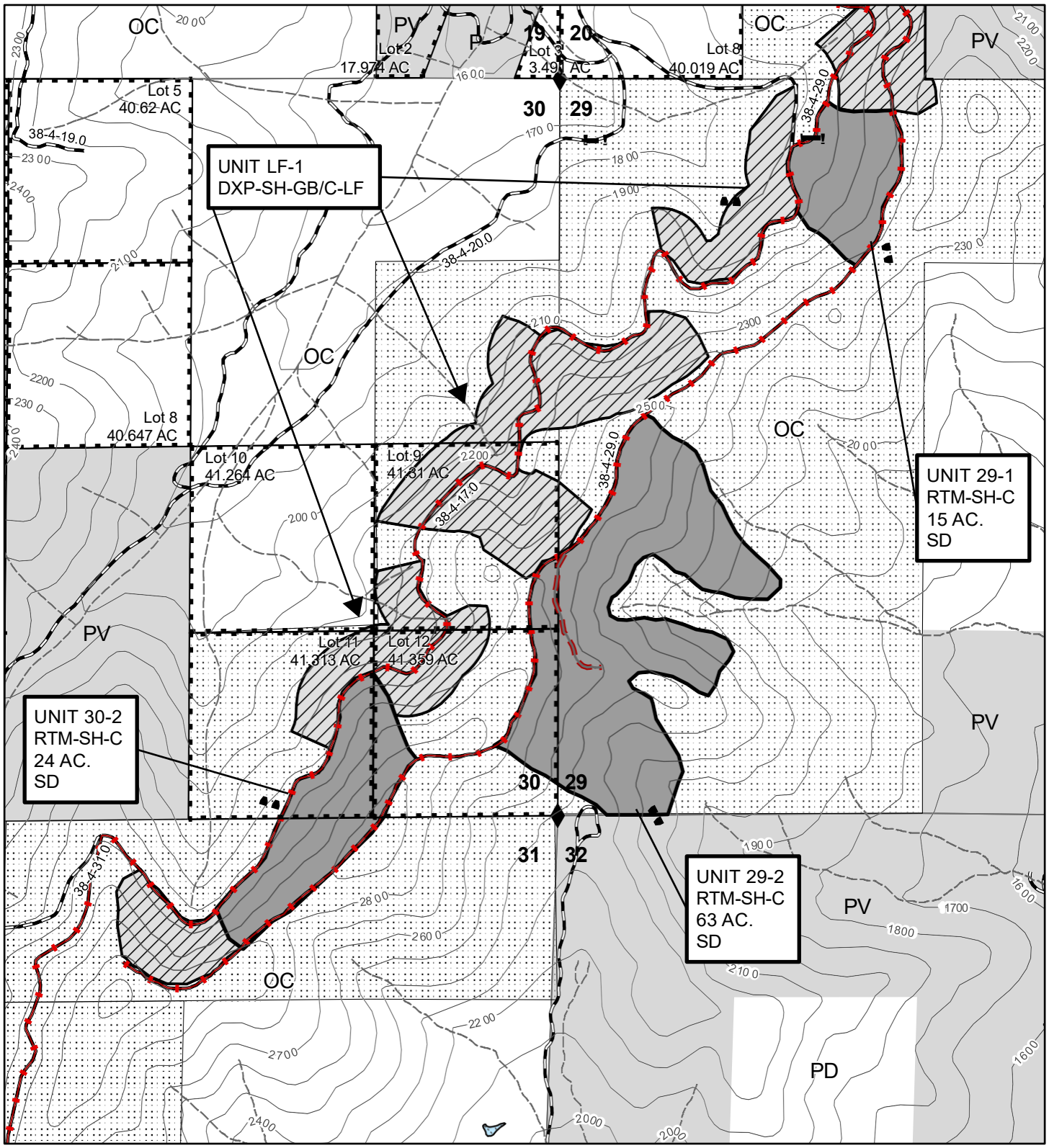
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 38 S. R. 04 W., SEC. 29, 30, 31, 32 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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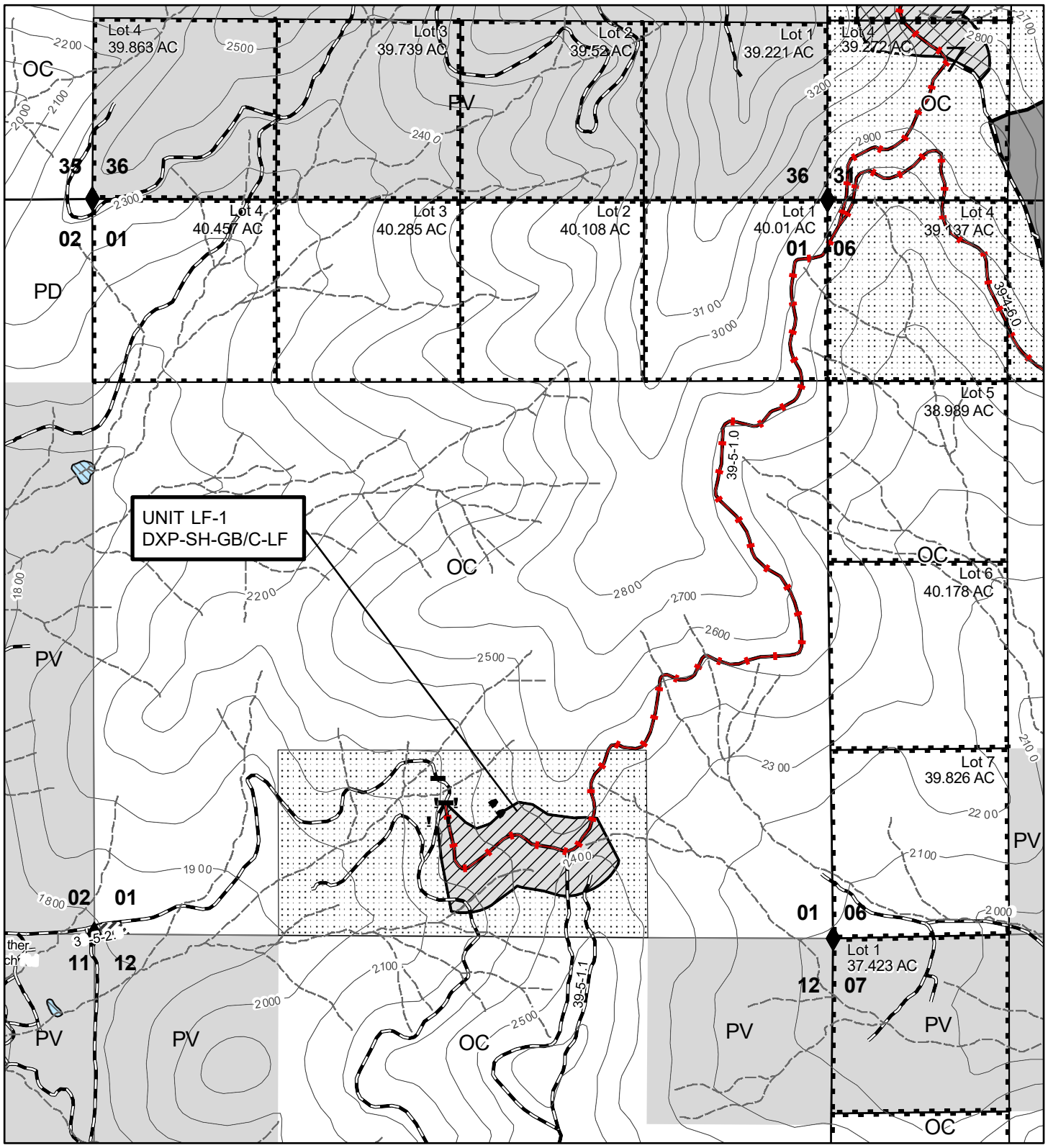
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 39 S. R. 05 W., SEC. 01 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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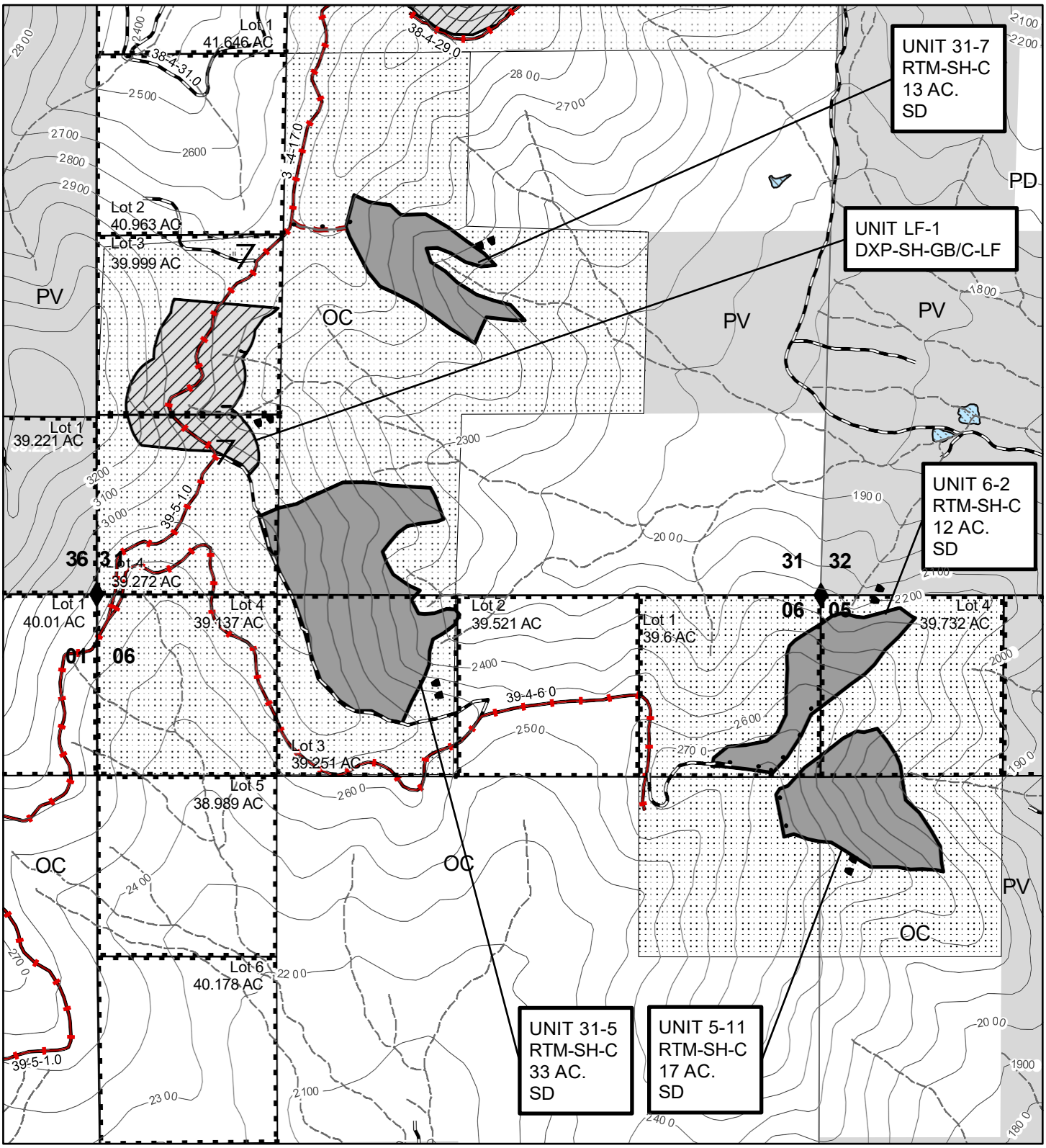
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 38 S. R. 04 W., SEC. 31 WILL. MER.
T. 39 S. R. 04 W., SEC. 05, 06 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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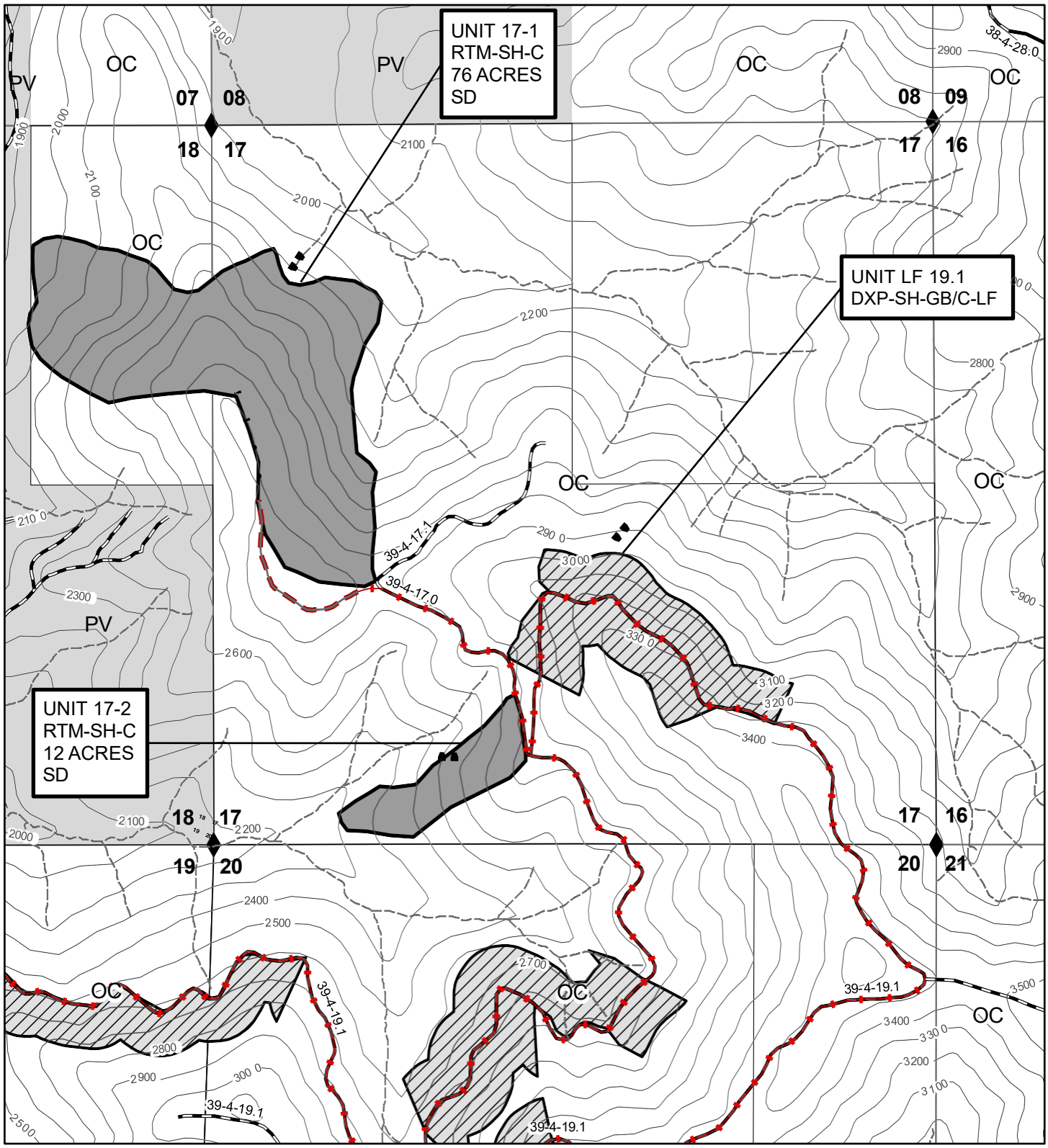
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 39 S. R. 04 W., SEC. 17, 18, WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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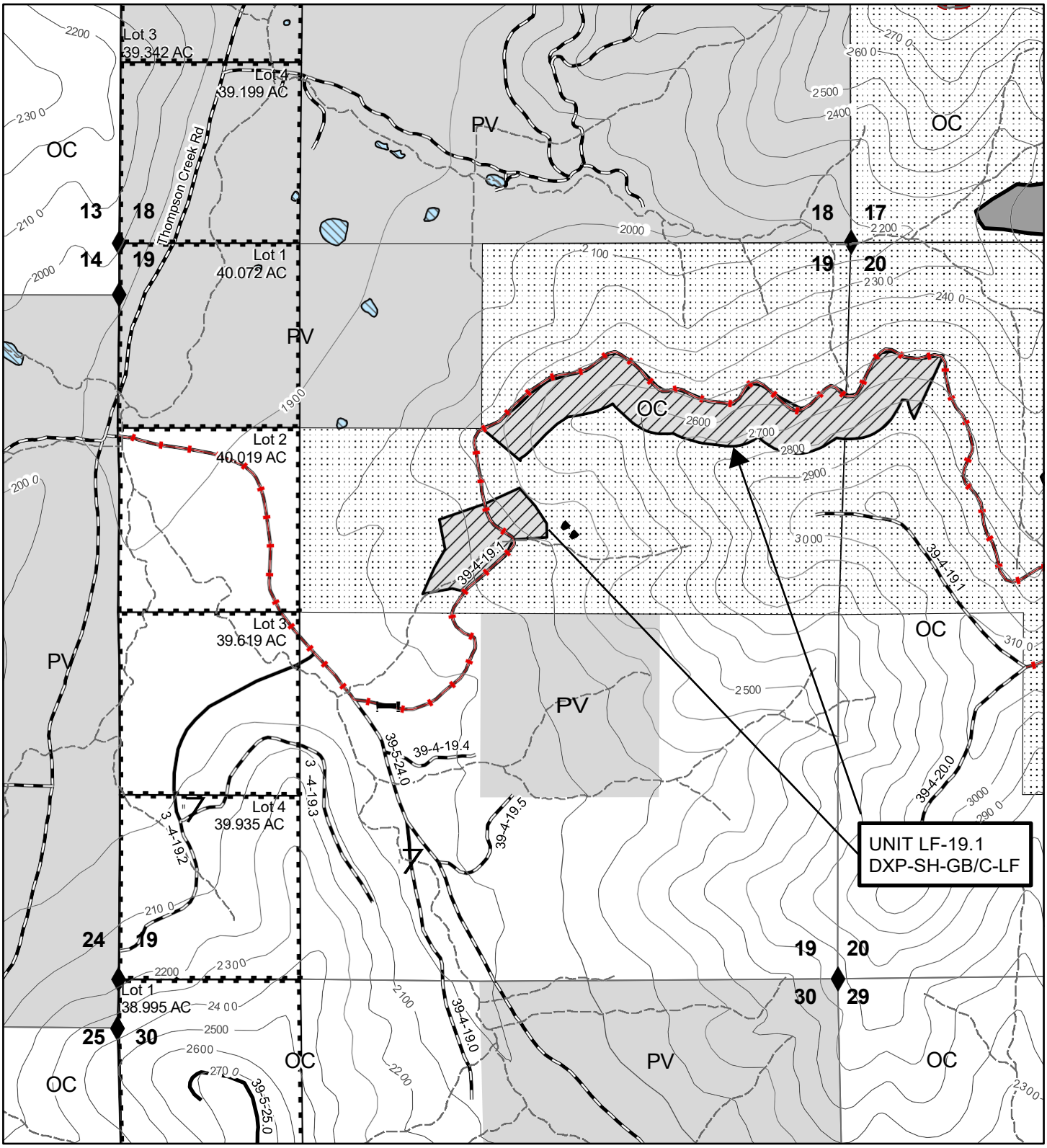
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 39 S. R. 04W., SEC. 19 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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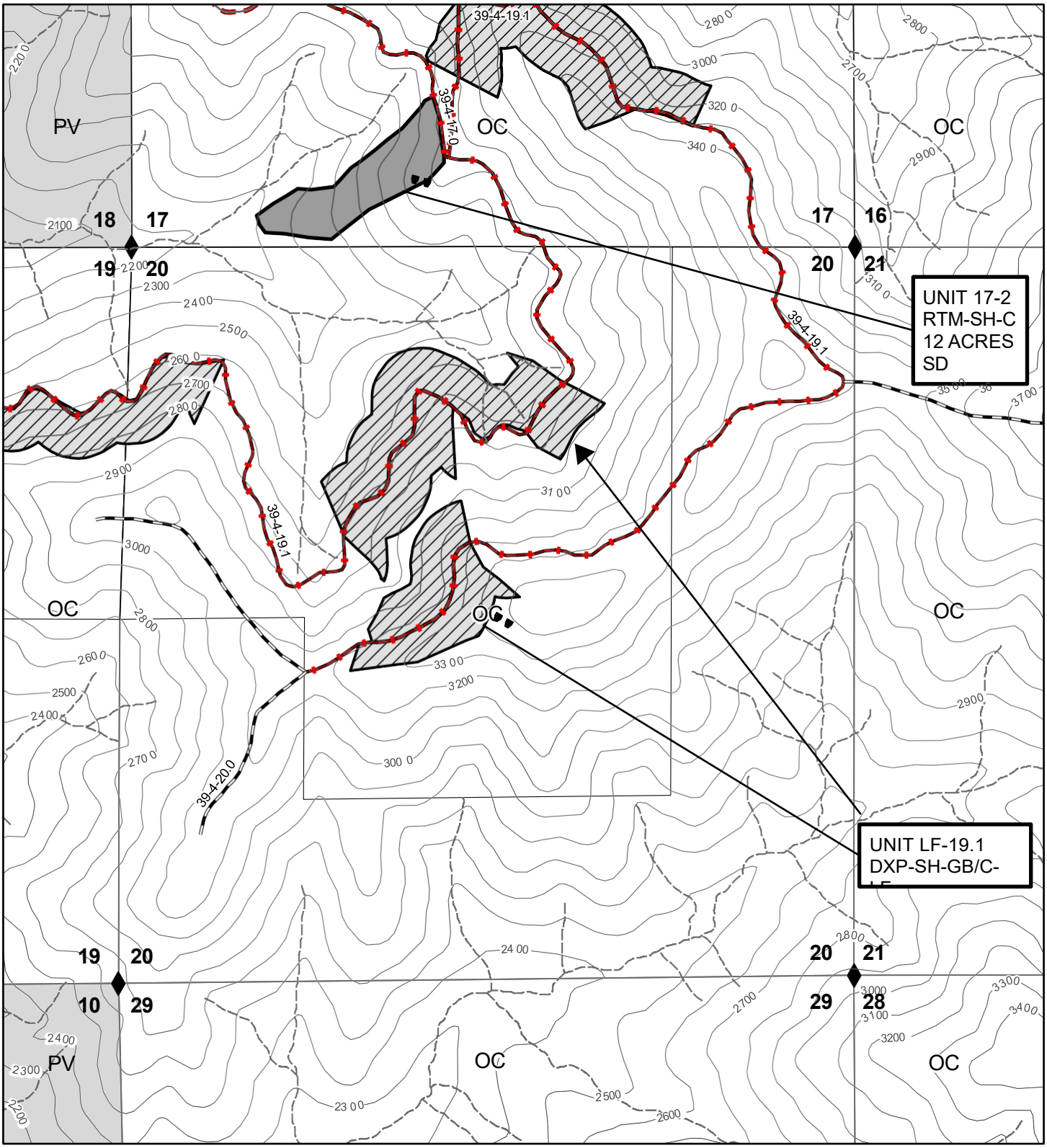
U.S.D.I. BLM MEDFORD DIST. SALE NO. 2026-0001
T. 39 S. R. 04W., SEC. 20 WILL. MER.
THOM BONE TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. ORM06-TS2026-0001
EXHIBIT A



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Information for Timber Sale Notice, Prospectus, Sec. 43 & 44
Thom Bone (New) Timber Sale
ORM06-TS-2026.0001

Approx # of trees	Est Volume MBF 32'	Species	Est Volume MBF 16'	Appraised $/MBF		Appraised Value ($)
24,083	4,743.0	Douglas Fir	5,958.0	$57.70	*	$343,776.60
24,083	**4,743.0**		**5,958.0**			**$343,776.60**

* Minimum Stumpage values were used to compute the Appraised Price/MBF (10.00% of Pond Value)

CRUISED BY:	Casillas, Siemer, Parks
CRUISE COMPLETED:	October 2025
COMBINED SAMPLING ERROR:	16.67%

CRUISE DESIGN/METHOD Description:
PCMTRE for all units and linear features. 40 Basal Area Factor. 3P for all Roadside Vegetation Management.

TRACT FEATURES

ALL SPECIES

QM DBH	18.3	INCHES
GM LOG	94	BD FT
Total Gross Volume	9,211	MBF
Recovery	65	%
Salvage	0	MBF
Export	0	MBF

Dominant Species: **Douglas Fir**

QM DBH	18.3	INCHES
GM Log	94	BD FT
Recovery	65	%
Salvage	0	MBF

Admin Scale Allowance		$0.00	$/MBF
	TOTAL ADMIN. SCALE Allowance	$0.00	

EXPORT VOLUME (LE-1)	Port Orford Cedar	0	MBF

Reserve Tree Paint Color	**Reserve Tree Count**
	0

Harvest Tree Paint Color	**Harvest Tree Count**
	0

United States
Department of the Interior
Bureau of Land Management

Timber Appraisal

Sale Name:	Thom Bone (New)	**Sale Date:**	Thursday, February 26, 2026
BLM District:	Medford DO	**Unit of Measure:**	16' MBF
Contract #:	ORM06-TS-20260001	**Contract Term:**	36 months
Sale Type:	Advertised	**Contract Mechanism:**	5450-004 Scale Sale of Timber and other Wood Products

Content

Prepared By: Siemer, Eric S - 1/21/2026
Approved By: Worman, Aaron S - 1/21/2026

Legal Description of Contract Area

	County	Township	Range	Section	Subdivision	Meridian
O&C	Josephine	39S	5W	1	Lot 1, SE¼ NE¼, N½ SE¼, SE¼ SW¼, SW¼ SE¼	Willamette
O&C	Jackson	T38S	R4W	20	Lot 6, SW¼ NE¼, SE¼ SW¼	Willamette
O&C	Jackson	T38S	R4W	29	NW¼ NE¼, NE¼ NW¼, W½ NW¼, NE¼ SW¼, W½ SW¼	Willamette
O&C	Jackson	T38S	R4W	30	Lot 9, 10, 11, 12, SE¼ NE¼	Willamette
O&C	Jackson	T38S	R4W	31	NW¼ NE¼, E½ NW¼, E½ SW¼, NW¼ SE¼	Willamette
O&C	Jackson	T39S	R4W	5	Lot 4, SW¼ NW¼	Willamette
O&C	Jackson	T39S	R4W	6	Lot 1, 2, 3, 4, SE¼ NE¼, SE¼ NW¼	Willamette
O&C	Jackson	T39S	R4W	17	W½ NW¼, SW¼, W½ SE¼, SE¼ SE¼	Willamette
O&C	Jackson	T39S	R4W	18	E½ NE¼	Willamette
O&C	Jackson	T39S	R4W	19	Lot 2, 3, NE¼, SE¼ NW¼, NE¼ SW¼	Willamette
O&C	Jackson	T39S	R4W	20	NE¼, NW¼, NE¼ SW¼	Willamette

Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
Douglas Fir	5,958.0	8,990.0	9,211.0	86,391	12,544	24,083
Totals	**5,958.0**	**8,990.0**	**9,211.0**	**86,391**	**12,544**	**24,083**

Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
530.0	0.0	55.0	585.0	10.2

Comments:
First Quarter Sale FY26.

Logging Costs

Stump to Truck	$1,682,890.00
Transportation	$378,000.00
Road Construction	$512,758.92
Maintenance/Rockwear	$173,877.96
Road Use	$0.00
Other Allowances	$220,335.00
Total:	**$2,967,861.88**
Total Logging Cost per MBF:	**$498.13**

Utilization Centers

Location	Distance	% of Net Volume
Boise White City	36.0 miles	100%

Profit & Risk

Profit	11%
Risk	1%
Total Profit & Risk	**12%**

Tract Features

Quadratic Mean DBH	18.3 in
Average GM Log	94 bf
Average Volume per Acre	10.2 mbf
Recovery	65%
Net MBF volume:	
Green	5,958.0 mbf
Salvage	0 mbf
Export	0 mbf
Ground Base Logging:	
Percent of Sale Volume	1%
Average Yarding Slope	15%
Average Yarding Distance	10 ft
Cable Logging:	
Percent of Sale Volume	99%
Average Yarding Slope	50%
Average Yarding Distance	800 ft
Aerial Logging:	
Percent of Sale Volume	0%
Average Yarding Slope	0%
Average Yarding Distance	0 ft

Cruise

Cruise Completed October 2025

Cruised By Casillas, Siemer, Parks

Cruise Method

PCMTRE for all units and linear features. 40 Basal Area Factor. 3P for all Roadside Vegetation Management.

Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF		Appraised Value ($)
Douglas Fir	24,083	5,958.0	$576.53	$69.18	$498.13	$0.00	$57.70	*	$343,776.60
Totals	**24,083**	**5,958.0**							**$343,776.60**

* 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			3.0%	69.0%	25.0%	3.0%	

Unit: 5-11

Net Volume/Acre: 9.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	162.0	258.0	265.0	757
Totals:	**162.0**	**258.0**	**265.0**	**757**

Regeneration Harvest	17.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**17.0**

Unit: 6-2

Net Volume/Acre: 9.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	114.0	182.0	187.0	534
Totals:	**114.0**	**182.0**	**187.0**	**534**

Regeneration Harvest	12.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**12.0**

Unit: 17-1

Net Volume/Acre: 9.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	725.0	1,152.0	1,183.0	3,385
Totals:	**725.0**	**1,152.0**	**1,183.0**	**3,385**

Regeneration Harvest	76.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**76.0**

Unit: 17-2

Net Volume/Acre: 9.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	114.0	182.0	187.0	534
Totals:	**114.0**	**182.0**	**187.0**	**534**

Regeneration Harvest	12.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**12.0**

Unit: 20-1

Net Volume/Acre: 9.5 MBF

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	181.0	288.0	296.0	846
Totals:	**181.0**	**288.0**	**296.0**	**846**

Regeneration Harvest	19.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**19.0**

Unit: 29-1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	143.0	227.0	233.0	668
Totals:	**143.0**	**227.0**	**233.0**	**668**

Net Volume/Acre: 9.5 MBF

Regeneration Harvest	15.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**15.0**

Unit: 29-2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	601.0	955.0	980.0	2,806
Totals:	**601.0**	**955.0**	**980.0**	**2,806**

Net Volume/Acre: 9.5 MBF

Regeneration Harvest	63.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**63.0**

Unit: 30-2

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	229.0	364.0	373.0	1,069
Totals:	**229.0**	**364.0**	**373.0**	**1,069**

Net Volume/Acre: 9.5 MBF

Regeneration Harvest	24.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**24.0**

Unit: 31-5

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	315.0	500.0	513.0	1,470
Totals:	**315.0**	**500.0**	**513.0**	**1,470**

Net Volume/Acre: 9.5 MBF

Regeneration Harvest	33.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**33.0**

Unit: 31-7

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	124.0	197.0	202.0	579
Totals:	**124.0**	**197.0**	**202.0**	**579**

Net Volume/Acre: 9.5 MBF

Regeneration Harvest	13.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**13.0**

Unit: Ferris RVM

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	19.0	23.0	23.0	186
Totals:	**19.0**	**23.0**	**23.0**	**186**

Net Volume/Acre: 0.5 MBF

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	35.0
Total Acres:	**35.0**

Unit: LF-1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	1,590.0	2,297.0	2,350.0	5,457
Totals:	**1,590.0**	**2,297.0**	**2,350.0**	**5,457**

Net Volume/Acre: 13.0 MBF

Regeneration Harvest	122.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**122.0**

Unit: LF-19.1

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	1,447.0	2,089.0	2,138.0	4,965
Totals:	**1,447.0**	**2,089.0**	**2,138.0**	**4,965**

Net Volume/Acre: 13.0 MBF

Regeneration Harvest	111.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**111.0**

Unit: LF-29

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	169.0	245.0	250.0	581
Totals:	**169.0**	**245.0**	**250.0**	**581**

Net Volume/Acre: 13.0 MBF

Regeneration Harvest	13.0
Partial Cut	0.0
Right of Way	0.0
Total Acres:	**13.0**

Unit: Ninemile RVM

Species	Net	Gross Merch	Gross	# of Trees
Douglas Fir	25.0	31.0	31.0	246
Totals:	**25.0**	**31.0**	**31.0**	**246**

Net Volume/Acre: 1.3 MBF

Regeneration Harvest	0.0
Partial Cut	0.0
Right of Way	20.0
Total Acres:	**20.0**

Total Stump To Truck	Net Volume	$/MBF
$1,682,890.00	5,958.0	$282.46

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	7,000.0	$239.00	$1,673,000.00	Gross Merch for saw log and Biomass yarding.
Subtotal				**$1,673,000.00**	

Additional Costs

Item	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Intermediate Support	Each	8.0	$250.00	$2,000.00	Unit 29-2
Lift Tree	Each	15.0	$150.00	$2,250.00	
Additional Cat Time	Hour	20.0	$150.00	$3,000.00	
Subtotal				**$7,250.00**	

Additional Moves

Equipment	Unit of Measure	# of Units of Measure	$/Unit of Measure	Total Cost	Remarks
Cable: Medium Yarder	Hour	6.0	$110.00	$660.00	
Loader	Hour	6.0	$110.00	$660.00	
Feller Buncher	Hour	6.0	$110.00	$660.00	
Track Skidder	Hour	6.0	$110.00	$660.00	
Subtotal				**$2,640.00**	

Comments:
Area Units and Linear Feature units all combined on logging cost. Cost includes felling, processing and loading.
1 Additional move-in for moving from Ferris Gulch to Ninemile road.
Higher defect and Breakage used for estimates of volume. 7000MBF is estimate for total material to be yarded based on past salvage sales. The actual amount my vary.

Total	Net Volume	$/MBF
$378,000.00	5,958.0	$63.44

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	$/Unit of Measure	Total Cost	% of Sale Volume
Boise White City	36.0	Douglas Fir	GM MBF	7,000.0	$54.00	$378,000.00	100%

Engineering Allowances

Total	Net Volume	$/MBF
$686,636.88	5,958.0	$115.25

Cost Item	Total Cost
Road Construction:	$512,758.92
Road Maintenance/Rockwear:	$173,877.96
Road Use Fees:	$0.00

Total	Net Volume	$/MBF
$220,335.00	5,958.0	$36.98

Environmental Protection

Cost item	Total Cost
Seed and Mulch Landings and corridors	$1,200.00
Barricades	$300.00
Equipment Washing	$1,460.00
Subtotal	**$2,960.00**

Logging

Cost item	Total Cost
Sorting and Loading	$2,400.00
Landing Construction	$3,600.00
Subtotal	**$6,000.00**

Slash Disposal & Site Prep

Cost item	Total Cost
Handpile Burn	$34,450.00
Machine Pile Burn	$4,675.00
Handpile Level 1	$172,250.00
Subtotal	**$211,375.00**

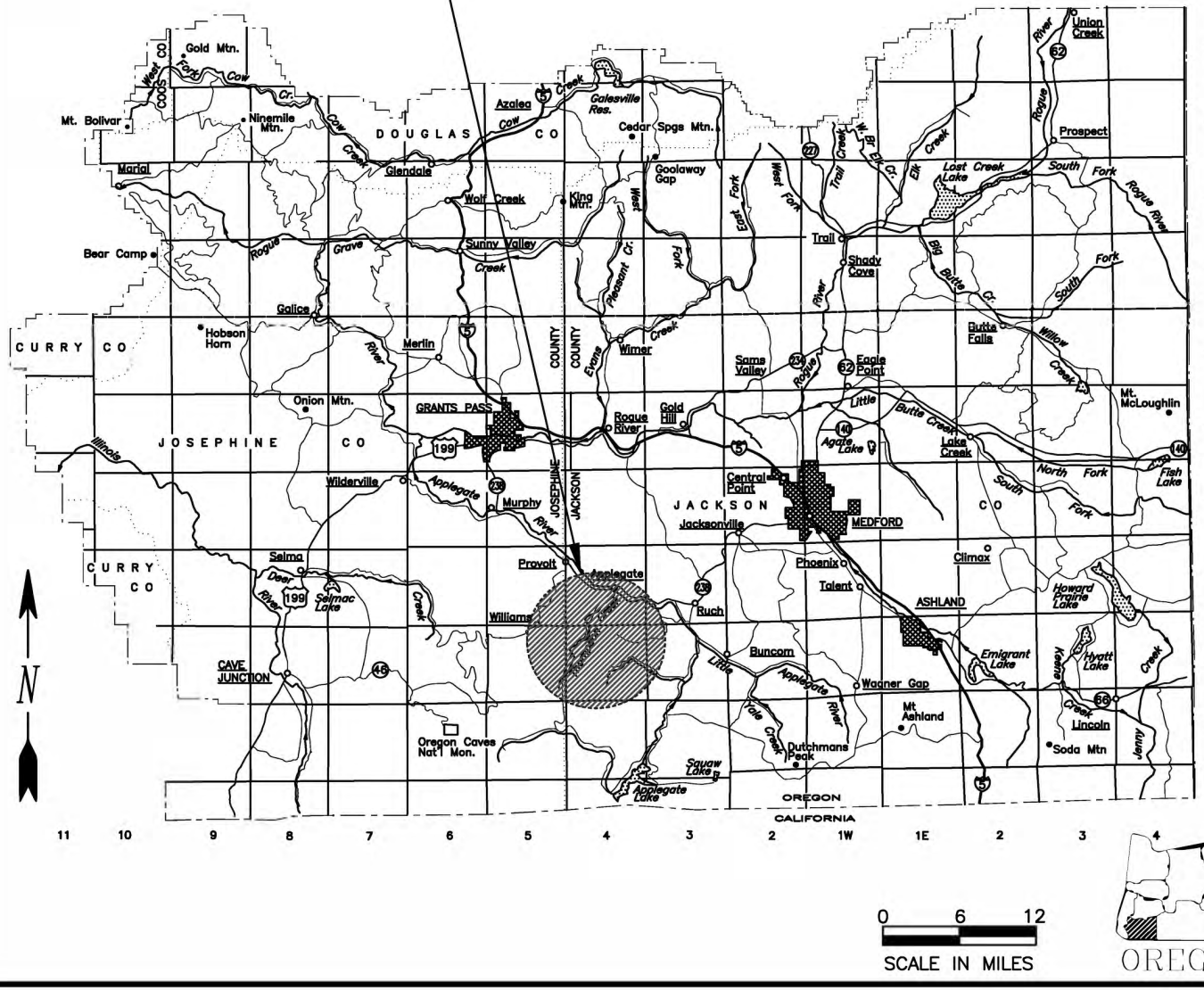
Comments:
L-Stip-Sorting and Loading for RVM merch trees- Engineering will cover the remaining logging cost of RVM.

EXHIBIT C 1
SHEET 1 OF 1

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

THOM BONE TIMBER SALE
ORM06–TS–2026.0001

PROJECT LOCATION



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SCALE IN MILES

Exhibit No.	Description
C 1	TITLE SHEET
C 2	ROAD RENOVATION MAPS
C 3	ESTIMATE OF QUANTITIES
C 4	SPECIFICATION SHEET
C 5	ROAD RENOVATION WORKLIST
C 6	TYPICAL ROAD RENOVATION DETAIL
C 7	ROADSIDE BRUSHING DETAILS
C 8	TYPICAL ROAD SURFACING SECTIONS
C 9	CULVERT LIST
C 10	CULVERT INSTALLATION DETAILS
C 11	CULVERT BAND DETAILS
C 12	TYPICAL DOWNSPOUT INSTALLATION DETAIL
C 13	TYPICAL ARMORED WATER DIP CONSTRUCTION
C 14	PLAN AND PROFILE SHEET
C 15	SPECIAL PROVISIONS
C 16	TIMBER SALE ROAD SPECIFICATIONS
D1	ROAD MAINTENANCE SPECIFICATIONS
D2	ROAD MAINTENANCE MAPS
D3	ROAD MAINTENANCE ESTIMATE OF QUANTITIES
D4	ROAD DECOMMISSION WORKLIST
D5	TYPICAL FULL DECOMMISSION
D6	DRAINAGE AND EROSION CONTROL
D7	TYPICAL ROAD CAMOUFLAGE

REV. NO.	DESCRIPTION	DATE	APPROV.

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

MEDFORD **TITLE SHEET** OREGON

DESIGNED _____

REVIEWED _____

APPROVED _____

DRAWN: JWR	SCALE: AS SHOWN
DATE: JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06–TS–2026.0001.C1	

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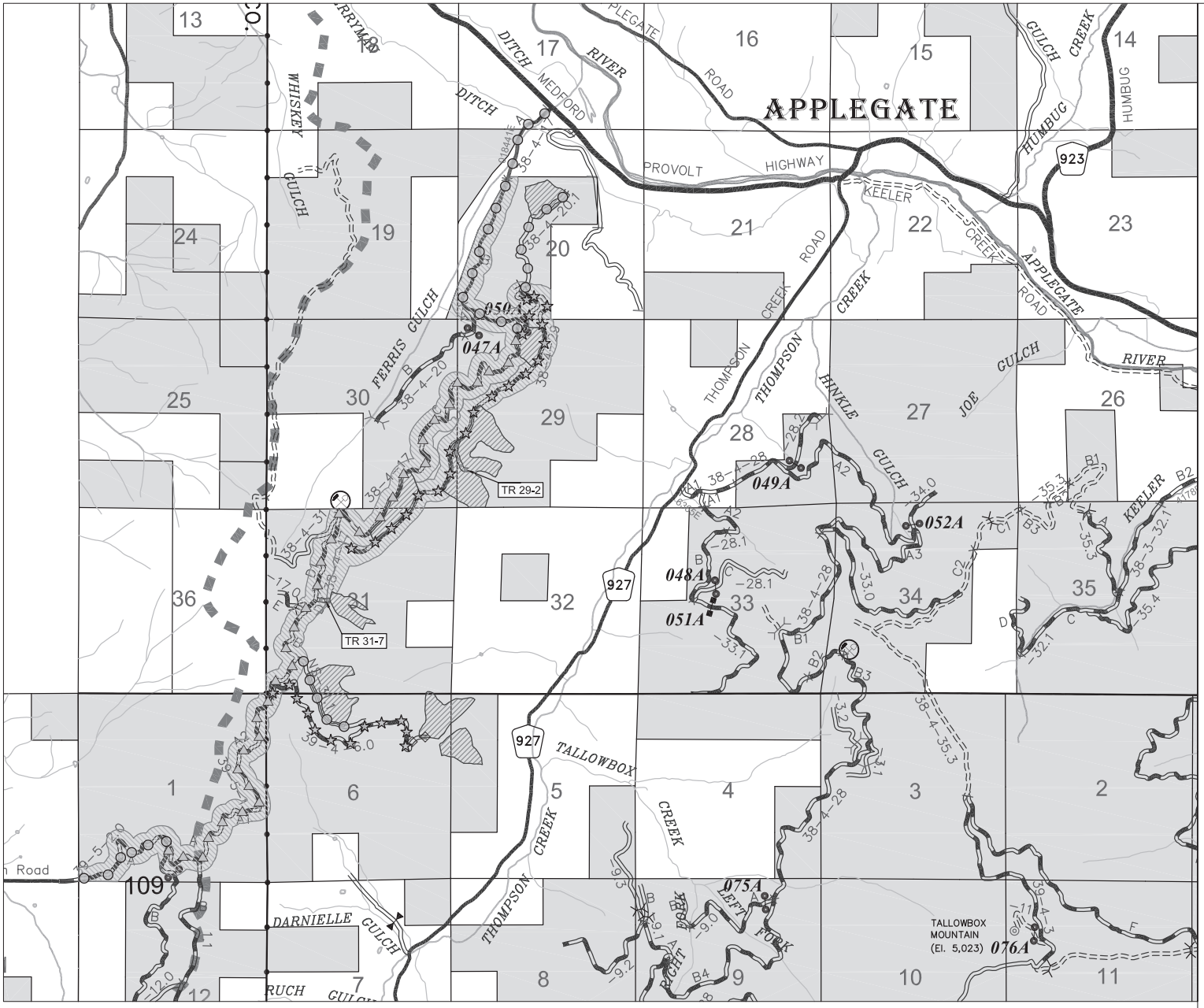

THOM BONE TIMBER SALE
ROAD LOCATION MAP
EXHIBIT C-2; PAGE 1 OF 2

U.S.D.I. BLM MEDFORD DISTRICT

T.38S., R.4W. WILL. MER.
T.38S., R.5W. WILL. MER.
T.39S., R.4W. WILL. MER.
T.39S., R.5W. WILL. MER.

- EXISTING BARRICADE
- QUARRY
- HELICOPTER LANDING

ROAD PROJECTS

- EXISTING ROAD
- EXISTING PAVED ROAD
- EXISTING PRIMITIVE ROAD
- ROAD TO BE RENOVATED
- ROAD TO BE RENOVATED AND ROCKED
- ROAD TO BE RENOVATED WITH ROADSIDE VEGETATION MANAGEMENT
- ROAD TO BE RENOVATED AND ROCKED WITH ROADSIDE VEGETATION MANAGEMENT
- ROAD TO BE RE-ALIGNED AND ROCKED
- TEMPORARY ROAD TO BE CONSTRUCTED

- BLM LAND
- TS UNITS

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SCALE IN MILES

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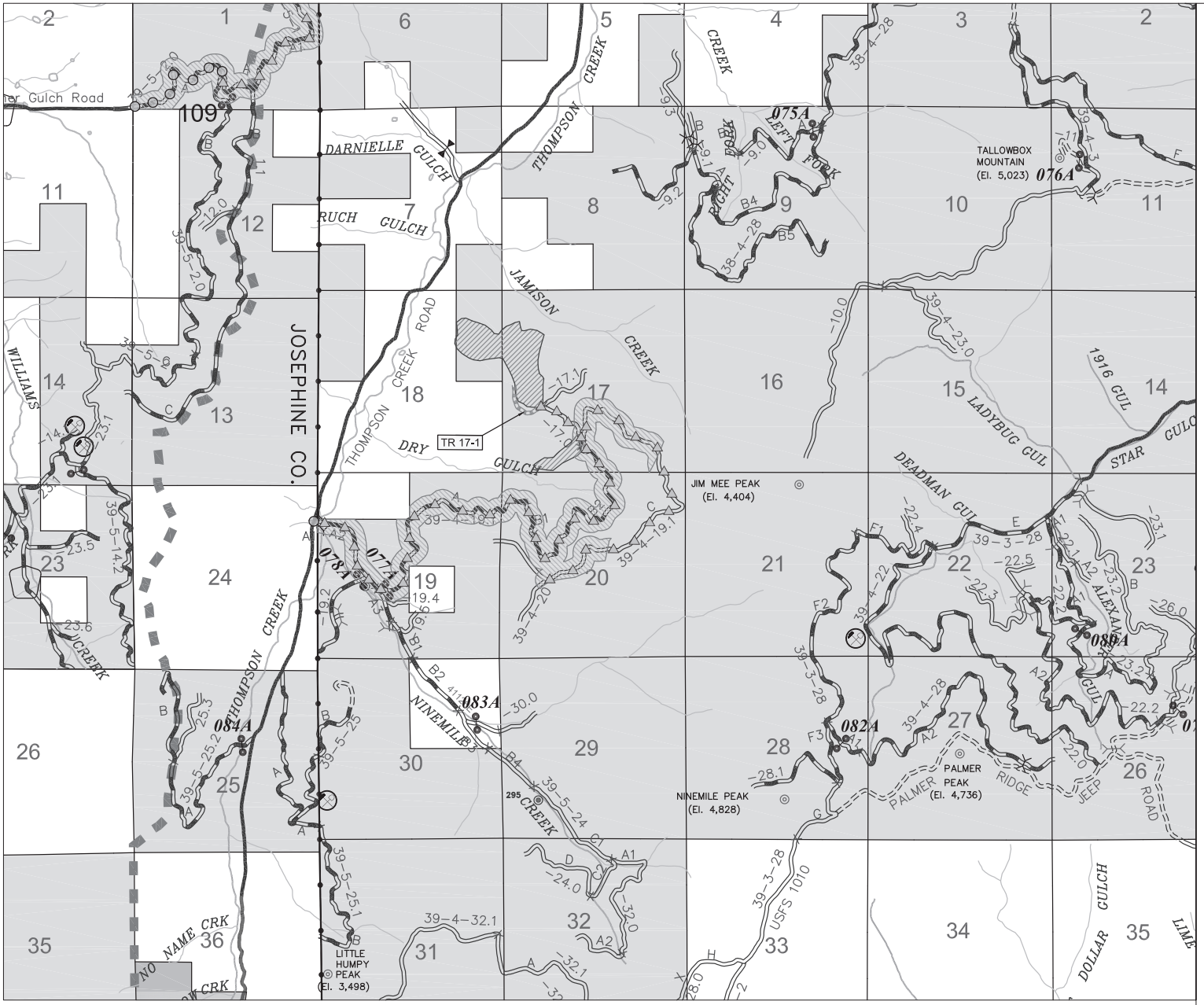

THOM BONE TIMBER SALE
ROAD LOCATION MAP
EXHIBIT C-2; PAGE 2 OF 2

T.38S.

T.39S.

U.S.D.I. BLM MEDFORD DISTRICT

T.38S., R.4W. WILL. MER.
T.38S., R.5W. WILL. MER.
T.39S., R.4W. WILL. MER.
T.39S., R.5W. WILL. MER.

- EXISTING BARRICADE
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- TEMPORARY ROAD TO BE CONSTRUCTED

- BLM LAND
- TS UNITS

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SCALE IN MILES

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EXHIBIT C 3
SHEET 1 OF 1

ROAD NUMBER	FROM	TO	LENGTH	CLEARING	GRUBBING	EXCAVATION		DRAINAGE							RENOVATION					AGGREGATE**						MISCELLANEOUS				
								CORRUGATED METAL PIPE																						
								SIZE			DOWNSPOUT																			
											HALF ROUND																			
						ROCK	COMMON	18"	24"	36"	18"	24"	INLET/OUTLET REPAIR	CONSTRUCT/ RECONSTRUCT ARMORED WATER DIP	SCARIFYING, BLADING, WATERING, & ROLLING	DITCH AND/OR CULVERT CLEANING	DITCH AND/OR SLOPE REPAIR	SLIDE REMOVAL	ADDITIONAL RENOVATION	4" MINUS*** CRUSHED ROCK	CRUSHED ROCK (Grade C)	USE STOCKPILE (Grade C-1)	PLACE STOCKPILE (Grade C-1)	SOIL STABILIZATION	ROADSIDE BRUSHING	INSTALL BMP AT HYDROLOGIC POINT OF CONCERN	REMOVE BARRICADE	CONSTRUCT TEMPORARY ROAD	CONSTRUCT/ RECONSTRUCT HELICOPTER LANDING	ROADSIDE VEGETATION MANAGEMENT
SPECIFICATION NO.	→			200		300		400							500					900	1200	1200	1200	1800	2100					
UNIT	MP/STA	MP/STA	MILE/STA	ACRE		C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.		EA	EA	MILE	MILE	MILE	CY	MILE	C.Y.	C.Y.	C.Y.	C.Y.	ACRE	ACRE	EA	EA	MILE	EA	MILE
38-4-17.00	0.00	4.16	4.16	4.73	0.31			36							2.52	4.16	2.52								8.19					2.52
38-4-20.01	0.00	0.79	0.79												0.79										1.15					
38-4-29.00	0.00	2.53	2.53	7.67	0.61			46							2.53	0.50	2.53				5248				4.91					2.53
39-4-6.00	0.00	1.39	1.39	4.81	1.47		2587								1.39	0.19	1.25				2883				2.35					1.25
39-4-17.00	0.00	0.39	0.39	1.18	0.09										0.39		0.39								0.76					0.39
39-4-19.01	0.00	4.81	4.81	16.91	1.17										4.81	2.77	4.81								10.49					4.81
39-5-1.00	0.00	1.97	1.97	3.10	0.24						10				1.97	1.97	1.97								3.94					1.97
39-5-1.01	0.00	0.28	0.28	0.44	0.03										0.28	0.28	0.28								0.56					0.28
35-5-2.00	0.00	0.93	0.93								10				0.93	0.93									1.35					
39-5-24.00	0.00	0.57	0.57	0.56	0.07											0.57									0.83					0.54
NS 38-4-31.01	0.00	0.62	0.62												0.62										0.90					
Temp Roads																														
TR 17-1	0+00	13+46	0.25	1.54	1.54																							0.25		
TR 29-2	0+00	9+84	0.19	1.13	1.13																							0.19		
TR 31-7	0+00	3+52	0.07	0.40	0.40																							0.07		
TOTAL Page 1				42.47	7.06		2587	82			20				16.23	11.37	13.75				8131				35.43			0.51		14.29

* For informational use only, quantities shown are not pay items.

** Indicate gradation.

*** Armored water dip aggregate quantities calculated at 40 CY per AWD and are accounted for in aggregate column under 4" minus grade A.

ITEM 900

SIZE	GRADE
4 inch	(A)
3 inch	(B)
2 inch	(C)
1 1/2 inch	(D)

ITEM 1200

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

ALWAYS THINK SAFETY

REV. NO.			APPROV.	

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT MEDFORD, OREGON

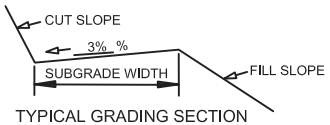
ESTIMATE OF QUANTITIES*

DRAWN: JWR SCALE: NONE

DATE: JUNE 2025 SHEET: 1 OF 1

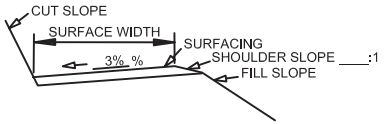
DRAWING NO. ORM06.2026.0001.C3pg1

ROAD NUMBER	STATION OR MILE POST	TO STATION OR MILE POST	LENGTH MILE OR STATION	TYPICAL SECTION TYPE	ALLIGNMENT	ROAD WIDTH (1-3)		GRADIENT		CLEARING WIDTH				SURFACING (4)								REMARKS
					MAXIMUM DEGREE OF CURVE	SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	BEYOND		EXISTING ROAD(S)		BASE COURSE				SURFACE COURSE				
										TOP CUT	TOE FILL	L	R	MINIMUM WIDTH	COMP. DEPTH	TYPE (2)	GRADING	MINIMUM WIDTH	COMP. DEPTH	TYPE (2)	GRADING	
38-4-29.00	0.00	2.53	2.53	2		14	0											14	0'-6"	D	3/4"(-)	Commercial Source
39-4-6.00	0.00	1.39	1.39	2		14	0											14	0'-6"	D	3/4"(-)	Commercial Source
Temp Roads																						
TR 17-1	0+00	13+46	0.25	3		14	0	-6%	4%	3	0			Temporary Road to be constructed. Fully Decommission upon Completion Log Haul								As Per Exhibit D-3
TR 29-2	0+00	9+84	0.19	3		14	0	-6%	4%	3	0			Temporary Road to be constructed. Fully Decommission upon Completion Log Haul								As Per Exhibit D-3
TR 31-7	0+00	3+52	0.07	3		14	0	-6%	4%	3	0			Temporary Road to be constructed. Fully Decommission upon Completion Log Haul								As Per Exhibit D-3



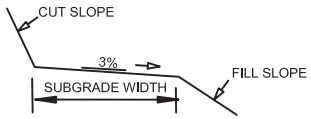
TYPICAL GRADING SECTION

TYPE 1



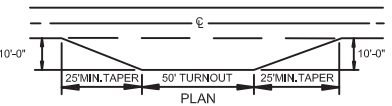
TYPICAL SURFACING SECTION

TYPE 2



TYPICAL GRADING SECTION

TYPE 3



PLAN
TYPICAL TURNOUT

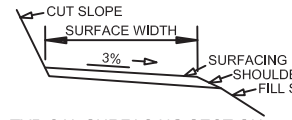
NOTES

1. EXTRA SUBGRADE WIDTHS
ADD TO EACH FILL SHOULDER 1FT.FOR FILLS OF 1-6FT. & 2FT.FOR FILLS OVER 6FT. WIDEN THE INSIDE SHOLDER OF ALL CURVES AS FOLLOWS:
WHEN THE DEGREE OF CURVE EQUALS
7-21 ADD 1FT.
22-35 ADD 2FT.
36-48 ADD 3FT.
49-64 ADD 4FT.
65-96 ADD 5FT.

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	1:1	1 1/2:1
SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/2:1	ANGLE OF REPOSE

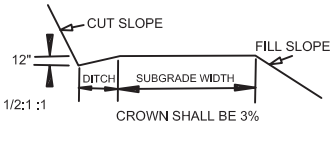
FULL BENCH CONSTRUCTION IS REQUIRED ON SIDE SLOPES EXCEEDING 60%.

2. SURFACING TYPE
A. PIT RUN ROCK MATERIAL.
B. GRID ROLLED ROCK MATERIAL
C. SCREENED ROCK MATERIAL.
D. CRUSHED ROCK MATERIAL.



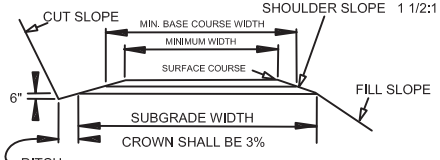
TYPICAL SURFACING SECTION

TYPE 4



TYPICAL GRADING SECTION

TYPE 5



TYPICAL SURFACING SECTION

TYPE 6

3. TURNOUTS
A. WIDTH 10FT. IN ADDITION TO SUBGRADE WIDTH,OR AS SHOWN ON THE PLANS.
B. LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS.
C. INTERVISIBLE AND NOT MORE THAN _____FT. APART.

4. SURFACING
TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.

5. CLEARING WIDTH
SEE SUBSECTION 2100

ALWAYS THINK SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT — MEDFORD, OREGON

SPECIFICATION SHEET

DRAWN: Josh Robeson	SCALE NONE
DATE: JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C4	

THOM BONE TIMBER SALE
Road Renovation Worklist

Renovation/Construction: The work in this worklist consists of road work to be performed by the Purchaser's Representative and/or Contractor on the roads **prior** to its use. This work includes, but not limited to; clearing and grubbing, excavation for roads and landings, compacting, watering, blading and/or rolling the road surface, cleaning/constructing ditches where needed, cleaning or enlarging catch basins and outlets, replacing/installing new culverts, cleaning the entire barrel of all culverts, maintaining water dips (WDs), maintaining/constructing armored water dips (AWDs), spot rocking, road surfacing, seeding and mulching, constructing water bars, and constructing barricades. Remove all down trees from road surface, ditch lines, culvert catch basins, and within brushing limits. All culvert replacements shall be capped with 20 cubic yards of approved crushed aggregate (unless otherwise noted in the worklist). All water dips requiring armoring shall be constructed using 40 cubic yards of 4" minus screened rock. All turnout and truck turnaround widths are in addition to subgrade widths. All road work shall comply with the contract Special Provisions, Specifications, and Exhibits.

Roadside Brushing: This consists of road work to be performed on the road prior to its use. The work includes, but is not limited to: brushing 6 horizontal feet from the centerline of the ditch and 6 horizontal feet from the outside shoulder of the road prism, removing brush within 4' of the inlet and outlet from each Corrugated Metal Pipe (CMP), removing brush, limbs, and trees along the roadway to improve sight distance. Disposal from roadside brushing shall be lop and scatter or by chipping. Debris shall not be allowed to accumulate in concentrations but shall be further reduced or removed. Concentrations will be defined as any debris, limbs or branches touching each other or piled on top of each other or any material sticking up over 2 feet in elevation above the ground. Cut trees or debris shall not be allowed to stand or lean against other standing uncut trees or brush. Such "hang ups" shall be removed and scattered down slope. Debris shall be cut so that the length of limbs, downed pole, hardwoods, or brush does not exceed eight feet. Brush shall be cut to meet regular specifications in Section 2100. While roadside brushing, there shall be no scarring or any other damage of the tree trunk or bole allowed. Use of excavators for brush removal will be at the discretion of the Authorized Officer.

Roadside Vegetation Management: This work includes removing merchantable and non-merchantable trees at a variable distance horizontally from the centerline of the drainage ditch up the vertical slope to the top edge plus five feet horizontally upslope from top edge of the vertical slope, and 6 horizontal feet from the outside shoulder of the road prism as designated in the work list and on Exhibit C-2 (Roads Location Maps). Vegetation to be cut and disposed of will be from 6 inches diameter at breast height and up. All roadside vegetation maintenance sections shall be posted, flagged, and staked with beginning and ending mileposts. All merchantable roadside trees within timber sale units shall be cut unless painted as described in Sec. 43 B. IR-1 (reserve trees). All stumps that may hinder road maintenance operations including road blading operations and snow plowing shall be removed. Any damage that occurs to the road shall be repaired and re-compacted. Any loose soil that remains on site shall be re-compacted or disposed of at areas designated by the Authorized Officer. All disturbed areas shall be seeded and mulched. All remaining brush and limbs from tree removal operations shall be either chipped or piled in locations designated by the Authorized Officer below the road in accordance with clearing and grubbing methods and/or roadside brushing disposal methods in Exhibit C-16 (Thom Bone Road Specifications, Sections 200 and 2100).

Temporary roads constructed shall be fully decommissioned at the completion of timber harvest activities. See Exhibit D for decommissioning.

Road barricades removed during timber operations shall be replaced immediately after use. For activities that are not finished in one dry season, barricades shall be re-installed before the wet season, October 15th. See Exhibit D for decommissioning.

Jct. – Junction Agg. – Aggregate Nat. – Natural Ft. – Feet
Cy – Cubic Yards

38-4-17.00 Road – **Ferris Gulch** – BST/Agg. – Sub: 17Ft – Ditch: 3Ft – X-Sect: Crowned/In-Outsloped

MP	Remarks
0.00	Jct. with Medford Provolt State Highway 238. Begin road renovation which includes clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
0.12	Jct. with private road to left.
0.14	Existing culvert.
0.17	Jct. with private road to left.
0.18	Existing culvert.
0.20	Existing cattleguard.
0.26	Jct. with private road to left.
0.27	Jct. with private road to right.
0.34	Existing culvert.
0.38	Jct. with private road to right.
0.41	Existing culvert.
0.47	Jct. with private road to right.
0.48	Property Line.
0.51	Existing culvert.
0.60	Existing culvert.
0.70	Existing culvert.
0.76	Existing culvert.
0.81	Existing culvert.
0.97	Existing culvert.
1.05	Existing culvert.
1.14	Existing culvert. 2
1.25	Existing culvert.
1.26	Jct. with 38-4-20.00 to right.
1.31	Existing culvert.
1.36	Existing culvert.
1.43	Existing culvert.
1.48	Existing culvert.
1.55	Existing culvert.
1.61	Existing culvert.
1.64	Jct. with 38-4-29.00 to left. End BST surface. Begin aggregate. Begin reshaping road surface (blading, watering, and rolling) to road specifications; Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
1.65	Existing culvert.
1.73	Existing culvert. Remove and replace with 18” x 36’ CMP.
1.86	Existing culvert.
1.93	Existing culvert.
2.10	Existing culvert.

2.37	Existing culvert.
2.47	Existing culvert.
2.71	Existing culvert.
2.79	Existing culvert.
2.88	Existing culvert.
3.10	Existing culvert.
3.29	Existing culvert. w/ downspout.
3.41	Existing culvert.
3.55	Jct. with 38-4-31.00 to right.
3.71	Existing water dip, maintain to drain.
3.83	Existing water dip, maintain to drain.
3.95	Existing water dip, maintain to drain.
4.09	Jct.with temporary road TR 31-7 to left.
4.16	Jct. with 39-5-1.00 to left. End roadside vegetation maintenance. End road renovation.

38-4-20.01 Road – **Ferris North Spur** – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	Remarks
0.00	Jct. with 38-4-29.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; and roadside brushing.
0.14	Existing water dip, maintain to drain.
0.29	Existing water dip, maintain to drain.
0.43	Existing water dip, maintain to drain.
0.48	Existing landing to left.
0.61	Existing water dip, maintain to drain.
0.79	End road renovation.

38-4-29.00 Road – **Ferris Ridge** – Agg. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	Remarks
0.00	Jct. with 38-4-17.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details). Begin placing aggregate from Commercial Source at 6" depth.
0.04	Existing culvert. Remove and replace with 18" x 46' CMP. Move inlet 10 feet up road and construct new catch basin.
0.05	Existing Pipe Gate.
0.25	Existing culvert.
0.38	Jct. with 38-4-20.01 to left.
0.41	Existing water dip, maintain to drain.
0.50	Existing culvert.
0.58	Existing water dip, maintain to drain.
0.68	Existing water dip, maintain to drain.
0.79	Existing water dip, maintain to drain.
0.89	Existing water dip, maintain to drain.
1.14	Existing water dip, maintain to drain.
1.20	Existing water dip, maintain to drain.
1.29	Existing water dip, maintain to drain.

1.31	Existing water dip, maintain to drain.
1.37	Existing water dip, maintain to drain.
1.41	Existing water dip, maintain to drain.
1.46	Existing water dip, maintain to drain.
1.59	Jct.with temporary road TR 29-2 to left.
1.62	Existing water dip, maintain to drain.
1.64	Existing water dip, maintain to drain.
1.70	Existing water dip, maintain to drain.
1.74	Existing water dip, maintain to drain.
1.77	Existing water dip, maintain to drain.
1.81	Existing water dip, maintain to drain.
1.84	Existing water dip, maintain to drain.
1.87	Existing water dip, maintain to drain.
1.91	Existing water dip, maintain to drain.
2.01	Existing water dip, maintain to drain.
2.04	Existing water dip, maintain to drain.
2.07	Existing water dip, maintain to drain.
2.10	Existing water dip, maintain to drain.
2.20	Existing water dip, maintain to drain.
2.23	Existing water dip, maintain to drain.
2.25	Existing water dip, maintain to drain.
2.35	Existing water dip, maintain to drain.
2.37	Existing water dip, maintain to drain.
2.43	Existing water dip, maintain to drain.
2.47	Existing water dip, maintain to drain.
2.50	Existing water dip, maintain to drain.
2.53	End placing aggregate. End roadside vegetation maintenance. End road renovation.

39-4-06.00 Road – **Star Mine** – Agg. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	**Remarks**
0.00	Jct. with 39-5-01.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details). Begin placing aggregate from Commercial Source at 6” depth.
0.07	Existing water dip, maintain to drain.
0.09	Existing water dip, maintain to drain.
0.19	Existing culvert.
0.38	Existing water dip, maintain to drain.
0.47	Existing water dip, maintain to drain.
0.68	Existing water dip, open to drain.
0.78	Existing water dip, open to drain.
0.85	Existing water dip, open to drain.
0.91	Existing water dip, open to drain both sides.
1.12	Existing landing to right.
1.20	End roadside vegetation maintenance. Begin road realignment which includes clearing and grubbing.
1.39	End road realignment. End placing aggregate. End road renovation.

39-4-17.00 Road – **Ridge Saddle Spur** – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	Remarks
0.00	Jct. with 39-4-19.01. Begin road renovation, which includes reshaping road surface (blading, watering, and rolling), to road specifications; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
0.06	Existing water dip, maintain to drain.
0.17	Existing water dip, maintain to drain.
0.26	Existing water dip, maintain to drain.
0.38	Jct. with 39-4-17.01 to right.
0.39	End roadside vegetation maintenance. End road renovation. Jct.with temporary road TR 17-11.

39-4-19.01 Road – **Lower Nine Mile P**– Agg./Nat. – Sub: 14Ft – Ditch: 3Ft – X-Sect: Insloped/Outsloped

MP	Remarks
0.00	Jct. with 39-5-24.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
0.07	Existing culverts. Mining ditch.
0.15	Existing culvert.
0.23	Existing culvert.
0.27	Existing culvert.
0.36	Existing culvert.
0.42	Existing culvert.
0.46	Existing culvert.
0.53	Existing culvert. 5
0.61	Existing culvert.
0.66	Existing culvert. (Drainage partially plugged)
0.72	Existing culvert. (Drainage partially plugged)
0.79	Existing culvert. (Drainage partially plugged)
0.86	Existing culvert.
0.94	Existing culvert.
1.00	Existing culvert. (Drainage fully plugged)
1.12	Existing culvert.
1.20	Existing culvert w/ downspout.
1.29	Existing culvert.
1.39	Existing culvert. Reestablish ditchline to catch basin.
1.43	Existing water dip, maintain to drain.
1.53	Existing water dip, maintain to drain.
1.69	Existing culvert w/ downspout.
1.76	Existing culvert w/ downspout.
1.81	Existing water dip, maintain to drain.
2.09	Existing culvert. (Drainage fully plugged)

2.16	Existing culvert w/ downspout.
2.27	Existing water dip, maintain to drain.
2.38	Existing culvert w/ downspout. (Drainage partially plugged)
2.43	Existing water dip, maintain to drain.
2.52	Existing culvert w/ downspout.
2.58	Existing culvert. (Drainage fully plugged)
2.64	Existing water dip, maintain to drain.
2.70	Existing water dip, maintain to drain.
2.77	Jct. with 39-4-17.00 to left. End aggregate surface. Begin natural.
2.90	Existing water dip, maintain to drain.
2.96	Existing landing on left.
2.99	Existing water dip, maintain to drain.
3.04	Existing water dip, maintain to drain.
3.13	Existing water dip, maintain to drain.
3.20	Existing water dip, maintain to drain.
3.28	Existing water dip, maintain to drain.
3.38	Existing water dip, maintain to drain.
3.46	Existing water dip, maintain to drain.
3.57	Existing water dip, maintain to drain.
3.64	Existing water dip, maintain to drain.
3.70	Existing water dip, maintain to drain.
3.75	Existing landing on left.
3.81	Existing water dip, maintain to drain.
3.92	Existing water dip, maintain to drain.
4.08	Existing water dip, maintain to drain.
4.15	Existing water dip, maintain to drain.
4.23	Existing water dip, maintain to drain.
4.32	Existing water dip, maintain to drain.
4.40	Existing water dip, maintain to drain.
4.47	Existing water dip, maintain to drain.
4.55	Existing water dip, maintain to drain.
4.61	Existing water dip, maintain to drain.
4.79	Existing water dip, maintain to drain.
4.81	Jct. with 39-4-20.00 to left. End roadside vegetation maintenance. End road renovation.

39-5-01.00 Road – **Thompson Ridge** – Agg. – Sub: 14Ft – Ditch: 3Ft – X-Sect: Crowned/Outsloped

MP	**Remarks**
0.00	Jct. with 39-5-01.01. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
0.03	Existing water dip, maintain to drain.
0.08	Existing water dip, maintain to drain.
0.16	Existing culvert w/ downspout.
0.24	Existing water dip, maintain to drain.
0.30	Existing culvert. Install 10 feet of half round for downspout.
0.38	Existing culvert w/ downspout.
0.46	Existing water dip, maintain to drain.

0.51	Existing water dip, maintain to drain.
0.70	Existing water dip, maintain to drain.
0.89	Existing culvert w/ downspout.
1.05	Existing water dip, maintain to drain.
1.20	Existing culvert w/ downspout.
1.27	Jct. with 39-5-06.00 to right.
1.45	Existing water dip, maintain to drain.
1.56	Existing water dip, maintain to drain.
1.60	Jct. with NS 38-4-31.01 to right.
1.81	Existing water dip, maintain to drain.
1.97	Jct. with 38-4-17.00. End roadside vegetation maintenance. End road renovation.

39-5-01.01 Road – **Panther Gulch A Spur** – Agg. – Sub: 14Ft – Ditch: 3Ft – X-Sect: Crowned/Outsloped

MP	**Remarks**
0.00	Jct. with 39-5-02.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing. Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
0.08	Existing culvert.
0.18	Existing culvert. (Drainage partially plugged)
0.27	Existing culvert. (Drainage partially plugged)
0.28	Jct. with 39-5-01.00 to left. End roadside vegetation maintenance. End road renovation.

39-5-02.00 Road – **Panther Gulch** – Agg. – Sub: 16Ft – Ditch: 3Ft – X-Sect: Outsloped

MP	**Remarks**
0.00	Jct. with County Road Panther Gulch. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
0.07	Jct. with private road to left and right.
0.13	Existing culvert.
0.16	Jct. with private road to right.
0.24	Jct. with private road to right.
0.29	Jct. with private road to left.
0.30	Existing culvert.
0.48	Existing culvert. (Drainage partially plugged)
0.61	Existing culvert w/ downspout.
0.66	Existing culvert. (Drainage partially plugged)
0.75	Existing culvert.
0.80	Existing culvert.
0.84	Existing culvert w/ downspout. Install 10 feet of half round for downspout.
0.88	Existing culvert w/ downspout.
0.92	Existing culvert.
0.93	Jct. with 39-5-01.01 to left. End road renovation.

39-5-24.00 Road – **Ninemile** – BST. – Sub: 18Ft – Ditch: 3Ft – X-Sect: Crowned

MP	Remarks
0.00	Jct. with County Road 927 Thompson Creek Road. Begin road renovation which includes clearing and reshaping ditch lines; clearing all culvert inlets and outlets; cleaning all debris or obstructions from inside culverts; and roadside brushing.
0.02	Existing Bridge.
0.03	Begin roadside vegetation maintenance. (See Exhibit C7; Roadside brushing and roadside vegetation maintenance details).
0.08	Jct. with private road to left.
0.30	Existing culvert.
0.46	Jct. with 39-4-19.00 road to right.
0.53	Existing culvert.
0.57	Jct. with 39-4-19.01 road to left. End roadside vegetation maintenance. End road renovation.

NS 38 S 04 W 31.01 – **Non-System** – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	Remarks
0.00	Jct. with 39-5-01.00. Begin road renovation which includes reshaping road surface (blading, watering, and rolling) to road specifications; and roadside brushing.
0.62	End road renovation.

TR 17-1 Temporary Spur – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

MP	Remarks
0.00	Jct. with 39-4-17.00. Begin temporary road construction.
0.25	End temporary road construction.

TR 29-2 Temporary Spur – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

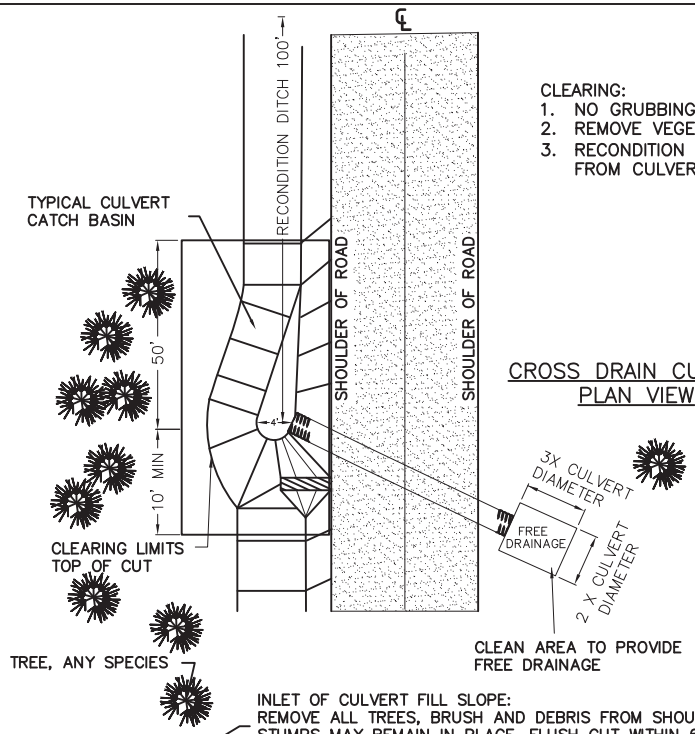
MP	Remarks
0.00	Jct. with 38-2-21.00. Begin temporary road construction.
0.19	End temporary road construction.

TR 31-7 Temporary Spur – Nat. – Sub: 14Ft – Ditch: 0Ft – X-Sect: Outsloped

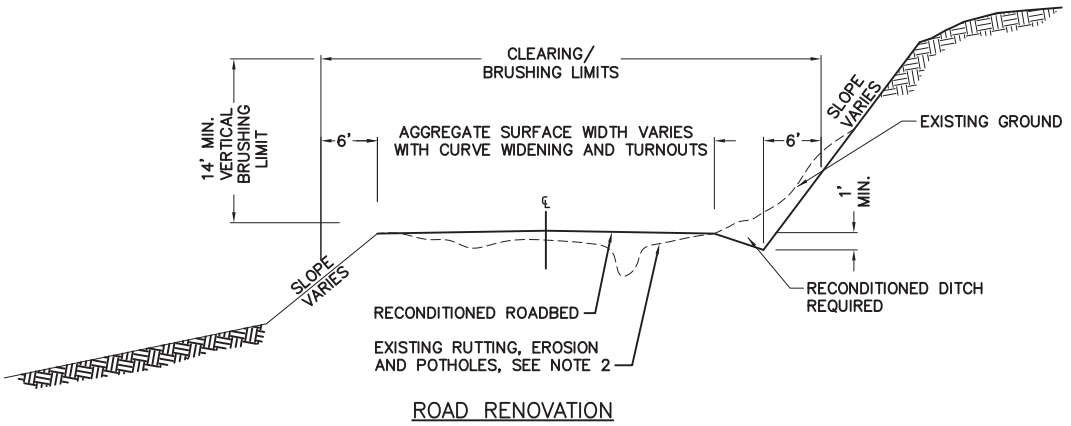
MP	Remarks
0.00	Jct. with 38-4-17.00. Begin temporary road construction.
0.08	End temporary road construction.

EXHIBIT C 6
SHEET 1 OF 1

CLEARING:
1. NO GRUBBING OR ROOT DISTURBANCE UNLESS NOTED
2. REMOVE VEGETATION BY CUTTING OR MOWING
3. RECONDITION CULVERT CATCH BASIN A MINIMUM OF 4' FROM CULVERT INLET

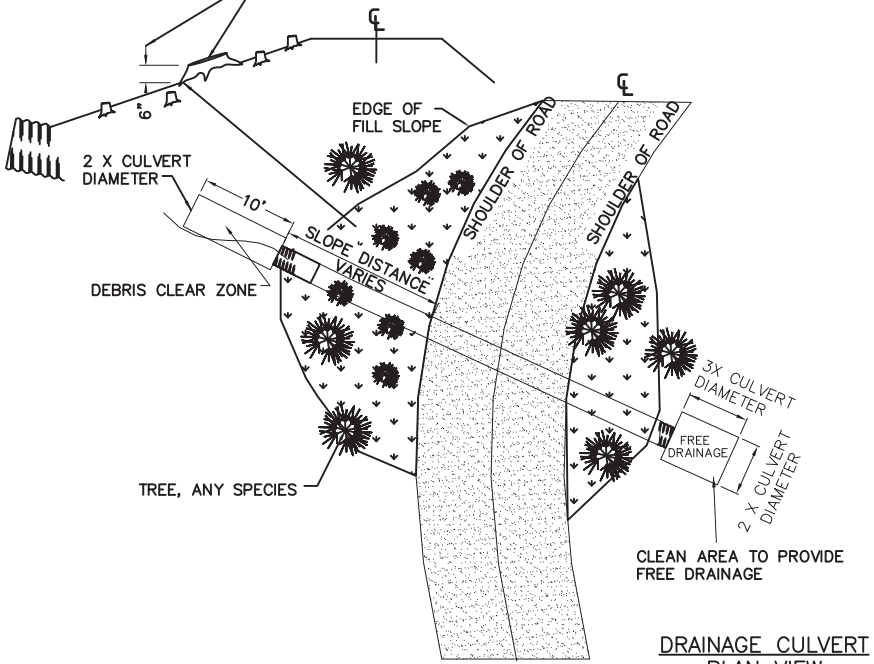


CROSS DRAIN CULVERT
PLAN VIEW



ROAD RENOVATION

INLET OF CULVERT FILL SLOPE:
REMOVE ALL TREES, BRUSH AND DEBRIS FROM SHOULDER OF ROAD TO TOE OF FILL
STUMPS MAY REMAIN IN PLACE, FLUSH CUT WITHIN 6-INCHES PARALLEL TO THE SLOPE



DRAINAGE CULVERT
PLAN VIEW

CLEARING:
1. NO GRUBBING OR ROOT DISTURBANCE UNLESS NOTED
2. REMOVE VEGETATION BY CUTTING OR MOWING
3. RECONDITION INLET CHANNEL, REMOVE ALL DEBRIS AND OBSTRUCTION A MINIMUM OF 2 X CULVERT DIAMETER & 10 FEET LONG

NOTES:

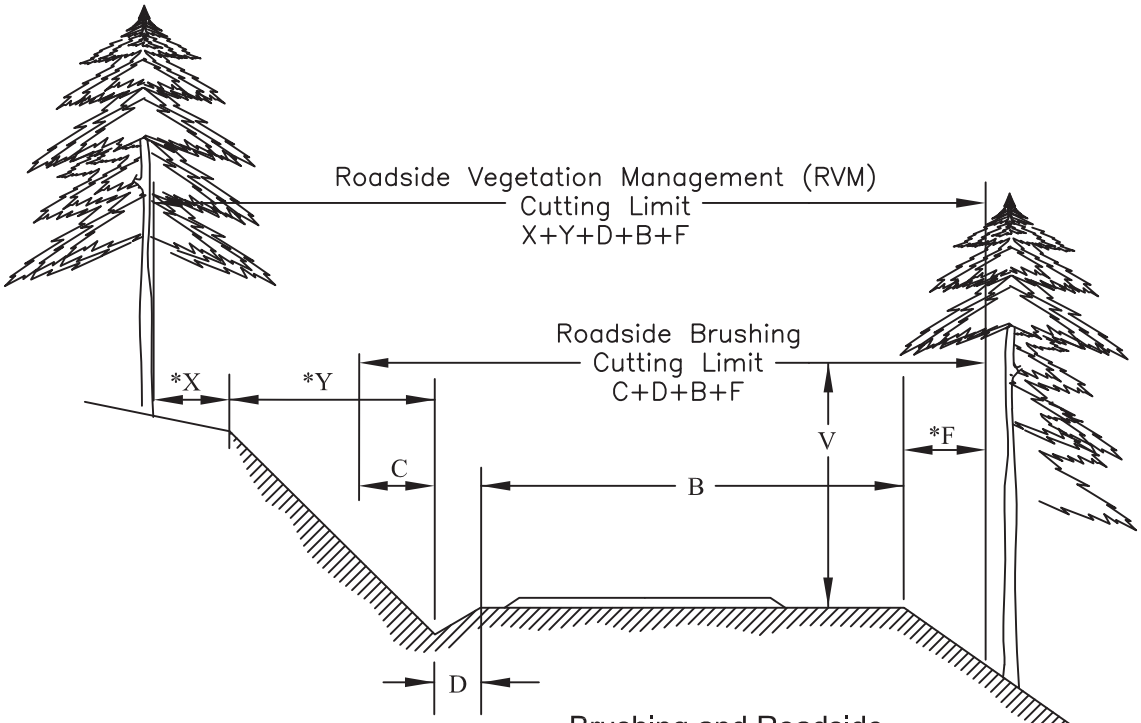
1. RECONDITION ROADS AS SHOWN AND IN ACCORDANCE WITH SECTION 500 OF THE SPECIFICATIONS. REQUIRED RECONDITIONING INCLUDES CURVE WIDENING AND TURNOUTS. DITCH RECONDITIONING INCLUDES CLEANING CULVERT INLETS AND OUTLETS.
2. WHERE RUTTING, EROSION AND POTHOLES EXIST, SCARIFY TO DEPTH OF RUT/EROSION/POTHOLE, BLADE, SHAPE AND COMPACT EXISTING AGGREGATE OR NATIVE SURFACE MATERIAL.
3. REMOVE AND DISPOSE OF SLIDE, DITCH, AND CATCH BASIN MATERIAL. DISPOSAL SITE LOCATIONS AS STAKED ON THE GROUND. DISPOSAL/WASTE SITES SHALL BE APPROVED BY THE AUTHORIZED OFFICER PRIOR TO USE. SEE VICINITY MAP FOR DISPOSAL SITE LOCATIONS/ OR AS STAKED ON GROUND.
4. MATCH EXISTING TRAVEL WAY CROSS SLOPE. THE TRAVELED WAY SHALL BE SHAPED TO THE EXISTING CROSS SLOPE. EXISTING ROADS WHICH ARE CROWNED SHALL BE AT 3% FROM CENTERLINE ROAD, INSLOPED AS IS, OUTSLOPED AS IS.

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

TYPICAL ROAD RENOVATION DETAIL

DRAWN BY JWR	SCALE NONE
DATE JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C6	

EXHIBIT C 7
SHEET 1 OF 1



Brushing and Roadside
Vegetation Management**

*X = 5 ft - *RVM only - Cut all vegetation to max height of 6".

*Y = Vertical Slope - Variable distance from centerline of ditch to Top of Cut. *RVM only - Cut all vegetation to max height of 6".

C = 6 ft - Distance to be brushed on cut slope beyond centerline of ditch. Cut all vegetation to max height of 6".

D = Centerline of ditch to inside shoulder Cut all vegetation to max. height of 1".

B = Road Bed Subgrade (includes turnouts) Cut all vegetation to max. height of 1".

*F = 6 ft - Distance to be brushed on fill slope beyond outside shoulder. *RVM only - Cut all vegetation to max height of 6".

V = 14 ft - Height of vertical cutting limit

All distances shown are horizontal except for V and Y

NOTES:

Cutting and Removal of vegetation from ditches and roadway is incidental to brushing within cutting limits.

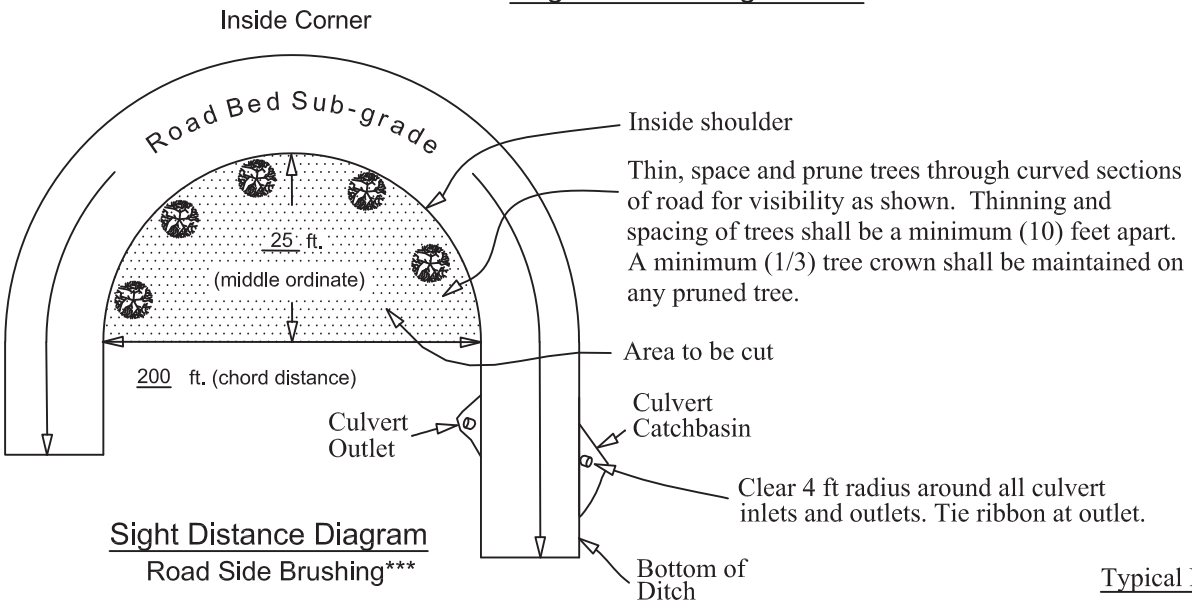
All merchantable roadside trees within timber sales units shall be cut unless painted as described in Sec. 43 B. IR-1 (reserve trees).

See Exhibit C-2 (Maps) and Exhibit C-5: Road Renovation Worklist for Roadside Vegetation Management locations.

* = Roads identified for Roadside Vegetation Management shall have all non-merchantable and merchantable trees over 6" DBH cut within the cutting limits.

** = All stumps that may impede road maintenance equipment from properly maintaining the road and ditch line shall be grubbed or ground 6" below subgrade. Stump holes shall be filled (if needed) with suitable material and compacted.

*** = Excludes work for roadside vegetation management.



Sight Distance Diagram
Road Side Brushing***

Typical Road Bed Subgrade widths

One lane low traffic volume . . . . . 12 to 16 ft
One lane medium traffic volume . . 16 to 20 ft
Two lane high volume traffic . . . . . 20 to 40 ft
Turnouts . . . . . 10 ft

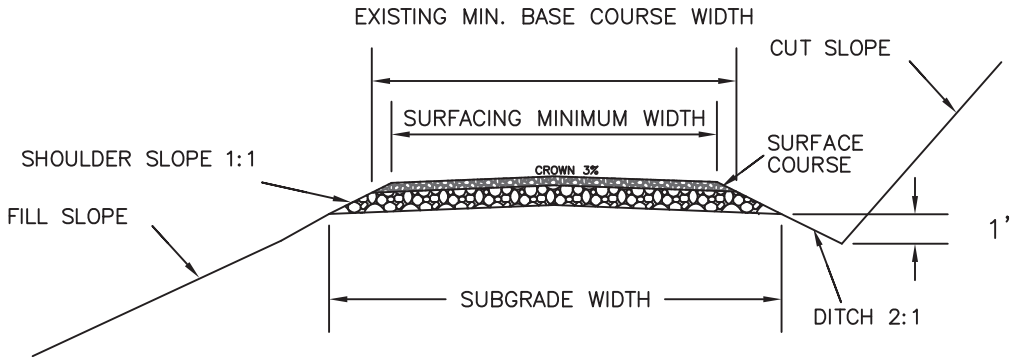
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
MEDFORD DISTRICT – MEDFORD, OREGON

ROADSIDE BRUSHING AND ROADSIDE VEGETATION MANAGEMENT DETAILS

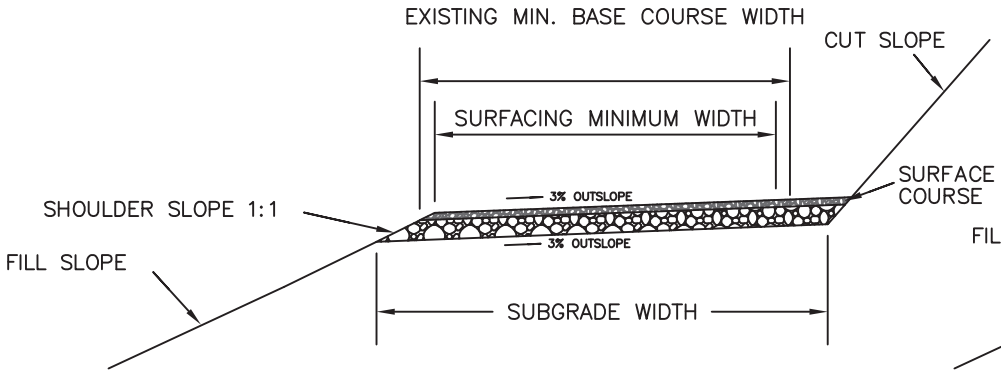
DRAWN JWR	SCALE NONE
DATE JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C7	

EXHIBIT C 8
SHEET 1 OF 1

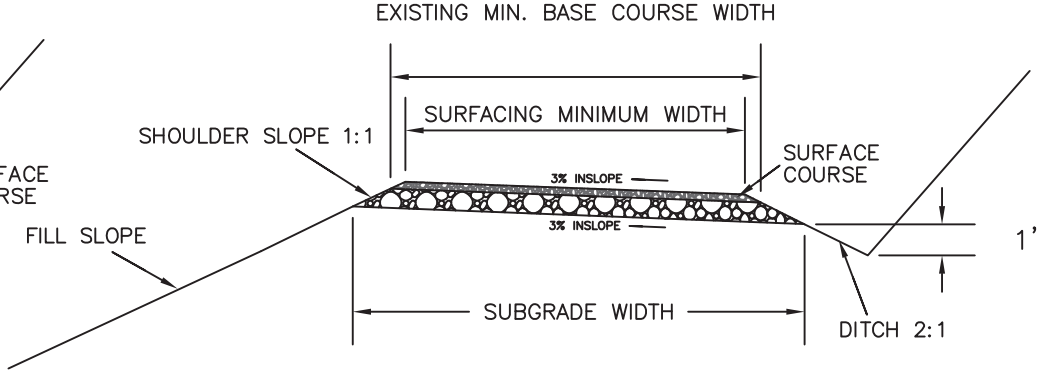
TYPICAL CROWNED SURFACE

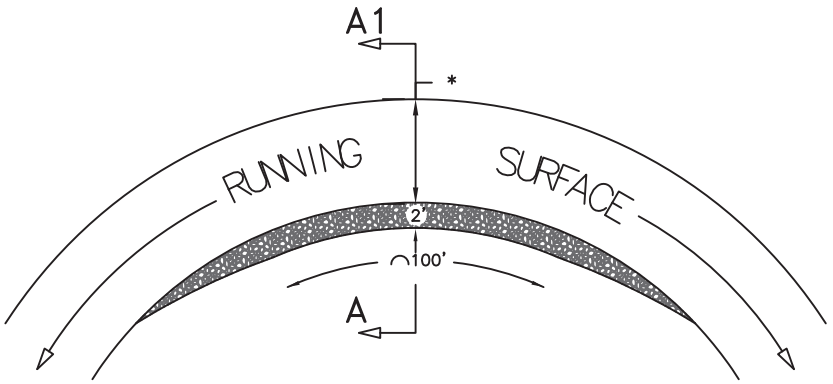


TYPICAL OUTSLOPED SURFACE

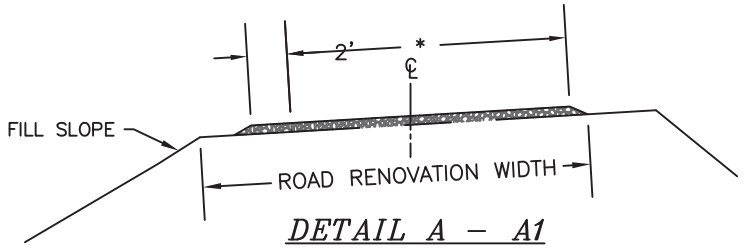


TYPICAL INSLOPED SURFACE





TYPICAL CURVE WIDENING DETAIL



DETAIL A – A1

NOTES:

SURFACE COURSE SHALL BE PLACED AND COMPACTED TO THE DEPTH SPECIFIED IN EXHIBIT C5 ROAD RENOVATION WORKLIST AND IN ACCORDANCE WITH SECTION 1200 OF THE SPECIFICATIONS.

CURVE WIDENING SHALL BE SURFACED TO A LENGTH OF 100' WITH 50' TAPERS.

APPLY THE WIDENING ON THE INSIDE OF THE CURVES THROUGHOUT THE RADIUS OF THE CORNER TO MATCH THE EXISTING ROAD TEMPLATE.

MAINTAIN EXISTING CROSS SLOPE AT CURVES

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

TYPICAL ROAD SURFACING SECTIONS

DRAWN: JWR	SCALE: AS SHOWN
DATE: JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C8	

CULVERT LOCATIONS										DOWNSPOUTS						REMARKS
DESIGNED						AS BUILT				1/2 ROUND		FULL ROUND		RECT. FLUME		
ROAD NO.	STATION OR M.P.	SIZE	GAGE	LENGTH	SKEW ANGLE	STATION OR M.P.	SIZE	GAGE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	SIZE	LENGTH	
38-4-17.00	1.73	18"	16	36'	ME											Remove and Replace
38-4-29.00	0.04	18"	16	46'	ME											Remove and Replace
39-5-1.00	0.30									18"	10'					Install Down spout.
39-5-2.00	0.70									18"	10'					Install Down spout.
	TOTAL 18" CMP: 124'									TOTAL 18" Half Round: 20'						
	TOTAL 24" CMP:									TOTAL 24" Half Round:						
	TOTAL 36" Poly:															

NOTES:

A. Designed culvert lengths and locations are approximate. Actual lengths and locations will be staked in the field.

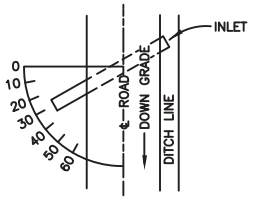
B. Summary of quantities are shown on drawing ORM06-TS20-15-C3

C. All downpipes are 16 guage unless otherwise noted.

ELBOW TYPES:*

1. Conventional or fabricated
2. Turner type
3. Slip joint

ME - Match Existing



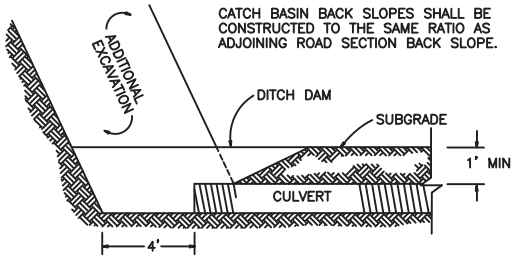
ALWAYS THINK SAFETY

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

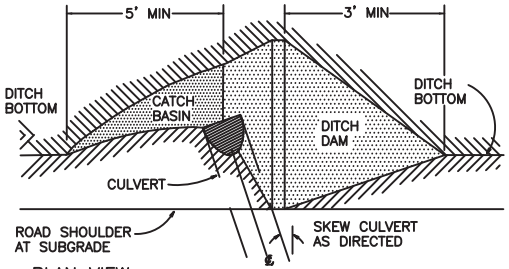
MEDFORD **CULVERT LIST** OREGON

DRAWN: JWR	SCALE: AS SHOWN
DATE: JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C9	

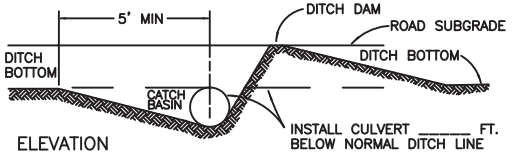
EXHIBIT C 10
SHEET 1 OF 1



CROSS SECTION AT CATCH BASIN

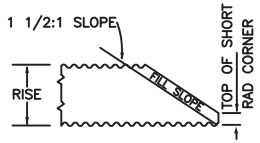


PLAN VIEW



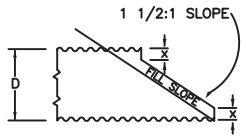
ELEVATION

CATCH BASIN



STEP BEVEL WHEN RISE EQUALS 40" OR LARGER

PIPE ARCH



STEP BEVEL WHEN DIA. EQUALS 48" OR LARGER X=1/4 D OR MFR. STD.

ROUND PIPE

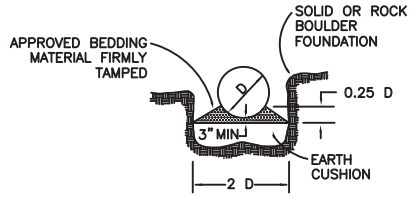
BEVELED END DETAIL

BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON STABLE NATURAL GROUND FOUNDATION OR COMPACTED EMBANKMENT

BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

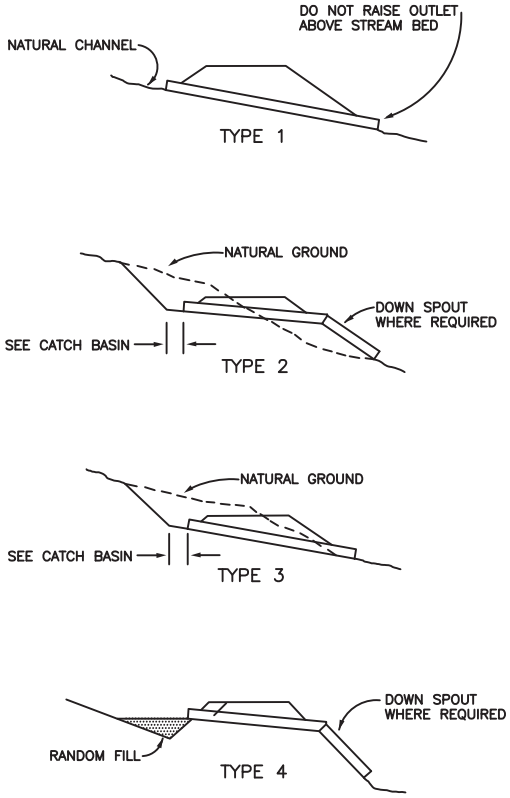
BEDDING OF CULVERTS ON SOFT SPONGY OR UNSTABLE SOIL FOUNDATION



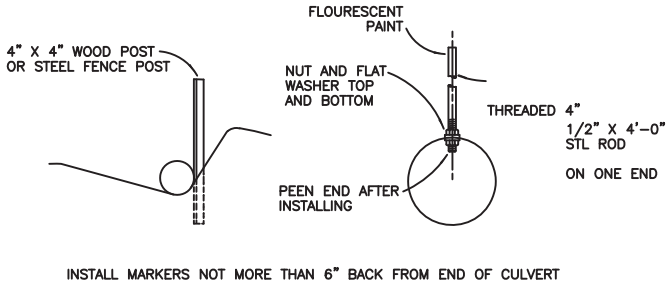
BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT. EARTH CUSHIONING OF SILTY CLAY LOAM OR SAND MAY BE USED IF MATERIAL CAN BE PLACED IN THE DRY CONDITION. IF THE EXCAVATION IS WET, USE GRANULAR FOUNDATION FILL MATERIAL. MAINTAIN 8" MIN. DEPTH BETWEEN HIGH POINTS OF ROCKS AND/OR BOULDERS AND THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION

BEDDING OF CULVERTS

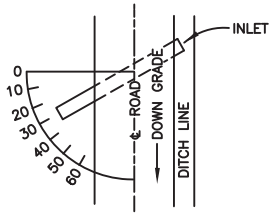


CULVERT INSTALLATION TYPES



INSTALL MARKERS NOT MORE THAN 6" BACK FROM END OF CULVERT

CULVERT MARKER INSTALLATION



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

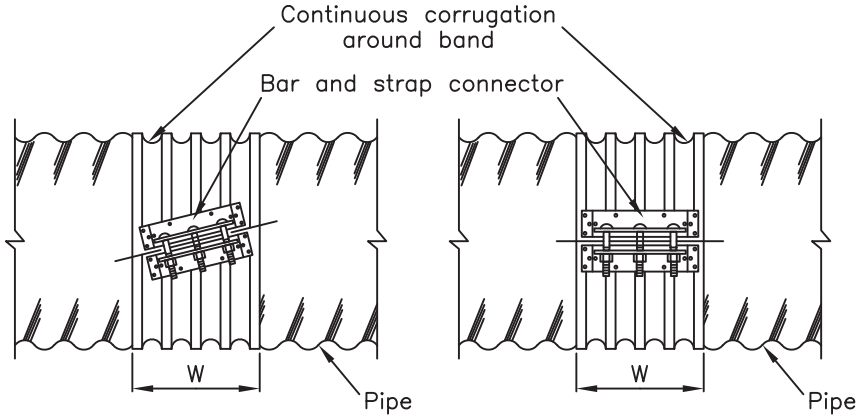
SKEW DIAGRAM

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

CULVERT INSTALLATION DETAILS

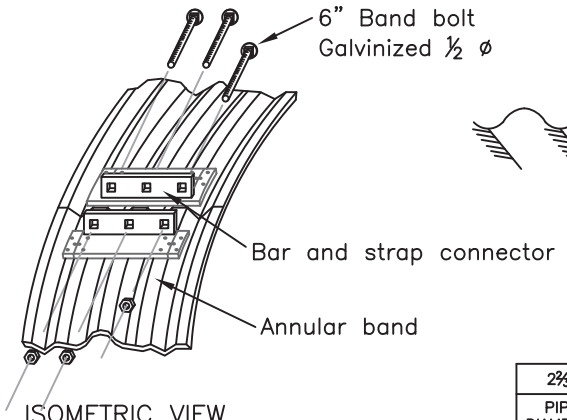
DRAWN	JWR	SCALE	NONE
DATE	JUNE 2025	SHEET 1	OF 1
DRAWING NO.	ORM06.2026.0001.C10		

FULL CORRUGATED BAND

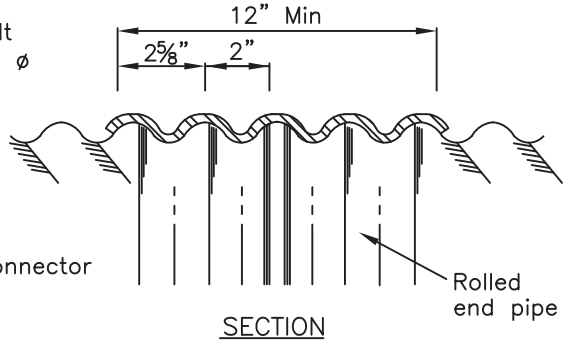


HELICAL COUPLING

ANNULAR COUPLING



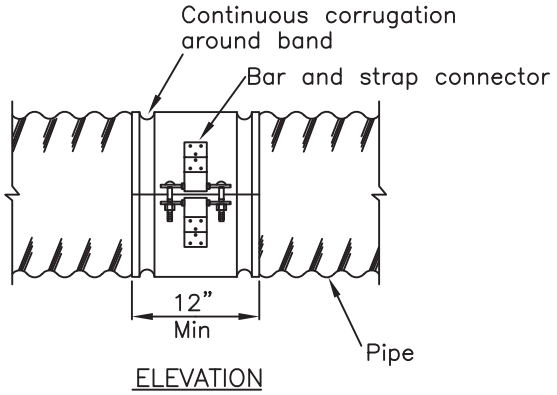
ISOMETRIC VIEW



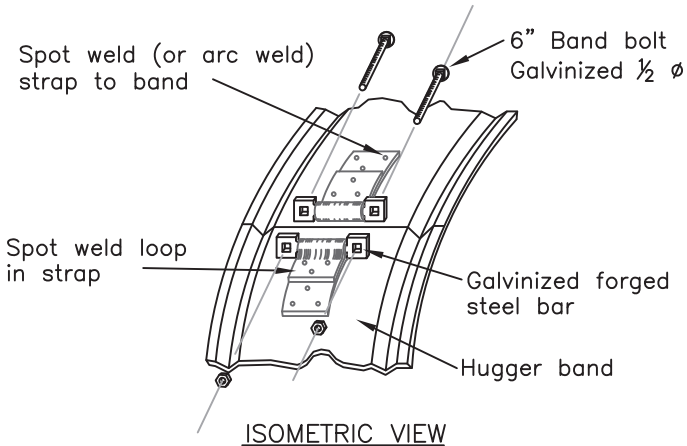
SECTION

2⅔"x½" CORRUGATIONS				3"x1" CORRUGATIONS			
PIPE DIAMETER (in)	W(in)		#of ½" Bolts	PIPE DIAMETER (in)	W(in)		#of ½" Bolts
	ANN.	HEL.			ANN.	HEL.	
6–10	7	7	2	36–84	14	14	3
12–15	7	12	2–3	36–120	26	26	5
18–84	12	12	3				
24–84	24	24	5				

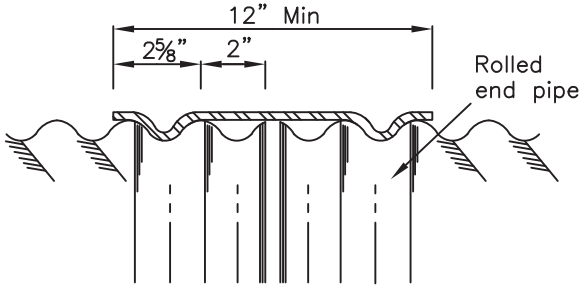
"HUGGER" BAND



ELEVATION



ISOMETRIC VIEW



SECTION

Standard construction is 1 piece 12" thru 48" and 2 piece 54" and above.

The hugger coupler band or an approved equivalent coupler band shall be made of the same material and finish as the pipes joined. The coupler bands shall have a minimum width of 12 inches and may be two numerical thicknesses lighter than the gage or thickness designated for the conduit joined. The band shall be designed to be drawn together with two 1/2 inch bolts through use of a bar and strap suitably welded to the band. The band shall engage and mesh with the second annuler corrugation inward from the end of each of the conduit sections joined.

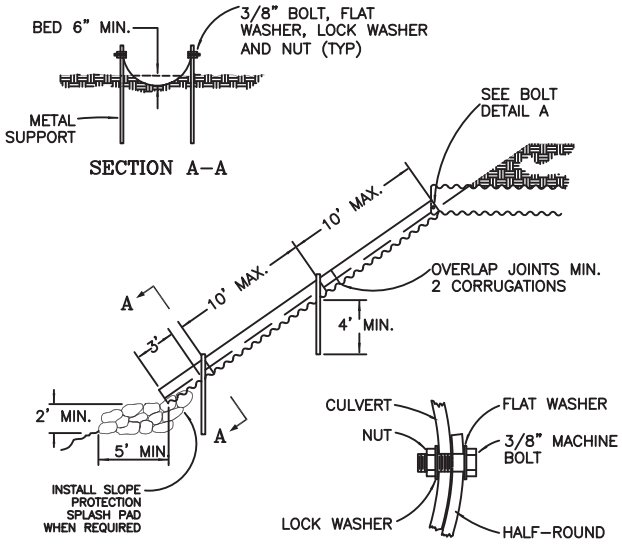
Annular corrugated couplers for pipe shall cover at least two outside crest corrugations on each recorrugated end.

REV. NO.	DESCRIPTION	DATE	APPROV.

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

CULVERT BAND DETAIL

DRAWN	JWR	SCALE	NONE
DATE	JUNE 2025	SHEET	1 OF 1
DRAWING NO.	ORM06.2026.0001.C11		

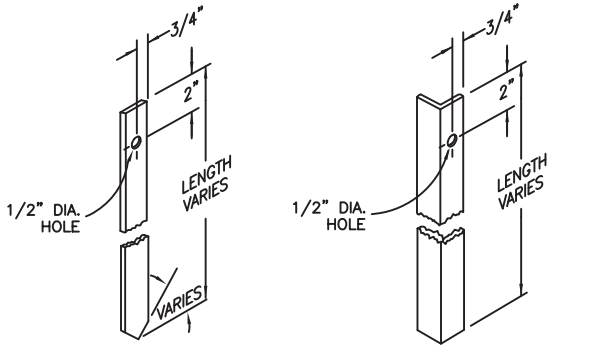


JOIN PIPE CULVERT TO STARTER SECTION AS SHOWN. FIELD DRILL 5/8" DIA. THRU STARTER SECTION AND CULVERT AND INSTALL 3/8" X 2" BOLTS, FLAT WASHERS, LOCK WASHERS AND NUTS.

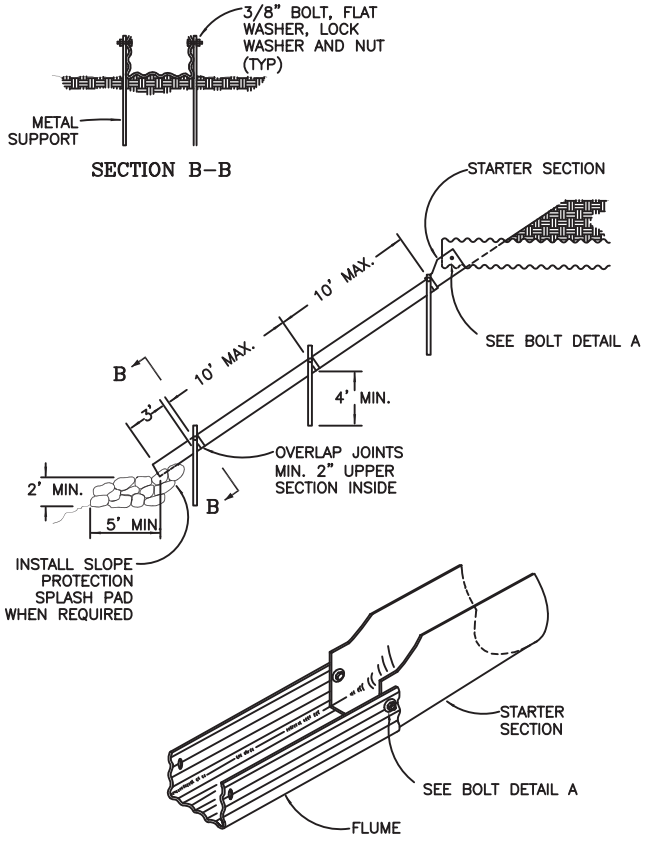
HALF ROUND DOWNSPOUT

NOTE:

1. THE HALF ROUND SHALL BE ONE DIAMETER SIZE LARGER AND OF THE SAME MATERIAL AND COATING AS THE CULVERT IT IS ATTACHED TO.
2. THE HALF ROUND SHALL BE FABRICATED FROM 16 GAUGE METAL WITH 2 2/3" X 1/2" CORRUGATIONS.
3. SUPPORTS MAY BE STEEL BAR, ANGLE IRON OR APPROVED EQUIVALENT METAL POSTS.



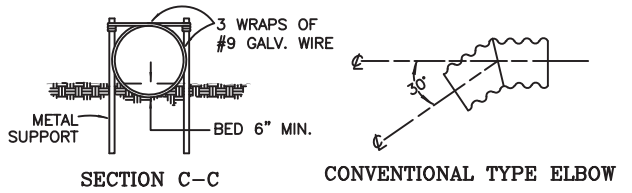
METAL SUPPORT DETAIL

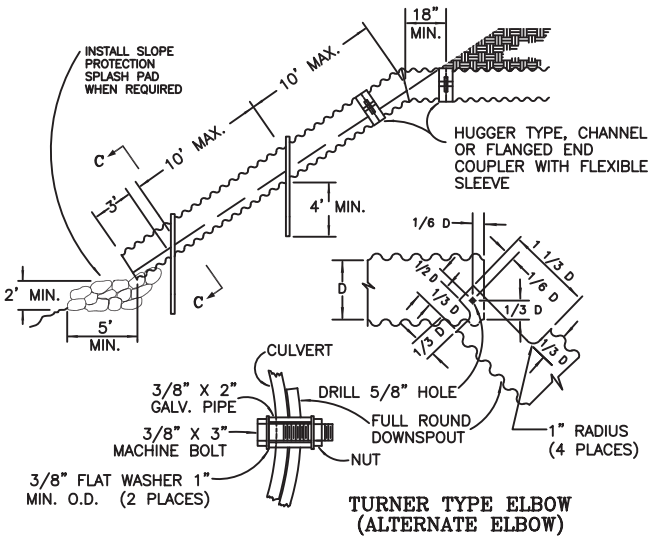


RECTANGULAR FLUME

NOTE:

1. THE FLUME SHALL BE FABRICATED FROM 16 GAUGE CULVERT STOCK WITH 2 2/3" X 1/2" CORRUGATIONS.
2. THE STARTER SECTION SHALL BE FABRICATED FROM 16 GAUGE NON–CORRUGATE CULVERT STOCK.
3. ADJUSTABLE WIDTH FLUMES ARE AVAILABLE FOR APPLICATIONS OVER 24" WIDE. INSTALL ACCORDING TO MANUFACTURER.
4. SUPPORTS MAY BE STEEL BAR, ANGLE IRON OR APPROVED EQUIVALENT POSTS.





FULL ROUND DOWNSPOUT

NOTE:

1. THE ELBOW AND SPILLWAY SECTION SHALL BE OF THE SAME DIAMETER, MATERIAL AND COATING AS THE CULVERT IT IS ATTACHED TO.
2. THE SPILLWAY SECTION SHALL BE FABRICATED FROM 16 GAUGE METAL WITH 2 2/3" X 1/2" CORRUGATIONS.
3. SUPPORTS MAY BE COMMERCIAL STEEL FENCE POSTS, STEEL BAR, ANGLE IRON OR EQUIVALENT METAL POSTS.
4. CONNECTION BETWEEN HELICALLY CORRUGATED AND ANNULAR PIPE SHALL REQUIRE A SPECIAL ADAPTER COUPLING BAND.

GENERAL NOTES

1. THE LENGTH OF THE DOWNSPOUT SHALL BE DETERMINED AT THE TIME OF INSTALLATION.
2. FABRICATION AND INSTALLATION OF ALL GALVANIZED STEEL DOWNSPOUTS SHALL CONFORM TO AASHTO M36, M218; ALUMINUM ALLOY TO AASHTO M196; ALUMINIZED TYPE II TO AASHTO 36, M196.
3. ALL STEEL NUTS, BOLTS AND WASHERS SHALL BE GALVANIZED. (ASTM A307, A153)
4. SLOPE PROTECTION SPLASH PADS, WHEN REQUIRED, SHALL BE A MIN. 2' WIDE X 5' LONG X 2' DEEP. INDIVIDUAL ROCKS SHALL BE 10" – 14" IN SIZE.
5. SLOPE PROTECTION SPLASH PADS SHALL EXTEND TO UNDISTURBED GROUND.

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

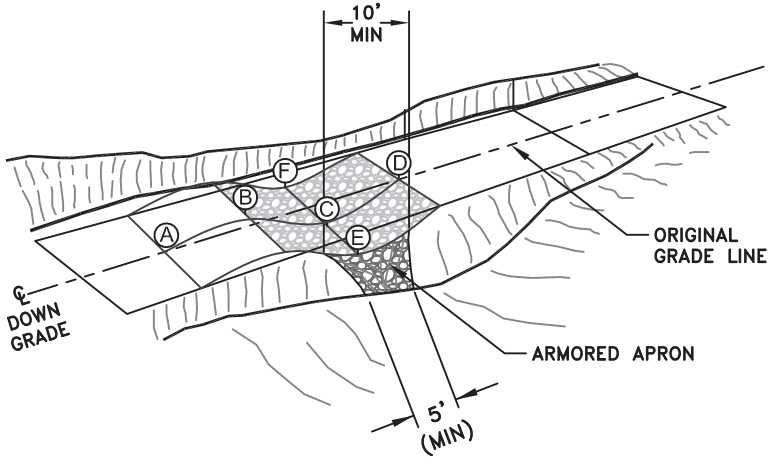
DOWNSPOUT INSTALLATION DETAILS

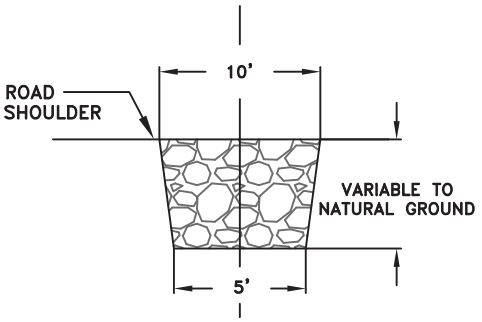
DRAWN JWR	SCALE NONE
DATE JUNE 2025	SHEET 1 OF 1

DRAWING NO. ORM06.2026.0001.C12

EXHIBIT C 13

SHEET 1 OF 1



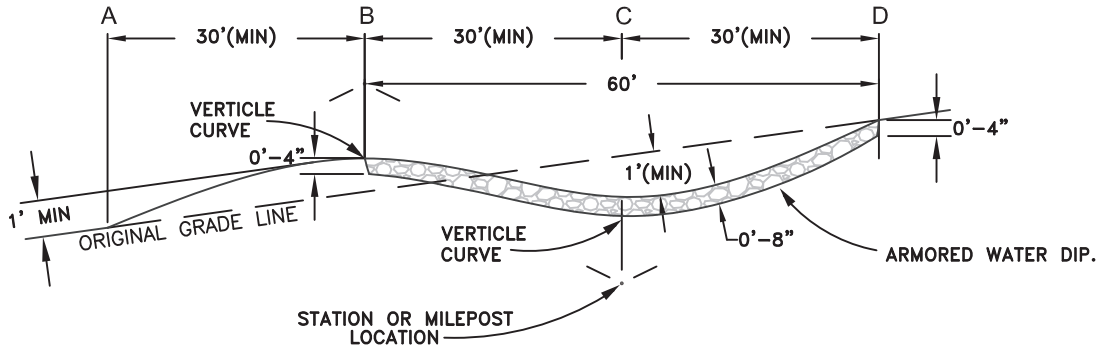


ARMORED APRON DIMENSIONS

NOTES

1) THE WATER DIP INVERT SHALL BE SMOOTH AND FREE DRAINING.
2) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE CUTSLOPE HINGE POINT IS 1.0 FEET.
3) THE MINIMUM DIFFERENCE IN ELEVATION BETWEEN THE SAG AND THE CREST OF THE WATER DIP ALONG THE FILLSLOPE SHOULDER IS 1.5 FEET.
4) SKEW DIP MINIMUM 15–30 DEGREES FROM PERPENDICULAR TO CENTERLINE.
5) EXCAVATED SOIL SHALL BE UTILIZED IN CONSTRUCTION OF WATER DIP. SIDECASTING OF VEGETATIVE MATTER IS PERMITTED.
6) PIT RUN MATERIAL SHALL BE PLACED ON FILL SLOPE AND SUBGRADE OF EACH ARMORED WATERDIP.
7) SEE ROAD RENOVATION WORKLIST FOR WATER DIPS TO BE ARMORED.
8) EACH DIP SHALL BE REINFORCED WITH 40 CUBIC YARDS OF 4 INCH MINUS ROCK, ON ROADWAY AND OUTFALL.

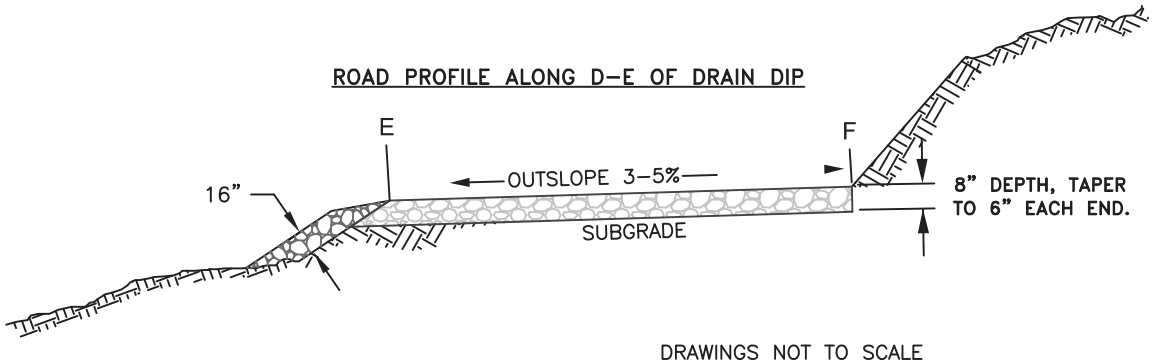
ROAD PROFILE ALONG A–B–C OF DRAIN DIP



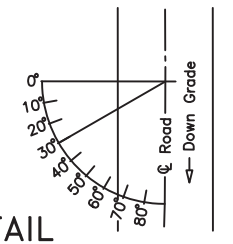
LEGEND

- CUT/FILL SLOPES
- SUBGRADE ARMOR MATERIAL (4 INCH MINUS)
- FILL SLOPE ARMOR MATERIAL PIT RUN OR OTHER APPROVED MATERIAL.

ROAD PROFILE ALONG D–E OF DRAIN DIP



SKEW DIAGRAM



DRAWINGS NOT TO SCALE

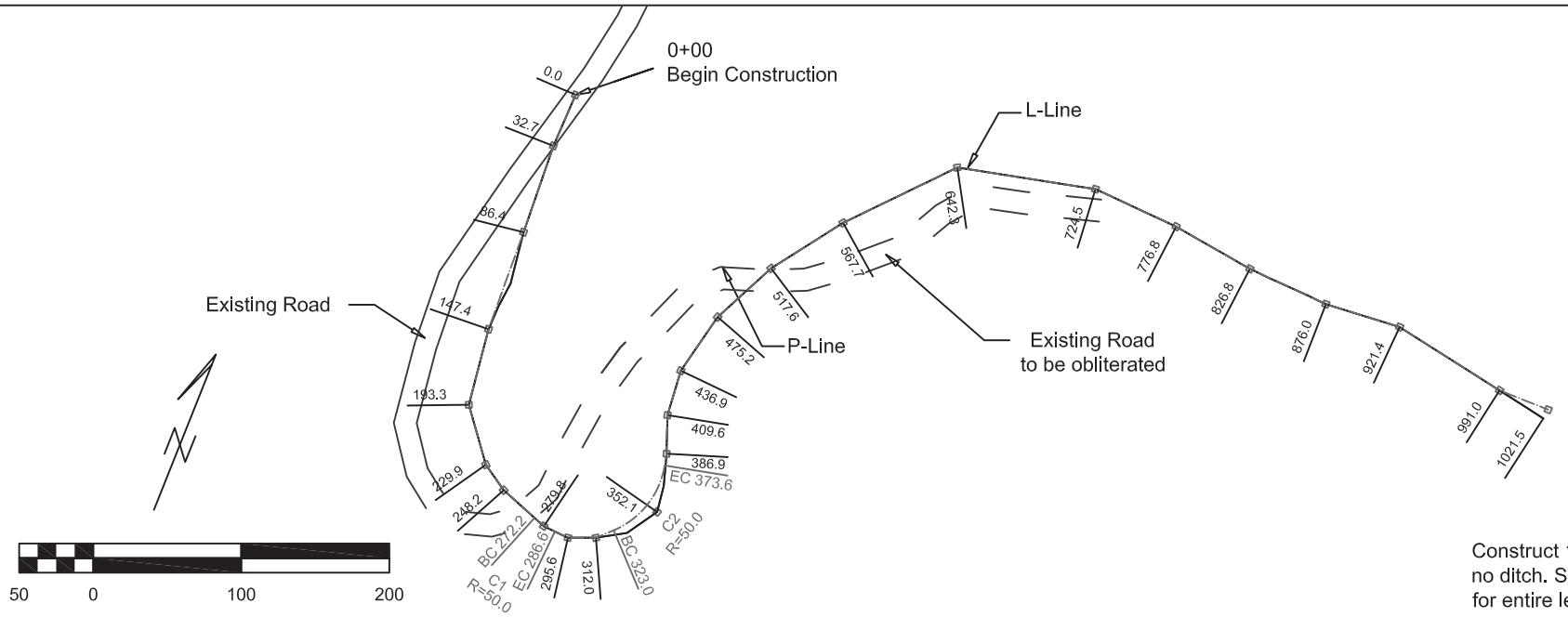
TYPICAL ARMORED WATER DIP CONSTRUCTION DETAIL

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

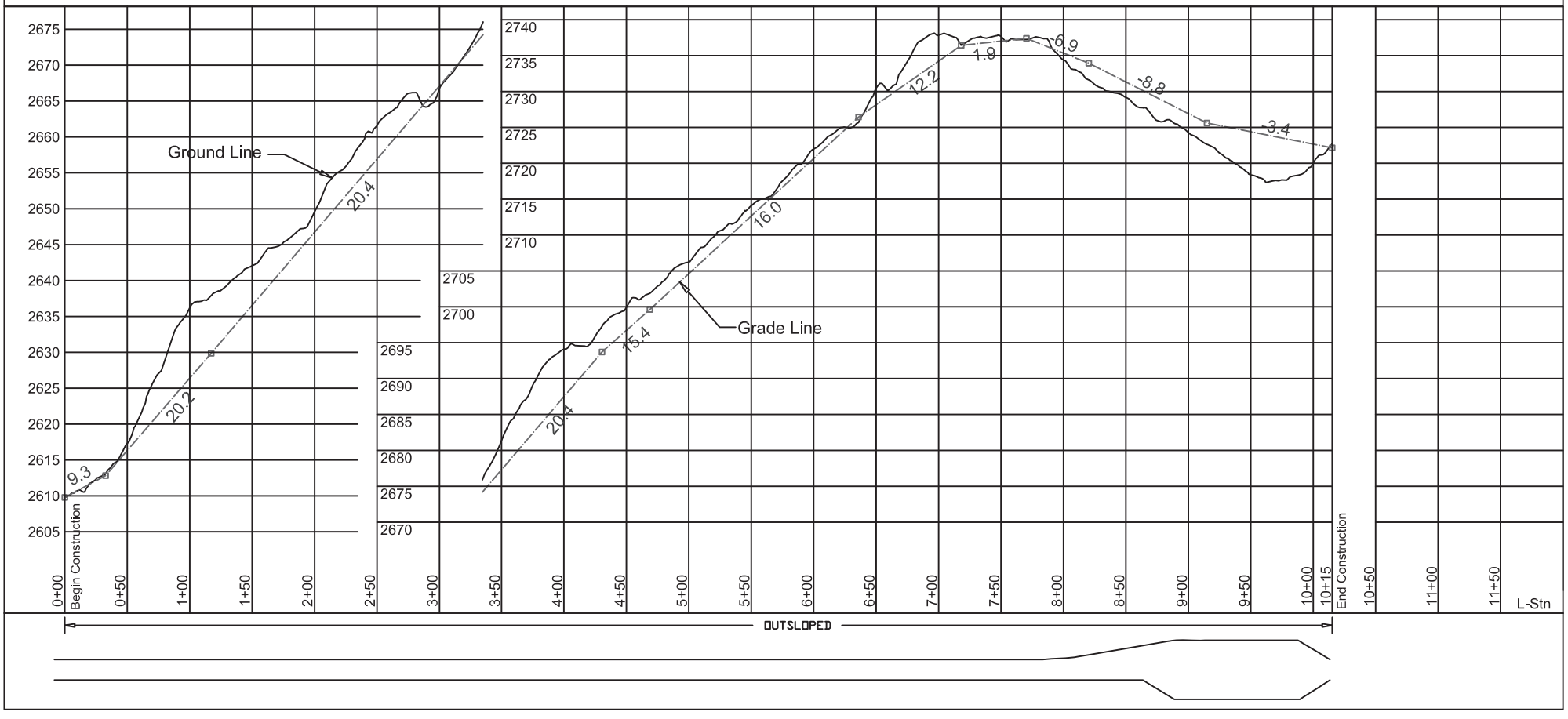
TYPICAL ARMORED WATER DIP CONSTRUCTION

DRAWN BY JWR	SCALE NONE
DATE JUNE 2025	SHEET 1 OF 1
DRAWING NO. ORM06.2026.0001.C13	

Exhibit C 14
Thom Bone T.S.
39-4-6.00
Sheet 1 of 1



Construct 15' outsloped subgrade, no ditch. Seed and mulch fill slope for entire length of road.



SPECIAL PROVISIONS

1. EQUIPMENT
   - Construction equipment shall be washed prior to entering BLM lands. Removal of all dirt, grease, and plant parts that may carry noxious weed seeds or vegetative parts is required. Equipment shall be inspected by an Authorized Officer prior to entering BLM lands. Provide 48 hours' notice of inspection to BLM prior to mobilization.

2. SOIL STABILIZATION:
   - All disturbed soil shall be seeded and mulched. The Purchasers Representative/Contractor shall apply native grass seed and certified weed free straw mulch for soil stabilization operations. The Purchaser shall supply native seed and certified weed free straw. Native seed and certified weed free straw may be purchased from the BLM, if available.

3. DAMAGE:
   - The Purchaser shall protect and is responsible for any damage to existing telephone lines, transmission lines, fiber optic lines, fences, ditches, and other existing improvements as required in Section 14. Damage to utilities and existing improvements shall be promptly paid for or repaired to a condition which is, in the opinion of the Authorized Officer and the governing utility company, as good or better condition than just prior to such damage occurring.

Thom Bone T.S.

4. DUST ABATEMENT:
   - The application of dust abatement materials such as Lignin, Mag-chloride, or approved petroleum based dust abatement products shall be restricted from application just after severely wet weather, at stream crossings to be designated by the Authorized Officer, or other locations that could result in direct delivery to a water body.
   - All dust abatement applications shall be approved by the Authorized Officer prior to application.

5. WATER SOURCES:
   - The Purchaser is responsible for obtaining water in accordance with Exhibit C-16, Section 600 (Watering), water sources shall be approved by the Authorized Officer prior to use. The Purchaser is responsible for all associated rights, permits, and fees from water sources on private or commercial sources.

6. PERMITS:
   - All permits required are the responsibility of the Purchaser.

7. CULVERT REMOVAL:
   - When removing culverts unless constructing armored water dips, pull slopes back to the natural slope, or at least 1.5:1, to minimize sloughing, erosion, and the potential for the stream to undercut stream banks during periods of high stream flows. Remove excess sediment from stream channels during culvert removal, replacement, and installation activities. Apply seed and mulch to all disturbed or exposed soils at each stream culvert removal site.

8. COMMERCIAL AGGREGATE
   - If aggregate furnished for this work comes from a commercial source, then the aggregate shall be from an accredited weed free quarry or shall have been stockpiled in the period between November 1st and June 15th immediately prior to application. Aggregate which has been stockpiled between June 16th and October 31st of prior years will not be accepted. Aggregate crushed between June 16th and October 31st of the same application year shall not be stockpiled for more than two weeks before application.

9. ROAD RENOVATION:
   - Road renovation shall generally take place between May 15th and October 15th of the same year. Waivers may be granted from the Authorized Officer for working outside of this time period. Seasonal restrictions for stream work and wildlife may still apply.
   - Loose material cleaned from ditch lines and/or slide material shall not be sidecast or placed where it can enter wetlands, riparian reserves, floodplains, and waters of the State.

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

11. TEMPORARY ROUTES
   - All temp routes and native surfaced roads (that were previously closed before timber sale activities began) shall be winterized if access is needed over two dry seasons by October 15th. Winterization includes water barring, seeding, mulching, and barricading. All temp routes shall be ripped, water barred, barricaded, seeded, and mulched after use unless otherwise specified.
   - Clearing, grubbing, and excavation activities of temporary spur routes shown on Exhibit C shall be performed in accordance with Exhibit C-16.
   - Construction of temporary spur routes shall be to a subgrade width of 14’.

12. WET SEASON HAUL

- The Purchaser may wet season haul, with the Authorized Officer's approval on the following roads: 38-4W-17.00, 39-5W-1.00, 39-5W-1.01, 39-5W-2.00, and 39-5W-24.00. If the use of these roads during the wet season causes or begins to cause road damage or the transport of sediment into streams, the Authorized Officer may suspend wet season haul or require additional erosion control devices to prevent damage or off-site transportation of sediment. Additional rock may be required at the Purchaser's expense to repair any damage that occurs to the road during wet season haul.

- The Purchaser may wet season haul on these roads that will be rocked under Exhibit C work, with the Authorized Officer's approval on the following roads: 38-4W-29.00 and 39-4W-6.00, If the use of these roads during the wet season causes or begins to cause road damage or the transport of sediment into streams, the Authorized Officer may suspend wet season haul or require additional erosion control devices to prevent damage or off-site transportation of sediment. Additional rock may be required at the Purchaser's expense to repair any damage that occurs to the road during wet season haul.

- The Purchaser shall have the option to rock road numbers 38-4W-20.01, 39-4W-17.00, 39-4W-19.01, and 38-4W-31.01 for wet weather haul. Purchaser option rocking depths will be determined and approved by the Authorized Officer. Any costs for rocking and installation of additional drainage features will be at the Purchaser's expense and shall be completed in accordance with the plans and specifications show in Exhibit C of this contract.

TIMBER SALE ROAD SPECIFICATIONS

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GENERAL – 100

101 - Prework Conference(s):

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

The purpose of the 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 subcontractor(s).

102 - Definitions:

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

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

ACI - American Concrete Institute

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

ASTM - American Society for Testing and Materials.

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

BLM - Bureau of Land Management

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

Burst Strength - The resistance of a geotextile material to rupture from pressure applied at right angles to the plane of the geotextile material under specified conditions, usually expressed as the amount of pressure causing failure. Rupture or burst results from tensile failure of the geotextile material.
Culvert - A pipe, pipe-arch, arch, or box structure constructed of metal, concrete,

plastic or wood which provides an opening under the roadway primarily for the conveyance of liquids, pedestrians or livestock.

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

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

End Haul - Excavated material moved, other than by dozer, to an embankment or waste area to prevent 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).

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Road Centerline - The longitudinal center of a roadbed.

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

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

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

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

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

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

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

Spalls - Flakes or chips of stone.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

102a - Tests Used in These Specifications:

AASHTO T 11	Quantity of rock finer than No. 200 sieve.
AASHTO T 27	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
AASHTO T 89	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
AASHTO T 90	Plastic limits and plasticity index of soil. 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.
AASHTO T 96	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
AASHTO T 99	Relationship between soil moisture and density of soil. Method A - 4" mold, soil passing a No. 4 sieve 25 blows/layer & 3 layers. Method C - 4" mold, soil passing a 3/4 inch sieve 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 3/4 inch sieve. 56 blows/layer & 3 layers.

AASHTO T 119 Slump of hydraulic cement concrete.

AASHTO T 152 Air content of freshly mixed concrete.

AASHTO T 166 Specific Gravity of compacted Bituminous Mixtures.

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

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

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

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

AASHTO T 209 Maximum Specific Gravity of Bituminous Paving Mixtures.

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

AASHTO T 224 Correction for coarse particles in the soil.

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

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

ASTM D 4564 Determination of relative density of cohensionless soils.

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

103 - Compaction equipment shall meet the following requirements:

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

inches from the face of the drums.

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

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

103f - Vibratory roller. The drum diameter shall be not less than 48 inches, the drum width not less than 58 inches, and have a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 vibrations per minute (VPM), corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 RPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled or drawn by a vehicle of sufficient horsepower to enable the unit to travel through a loose layer of material at a speed ranging from 0.9 mile to 1.8 miles per hour, as directed by the Authorized Officer.

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

103g - Vibratory compactor. Vibratory compactors shall consist of multiple or gang- type compacting units or pads with a minimum variable width of 2 feet. It shall be self-contained and capable of compacting material as required.

103h - Drum drive self-propelled vibratory grid roller. The unit shall consist of one cylindrical drum with a drum diameter of not less than 56 inches, nor more than 66 inches and the drum width shall be 84 inches. Vibratory frequency shall be regulated in seeps from 1200 to 1800 vibrations per minute (VPM), and the centrifugal force developed shall be at least 40,000 pounds at 1800 RPM. The vibratory grid roller shall be self-propelled and have a power unit of not less than 112 horsepower. The "grid" design shall be a herringbone or z-bar pattern around the circumference of the drum. The grid bars shall be 1 inch in height and spaced not more than 8-1/2 inches apart.

103i - Other. Compaction equipment approved by the Authorized Officer.

CLEARING AND GRUBBING - 200

201 - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans and as staked on the ground.

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 and as staked on the ground.

202 - Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend 10 feet back of the top of the cut slope and 5 feet out from the toe of the fill slope.

202b - Where clearing limits for quarries have not been staked or shown on the plans, the limits shall extend 10 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 and 202b, as shown on the plans, as staked on the ground, and as posted.

203b - Standing trees and snags to be cleared shall be felled within the limits established for clearing unless otherwise authorized.

204 - Grubbing shall consist of the removal and disposal of stumps, roots, and other wood material embedded in the ground and protruding obstacles remaining as a result of the clearing operation (in accordance with Subsections 204a, 204b, 204c, 204d, and 204e between the top of the cut slope and the toe of the fill slope.

204a - Stumps including those overhanging cut banks, shall be removed within the required excavation limits.

204b - Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than 4 feet.

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.

206 - Clearing and grubbing debris shall be disposed of by chipping in accordance with Subsection 209 and/or piling in accordance with Subsection 211 and at the following

Road No.	From M.P./Sta	To M.P./Sta	Activity Type	Disposal Method
38-4-17.00	1.64	4.16	Rdside Veg. Mgt.	Pile
38-2-29.00	0.00	2.53	Rdside Veg. Mgt.	Pile
39-4-6.00	0.00	1.25	Rdside Veg. Mgt.	Pile
		1.39	Road Realignment	Pile
39-4-17.00	0.00	0.39	Rdside Veg. Mgt.	Pile
39-4-19.01	0.00	4.81	Rdside Veg. Mgt.	Pile
39-5-1.00	0.00	1.97	Rdside Veg. Mgt.	Pile
39-5-1.01	0.00	0.28	Rdside Veg. Mgt.	Pile
39-5-24.00	0.03	0.57	Rdside Veg. Mgt.	Pile
Temp Road 17-1	0.00	0.25	Road Construction	Pile
Temp Road 29-2	0.00	0.19	Road Construction	Pile
Temp Road 31-7	0.00	0.08	Road Construction	Pile

207 - The Purchaser shall prepare a burning plan for the disposal of clearing and grubbing debris in accordance with local and state laws, rules, and regulations. The plan shall be approved in writing by the Authorized Officer prior to burning.

207a - Burning shall utilize methods which produce intense heat with no visible smoke emissions except that minimal emissions of smoke associated with starting and stopping the operations will be tolerated. Prior to beginning burning the Purchaser shall obtain a burning permit from the regulating authority enforcing the air pollution control standards for the area and shall furnish a copy of the permit to the Authorized Officer. At the conclusion of each burning session, the fire shall be completely extinguished so that no smoldering debris remains.

Debris to be burned shall be dirt free. Final placement of debris into the actual burning area shall be done with a crane, loader, or other suitable lifting equipment. The use of dozers will not be permitted, unless they are equipped with a brush blade. Stumps larger than 3 feet in diameter shall be split prior to burning.

208b - Trees, firm logs, and other firm large pieces, 4 inches in diameter and 8 feet in length and larger and not removed from the contract area by the Purchaser, shall be piled at

locations determined by the Authorized Officer.

208c - Clearing debris shall be placed outside the roadway in a neat, compacted windrow laid approximately parallel and along the toe-line of embankment slopes. The top of the windrow shall not extend above the subgrade. Material in the windrow shall be matted down with construction equipment to form a compact and uniform pile. Windrows shall have 16-foot minimum breaks at least every 150 feet. Windrows shall not be placed against trees. A pioneer road may be constructed to provide an area for placement of windrows provided the excavated material is kept within the clearing limits and does not adversely affect the road construction.

211 - Disposal of clearing and grubbing debris or stumps and cull logs shall be by piling on government lands outside of established clearing limits in an area and in a manner acceptable to the Authorized Officer.

212 - No grading will be permitted prior to completion and approval by the Authorized Officer of the required clearing and grubbing work, except that stump grubbing may proceed with the excavation of the road prism.

213 - No clearing or grubbing debris shall be left lodged against standing trees.

EXCAVATION AND EMBANKMENT - 300

301 - This work shall consist of excavating, overhaul, placement of embankments, backfilling, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.

302 - Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as marked on the ground with stakes or metal tags.

303 - Suitable material removed from the excavation shall be used in the formation of embankment subgrade, shoulders, slopes, bedding, backfill for structures, and for other purposes as shown on the plans.

304 - Borrow shall consist of suitable material required for the construction of embankments or for other portions of the work; such material shall be obtained from sources selected by the Purchaser at his option and approved by the Authorized Officer.

305 - Embankment construction shall consist of the placement of excavated and borrowed

materials, backfilling, leveling, grading, compaction, and other earth- moving work necessary for the construction of the roadway and landings in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and as marked on the ground with stakes.

305a - Material used in the construction of embankment sections shall be free of stumps, cull logs, brush, muck, sod, roots, frozen material, and other deleterious materials and shall be placed and compacted as specified.

305b - Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 8 inches in depth.

305c - Embankments formed of material containing less than 25 percent rock not larger than 8 inches in the greatest dimension shall be placed in 12-inch layers. Material containing more than 25 percent rock not larger than 12 inches in the greatest dimension shall be placed in successive layers not exceeding 2 feet in thickness.

306 - Layers of embankment, final subgrade, and selected roadway excavation material as specified under Subsections 305a, 305b, and 317 shall be moistened or dried to a uniform optimum moisture content suitable for maximum density and compacted to full width with compacting equipment conforming to requirements of Subsections 103b, 103f, 103g, 103h, and 103i and in accordance with the following table:

Road No.	From Sta./M/P.	To Sta./M.P.	Subsection 306
39-4-6.00	1.20	1.39	306 f
Temp Road 17-1	0.00	0.25	306 f
Temp Road 29-2	0.00	0.19	306 f
Temp Road 31-7	0.00	0.08	306 f

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 fraction thereof.

306e - The final subgrade except landings and temporary roads shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103b, 103f, 103g, 103h, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 8 stations of road or a fraction of as measured along the center line of the constructed road. Landings and temporary roads shall be compacted by routing construction equipment over full width.

306f - Compaction of embankment layers placed as specified under Subsection 305b above shall be accomplished by routing construction equipment over full width of

embankment structures except as specified in Subsection 306.

306g - All fill slopes shall be compacted to 75 percent of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.

308 - In the case of rock fills, placement of material in layers is not required and such material may be placed by end-dumping or other methods approved by the Authorized Officer provided that the rock be reasonably prevented from escaping beyond the embankment toe.

309 - The top of cut slopes shall be rounded by blending into the adjacent terrain for a distance not less than 1 foot and not more than 3 feet beyond the top of the cut. Rounding shall be performed in soils that can be shaped without ripping or blasting.

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 these specifications.

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.

318 - Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed in lifts not to exceed 6 inches in depth until the required thickness shown on the plans is attained.

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

320 - Ditches shall conform to the slope, grade, dimensions, and shape of the required cross section shown on the plans. Roots, stumps, rocks, and other projections shall be removed to form smooth, even slopes.

321 - Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on a stream course or other body of water.

323 - In the construction of channel changes and stream-crossing embankment sections, natural stream flow shall be maintained unless otherwise provided.

324 - Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of 1 foot on the uphill side.

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

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

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, shown on the plans, and as marked on the ground with stakes.

501a - This work shall include the removal and disposal of slides in accordance with these specifications and as marked on the ground with stakes.

502 - The existing road surface shall be scarified (where needed) 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 as marked on the ground with stakes.

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.

504 - Scarified material and 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 103f, 103g, 103h, and 103i and in accordance with Subsection 504a.

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

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

507 - New drainage structures at the following locations shall be placed with structures of the type, gauge, diameter, and length shown on the plans and in accordance with the placement requirements set forth under section 400 of these specifications.

508 - Vegetation encroaching on the roadbed and the drainage ditches of existing roads shall be removed by cutting and disposed of in accordance with Subsection 2100 of these specifications.

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

WATERING - 600

601 - This work shall consist of furnishing and applying water required for the compaction of embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with

these specifications.

602 - Water, when needed for compaction or laying dust, shall be applied at the locations, in the amounts, and during the hours as directed by the Authorized Officer. Amounts of water to be provided will be the minimum needed to properly execute the compaction requirements in conformance with these specifications, and for laying dust during work periods.

603 - Water trucks used in this work shall be equipped with a distributing device of ample capacity and of such design as to ensure uniform application of water on the road bed.

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

AGGREGATE BASE COURSE - 900
SCREENED ROCK MATERIAL

901 - This work shall consist of furnishing, hauling, and placing one or more lifts of screened rock material on roadbeds and landings approved for placing screened rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans.

902 - Screened rock materials used in this work shall be obtained from the source shown on the plans. Development and mining of such source shall be in accordance with Subsection 1601 and Subsection 1602.

902a - Screened rock materials to be used in this work may be obtained from sources selected by the Purchaser, at his option, providing the rock materials furnished comply with these specifications and the sources are approved in writing by the Authorized Officer prior to use.

903 - Screened rock material shall conform to the following gradation requirements:

Table 903

SCREENED ROCK MATERIAL GRADATION REQUIREMENTS
Percentage by Weight Passing Square Mesh Sieves
(AASHTO T 27)

Sieve	Gradation

Designation	A	B	C	D
4 inch	**100**			
3 inch	**95-100**	100		
2 inch		95-100	100	
1-1/2 inch			95-100	100
1 inch				95-100
No. 4	**11-44**	16-49	21-54	26-59
No. 200	**2-15**	2-15	0-15	0-15

904 - Screened 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.

904a - Screened rock material shall show a durability value of not less than 35 as determined by AASHTO T 210.

905 - 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 screened 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 rock operations.

906 - Screened rock material shall be placed in layers not to exceed 6 inches in thickness. Where the required total thickness is more than 6 inches, the rock material shall be shaped and compacted in two or more layers of approximately equal thickness.

906a - Screened rock materials used to repair or reinforce a soft, muddy, frozen, yielding, or rutted subgrades shall not be construed as surfacing under this specification.

907 - Filler or binder material obtained from sources shown on the plans and approved by the Authorized Officer shall be uniformly blended with the screened rock material on the road. Filler or binder materials shall be free from stones, vegetative matter, and other deleterious materials.

908 - Screened rock material shall be blade-processed and spread to required dimensions. Processing shall be performed in such a manner as to minimize

aggregate segregation.

910 - Screened rock material, bladed and shaped as specified, shall be moistened or dried to optimum moisture content for maximum compaction and compacted to full width by compaction equipment conforming to the requirements of Subsections 103f, 103g, 103h, and 103i. Minimum compaction shall be 6 passes over each full-width layer, or fraction thereof.

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.

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 27
GRADATION

Sieve Designation	C	**C-1**	D	D-1	E	E-1
1-1/2-inch	100	**100**	-	-	-	-

1-inch	-	-	100	100	-	-
3/4-inch	50-90	**60-90**	-	70-98	100	100
1/2-inch	-	-	-	-	-	70-98
No. 4	25-50	**30-55**	30-60	36-60	40-75	44-70
No. 8	-	**22-43**	-	25-47	-	30-54
No. 30	-	**11-27**	-	12-31	-	15-34
No. 40	5-25	-	5-30	-	5-35	-
No. 200	2-15	**3-15**	3-15	3-15	2-15	3-15

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. 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.

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 of not less than 4 and not more than 12 as determined by AASHTO T 89 and AASHTO T 90.

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 or base course shall be completed and approved in writing, prior to placing crushed rock material, in accordance to the requirements of Subsections 300 and 500 for placing on the roadbed and landings and Subsection 900 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 in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and staked on the ground. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved in writing by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.

1210a - Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification.

1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsections 103f, 103g, 103h, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each 5 stations, or fraction thereof.

EROSION CONTROL - 1700

1701 - This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans.

1704 - The erosion control provisions specified under this Subsection shall be coordinated with the Soil Stabilization requirements of Section 1800.

1705 - The surface area of erodible earth material exposed at any one time by clearing and grubbing shall not exceed 21,780 square feet (0.50 acres) after October 15 without prior approval by the Authorized Officer.

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

1706a - The Purchaser shall perform, during the same construction season, erosion control measures, on all exposed excavation, borrow, and embankment areas.

1707 - Completed and partially completed segments of roads at the following locations:

Road No.	From Sta./M/P.	To Sta./M.P.
Temp Road 17-1	0.00	0.25
Temp Road 29-2	0.00	0.19
Temp Road 31-7	0.00	0.08

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

1708 - Newly constructed roads to be carried over the winter period, shall be water barred and blocked to vehicular traffic.

1708a - Road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway using water bars, maintaining drainage, and performing additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer. Portions of roads not having surface rock in place will be blocked or barricaded to prevent vehicular traffic.

1711 - The Purchaser shall construct catch basins and energy dissipators for pipe culverts (splash pads) conforming to the requirements and details shown on the respective exhibits.

1713 - Where newly constructed logging spur roads join with existing surfaced roads, the Purchaser shall construct a sag in the spur road profile and install a culvert in accordance with the requirements and details as shown on the plans.

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 (Exhibit C-7) of this exhibit, at designated locations as shown in the plans.

2102 - Roadside brushing may be performed mechanically with self-powered, self-propelled equipment and/or manually with hand tools, including chain saws.

2103 - Vegetation cut manually and/or mechanically less than 6 inches in diameter when measured at D.B.H. shall be cut to a maximum height of 1 inch above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 2 inch area will be severed from the trunk.

2103a - Vegetation shall be cut and removed from the road bed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. Limbs below the 1 inch area will be severed from the trunk. Sharp pointed ends will not be permitted. Cuts shall be parallel to the ground line or running surface.

2104 - Trees in excess of 6 inches in diameter at D.B.H. shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of 14 feet above the running surface of the roadway on cut and fill slopes, within the road prism- variable distance. Limbs shall be cut to within 1 inch of the trunk to produce a smooth vertical face. Removal of trees larger than 6 inches in diameter for sight distance or safety may be directed by the Authorized Officer.

2105 - Vegetation that is outside of the road prism-variable distance that protrudes into the road prism and within 14 feet in elevation above the running surface shall be cut, to within 1 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 or chipped downslope from the roadway as indicated on Exhibit C-3 (Estimate of Quantities) and Exhibit C-5 (Road Renovation Worklist). 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.

2110 - Vegetation 6 inches and smaller in diameter shall be chipped where indicated on Exhibit C-3 (Estimate of Quantities) and Exhibit C-5 (Road Renovation Worklist). Chips shall be scattered downslope from the roadway. Vegetation over 6 inches in diameter shall be disposed of by direction of the Authorized Officer.

2114 - Sections of roadway to have vegetation removed will be marked at start and stop points with red-topped painted stakes.

2115 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.

2116 - Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Devices.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 8.0.0.22

Summary of All Roads and Projects Updated: 11/4/2022

T.S. Contract Name: Thom Bone Tract No: 2026.0001 Sale Date: 11/20/2025
Prepared by: Josh R Ph: 2258 Print Date: 10/21/2025 10:55:54 AM
Construction: 0.00 sta
Improve: 0.00 sta Renov: 973.63 sta Decom: 0.00 sta Temp: 26.82 sta

200 Clearing and Grubbing: 4.24 acres $85,128.43

300 Excavation: 2587 cy $54,055.83
Haul < 500 ft: 1112 sta-yds
Haul > 500 ft: 259 yd-mi

400 Drainage: $5,029.64
Culvert: 82.00 lf DownSpout: 20.00 lf
PolyPipe: 0.00 lf

500 Renovation: $65,409.64
Blading 16.23 mi

700-1200 Surfacing: $279,952.16
Commercial Quarry Name: Commercial 3/4- 8,131.00 LCY

1300 Geotextiles: $0.00

1400 Slope Protection: $0.00

1800 Soil Stabilization: 0.00 acres $0.00

1900 Cattleguards: $0.00

2100 RoadSide Brushing: $16,960.22
Mechanical Brushing: 35.43 acres

2300 Engineering: 0.00 sta. $0.00

2400 Minor Concrete: $0.00

2500 Gabions: $0.00

8000 Miscellaneous: $0.00

Mobilization: Const. $6,223.00 Surf. $0.00..... $6,223.00

Quarry Development: $0.00

Total: 5,958 mbf @ $86.062/mbf = $512,758.92

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

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 38-4-17.00 Road Name: Ferris Gulch
Road Renovation: 4.16 mi 17 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$8,028.94
300 Excavation:	$0.00
400 Drainage:	$2,049.12
Culvert: 36.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$12,636.13
Blading 2.52 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):8.19 acres	$3,861.67
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $326.50 Surf. $0.00	$326.50
Quarry Development:	$0.00
Total:	$26,902.35

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

Road Construction Worksheet

Road Number: 38-4-17.00 Road Name: Ferris Gulch

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 4.73 Acre x $1,511.17/Acre = $7,147.83
   RVM Grubbing 0.31 Acre x $2,842.27/Acre = $881.10
Subtotal: $8,028.94

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
  Aluminized MP 1.73 18 inch 16 ga 36 lf x $56.92/lf = $2,049.12
Subtotal: $2,049.12

Section 500 Renovation:
  Blading: $923.61/mi x 2.52 mi = $2,327.50
  Scarification: $1118.88/mi x 2.52 mi = $2,819.58
  Compaction: $415.02/mi x 2.52 mi = $1,045.85
  Clean Culverts: $501.63/mi x 4.16 mi = $2,086.78
  Clearing Ditchline
   Blading Ditches 1.64 MI x $330.72/MI = $542.38
  Water for Compaction
   Watering for Compaction 2.52 Mile x $450.03/Mile = $1,134.08
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 2.52 MIle x $380.60/MIle = $959.11
   Shoulder Repair Grader - 1/2mile/hr 2 passes
    2.52 Mile x $682.88/Mile = $1,720.86
Subtotal: $12,636.13

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 8.19 acres = $3,861.67
Subtotal: $3,861.67

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 5.25% of total Costs = $326.50
Surfacing - 0.00% by rock volume = $0.00

Subtotal: $326.50

Quarry Development:
Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $26,902.35

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 38-4-20.01 Road Name: Ferris North Spur
Road Renovation: 0.79 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$2,009.26
Blading 0.79 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):1.15 acres	$542.24
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $31.35 Surf. $0.00	$31.35
Quarry Development:	$0.00
Total:	$2,582.85

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

Road Construction Worksheet

Road Number: 38-4-20.01 Road Name: Ferris North Spur

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Scarification: $1118.88/mi x 0.79 mi = $883.92
  Blading w/o Ditches: $559.44/mi x 0.79 mi = $441.96
  Compaction: $415.02/mi x 0.79 mi = $327.87
  Water for Compaction
   Watering for Compaction 0.79 Mile x $450.03/Mile = $355.52

Subtotal: $2,009.26

Section 700-1200 Surfacing:
Surfacing:

Subtotal: $0.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:

Subtotal: $0.00

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 1.15 acres = $542.24

Subtotal: $542.24

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.50% of total Costs = $31.35
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $31.35

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$2,582.85

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 38-4-29.00 Road Name: Ferris Ridge
Road Renovation: 2.53 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.00 acres	$13,324.46
300 Excavation:	$0.00
400 Drainage:	$2,618.32
Culvert: 46.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$9,376.64
Blading 2.53 mi	
700-1200 Surfacing:	$174,723.24
Quarry Name: Commercial 3/4- 5,248.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):4.91 acres	$2,315.11
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $2,486.05 Surf. $0.00	$2,486.05
Quarry Development:	$0.00
Total:	$204,843.82

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

Road Construction Worksheet

Road Number: 38-4-29.00 Road Name: Ferris Ridge

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 7.67 Acre x $1,511.17/Acre = $11,590.67
   RVM Grubbing 0.61 Acre x $2,842.27/Acre = $1,733.78
Subtotal: $13,324.46

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
  Aluminized Mp 0.04 18 inch 16 ga 46 lf x $56.92/lf = $2,618.32
Subtotal: $2,618.32

Section 500 Renovation:
 Comment: 3
  Scarification: $1118.88/mi x 2.53 mi = $2,830.77
  Blading w/o Ditches: $559.44/mi x 2.53 mi = $1,415.38
  Compaction: $415.02/mi x 2.53 mi = $1,050.00
  Clean Culverts (ea): $83.77/ea x 3 ea = $251.31
  Water for Compaction
   Watering for Compaction 2.53 Mile x $450.03/Mile = $1,138.58
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 2.53 MIle x $380.60/MIle = $962.92
   Shoulder Repair Grader - 1/2mile/hr 2 passes
    2.53 Mile x $682.88/Mile = $1,727.69
Subtotal: $9,376.64

Section 700-1200 Surfacing:

Commercial Quarry Name: Commercial 3/4-

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
2.53mi	14ft	15ft	6in	10%					

  Rock Volume = 5,248.00 LCY
  Purchase Price / Royalty: $18.00/LCY x 5,248.00 LCY = $94,464.00
  Processing: $1.20/LCY x 5,248.00 LCY = $6,297.60
  Compaction: $1.38/LCY x 5,248.00 LCY = $7,242.24
  Grid Rolling: $3.02/LCY x 5,248.00 LCY = $15,848.96
  Basic Rock Haul cost: $0.81/LCY x 5,248.00 LCY = $4,250.88
  Rock Haul -15% grades: $1.21/LCY-mi x 5,248.00 LCY x 2.91 mi= $18,478.73
  Rock Haul St& Co Roads: $0.54/LCY-mi x 5,248.00 LCY x 9.93 mi= $28,140.83
Subtotal:$174,723.24

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 4.91 acres = $2,315.11
Subtotal: $2,315.11

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 39.95% of total Costs = $2,486.05
  Surfacing - 64.54% by rock volume = $0.00

Subtotal: $2,486.05

Quarry Development:
  Based on 64.54% of total rock volume

Subtotal: $0.00

Total: $204,843.82

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-4-06.00 Road Name: Star Mine
Road Renovation: 1.39 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 1.17 acres	$10,908.92
300 Excavation: Standard cy	$20,505.08
Haul < 500 ft: 1,112.00 sta-yds	
Haul > 500 ft: 259.00 yd-mi	
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$4,948.40
Blading 1.39 mi	
700-1200 Surfacing:	$105,228.92
Quarry Name: Commercial 3/4- 2,883.00 LCY	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):2.35 acres	$1,108.05
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $1,753.12 Surf. $0.00	$1,753.12
Quarry Development:	$0.00
Total:	$144,452.50

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

Road Construction Worksheet

Road Number: 39-4-06.00 Road Name: Star Mine

Section 200 Clearing and Grubbing:
Clearing - Medium (Clearing): Adjustment Factor (1.67)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
20-40' (Avg Clearing Widths): Adjustment Factor (0.1)
Total Adjustment Factor:1.67 + 0.2 + 1.28 + 0.1 = 3.25
Base Cost/Acre: $1,198.05 x Adjustment Factor: 3.25 x Total Acres: 1.17 = $4,555.59
RVM
RVM Clearing 3.64 Acre x $1,511.17/Acre = $5,500.66
RVM Grubbing 0.30 Acre x $2,842.27/Acre = $852.68
Subtotal: $10,908.92

Section 300 Excavation:
Excavation - Common: $2.66/cy x 2,587.00 cy = $6,881.42
Embankment Placement & Compaction 306.f - Common: $0.39/cy x 2,587.00 cy = $1,008.93
Subgrade Compaction: 4 Sta/hr $34.59/sta. x 10.2 sta = $351.09
Slope Rounding: $0.40/lf x 1,015.00 lf = $406.00
Embankment Placement & Compaction 306.a - Common: $1.16/cy x 2,521.00 cy = $2,924.36
End Hauling - 100 to 500 ft: $0.21/sta-yd x 1,112.00 sta-yd = $233.52
End Hauling > 500 ft and 10 mph: $2.44/yd-mi x 259.00 yd-mi = $631.96
End Hauling > 500 ft - Fixed Cost (CY): $3.44/cy x 2,300.00 cy = $7,912.00
Blading without ditch: $15.35/station x 10.15 stations = $155.80
Subtotal: $20,505.08

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Scarification: $1118.88/mi x 1.39 mi = $1,555.24
Blading w/o Ditches: $559.44/mi x 1.39 mi = $777.62
Compaction: $415.02/mi x 1.39 mi = $576.88
Clean Culverts (ea): $83.77/ea x 1 ea = $83.77
Water for Compaction
Watering for Compaction 1.39 Mile x $450.03/Mile = $625.54
Road Ditch-Shoulder Repair
Shoulder Repair Backhoe - 1/4mile/hr 1.25 MIle x $380.60/MIle = $475.75
Shoulder Repair Grader - 1/2mile/hr 2 passes
1.25 Mile x $682.88/Mile = $853.60
Subtotal: $4,948.40

Section 700-1200 Surfacing:

Commercial Quarry Name: Commercial 3/4-

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
1.39mi	14ft	15ft	6in	10%					

Rock Volume = 2,883.00 LCY
Purchase Price / Royalty: $18.00/LCY x 2,883.00 LCY = $51,894.00
Processing: $1.20/LCY x 2,883.00 LCY = $3,459.60
Compaction: $1.38/LCY x 2,883.00 LCY = $3,978.54
Grid Rolling: $3.02/LCY x 2,883.00 LCY = $8,706.66
Basic Rock Haul cost: $0.81/LCY x 2,883.00 LCY = $2,335.23
Rock Haul -15% grades: $1.21/LCY-mi x 2,883.00 LCY x 5.56 mi= $19,395.67
Rock Haul St& Co Roads: $0.54/LCY-mi x 2,883.00 LCY x 9.93 mi= $15,459.22
Subtotal:$105,228.92

Section 1300 Geotextiles:
Subtotal: $0.00

Road Number: 39-4-06.00 Star Mine Continued

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:

Subtotal: $0.00

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 2.35 acres = $1,108.05

Subtotal: $1,108.05

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 28.17% of total Costs = $1,753.12
  Surfacing - 35.46% by rock volume = $0.00

Subtotal: $1,753.12

Quarry Development:
  Based on 35.46% of total rock volume

Subtotal: $0.00

Total: $144,452.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-4-17.00 Road Name: Ridge Saddle Spur
Road Renovation: 0.39 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.00 acres	$2,038.98
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$1,406.67
Blading 0.39 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.76 acres	$358.35
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $46.73 Surf. $0.00	$46.73
Quarry Development:	$0.00
Total:	$3,850.74

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

Road Construction Worksheet

Road Number: 39-4-17.00 Road Name: Ridge Saddle Spur

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 1.18 Acre x $1,511.17/Acre = $1,783.18
   RVM Grubbing 0.09 Acre x $2,842.27/Acre = $255.80
Subtotal: $2,038.98

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
  Scarification: $1118.88/mi x 0.39 mi = $436.36
  Blading w/o Ditches: $559.44/mi x 0.39 mi = $218.18
  Compaction: $415.02/mi x 0.39 mi = $161.86
  Water for Compaction
   Watering for Compaction 0.39 Mile x $450.03/Mile = $175.51
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 0.39 MIle x $380.60/MIle = $148.43
   Shoulder Repair Grader - 1/2mile/hr 2 passes
0.39 Mile x $682.88/Mile = $266.32
Subtotal: $1,406.67

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 0.76 acres = $358.35
Subtotal: $358.35

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Road Number: 39-4-17.00 Ridge Saddle Spur Continued

Mobilization:
  Construction - 0.75% of total Costs = $46.73
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $46.73

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $3,850.74

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-4-19.01 Road Name: Lower Nine Mile P
Road Renovation: 4.81 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$28,879.34
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$19,747.21
Blading 4.81 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):10.49 acres	$4,946.14
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $658.16 Surf. $0.00	$658.16
Quarry Development:	$0.00
Total:	$54,230.86

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

Road Construction Worksheet

Road Number: 39-4-19.01 Road Name: Lower Nine Mile P

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 16.91 Acre x $1,511.17/Acre = $25,553.88
   RVM Grubbing 1.17 Acre x $2,842.27/Acre = $3,325.46
Subtotal: $28,879.34

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
  Blading: $923.61/mi x 2.77 mi = $2,558.40
  Scarification: $1118.88/mi x 4.81 mi = $5,381.81
  Blading w/o Ditches: $559.44/mi x 2.04 mi = $1,141.26
  Compaction: $415.02/mi x 4.81 mi = $1,996.25
  Clean Culverts: $501.63/mi x 2.77 mi = $1,389.52
  Water for Compaction
   Watering for Compaction 4.81 Mile x $450.03/Mile = $2,164.64
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 4.81 MIle x $380.60/MIle = $1,830.69
   Shoulder Repair Grader - 1/2mile/hr 2 passes
                                        4.81 Mile x $682.88/Mile = $3,284.65
Subtotal: $19,747.21

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 10.49 acres = $4,946.14
Subtotal: $4,946.14

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:

Road Number: 39-4-19.01 Lower Nine Mile P Continued

Subtotal: $0.00

Mobilization:
  Construction - 10.58% of total Costs = $658.16
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $658.16

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $54,230.86

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-5-01.00 Road Name: Thompson Ridge
Road Renovation: 1.97 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$5,366.77
300 Excavation:	$0.00
400 Drainage:	$181.10
Culvert: 0.00 lf	
DownSpout: 10.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$8,811.12
Blading 1.97 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):3.94 acres	$1,857.75
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $199.23 Surf. $0.00	$199.23
Quarry Development:	$0.00
Total:	$16,415.97

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

Road Construction Worksheet

Road Number: 39-5-01.00 Road Name: Thompson Ridge

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 3.10 Acre x $1,511.17/Acre = $4,684.63
   RVM Grubbing 0.24 Acre x $2,842.27/Acre = $682.14
Subtotal: $5,366.77

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
  Half Round MP 0.30 18 inch 10 lf x $18.11/lf = $181.10
Subtotal: $181.10

Section 500 Renovation:
  Blading: $923.61/mi x 1.97 mi = $1,819.51
  Scarification: $1118.88/mi x 1.97 mi = $2,204.19
  Compaction: $415.02/mi x 1.97 mi = $817.59
  Clean Culverts: $501.63/mi x 1.97 mi = $988.21
  Water for Compaction
   Watering for Compaction 1.97 Mile x $450.03/Mile = $886.56
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 1.97 MIle x $380.60/MIle = $749.78
   Shoulder Repair Grader - 1/2mile/hr 2 passes
    1.97 Mile x $682.88/Mile = $1,345.27
Subtotal: $8,811.12

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 3.94 acres = $1,857.75
Subtotal: $1,857.75

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 3.20% of total Costs = $199.23
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $199.23

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $16,415.97

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-5-01.01 Road Name: Panther Gulch A Spur
Road Renovation: 0.28 mi 14 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$750.18
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$1,252.34
Blading 0.28 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.56 acres	$264.05
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $27.85 Surf. $0.00	$27.85
Quarry Development:	$0.00
Total:	$2,294.42

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

Road Construction Worksheet

Road Number: 39-5-01.01 Road Name: Panther Gulch A Spur

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 0.44 Acre x $1,511.17/Acre = $664.91
   RVM Grubbing 0.03 Acre x $2,842.27/Acre = $85.27
Subtotal: $750.18

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
  Blading: $923.61/mi x 0.28 mi = $258.61
  Scarification: $1118.88/mi x 0.28 mi = $313.29
  Compaction: $415.02/mi x 0.28 mi = $116.21
  Clean Culverts: $501.63/mi x 0.28 mi = $140.46
  Water for Compaction
   Watering for Compaction 0.28 Mile x $450.03/Mile = $126.01
  Road Ditch-Shoulder Repair
   Shoulder Repair Backhoe - 1/4mile/hr 0.28 MIle x $380.60/MIle = $106.57
   Shoulder Repair Grader - 1/2mile/hr 2 passes
0.28 Mile x $682.88/Mile = $191.21
Subtotal: $1,252.34

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 0.56 acres = $264.05
Subtotal: $264.05

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Road Number: 39-5-01.01 Panther Gulch A Spur Continued

Mobilization:
  Construction - 0.45% of total Costs = $27.85
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $27.85

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $2,294.42

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-5-02.00 Road Name: Panther Gulch
Road Renovation: 0.93 mi 16 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$181.10
Culvert: 0.00 lf	
DownSpout: 10.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$3,170.53
Blading 0.93 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):1.35 acres	$636.54
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $49.00 Surf. $0.00	$49.00
Quarry Development:	$0.00
Total:	$4,037.16

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

Road Construction Worksheet

Road Number: 39-5-02.00 Road Name: Panther Gulch

Section 200 Clearing and Grubbing:
Subtotal: $0.00

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Half Round MP 0.70 18 inch 10 lf x $18.11/lf = $181.10
Subtotal: $181.10

Section 500 Renovation:
Blading: $923.61/mi x 0.93 mi = $858.96
Scarification: $1118.88/mi x 0.93 mi = $1,040.56
Compaction: $415.02/mi x 0.93 mi = $385.97
Clean Culverts: $501.63/mi x 0.93 mi = $466.52
Water for Compaction
Watering for Compaction 0.93 Mile x $450.03/Mile = $418.53
Subtotal: $3,170.53

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
RoadSide Brushing Medium: $471.51/acre x 1.35 acres = $636.54
Subtotal: $636.54

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Mobilization:
Construction - 0.79% of total Costs = $49.00
Surfacing - 0.00% by rock volume = $0.00
Subtotal: $49.00

Road Number: 39-5-02.00 Panther Gulch Continued

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$4,037.16

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: 39-5-24.00 Road Name: Ninemile
Road Renovation: 0.57 mi 18 ft Subgrade 3 ft ditch

200 Clearing and Grubbing: 0.00 acres	$1,045.21
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$474.44
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.83 acres	$391.35
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $23.48 Surf. $0.00	$23.48
Quarry Development:	$0.00
Total:	$1,934.48

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

Road Construction Worksheet

Road Number: 39-5-24.00 Road Name: Ninemile

Section 200 Clearing and Grubbing:
  RVM
   RVM Clearing 0.56 Acre x $1,511.17/Acre = $846.26
   RVM Grubbing 0.07 Acre x $2,842.27/Acre = $198.96
Subtotal: $1,045.21

Section 300 Excavation:
Subtotal: $0.00

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
  Clean Culverts: $501.63/mi x 0.57 mi = $285.93
  Cleaning Ditches
   Blading Ditches 0.57 MI x $330.72/MI = $188.51
Subtotal: $474.44

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Medium: $471.51/acre x 0.83 acres = $391.35
Subtotal: $391.35

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Mobilization:
  Construction - 0.38% of total Costs = $23.48
  Surfacing - 0.00% by rock volume = $0.00
Subtotal: $23.48

Quarry Development:

Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$1,934.48

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: NS 38-4-31.01 Road Name: Non-System
Road Renovation: 0.62 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.00 acres	$0.00
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$1,576.89
Blading 0.62 mi	
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (Mechanical):0.90 acres	$678.98
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $27.71 Surf. $0.00	$27.71
Quarry Development:	$0.00
Total:	$2,283.58

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

Road Construction Worksheet

Road Number: NS 38-4-31.01 Road Name: Non-System

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Scarification: $1118.88/mi x 0.62 mi = $693.71
  Blading w/o Ditches: $559.44/mi x 0.62 mi = $346.85
  Compaction: $415.02/mi x 0.62 mi = $257.31
  Water for Compaction
   Watering for Compaction 0.62 Mile x $450.03/Mile = $279.02

Subtotal: $1,576.89

Section 700-1200 Surfacing:
Surfacing:

Subtotal: $0.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:

Subtotal: $0.00

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Mechanical Brushing
  RoadSide Brushing Heavy: $754.42/acre x 0.90 acres = $678.98

Subtotal: $678.98

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.45% of total Costs = $27.71
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $27.71

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$2,283.58

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: TR17-1 Road Name: Temporary Spur
Temporary Road: 0.25 mi 14 ft Subgrade ft ditch

200 Clearing and Grubbing: 1.54 acres	$7,416.89
300 Excavation:	$16,837.92
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $297.98 Surf. $0.00	$297.98
Quarry Development:	$0.00
Total:	$24,552.79

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

Road Construction Worksheet

Road Number: TR17-1 Road Name: Temporary Spur

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
greater than 40' (Avg Clearing Widths): Adjustment Factor (0)
Total Adjustment Factor:2.54 + 0.2 + 1.28 + 0 = 4.02
Base Cost/Acre: $1,198.05 x Adjustment Factor: 4.02 x Total Acres: 1.54 = $7,416.89
Subtotal: $7,416.89

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $34.59/sta. x 13.5 sta = $465.58
Slope Rounding: $0.40/lf x 1,346.00 lf = $538.40
Blading without ditch: $15.35/station x 13.46 stations = $206.61
Temp Road Construction
Excavation 30-40 percent Slopes 13.46 ST x $1,161.02/ST = $15,627.33
Subtotal: $16,837.92

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Subtotal: $0.00

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Mobilization:
Construction - 4.79% of total Costs = $297.98
Surfacing - 0.00% by rock volume = $0.00

Subtotal:	$297.98

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$24,552.79

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: TR29-2 Road Name: Temporary Spur
Temporary Road: 0.19 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 1.13 acres	$5,442.26
300 Excavation:	$12,309.45
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $218.09 Surf. $0.00	$218.09
Quarry Development:	$0.00
Total:	$17,969.80

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

Road Construction Worksheet

Road Number: TR29-2 Road Name: Temporary Spur

Section 200 Clearing and Grubbing:
Clearing - Heavy (Clearing): Adjustment Factor (2.54)
31-45% (Avg Side Slopes): Adjustment Factor (0.2)
Pile and Burn (Slash): Adjustment Factor (1.28)
greater than 40' (Avg Clearing Widths): Adjustment Factor (0)
Total Adjustment Factor:2.54 + 0.2 + 1.28 + 0 = 4.02
Base Cost/Acre: $1,198.05 x Adjustment Factor: 4.02 x Total Acres: 1.13 = $5,442.26
Subtotal: $5,442.26

Section 300 Excavation:
Subgrade Compaction: 4 Sta/hr $34.59/sta. x 9.8 sta = $340.37
Slope Rounding: $0.40/lf x 984.00 lf = $393.60
Blading without ditch: $15.35/station x 9.84 stations = $151.04
Temp Road Construction
Excavation 30-40 percent Slopes 9.84 ST x $1,161.02/ST = $11,424.44
Subtotal: $12,309.45

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Subtotal: $0.00

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Mobilization:
Construction - 3.50% of total Costs = $218.09
Surfacing - 0.00% by rock volume = $0.00

Subtotal: $218.09

Quarry Development:
Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $17,969.80

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Thom Bone Sale Date: 11/20/2025
Road Number: TR31-7 Road Name: Temporary Spur
Temporary Road: 0.07 mi 14 ft Subgrade 0 ft ditch

200 Clearing and Grubbing: 0.40 acres	$1,926.46
300 Excavation:	$4,403.38
400 Drainage:	$0.00
Culvert: 0.00 lf	
DownSpout: 0.00 lf	
PolyPipe: 0.00 lf	
500 Renovation:	$0.00
700-1200 Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.00 acres	$0.00
1900 Cattleguards:	$0.00
2100 RoadSide Brushing (NONE):0.00 acres	$0.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $77.76 Surf. $0.00	$77.76
Quarry Development:	$0.00
Total:	$6,407.61

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

Road Construction Worksheet

Road Number: TR31-7 Road Name: Temporary Spur

Section 200 Clearing and Grubbing:
   Clearing - Heavy (Clearing): Adjustment Factor (2.54)
   31-45% (Avg Side Slopes): Adjustment Factor (0.2)
   Pile and Burn (Slash): Adjustment Factor (1.28)
   greater than 40' (Avg Clearing Widths): Adjustment Factor (0)
   Total Adjustment Factor:2.54 + 0.2 + 1.28 + 0 = 4.02
   Base Cost/Acre: $1,198.05 x Adjustment Factor: 4.02 x Total Acres: 0.40 = $1,926.46
Subtotal: $1,926.46

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $34.59/sta. x 3.5 sta = $121.76
  Slope Rounding: $0.40/lf x 352.00 lf = $140.80
  Blading without ditch: $15.35/station x 3.52 stations = $54.03
  Temp Road Construction
   Excavation 30-40 percent Slopes 3.52 ST x $1,161.02/ST = $4,086.79
Subtotal: $4,403.38

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

Section 700-1200 Surfacing:
Surfacing:
Subtotal: $0.00

Section 1300 Geotextiles:
Subtotal: $0.00

Section 1400 Slope Protection:
Subtotal: $0.00

Section 1800 Soil Stabilization:
Subtotal: $0.00

Section 1900 Cattleguards:
Subtotal: $0.00

Section 2100 Roadside Brushing:
Subtotal: $0.00

Section 2300 Engineering:
Subtotal: $0.00

Section 2400 Minor Concrete:
Subtotal: $0.00

Section 2500 Gabions:
Subtotal: $0.00

Section 8000 Miscellaneous:
Subtotal: $0.00

Mobilization:
  Construction - 1.25% of total Costs = $77.76
  Surfacing - 0.00% by rock volume = $0.00

Subtotal:	$77.76

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal:	$0.00
Total:	$6,407.61

Sale: Thom Bone
Sale Date: 11/20/2025
Prep. By : Josh R
Tract No: 2026.0001

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

1.1) Road Use - Amortization: $0.00/5958 MBF = $0/MBF

Road Maintenance Obligation:

(2.1) BLM Maintenance		$4,106.70
(2.2) BLM Rockwear	$0.00	
(5.1) Purchaser Maintenance Rockwear	$8,996.35	
Total Rockwear Payable to BLM		$8,996.35
(3.1) 3rd Party Maintenance		$0.00
(3.2) 3rd Party Rockwear		$0.00
(4.1) Other Maintenance Payments		$0.00
Total Maintenance Fee Obligation (2.1-5.1)		$13,103.05

Purchaser Maintenance Allowances:

(5.2A) Move In	$2,138.00
(5.2B) Culverts, Catch Basins, Downspouts	$4,583.89
(5.2C) Grading, Ditching	$24,899.09
(5.2D) Slide Removal and Slump Repair	$0.00
(5.2E) Dust Palliative (Water)	$0.00
(5.2F) Surface Repair (Aggregate)	104,312.87
(5.2G) Other	$0.00
Total Purchaser Maintenance Allowances (5.2A-5.2G)	135,933.85

(2.1-5.2G) Cost ($13,103.05 + 135,933.85) = $149,036.90
Cost/MBF 149036.90 / 5958 MBF = $25.01/MBF

(5.2H) Decommissioning	$24,841.06

(5.2H) Cost/MBF $24,841.06/5958 MBF = $4.17/MBF

(2.1-5.2H) Cost ($13,103.05 + $135,933.85 + $24,841.06) = $173,877.96

Total Cost/MBF (Excluding Road Use) $173,877.96/5958 MBF = $29.18/MBF

1) Road Use Fees - Amortization

Details

R/W Number	Road Number	Rd Use Fee x	Vol MBF =	Road Use Obligation

Subtotal by agreement number

(1.1) Subtotal $0.00

2) BLM Maintenance - Timber Haul

		MAINTENANCE (2.1)				ROCKWEAR (2.2)			
Road Number and Segment	A N	Surf Type	Maint Mi	x Fee x	Vol MBF =	Maint	Fee x	MBF =	Rkwear
38-4-17.00	A	BST	1.07	0.82	286	$250.94	0.00	286	$0.00
38-4-17.00	A	BST	1.64	0.82	2094	$2,816.01	0.00	2094	$0.00
39-5-24.00	A	BST	0.29	0.82	176	$41.85	0.00	176	$0.00
39-5-24.00	A	BST	0.57	0.82	2135	$997.90	0.00	2135	$0.00

(2.1) Subtotal $4,106.70 (2.2) Subtotal $0.00

3) Third Party Maintenance and Rockwear

			MAINTENANCE (3.1)						ROCKWEAR (3.2)			
Agrmnt Number	Surface Type	Road Number	Mi	x	Fee	x MBF =		Maint	Fee x	MBF =	Rkwear
Subtotal of maintenance fees by agreement number:											
Subtotal of rockwear fees by agreement number:											

(3.1) Subtotal $0.00

(3.2) Subtotal $0.00

4) Other Maintenance Payments - USFS or Others Perform Maintenance

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

(4.1) Subtotal $0.00

5) Purchaser Maintenance - Rock Wear

TIMBER HAUL (5.1)

Road No and Segment	A N	Mi	x	RkWear Fee	x	Vol MBF =	Total RkWear
38-4-17.00	A	1.26	x	$0.85	x	642 =	$687.58
38-4-17.00	A	2.45	x	$0.85	x	124 =	$258.23
38-4-20.01	A	0.79	x	$0.00	x	181 =	$0.00
38-4-29.00	A	0.38	x	$0.85	x	181 =	$58.46
38-4-29.00	A	0.82	x	$0.85	x	143 =	$99.67
38-4-29.00	A	1.27	x	$0.85	x	175 =	$188.91
38-4-29.00	A	1.59	x	$0.85	x	601 =	$812.25
38-4-29.00	A	2.10	x	$0.85	x	229 =	$408.77
39-4-6.00	A	0.70	x	$0.85	x	3 =	$1.79
39-4-6.00	A	1.39	x	$0.85	x	276 =	$326.09
39-4-17.00	A	0.20	x	$0.00	x	2 =	$0.00
39-4-17.00	A	0.39	x	$0.00	x	725 =	$0.00
39-4-19.01	A	1.39	x	$0.85	x	895 =	$1,057.44
39-4-19.01	A	2.77	x	$0.85	x	1240 =	$2,919.58
39-4-19.01	A	0.35	x	$0.00	x	246 =	$0.00

39-4-19.01	A	1.02 x $0.00 x 9 =	$0.00
39-4-19.01	A	1.79 x $0.00 x 145 =	$0.00
39-5-1.00	A	0.80 x $0.85 x 418 =	$284.24
39-5-1.00	A	1.27 x $0.85 x 279 =	$301.18
39-5-1.00	A	1.60 x $0.85 x 315 =	$428.40
39-5-1.01	A	0.14 x $0.85 x 64 =	$7.62
39-5-1.01	A	0.28 x $0.85 x 1011 =	$240.62
39-5-2.00	A	0.40 x $0.85 x 191 =	$64.94
39-5-2.00	A	0.93 x $0.85 x 1076 =	$850.58
NS 38-4-31.01	A	0.28 x $0.00 x 315 =	$0.00

(5.1) Subtotal $8,996.35

Purchaser Operational Maintenance

Move In

Equipment	No Move Units	x	Cost/ in	x	Dist 50 Mi	x	Sub- Factor	=	total
Motor Grader:	1	x	2	x	536	x	1.00	=	$1,072.00
Back Hoe:	1	x	1	x	399	x	1.00	=	$399.00
Loader:		x		x	536	x	0.63	=	$0.00
Water Truck:	1	x	1	x	131	x	1.00	=	$131.00
Dump Truck:		x		x	124	x	0.63	=	$0.00
Excavator:		x		x	536	x	0.63	=	$0.00
Roller:	1	x	1	x	536	x	1.00	=	$536.00

(5.2A) Total $2,138.00

Culvert Maintenance - Including Catch basins and Downpipes

Miles	x	Cost/Mi	=	Subtotal
8.47		$501.63		$4,248.81

Type CMP	No CMPS	x	Cost/CMP	=	Subtotal
Minor Cleaning	4		$83.77		$335.08

(5.2B) Total $4,583.89

Grading (Includes Ditches and Shoulders)

Miles	x	Cost/Mi	x	Freq	=	Subtotal
Blade w/ Ditch:	8.47		923.61		2	$15,645.95
Blade w/o Ditch:	8.27		559.44		2	$9,253.14

(5.2C) Total $24,899.09

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

Type Equipment	No Slides /Slumps	x	Hours Each	x	Equip Cost	=	Subtotal
Grader:	0	x	0	x	$184.36	=	$0.00
Loader:	0	x	0	x	$114.30	=	$0.00
Backhoe:	0	x	0	x	$108.79	=	$0.00

(5.2D) Total $0.00

Dust Palliative (Water)

Spreading Hours

	No		Freq		Truck

Miles	/	MPH	=	Hours	x	Days	x	/Day	=	Hours
0.00		0				0		0		0

Load & Haul =		0.0	0	0	0
Total Hours =		0			

Truck Cost: $109.35/Hr. x 0.0 Hours = $0.00

(5.2E) Total $0.00

Surface Repair (Aggregate)

Quarry / Source Name:	Commercial 3/4 minus					
Production Cost:	4730.0 CY x $0.00/CY				=	$0.00
Haul to Stockpile:						
Grades > 15%	4730.0 CY x (($2.43/CY x	0.00 Mi)	+ $0.81)		=	$0.00
Grades <= 15%	4730.0 CY x (($1.21/CY x	0.00 Mi)	+ $0.81)		=	$0.00
State / Co Roads	4730.0 CY x (($0.54/CY x	0.00 Mi)	+ $0.81)		=	$0.00
Process with Grader:	4730.0 CY x $1.20/CY				=	$5,676.00
Compaction:	4730.0 CY x $1.38/CY				=	$6,527.40
				SubTotal		$12,203.40

Quarry / Source Name:	Commercial 3/4"					
Production Cost:	4540.0 CY x $0.00/CY				=	$0.00
Haul to Stockpile:						
Grades > 15%	4540.0 CY x (($2.43/CY x	0.00 Mi)	+ $0.81)		=	$0.00
Grades <= 15%	4540.0 CY x (($1.21/CY x	2.00 Mi)	+ $0.81)		=	14,664.20
State / Co Roads	4540.0 CY x (($0.54/CY x	6.00 Mi)	+ $0.81)		=	18,387.00
				SubTotal		$33,051.20

Quarry / Source Name:	Commercial 3/4-					
Production Cost:	1900.0 CY x $18.00/CY				=	34,200.00
Haul to Stockpile:						
Grades > 15%	1900.0 CY x (($2.43/CY x	0.00 Mi)	+ $0.81)		=	$0.00
Grades <= 15%	1900.0 CY x (($1.21/CY x	2.91 Mi)	+ $0.81)		=	$8,229.09
State / Co Roads	1900.0 CY x (($0.54/CY x	9.93 Mi)	+ $0.81)		=	11,727.18
Process with Grader:	1900.0 CY x $1.20/CY				=	$2,280.00
Compaction:	1900.0 CY x $1.38/CY				=	$2,622.00
				SubTotal		$59,058.27

(5.2F) Total $104,312.87

Other

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

(5.2G) Total $0.00

Decommissioning

Ripping

Road Number	Ripping Cost	x	(NumSta or CuYds)	= Total
TR17-1	48.33	x	13.46	= $650.52
TR29-2	48.33	x	9.84	= $475.57
TR31-7	48.33	x	352	= $17,012.16

(Ripping) Total $18,138.25

Other Costs

Road Number	Cubic Yds Pullback Material		Qty Waterbars		Qty Earthen Barriers	= Total
TR17-1	(0x2.19)	+	(6x86.27)	+	(1x258.81)	= $776.43
TR29-2	(0x2.19)	+	(4x86.27)	+	(1x258.81)	= $603.89
TR31-7	(0x2.19)	+	(1x86.27)	+	(1x258.81)	= $345.08
38-4-20.01	(0x2.19)	+	(20x86.27)	+	(1x258.81)	= $1,984.21

(Other Cost) Total $3,709.61

Time & Equipment

TR17-1 Camoflauge Entrance: 1 EA @ $142.79/EA =$142.79
TR17-1 Soil Stabilization - Seed w/ Mulch: 846.48 AC @ $1.50/AC =$1,269.72
TR29-2 Camoflauge Entrance: 1 EA @ $142.79/EA =$142.79
TR29-2 Soil Stabilization - Seed w/ Mulch: 1.13 AC @ $846.48/AC =$956.52
TR31-7 Camoflauge Entrance: 1 EA @ $142.79/EA =$142.79
TR31-7 Soil Stabilization - Seed w/ Mulch: 0.4 AC @ $846.48/AC =$338.59
(5.2H) Decommissioning Total $24,841.06