

**SCALE SALE
PROSPECTUS**

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
LAKEVIEW DISTRICT
KLAMATH FALLS FIELD OFFICE

KLAMATH FALLS FIELD OFFICE
KLAMATH MASTER UNIT

Klamath Falls Sale No. ORL04-TS24-01
Sale Date: **September 18, 2024 (10:00am)**

Shady Grail Timber Sale,
Klamath County, O&C

Bid Deposit Required: **\$24,000**

All timber designated for cutting in All of Sec. 11. N ½ SW ¼ Sec. 12. NE ¼, N ½ NW ¼, SE ¼ NW ¼, N ½ SE ¼ Sec. 13; T.39S., R.05E; Willamette Meridian

Approx # of trees	Species	Est Volume MBF 16'	Appraised \$/MBF	Appraised Price
19,430	White Fir	4,301	\$42.00	\$180,642.00
1,786	Shasta Red Fir	744	\$55.00	\$40,920.00
4,421	Ponderosa Pine	292	\$26.90**	\$7,854.80
324	Douglas Fir	62	\$157.40	\$9,758.80
25,961		5,399		\$239,175.60

*Stumpage values have been determined by analytical and market value appraisal methods. Additional information concerning the appraised price is available at the Klamath Falls Field Office (KFFO).

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

A revised Special Provisions has been added to the contract which enables the Contracting Officer to suspend the contract to facilitate protection of certain plant or animal species, and/or to modify or terminate the contract when necessary to: (1) Comply with the Endangered Species Act or to prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or (2) Comply with a court order, or: (3) Protect species which were identified for protection in accordance with management direction established in the ROD and RMP.

CRUISE INFORMATION - SAWLOG INFORMATION – This sale will be offered as a **scale sale**. 311 acres of Section 11 (units 11-3 and 11-4) were cruised using a 3-P sampling method. Sample trees are numbered and flagged in pink, sample tree location map available upon request.

94 acres in Section 11 (units 11-1 and 11-2) and 148 acres in Section 13 (Units 13-1, 13-2 and 13-3) were cruised using the PCMTRE Variable Plot method, with a 20 BAF prism. Plot centers marked with pink flagging and pin flags. Plot spacing and sampling frequency vary, maps with this information are available upon request.

A combined 11.30% sampling error with a 95% confidence level was achieved. With respect to merchantable trees of all conifer species: the average tree is 16.6 inches DBH; the gross merch log contains 98 bd. ft.; the total gross volume is approximately 7,355 MBF and 73% recovery is expected. (Average WF is 16.9 inches DBH; average WF gross merch log is 101 bd. ft. and 72% recovery).

Note: This timber sale has been cruised, appraised, and advertised based upon Scribner Board Foot Volumes (16 Foot Log). The minimum bid figures shown by species are dollars per thousand board feet (MBF). The minimum bid increment will be \$.10 per MBF.

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

CUTTING AREA & HARVEST PRESCRIPTION -Seven (7) units containing approximately 553 acres of harvest.

Units 11-3 and 11-4 within the Shady Grail Timber Sale are “cut-tree marked”, and all trees besides those marked with green paint are reserved from cutting and removal. Only trees that have been marked with green paint may be cut and removed.

Units 11-1, 11-2, 13-1, 13-2 and 13-3 within the Shady Grail Timber Sale are “leave-tree marked”, and only live, unmarked trees > 8” DBH shall be cut and removed. Leave-trees are marked with orange paint.

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 existing BLM and Green Diamond Resource Company roads.

ROAD MAINTENANCE - The Purchaser will be required to maintain approximately twenty-six (26.68) miles of existing BLM roads. In addition, the Purchaser will be required to pay a maintenance fee of \$45,183.84 to the BLM for the use of these roads. The Purchaser shall comply with the conditions of the Right-of-Way and Road Use Agreement No. L-690 and pay Green Dimond Resource Company a maintenance fee of \$340.66 for use of these roads.

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 ground-based logging equipment when soil moisture content exceeds 20% by weight as determined by a moisture meter. This requirement does not apply if snow logging conditions exist as described in the contract.

EQUIPMENT REQUIREMENTS -

1. Mechanized harvesting equipment capable of cutting up to a 20-inch DBH tree and reaching a minimum of twenty (20) feet laterally.
2. At least one ground-based yarding tractor shall be equipped with an integral arch and winch system capable of lining logs at least one hundred feet (100').

SLASH DISPOSAL-

1. Whole tree yarding or yarding with the tops attached is required on all trees designated for cutting within all harvest units on Exhibit A.
2. Unmerchantable timber (slash, limbs, tops, cull logs, pieces of logs, etc.) can be removed as biomass or other products. If unmerchantable timber is removed as biomass or other nontraditional products, a second contract will be used, and the price of the material will be negotiated.
3. All trees shall be processed to a (3) inch top. Any non-merchantable logs left at the landing shall be decked separately from logging slash.

OTHER-

1. No snow plowing or hauling requiring truck chains shall be conducted on all BST and chip sealed roads. If snow conditions allow for haul without plowing or the use of chains as determined by the contracting officer, hauling will be allowed.
2. Units 11-1 and 11-2 are approximately 1.2 miles beyond a locked gate, contact KFFO to check out a LL2 key if desired.
3. For completing bonding and contract signing requirements, extension of time beyond the normal 30 days may be granted upon written request and justification from the Purchaser.

4. All operations are seasonally restricted from October 15th of one calendar year to May 15th of the following calendar year, unless waived by the Authorized Officer or winter logging conditions exist. Additionally, all operations except hauling are seasonally restricted from March 1st through June 15th in units 11-1 and 11-2.
5. Cut stumps of all species fourteen (14) inches in diameter and larger will be treated with a fungicide. Fungicide shall be applied within 12 hours of cutting. The fungicide will contain a dye to help monitor application compliance.
6. All equipment will be cleaned prior to operating on BLM lands to prevent the spread of noxious weeds.
7. All landing piles and decked cull logs require a machine constructed fire line around the entire pile.
8. This contract includes an additional special provision to ensure the Purchaser understands he/she is required to conduct all operations in compliance with Contract Section 12 (Purchaser's Contractual Responsibilities for Liability) and Contract Section 29 (Safety and Health) and the Special Provisions included in Section 44 of this Contract.
9. Hand falling shall be required for trees greater than twenty (20) inches unless approved by the authorized officer.
10. A revised Special Provision has been added to the contract which enables the Contracting Officer to suspend the contract to facilitate protection of certain plant or animal species, and/or to modify or terminate the contract when necessary to: (1) Comply with the Endangered Species Act or to prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or; (2) Comply with a stay or remedy issued by the Interior Board of Land Appeals or a court order, or; (3) Protect species which were identified for protection in accordance with management direction established in the ROD and RMP.

CONTRACT TERMINATION - A 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 comply with the Endangered Species Act or comply with a court order. 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.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA –

The Shady Grail Timber Sale is located approximately twenty-one (21) miles west of Klamath Falls.

From Klamath Falls, take Highway 66 west for approximately 8.5 miles to Keno and take a right onto Clover Creek Road heading northwest. Drive approximately 10.5 miles on Clover Creek Road to the intersection of Clover Creek Road and Spencer Creek Road (39-6E-5.0). Turn left onto Spencer Creek Road and travel 4 miles to the intersection with Keno Access Road. Turn right onto Keno Access Road and travel west 0.1 miles, turn left onto Miners Creek Road and travel 3.4 miles to the end of the pavement. Continue straight on 39-6E-7.1 0.9 miles on gravel and arrive at unit 13-3. Continue straight for an additional 0.2 miles and turn left onto 13-5E-13.1 to access unit 13-2. From the intersection of 39-6E-7.1 and 13-5E-13.1, travel west 0.2 miles and turn right onto 39-5E-24.0, in 0.4 miles you will enter unit 13-1 and in another 0.3 miles you will enter unit 11-3. In another 0.7 miles you will find a locked green gate on your right (contact KFFO to check out a LL2 key if needed), units 11-1 and 11-2 are 1.1 miles beyond this green gate. From the green gate, travel 0.7 miles downhill on 39-5E-24.0 and turn right onto 40-5E-2.0 and travel 0.2 miles to reach unit 13-4.

ENVIRONMENTAL ASSESSMENT - An environmental assessment was prepared for this sale, and a Finding of No Significant Impact has been documented. This document is available for inspection as background information for this sale at the Klamath Falls Field Office.

Notice of Decision for sale of timber dated August 14th, 2024.

Section 43

(A) 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 the Government:

- (1) **AR-1** All timber on the reserve areas as shown on Exhibit A and all blazed, orange painted, or orange painted and/or posted trees which are on or mark the boundaries of the reserve areas, and all orange painted trees within all units as shown on Exhibit A, and all trees within the scattered reserve area “skips” designated with posters and orange paint on the exterior boundary.
- (2) **IR-2** All timber except trees marked for cutting heretofore by the Government with green paint in Cutting Units 11-3 and 11-4 as shown on Exhibit A.
- (3) **IR-3** All quaking aspen trees in all cutting units shown on Exhibit A.
- (4) **IR-3** All Douglas-fir, sugar pine, western white pine, and ponderosa pine trees which are greater than 36 inches diameter at breast height outside bark (DBHOB) in all cutting units shown on Exhibit A.
- (5) **IR-13** All existing snags, or downed trees of all decay classes in all cutting units shown on Exhibit A which do not present a safety hazard as determined by the Authorized Officer. All existing snags felled and all downed trees shall be retained on site unless approved by the Authorized Officer.
- (6) Summary of Reserved Timber by Unit:

In units 11-1, 11-2, 13-1, 13-2, and 13-3 only unpainted trees that are greater than 8.0 inches DBHOB may be cut and removed.

In Units 11-3 and 11-4 all trees besides those marked with green paint are reserved from cutting and removal. Only trees that have been marked with green paint may be cut and removed.

Section 44

(A) Logging

- (1) **L-1** Before beginning operations on the contract area for the first time or after a shutdown of seven (7) or more days, 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 ensure protection of the environment and watershed. A pre-work conference between the Purchaser's authorized representative and the Authorized Officer 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 trees unless otherwise approved by the Authorized Officer.
- (4) **L-8** In all harvest units as shown on Exhibit A, all trees designated for cutting less than or equal to twenty (20) inches D.B.H.O.B shall be mechanically felled and whole tree yarded except when excessive stand damage occurs as determined by the Authorized Officer. If excessive stand damage occurs, all logs shall be completely limbed and bucked into lengths determined by the authorized officer prior to being yarded. All logging slash shall be removed to the landing concurrently with logging.

In all harvest units as shown on Exhibit A, all trees designated for cutting greater than or equal to twenty decimal one (20.1) inches D.B.H.O.B shall be felled by hand, bucked, and yarded with tops attached except when excessive stand damage occurs as determined by the Authorized Officer. If excessive stand damage occurs, all logs shall be bucked into lengths determined by the authorized officer prior to being yarded. All logging slash shall be removed to the landing concurrently with logging.

- (5) **L-12** In the entire contract area shown on Exhibit A, yarding and felling shall be done in accordance with the yarding requirements or limitations for the designated area as follows.

<u>Designated Area</u>	<u>Yarding Requirements or Limitations</u>
Entire Contract Area	Approval of landing locations and sizes shall be obtained from the Authorized Officer prior to landing construction or use.
Entire Contract Area	Landing size shall not exceed one-quarter (1/4) acre unless otherwise approved by the Authorized Officer.
Entire Contract Area	No tractor or wheel-type equipment shall be operated in or through any stream shown on Exhibit A except under special condition approved in the logging plan.
Entire Contract Area	All log loading shall be done with boom type loaders.
Entire Contract Area	Winter yarding is allowed between October 15 and May 15, when one of the following conditions is present: (a) Snow depth in the cutting unit averages twenty (20) inches or more.
All except Cable Yarding	The location of the skid roads shall be clearly designated on the ground, spaced at approximately 150 foot intervals, and

approved by the Authorized Officer, prior to felling of timber to be yarded over that skid road. Existing skid roads will be utilized where possible.

- All except Cable Yarding Yarding and Mechanical Harvesting shall be confined to periods when soil moisture is less than twenty (20) percent at a six (6) inch depth as measured by the Authorized Officer, or when winter time yarding conditions are met. Yarding and Mechanical Harvesting will be suspended if soil damage is occurring, as determined by the Authorized Officer in accordance with Section 26.
- All except Cable Yarding Yarding equipment shall be operated only on skid roads approved by the Authorized Officer.
- All except Cable Yarding At least one yarding tractor or wheel- type equipment shall be equipped with an integral arch and winch system capable of lining logs at least one hundred (100) feet.
- All except Cable Yarding All trees designated for cutting that cannot be felled with a mechanical harvester shall be felled to the lead of designated skid trails.
- All except Cable Yarding All trees twenty (20) inches DBH and smaller designated for cutting shall be felled and pre-bunched within forty (40) feet of and to the lead of designated skid trails with a mechanical harvester. The mechanical harvester must be capable of cutting up to a twenty (20) inch DBH tree and have an arm capable of reaching at least twenty (20) feet laterally.
- (6) **L-13** In all units shown on Exhibit A, all logs more than 3 inches in diameter at the small end and exceeding 8 feet in length shall be processed and decked at landings, at least twenty (20) feet away from slash piles and within 20 feet of a road, except logs sold and removed from the contract area. Decked logs shall not impede traffic on the roadway and must be decked so as to not block a ditch or disrupt the road prism. Cull logs shall be decked in the same manner.
- (7) **L-19** No harvest activity and hauling shall be conducted on all cutting units and all roads between October 15 of one calendar year and May 15 of the following calendar year both days inclusive. If conditions are met as described in Section 44 [A][5] as determined by the Contracting Officer harvest activity will be allowed.
- (8) **L-19** No snow plowing or hauling requiring truck chains shall be conducted on all BST and chip sealed roads. If snow conditions allow for haul without plowing or the use of chains as determined by the contracting officer, hauling will be allowed.
- (9) **L-19** No harvest activity shall be conducted on units 11-1 and 11-2 from March 1st to June 15th of each year both days inclusive.
- (10) **L-21** Prior to attaching any logging equipment to a reserve tree, the Purchaser shall

obtain written approval from the Contracting Officer and shall take precautions to protect the tree from damage as directed in writing by the Contracting Officer.

- (11) **L-24** Before cutting and removing any trees necessary to facilitate logging in all cutting units shown on Exhibit A, the Purchaser shall identify the location of the skid roads, landings, corridors, 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 with cutting the following conditions must be met:

(a) All skid roads upon which timber is identified by the Purchaser to be cut and removed in accordance with this special provision must be necessary for the safe and expeditious removal of timber sold under this contract and shall be limited to the minimum width necessary for yarding of logs with a minimum of damage to reserve trees, however, unless otherwise approved in writing by the Contracting Officer, the width of each skid road shall be limited to 14 feet.

(b) The Purchaser may immediately cut and remove additional timber to clear skid roads, landings, 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 Section 3.(a). of the contract or sufficient bonding has been provided in accordance with Section 3.(d). 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 Section 9 of the contract; or, the Authorized Officer determines that the species of trees are not listed in Exhibit B of this contract or any tree that exceeds forty (40) inches diameter at breast height shall be appraised and sold by bilateral modification of the contract at current fair market value in accordance with Section 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 Section 8 or Section 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Contracting Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary and appropriate for the Government to safely measure and mark additional timber.

- (11) **L-26** If extensive damage is occurring, as determined by the Authorized Officer, timber designated for cutting shall be felled and yarded in two (2) stages. Falling and yarding of designated timber shall be completed for each stage prior to the felling and yarding of the next stage. Timber in the second (and subsequent) stage shall be felled into and yarded through openings created by prior logging.
- (12) **L-33** Purchaser's operations shall facilitate BLM's safe and practical inspection of Purchaser's operations and BLM's conduct of other official duties on Contract Area. Purchaser has all responsibility for compliance with safety requirements for Purchaser's employees, contractors and subcontractors. In the event that the Authorized Officer identifies a conflict between the requirements of this contract or agreed upon methods of proceeding hereunder and State or Federal safety requirements, the contract may be modified. If the cost of such contract modification is of a substantial nature (\$2,000.00 or more), the Purchaser may request, in writing, an adjustment in the Total Purchase Price specified in Section 2 of the timber sale contract, as amended, to compensate for the changed conditions. Unless otherwise specified in writing, when operations are in progress adjacent to or on roads and/or trails in the harvest unit area, Purchaser shall furnish, install, and maintain all temporary traffic controls that provide the road or trail user with adequate warning of and protection from hazardous or potentially hazardous conditions associated with its operations. Purchaser shall prepare a Traffic Control Plan, which the Purchaser has determined is compliant with state and local OSHA and Transportation standards no later than the pre-work meeting and prior to commencing operations. Traffic control devices shall be appropriate to current operating and/or weather conditions and shall be covered or removed when not needed., Flagmen and devices shall be as specified in state OSHA and Transportation standards for logging roads or the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) published by the U.S. Department of Transportation - Federal Highway Administration. Included in the Traffic Control Plan, Purchaser shall note traffic control device locations on a Purchaser produced copy of the contract Exhibit "A" Map.

(B) Road Use and Maintenance

- (1) **R-1** The Purchaser shall renovate all roads and other structures in strict accordance with the plans and specifications shown on Exhibit C, which is attached hereto and made a part hereof.
- (2) **R-1a** Any required construction or renovation of structures and roads shall be complete and accepted, in accordance with Section 18, **prior to removal of any timber**, except Right-Of- Way timber, over that road.

- (3) **R-2** The Purchaser is authorized to use the roads listed below and shown on Exhibit D which are under the jurisdiction of the Bureau of Land Management for the removal of Government timber sold under the terms of this contract, provided that the Purchaser pay the required maintenance and rockwear obligation described in Section 44 (B) (5). Any road listed on Exhibit D and requiring renovation in Exhibit C of this contract shall be maintained by the Purchaser until receiving written acceptance from the Contracting Officer. The Purchaser shall pay current Bureau of Land Management maintenance and rockwear fees for the sale of additional timber under modification to the contract.

Road No. and Segment	Length Miles Used	Road Ownership / Maintenance Responsibility	Road Surface Type
38-5E-21.1	4.05	BLM / BLM	BST
38-6E-32.0	2.35	BLM / BLM	BST
39-5E-11.0	0.40	BLM / Purchaser	NATURAL
39-5E-11.1	1.07	BLM / Purchaser	ROCK
39-5E-11.2	0.19	BLM / Purchaser	NATURAL
39-5E-11.3	0.44	BLM / Purchaser	NATURAL
39-5E-11.4	0.34	BLM / Purchaser	NATURAL
39-5E-11.6	0.22	BLM / Purchaser	ROCK
39-5E-13.0	1.10	BLM / Purchaser	ROCK
39-5E-13.1	0.49	BLM / Purchaser	NATURAL
39-5E-13.2	0.38	BLM / Purchaser	ROCK
39-5E-24.0	2.11	BLM / Purchaser	ROCK
39-6E-5.0	4.04	BLM / BLM	BST
39-6E-7.1	2.51	BLM / Purchaser	ROCK
39-7E-31.0	0.78	BLM / BLM	BST
40-5E-2.0	6.21	BLM / Purchaser	ROCK

- (4) **R-2a** With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users on roads included in Section 44 (B) (3) of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of their liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. The Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreements entered into with other users on these roads.
- (5) **R-2b** The Purchaser shall pay the Government a road maintenance and or rock wear fee obligation in the amount of **forty-five thousand five hundred twenty-four dollars and 50/100 (\$45,524.50)** for the transportation of timber included in the

contract area over said road or roads. The above road maintenance amount is for the use of twenty-six and 68/100 (26.68) miles of road or less. If the total road maintenance and rockwear does not exceed five hundred dollars and no/100 (\$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 dollars and no/100 (\$500.00), the Authorized Officer shall establish an installment schedule of payments of the maintenance and rockwear obligations.

The purchaser shall pay **three hundred forty and 66/100 (\$340.66)** for the transportation of timber included in the contract area over said roads owned and managed by Green Diamond Resource Property. Purchaser shall execute and abide by a license agreement with Green Diamond and payment will be made in-full prior to any timber hauling.

- (6) **R-2f** The Purchaser shall perform any required road repair and maintenance work on roads used by him under the terms of Exhibit D, "Road Maintenance Specifications", of this contract, which is attached hereto and made a part hereof except for the BST roads which will be maintained by the BLM.

- (7) **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.

- (8) **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 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.

(C) **Environmental Protection**

- (1) **E-1** In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall conduct all operations in a manner that minimizes damage to conifer reproduction and all other reserved trees regardless of size or merchantability.
- (2) **E-1** In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall remove slash and debris from roadways and landings concurrently with yarding as directed by the Authorized Officer.
- (3) **E-1** In addition to the requirements set forth in Section 26 of this contract, the Purchaser shall treat with a fungicide, as prescribed in this section, the stumps of all trees cut in the contract area having a diameter of fourteen (14) inches or larger in the following manner:
 - (a) Each stump shall be treated within 12 hours after cutting.
 - (b) Treatment shall consist of application of fungicide to the entire sawn face of the stump.
 - (c) The fungicide used shall be provided by the Purchaser and approved by the Authorized Officer. The fungicide presently approved for use is Cellu-Treat made by the NISUS Corporation. The fungicide will contain a herbicide dye to help monitor application compliance.
 - (d) Dumping or cleaning of containers in streams or other bodies of water will not be permitted. Containers must be removed from the area and disposed of in conformance with Federal and Oregon State statutes.
- (4) **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 C which is attached hereto and made a part hereof.

- (5) **E-7** In order to prevent the spread of noxious weeds, the Purchaser shall pressure wash all equipment prior to entry onto BLM lands and between sale locations as directed by the Authorized Officer. Cleaning shall be defined as removal of all dirt, grease, plant parts and material that may carry noxious weed seeds. The purchaser shall give the Authorized Officer 24 hour notice before moving equipment onto BLM land.

(D) 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) At least three (3) days prior to the operation of power driven equipment in construction of 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 on the contract area in good working order, and immediately available, the following equipment for use during closed fire season or periods of fire danger: see Exhibit F-1
 - (c) The Purchaser shall restrict operations, and provide the services of a fire watchman, during periods of fire danger as specified in Exhibit F-2 which is attached hereto and made a part hereof.
 - (d) 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.

(E) Slash Disposal and Site Preparation

- (1) **SD-1** **Fire Hazard Reduction** In addition to the requirements of Sec. 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 hazard reduction measure(s) required by this contract:
- (a) **Definitions** - Slash, as defined for this section, shall mean all woody material (brush, limbs, tops, logs, chunks, and severed trees) not removed from the contract area during the primary removal operation. This includes old slash existing prior to timber sale entry. Landing, as defined for this section, shall mean any location where woody material was loaded on trucks and also any other location that became a destination for yarded woody material.
 - (b) **Landing Piling** Pile all slash located within one hundred (100) feet of landings and designated locations for placement of gross yarded material. Slash shall be piled with a grapple/shovel loader. Slash shall not be piled using a blade.

Finished piles shall be tight and free of earth. No portion of any pile will be located under the crown of any live or other reserve trees. A four (4) foot wide, fuel free area shall be cleared around each pile and deck of any yarded material. Unmerchantable logs at landings sixteen (16) inches in diameter and larger at the small end shall be used to block skid trails.

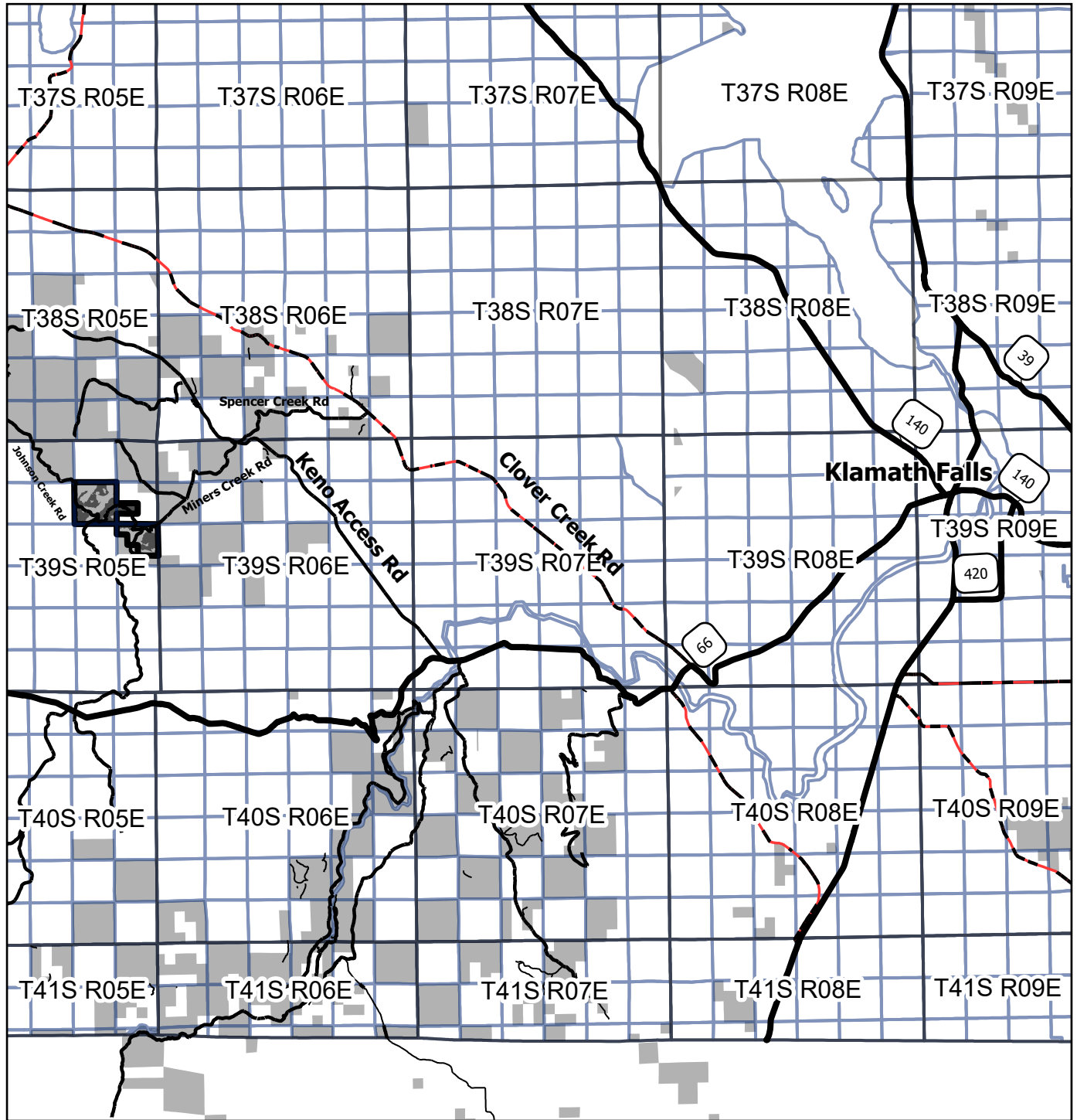
- (c) Upon completion of landing piling, the Purchaser shall prepare the landing piles for burning. If the structure of the landing piles will not permit adequate consumption of piled debris by burning, the Purchaser shall re-pile them at the direction of the Authorized Officer.





Chipping In Lieu Of Burning Slash Piles

- (a). The purchaser may remove and utilize non-sawlog forest products by submitting a written or verbal request to the Government.
- (b). The Government may execute a separate negotiated forest product/vegetative sale permit under 43 CFR 5400. Payment under the permit must be at a price equal to or greater than the appraised value of the forest product.
 - (1) The purchaser must make any appropriate payment specified in the vegetative sale contract before removal may be authorized.
 - (2) This contract will contain a separate expiration date and stipulations as determined by the Authorized Officer.
 - a. The contract must include stipulations that require the purchaser to report quantity of non-sawlog material removed (i.e. tons of biomass).
- (c). If the landing piles are chipped, all burning requirements will be waived.

(F) Equal Opportunity in Employment

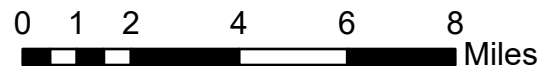
Certification of Nonsegregated Facilities attached hereto and made a part hereof.



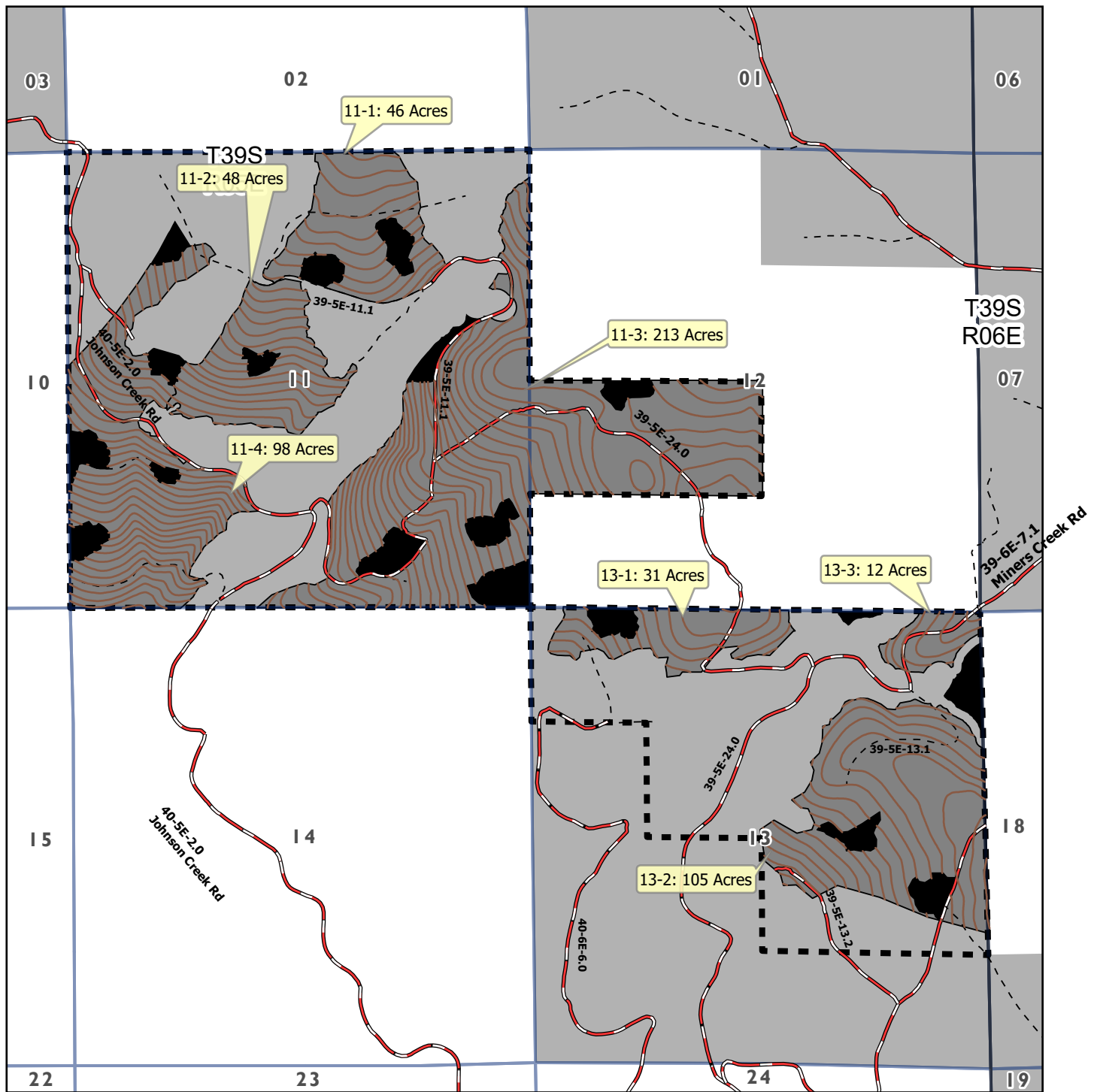
-  Contract Boundary
-  Cutting Units
-  Bureau of Land Management
-  Highways



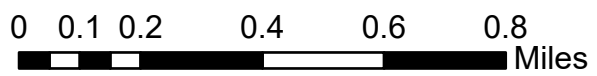
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources and may be updated without notification.



1 inch equals 4 miles



Surface	
	Aggregate
	Bituminous
	Concrete
	Natural
	Reserve Areas - Skips
	Contract Boundary
	Cutting Units
	Bureau of Land Management
	20 Foot Contour Lines



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.

1 inch = 1,667 feet

USDI-BLM Klamath Falls Field Office
Sale Name: Shady Grail

Timber Sale Contract Map
Contract No. ORL04-TS24-01
Exhibit A – Contract Acres
Page 3 of 3

Willamette Meridian: T.39S., R.05E.,

Sec. 11, All

Sec. 12, N ½ SW ¼

Sec. 13. NE ¼, N ½ NW ¼, SE ¼ NW ¼, N ½ SE ¼

Cutting Unit	Acres	Harvest Method
11-1	46	Density Management
11-2	48	Density Management
11-3	213	Density Management
11-4	98	Density Management
13-1	31	Density Management
13-2	105	Density Management
13-3	12	Density Management

Total Cutting Area 553 acres*
Total Reserve Area 527 acres**
Total Contract Area 1,080 acres

* 617 ac. Sale area – 64 ac. Skips = 553 ac.

** 1,080 ac. contract area – 553 ac. cutting units = 527 ac.

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

Contract No.: ORL04-TS24-01
Sale Name: Shady Grail Timber Sale
Issuing Office: Klamath Falls Field Office

EXHIBIT B
SCALE SALE

PURCHASE PRICE SCHEDULE AND MEASUREMENT SPECIFICATIONS

- I. **Timber and Other Wood Products Sold** - In accordance with Section 2 and 3, the Purchaser agrees to pay the Government for the timber and other wood products sold under the contract in accordance with the following schedule, measurement standards, and requirements. Wood products sold is comprised of Timber, Other Wood Products, and Timber and Other Wood Products Remaining as defined below. In the event an Extension of Time is approved, the prices per measurement unit may be subject to readjustment in accordance with Section 9 of the contract.

Timber Schedule		
Species	Unit of Measure	Price Per Measurement Unit
White Fir	MBF	\$42.00
Shasta Red Fir	MBF	\$55.00
Ponderosa Pine	MBF	\$26.90
Douglas Fir	MBF	\$157.40
Other Wood Products Schedule		
Product/Species	Unit of Measure	Price Per Measurement Unit
Clean Chips	Ton	To be negotiated
Hog Fuel	Ton	To be negotiated

The Authorized Officer shall establish unit of measure and price per measurement unit, in accordance with standard Bureau of Land Management (BLM) procedures, for any species or products not listed in this Exhibit that are cut or removed from the contract area.

- II. **Timber** – Includes standing trees, downed trees or logs, or portions thereof, which can be cut into logs that equal or exceed the specifications below.

All logs defined below, which have not been reserved to Government in Section 43 of the

contract, shall be designated as timber under this contract. Logs or portions of logs which equal or exceed all the following minimum log specifications shall be considered timber sold. The Purchaser shall pay for all timber removed in accordance with Section 3 of the contract at the price per measurement unit shown in Section I of this Exhibit.

- Log or portion of a log that is:
 - One third (1/3) sound.
 - Small End Diameter Inside Bark (DIB) – Six (6) inches
 - Length – Eight (8) feet four (4) inches

III. Other Wood Products – Includes timber and other woody material not meeting the timber specifications above (i.e., pulp, biomass, chips, hog fuel).

If Purchaser removes any products or species which do not meet the minimum log specifications for timber in Section II, such material shall be considered other wood products. Purchaser shall pay for other wood products in accordance with Section 3 of the contract at the price per measurement unit shown in Section I of this Exhibit.

IV. Timber and Other Woods Products Remaining - The remaining volume of any timber or other wood products, which have not been reserved to Government in Section 43 of the contract, shall be determined as provided in Section 3(g) of the contract using specifications set forth in the table below. The Purchaser shall pay for the sum of all remaining volume in accordance with Section 3 of the contract at the unit prices shown in Section I of this Exhibit.

V. Measurement Standards

1. **Log Scaling Loads:** All species or products in Section I, with MBF as the Unit of Measure shall be designated as log scaling loads.
 - a. Log scaling services shall be provided and performed by BLM Certified Scalers or BLM-authorized Third-Party Scaling Organizations (TPSO), as determined by the Authorized Officer. The Purchaser's employees or contractors may not perform log scaling.
 - b. All logs shall be scaled in Eastside Scribner Log Rules according to the Official Log Scaling and Grading Bureaus, Northwest Log Rules Eastside and Westside Log Scaling Handbook, as amended or supplemented, at the time the logs are scaled.
 - c. All logs shall be scaled using an authorized BLM log scaling method approved by the Authorized Officer in accordance with BLM prescribed procedures. A list of authorized BLM log scaling methods is available upon request.
 - d. Purchaser shall ensure all logs are presented so that they may be scaled in an economical and safe manner.
 - e. Scaling deductions made for rot, check or other defect resulting from abnormal delay in scaling caused by Purchaser shall be recorded separately and charged to the

Purchaser in accordance with Section 3(g) of the contract when applicable. Avoidable delay in log scaling caused by the Purchaser that results in a measurable reduction in timber volume or quality would generally be considered abnormal delay, as determined by the Authorized Officer.

- f. Mechanical damage to logs that occurs during unloading identified by the TPSO will not be considered a deductible defect.
- g. The BLM will conduct check scaling using the following standards:
 Gross Scale - A variance of one and ½ percent (1.5%) in gross scale is the standard unless otherwise justified.
 Net scale - The allowable variance is as follows:

Check scaler's percent defect in logs	Scalers allowable variance
0-10 percent	2 percent
over 10 percent	0.2 * percent defect to a maximum of 5 percent

Determinations as to volume of timber made by a BLM check scaler in conformance with the standards as set forth herein shall be final. When such checks show a variance in scale more than acceptable standards, in two or more consecutive check scales, an adjustment to the volume reported as scaled will be made by BLM. Such adjustments will be made based on the difference between available BLM check scales and the original scale during the period covered by the unsatisfactory check scales. Unless otherwise approved in writing by the Authorized Officer, the volume to which this difference will be applied will be fifty (50) percent of the volume scaled between the last satisfactory check and the first unsatisfactory check, one hundred (100) percent of the volume scaled during the unsatisfactory check, and fifty (50) percent of the volume between the last unsatisfactory check scale and the next satisfactory check scale.

- 2. **Weight Loads:** All species or products in Section I, with Tons as the Unit of Measure shall be designated as weight loads.
 - a. All weight loads shall be weighed on State certified scales.
 - b. Scales must have a current inspection tag or seal posted which shows the date of the most recent test by the State weights and measures agency.
 - c. No load shall be presented for weighing that exceeds the certified capacity of the scales in use.
 - d. Each load shall be weighed as a single unit. Gross and tare weight must be machine printed on a weight receipt. Average tare weights shall not be used, unless approved by the Authorized Officer. In addition to the gross and tare weight, the following shall be recorded with each weight receipt:
 - Contract name and number
 - Load Ticket number
 - Date, time, and location the load was weighed

VI. Accountability

1. Purchaser shall notify the Authorized Officer three (3) business days prior to starting or stopping of hauling operations performed under the contract.
2. The Purchaser must provide the following information to the Authorized Officer three (3) business days prior to the commencement of haul: log scaling and weighing location(s), planned beginning haul dates, anticipated number of loads per day to each scaling or weighing location, logger name and contact information, and log brands to be used, and the log brand registration number(s).
3. A Scaling Authorization Form(s) must be completed and approved by the Contracting Officer prior to beginning of hauling operations. The Scaling Authorization(s) will include approved measurement methods, merchantability standards, sort descriptions, and authorized delivery locations for all loads hauled from the contract area. For log scale loads, all log scaling locations on the Scaling Authorization(s) are required to have a Log Yard Authorization with the BLM. Approved Scaling Authorizations will be provided to the Purchaser upon request.
4. All loads will be scaled and/or weighed at locations listed on the Scaling Authorization as approved by the Authorized Officer.
5. Purchaser shall notify the Authorized Officer three (3) business days in advance to request additional log scaling and/or weighing locations for approval on the Scaling Authorization(s).
6. Purchaser shall not intermingle BLM timber and other wood products with any other timber or wood products before log scaling and/or weighing occurs.
7. All logs on timber loads will be **painted and branded** at the landing and accounted for accordance with **Section 44** of the contract. If contract area is within a State that maintains a log brand register, brands shall be registered with the State and Purchaser shall use assigned brand(s) exclusively on logs from this contract until the Authorized Officer releases the brand(s).
8. The Authorized Officer shall issue the Purchaser serially numbered load ticket books prior to any haul operations. The Purchaser shall sign a receipt for all ticket books received. The Purchaser shall accurately complete all load receipts in accordance with the instructions on the front of the ticket books, or as directed by the Authorized Officer. Separate load ticket books will be used for timber and other wood products. **Mule train timber loads** will be treated as two separate loads with a ticket for each load. **All load tickets will be marked with the cutting area number** using a permanent marker or as directed by the Authorized Officer. The Purchaser shall deliver all loads to the log scaling or weighing location on the Scaling Authorization

and listed on the BLM receipt. The load receipt and BLM receipt shall remain attached to the log load until it is scaled and/or weighed. For log scale loads, attach on the bunk or wing log at the front of the load on the driver's side, and surrender the load receipt and BLM receipt to the TPSO or Authorized Officer at the scaling location. For weight loads, either attach at the front of the load on the driver's side or place on the driver's side dashboard, attach the load receipt and BLM receipt to the weight receipt and deliver to the BLM weekly, unless otherwise directed by the Authorized Officer. The Purchaser will return all used load ticket books with woods receipts still attached to the BLM at the time new books are being issued. All unused and partial load ticket books, with receipts still attached, must be returned to the BLM upon completion of the contract and prior to final payment, or at the request of the Authorized Officer.

9. The Purchaser must account for all load receipts from each load ticket book. For all load receipts not accounted for, the Contracting Officer, at their sole discretion, will determine if the receipts are void or if the Purchaser shall pay damages for lost products. The value of lost products shall be equal to the highest value load for the month in which the receipt is lost. If no loads have been hauled in that month, value will be determined from the closest month in which loads were hauled. In the event a load receipt or load ticket book is lost or stolen, the Purchaser must immediately notify the Authorized Officer, and provide a complete explanation.
10. The Purchaser shall furnish BLM a map showing the route which shall be used to haul loads from the timber sale area to the log scaling/weighing location. Upon loading timber or other wood products in the contract area, all loads shall be hauled directly to the authorized scaling or weighing location as stated on the load receipt. The route of haul may be changed only with advance notice to and approval by BLM.
11. The Purchaser shall notify the Authorized Officer and receive advance authorization if any loads will arrive at an authorized scaling or weighing locations outside of their normal operating hours. No loads will be left on the truck for overnight storage without advance permission from the Authorized Officer.
12. If scaling or weighing services are unavailable, delayed or interrupted for any reason, hauling operations will cease immediately until services resume or an alternate scaling or weighing location is approved by the Authorized Officer.
13. Any removal of wood products from loaded trucks before being accounted for as required by the contract shall be considered a trespass and render the Purchaser liable for damages under applicable law in accordance with Section 13 of the contract. Any payment made for purchase of such loads shall be deducted from amount due because of trespass.

VII. Total Estimated Purchase Price – For administrative purposes, the following will be used for determining (1) when payments are due and (2) the value of timber or other wood products subject to any special bonding provisions in accordance with Section 3(f) of the contract.

1. When payments are made under Section 3 of the contract, the Authorized Officer shall determine the value of removed timber and other wood products using the Government's records of log scale and/or weight volumes removed from the contract area.
2. The estimated value of timber and other wood products not yet removed from the contract area will be determined by subtracting the Government's records for value of removed timber and other wood products from the estimated total purchase price as shown in the table below. The estimated Total Purchase price is calculated by multiplying the estimated volume or weight for all species/products, listed below, by the bid prices in Section 1.

Total Estimated Purchase Price for Timber and Other Wood Products			
Species/Product	Estimated Volume (MBF 16' or Tons)	Bid Price (\$/MBF or \$/Ton)	Estimated Value
White Fir	4301 MBF	\$42.00	\$180,642.00
Shasta Red Fir	744 MBF	\$55.00	\$40,920.00
Ponderosa Pine	292 MBF	\$26.90	\$7,854.80
Douglas Fir	62 MBF	\$157.40	\$9,758.80
Total Estimated Purchase Price:			\$239,175.60



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

Timber Appraisal

Sale Name: Shady Grail Timber Sale	Sale Date: Monday, September 2, 2024
BLM District: Lakeview DO	Unit of Measure: 16' MBF
Contract #: ORL04-TS-2024.0001	Contract Term: 36 months
Sale Type: Advertised	Contract Mechanism: 5450-004

Scale Sale of Timber and other Wood Products

Content

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

Prepared By: Hultz, Cory A - 8/7/2024

Approved By: Caulfield, David J - 8/7/2024

Legal Description of Contract Area

Land Status	County	Township	Range	Section	Subdivision	Meridian
O&C	Klamath	39S	5E	11	All	Willamette
O&C	Klamath	39S	5E	12	NW ¼ SW ¼, NE ¼ SW ¼	Willamette
O&C	Klamath	39S	5E	13	NW ¼ NW ¼, NE ¼ NW ¼, SE ¼ NW ¼. NW ¼ NE ¼, NE ¼ NE ¼, SW ¼ NE ¼, SE ¼ NE ¼, NW ¼ SE ¼, NE ¼ Se ¼	Willamette

Species Totals

Species	Net	Gross Merch	Gross	# of Merch Logs	# of Cull Logs	# of Trees
White Fir	4,301.0	5,925.0	5,940.0	57,842	1,119	19,430
Shasta Red Fir	744.0	1,009.0	1,013.0	7,085	237	1,786
Ponderosa Pine	292.0	329.0	329.0	7,216	439	4,421
Douglas Fir	62.0	72.0	73.0	1,059	19	324
Totals	5,399.0	7,335.0	7,355.0	73,202	1,814	25,961

Cutting Area Acres

Regeneration Harvest Acres	Partial Cut Acres	Right of Way Acres	Total Acres	Net Volume per Acre
0.0	553.0	0.0	553.0	9.8

Logging Costs

Stump to Truck	\$790,452.48
Transportation	\$731,625.75
Road Construction	\$17,376.55
Maintenance/Rockwear	\$53,777.77
Road Use	\$45,524.50
Other Allowances	\$37,549.09
Total:	\$1,676,306.14
Total Logging Cost per MBF:	\$310.48

Utilization Centers

<u>Location</u>	<u>Distance</u>	<u>% of Net Volume</u>
Medford, Oregon	57.0 miles	98%
Merlin, OR	92.0 miles	2%

Profit & Risk

Profit	11%
Risk	0%
Total Profit & Risk	11%

Tract Features

Quadratic Mean DBH	16.6 in
Average GM Log	98 bf
Average Volume per Acre	9.8 mbf
Recovery	73%
<u>Net MBF volume:</u>	
Green	5,399.0 mbf
Salvage	0 mbf
Export	0 mbf
<u>Ground Base Logging:</u>	
Percent of Sale Volume	100%
Average Yarding Slope	15%
Average Yarding Distance	387 ft
<u>Cable Logging:</u>	
Percent of Sale Volume	0%
Average Yarding Slope	0%
Average Yarding Distance	0 ft
<u>Aerial Logging:</u>	
Percent of Sale Volume	0%
Average Yarding Slope	0%
Average Yarding Distance	0 ft

Cruise

Cruise Completed	June 2024
Cruised By	Hultz
Cruise Method	

311 acres of Section 11 were cruised using a 3-P sampling method. Sample trees flagged in pink, sample tree location map available upon request. 95 acres in Section 11 and 148 acres in Section 13 were cruised using the PCMTRE Variable Plot method, with a 20 BAF prism. Plot centers marked with pink flagging and pin flags. Plot spacing and sampling frequency vary, maps with this information are available upon request.

Stumpage Computation

Species	# of Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Costs	(+) Marginal Log Value	Appraised Price/MBF	Appraised Value (\$)
White Fir	19,430	4,301.0	\$396.03	\$43.56	\$310.48	\$0.00	\$42.00	\$180,642.00
Shasta Red Fir	1,786	744.0	\$410.64	\$45.17	\$310.48	\$0.00	\$55.00	\$40,920.00
Ponderosa Pine	4,421	292.0	\$268.16	\$29.50	\$310.48	\$0.00	\$26.90 *	\$7,854.80
Douglas Fir	324	62.0	\$525.66	\$57.82	\$310.48	\$0.00	\$157.40	\$9,758.80
Totals	25,961	5,399.0						\$239,175.60

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

Percent of Volume By Log Grade

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
White Fir				63.0%	28.0%	9.0%	

Species	Peeler	No. 1 Sawmill	Special Mill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	Camp Run
Shasta Red Fir			11.0%	67.0%	19.0%	3.0%	

Species	No. 1 Sawmill	No. 2 Sawmill	No. 3 Sawmill	No. 4 Sawmill	No. 5 Sawmill	No. 6 Sawmill	Camp Run
Ponderosa Pine							100.0%

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%	61.0%	24.0%	12.0%	

Shady Grail Timber Sale

Unit Summary

ORL04-TS-2024.0001

Unit: 11-1

Species	Net	Gross Merch	Gross	# of Trees
White Fir	715.0	1,198.0	1,203.0	2,009
Shasta Red Fir	29.0	42.0	42.0	94
Douglas Fir	4.0	5.0	5.0	10
Totals:	748.0	1,245.0	1,250.0	2,113

Net Volume/Acre: 16.3 MBF

Regeneration Harvest	0.0
Partial Cut	46.0
Right of Way	0.0
Total Acres:	46.0

Unit: 11-2

Species	Net	Gross Merch	Gross	# of Trees
White Fir	1,035.0	1,271.0	1,271.0	2,591
Douglas Fir	16.0	19.0	20.0	81
Ponderosa Pine	12.0	15.0	15.0	108
Shasta Red Fir	1.0	1.0	1.0	1
Totals:	1,064.0	1,306.0	1,307.0	2,781

Net Volume/Acre: 22.2 MBF

Regeneration Harvest	0.0
Partial Cut	48.0
Right of Way	0.0
Total Acres:	48.0

Unit: 11-3

Species	Net	Gross Merch	Gross	# of Trees
White Fir	990.0	1,306.0	1,306.0	4,669
Shasta Red Fir	246.0	301.0	302.0	486
Ponderosa Pine	49.0	53.0	53.0	527
Douglas Fir	29.0	33.0	33.0	160
Totals:	1,314.0	1,693.0	1,694.0	5,842

Net Volume/Acre: 6.2 MBF

Regeneration Harvest	0.0
Partial Cut	213.0
Right of Way	0.0
Total Acres:	213.0

Unit: 11-4

Species	Net	Gross Merch	Gross	# of Trees
White Fir	456.0	600.0	600.0	2,147
Shasta Red Fir	113.0	138.0	138.0	224
Ponderosa Pine	22.0	24.0	24.0	243
Douglas Fir	13.0	15.0	15.0	73
Totals:	604.0	777.0	777.0	2,687

Net Volume/Acre: 6.2 MBF

Regeneration Harvest	0.0
Partial Cut	98.0
Right of Way	0.0
Total Acres:	98.0

Unit: 13-1

Species	Net	Gross Merch	Gross	# of Trees
White Fir	226.0	286.0	289.0	2,375
Ponderosa Pine	76.0	86.0	86.0	1,292
Totals:	302.0	372.0	375.0	3,667

Net Volume/Acre: 9.7 MBF

Regeneration Harvest	0.0
Partial Cut	31.0
Right of Way	0.0
Total Acres:	31.0

Unit: 13-2

Species	Net	Gross Merch	Gross	# of Trees
White Fir	780.0	1,109.0	1,116.0	5,240
Shasta Red Fir	209.0	320.0	322.0	479
Ponderosa Pine	133.0	151.0	151.0	2,251
Totals:	1,122.0	1,580.0	1,589.0	7,970

Net Volume/Acre: 10.7 MBF

Regeneration Harvest	0.0
Partial Cut	105.0
Right of Way	0.0
Total Acres:	105.0

Unit: 13-3

Species	Net	Gross Merch	Gross	# of Trees
Shasta Red Fir	146.0	207.0	208.0	502
White Fir	99.0	155.0	155.0	399
Totals:	245.0	362.0	363.0	901

Net Volume/Acre: 20.4 MBF

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

Total Stump To Truck	Net Volume	\$/MBF
\$790,452.48	5,399.0	\$146.41

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

Yarding System	Unit of Measure	# of Units of Measure	\$/Unit of Measure	Total Cost	Remarks
Wheel Skidder	GM MBF	4,328.0	\$112.77	\$488,068.56	Over 20" DBH manual falling, includes 2 skidders, 1 processor, 1 loader, 4 fallers. 11 loads/day at 6 GMMBF/load
Feller Buncher	GM MBF	3,007.0	\$100.56	\$302,383.92	Under 20" DBH feller buncher, includes 2 skidders, 1 processor, 1 loader. 13 loads/day at 5 GMMBF/load
Subtotal				\$790,452.48	

Additional Costs

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

Additional Moves

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

Total	Net Volume	\$/MBF
\$731,625.75	5,399.0	\$135.51

Utilization Center	One Way Mileage	Description	Unit of Measure	# of Units	\$/Unit of Measure	Total Cost	% of Sale Volume
Medford, Oregon	57.0	All saw logs <34"	GM MBF	7,160.0	\$100.00	\$716,000.00	98%
Merlin, OR	92.0	Oversized logs >34"	GM MBF	175.0	\$89.29	\$15,625.75	2%

Comments:

4 hr / load (load, unload included) x \$125/hr = \$500/load
 7160 GMMBF total / 5 GMMBF/load = 1,432 loads
 \$500/load x 1,432 loads = \$716,000

Oversized logs (>34") 175 GMMBF total / 7 GMMBF/load = 25 loads
 5 hr/ load (Merlin, OR) x \$125/hr = \$625/load
 25 loads x \$625/load = \$15,625

Engineering Allowances

Total	Net Volume	\$/MBF
\$116,678.82	5,399.0	\$21.61

Cost Item	Total Cost
Road Construction:	\$17,376.55
Road Maintenance/Rockwear:	\$53,777.77
Road Use Fees:	\$45,524.50

Comments:

Road Construction (Ex. C items) - \$17,376.55
 Road Maintenance/Rockwear (Ex. D items, including watering) - \$53,777.77
 Road Maintenance Fees - \$45,524.50
 Road work appraisal available upon request

Total	Net Volume	\$/MBF
\$37,549.09	5,399.0	\$6.95

Environmental Protection

Cost item	Total Cost
E-7 Equipment Wash	\$322.10
E-1 Fungicide Treatment	\$18,392.78
E-2 Water bars	\$9,946.33
Subtotal	\$28,661.21

Logging

Cost item	Total Cost
L-24 Flagging Skid Trails	\$2,338.64
L-13 Biomass Sort	\$4,035.17
Subtotal	\$6,373.81

Slash Disposal & Site Prep

Cost item	Total Cost
SD-1 Landing Pile Fire Line	\$2,514.08
Subtotal	\$2,514.08

Comments:

L-13 Biomass Sort - 25,961 trees x 4sec/tree @ \$140.11/hr processor and labor
 L-24 Flagging skid trails - 553 acres @ 10 acres per hour @ \$42.29/hr. labor
 E-1 Fungicide treatment - \$1.05/acre for material, \$32.21 labor per acre
 E-2 Water Bars - 2 ac./hr at \$157.13/hr. + travel between units (8hr)
 E-7 Equipment Wash - 2 seasons estimated, \$32.21/hr, 1 hr. per machine, 5 machines
 SD-1 Landing pile fire line - 2640 ft/hr, 37 landings at 500' per landing + moving time between landings, CAT \$157.13/hr, 15min between landings

**Information for Timber Sale Notice, Prospectus, Sec. 43 & 44
Shady Grail Timber Sale
ORL04-TS-2024.0001**

Approx # of trees	Est Volume MBF 32'	Species	Est Volume MBF 16'	Appraised \$/MBF	Appraised Value (\$)
19,430	3,296.0	White Fir	4,301.0	\$42.00	\$180,642.00
1,786	584.0	Shasta Red Fir	744.0	\$55.00	\$40,920.00
4,421	174.0	Ponderosa Pine	292.0	\$26.90 *	\$7,854.80
324	42.0	Douglas Fir	62.0	\$157.40	\$9,758.80
25,961	4,096.0		5,399.0		\$239,175.60

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

CRUISED BY:	Hultz
CRUISE COMPLETED:	June 2024
COMBINED SAMPLING ERROR:	11.30%

CRUISE DESIGN/METHOD Description:
311 acres of Section 11 were cruised using a 3-P sampling method. Sample trees flagged in pink, sample tree location map available upon request. 95 acres in Section 11 and 148 acres in Section 13 were cruised using the PCMTRE Variable Plot method, with a 20 BAF prism. Plot centers marked with pink flagging and pin flags. Plot spacing and sampling frequency vary, maps with this information are available upon request.

TRACT FEATURES

ALL SPECIES

QM DBH	16.6	INCHES
GM LOG	98	BD FT
Total Gross Volume	7,355	MBF
Recovery	73	%
Salvage	0	MBF
Export	0	MBF

Dominant Species: **White Fir**

QM DBH	16.9	INCHES
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GM Log	101	BD FT
Recovery	72	%
Salvage	0	MBF

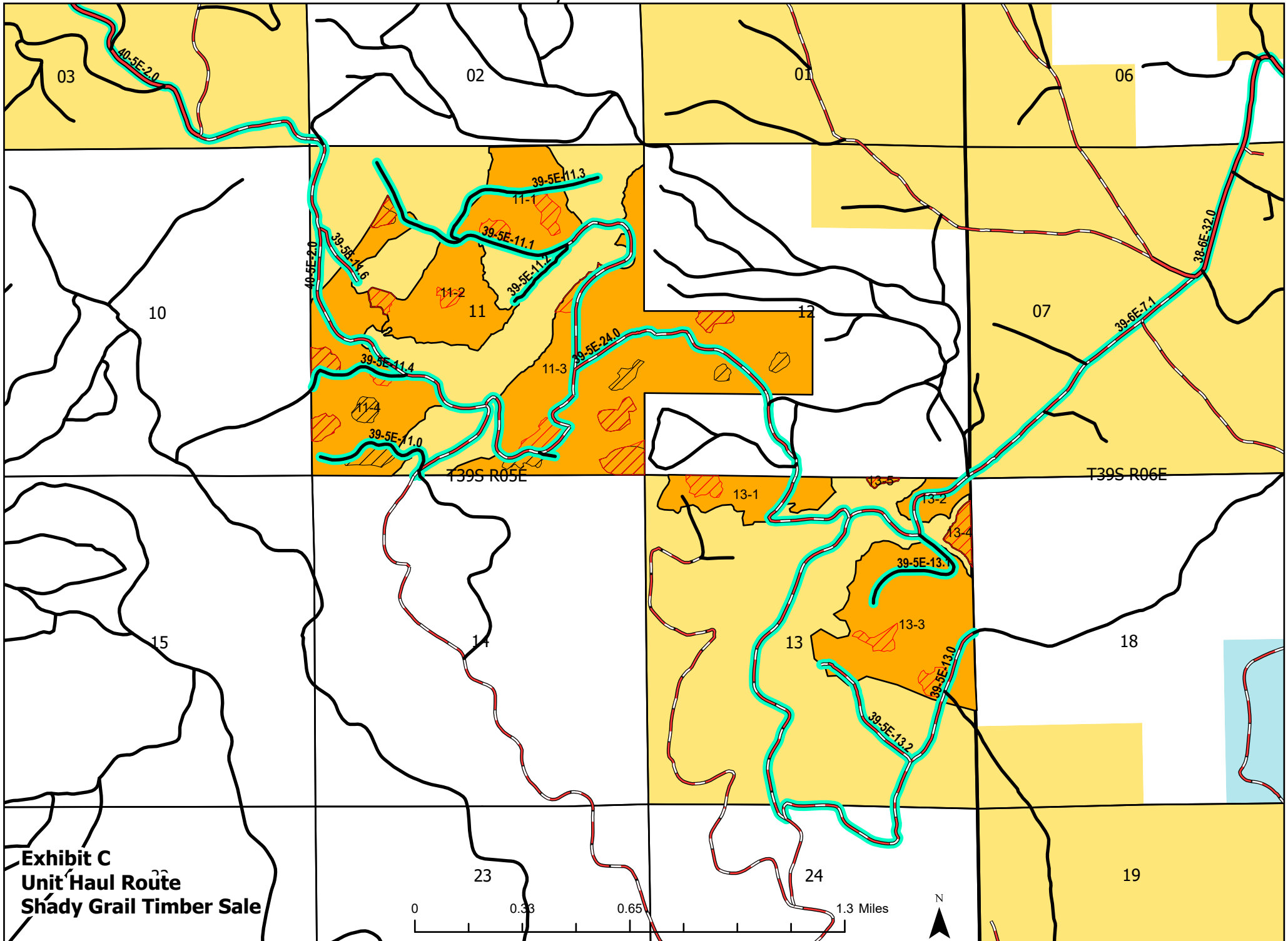
Admin Scale Allowance		\$0.00	\$/MBF
	TOTAL ADMIN. SCALE Allowance	\$0.00	

EXPORT VOLUME (LE-1)	Port Orford Cedar	0	MBF
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Reserve Tree Paint Color	Reserve Tree Count
	0

Harvest Tree Paint Color	Harvest Tree Count
	0

Shady Grail Timber Sale Exhibit C



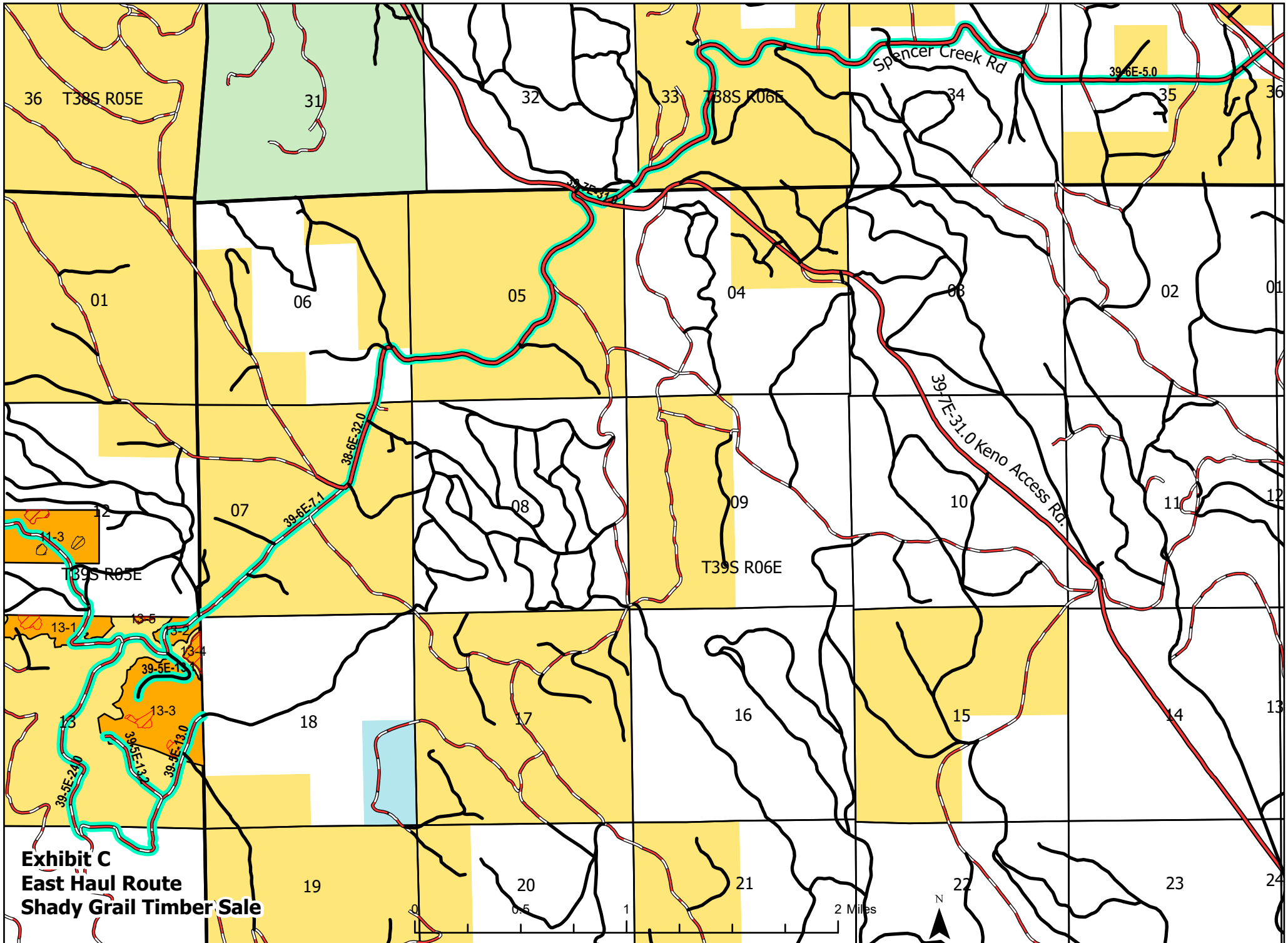
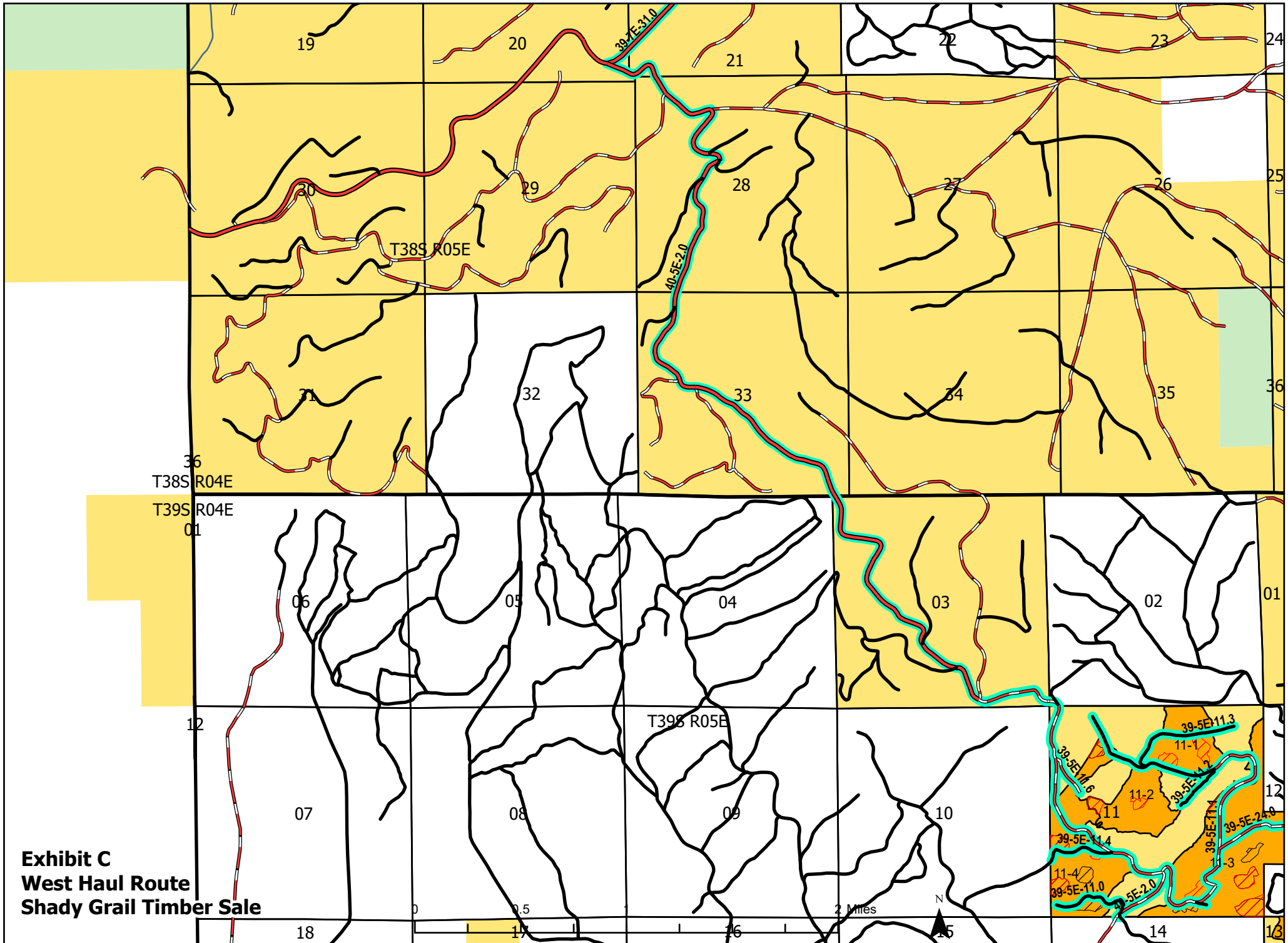


Exhibit C
East Haul Route
Shady Grail Timber Sale



**Exhibit C
West Haul Route
Shady Grail Timber Sale**

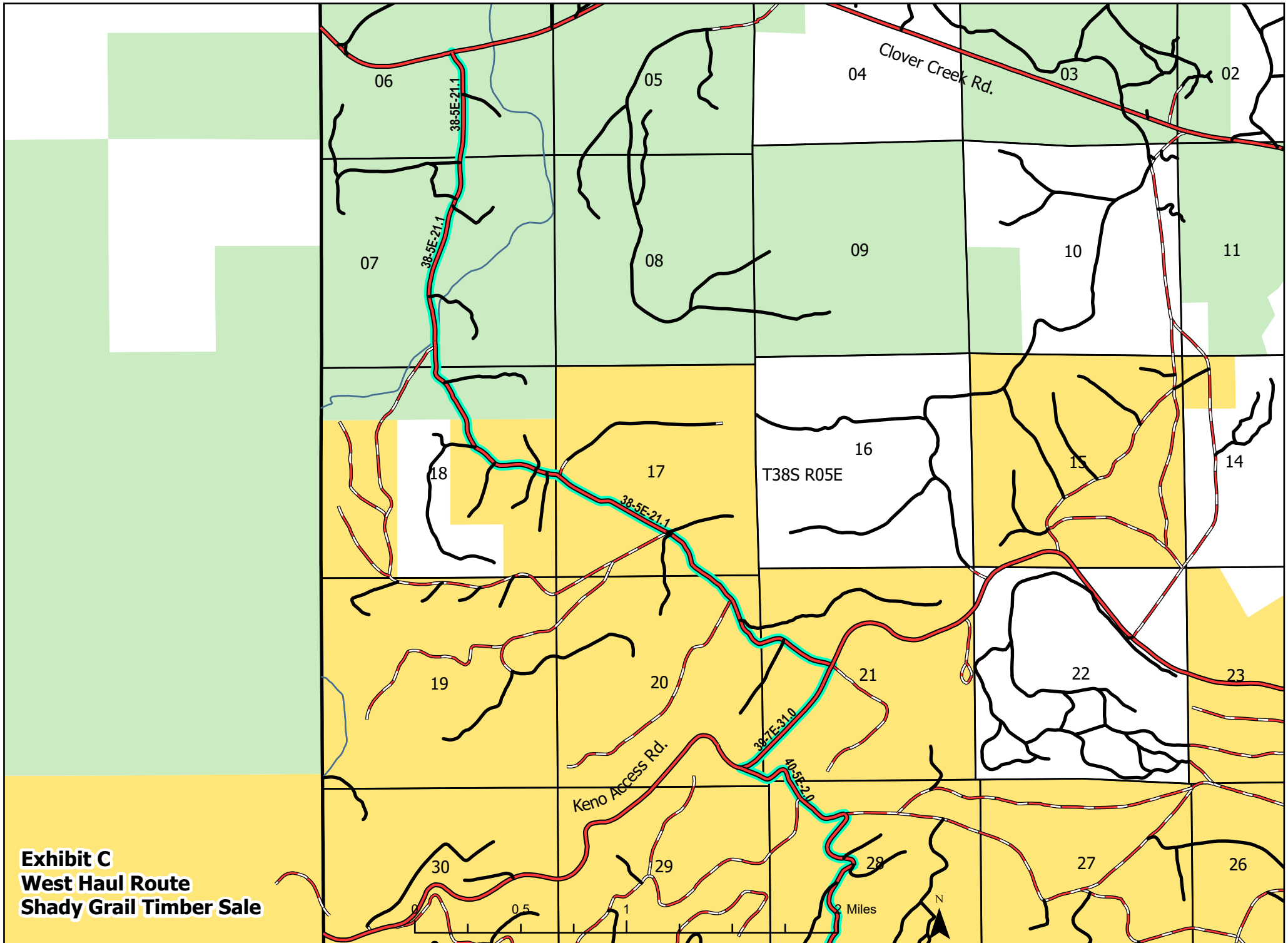
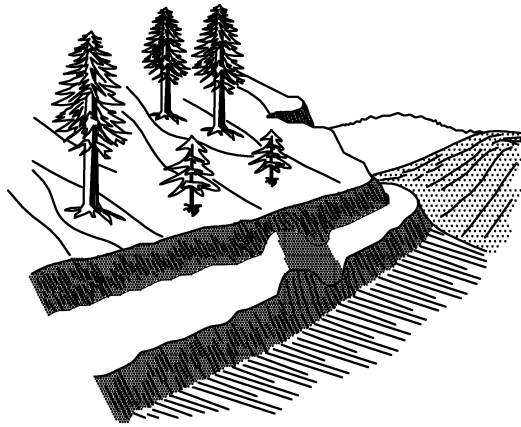
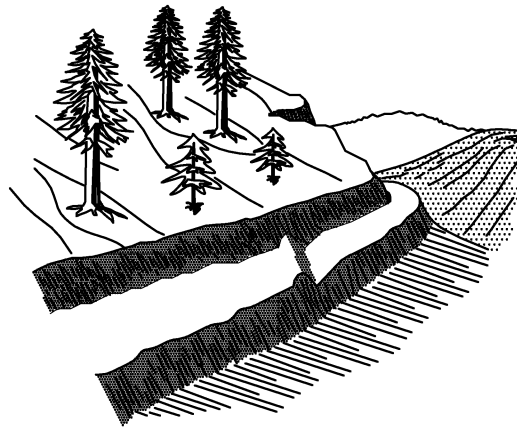


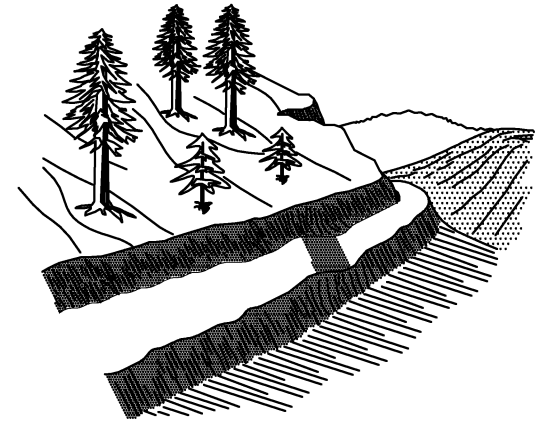
Exhibit C
West Haul Route
Shady Grail Timber Sale



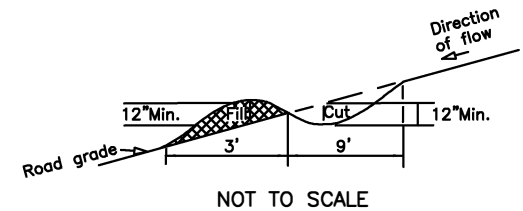
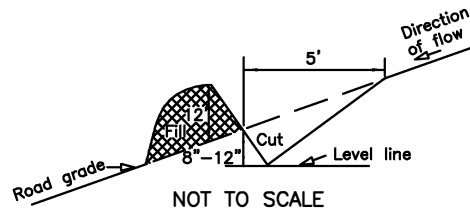
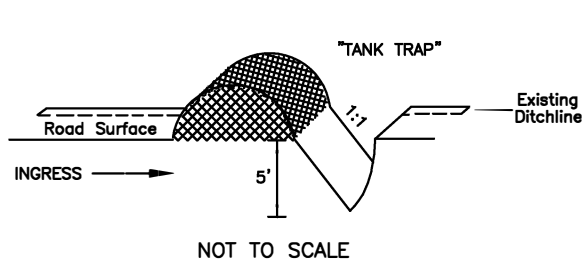
BARRIERS



WATER BAR



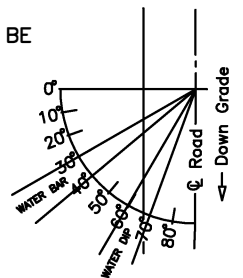
WATER DIP



NOTES

1. ALL BARRIERS, WATER BARS, AND WATER DIPS AS REQUIRED SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATIONS WILL BE DIRECTED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL WATER BARS SHALL BE SKEWED 30°-40°.
4. ALL WATER DIPS SHALL BE SKEWED 60°-70°.
5. ALL WATER BARS AND WATER DIPS SHALL BE CUT INTO THE ROADBED FROM THE DITCHLINE.
6. DITCHLINES SHALL BE BLOCKED WITH EXCAVATED MATERIAL (DITCHDAM) DOWNGRADE FROM ALL WATER BARS AND WATER DIPS.
7. EXCAVATED MATERIAL FROM BARRIER TRENCH (TANK TRAP) SHALL BE PLACED ON THE SIDE NEAREST THE BEGINNING OF THE ROAD.
8. OUTLETS OF WATER DIPS MUST BE ROCKED ON FILL SLOPE.
9. RIPRAP BARRIERS SHALL BE AT LEAST 4' HIGH, 4' DEEP, AND OF SUFFICIENT WIDTH TO COMPLETELY BLOCK THE ROADWAY AND ANY ADJACENT SHOULDERS THAT CAN BE TRAVELED WITH A VEHICLE.
10. ALL BERMS INCLUDING WATER BARS, WATER DIPS, AND EARTHEN BARRIERS SHALL BE COMPACTED TO 85% OF MAXIMUM DENSITY.

SKEW DIAGRAM



WATER DIP/BAR SPACING

ROAD GRADE	MAXIMUM SPACING
%	FEET
0-4	500
5-6	400
7-9	300
10-14	100
15-20	50

ON GRADES IN EXCESS OF 14%
CONSTRUCT WATER BARS.



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

**BARRIER AND EROSION
CONTROL DETAIL**

DESIGNED CH

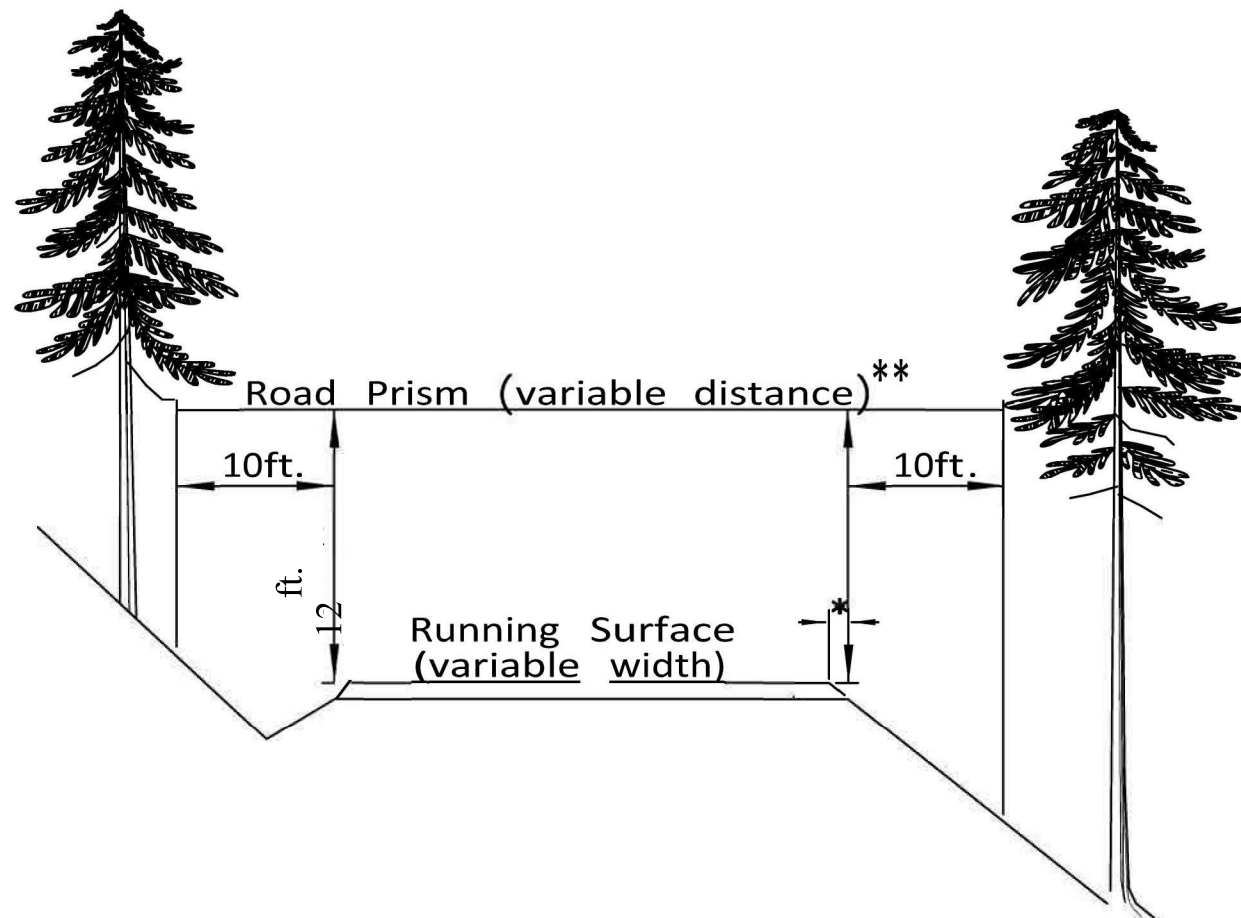
REVIEWED _____

APPROVED _____

DRAWN LRB SCALE: None

DATE June 2024 STANDARD DRAWING

SHEET 5/25



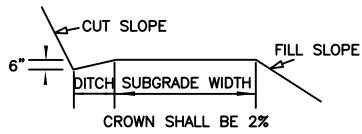
* Variable distance between running surface and start of fill slope.

** All areas within the variable distance shall be free of all vegetation capable of growing one (1) foot in height or higher, and free of all overhanging limbs and branches 12 feet in elevation above the running surface.

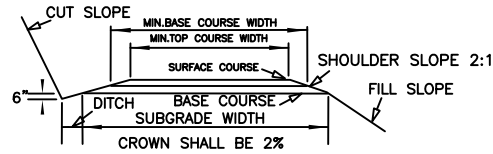
U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT LAKEVIEW DISTRICT OREGON	
ROADSIDE BRUSHING DETAIL	
DESIGNED	Browning
REVIEWED	
APPROVED	
DRAWN LRB	SCALE NONE
DATE 5/19	SHEET 6/25
DRAWING NO.	

TYPICAL CROSS SECTION DETAIL

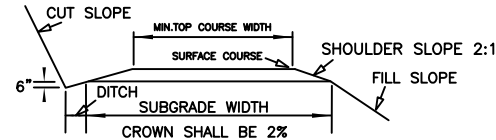
EXHIBIT C
 ORL04-TS24-01
 SHADY GRAIL TIMBER SALE
 SHEET 7 OF 25 SHEETS



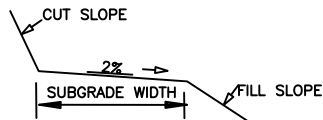
TYPICAL GRADING SECTION
TYPE 1



TYPICAL SURFACING SECTION
TYPE 2

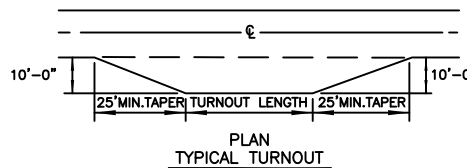


TYPICAL SURFACING SECTION
TYPE 3



TYPICAL GRADING SECTION
TYPE 4

ALL DITCHES:
 4:1 SLOPE FROM SUBGRADE
 DEPTH MAY BE EXCEEDED TO OBTAIN
 REQUIRED DRAINAGE.



PLAN
 TYPICAL TURNOUT

ADD TO EACH FILL SHOULDER 1 FT. FOR FILLS OF 1-6 FT.
 AND 2 FT. FOR FILLS OVER 6 FT. WIDEN THE INSIDE
 SHOULDER 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.
 OR AS SHOWN ON PLANS.

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	1/2:1	1 1/2:1
SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/4:1	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.
3. TURNOUTS
 - A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
 - B. LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS OR NARRATIVE.
4. SURFACING
 - A. TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.
5. CLEARING WIDTH
 - SEE SUBSECTION 200 OR 2100.
6. GRADING

ITEM	SIZE	GRADE
900	4 INCH	A
1000	3 INCH	B
1200	11/2 INCH	C&C-1
	1 INCH	D&D-1
	3/4 INCH	E&E-1

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Contract Name: Shady Grail
Sale Date:
Tract No:

ROAD CONSTRUCTION SUMMARY - ESTIMATE OF QUANTITIES

Road Number	Type 1/	Miles	Clear Grubb	Excav -ation	Drain -age	Reno- vation	Surf- acing	Geo- textile	Slope Protect	Soil Stabil	Cattle Guard	Rdside Brush	Engin- eering	Minor Concrete	Gab- ions	Miscel- laneous	Mobil- ization	Quarry Develop	Sub- Total	
38-6E-32.0	R	2.35																		
39-5E-11.0	R	0.40				\$179 0.40mi						\$1,580 1.4ac					\$60		\$1,819	
39-5E-11.1	R	1.07				\$478 1.07mi						\$55 0.2ac					\$18		\$551	
39-5E-11.2	R	0.19				\$85 0.19mi						\$81 0.1ac					\$6		\$171	
39-5E-11.3	R	0.44				\$197 0.44mi											\$7		\$203	
39-5E-11.4	R	0.34				\$152 0.34mi						\$1,315 1.1ac					\$50		\$1,517	
39-5E-11.6	R	0.22				\$172 0.22mi						\$144 0.5ac					\$11		\$327	
39-5E-13.0	R	1.10				\$491 1.10mi											\$17		\$508	
39-5E-13.1	R	0.49				\$219 0.49mi						\$346 1.2ac					\$19		\$584	
39-5E-13.2	R	0.38				\$170 0.38mi											\$6		\$176	
39-5E-24.0	R	2.11				\$943 2.11mi	\$1,521 *50LCY										\$1,212		\$3,676	
39-6E-7.1	R	2.51				\$1,175 2.51mi											\$40		\$1,215	
40-5E-2.0	R	6.21				\$2,893 1.83mi						\$3,517 12.2ac					\$220		\$6,630	

* note - 50 LCY 3/4 crushed rock to be applied along roadways according to sale administrator

*** 50 CY $\frac{3}{4}$ - rock included in appraisal, to be added along portions of roadway before sale completion, at locations approved by BLM sale administrator. Notify sale administrator at least 24 hours prior to rock delivery, and provide rock receipts.**

38-5E-21.1 Burton Flat Rd.

0+00 Road surface is BST. No maintenance.
214+00 End.

39-7E-31.0 Keno Access Rd. near Burton Flat Rd.

0+00 Road surface is BST. No maintenance.
33+00 Intersection with 40-5E-2.0 Johnson Creek Rd on left. End.

39-7E-31.0 Keno Access Rd - Spencer Creek Rd. to Miners Creek Rd.

0+00 Road surface is BST. No Maintenance.
8+00 Intersection with 38-6E-32.0 Miners Creek Rd. on left. End.

39-6E-5.0 Spencer Creek Rd.

0+00 Road surface is BST. No maintenance.
213+30 Intersection with Keno Access Rd. End.

38-6E-32.0 Miners Creek Rd.

0+00 Road surface is BST.
124+00 Road surface transitions to rock. Transitions to Rd 39-6E-7.1. End.

39-5E-11.0 (out sloped)

0+00 Road surface is natural. Begin grading. Begin light brushing.
3+50 Begin heavy brushing.
21+00 End maintenance.

39-5E-11.1 (out sloped)

0+00 Road surface is rock. Begin grading. Begin watering.
35+00 Intersection with 39-5E-11.2 on left. Road surface transitions to natural. End watering.
52+60 Intersection with 39-5E-11.3 on right. Begin light brushing.
56+70 End maintenance.

39-5E-11.2 (out sloped)

0+00 Road surface is natural. Begin grading.
9+00 Begin light brushing, removing saplings and small trees from roadway.
10+00 End maintenance.

39-5E-11.3 (out sloped)

0+00 Road surface is natural. Begin grading.
23+20 End maintenance.

39-5E-11.4 (out sloped)

0+00 Road surface is natural. Begin grading.
3+50 Begin heavy brushing.
18+20 End maintenance.

39-5E-11.6

0+00 Road surface is rock. Begin light brushing. Begin grading. Begin watering.
3+00 Clean 18" CMP inlet and outlet.
6+65 Clean 18" CMP inlet and outlet.
11+60 End maintenance.

39-5E-13.0 (out sloped)

0+00 Road surface is rock. Begin grading. Begin watering.
35+60 Intersection with 39-5E-13.2 on left.
58+00 End maintenance.

39-5E-13.1 (out sloped)

0+00 Road surface is natural. Begin grading. Begin light brushing.
25+80 End maintenance.

39-5E-13.2 (out sloped)

0+00 Road surface is rock. Begin grading. Begin watering.
20+00 End maintenance.

39-5E-24.0

0+00 Road surface is rock. Begin grading. Begin watering.
61+30 Steep down grade begins. Logs hauled to the east or down hill to the west.
71+80 Intersection with 39-5E-11.1 on right.
111+30 End maintenance.

39-6E-7.1 Continuation of Miners Creek Rd.

0+00 Road surface is rock. Begin grading. Begin watering.
62+70 Intersection with 39-5E-13.1 on left.
75+50 Intersection with 39-5E-24.0 on right
89+75 Clean 18" CMP inlet and outlet.
132+50 Intersection with 39-5E-13.0 on left. End maintenance.

40-5E-2.0 Johnson Creek Rd

0+00 Road surface is BST. Begin brushing left and right.
18+00 Intersection with 38-5E-30.3 on right.
81+80 Clean 18" CMP inlet and outlet.
87+70 Clean 18" CMP inlet and outlet.
98+75 Clean 18" CMP inlet and outlet.
105+80 Clean 18" CMP inlet and outlet.
111+70 Clean 18" CMP inlet and outlet.
116+00 Clean 18" CMP inlet and outlet.
127+20 Clean 18" CMP inlet and outlet.
136+70 Clean 18" CMP inlet and outlet.
147+80 Clean 18" CMP inlet and outlet.
163+40 Clean 18" CMP inlet and outlet.
172+00 Clean 18" CMP inlet and outlet.
183+60 Clean 18" CMP inlet and outlet.
196+00 Clean 18" CMP inlet and outlet.

205+10	Clean 18" CMP inlet and outlet.
209+60	Clean 18" CMP inlet and outlet.
213+70	Clean 18" CMP inlet and outlet.
223+00	Clean 18" CMP inlet and outlet.
231+30	Road surface transitions to rock. Begin grading. Begin watering.
231+80	Clean 18" CMP inlet and outlet.
238+20	Clean 18" CMP inlet and outlet.
245+10	Clean 18" CMP inlet and outlet.
257+60	Clean 18" CMP inlet and outlet.
264+90	Intersection with 39-5E-11.6 on left. Clean 18" CMP inlet and outlet. End light brushing.
271+00	Clean 18" CMP inlet and outlet.
282+20	Clean 18" CMP inlet and outlet.
288+80	Clean 18" CMP inlet and outlet.
301+50	Clean 18" CMP inlet and outlet.
311+30	Intersection with 39-5E-11.1 on left. Clean 18" CMP inlet and outlet.
327+90	Intersection with 39-5E-11.0 on right. End maintenance.

TIMBER SALE ROAD SPECIFICATIONS

TABLE OF CONTENTS

SECTION	DESCRIPTION
100	General
500	Renovation and Improvement of Existing Roads
600	Watering
1200	Aggregate Surface Course – Crushed Rock
2100	Roadside Brushing

TIMBER SALE ROAD SPECIFICATIONS

GENERAL – 100

101 - Prewrite Conference(s):

A prework conference will be held prior to the start of operations. The Purchaser shall request the conference at least 48 hours prior to the time it is to be held. The conference will be attended by the Purchaser and/or his 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.

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

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

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

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

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

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

Penetration Resistance - The geotextile material property determined by the force required to penetrate a geotextile material with a sharp pointed object. Initial penetration

TIMBER SALE ROAD SPECIFICATIONS

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.

TIMBER SALE ROAD SPECIFICATIONS

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

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

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

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

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

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

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

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

Spalls - Flakes or chips of stone.

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

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

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

TIMBER SALE ROAD 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.

TIMBER SALE ROAD SPECIFICATIONS

RENOVATION OF EXISTING ROADS - 500

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

Road No.	From Station	To Station	Standard Drawing #
38-5E-21.1	0	214+00	2
38-6E-32.0	0	124+00	2
39-5E-11.0	0	21+00	4
39-5E-11.1	0	35+00	2
39-5E-11.1	35+00	56+70	4
39-5E-11.2	0	10+00	4
39-5E-11.3	0	23+20	4
39-5E-11.4	0	18+20	4
39-5E-11.6	0	11+60	2
39-5E-13.0	0	58+00	2
39-5E-13.1	0	25+80	4
39-5E-13.2	0	20+00	4
39-5E-24.0	0	111+30	2
39-6E-5.0	0	213+30	2
39-6E-7.1	0	132+50	2
39-7E-31.0	0	8+00	2
40-5E-2.0	0	327+90	2

TIMBER SALE ROAD SPECIFICATIONS

- 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 - Existing road surfaces shall be uniformly watered to the optimum moisture content suitable for grading in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.
39-5E-11.1	0+00	35+00
39-5E-11.6	0+00	11+60
39-5E-13.0	0+00	58+00
39-5E-13.2	0+00	20+00
39-5E-24.0	0+00	111+30
39-6E-7.1	0+00	132+50
40-5E-2.0	231+30	327+90

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

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

TIMBER SALE ROAD SPECIFICATIONS

Road No.	From Sta./M.P.	To Sta./M.P.
39-5E-11.0	0+00	21+00
39-5E-11.1	52+60	56+70
39-5E-11.2	9+00	10+00
39-5E-11.4	3+50	18+20
39-5E-11.6	0+00	11+60
39-5E-13.1	0+00	25+80
40-5E-2.0	0+00	264+90

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

WATERING - 600

- 601 - This work shall consist of furnishing and applying water required for the 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

TIMBER SALE ROAD SPECIFICATIONS

ample capacity and of such design as to ensure uniform application of water on the road bed.

- 604 - Water required under these specifications shall be obtained at the location below or another approved location:

Keno, Oregon

Use of the water source is subject to applicable State water regulations.

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 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:

TIMBER SALE ROAD SPECIFICATIONS

TABLE 1204

AGGREGATE SURFACE COURSE
CRUSHED ROCK MATERIAL

Percentage by weight passing square mesh sieves
AASHTO T 11 & T 27

GRADATION

Sieve Designation	C
1-1/2-inch	100
1-inch	-
3/4-inch	50-90
1/2-inch	-
No. 4	25-50
No. 8	-
No. 30	-
No. 40	5-25
No. 200	2-15

- 1205 - Crushed rock material shall not exceed 35 percent loss 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.
- 1206a - The crushed rock material shall show a loss of not more than 20 percent by weight, when submerged in DMSO, dimethyl sulfoxide, for five days, according to Federal Highway Administration Region 10 Accelerated Weathering Test Procedure.
- 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.

TIMBER SALE ROAD SPECIFICATIONS

- 1207a - That portion of crushed rock material passing No. 4 sieve, including blending filler, shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalence of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1207a

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

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

TIMBER SALE ROAD SPECIFICATIONS

- 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. 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 Subsection 103 - i. Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards of crushed rock material placed per layer, or fraction thereof.

ROADSIDE BRUSHING - 2100

- 2101 - This work shall consist of the removal of vegetation from the road prism - variable distance, and inside curves in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing Detail Sheet of this exhibit, at designated locations as shown in the plans.

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

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

TIMBER SALE ROAD SPECIFICATIONS

- 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. All limbs 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 12 feet above the subgrade 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 12 feet in elevation above the subgrade) 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.

- 2108 - Self propelled equipment shall not be permitted on cut and fill slopes or in ditches.

- 2109 - Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses, or as directed by the Authorized Officer.

- 2113 - Roadside brushing shall be accomplished as specified on SHEET 6.

- 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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 5.2.0.20
Updated: 6/30/2014

Summary of All Roads and Projects

T.S. Contract Name: Shady Grail Tract No: Sale Date:
Prepared by: Hultz Ph: Print Date: 8/5/2024 3:01:06 PM
Construction: 0.00 sta
Improve: 0.00 sta Renov: 940.20 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing: 0.0 acres	\$0.00
300 Excavation:	\$0.00
Haul < 500 ft: 0 sta-yds	
Haul > 500 ft: 0 yd-mi	
400 Drainage:	\$0.00
Culvert: 0 lf DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$7,151.95
Blading 11.08 mi	
700-1200 Surfacing:	\$1,521.00
Commercial Quarry Name: Knife River Keno Pit 50 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 16.7 acres	\$7,037.40
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$538.40 Surf. \$1,127.80.....	\$1,666.20
Quarry Development:	\$0.00
Total: 5,399 mbf @ \$3.218/mbf =	\$17,376.55

Notes:

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

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 38-6E-32.0 Road Name: Miners Creek Rd

Road Renovation: 2.35 mi 16 ft Subgrade 3 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$0.00 Surf. \$0.00.....	\$0.00
Quarry Development:	\$0.00
Total:	\$0.00

Notes:

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

Road Construction Worksheet

Road Number: 38-6E-32.0 Road Name: Miners Creek Rd

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
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 - 0.00% of total Costs = \$0.00 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$0.00
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$0.00

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.0 Road Name:

Road Renovation: 0.40 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$178.69
Blading 0.40 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.4 acres	\$1,579.88
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$60.27 Surf. \$0.00.....	\$60.27
Quarry Development:	\$0.00
Total:	\$1,818.84

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-11.0 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: \$446.73/mi x 0.40 mi = \$178.69	Subtotal:	\$178.69
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: Comment: 3+50 to 21+00 Heavy brushing, including in roadway RoadSide Brushing Heavy: \$1153.20/acre x 1.37 acres = \$1,579.88	Subtotal:	\$1,579.88
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 - 11.19% of total Costs = \$60.27 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$60.27
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$1,818.84

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.1 Road Name:

Road Renovation: 1.07 mi 14 ft Subgrade ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$478.00
Blading 1.07 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$54.78
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$18.26 Surf. \$0.00.....	\$18.26
Quarry Development:	\$0.00
Total:	\$551.04

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-11.1 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: \$446.73/mi x 1.07 mi = \$478.00	Subtotal:	\$478.00
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: Comment: 52+60 to 56+70 light brushing Brushing width Left: 10ft. Right: 10ft. RoadSide Brushing Light: \$288.30/acre x 0.19 acres = \$54.78	Subtotal:	\$54.78
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 - 3.39% of total Costs = \$18.26 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$18.26
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$551.04

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.2 Road Name:

Road Renovation: 0.19 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$84.88
Blading 0.19 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$80.72
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$5.68 Surf. \$0.00.....	\$5.68
Quarry Development:	\$0.00
Total:	\$171.28

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-11.2 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: $\$446.73/\text{mi} \times 0.19 \text{ mi} = \84.88	Subtotal:	\$84.88
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: Comment: 9+00 to 10+00 Remove saplings from roadway RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 0.07 \text{ acres} = \80.72	Subtotal:	\$80.72
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 - 1.05% of total Costs = \$5.68 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$5.68
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$171.28

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.3 Road Name:

Road Renovation: 0.44 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$196.56
Blading 0.44 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$6.74 Surf. \$0.00.....	\$6.74
Quarry Development:	\$0.00
Total:	\$203.30

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-11.3 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: $\$446.73/\text{mi} \times 0.44 \text{ mi} = \196.56	Subtotal:	\$196.56
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 = \$6.74 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$6.74
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$203.30

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.4 Road Name:

Road Renovation: 0.34 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$151.89
Blading 0.34 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.1 acres	\$1,314.65
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$50.26 Surf. \$0.00.....	\$50.26
Quarry Development:	\$0.00
Total:	\$1,516.79

Notes:

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

Road Construction Worksheet

Road Number: 39-5E-11.4 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: $\$446.73/\text{mi} \times 0.34 \text{ mi} = \151.89	Subtotal:	\$151.89
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: Comment: 3+50 to 18+20 Heavy brushing, including in roadway. RoadSide Brushing Heavy: $\$1153.20/\text{acre} \times 1.14 \text{ acres} = \$1,314.65$	Subtotal:	\$1,314.65
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 - 9.33% of total Costs = \$50.26 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$50.26
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$1,516.79

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-11.6 Road Name:

Road Renovation: 0.22 mi 16 ft Subgrade 3 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$171.80
Blading 0.22 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.5 acres	\$144.15
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$10.83 Surf. \$0.00.....	\$10.83
Quarry Development:	\$0.00
Total:	\$326.78

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-11.6 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: $\$446.73/\text{mi} \times 0.22 \text{ mi} = \98.28 Clean Culverts: $\$334.17/\text{mi} \times 0.22 \text{ mi} = \73.52	Subtotal:	\$171.80
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: Brushing width Left: 10ft. Right: 10ft. RoadSide Brushing Light: $\$288.30/\text{acre} \times 0.50 \text{ acres} = \144.15	Subtotal:	\$144.15
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 - 2.01% of total Costs = \$10.83 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$10.83
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$326.78

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-13.0 Road Name:

Road Renovation: 1.10 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$491.40
Blading 1.10 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$16.84 Surf. \$0.00.....	\$16.84
Quarry Development:	\$0.00
Total:	\$508.24

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-13.0 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: \$446.73/mi x 1.10 mi = \$491.40	Subtotal:	\$491.40
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 - 3.13% of total Costs = \$16.84 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$16.84
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$508.24

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-13.1 Road Name:

Road Renovation: 0.49 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$218.90
Blading 0.49 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.2 acres	\$345.96
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$19.36 Surf. \$0.00.....	\$19.36
Quarry Development:	\$0.00
Total:	\$584.22

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-13.1 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: \$446.73/mi x 0.49 mi = \$218.90	Subtotal:	\$218.90
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: Brushing width Left: 10ft. Right: 10ft. RoadSide Brushing Light: \$288.30/acre x 1.20 acres = \$345.96	Subtotal:	\$345.96
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 - 3.60% of total Costs = \$19.36 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$19.36
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$584.22

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-13.2 Road Name:

Road Renovation: 0.38 mi 14 ft Subgrade 0 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$169.76
Blading 0.38 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$5.82 Surf. \$0.00.....	\$5.82
Quarry Development:	\$0.00
Total:	\$175.58

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-5E-13.2 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: $\$446.73/\text{mi} \times 0.38 \text{ mi} = \169.76	Subtotal:	\$169.76
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 - 1.08% of total Costs = \$5.82 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$5.82
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00
	Total:	\$175.58

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-5E-24.0 Road Name:

Road Renovation: 2.11 mi 16 ft Subgrade 3 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$942.60
Blading 2.11 mi	
700-1200 Surfacing:	\$1,521.00
Quarry Name: Knife River Keno Pit 50 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$84.43 Surf. \$1,127.80.....	\$1,212.23
Quarry Development:	\$0.00

Total: \$3,675.83

Notes:

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

Road Construction Worksheet

Road Number: 39-5E-24.0 Road Name:

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Blading w/o Ditches: \$446.73/mi x 2.11 mi = \$942.60	Subtotal:	\$942.60

Section 700-1200 Surfacing:

Commercial Quarry Name: Knife River Keno Pit

Comment: 50 CY applied over entire project per sale administrator

<u>Length</u>	<u>TopW</u>	<u>BotW</u>	<u>Depth</u>	<u>CWid</u>	<u>#TOs</u>	<u>Width</u>	<u>F.W.L</u>	<u>Taper</u>	<u>Other</u>
									50 LCY

Rock Volume = 50 LCY	
Purchase Price / Royalty: \$14.00/LCY x 50 LCY = \$700.00	
Basic Rock Haul cost: \$0.74/LCY x 50 LCY = \$37.00	
Rock Haul +15% grades: \$2.21/LCY-mi x 50 LCY x 2.00 mi= \$221.00	
Rock Haul -15% grades: \$1.10/LCY-mi x 50 LCY x 4.00 mi= \$220.00	
Rock Haul St& Co Roads: \$0.49/LCY-mi x 50 LCY x 14.00 mi= \$343.00	
Subtotal:	\$1,521.00

Section 1300 Geotextiles:	Subtotal:	\$0.00
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Section 1400 Slope Protection:	Subtotal:	\$0.00
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Section 1800 Soil Stabilization:	Subtotal:	\$0.00
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Section 1900 Cattleguards:	Subtotal:	\$0.00
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Section 2100 Roadside Brushing:	Subtotal:	\$0.00
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Section 2300 Engineering:	Subtotal:	\$0.00
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Section 2400 Minor Concrete:	Subtotal:	\$0.00
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Section 2500 Gabions:	Subtotal:	\$0.00
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Section 8000 Miscellaneous:	Subtotal:	\$0.00
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Mobilization:	
Construction - 15.68% of total Costs = \$84.43	
Surfacing - 100.00% by rock volume = \$1,127.80	
Subtotal:	\$1,212.23

Road Number: 39-5E-24.0 Continued

Quarry Development:

Based on 100.00% of total rock volume

Subtotal: \$0.00

Total: \$3,675.83

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 39-6E-7.1 Road Name:

Road Renovation: 2.51 mi 16 ft Subgrade 3 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,174.76
Blading 2.51 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$40.26 Surf. \$0.00.....	\$40.26
Quarry Development:	\$0.00
Total:	\$1,215.02

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 39-6E-7.1 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading w/o Ditches: $\$446.73/\text{mi} \times 2.51 \text{ mi} = \$1,121.29$

Clean Culverts: $\$334.17/\text{mi} \times 0.16 \text{ mi} = \53.47

Subtotal: \$1,174.76

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 - 7.48% of total Costs = \$40.26

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$40.26

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,215.02

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: Shady Grail Sale Date:

Road Number: 40-5E-2.0 Road Name: Johnson Creek Rd

Road Renovation: 6.21 mi 16 ft Subgrade 3 ft ditch 6/30/2014

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,892.71
Blading 1.83 mi	
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 12.2 acres	\$3,517.26
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$219.67 Surf. \$0.00.....	\$219.67
Quarry Development:	\$0.00
Total:	\$6,629.64

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 40-5E-2.0 Road Name: Johnson Creek Rd

Section 200 Clearing and Grubbing:	Subtotal:	\$0.00
Section 300 Excavation:	Subtotal:	\$0.00
Section 400 Drainage:	Subtotal:	\$0.00
Section 500 Renovation: Comment: 231+30 to 327+90 grading. Clean culverts entire road length Blading w/o Ditches: \$446.73/mi x 1.83 mi = \$817.52 Clean Culverts: \$334.17/mi x 6.21 mi = \$2,075.20	Subtotal:	\$2,892.71
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: Comment: 0+00 to 264+90 light brushing Brushing width Left: 10ft. Right: 10ft. RoadSide Brushing Light: \$288.30/acre x 12.20 acres = \$3,517.26	Subtotal:	\$3,517.26
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 - 40.80% of total Costs = \$219.67 Surfacing - 0.00% by rock volume = \$0.00	Subtotal:	\$219.67
Quarry Development: Based on 0.00% of total rock volume	Subtotal:	\$0.00

Road Number: 40-5E-2.0 Johnson Creek Rd Continued

Total: \$6,629.64

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: Shady Grail Sale Date:

Average Mobilization distance = 35 miles Factor = 0.75

Mobilization: Construction

Fire Equipment: 1 ea x (0.75 x \$65.00/ea + 35 mi x \$3.64/mi) = \$176.15

Brush Cutter: 1 ea x (0.75 x \$483.00/ea) = \$362.25

Subtotal: \$538.40

Mobilization: Surfacing

Graders-all: 1ea x (0.75 x \$483.00/ea + 35 mi x \$14.73/mi) = \$877.80

Equipment Washing: 1 ea x (\$250.00) /ea = \$250.00

Subtotal: \$1,127.80

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: Shady Grail Sale Date:

Road Number	Const	Improv	Renov	Decomm	Temp
38-6E-32.0			124.00		
39-5E-11.0			21.00		
39-5E-11.1			56.70		
39-5E-11.2			10.00		
39-5E-11.3			23.20		
39-5E-11.4			18.20		
39-5E-11.6			11.60		
39-5E-13.0			58.00		
39-5E-13.1			25.80		
39-5E-13.2			20.00		
39-5E-24.0			111.30		
39-6E-7.1			132.50		
40-5E-2.0			327.90		

Total Sta:	_____	_____	_____ 940.20	_____	_____
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200 Clearing and Grubbing Clearing
acres

38-6E-32.0	0.0
39-5E-11.0	0.0
39-5E-11.1	0.0
39-5E-11.2	0.0
39-5E-11.3	0.0
39-5E-11.4	0.0
39-5E-11.6	0.0
39-5E-13.0	0.0
39-5E-13.1	0.0
39-5E-13.2	0.0
39-5E-24.0	0.0
39-6E-7.1	0.0
40-5E-2.0	0.0

Totals:	_____ 0.0
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300 Excavation

Excav LCY.s	Haul sta-yds	Haul yd-mi
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Totals:	_____ 0	_____ 0	_____ 0
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400 Drainage

Road Number	Culvert	Polypipe	Downspout
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Total Drainage:	_____	_____	_____
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Totals:	No Quantities		
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500 Renovation

Blade Miles	Slide cy
39-5E-11.0	0
39-5E-11.1	0

Continuation of Construction Quantities

39-5E-11.2	0.19	0
39-5E-11.3	0.44	0
39-5E-11.4	0.34	0
39-5E-11.6	0.22	0
39-5E-13.0	1.10	0
39-5E-13.1	0.49	0
39-5E-13.2	0.38	0
39-5E-24.0	2.11	0
39-6E-7.1	2.51	0
40-5E-2.0	1.83	0
Totals:	<u>11.08</u>	<u>0</u>

Surfacing (Loose Cubic Yards)

Note: Due to slight rounding differences between total LCY vs. subtotaled LCY, Totals shown here may not be exactly as shown in the road summaries and worksheets.

Quarry Name: Knife River Keno Pit

Commercial	Roadway	Turnouts	Other	
39-5E-24.0	0	0	50	50
Totals:	<u>0</u>	<u>0</u>	<u>50</u>	<u>50</u>

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

Totals: 0

1800 Soil stabilization - acres

	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
Totals:	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing

	acres
39-5E-11.0	1.4
39-5E-11.1	0.2
39-5E-11.2	0.1
39-5E-11.4	1.1
39-5E-11.6	0.5
39-5E-13.1	1.2
40-5E-2.0	12.2
Totals:	<u>16.7</u>

2300 Engineering

	stations
Totals:	<u>0.00</u>

2400 Minor Concrete

Continuation of Construction Quantities

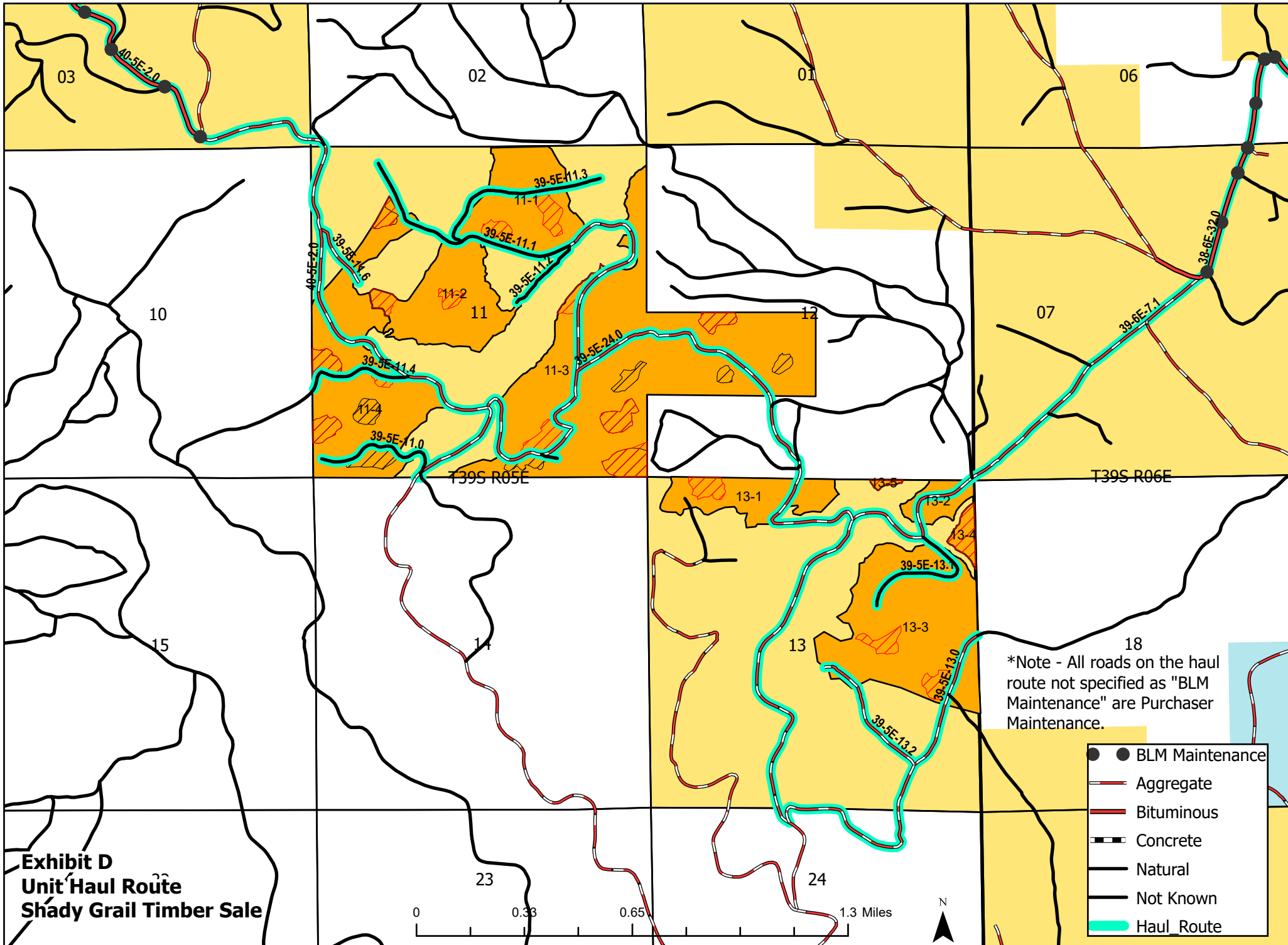
Totals: No Quantities

2500 Gabions

Totals: No Quantities

8000 Miscellaneous

Totals: No Quantities



*Note - All roads on the haul route not specified as "BLM Maintenance" are Purchaser Maintenance.

- BLM Maintenance
- Aggregate
- Bituminous
- Concrete
- Natural
- Not Known
- Haul Route

Exhibit D
Unit Haul Route
Shady Grail Timber Sale

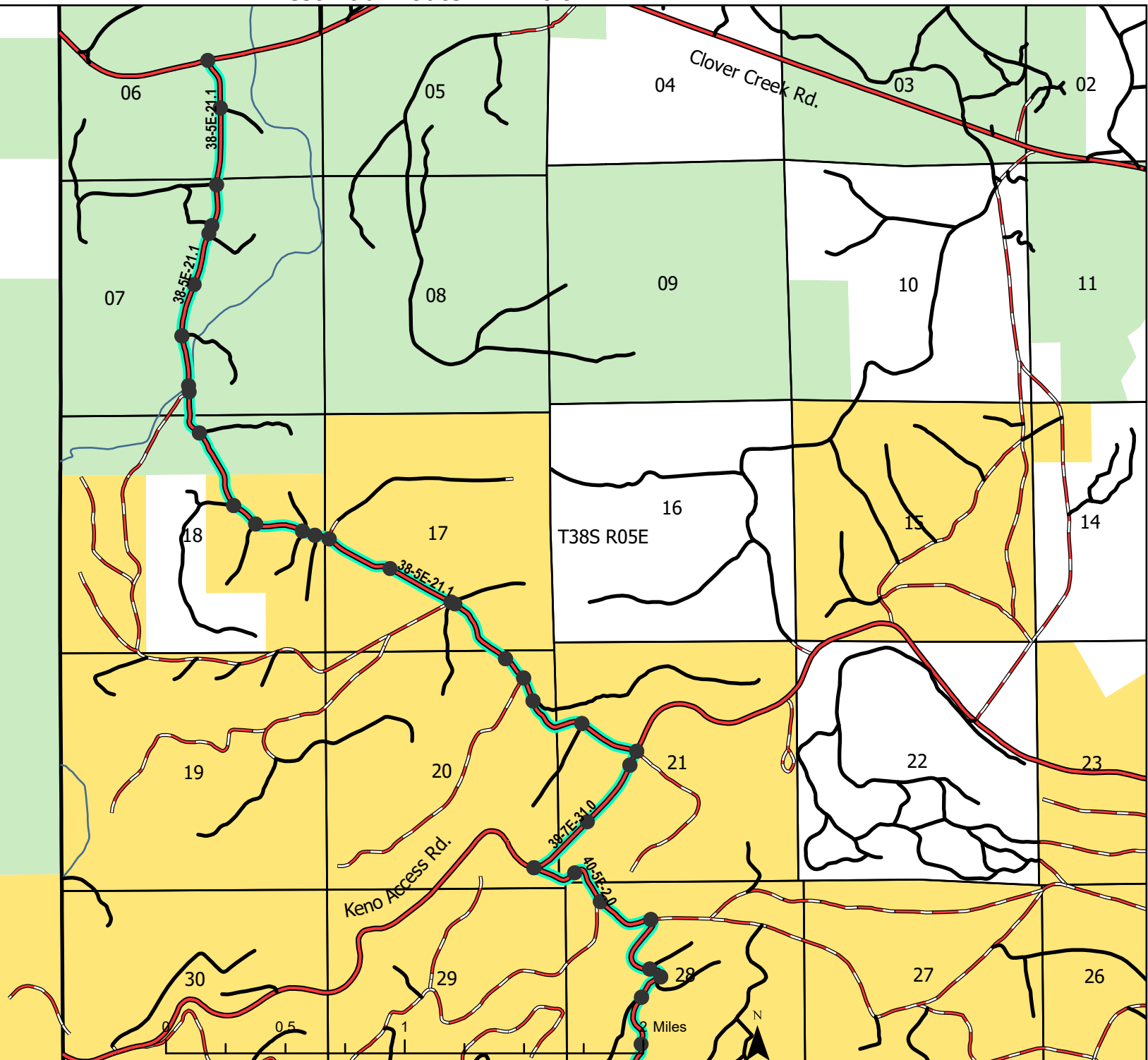
0 0.33 0.65 1.3 Miles



*Note - All roads on the haul route not specified as "BLM Maintenance" are Purchaser Maintenance.

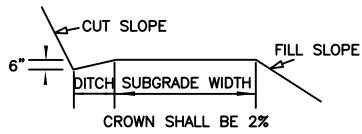
- BLM Maintenance
- Aggregate
- Bituminous
- Concrete
- Natural
- Not Known
- Haul_Route

Exhibit D
West Haul Route
Shady Grail Timber Sale

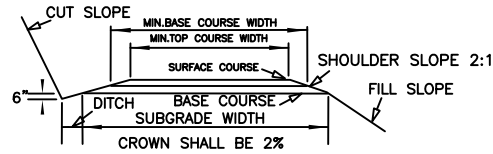


TYPICAL CROSS SECTION DETAIL

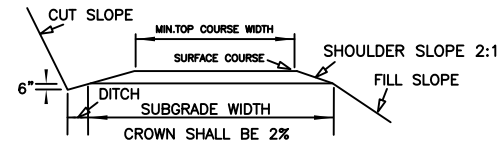
EXHIBIT D
 ORL04-TS24-01
 SHADY GRAIL TIMBER SALE
 SHEET 5 OF 9 SHEETS



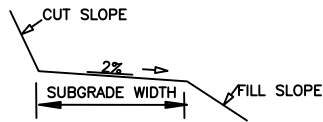
TYPICAL GRADING SECTION
TYPE 1



TYPICAL SURFACING SECTION
TYPE 2

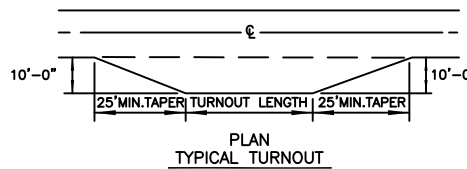


TYPICAL SURFACING SECTION
TYPE 3



TYPICAL GRADING SECTION
TYPE 4

ALL DITCHES:
 4:1 SLOPE FROM SUBGRADE
 DEPTH MAY BE EXCEEDED TO OBTAIN
 REQUIRED DRAINAGE.



PLAN
 TYPICAL TURNOUT

ADD TO EACH FILL SHOULDER 1 FT. FOR FILLS OF 1-6 FT.
 AND 2 FT. FOR FILLS OVER 6 FT. WIDEN THE INSIDE
 SHOULDER 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.
 OR AS SHOWN ON PLANS.

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	1/2:1	1 1/2:1
SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/4:1	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.
3. TURNOUTS
 - A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
 - B. LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS OR NARRATIVE.
4. SURFACING
 - A. TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.
5. CLEARING WIDTH

SEE SUBSECTION 200 OR 2100.
6. GRADING

ITEM	SIZE	GRADE
900	4 INCH	A
	3 INCH	B
1000	3 INCH	A
1200	1 1/2 INCH	C&C-1
	1 INCH	D&D-1
	3/4 INCH	E&E-1

ROAD MAINTENANCE SPECIFICATIONS

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

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

ROAD MAINTENANCE SPECIFICATIONS

GENERAL - 3000

- 3001 The Purchaser shall be required to maintain roads referenced in section 42.(C)(3) and as shown on the Exhibit D map of this contract in accordance with Sections 3000, 3100, 3200, 3300, 3400, and 3500 of this exhibit.
- 3001a The Purchaser shall be required to provide maintenance on roads in accordance with Subsections 3403 and 3404.
- 3002 The Purchaser shall maintain the cross section of existing dirt or graveled roads to the existing geometric standards. Any roads required to be renovated under terms of this contract shall be maintained to the geometric standards required in Exhibit C of this contract.
- 3003 The minimum required maintenance on any roads shall include the provisions specified in Subsections 3101, 3104, and 3105.
- 3004 The Purchaser shall be responsible for providing timely maintenance and cleanup on any roads with logging units substantially completed prior to moving operations to other roads. The maximum length of non-maintained or non-cleanup of the road prism shall not exceed the sum of one 1 mile at any time. Release of maintenance requirements may be granted, upon written request, when the conditions specified in Sections 3300 and 3400 are met satisfactorily.

OPERATIONAL MAINTENANCE - 3100

- 3101 The Purchaser shall blade and shape the road surface and shoulders with a motor grader. Banks shall not be undercut. Back blading with tractors or similar equipment will be allowed only around landings and other areas when approved by the Authorized Officer.
- 3103 The purchaser shall maintain established berms and place additional berms using adjacent material where needed to protect fills as directed by the Authorized Officer.
- 3104 The purchaser shall perform other road cleanup including removal of debris, fallen timber, bank slough, and slides which can practicably be accomplished by a motor grader, rubber tired front end bucket loader, rubber tired backhoe or comparable equipment, and by the use of hand tools.
- 3105 The Purchaser shall be responsible for maintaining normal flow in drainage structures. This includes cleaning out drainage ditches, catch basins, clearing pipe inverts of sediment and other debris lodged in the barrel of the pipe, and maintaining water dips and water-bars using equipment specified in Subsection 3104 and other culvert cleaning and flushing equipment.
- 3107 The Purchaser shall cut or trim trees and brush which obstructs vision or prevents the safe

ROAD MAINTENANCE SPECIFICATIONS

passage of traffic along the traveled way when directed by the Authorized Officer.

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

- 3108 The Purchaser shall avoid fouling gravel or bituminous surfaces through covering with earth and debris from side ditches, slides or other sources. The Purchaser shall also avoid blading surfacing material off the running surface of the roadway. Skidding of logs on the roadway in or outside designated logging units is not authorized without prior written approval by the Authorized Officer. Repair required caused by such skidding activity is not considered maintenance and shall be repaired at the Purchaser's expense.

SEASONAL MAINTENANCE - 3200

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

FINAL MAINTENANCE - 3300

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

ROAD MAINTENANCE SPECIFICATIONS

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

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

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

OTHER MAINTENANCE - 3400

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

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

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sale: Shady Grail
Sale Date:
Prep. By : Hultz
Tract No:

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

1) Road Use - Amortization: (1) \$0.00/5399 MBF = \$0.00/MBF

2) Road Maintenance Obligation:

\$0.00 + \$0.00 + \$0.00 + \$0.00 + \$0.00 = \$0.00

3) Other Maintenance Payments:

\$0.00

4) . Purchaser Maintenance Allowances:

(5.2A) Move In	\$460.20
(5.2B) Culverts, Catch Basins, Downspouts	\$0.00
(5.2C) Grading, Ditching	\$4949.77
(5.2D) Slide Removal and Slump Repair	\$0.00
(5.2E) Dust Palliative (Water)	\$48367.80
(5.2F) Surface Repair (Aggregate)	\$0.00
(5.2G) Decommissioning	\$0.00
(5.2H) Other	\$0.00

Total (5.2) = \$53777.77

4) Total = \$53,777.77/5399 MBF = \$9.96/MBF

1) Road Use Fees - Amortization

R/W Number	Road Number	Rd Use Fee x MBF	Vol =	Road Use Obligation
(1.1)	Subtotal	\$0.00		

2) BLM Maintenance - Timber Haul

Road Number and Segment	A Surf N Type	Mi	Maint x Fee	Vol x MBF	=	Maint	Fee x MBF	=	Rkwear
(2.1)	Subtotal	\$0.00				(2.2)	Subtotal	\$0.00	

3) Third Party Maintenance and Rockwear

Agmmt Number	Road Number	Mi	Maint x Fee	Vol x MBF	=	Maint	Fee x MBF	=	Rkwear
(3.1)	Subtotal	\$0.00				(3.2)	Subtotal	\$0.00	

4) Other Maintenance Payments - USFS or Others Perform Maintenance

Agency	Road Number	Fee MBF/Mi	Mi	=	Fee	Vol /MBF	Maint x Hauled	=	Cost
(4.1)	Subtotal	\$0.00							

5) Purchaser Maintenance - Rock Wear

TIMBER HAUL (5.1)

Road No and Segment	A N	Mi	RkWear x Fee	Vol x MBF	Total = RkWear
(5.1)	Subtotal	\$0.00			

Purchaser Operational Maintenance

Move In

Equipment	No Units	Move x in	Cost/ 50 Mi	Dist x Factor	Sub- total
Motor Grader:	1	1	\$483.00	0.78	\$376.74
Back Hoe:			\$483.00	0.63	\$0.00
Loader:			\$483.00	0.63	\$0.00
Water Truck:	1	1	\$107.00	0.78	\$83.46
Dump Truck:			\$113.00	0.63	\$0.00

Excavator:	\$483.00	0.63	\$0.00
Roller:	\$483.00	0.63	\$0.00

(5.2A) Total \$460.20

Culvert Maintenance - Including Catch basins and Downpipes

Miles	x	Cost/Mi	=	Subtotal
		\$334.17		\$0.00

(5.2B) Total \$0.00

Grading (Includes Ditches and Shoulders)

Miles	x	Cost/Mi	x	Freq	=	Subtotal
Blade w/ Ditch:	0.00	\$720.50	0			\$0.00
Blade w/o Ditch:	11.08	\$446.73	1			\$4949.77

(5.2C) Total \$4949.77

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

Type	No Slides	Hours	Equip		
Equipment	/Slumps	x Each	x Cost	=	Subtotal
Grader:	0	0	\$147.33		\$0.00
Loader:	0	0	\$107.45		\$0.00
Backhoe:	0	0	\$76.21		\$0.00

(5.2D) Total \$0.00

Dust Palliative (Water)

Spreading Hours					
No	Freq	Truck			
Miles / MPH	=	Hours	x Days	x /Day	= Hours
9.22 / 10		0.9	100	1	90
Load & Haul =		1.0	100	3	300
Return trip =			0.5	100	3 150
Total Hours =		540			

Truck Cost: \$89.57/Hr. x 540.0 Hours = \$48367.80

(5.2E) Total \$48367.80

Surface Repair (Aggregate)

Production Cost:	0.0 CY x \$0.00/CY	=	\$0.00
Haul to Stockpile:	0.0 CY x ((\$2.21/CY x 0.00 Mi) + \$0.74)	=	\$0.00
Stockpile:	0.0 CY x \$1.01/CY	=	\$0.00
Load from Stockpile:	0.0 CY x \$1.11/CY	=	\$0.00
Haul from Stockpile:	0.0 CY x ((\$2.21/CY x 0.00 Mi) + \$0.74)	=	\$0.00
Process with Grader:	0.0 CY x \$0.90/CY	=	\$0.00
Compaction:	0.0 CY x \$1.34/CY	=	\$0.00

(5.2F) Total \$0.00

Decommissioning

(5.2G) Total \$0.00

Other

Fallen Timber Cutting: 0.0 Hours x \$0.00/Hour = \$0.00

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

(5.2H) Total \$0.00

Section 15 of this contract provides that the Authorized Officer may, under certain conditions, require fire prevention and control measures in addition to those required by applicable (State) laws and regulations. Accordingly:

- (A) The Authorized Officer may by written notice require the Purchaser to restrict operations in accordance with the industrial fire precaution levels below. During declared fire season the precaution level will be determined by the South Central Oregon Fire Management Partnership (SCOFMP) and will be available daily at <https://scofmp.org/> or 541-947-6259.

IFPL LEVEL

- | | | |
|-----|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| I | Closed Season | <p>- A one hour Fire Watch/Security is required at this and all higher levels unless otherwise waived</p> <p>-Fire precaution requirements are in effect.
-Watch person is required for one (1) hour.</p> |
| II | Partial hoot owl | <p>- A one hour Fire Watch/Security is required at this and all higher levels unless otherwise waived</p> <p>- the following may operate from only between the hours of 8:00 P.M. and 1:00 P.M. local time:</p> <p>Power saws, except at loading sites;
Cable yarding;
Blasting;
Welding or cutting metal.</p> |
| III | Partial shutdown | <p>- A one hour Fire Watch/Security is required at this and all higher levels unless otherwise waived</p> <p>- the following are prohibited except as indicated:</p> <p>Cable yarding - except that gravity operated logging systems employing non-motorized carriages may operate between the hours of 8:00 p.m. and 1:00 p.m. local time when all blocks and moving lines are ten (10) feet or more above the ground, except the line between the carriage and the choker.</p> <p><u>Power saws</u> - except power saws may be used at loading sites and on tractor/skidder operations between the hours of 8:00 p.m. and 1:00 p.m. local time.</p> <p>In addition, the following are permitted to operate between the hours of 8:00 p.m. and 1:00 p.m. local time:</p> <ul style="list-style-type: none">▪ Tractor/skidder operations;▪ Mechanized loading and hauling of any product or material;▪ Blasting; |

- Welding or cutting metal;
- Any other spark-emitting operation not specifically mentioned.

IV General shutdown- All operations are prohibited.

(B) The Purchaser will provide fire watchman services for one (1) hour after daily shutdowns of areas of operation, including truck haul routes through the sale area and other areas where Purchaser's employees or contractors have worked on or with power driven equipment, whenever any of the following conditions apply:

- (1) the BLM industrial fire precaution level is I or greater;
- (2) directed in writing by the Authorized Officer;
- (3) required by State law.

The fire watchman shall be physically capable, alert and have adequate experience to perform the following duties:

- (1) operate Purchaser's communications and fire fighting equipment specified in the contract;
- (2) direct the Purchaser's personnel on forest fires;
- (3) report any fire detected to the Lakeview Interagency Fire Center (LIFC) at 541-947-6315.
- (4) move throughout the operation area constantly on the lookout for fires and take suppression action on any fire detected.

Fire Prevention and Control Equipment Requirements

The Purchaser shall provide and maintain in good repair, in the contract area, the following equipment during declared fire season.

FOR EACH OPERATION AREA

Fire Equipment Self Inspection Form

- [] **HAND TOOLS** - Provide at least 1 tool per person with a minimum of 4 tools per operation area. Tools are to be kept in good repair for firefighting only and stored in a TOOL BOX clearly identified as containing firefighting tools. In general, there should be an equal mix of cutting tools (axe or Pulaski) to digging tools (shovel, hazel hoe, or Pulaski).
- [] **WATCHMAN SERVICE** -
 - 1) Watchman shall be on duty for 1 hour after the power driven machinery used by the operator has been shut down for the day or that period of time designated by the forester (1 hour fire watch after any operations).
 - 2) Watchman shall visually observe all portions of the operation area on which operation activity has occurred during the day.
 - 3) Watchman shall be physically capable and experienced to operate firefighting equipment.
 - 4) Watchman shall have adequate facilities for transportation and communications in order to be able to summon assistance.
- [] **WATER SUPPLY AND DELIVERY EQUIPMENT** - Provide a water supply and water delivery equipment, kept ready for immediate use, at each operation area where power driven machinery (except hand held power saw) is used.
 - 1) Water supply shall be a self-propelled motor vehicle with at least 300 gallons, or at least 500 gallons if not self-propelled.
 - 2) Pump capable of discharging not less than 20 gallons/minute when pumping through 50' of hose and a 1/4" nozzle at pump level.
 - 3) Provide at least 500' of hose not less than 3/4" inside diameter and a nozzle.
 - 4) Water supply, pump, at least 250' hose, and nozzle shall be maintained as a connected, operating unit ready for immediate use.

FOR EACH INTERNAL COMBUSTION ENGINE INVOLVED WITH AN OPERATION (includes trucks)

- [] **SPARK ARRESTERS / EXHAUST SYSTEMS** - All internal combustion engines shall be equipped and maintained with a spark arrester in good working condition, and that is listed in the most recent edition of the NWCG publication entitled "Spark Arrester Guide", except:
 - 1) Fully turbo-charged engines which are maintained in good operating condition;
 - 2) Engines in motor vehicles operating on public roads equipped with a muffler and exhaust system;
 - 3) Water pumping equipment used exclusively for firefighting (trucks hauling equipment are not exempt);
 - 4) Engines, except ATV and motorcycle, of 50 cubic inch displacement or less equipped with muffler and exhaust system;
 - 5) Engines in heavy trucks equipped with a muffler and exhaust system, which extend at least to the end of the truck frame and discharge to the rear; or extends above the cab of the truck and discharges upward or to rear.
 - 6) Engines in ATV's and motorcycles which are equipped with a muffler and a exhaust system; or a screen which encloses exhaust system and is resistant to heat and corrosion, openings less than .023".
- [] **EXTINGUISHERS** - Each internal combustion engine, except power saws, shall be equipped with * one 2½ pound size A, B, C rated fire extinguisher approved by a nationally recognized testing laboratory kept ready for immediate use.
*** Two 2 ½ pound fire extinguishers will be equivalent for the 5lb. ABC fire extinguisher required by OR-OSHA**

FOR EACH TRUCK (includes pick-up trucks)

[] FIRE TOOLS AND EXTINGUISHERS

- 1) At least one round point shovel which has a face not less than 8" wide and a handle not less than 26" long; and
- 2) At least one pulaski or axe which has a handle not less than 26" long; and
- 3) At least * one 2½ pound size A, B, C rated fire extinguisher approved by a nationally recognized testing laboratory.
* Two 2 ½ lb fire extinguishers will be equivalent for the 5 lb. ABC fire extinguisher required by OR-OSHA

POWER SAWS (hand held)

- [] EXHAUST SYSTEMS - Each power saw must be equipped and maintained with a spark arrester and other fire prevention equipment that is listed in the most recent edition of the NWCG publication entitled "Spark Arrester Guide". Generally a non-modified saw with an adequate exhaust screen will meet these specifications.

[] TOOLS AND EXTINGUISHERS – kept immediately available.

- 1) At least one round point shovel which has a face not less than 8" wide and a handle not less than 26" long; and
- 2) A fire extinguisher of at least 8 oz. capacity.
- 3) The power saw must stopped during fueling and moved at least 20' from the place of fueling before it is started.

FOR CABLE YARDING OPERATIONS

- [] LOGGING LINES - Do not permit moving lines to rub on rock or woody material in such a way to cause sparks or sufficient heat that may cause ignition of fire.

[] BLOCKS – For each block that guides a moving line :

- 1) Clear ground of all flammable debris for not less than 10' slope distance from point directly below block; and
- 1) Provide at least one pump equipped can or bladder containing not less than 5 gallons of water; and
- 2) Provide at least one round point shovel, which has a face not less than 10" wide, and a handle not less than 26" long.

WAIVERS - The Lakeview District BLM may reduce or waive, in written order, these requirements if conditions so warrant or to take advantage of alternate methods or equipment proposed by the purchaser which provide equal or better prevention or suppression of fire.