

P R O S P E C T U S

REVISED

BUTTE FALLS AREA
JACKSON MASTER UNIT

Medford Sale # 10-17
September 16, 2010 (TG)

4 TWIN RANCH, (5900) Jackson County, O&C

BID DEPOSIT REQUIRED: \$51,900.00

All timber designated for cutting in S½ SE ¼ Section 27, T.34 S., R.3 E.; SW ¼ NE ¼, S½ NW ¼, SW ¼, N½ SE ¼, SW ¼ SE ¼, Section 35, T.34 S., R.3 E.; Govt. Lots 1,2,3,4, SW ¼ NE ¼, S½ NW ¼, N½ SW ¼, SW ¼ SW ¼, SE ¼ SE ¼, Section 1, T.35 S., R.3 E.; NE ¼ SW ¼, SW ¼ SW ¼, Section 2, T.35 S., R.3 E.; Govt. Lots 1, 2, Section 3, T.35 S., R.3 E.; NE ¼, NE ¼ NW¼, S ½ SE ¼, Section 11, T.35 S., R.3 E.; E ½ NE ¼, Section 12, T.35 S., R.3 E.; SW ¼ NW ¼, Section 17, T.35 S., R.3 E., Willamette Meridian;

Approx. Number Merch. Trees	Est. Volume MBF 32' Log	Est. Volume CCF	Species	Est. Volume MBF 16' Log	Appr. Price Per MBF*	Est. Volume Times Appraised Price
18,964	2,786	6,080	Douglas-fir	3,452	\$105.90	\$365,566.80
615	21	53	Incense-cedar	25	\$184.80	\$4,620.00
3,030	918	1,888	Ponderosa pine	1,139	**\$27.30	\$31,094.70
46	15	28	Sugar pine	18	**\$27.60	\$496.80
6,943	1,689	3,567	White fir	2,101	\$55.80	\$117,235.80
29,598	5,429	11,616	Totals	6,735		\$519,014.10

The sale area has approximately 3,409 Bone Dry Tons (BDT) of biomass to be removed. The purchaser is required to pay the appraised price of \$3.70/BDT for a total lump sum value of \$12,613.30 (10% of pond value) for this material.

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

**Minimum stumpage values were used to compute the appraised price (10% of pond value).

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

The volume of Sugar pine in this sale has been derived from individual tree measurements taken during a 100% cruise using form class tables for estimating board foot volume of trees in 16-foot logs.

With respect to merchantable trees of all conifer species: the average tree is 14.9 inches DBHOB; the average gross merchantable log contains 67 bd. ft.; the total gross volume is approximately 8,015 M bd. ft; and 84% recovery is expected(Average DF is 14.3 inches DBHOB; average gross merchantable log DF contains 61 bd. ft.).

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

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

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

CUTTING AREA – Twenty one (21) units containing six hundred twenty three (609) acres must be thinned or partial cut.

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 a public road through the contract area; an existing BLM road; Right-of-Way and Road Use Agreement M-2000 with Plum Creek; Right-of-Way and Road Use Agreement USFS. Among other conditions, this agreement requires completion of an agreement between the Purchaser and Permittee.

ROAD MAINTENANCE - The Purchaser will be required to maintain all of the roads which he constructs plus 21.26 miles of existing roads. BLM will maintain 3.28 miles of road(s). The Purchaser will be required to pay a maintenance and rockwear fee of \$1.43 per MBF or a total of \$9,912.12 for the use of these roads.

PERMANENT ROAD CONSTRUCTION - The contract will require the Purchaser to construct 5.5 stations of new road. Additional information is available in the timber sale prospectus.

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

EQUIPMENT REQUIREMENTS - - A yarding tractor not greater than 9 feet in track width equipped with a integral arch and winch system capable of lining logs at least 75 feet. A tractor equipped with winged-toothed rippers.

SLASH DISPOSAL - Slash disposal will consist of biomass removal (from contract area), 100 acres of lop and scatter, 50 acres of slash damage, and 50 acres of handpile and cover.

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

1. Comply with the Endangered Species Act, or;
2. Comply with a court order, or;
3. Protect occupied marbled murrelet sites in accordance with the Standards and Guidelines of the Medford District Record of Decision (ROD) and Resource Management Plan (RMP), or;
4. Protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP.

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

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

OTHER –

1. No extension of time beyond the normal 30 days will be granted for completing bonding and contract signing requirements.
2. Various seasonal restrictions are placed on this sale.
3. There is a 44 foot log length restriction for trees over 21" DBH.
4. Whole tree yarding is required in 14 units (See Special Provisions Sec. 41, L-6).
5. Processing and removal of landing slash from project area is required in the 14 biomass units
6. Directional falling is required.

7. Piling must be completed within 8 weeks of notification by BLM in each unit where piling of slash is required.
8. Cleaning of equipment to eliminate noxious weed seeds is required prior to move-in of equipment onto federal lands.
9. Designated skid roads are required on all tractor units.
10. Ripping of temporary spur roads, decommission roads, and landings is required.
11. Road decommissioning is required.
12. Dust abatement is required.
13. Track mounted feller-bunchers may be used in all tractor units on designated skid trails unless excessive residual tree damage occurs. Where damage is occurring hand falling limbing and bucking may be required.
14. Purchaser should be aware that logging residue reduction costs listed under SD-5 are in addition to costs assessed under SD-4. Refer to the appraisal for total assessed costs of logging residue reduction.

NARRATIVE DESCRIPTION OF HOW TO GET TO THE TIMBER SALE AREA – From the town of Butte Falls Oregon, proceed east on the Butte Falls-Fish Lake Highway for approximately 0.5 miles to the Butte Falls-Prospect Highway. Turn left and proceed approximately 1.5 miles to Rancheria Road. Turn right on Rancheria Road to access units in sections 1, 2, 3, 11, 12, 17, and 35. From the junction of Butte Falls-Prospect Highway and Rancheria Road, proceed north on the Butte Falls-Prospect Highway for approximately 4.0 miles to the 34-3E-21 road (Camp crk). Turn right to access unit 27-1 in section 27.

ENVIRONMENTAL ASSESSMENT - An environmental assessment (DOI-BLM-OR M050-2010-0002-EA) was prepared for this sale, and a Finding of No Significant Impact has been documented. This document is available for inspection as background for this sale at the Medford District Office.

Seasonal Restriction Matrix

Sheet 1 of 1

Twin Ranch

OR110-TS-10-17

 *Possible Waived Times are Hatched

 *Restricted Times are Shaded

Sale Area	Activity	Jan		Feb		Mar		Apr		May		June		July		Aug		Sept		Oct		Nov		Dec	
		1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15	1	15
Units: 35-2,	Ground-based Equipment ^{1,2,3}																								
	Hand Falling and Bucking ^{1,2,3}																								
	Hauling of logs, chips, or rock ^{1,2,3}																								
	Fuels Treatment ^{1,2,6}																								
Units: 11-4	Ground-based Equipment ^{1,2,4,6}																								
	Hand Falling and Bucking ^{1,2,4,6}																								
	Hauling of logs, chips, or rock ^{1,2,4,6}																								
	Fuels Treatment ^{1,2,4,6}																								
Units: 12-1A, 12-1B, 12-2A, 12-2B	Ground-based Equipment ^{1,2,5,6}																								
	Hand Falling and Bucking ^{1,2,5,6}																								
	Hauling of logs, chips, or rock ^{1,2,5,6}																								
	Fuels Treatment ^{1,2,5,6}																								
Units: 1-1, 1-2, 1-3, 1-5, 1-6, 1-7, 2-3, 2-4, 3-1, 11-2, 27-1, 35-1, 35-4	Ground-based Equipment ^{1,2,6}																								
	Hand Falling and Bucking ^{1,2,6}																								
	Hauling of logs, chips, or rock ^{1,2,6}																								
Units 17-1, 17-2	Ground-based Equipment ^{1,2}																								
	Hand Falling and Bucking ^{1,2}																								
	Hauling of logs, chips, or rock ^{1,2}																								
Roads and Landings:	Construction ^{1,2,3,4,5,6}																								
	Renovation ^{1,2,3,4,5,6}																								
	Decommission ^{1,2,3,4,5,6}																								

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

² Hauling restriction may be shortened or extended depending on adequacy of road surfacing

³ Spotted Owl seasonal restrictions from March 1through September 30 may be waived if surveys determine spotted owls are not nesting in the area.

⁴ Goshawk seasonal restrictions from March 1through July 30 may be waived if surveys determine goshawks are not nesting in the area

⁵ Great Gray Owl seasonal restrictions from March 1through July 15 may be waived if surveys determine spotted owls are not nesting in the area

⁶ Spotted Owl seasonal restrictions from March 1through June 30 may be waived if surveys determine spotted owls are not nesting in the area.

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SPECIAL PROVISIONS

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

Sec. 40. TIMBER RESERVED FROM CUTTING - The following timber on the contract area is hereby reserved from cutting and removal under the terms of this contract and is retained as the property of Government.

- (A) AR-1 All timber on the Reserve Area(s) as shown on Exhibit A and all orange painted and posted trees which are on or mark the boundaries of the Reserve Area(s).
- (B) IR-1 Approximately twenty three thousand one hundred thirty five (23,135) trees marked with orange paint in all units as shown on Exhibit A.
- (C) IR-5 All young growth timber less than eight (8) inches D.B.H.O.B. not damaged in the normal course of logging in all units shown on Exhibit A.
- (D) IR-6 All dead trees in all units as shown on Exhibit A.
- (E) IR-10M2 all trees marked with and orange painted "W" and a butt stripe in all units as shown on Exhibit A. These trees are selected wildlife trees and are specially valued as a component of the Wildlife Habitat Management program. Selected wildlife trees damaged or destroyed by the purchaser shall be valued for purposes of determining damages at current market value of the merchantable volume plus the cost to replace the damaged or destroyed trees. The Purchaser will be liable under applicable sections of this contract for the removal or destruction of these selected wildlife trees, except for such trees which the Authorized Officer determines to be a safety hazard as defined by applicable safety codes and regulations. When selected wildlife trees are determined to be danger trees, written approval to fell such trees shall be obtained from the Authorized Officer conforming to all requirements of Section 8 of this contract.

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Section 41

(A) Log Exports

- (1) LE-1 All timber sold to the Purchaser under the terms of the contract, except exempted species, is restricted from export from the United States in the form of unprocessed timber, and is prohibited from being used as a substitute for exported private timber. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three-quarters (8¾) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end-product uses; or (4) western red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 Common or better. Thus, timber manufactured into the following will be considered processed: (1) lumber and construction timber, regardless of size, manufactured to standards and specifications suitable for end-product uses; (2) chips, pulp, and pulp products; (3) green or dry veneer and plywood; (4) poles and piling cut or treated for use as such; (5) cants, squares, and lumber cut for remanufacturing of eight and three-quarters (8¾) inches in thickness or less; (6) shakes and shingles.

Substitution will be determined under the definition found in 43 CFR 5400.0-5(n).

The Purchaser is required to maintain and upon request to furnish the following information:

- (a) Date of last export sale.
- (b) Volume of timber contained in last export sale.
- (c) Volume of timber exported in the past twelve (12) months from the date of last export sale.
- (d) Volume of Federal timber purchased in the past twelve (12) months from the date of last export sale.
- (e) Volume of timber exported in succeeding twelve (12) months from date of last export sale.
- (f) Volume of Federal timber purchased in succeeding twelve (12) months from date of last export sale.

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In the event the Purchaser elects to sell any or all of the timber sold under this contract in the form of unprocessed timber, the Purchaser shall require each party buying, exchanging, or receiving such timber to execute a Form 5460-16 (Certificate as to Nonsubstitution and the Domestic Processing of Timber). The original of such certification shall be filed with the Authorized Officer. Additionally, when the other party is an affiliate of the Purchaser, the Purchaser will be required to update information under item (2) of Form 5450-17 (Export Determination) and file the form with the Authorized Officer.

In the event an affiliate of the Purchaser has exported private timber within twelve (12) months prior to purchasing or otherwise acquiring Federal timber sold under this contract, the Purchaser shall, upon request, obtain from the affiliate information in a form specified by the Authorized Officer and furnish the information to the Authorized Officer.

Prior to the termination of this contract, the Purchaser shall submit to the Authorized Officer Form 5460-15 (Log Scale and Disposition of Timber Removed Report) which shall be executed by the Purchaser. In addition, the Purchaser is required under the terms of this contract to retain for a three-year period from the date of termination of the contract the records of all sales or transfer of logs involving timber from the sale for inspection and use of the Bureau of Land Management.

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

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

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

In the event of the Purchaser's noncompliance with this subsection of the contract, the Authorized Officer may take appropriate action as set forth in Section 10 of this contract. In addition, the Purchaser may be declared ineligible to receive future awards of Government timber for a period of one year.

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(B) Logging

- (1) L-1 Before beginning operations on the contract area for the first time or after a shutdown of seven (7) days or more, the Purchaser shall notify the Authorized Officer in writing of the date they plan to begin operations. The Purchaser shall also notify the Authorized Officer in writing if they intend to cease operations for any period of seven (7) or more days.
- (2) L-6 In biomass units 1-1, 1-2, 1-3, 1-6, 1-7, 11-2, 11-4, 12-1A, 12-2A, 17-1, 17-2, 27-1, 35-1, and 35-4 shown on Exhibit A, all trees twenty one (21) inches D.B.H.O.B. and smaller designated for cutting shall be felled and whole tree yarded to approved landing locations, except where excessive stand damage occurs as determined by the authorized officer. If excessive damage is occurring, bucking and/or limbing will be required. All trees over twenty one (21) inches D.B.H.O.B. designated for cutting shall be felled and cut into length not to exceed forty four (44) feet and yarded with top attached to approved landing locations.
- (3) L-6 In non-biomass units 1-5, 2-3, 2-4, 3-1, 12-1B, 12-2B, and 35-2 shown on Exhibit A, all trees twenty one (21) inches D.B.H.O.B. and smaller designated for cutting shall be felled and yarded to approved landing locations either tree length, or as log segments. If excessive stand damage occurs from tree length yarding as determined by the authorized officer, bucking and/or limbing will be required. All trees over twenty one (21) inches D.B.H.O.B. designated for cutting shall be felled and cut into length not to exceed forty four (44) feet and yarded with tops attached to approved landing locations.
- (4) L-7MC Yarding on the areas designated herein and shown on Exhibit A shall be done in accordance with the yarding requirements or limitations for the designated area.

Designated Area	Yarding Requirements or Limitations
<u>[Unit name/number]</u> <u>Tractor Units</u> All units	Yarding tractor width will not be greater than twelve (12) feet as measured from the outer edges of the standard width dozer blade in the straight position, or nine (9) feet as measured from the outer edges of standard width track shoes. Yarding tractors will be equipped with integral arches and winch systems capable of lining logs at least seventy five (75) feet. No front-end loaders are permitted.

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	<p>All ground based mechanized equipment will operate only on tractor skid roads approved by the Authorized Officer.</p> <p>The location of the tractor skid roads must be clearly designated on the ground, at one hundred and fifty (150) foot intervals at locations approved by the Authorized Officer.</p> <p>Where skid trails encounter coarse woody debris (CWD) sixteen (16) inches and larger at the small end, a section of the CWD is to be bucked out for equipment access. The bucked out portion shall be as narrow as operationally feasible, (maximum of fourteen (14) feet). The remainder of the CWD shall be left in place and not disturbed.</p> <p>No yarding up or down draw bottoms is permitted.</p> <p>No tractor yarding is permitted when soil moisture content at six (6) inch depth exceeds twenty five (25) percent by weight as determined by the oven dry method. Yarding and mechanical harvesting will be further limited in accordance with Section 25 if detrimental soil damage is occurring, as determined by the authorized officer.</p> <p>Log landing size shall not exceed one-quarter ($\frac{1}{4}$) acre.</p> <p>Biomass landing size shall not exceed one half ($\frac{1}{2}$) acre.</p>
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- (5) L-11 No new landings shall be located within riparian reserves or wet areas as shown on Exhibit A.
- (6) L-12 Biomass landings shall be placed at the approximate location(s) as shown on Exhibit A unless otherwise approved by the authorized officer.
- (7) L-13 Prior to the commencement of operations, the Purchaser shall obtain from the Authorized Officer written approval of a written operations and logging plan commensurate with the terms and conditions of the contract which shall include measures needed to assure protection of the environment and watershed. All logging shall be done in accordance with the plan. Tractor or wheeled type equipment will not be permitted to operate in or through streams except under special conditions approved in the plan.

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- (8) L-18 No hauling of logs, biomass material, or rock (due to inadequate road surfacing) shall be conducted on roads 34-3E-19.03, 34-3E-21.00, 34-3E-29.01, 34-3E-15.03, 34-3E-27.01, 34-3E-35.00, 34-3E-35.02, 34-3E-35.03, 34-3E-35.04, 34-3E-35.05, 35-3E-3.05, 35-3E-8.01, 35-3E-11.00, 35-3E-11.01, 35-3E-11.04, 35-3E-12.01, 35-3E-12.02, 35-3E-13.07, 35-3E-14.01, and FS3240 between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive.
- (9) L-18 No hauling of logs, biomass material, or rock (on adequately rocked roads) shall be conducted on roads 35-3E-3.00, 35-3E-10.00, 35-3E-10.01, and FS32 whenever soil moisture conditions or rain events could result in road damage or the transport of sediment to nearby stream channels between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive.
- (10) L-18 No road renovation and closure work shall be conducted within the contract area between October 15 of one calendar year and May 15 of the following calendar year, both days inclusive.
- (11) L-18a No harvesting activities in unit 35-2 shall be conducted between March 1 and September 30, both days inclusive. This restriction will not apply if it can be shown from spotted owl surveys conducted in accordance with accepted standards that spotted owl nesting and/or fledging activities are not occurring during the year of harvest.
- (12) L-18a No operations in all units (except 17-1, 17-2) shall be conducted between March 1 and June 30, both days inclusive. This restriction will not apply if it can be shown from spotted owl surveys conducted in accordance with accepted standards that spotted owl nesting and/or fledging activities are not occurring during the year of harvest.
- (13) L-18a No operations in unit 12-1A, 12-1B, 12-2A, and 12-2B shall be conducted between March 15 and July 15, both days inclusive. This restriction will not apply if it can be shown from surveys conducted in accordance with accepted standards that Great Gray Owl nesting and/or fledging activities are not occurring during the year of harvest
- (14) L-18a No operations in unit 11-4 shall be conducted between March 1 and July 30, both days inclusive. This restriction will not apply if it can be shown from Goshawk surveys conducted in accordance with accepted standards that Goshawk nesting and/or fledging activities are not occurring during the year of harvest.
- (15) L-20 During logging operations, the operator shall keep the 35-3E-3.0, FS 32, FS 3240, and 35-3E-10.1 roads, where they pass through the contract area, clear of trees, rock, dirt, and other debris so far as practicable. These roads shall not be blocked for more than ten (10) minutes.

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- (16) L-23 Prior to the commencement of operations, the Purchaser shall obtain from the Authorized Officer written approval of a written operations and logging plan commensurate with the terms and conditions of the contract which shall include measures needed to assure protection of the environment and watershed. A pre-work conference between the Purchaser's authorized representative and the Authorized Officer's representative must be held at a location designated by the Authorized Officer before the logging plan will be approved. All logging shall be done in accordance with the plan developed by this provision.
- (17) L-26 In the contract area shown on Exhibit A, all trees designated for cutting which are within one hundred ninety (190) feet of the unit boundary shall be felled away from the unit boundary. The Purchaser shall notify the Authorized Officer three (3) days before beginning felling operations in the above area(s).
- (18) L-26 In the contract area shown on Exhibit A, all trees designated for cutting which are within one hundred ninety (190) feet of a private property line shall be felled away from the private property line. The Purchaser shall notify the Authorized Officer three (3) days before beginning felling operations in the above area(s).
- (19) L-26 In the contract area shown on Exhibit A, all trees designated for cutting which are within one hundred ninety (190) feet of the corner monument shall be felled away from the corner monument. The Purchaser shall notify the Authorized Officer three (3) days before beginning felling operations in the above area(s).
- (20) L-33 In accordance with the requirements of Sec. 8 of the contract it has been determined that it is in the best interest of the Government and within the provisions of 43 CFR 5402.0-6 to sell additional timber located in or adjacent to all units as shown on Exhibit A, which is obstructing needed cable yarding roads, ground based yarding skid roads, hazardous to workers, needed for guyline, tailhold, and/or tieback trees, or severely damaged from the normal conduct of felling or yarding operations to meet all applicable State safety laws, codes or regulations. This timber must be cut or removed so that the Purchaser can continue active falling and yarding operations. The Purchaser is, therefore, authorized to cut and remove such additional timber in accordance with the provisions of Section 8 of the contract: provided, however, that:
 - (a) Trees reserved for the tree improvement program and trees reserved for the wildlife habitat objectives under Sec. 40 of the contract are not included in the authorization.
 - (b) The Purchaser shall identify each tree sold and cut in accordance with the provision by marking the cut surface of the stump immediately after

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falling with a large "X". The "X" shall be cut with a chain saw. The stump shall be marked by hanging red fluorescent flagging near the stump so that the stump can be visually located from a distance of not less than one hundred (100) feet.

- (c) The volume and price for such timber shall be determined by the Authorized Officer in accordance with Bureau of Land Management

prescribed procedures and paid for by the Purchaser in accordance with Sec. 3(a) or 3(c) of the contract as required by Sec. 8 of the contract.

- (d) No timber may be cut or removed under the terms of this provision if all contract payments required by Sec. 3(a) or 3(c) of the contract have been made.
- (e) The permission to cut and remove additional timber contained in this provision may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser:

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

If the permission to cut and remove additional timber provision is withdrawn, the Authorized Officer shall deliver to the Purchaser a written notice that additional sale of timber under this special provision is no longer approved.

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If the permission to cut and remove additional timber provision is withdrawn, the Purchaser shall inform the Authorized Officer at least two working days prior to the need for cutting and yarding any guyline tree, tailhold tree, tie-back tree, danger tree, corridor tree, pulled over tree, and severely damaged tree. All sales of additional timber shall comply with Section 8 of the contract.

The Contracting Officer may order the Purchaser, in writing, to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the Government to safely measure and mark additional timber.

All cable-yarding and ground based equipment skid roads upon which timber may be cut and removed in accordance with this special provision must be needed for the removal of timber sold under this contract and shall be limited to the narrowest width necessary for the yarding of logs with minimum damage to reserved trees. The Purchaser shall be liable for damages in accordance with Sec. 13 of the contract for any reserved timber cut or removed in violation of the terms of this special provision.

(C) Road Construction - Maintenance – Use

- (1) RC-1a The Purchaser shall construct, improve and/or 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) RC-1b Prior to removal of any timber, except right-of-way timber, the Purchaser shall complete all construction, improvement, or renovation of structures and roads, as specified in Exhibit C.
- (3) RC-1f The Purchaser shall decommission the entire roadway of roads shown on Exhibit C-14.
- (4) RC-2 The Purchaser is authorized to use the roads listed below and shown on Exhibit D-1 which are under the jurisdiction of the Bureau of Land Management, and/or USFS, and/or Plum Creek, for the removal of Government timber sold under the terms of this contract, and/or the hauling of rock, and/or hauling of biomass chips, as required in Exhibit C, provided that the Purchaser pay the required maintenance obligations described in Section 41(C)(7). Any road listed below and requiring improvement or renovation in Exhibit C of this contract shall be maintained by the Purchaser until receiving written acceptance of the improvement or renovation from the Authorized Officer. The Purchaser shall pay current Bureau of Land Management maintenance fees for the sale of additional timber under modification to the contract.

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Road No. and Segment	Length Miles Used	Road Control	Road Surface Type
34-3E-19.03 A	0.19	Plum Creek	ASC
34-3E-21.00 A	0.18	BLM	ASC
34-3E-21.00 B	1.15	Plum Creek	ASC
34-3E-29.01 A	0.65	BLM	ASC
34-3E-29.01 B	0.27	Plum Creek	ASC
34-3E-29.01 C	0.13	BLM	ASC
34-3E-29.01 D	0.26	Plum Creek	ASC
34-3E-29.01 E	0.45	BLM	ASC
Total Miles:	3.28		

(5) RC-2a The Purchaser is authorized to use the roads listed below and shown on Exhibit D-1 which are under the jurisdiction of the Bureau of Land Management and/or USFS, and/or Plum Creek, for the removal of Government timber sold under the terms of this contract and/or the hauling of rock and/or hauling of biomass chips as required in Exhibit C, provided that the Purchaser comply with the conditions set forth in Section 41(C)(11) and pay the required rock wear obligation described in Section 41(C)(10). The Purchaser shall pay current Bureau of Land Management rock wear fees for the sale of additional timber under modification to the contract.

Road No. and Segment	Length Miles Used	Road Control	Road Surface Type
34-3E-15.03 B2	0.22	BLM	ASC
34-3E-27.01 A, B	1.24	BLM	PRR
34-3E-35.00 A	0.52	Plum Creek	NAT
34-3E-35.02	0.95	BLM	ASC, NAT
34-3E-35.03	0.47	BLM	NAT
34-3E-35.04	0.42	BLM	NAT
34-3E-35.05	0.08	BLM	NAT
35-3E-3.00	1.88	BLM	ASC
35-3E-3.05	0.18	BLM	NAT
35-3E-8.01	0.86	Plum Creek	ASC
35-3E-10.00A,B	1.89	Plum Creek	ASC
35-3E-10.01 A	0.24	FS	ASC
35-3E-10.01 B	0.24	BLM	ASC
35-3E-10.01 C	0.42	FS	ASC

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Road No. and Segment	Length Miles Used	Road Control	Road Surface Type
35-3E-10.01 D	0.30	Plum Creek	ASC
35-3E-10.01 E	0.26	BLM	ASC
35-3E-10.01 F, G	0.51	Plum Creek	ASC
35-3E-11.00	0.13	Plum Creek	ASC
35-3E-11.01	0.31	Plum Creek	ASC
35-3E-11.04	0.38	Plum Creek	NAT
35-3E-12.01	0.36	Plum Creek	ASC
35-3E-12.02 A, B	1.81	Plum Creek	ASC
35-3E-13.07	0.34	Plum Creek	ASC
35-3E-14.01A,B,C	1.94	Plum Creek	ASC
FS 32	3.99	FS	ASC
FS 3240	1.30	FS	ASC
Total Miles:	21.26		

(6) RC-2b With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users of roads included in Section 41(C)(5) of this contract; provided, that such cooperative arrangement shall not relieve the Purchaser of his liability for the maintenance and repair of such roads resulting from wear or damage, in accordance with this contract. The Purchaser shall furnish the Authorized Officer a copy of any cooperative maintenance agreements entered into with other users on these roads.

(7) RC-2c The Purchaser shall pay the Government a road maintenance obligation in the amount of \$4,564.55 for the transportation of timber included in the contract price and for the transportation of any mineral material required under the terms of the contract over road or roads listed in Section 41(C)(4). The above road maintenance amount is for use of 3.28 miles of road or less. Unless the total maintenance amount is paid prior to commencement of operations on the contract area, payments shall be made in installments of not less than five hundred dollars (\$500.00); payable in the same manner as and together with payments required in Sec. 3 of this contract. The total maintenance amount shall be paid prior to the removal of timber from the contract area.

(8) RC-2d The Purchaser shall be authorized to use other roads not included in Section 41(C)(4) and/or Section 41(C)(5); provided, that in the use of such road(s), the Purchaser shall pay the Government current Bureau of Land Management road maintenance and/or rockwear fees for the particular surface type of the road(s) used.

For administrative purposes the total maintenance and rockwear obligation due shall be based upon the estimated volume set forth in Exhibit B of this contract and mileage of roads used as determined by the Authorized Officer.

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In the event logs are hauled over more than one route, the estimated volume set forth in Exhibit B shall be proportioned on the basis of actual volume removed. Prior to the use of such roads, the Purchaser shall give written notice to the Authorized Officer of the roads intended for use in the removal of the timber purchased under this contract, together with an estimate of the volume to be hauled over such roads.

Section 41(C)(7) and Section 41(C)(10) of this contract shall be amended to include adjustments of fee obligations.

(9) RC-2f The Authorized Officer may at any time by written notice, terminate the Purchaser's operator road maintenance obligations and require instead payment of current Bureau of Land Management road maintenance fees for the particular surface type of the road(s) involved. These fees will be applied to the remaining contract volume on the sale area to be transported over road or roads listed in Section 41(C)(5). The Purchaser shall pay the total maintenance amount for said road(s) within thirty (30) days following receipt of written notice; provided, however, that if the total amount exceeds five hundred and no/100 dollars (\$500.00), the Purchaser may elect to make payment in installments in the same manner as and together with payments required in Section 3 of this contract.

(10) RC-2g The Purchaser shall also pay to the Government a road maintenance obligation for rockwear in the amount of five thousand three hundred forty seven and 57/100 dollars (\$5,347.57) for the transportation of timber included in the contract price and for transportation of any mineral material required under terms of the contract over road or roads listed in Section 41(C)(5). The amount of the rockwear shown above shall be paid prior to removal of timber from the contract area; provided, however, that if the total of such amount exceeds five hundred and no/100 dollars (\$500.00), the Purchaser may elect to make the payment in installments in the same manner as and together with payments required in Section 3 of this contract.

(11) RC-2h 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.

(12) RC-3 In the use of road Nos. 34-3E-19.3 A, 34-3E-21.00 B, 34-3E-29.01 B and D, 34-3E-35.00 A, 35-3E-8.01A and B, 35-3E-10.00 A and B, 35-3E-10.01 D, F and G, 35-3E-11.00, 35-3E-11.01, 35-3E-11.04A, 35-3E-12.01, 35-3E-12.02 A and B, 35-3E-13.07 A, 35-3E-14.01 A1, A2, B and C, the Purchaser shall comply with the conditions of Right-of-Way and Road Use Agreement No. M-2000 between the United States of America and Plum Creek. These conditions include: Payment to Plum Creek, a road use obligation of six thousand one hundred forty seven and 48/100 dollars (\$6,147.48) and a road maintenance and rock wear obligation of three thousand two hundred fifty nine and 10/100 dollars (\$3,259) payable at the time indicated in the license agreement. This document is available for inspection at the Bureau of Land Management, Medford District Office, 3040 Biddle Road, Medford, Oregon 97504.

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Prior to the use of said road(s), the Purchaser shall furnish the Authorized Officer a copy of the executed License Agreement. Default by the Purchaser of said Right-of-Way and Road Use Agreement, or any License Agreement executed pursuant thereto, for failure to pay appropriate road use fees shall be considered a violation of this contract. The amount of unpaid fees shall be considered as the amount of damage suffered by the Government as a result of the violation of this provision.

(13) RC-3a In the use of road No. FS 32 and FS 3240, and 35-3E-10.01 A and C, the Purchaser shall comply with the conditions of the Bureau of Land Management and Forest Service Interagency Right-of-Way and Road Use Agreement dated May 20, 1980, Exhibit A, Agreement 812-S. The conditions include: Surface replacement in-lieu of rock wear fees in the amount of six thousand eight hundred twenty six and 83/100 dollars (\$6826.83) for the transportation of timber. See exhibit C for placement of surfacing.

(14) RC-3d The Purchaser agrees that if they elect to use any other private road which is the subject of a right-of-way agreement with the Government for the removal of Government timber sold under the terms of this contract, the Purchaser shall request and agree to the modification of this contract to provide for such use and for allowances for amortization of the Government's share of the capital investment of any such road.

(15) RC-5 In the construction of a road approach in T. 35 S. R. 3 E. Section 1- SE1/4, SW1/4, and construction of landing in T. 35 S. R. 3 E. Section 1- NW1/4, SE1/4, the Purchaser shall comply with the conditions of the Right-of-Way and Road Use Agreement No. M-2000 and construction plats between the United States and Plum Creek. This document is available for inspection at the Bureau of Land Management, Medford District Office, 3040 Biddle Road, Medford, Oregon 97504.

(16) RC-8 The Purchaser shall be required to secure written approval to use vehicles or haul equipment over Government owned or controlled roads and/or structures when that vehicle or equipment exceeds the maximum allowable weights or dimensions established by the State for vehicles operating without a permit.

(a) 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:

1. Axle weights when fully loaded.
2. Axle spacing
3. Transverse wheel spacing
4. Tire size
5. Outside width of vehicle

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6. Operating speed
7. Frequency of use
8. Special features (e.g., running tracks, overhang loads, etc.)

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

(D) Environmental Protection

- (1) E-1 In addition to the requirement set forth in Sec. 25 of this contract, the Purchaser shall prepare a Spill Prevention, Control, and Countermeasure Plan for all hazardous substances to be used in the contract area. Such plan shall include identification of Purchaser's representatives responsible for supervising initial containment action for releases and subsequent cleanup. In addition, such plan shall follow all applicable State of Oregon Department of Environmental Quality guidelines for spill prevention and containment of petroleum products (Oregon Administrative Rules, Chapter 340, Department of Environmental Quality, Division 142, Oil and Hazardous Materials Emergency Response Requirements).
- (2) E-1 In addition to the requirement set forth in Sec. 25 of this contract, the Purchaser shall not store, or cause to have stored, any fuel or other petroleum products inside any riparian reserve area. All petroleum products shall be stored in durable containers and located so that any accidental release will be contained and not drain into any stream system. Refueling of equipment shall be done outside of riparian reserve areas.
- (3) E-1 In addition to the requirement set forth in Sec. 25 of this contract, the Purchaser shall only be allowed to use logging, construction, rock crushing, chipping, shredding or grinding and/or transportation equipment that is free of noxious weed seeds prior to entering federal lands in the contract area as shown on Exhibit A.

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

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

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

- (4) E-1 In addition to the requirement set forth in Sec. 25 of this contract and as directed by the Authorized Officer, the Purchaser shall construct skid trail barricades in all units as shown on Exhibit A. Barricades shall be located where skid trails take off of system roads and constructed by pulling slash, logs, and other native debris across the trail for the first 100 feet of skid trail to effectively inhibit access by all terrain vehicles. Barricades shall be in place by October 15 of each calendar year.
- (5) E-1 In addition to the requirement set forth in Sec. 25 of this contract, the Purchaser shall construct road barricades as specified on Exhibit C, at locations shown on Exhibit A, and wherever an existing barricade has been removed to provide for harvest access. Barricades shall be in place by October 15 of each calendar year.
- (6) E-1 In addition to the requirements set forth in Sec. 25 of this contract, the Purchaser shall;
 - (a) Use a minimum 200 flywheel horsepower tractor with mounted rippers having shanks and teeth consistent with drawings and specifications shown on Exhibit R of this contract, which is attached hereto and made a part hereof.
 - (b) Rip to a depth of eighteen (18) inches.
 - (c) Ripping will not occur unless soil moisture content is twenty-five (25) percent or less (at a six (6) inch depth) as determined by the oven-dry method.
 - (d) Rip all temporary spur roads, decommissioned roads, and landings by October 15 of the year operations are completed as shown on Exhibit A.
 - (e) Seed and mulch all temporary spur roads, decommissioned roads, and landings by October 15 of the year logging operations are as shown on Exhibit A. Seed and mulch will be provided by the BLM. The Purchaser shall apply the seed at a rate of fifteen (15) lbs./acre and the straw at a rate of two thousand (2,000) lbs./acre.

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(f) water-bar all skid roads, used for logging activities by October 15 of the year operations are completed in all units shown on Exhibit A.

- (7) E-2 The water bars to be constructed as required by Sec. 25(c) shall be constructed in accordance with the specifications shown on Exhibit C-8, which is attached hereto and made a part hereof.
- (8) E-3 If, in connection with operations under this contract, the Purchaser, their contractors, subcontractors, or the employees of any of them, discovers, encounters, or becomes aware of any objects or sites of cultural value on the contract area such as historical or prehistorical ruins, graves or grave markers, fossils, or artifacts, the Purchaser shall immediately suspend all operations in the vicinity of the cultural value and shall notify the Authorized Officer of the findings. Operations may resume at the discovery site upon receipt of written instructions and authorization by the Authorized Officer.
- (9) E-4 The Purchaser shall immediately discontinue specified construction or timber harvesting operations upon written notice from the Contracting Officer that:
- (1) threatened or endangered plants or animals protected under the Endangered Species Act of 1973, as amended, may be affected by the operation, and a determination is made that consultation or reinitiation of consultation is required concerning the species prior to continuing operation, or;
 - (2) when, in order to comply with the Endangered Species Act, or to protect occupied marbled murrelet sites in accordance with the Standards and Guidelines of the Medford District Record of Decision (ROD) and Resource Management Plan (RMP), the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
 - (3) federal proposed, federal candidate, Bureau sensitive or State listed species protected under BLM Manual 6840 - Special Status Species Management - have been identified, and a determination is made that continued operations would affect the species or its habitat, or;
 - (4) other active raptor nests have been discovered, and a determination is made that continued operations under this contract would adversely affect the present use of the discovered nesting area by the raptor, or;
 - (5) when, in order to comply with a court order which enjoins operations on the sale or otherwise requires the Bureau of Land Management to suspend operations, or;

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- (6) when, in order to comply with a court order, the Contracting Officer determines it may be necessary to modify or terminate the contract, or;
- (7) species have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, and the Contracting Officer determines that continued operations would affect the species or its habitat, or;
- (8) when, in order to protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, the Contracting Officer determines it may be necessary to modify or terminate the contract.

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

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

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

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the unamortized Out-of-Pocket Expenses for road or

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other construction required pursuant to Exhibit C of the contract shall be refunded or transferred to another BLM contract at the request of the Purchaser. Upon written notice from the Contracting Officer lifting the suspension, the Purchaser shall reimburse the Government the amounts refunded or transferred. The Purchaser may choose to pay this reimbursement at once or in installments payable at the same time as payments are due for the timber under the contract and in amounts approximately equal to the expenses associated with the timber for which payment is due.

The 30 days can be the sum of days accruing during more than one operating season. Reappraisal may result in a decrease to the unit price bid per species. Reappraisal will be based on the loss of net volume due to the deterioration of logs during the period of delay and any associated changes in the amortization of logging costs per unit of volume, as determined by the Authorized Officer. Amortization of road construction cost over a reduced net volume will be considered as well as any additional move-in or logging costs caused by the delay, as determined by the Authorized Officer. Reappraisal will adjust Exhibit B volume and values, and will not consider changes in the market price of timber.

In the event that operating time is lost as a result of the incorporation of additional contract requirements, or delays due to Endangered Species Act consultation with the U.S. Fish and Wildlife Service or U.S. National Marine Fisheries Service, or court-ordered injunctions, the Purchaser agrees that an extension of time, without reappraisal, will constitute a full and complete remedy for any claim that delays due to the suspension hindered performance of the contract or resulted in damages of any kind to the Purchaser.

The Contracting Officer may determine that it is necessary to terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, protect occupied marbled murrelet sites in accordance with the ROD and RMP, protect species that have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or comply with a court order. Following the issuance of a written notice that cutting and removal rights will be terminated, the Purchaser will be permitted to remove timber cut under the contract, if allowed by the Endangered Species Act, marbled murrelet occupied site protection in accordance with the ROD and RMP, survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or court order requirements necessitating the modification or termination.

In the event cutting and removal rights are terminated under this subsection, the Purchaser agrees that the liability of the United States shall be limited to the actual costs incurred by the Purchaser which have not been amortized by timber removed from the contract area. This calculation of liability shall utilize actual

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Purchaser costs and Government estimates of timber volumes. At the Authorized Officer's request, the Purchaser agrees to provide documentation of the actual costs incurred in the performance of the contract. In addition, the Purchaser shall be released from the obligation to pay the contract price for any timber which is not authorized to be removed from the contract area.

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

- (10) E-5 The Purchaser shall immediately discontinue specified construction or timber harvesting operations upon written notice from the Authorized Officer that a spotted owl has been located in the sale area. Discontinued operations may be resumed upon receipt of written instructions and authorizations by the Authorized Officer.
- (11) E-6 The Purchaser shall notify the Authorized Officer in writing by February 1 of each calendar year in which operations are expected to take place on the contract area between March 1 and September 30, both days inclusive. If notification is not received by the Authorized Officer by February 1, felling, bucking, yarding, road construction, or any other activity with the potential to disturb nesting owls may not be allowed during this time period.

Upon receipt of a notice that the Purchaser expects to perform such operations during this time period, the Government will conduct surveys in unit 35-2 to determine whether spotted owls are nesting within 0.25 miles of the harvest units to be logged using ground based logging systems. If it is determined that spotted owls are not nesting or that no young have been produced, the Authorized Officer may lift the seasonal restriction on such operations in writing. Without this written approval, such operations are prohibited from March 1 through September 30 of each year.

(E) Miscellaneous

- (1) M-2 The Government, at its option, may administratively check scale any portion of the timber removed from the contract area, and if necessary, conduct check scaling of independent scalers contracted to BLM for administrative check scaling

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purposes. The Purchaser hereby agrees to make such contract timber available for such scaling at a location or locations to be approved in writing by the Authorized Officer. At the approved location or locations, the Purchaser shall provide an area for logs to be safely rolled out for scaling, to unload logs from trucks, place logs in a manner so that both ends and three faces of each log are visible for scaling, and to reload or remove logs after scaling has been completed. In the event that BLM elects to administratively check scale and if such check scaling causes a delay in log transportation time, an adjustment will be made to the purchase price as follows: If the entire sale is check scaled, the purchase price of this contract shall be reduced by five thousand one hundred sixty nine and 98/100 dollars (\$ 5169.98) In the event that only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of five thousand one hundred sixty nine and 98/100 dollars (\$ 5169.98) which is equal to the percentage of timber sold which was actually scaled by the Government. For purposes of computing this price reduction, the percentage of timber sold which has been scaled shall be determined by the Government. Any reduction in purchase price under the terms of this provision shall be full compensation to the Purchaser for any expense or loss incurred as a result of such scaling. Scaling shall be conducted in accordance with the Northwest Log Rules Eastside Log Scaling Handbook, as amended, or supplemented by BLM before the first advertisement date of the sale, by BLM scalers, and/or independent scalers contracted to BLM. A copy of the scale report will be made available to the Purchaser upon request.

- (2) M-4 Notwithstanding the provisions of Section 5(c), when the Purchaser elects to furnish and operate under a payment bond as provided in Section 38(d), the value of right-of-way timber included in a billing shall be based on the value of timber removed from the right-of-way.
- (3) M-5 The Purchaser shall, without expense to the Government, be responsible for obtaining any necessary licenses and permits and for complying with any and all Federal, State, County, and municipal laws, codes, regulations, and administrative rules applicable to the performance of this contract. The Purchaser shall also be responsible for all damages to persons or property that arise out of any operations under this contract and result from any breach of contract or wrongful or negligent act or omission of the Purchaser, its contractors, subcontractors, or employees of any of them.

(F) Fire Prevention and Control

- 1. F-1a Fire Prevention and Control. Primarily for purposes of fire prevention and control, the Purchaser shall comply with the following provisions:
 - 1. Prior to the operation of power driven equipment in construction or logging operations under this contract during the closed fire season or

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periods of fire danger, prepare a fire prevention and control plan to the satisfaction of the State of Oregon, Department of Forestry.

2. Provide and maintain in good repair, on the contract area, the following equipment for use during closed fire season or periods of fire danger:
 1. F-2a Fire fighting tools shall be kept at each landing or at such other place as the Authorized Officer shall designate whenever people are working on the contract area. All fire fighting tools shall be kept in a sturdily constructed box which shall be painted red and lettered on the front or top in large letters, "For Fire Only." The box shall have a hinged lid and a hasp by which the lid can be sealed. One box may serve two landings not over six hundred (600) feet apart. When filled, the box shall not weigh over two hundred (200) pounds. The fire tools shall be in good condition, be tight on strong handles, and have sharp cutting edges. There shall not be less than four (4) tools in each box nor less than one (1) tool for each person working on the contract area. Three-fourths ($\frac{3}{4}$) of all fire tools shall be shovels, hazel hoes, or other scraping tools. The fire tools shall be used only for fighting fire.
 2. F-2b A round pointed size zero (0) or larger shovel in good condition, shall be within fifty (50) feet of any power saw when in operation.
 3. F-2c At each landing during periods of operation one (1) tank truck. Each truck shall have three hundred (300) gallons minimum capacity with five hundred (500) feet minimum of hose and a nozzle acceptable to the Authorized Officer and a mounted or portable pump conforming to the standards set forth in Oregon Revised Statute (ORS) 477.645 through ORS 477.670 and any rule promulgated pursuant to those statutes. All hose couplings shall have the standard thread adopted by the State Fire Marshall pursuant to ORS 476.410 as amended or be provided with suitable adapters. At the close of each working day, all bulldozers and tank trucks shall be filled with fuel and made ready for immediate use. All tank trucks and portable tanks shall be filled with water and made available for immediate use.
 4. F-2d Serviceable radio or radio-telephone equipment able to provide prompt and reliable communication between the contract area and Medford, Oregon. Such communication shall be available during periods of operation including the time watch-service is required.
 5. F-2e A pair of headlights capable of being quickly attached to each bulldozer used on the contract area. The headlights shall be adequate to

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provide illumination sufficient to allow use of the bulldozers for fire fighting and construction of fire trails at night.

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

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

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

- (3) F-5 Where blocks and cables are used on the contract area during periods of fire danger, the Purchaser shall remove all flammable material at least ten (10) feet from the place where the tail or any other block will hang when the cable is tight. Such clearings shall be inspected periodically by the Purchaser and shall be kept free of flammable material.
- (4) F-8 Blasting caps and fuses shall not be used during closed fire season or any period of fire danger on any land administered by the Government. Blasting with electric detonators during the closed fire season or periods of fire danger is permitted only between the hours of 4:00 a.m. and 10:00 a.m.

(G) Slash Disposal and Site Preparation

- (1) SD-4 Logging Residue Reduction. In addition to the requirements of Sect.15 of this contract, and notwithstanding the Purchaser's satisfactory compliance with

TWIN RANCH
SPECIAL PROVISIONS

State laws and regulations regarding offsetting or abating the additional fire hazard created by this operation and the State's willingness to release the Purchaser from liability for such hazard, the Purchaser shall remain responsible to the Government for performance of the following logging residue reduction and site preparation measure(s) required by this contract:

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

Slash, as defined for this section, shall mean all material (brush, limbs, tops, unmerchantable stems, and chunks) severed or knocked over as a result of purchasers operations under the terms of this contract, including material cut during slashing activities for the purposes of fuels reduction.

Refueling of chainsaws and other equipment will be done no closer than one hundred fifty (190) feet of any stream or wet area. Spilled fuel and oil would be cleaned-up and would be disposed of at an approved disposal site.

- (2) SD-1f LOP AND SCATTER Lop and scatter all slash as directed by the Authorized Officer , concurrently with normal felling operations. All tops and side branches must be free of the central stem so that such slash is reduced to the point that it is within eighteen (18) inches of the ground at all points.
- (3) SD-4a SLASHING DAMAGED RESIDUALS. Slash all sprung or otherwise severely damaged trees greater than one (1) inch and less than six (6) inches D.B.H.O.B. concurrently with logging as designated by the Authorized Officer. All slashing is to be completed prior to any required piling of slash.
- (4) SD-1h HANDPILE Handpile all slash as directed by the Authorized Officer in accordance with the following specifications:
 1. Piling shall be accomplished by hand. Finished piles shall be tight and free of earth.
 2. Pile all slash which is between one (1) and six (6) inches in diameter on the large end and exceeds three (3) feet in length.
 3. A six (6) foot by six (6) foot sheet of four (4) mil polyethylene black plastic shall be placed in each pile in a manner such that approximately one-third ($\frac{1}{3}$) of the pile lies above it to hold it in place and so that a two (2) foot by two (2) foot dry ignition point is maintained for one (1) year or until burned. The ignition point will consist of fine fuel material such as needles, small limbs, and branches less than one-half ($\frac{1}{2}$) inch in diameter and free of dirt.

TWIN RANCH
SPECIAL PROVISIONS

Piles shall be constructed by aligning individual pieces in the same direction and placing the heavier slash on top. Piles shall have a stable base to prevent toppling. The long axis of individual pieces shall be oriented up and down the slope. Protruding pieces shall be trimmed to allow covering in a manner that permits the pile to shed water. Height shall be no less than four (4) feet and no greater than six (6) feet; width shall not exceed six (6) feet; piles shall be circular and not windrowed. No pile shall be located within sixty (60) feet of fish-bearing, perennial streams or within thirty five (35) feet from non-fish-bearing, intermittent streams. Piles shall not be located on down logs, stumps, talus slopes, roadways, or drainage ditches. No pile shall be located within ten (10) feet of reserve trees, any other pile, or unit boundary. No pile shall be located within twenty five (25) feet of designated wildlife trees. No portion of the pile will be under the crown of any living conifer tree.

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

- (5) SD-1i LANDING PILES In units 1-5, 2-3, 2-4, 3-1, 12-1B, 12-2B, and 35-2 shown on Exhibit A, pile all slash located within fifty (50) feet on each side of each landing. Slash shall be piled by a grapple loader. Finished piles shall be tight and free of earth.

1. A ten (10) foot by ten (10) foot cover of four (4) mil black plastic shall cap each pile to maintain a dry ignition point. The cover shall be firmly fixed to each pile to hold it in place. Landings shall be piled and covered during the same season that they are logged.

- (6) SD-1i LANDING PILES In biomass units 1-1, 1-2, 1-3, 1-6, 1-7, 11-2, 11-4, 12-1A, 12-2A, 17-1, 17-2, 27-1, 35-1, and 35-4 shown on Exhibit A, pile all slash located within fifty (50) feet on each side of each landing and piled by a grapple loader. Slash shall be removed from the contract area no later than twelve (12) months after completion of harvest activity for a given landing. All landing slash designated for biomass removal shall be processed and removed from the contract area by the contract expiration date as stated in section 4.

The estimated biomass to be removed is three thousand four hundred nine (3,409) bone dry tons (BDT). The purchaser shall pay the Government a total lump sum

TWIN RANCH
SPECIAL PROVISIONS

value in the amount of twelve thousand six hundred thirteen dollars and 30/100 dollars (\$12,613.30) for this material.

If biomass material is processed on site at the landing the following shall apply:

1. Residue remaining from processing landing slash shall be piled immediately following the removal of the landing slash from each biomass landing, and as directed by the authorized officer.
 2. A ten (10) foot by ten (10) foot cover of four (4) mil black plastic shall cap each pile to maintain a dry ignition point. The cover shall be firmly fixed to each pile to hold it in place. Landings shall be piled and covered during the same season that they are logged.
- (7) SD-5 Perform logging residue reduction and site preparation work on approximately one hundred and fifty (150) acres of harvest area as directed by the Authorized Officer.
- (a) The required work shall consist of any treatment or combination of treatments listed in the table below, as determined by the Authorized Officer and specified in writing by the Contracting Officer. The number of acres of each treatment shall be determined by the Authorized Officer.

Treatment	Description	Cost/Acre
Slash Damage	Slash conifers and hardwoods <6" dbh damaged during harvest	\$40.00
Lop and Scatter L1	0-12 tons/acre	\$30.00
Lop and Scatter L2	13-20 tons/acre	\$47.00
Handpile and Cover - L1	0 - 40 piles/acre	\$332.00
Handpile and Cover - L2	41 - 60 piles/acre	\$450.00
Handpile and Cover - L3	61 - 80 piles/acre	\$544.00

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

Treatment/Level	Cost Per Acre	Number of Acres	Total Cost Per Treatment Type
Slash Damage	\$40.00	50	\$2,000.00
Hand pile and cover L2	\$450.00	50	\$22,500.00
Lop and Scatter L1	\$30.00	100	\$3,000.00
Total Appraised Cost			\$27,500.00

TWIN RANCH
SPECIAL PROVISIONS

- (c) The total Purchase Price set forth in Section 2 shall be adjusted by the amount that the total cost of the site preparation treatments designated pursuant to Section 41(G)(2)(a) differs from twenty seven thousand five hundred dollars (\$27,500.00) as calculated by using the estimated acres determined by the Authorized Officer and the per acre costs listed in Section 41(G)(2)(a).

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

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

(H) Quarry Development

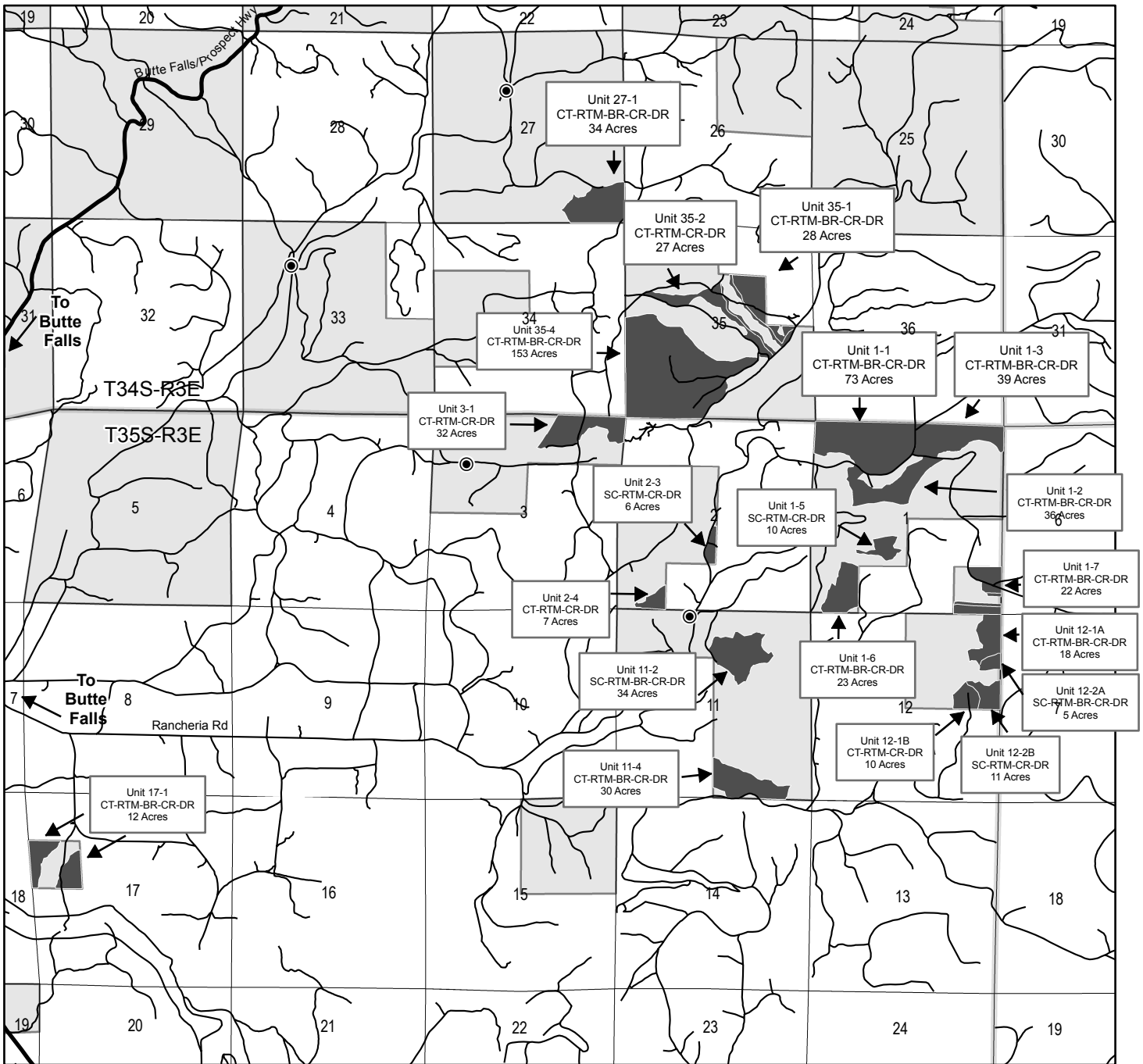
- (1) Q-1 The Purchaser shall develop a rock quarry in strict accordance with the plans and specifications shown on Exhibit C-11 which is attached hereto and made a part hereof. Exhibit C-11 contains 1 sheet.
 - (a) Q-1b Any quarry access road construction and site preparation shown on exhibit C-11 shall be completed at each quarry location shown on Exhibit C-11 prior to removal of any rock from such area.

(J) Equal Opportunity in Employment

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

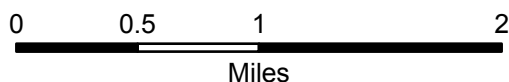
U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 10-17
T. 34S. R. 3E., SECS 27 and 35, WILL. MER.
T. 35S. R. 3E., SECS 1, 2, 3, 11, 12 and 17, WILL. MER.

TIMBER SALE LOCATION MAP
TWIN RANCH TIMBER SALE
CONTRACT NO. OR 110-TS 10-17
BUTTE FALLS RESOURCE AREA



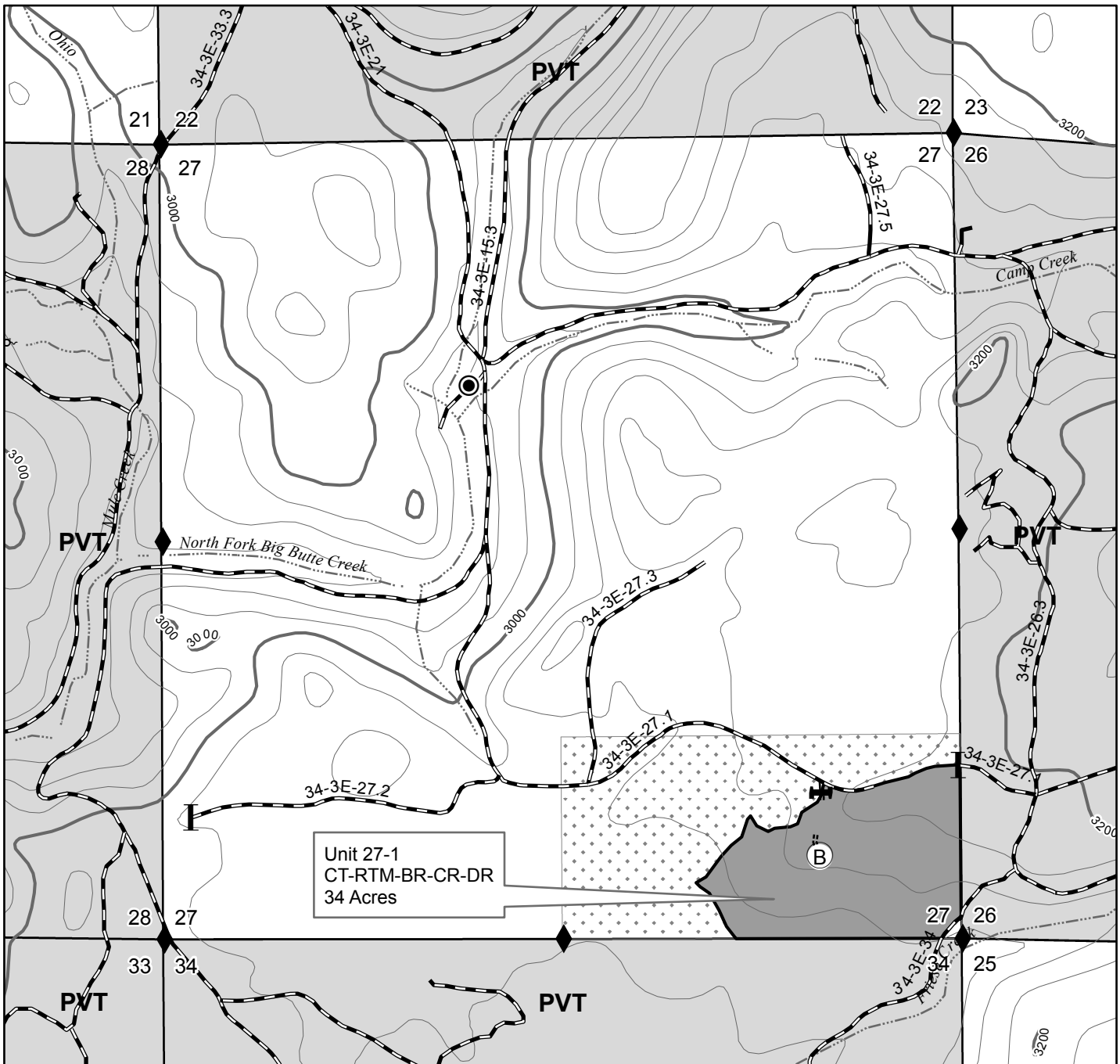
Thinning Unit Road Water Source

Large Location Map available upon request.



Medford District BLM
July 2010

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40 FEET CONTOURS



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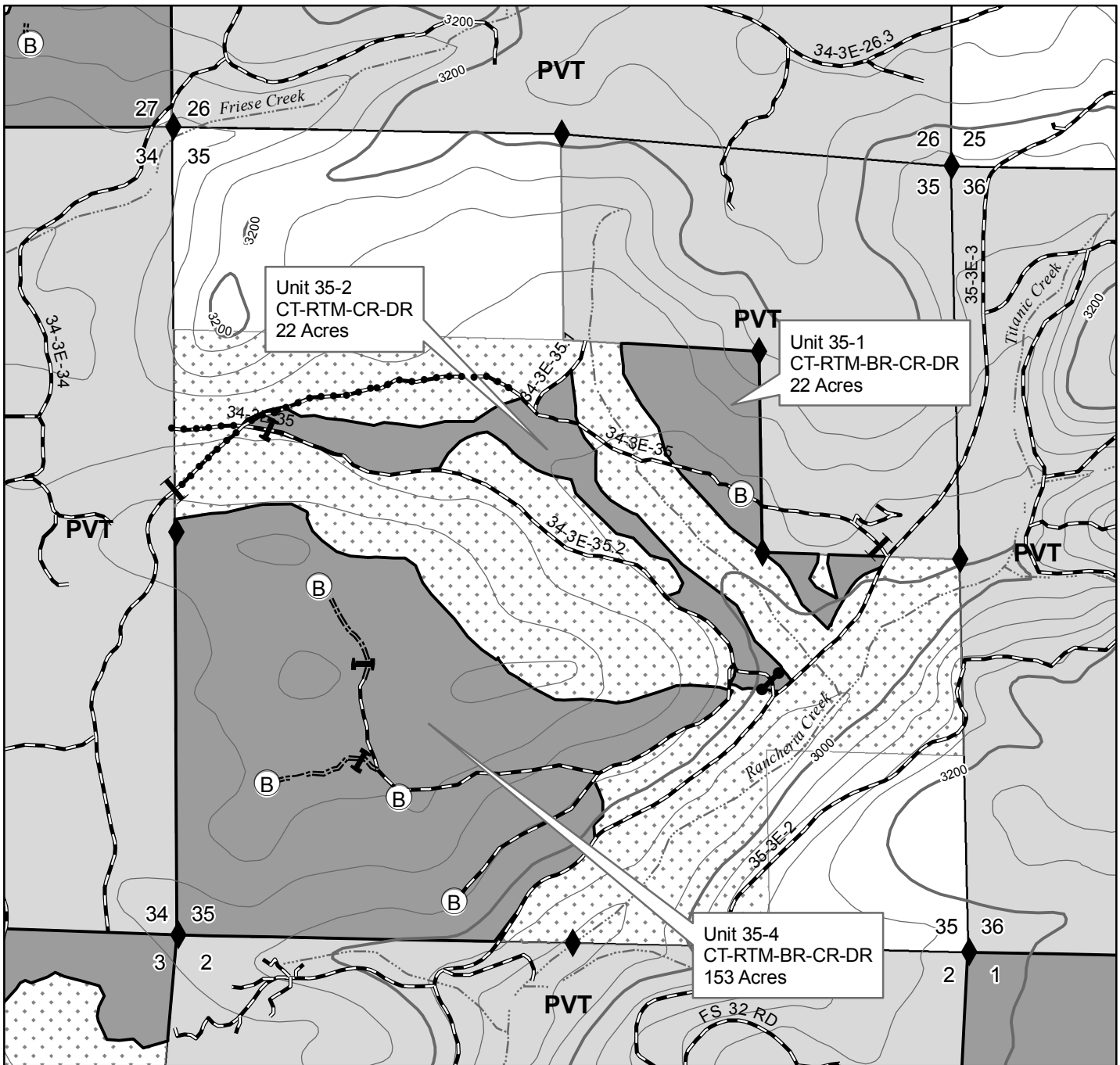
Miles

1 inch = 1,000 feet



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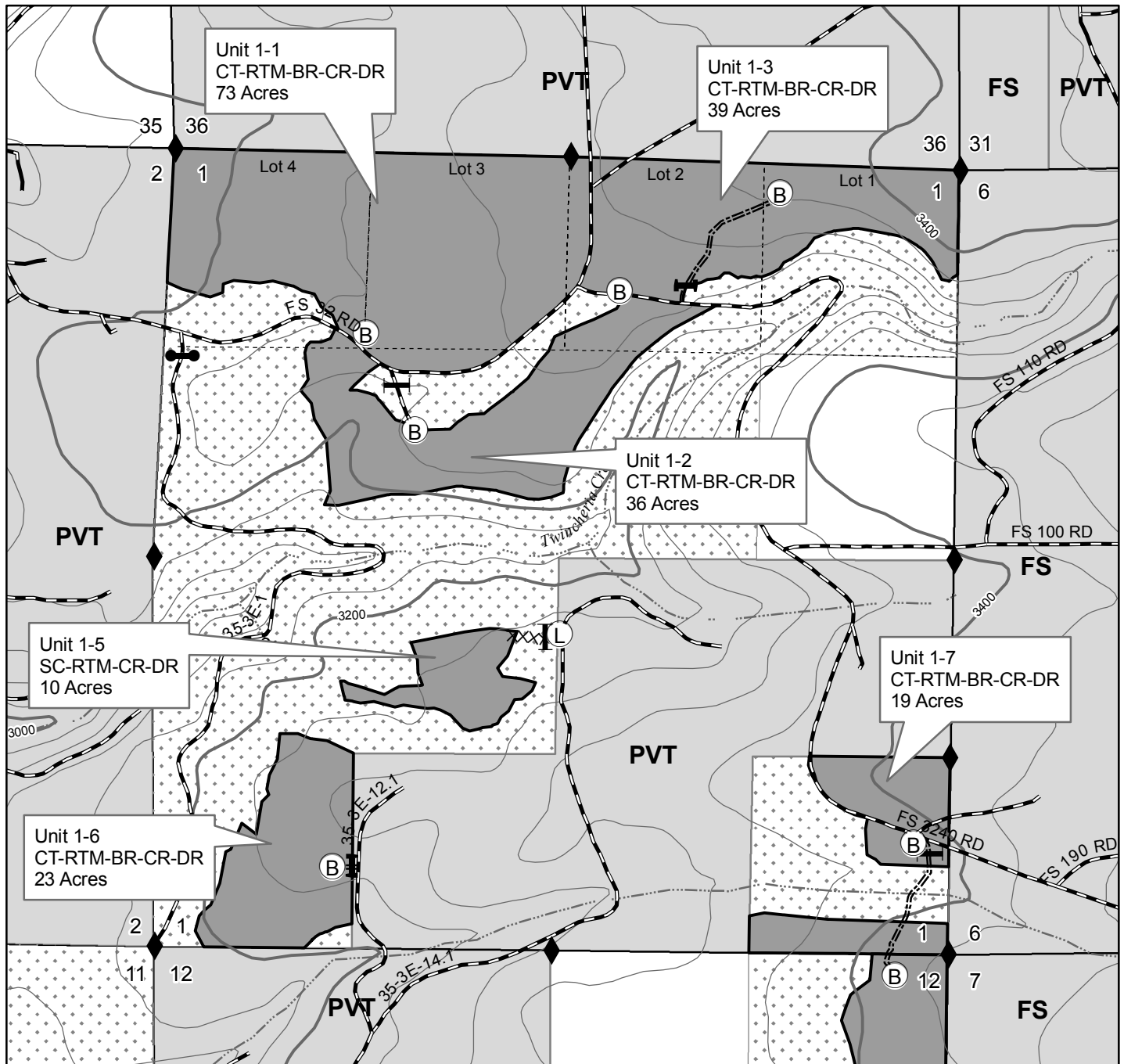


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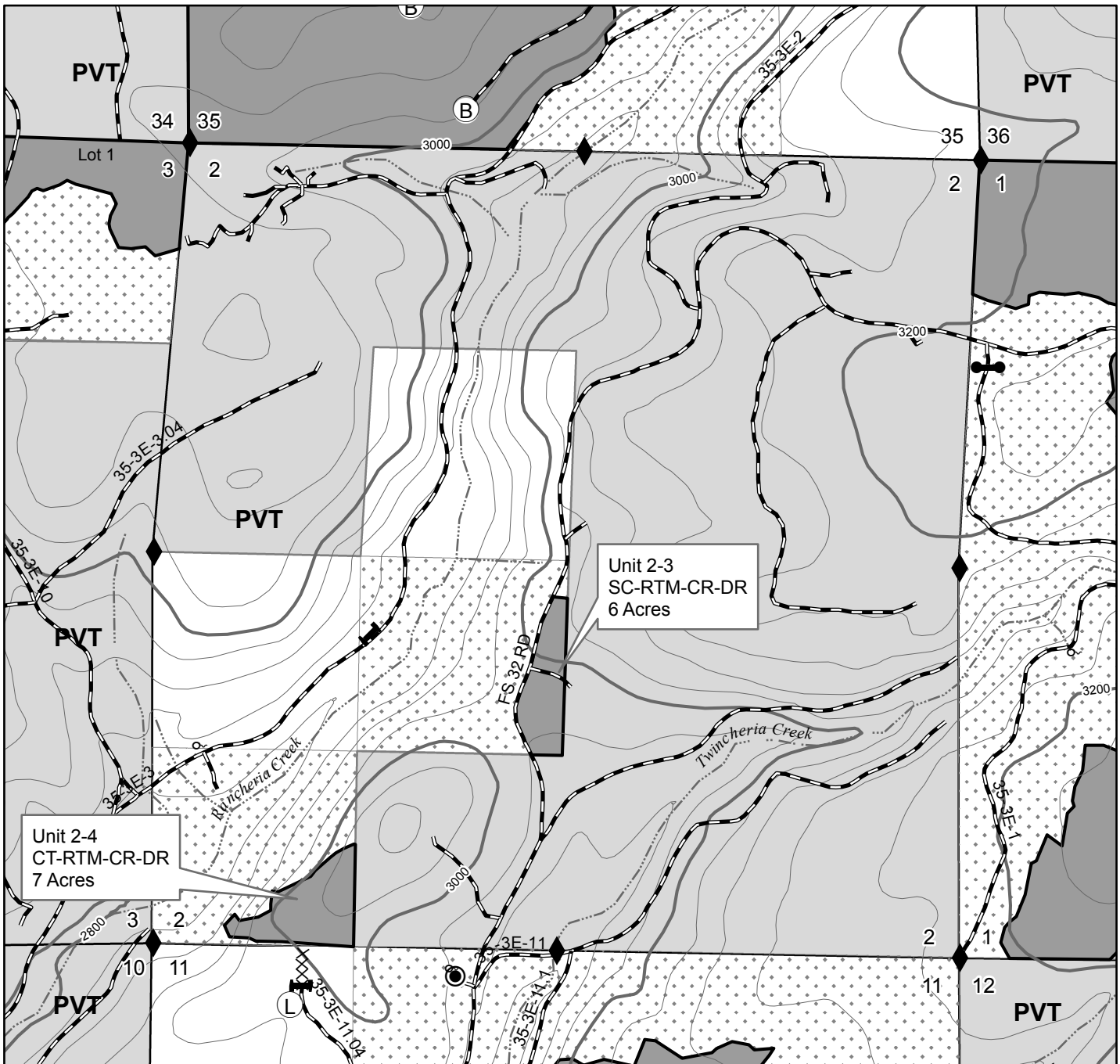
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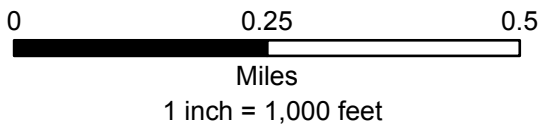
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Miles
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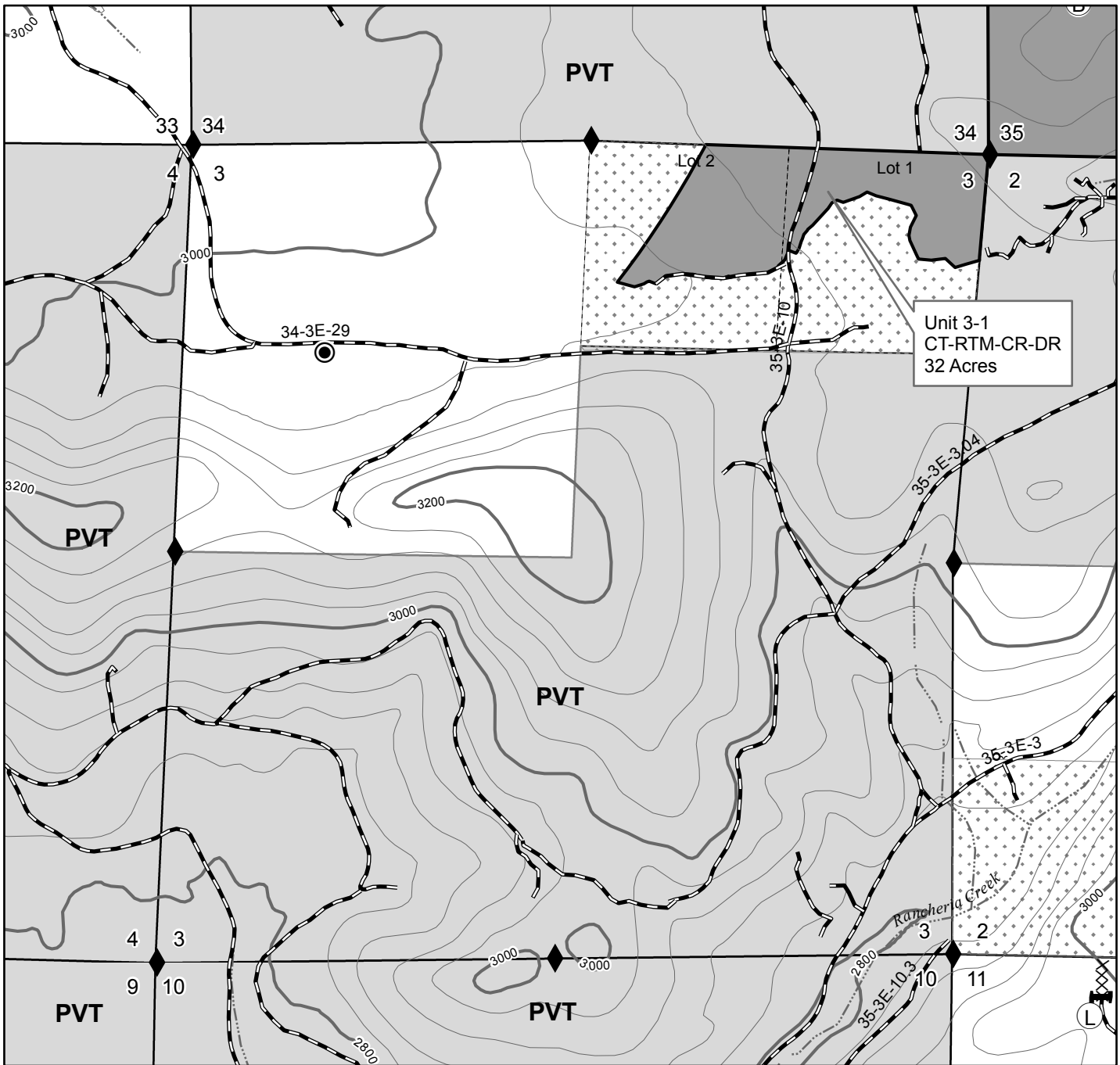


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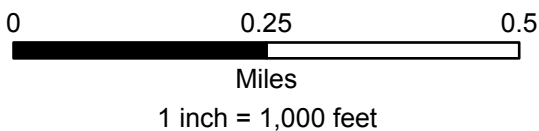


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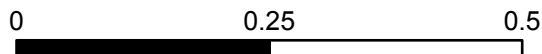
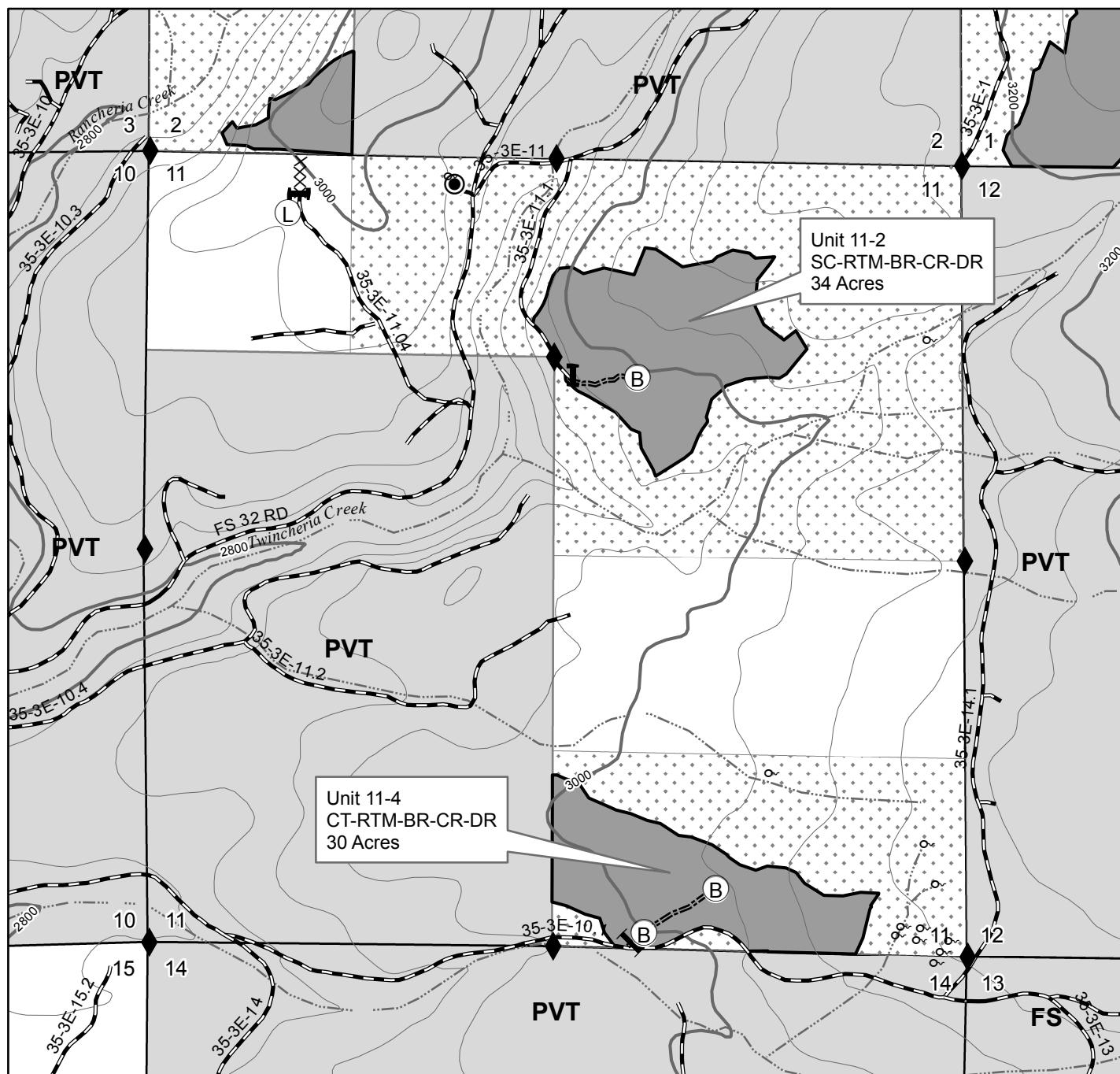
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TIMBER SALE CONTRACT MAP
CONTRACT NO. OR 110-TS 10-17
EXHIBIT A
PAGE 6 OF 10



Miles

1 inch = 1,000 feet



Medford District BLM
July 2010

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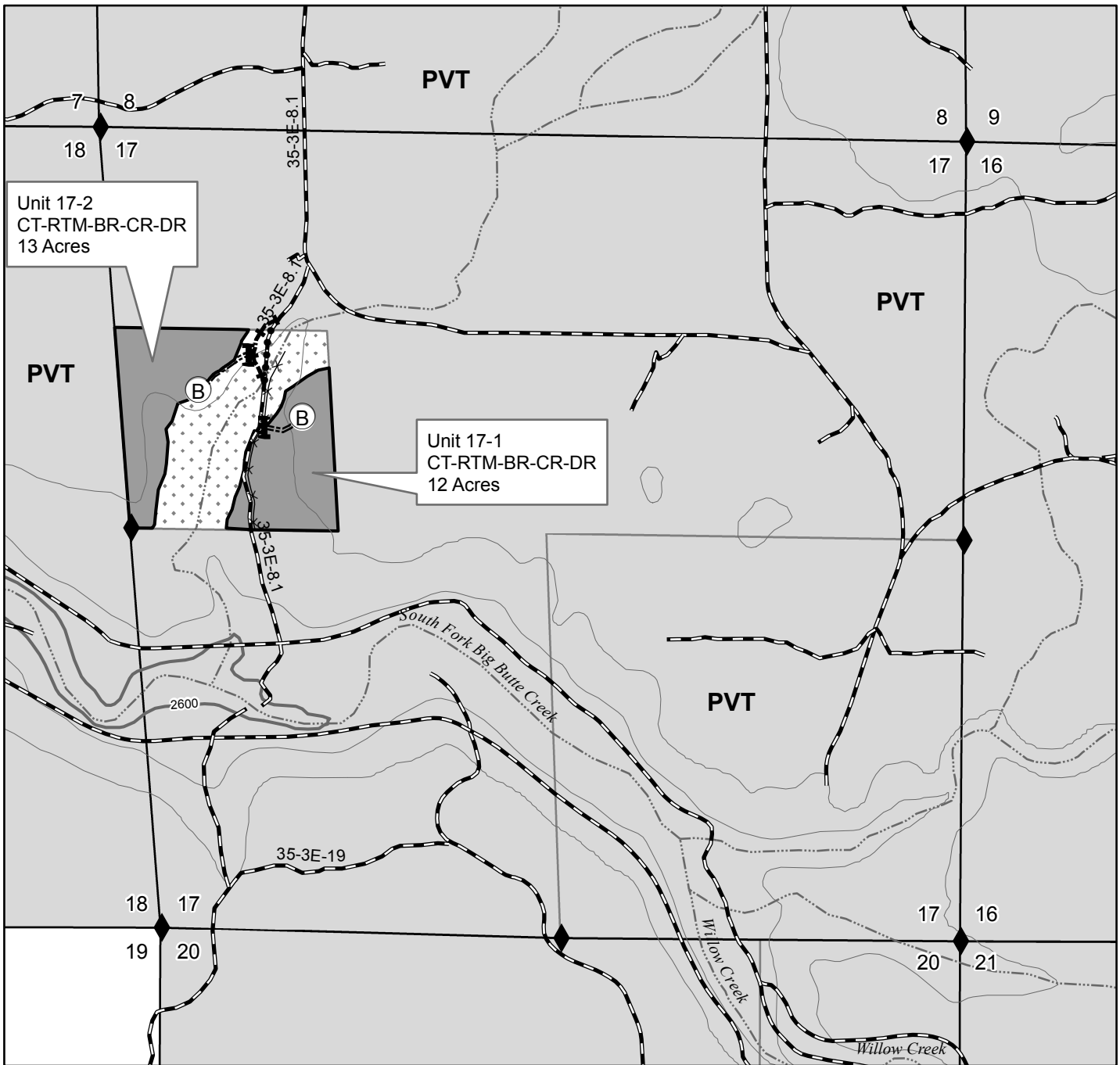
40 FEET CONTOURS

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Miles
1 inch = 1,000 feet



Medford District BLM
July 2010

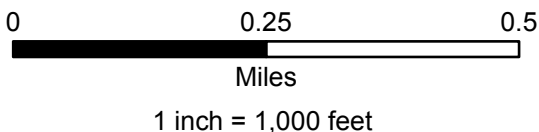
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




















Medford District BLM
July 2010



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U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 10-17
T. 34S. R. 3E., SECS 27 and 35, WILL. MER.
T. 35S. R. 3E., SECS 1, 2, 3, 11, 12 and 17, WILL. MER.
TWIN RANCH TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. OR 110-TS 10-17
EXHIBIT A
PAGE 9 OF 10

	Found Corner		Temporary Spur Road
	Water Source		Designated Skid Road
	Quarry		Road
	Spring		New Construction
	Gate, Existing		Full Decommission
	Barricade, Existing		Stream
	Barricade, to be constructed		100 ft. Index Contour
	Biomass Landing		40 ft. Intermediate Contour
	Log Landing		Contract Area
	Existing Fence		BLM Administered
	Boundary of Cutting Area		Non-BLM Land

CT-RTM-BR-CR-DR

Commercial Thin, Reserve Tree Mark, Biomass Removal, Tractor Log, Designated Skid Road; Units 27-1, 35-1, 35-4, 1-1, 1-2, 1-3, 1-6, 1-7, 11-4, 12-1A, 17-1, and 17-2

CT-RTM-CR-DR

Commercial Thin, Reserve Tree Mark, Tractor Log, Designated Skid Road; Units 35-2, 2-4, 3-1 and 12-1B

SC-RTM-BR-CR-DR

Select Cut, Reserve Tree Mark, Biomass Removal, Tractor Log, Designated Skid Road; Units 11-2 and 12-2A

SC-RTM-CR-DR

Select Cut, Reserve Tree Mark, Tractor Log, Designated Skid Road; Units 1-5, 2-3 and 12-2B

U.S.D.I. BLM MEDFORD DISTRICT SALE NO. 10-17
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TWIN RANCH TIMBER SALE

TIMBER SALE CONTRACT MAP
CONTRACT NO. OR 110-TS 10-17
EXHIBIT A
PAGE 10 OF 10

Section Number	Unit Number	Unit Acres	Reserve Acres	Contract Acres
1	1-1, 1-2, 1-3, 1-5, 1-6 and 1-7	200	200	400
2	2-3 and 2-4	13	67	80
3	3-1	32	48	80
11	11-2 and 11-4	64	16	80
12	12-1A, 12-1B, 12-2A and 12-2B	44	36	80
17	17-1 and 17-2	25	15	40
27	27-1	34	46	80
35	35-1, 35-2 and 35-4	197	203	400
	sum	609	631	1240



United States of America
Department of the Interior
Bureau Of Land Management
Timber Sale Appraisal

District : Medford
Sale Name : Twin Ranch
Sale Date : 09/30/2010
Appraisal Method : 16' MBF

Contract # : TS 10-17
Job File # : M11257 & M11261
Master Unit : Jackson
Planning Unit : Butte Falls

Contents

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Prospectus	5
Exhibit B	7
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Stump to Truck Costs	18
Other Allowances Costs	19
Consolidated Comments	20

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Timber - Sale - Summary**

Medford
Twin Ranch
TS 10-17

Legal Description

Forest Type	Township	Range	Section	Subdivision
O&C	34S	3E	27	S1/2 SE1/4.
O&C	34S	3E	35	SW 1/4 NE 1/4, S 1/2 NW 1/4, SW 1/4, N 1/2 SE 1/4, SW 1/4 SE 1/4.
O&C	35S	3E	1	Govt' Lots 1, 2, 3, 4, SW 1/4 NE 1/4, S 1/2 NW 1/4, N 1/2 SW 1/4, SW 1/4 SW
O&C	35S	3E	2	NE 1/4 SW 1/4, SW 1/4 SW 1/4.
O&C	35S	3E	3	Govt' Lots 1, 2.
O&C	35S	3E	11	NE 1/4, NE 1/4 NW 1/4, S 1/2 SE 1/4.
O&C	35S	3E	12	E 1/2 NE 1/4.
O&C	35S	3E	17	SW 1/4 NW 1/4.

Cutting Volume (16' MBF)

Unit	DF	WF	PP	IC	SP				Total	Regen	Partial	ROW
1-1	264	277	225		2				768		73	
1-2	134	211	91						436		36	
1-3	135	53	158						346		39	
1-5	26	28	57						111		10	
1-6	183	86	20						289		23	
1-7	53	137	17						207		18	
11-2	543	201	8		1				753		33	
11-4	203	7	102	2					314		29	
12-1A	47	39	25		1				112		18	
12-1B	67	20	1						88		10	
12-2A	65	51							116		5	
12-2B	169	17							186		11	
17-1	81	84	6	1					172		11	
17-2	67	56	10	2					135		12	
2-3	72	16	1						89		6	
2-4	37	3	30						70		7	
27-1	230	202	17	1					450		33	
3-1	61	79	4	1					145		32	
35-1	70	106	31	1					208		22	
35-2	125	141	27	1					294		22	
35-4	684	215	269	15	8				1,191		153	
ROW	136	72	40	1	6				255			6
Totals	3,452	2,101	1,139	25	18				6,735	0	603	6

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

Medford
Twin Ranch
TS 10-17

Logging Costs per 16' MBF

Stump to Truck	\$	168.75
Transportation	\$	49.95
Road Construction	\$	31.56
Road Amortization	\$	0.91
Road Maintenance	\$	7.12

Other Allowances :

Fuels Treatment	\$4.08
Misc	\$2.95
Other Costs	\$2.94
Total Other Allowances :	\$ 9.98

Total Logging Costs per 16' MBF

\$	268.27
-----------	---------------

Utilization Centers

Center #1 : White City, OR	43 Miles
Center #2	0 Miles
Weighted distance to Utilization Centers	43

Length of Contract

Cutting and Removal Time	36 Months
Personal Property Removal Time	1 Months

Profit & Risk

Total Profit & Risk	7 %
Basic Profit & Risk	7 % + Additional Risk 0 %
Back Off	0 %

Tract Features

Avg Log	Douglas-fir : 61 bf	All : 67 bf
Recovery	Douglas-fir : 84 %	All : 84 %
Salvage	Douglas-fir : 0 %	All : 0 %
Avg Volume (16' MBF per Acre)		11
Avg Yarding Slope		10 %
Avg Yarding Distance (feet)		600
Avg Age		100
Volume Cable		0 %
Volume Ground		100 %
Volume Aerial		0 %
Road Construction Stations		0.00
Road Improvement Stations		0.00
Road Renovation Stations		0.00
Road Decommission Stations		0.00

Cruise

Cruised By	Rentz, Parks
Date	07/08/2010
Type of Cruise	3P , 100%
County, State	Jackson, OR

Net Volume

Green (16' MBF)	6735
Salvage (16' MBF)	0.00
Douglas-fir Peeler	104.00
Export Volume	0
Scaling Allowance (\$0.75 per 16' MBF)	\$5,051.25

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

Medford
Twin Ranch
TS 10-17

Stumpage Computation (16' MBF)

Species	Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Cost	(+) Marginal Log Value	(-) Back Off	Appraised Price	Appraised Value
DF	18,964	3,452	402.34	28.16	268.27			105.90	365,566.80
WF	6,943	2,101	348.45	24.39	268.27			55.80	117,235.80
PP	3,030	1,139	272.99	19.11	268.27			27.30	31,094.70
IC	615	25	487.20	34.10	268.27			184.80	4,620.00
SP	46	18	275.66	19.30	268.27			27.60	496.80
Totals	29,598	6,735							\$ 519,014.10

Log Code by Percent

Species	Code #1	Code #2	Code #3	Code #4	Code #5	Code #6
Douglas-fir			3.0	47.0	43.0	7.0
White Fir				64.0	31.0	5.0
Ponderosa Pine			1.0	61.0	35.0	3.0
Sugar Pine			14.0	54.0	30.0	2.0
Incense-cedar				33.0	31.0	36.0

Marginal Log Volume

Species	Grade #7	Grade #8
Douglas-fir	142	119
White Fir		
Ponderosa Pine		
Sugar Pine		
Incense-cedar		

Appraised By : Parks, Corey

Date : 07/12/2010

Area Approval By : Rentz, George

Date : 07/26/2010

District Approval By :

Date :

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

Medford
Twin Ranch
TS 10-17

Prospectus

Appraisal Method : (16' MBF)

Species	Trees	Net Volume 16' MBF	Net Volume 32' MBF	Net Volume CCF
Douglas-fir	18,964	3,452	2,786	6,080
White Fir	6,943	2,101	1,689	3,567
Ponderosa Pine	3,030	1,139	918	1,888
Incense-cedar	615	25	21	53
Sugar Pine	46	18	15	28
Total	29,598	6,735	5,429	11,616

All Species

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
8,015	29,598	270	14.9	7,635	113,739	67

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
113,739	5,904	119,643	4	6,735	8,015	84 %

Douglas-fir

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
4,134	18,964	217	14.3	4,025	66,497	61

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
66,497	3,115	69,612	3	3,452	4,134	84 %

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Cutting Areas

Unit	Regen Acres	Partial Cut Acres	Right Of Way Acres	Total Acres
1-1		73		73
1-2		36		36
1-3		39		39
1-5		10		10
1-6		23		23
1-7		18		18
11-2		33		33
11-4		29		29
12-1A		18		18
12-1B		10		10
12-2A		5		5
12-2B		11		11
17-1		11		11
17-2		12		12
2-3		6		6
2-4		7		7
27-1		33		33
3-1		32		32
35-1		22		22
35-2		22		22
35-4		153		153
ROW			6	6
Totals :		603	6	609

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Exhibit B

The following estimates and calculations of timber sold are made solely as an administrative aid for determining: (1) Adjustments made or credits given in accordance with Sections 6, 9, or 11; (2) When payments are due; and (3) Value of timber subject to any special bonding provisions. The value of timber will be determined by multiplying the value per acre as shown below, times the amount of acreage as determined by the authorized officer, which has been cut or removed or designated for taking.

Except provided in Section 2, Purchaser shall be liable for the total purchase price even though the quantity of timber actually cut or removed or designated for taking is less than the estimated volume or quantity shown. Cutting areas are shown on the Exhibit A.

Sale Totals (16' MBF)

Species	Net Volume	Bid Price	Sale SubTotal
Douglas-fir	3,452		
White Fir	2,101		
Ponderosa Pine	1,139		
Incense-cedar	25		
Sugar Pine	18		
Sale Totals	6,735		

Unit Details (16' MB)

Unit 1-1 **73 Acres** **Value per Acre : \$0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	264		
Ponderosa Pine	225		
Sugar Pine	2		
White Fir	277		
Unit Totals	768		

Unit 11-2 **33 Acres** **Value per Acre : \$0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	543		
Ponderosa Pine	8		
Sugar Pine	1		
White Fir	201		
Unit Totals	753		

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Unit 11-4 29 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	203		
Incense-cedar	2		
Ponderosa Pine	102		
White Fir	7		
Unit Totals	314		

Unit 1-2 36 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	134		
Ponderosa Pine	91		
White Fir	211		
Unit Totals	436		

Unit 12-1A 18 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	47		
Ponderosa Pine	25		
Sugar Pine	1		
White Fir	39		
Unit Totals	112		

Unit 12-1B 10 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	67		
Ponderosa Pine	1		
White Fir	20		
Unit Totals	88		

Unit 12-2A 5 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	65		
White Fir	51		
Unit Totals	116		

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Unit 12-2B 11 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	169		
White Fir	17		
Unit Totals	186		

Unit 1-3 39 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	135		
Ponderosa Pine	158		
White Fir	53		
Unit Totals	346		

Unit 1-5 10 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	26		
Ponderosa Pine	57		
White Fir	28		
Unit Totals	111		

Unit 1-6 23 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	183		
Ponderosa Pine	20		
White Fir	86		
Unit Totals	289		

Unit 1-7 18 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	53		
Ponderosa Pine	17		
White Fir	137		
Unit Totals	207		

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Unit 17-1 11 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	81		
Incense-cedar	1		
Ponderosa Pine	6		
White Fir	84		
Unit Totals	172		

Unit 17-2 12 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	67		
Incense-cedar	2		
Ponderosa Pine	10		
White Fir	56		
Unit Totals	135		

Unit 2-3 6 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	72		
Ponderosa Pine	1		
White Fir	16		
Unit Totals	89		

Unit 2-4 7 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	37		
Ponderosa Pine	30		
White Fir	3		
Unit Totals	70		

Unit 27-1 33 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	230		
Incense-cedar	1		
Ponderosa Pine	17		
White Fir	202		
Unit Totals	450		

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Unit 3-1 32 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	61		
Incense-cedar	1		
Ponderosa Pine	4		
White Fir	79		
Unit Totals	145		

Unit 35-1 22 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	70		
Incense-cedar	1		
Ponderosa Pine	31		
White Fir	106		
Unit Totals	208		

Unit 35-2 22 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	125		
Incense-cedar	1		
Ponderosa Pine	27		
White Fir	141		
Unit Totals	294		

Unit 35-4 153 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	684		
Incense-cedar	15		
Ponderosa Pine	269		
Sugar Pine	8		
White Fir	215		
Unit Totals	1,191		

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Unit ROW 6 Acres Value per Acre : \$0.00

Species	Net Volume	Bid Price	Species Value
Douglas-fir	136		
Incense-cedar	1		
Ponderosa Pine	40		
Sugar Pine	6		
White Fir	72		
Unit Totals	255		

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Volume Summary**

Medford
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Sale Volume Totals

609 Acres

0 Regen

603 Partial

6 R/W

22 Units

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Net	16' MBF GM	16' MBF Gross	32' MBF Net	32' MBF GM	32' MBF Gross	CCF Net	CCF GM	CCF Gross
Douglas-fir	18,964	66,497	3,115	3,452	4,025	4,134	2,786	3,274	3,363	6,080	7,009	7,200
White Fir	6,943	30,805	1,282	2,101	2,269	2,398	1,689	1,825	1,930	3,567	3,856	4,054
Ponderosa Pine	3,030	15,437	1,436	1,139	1,294	1,435	918	1,045	1,169	1,888	2,138	2,363
Incense-cedar	615	830	50	25	29	30	21	25	26	53	61	63
Sugar Pine	46	170	21	18	18	18	15	16	17	28	30	32
Totals	29,598	113,739	5,904	6,735	7,635	8,015	5,429	6,185	6,505	11,616	13,094	13,712

Unit Totals

Unit : 1-1

73 Acres

0 Regen

73 Partial

0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,613	5,984	231	312	304	264
White Fir	901	4,180	152	317	300	277
Ponderosa Pine	402	2,932	301	282	252	225
Sugar Pine	3	15		2	2	2
Unit Totals	2,919	13,111	684	913	858	768

Unit : 1-2

36 Acres

0 Regen

36 Partial

0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
White Fir	786	3,191	116	242	229	211
Douglas-fir	1,052	3,040	118	159	154	134
Ponderosa Pine	167	1,186	122	114	102	91
Unit Totals	2,005	7,417	356	515	485	436

Unit : 1-3

39 Acres

0 Regen

39 Partial

0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Ponderosa Pine	404	2,067	212	199	178	158
Douglas-fir	1,107	3,071	119	160	156	135
White Fir	266	802	29	61	57	53
Unit Totals	1,777	5,940	360	420	391	346

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Unit : 1-5 10 Acres 0 Regen 10 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Ponderosa Pine	161	1,214		76	76	57
Douglas-fir	165	248	25	32	31	26
White Fir	111	345	27	32	30	28
Unit Totals	437	1,807	52	140	137	111

Unit : 1-6 23 Acres 0 Regen 23 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,093	4,151	161	217	211	183
White Fir	262	1,293	47	98	93	86
Ponderosa Pine	54	268	27	26	23	20
Unit Totals	1,409	5,712	235	341	327	289

Unit : 1-7 18 Acres 0 Regen 18 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
White Fir	386	2,074	76	157	149	137
Douglas-fir	360	1,211	47	63	61	53
Ponderosa Pine	46	225	23	22	19	17
Unit Totals	792	3,510	146	242	229	207

Unit : 11-2 33 Acres 0 Regen 33 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,448	5,230	527	671	656	543
White Fir	515	2,431	191	225	213	201
Ponderosa Pine	25	162		10	10	8
Sugar Pine	3	10	5	1	1	1
Unit Totals	1,991	7,833	723	907	880	753

Unit : 11-4 29 Acres 0 Regen 29 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,305	4,615	179	241	234	203
Ponderosa Pine	300	1,331	137	128	114	102
White Fir	28	102	4	8	7	7
Incense-cedar	23	50	3	2	2	2
Unit Totals	1,656	6,098	323	379	357	314

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Unit : 12-1A 18 Acres 0 Regen 18 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	329	1,075	42	56	55	47
White Fir	118	596	22	45	43	39
Ponderosa Pine	55	328	34	32	28	25
Sugar Pine	2	9	2	1	1	1
Unit Totals	504	2,008	100	134	127	112

Unit : 12-1B 10 Acres 0 Regen 10 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	358	1,509	58	79	77	67
White Fir	48	304	11	23	22	20
Ponderosa Pine	3	15	2	1	1	1
Unit Totals	409	1,828	71	103	100	88

Unit : 12-2A 5 Acres 0 Regen 5 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	104	625	63	80	78	65
White Fir	87	614	48	57	54	51
Unit Totals	191	1,239	111	137	132	116

Unit : 12-2B 11 Acres 0 Regen 11 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	219	1,624	164	208	204	169
White Fir	85	208	16	19	18	17
Unit Totals	304	1,832	180	227	222	186

Unit : 17-1 11 Acres 0 Regen 11 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	435	1,838	71	96	93	81
White Fir	319	1,277	46	97	92	84
Ponderosa Pine	16	82	8	8	7	6
Incense-cedar	13	28	2	1	1	1
Unit Totals	783	3,225	127	202	193	172

Unit : 17-2 12 Acres 0 Regen 12 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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Douglas-fir	420	1,529	59	80	78	67
White Fir	240	848	31	64	61	56
Ponderosa Pine	63	131	13	13	11	10
Incense-cedar	57	67	4	2	2	2
Unit Totals	780	2,575	107	159	152	135

Unit : 2-3 6 Acres 0 Regen 6 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	245	690	70	88	86	72
White Fir	64	188	15	17	17	16
Ponderosa Pine	15	23		1	1	1
Unit Totals	324	901	85	106	104	89

Unit : 2-4 7 Acres 0 Regen 7 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	240	836	32	44	42	37
Ponderosa Pine	88	391	40	38	34	30
White Fir	13	53	2	4	4	3
Unit Totals	341	1,280	74	86	80	70

Unit : 27-1 33 Acres 0 Regen 33 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	1,610	5,228	202	273	265	230
White Fir	709	3,055	111	231	219	202
Ponderosa Pine	67	220	23	21	19	17
Incense-cedar	38	47	3	2	2	1
Unit Totals	2,424	8,550	339	527	505	450

Unit : 3-1 32 Acres 0 Regen 32 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
White Fir	281	1,195	44	91	86	79
Douglas-fir	403	1,383	53	72	70	61
Ponderosa Pine	17	57	6	5	5	4
Incense-cedar	21	21	1	1	1	1
Unit Totals	722	2,656	104	169	162	145

Unit : 35-1 22 Acres 0 Regen 22 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
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White Fir	337	1,598	58	121	114	106
Douglas-fir	422	1,582	62	82	80	70
Ponderosa Pine	84	398	41	38	36	31
Incense-cedar	16	41	3	1	1	1
Unit Totals	859	3,619	164	242	231	208

Unit : 35-2 22 Acres 0 Regen 22 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
White Fir	522	2,128	78	161	153	141
Douglas-fir	770	2,841	110	148	144	125
Ponderosa Pine	68	355	36	34	31	27
Incense-cedar	14	18	1	1	1	1
Unit Totals	1,374	5,342	225	344	329	294

Unit : 35-4 153 Acres 0 Regen 153 Partial 0 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	4,747	15,503	598	807	785	684
Ponderosa Pine	910	3,504	360	336	302	269
White Fir	691	3,228	118	244	229	215
Incense-cedar	413	520	31	19	18	15
Sugar Pine	33	109	9	8	8	8
Unit Totals	6,794	22,864	1,116	1,414	1,342	1,191

Unit : ROW 6 Acres 0 Regen 0 Partial 6 R/W

SpeciesName	# of Trees	Merch Logs	Cull Logs	16' MBF Gross	16' MBF GM	16' MBF Net
Douglas-fir	519	2,684	124	166	161	136
White Fir	174	1,095	40	84	79	72
Ponderosa Pine	85	548	51	51	45	40
Sugar Pine	5	27	5	6	6	6
Incense-cedar	20	38	2	1	1	1
Unit Totals	803	4,392	222	308	292	255

**UNITED STATES
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Stump to Truck Costs**

Medford
Twin Ranch
TS 10-17

Total (16' MBF)

Total Stump to Truck Costs	Net Volume	Cost / Net Volume
\$1,136,530.59	6,735	\$168.75

Detail

Yarding & Loading

Yarding System	Unit Of Measure	Units	Cost / Unit	Total Cost
Wheel Skidder	GM MBF	6,733	\$139.99	\$942,552.67
Cut To Length	GM MBF	902	\$121.25	\$109,367.50
Subtotal				\$1,051,920.17

Other Costs

Explanation	Unit Of Measure	Units	Cost / Unit	Total Cost
Temp. Spur Construction / Decommission	stations	58	\$679.49	\$39,410.42
Biomass Landing Construction and Decommission	landing	10	\$4,000.00	\$40,000.00
Subtotal				\$79,410.42

Additional Move-Ins

Equipment	# Move-In	Cost / Move In	Total Cost
Dozer	8	\$650.00	\$5,200.00
Subtotal			\$5,200.00

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Medford
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Other Allowances Costs

Total (16' MBF)

Total Other Allowances Costs	Net Volume	Cost / Net Volume *	Total Buy Out Cost
\$67,195.79	6,735	\$9.98	\$0.00

Fuels Treatment

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Slashing - Level 1	2,000.00	0.30	N	0.00
Hand Pile, Cvr - Level 2	22,500.00	3.34	N	0.00
Lop and Scatter-Lvl 1	3,000.00	0.45	N	0.00
Subtotal	27,500.00	4.08		0.00

Misc

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Biomass Removal	18,101.79	2.69	N	0.00
Ripper Cat Transport	1,800.00	0.27	N	0.00
Subtotal	19,901.79	2.95		0.00

Other Costs

Detail (16' MBF)

Cost Item	Total Cost	Cost / Net Vol *	Buy Out	Buy Out Cost
Waterbar Skids	9,225.00	1.37	N	0.00
Ripping	1,800.00	0.27	N	0.00
Hand Seeding @ 17 lb seed per hour	249.00	0.04	N	0.00
Mulching (2 hours/5 bales)	2,700.00	0.40	N	0.00
Skid Location	1,920.00	0.29	N	0.00
Landing Clean up	1,200.00	0.18	N	0.00
Landing Construction	1,200.00	0.18	N	0.00
Equipment Washing	1,500.00	0.22	N	0.00
Subtotal	19,794.00	2.94		0.00

* Cost / Net Volume has been rounded to the nearest \$0.01 Subtotals may not tie to Sale Total Cost / Net Volume.

**UNITED STATES
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BUREAU OF LAND MANAGEMENT
Consolidated Comments**

Medford
Twin Ranch
TS 10-17

General

Biomass: Costs= \$19/ton on site grinding + \$18/ton hauling = \$37/ton processing cost
Biomass delivered price = \$37/ton. In summary biomass = no net profit
Biomass = limbs and tops, not UC/SP

Yarding & Loading

Wheel Skidder = manual falling and lining trees to skids
Cut to Length = mechanized falling, bunching
Addt. Move-ins = Dozer = all equipment (skidder, stroke delimber, feller-buncher, loader)except ripping cat.

Road Costs

From Area Engineer

(see Engineering Appraisal for details).

Transportation

(see Transportation appendix for details).

Other Allowances

Biomass Removal = mobilization,security,overhead,admin,aux fire equipment(\$1.61),stumpage(\$3.70)= \$5.31. Processing/Hauling cost:
Shed Value.
Waterbar Skids = 5 ac per hour
Ripping = 16 landings = 6ac
Skid Location = 5 ac per hour to flag and designate skids
Landing Cleanup = non-biomass landings @ 1 hr each
Landing Construction = Renovating existing landings
Equipment Washing = 5 pieces of equipment @ 4 hours each
Ripper Cat Transport = Additional cost for haul/down time

Prospectus

EXHIBIT C-1
SHEET 1 OF 1

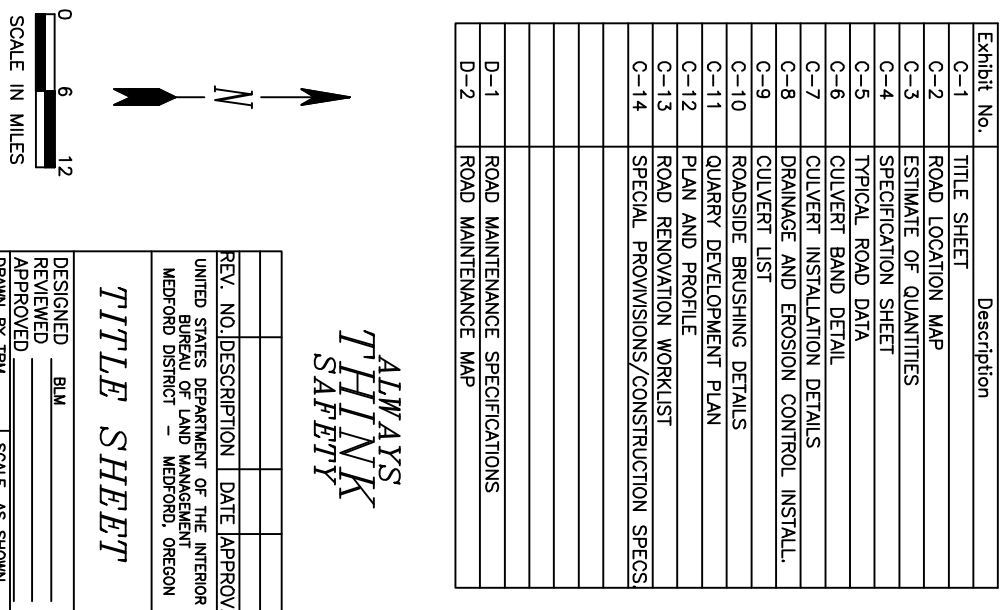


Exhibit No.	Description
C-1	TITLE SHEET
C-2	ROAD LOCATION MAP
C-3	ESTIMATE OF QUANTITIES
C-4	SPECIFICATION SHEET
C-5	TYPICAL ROAD DATA
C-6	CULVERT BAND DETAIL
C-7	CULVERT INSTALLATION DETAILS
C-8	DRAINAGE AND EROSION CONTROL INSTALL.
C-9	CULVERT LIST
C-10	ROADSIDE BRUSHING DETAILS
C-11	QUARRY DEVELOPMENT PLAN
C-12	PLAN AND PROFILE
C-13	ROAD RENOVATION WORKLIST
C-14	SPECIAL PROVISIONS/CONSTRUCTION SPECS.
D-1	ROAD MAINTENANCE SPECIFICATIONS
D-2	ROAD MAINTENANCE MAP

ALWAYS
THINK
SAFETY

TITLE SHEET

REV. NO.	DESCRIPTION	DATE	APPROV
UNITED STATES DEPARTMENT OF THE INTERIOR			
BUREAU OF LAND MANAGEMENT			
MEDFORD DISTRICT		MEDFORD, OREGON	
<i>TITLE SHEET</i>			
DESIGNED	BLM		
REVIEWED			
APPROVED			
DRAWN BY TSM	SCALE AS SHOWN		
DATE AUGUST-2004	SHEET	1 OF 1	
DRAWING NO. OR-11-9113.4-1			

TWIN RANCH TS LOCATION MAP
CONTRACT NO. OR. 110-TS10-17
EXHIBIT C-2

U.S.D.I. BLM MEDFORD DISTRICT
T.34S., R.3E. WILL. MER.
T.35S., R.3E. WILL. MER.

- Ⓟ

BIOMASS LANDING
- ⊙

WATER SOURCE
- ▬▬

EXISTING GATE
- ⌵

EXISTING BARRICADE
- ⌵

QUARRY
- ▬▬

EXISTING ROAD
- ▬▬

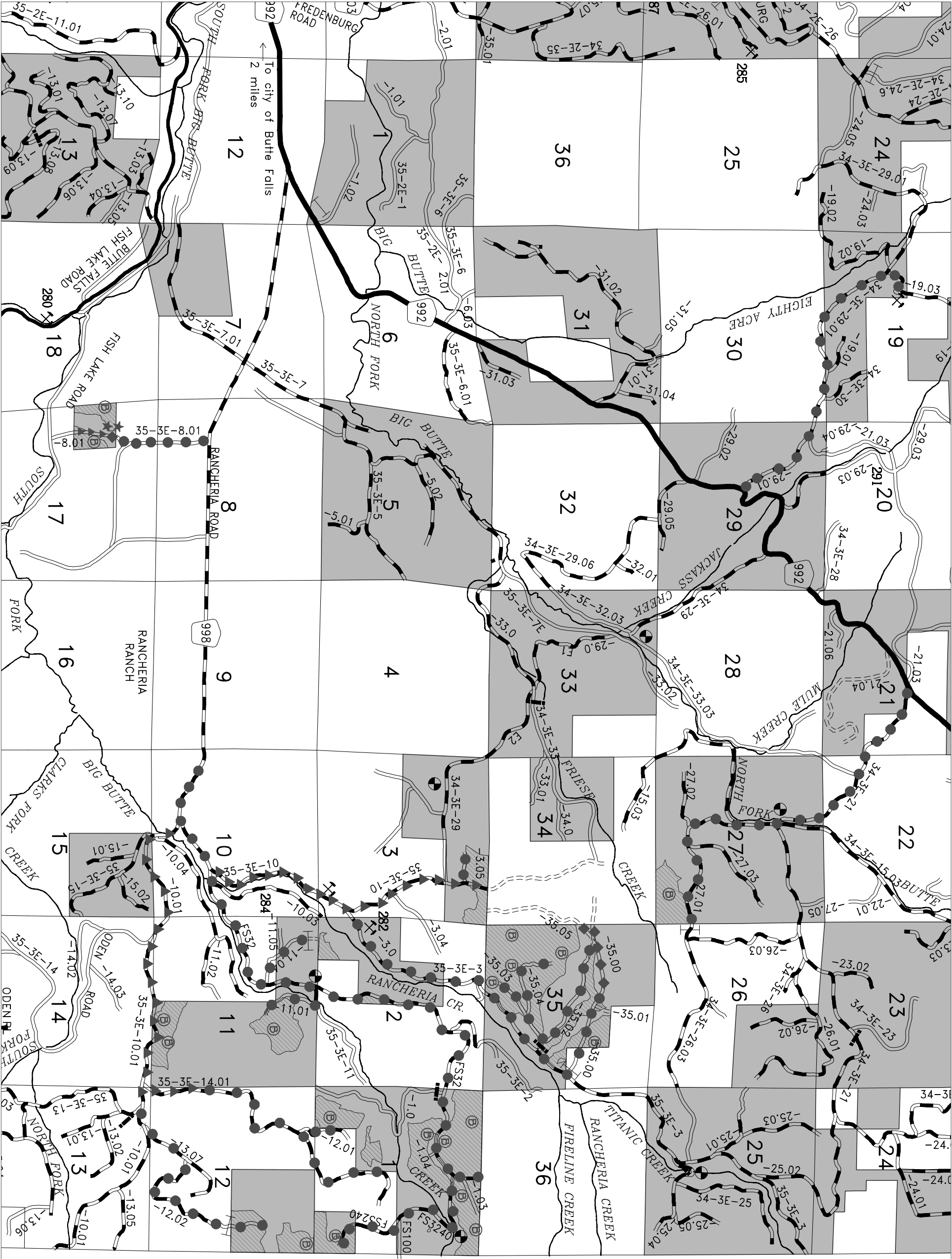
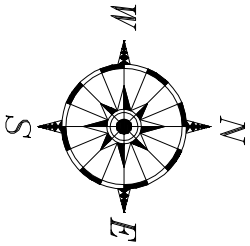
ROAD TO BE SURFACED
- ▬▬

ROAD TO BE RENOVATED
- ▬▬

ROAD TO BE CONSTRUCTED
- ◆◆

ROAD TO BE FULLY DECOMMISSIONED
- ▨

SALE UNITS
- BLM LAND



ROAD NUMBER	FROM	TO	LENGTH	CLEARING	CORRUGATED METAL PIPE										RENOVATION	AGGREGATE**					ROADSIDE BRUSHING	WATERBAR AFTER USE	ROAD BARRIER	DECOMMISSION				
					EXCAVATION		SIZE				ELBOWS		DOWNSPOUT			SPLASH PADS	RIP RAP	GRID ROLLED	CRUSHED BASE	CRUSHED SURFACE					STOCKPILE			
					ROCK	COMMON	18"	24"	36"	EA.	FULL/FL	RECT. FLUME	EA.	C.Y.												1600 A	1200 C-1	C.Y.
SPECIFICATION NO.	UNIT	MP/STA	MP/STA	MP/STA	ACRE	C.Y.	C.Y.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	EA.	C.Y.	C.Y.	C.Y.	C.Y.	ACRE	EA.	EA.	EA.	EA.	EA.	EA.
34-3E-15.03B	0.00	0.22	0.22																									
34-3E-19.3	0.00	0.19	0.19																									
34-3E-21.00	0.00	1.34	1.34																									
34-3E-27.01	0.00	0.92	0.92																									
34-3E-29.01	0.00	1.80	1.80																									
34-3E-35.00	0.00	0.54	0.54																									
34-3E-35.00	0.54	1.03	0.49																									
34-3E-35.02	0.00	0.82	0.82																									
34-3E-35.03	0.00	0.47	0.47																									
34-3E-35.04	0.00	0.42	0.42																									
34-3E-35.05	0.00	0.12	0.12																									
35-3E-1.04	0.00	0.08	0.08																									
35-3E-03.00	0.00	1.88	1.88																									
35-3E-03.05	0.00	0.18	0.18																									
35-3E-08.01	0.00	0.58	0.58																									
35-3E-08.01++	0.58	0.86	0.28	0.27		141	28	28																				
-08.01 spur.	0.00	0.08	0.08																									
35-3E-10.00	0.00	1.89	1.89																									
35-3E-10.01	0.00	1.91	1.91																									
35-3E-10.01	1.91	2.14	0.23																									
35-3E-11.00	0.00	0.13	0.13																									
35-3E11.01	0.00	0.31	0.31																									
35-3E-11.04	0.00	0.38	0.38																									
TOTAL																												

ITEM 900			ITEM 1000			ITEM 1200			ITEM 2300		
SIZE GRADE			SIZE GRADE			SIZE GRADE			C = CHIP S = SCATTER		
4 inch	A		3 inch	A,F		1 1/2 inch	C,C-1				
3 inch	B		2 inch	B,C,G		1 inch	D,F				
2 inch	C		1 1/2 inch	D		3/4 inch	E,E-1				
1 1/2 inch	D			E							

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

**Indicate gradation.
***Construct waterbar as shown in Ex. C-8.
++5.5 Stations of new construction.

ALWAYS
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SAFETY

ESTIMATE OF QUANTITIES*

DESIGNED	REVIEWED	APPROVED	DRAWN: BS	SCALE NONE
DATE				SHEET 1 OF 2
DRAWING NO.				ON-11-0134-2

[illegible]

ALWAYS
THINK

***Construct waterdip as shown in EX. C-8.

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

DESIGNED	
REVIEWED	
APPROVED	
DRAWN: BS	SCALE NONE
DATE	SHEET 2 OF 2
DRAWING NO.	DR-11-0113A42-2

ROAD NUMBER	STATION OR MILE POST	TO STATION OR MILE POST	LENGTH MILE OR STATION	TYPICAL SECTION TYPE	ALIGNMENT	ROAD WIDTH (1-3)		GRADIENT		CLEARING WIDTH				SURFACING (4)								REMARKS	
					MAXIMUM DEGREE OF CURVE	SUBGRADE	DITCH	MAXIMUM FAVORABLE	MAXIMUM ADVERSE	BEYOND		EXISTING ROAD(S)		BASE COURSE				SURFACE COURSE					
										TOP CUT	TOE FILL	L	R	MINIMUM WIDTH	COMP. DEPTH	TYPE (2)	GRADING	MINIMUM WIDTH	COMP. DEPTH	TYPE (2)	GRADING		
34-3E-15.03B	0.00	0.22	0.22	5		14	3				4	4											
34-3E-19.3	0.00	0.19	0.19	5		14	0				4	4											
34-3E-21.00	0.00	1.34	1.34	5		14	0				4	4											
34-3E-27.01	0.00	0.92	0.92	5		14	3				4	4											
34-3E-29.01	0.00	1.80	1.80	5		14	0				4	4											
34-3E-35.00	0.00	0.54	0.54	5		14	0				4	4											SPOT ROCK (PRR)
34-3E-35.00	0.54	1.03	0.49																				DECOMMISSION
34-3E-35.02	0.00	0.82	0.82	6		14	3				4	4											
34-3E-35.03	0.00	0.47	0.47	3		14	0				4	4											SPOT ROCK (PRR)
34-3E-35.04	0.00	0.42	0.42	3		14	0				4	4											SPOT ROCK (PRR)
34-3E-35.05	0.00	0.08	0.08	3		14	0				4	4											
35-3E-1.04	0.00	0.08	0.08	3		14	0				4	4											
35-3E-3.00	0.00	1.88	1.88	6		16	3				4	4											
35-3E-3.05	0.00	0.18	0.18	3		12	0				4	4											SPOT ROCK (PRR)
35-3E-8.01	0.00	0.58	0.58	5		14	3				4	4											
35-3E-8.01	0.58	0.86	0.28	5		14	3				4	4			12	8	D						5.5 STATIONS, NEW CONSTRUCTION
-8.01 spur	0.00	0.08	0.08																				DECOMMISSION
35-3E-10.00	0.00	1.89	1.89	6		16	3				4	4							12	4	D		
35-3E-10.01	0.00	1.91	1.91	6		16	3				4	4							12	4	D		
35-3E-10.01	1.91	2.14	0.23	6		16	3				4	4											
35-3E-11.00	0.00	0.13	0.13	6		14	3				4	4											ARMOUR CMP (PRR) SPLASHPAD (PRR)

TYPICAL GRADING SECTION

TYPE 1

TYPICAL SURFACING SECTION

TYPE 2

TYPICAL GRADING SECTION

TYPE 3

TYPICAL SURFACING SECTION

TYPE 4

TYPICAL GRADING SECTION

TYPE 5

TYPICAL SURFACING SECTION

TYPE 6

PLAN TYPICAL TURNOUT

NOTES

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

MATERIALS CUT SLOPES FILL SLOPES

COMMON _____ 1 1/2:1

SOFT ROCK & SHALE 1/2:1 _____

SOLID ROCK 1/2:1 ANGLE OF REPOSE

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

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

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

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

5. CLEARING WIDTH
SEE SUBSECTION 2100

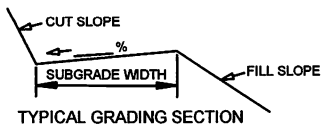
ALWAYS THINK SAFETY

REV. NO.	DESCRIPTION	DATE	APPROV.

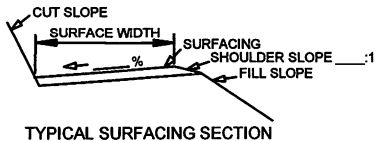
UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT
MEDFORD, OREGON

SPECIFICATION SHEET

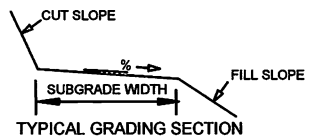
DESIGNED _____
REVIEWED _____
APPROVED _____
DRAWN: BS SCALE NONE
DATE _____ SHEET 1 OF 2
DRAWING NO. _____ OR-11-9113.4-2

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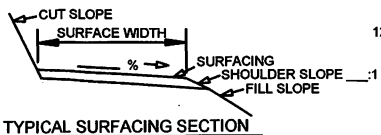
TYPE 1



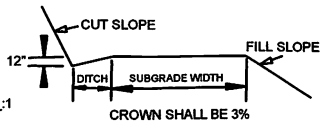
TYPE 2



TYPE 3

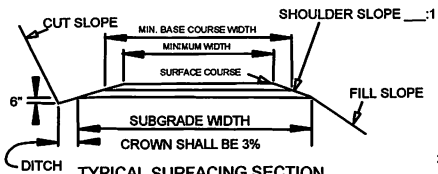


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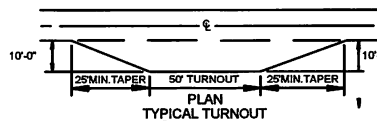
TYPICAL GRADING SECTION

TYPE 5



TYPICAL SURFACING SECTION

TYPE 6



NOTES

1. **EXTRA SUBGRADE WIDTHS**
ADD TO EACH FILL SHOULDER 1FT.FOR
FILLS OF 1-6FT. & 2FT.FOR FILLS OVER
6FT. 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.

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	_____	1 1/2:1
SOFT ROCK & SHALE	1/2:1	_____

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.
 - C. INTERVISABLE AND NOT MORE THAN _____ FT. APART.
4. SURFACING

TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.
5. CLEARING WIDTH

SEE SUBSECTION 2100

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SAFETY**

REV. NO.	DESCRIPTION	DATE	APPROV.

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

SPECIFICATION SHEET

DESIGNED	
REVIEWED	
APPROVED	
DRAWN: BS	SCALE NONE
DATE	SHEET 2 OF 2
DRAWING NO.	OR-11-9113.4-2

EXHIBIT C-5
SHEET 1 OF 1

Diagram illustrating a 90° or as staked intersection. The intersection is marked with a 90° angle. A curve with a radius of 30°R is shown. The distance from the intersection to the start of the curve is labeled 50 MIN. TANGENT.

Diagram illustrating the required distance for the crushed aggregate base from the profile existing road approaches. The distance is specified as 20' MINIMUM.

1. THE PROFILE OF EXISTING APPROACH ROADS SHALL BE REPERFECTED AND SHOULDER LINE OF THE MAIN ROADWAY AND SHALL RECEIVE THE SAME WEARING SURFACE.
2. THE CRUSHED AGGREGATE BASE SHALL BE OF THE SAME GRADATION AS USED IN THE ADJACENT ROADBED.
3. APPROACHES SHALL BE FINISHED WITH THE SAME TREATMENT AS SHOWN FOR THE ADJACENT ROADBED.

Diagram illustrating the method of rounding a cut slope to a parabolic curve. The diagram shows a cross-section of a road cut. A horizontal line represents the top of the cut. A vertical line segment is labeled "APPROX. 5'". A diagonal line segment is labeled "APPROX. 3'". A horizontal line segment is labeled "SLOPE STAKE". A vertical line segment is labeled "CUT SLOPE". The text "ROUNDING TO APPROXIMATE A PARABOLIC CURVE" is written vertically along the right side of the diagram.

The diagram illustrates a cross-section of a road embankment. At the top left, a line represents the 'GROUND SLOPE'. Below this, a hatched area is labeled 'RANDOM FILL'. A horizontal line within the fill is labeled 'RANDOM FILL TO BE COMPACTED AS INDICATED IN EXHIBIT C SECTION 300'. The road surface is shown as a horizontal line with a centerline 'C'. Below the road surface, a dashed line indicates the 'CULVERT & DOWNDRAIN WHERE REQUIRED'. At the bottom left, a wavy line represents the 'SPLASH PAD WHERE REQUIRED'.


1. RPPAP SHALL BE PLACED IN SUCH A MANNER THAT IT WILL NOT DAMAGE THE CULVERT.
2. TRECHING WILL BE DONE AS REQUIRED BY THE AUTHORIZED OFFICER.
3. MINIMUM DEPTH OF SPLASH PADS SHALL BE ____ 1 ____ FT
4. MINIMUM QUANTITY SHALL BE ____*____ CY PER CUP.
5. RPPAP SHALL BE PLACED BEFORE OCTOBER FIRST OF THE YEAR THE CUP IS INSTALLED.

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

TYPICAL

ROLL NO.	DESCRIPTION	DATE	APPROVED
UNITED STATES DEPARTMENT OF THE INTERIOR			
BUREAU OF LAND MANAGEMENT			
MEDFORD DISTRICT		MEDFORD, OREGON	
<i>TYPICAL</i>			
<i>ROAD DATA</i>			
DESIGNED _____			
REVIEWED _____			
APPROVED _____			
DRAWN	BLM	SCALE	NONE
DATE AUGUST, 2004 SHEET 1 OF			
DRAWING NO. OR-11-9113.4-4			

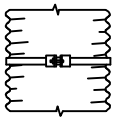
EXHIBIT C-6
SHEET 1 OF 1



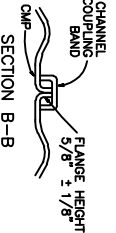
A diagram of a tension strap assembly. It shows a horizontal band sheet with a tension strap attached to its top edge. The strap is secured by a bolt and nut at one end. A spot weld is indicated on the band sheet. Labels include: BOLT, TENSION STRAP, 2 1/4" X 8 1/4", BAND SHEET, SPOT WELD, and TENSION STRAP.



A technical diagram showing a cross-section of a rivet assembly. A label 'SPOT WELD' with an arrow points to the circular weld joint between the upper and lower plates of the rivet.



T	A	PIPE WALL THICKNESS
.079	3/4	.109 OR LIGHTER
.109	1	.136 OR HEAVIER



CHANNEL BAND COUPLER

STANDARD COUPLER BANDS									
CORRELATED						FLAT-POWERED			
CLAYEY SIZE	STD. ANNUAL INCHES	HELICAL WIDTH INCHES	3" x 1" WIDTH INCHES	6" x 1" WIDTH INCHES	WIDTH INCHES	NO. OF RINGS OF DUMPLIES	NO. OF NO. 15	NO. OF NO. 5	NO. OF NO. 10
UNDER 18	7	7	2		10 1/2	2	2	2	2
18 TO 24	3	12	3	14	3	18	4	3	4
24 TO 34	5	24	5	24	4	18 1/2	4	5	4
OVER 34	12	5	24	5	4	18 1/2	4	5	4

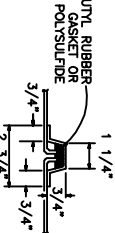
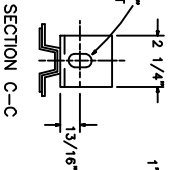
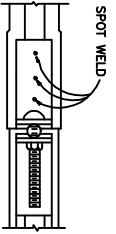
Diagram illustrating the standard construction of a rolled end pipe. The diagram shows a cross-section of the pipe with the following dimensions and components labeled:

- 10 1/2" MIN (Minimum length of the rolled end pipe)
- 2 2/3" (Width of the rolled end pipe)
- 2" (Thickness of the rolled end pipe)
- ROLLED END PIPE
- BAR AND STRAP CONNECTOR
- CONTINUOUS CORRUGATION AROUND BAND

STANDARD CONSTRUCTION IS 1 PIECE 12" THRU 48" AND 2 PIECE 54" AND ABOVE

"HUGGER" COUPLER BANDS

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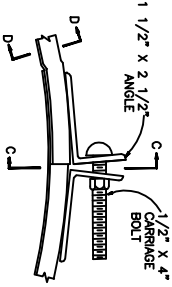


SECTION C-C

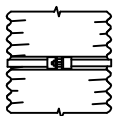
Diagram illustrating the flange connection details:

- FLANGE HEIGHT: $5/8" \pm 1/8"$
- O-RING GASKET WHEN REQUIRED
- CMP

SECTION D-D



FLANGED END COUPLER

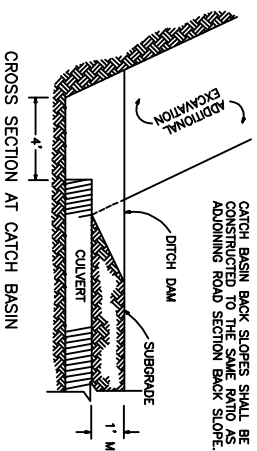


SHOWN WITH ALTERNATE TYPES
OF JOINT SEALERS

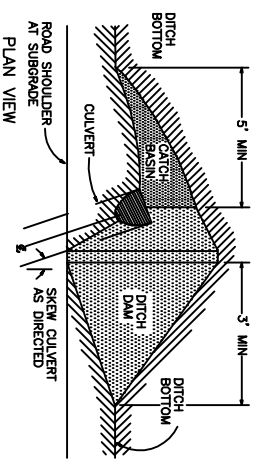
REV. NO.	DESCRIPTION	DATE	APPROV
	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT MEDFORD DISTRICT - MEDFORD, OREGON		
<i>CULVERT BAND DETAIL</i>			
DESIGNED	_____		
REVIEWED	_____		
APPROVED	_____		
DEWAIN	BLM	SCALE	NONE
DATE	August 2006	SHEET 1	OF 1
DRAWING NO. OR-11-9113.4-5			

TWIN RANCH TIMBER SALE

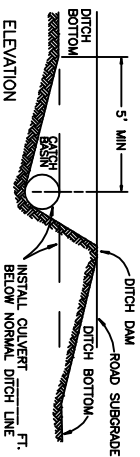
EXHIBIT C-7
SHEET 1 OF 1



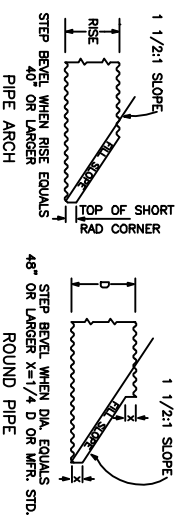
CROSS SECTION AT CATCH BASIN



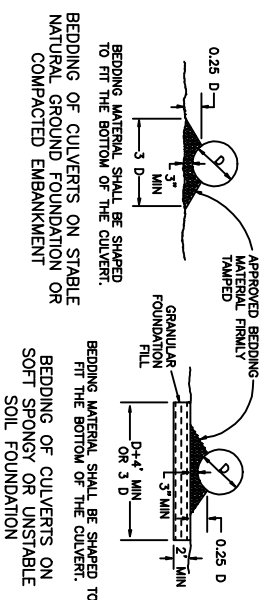
PLAN VIEW



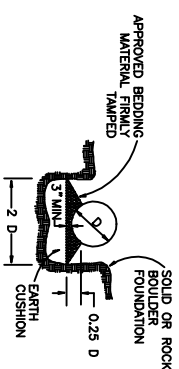
CATCH BASIN



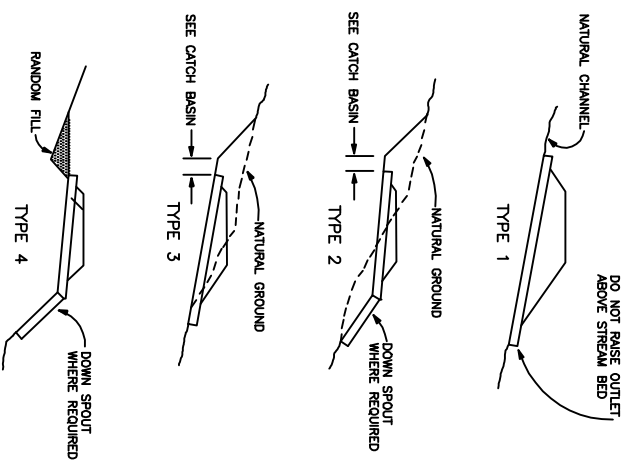
BEVELED END DETAIL



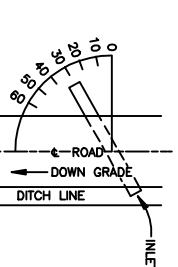
BEDDING OF CULVERTS



BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION



CULVERT INSTALLATION TYPES



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

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CULVERT INSTALLATION
DETAILS

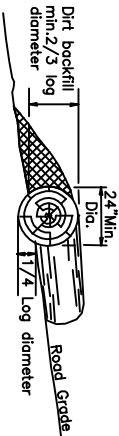
REV. NO.	DESCRIPTION	DATE	APPROV.
DESIGNED			
REVIEWED			
APPROVED			
DRAWN	DCM	SCALE	NONE
DATE	August 2006	SHEET	1 OF 1
DRAWING NO.	OR-11-9113.4-08		

TWIN RANCH TIMBER SALE

EXHIBIT C-8
SHEET 1 OF 1



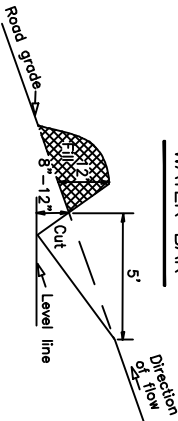
LOG BARRICADE



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



WATER BAR

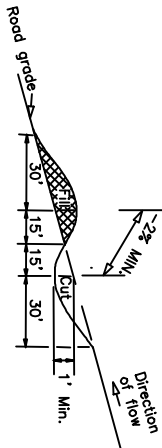


1. WATER BARS SHALL BE CONSTRUCTED AS SHOWN ABOVE.
2. EXACT LOCATION WILL BE FLAGGED BY THE AUTHORIZED OFFICER PRIOR TO CONSTRUCTION.
3. ALL WATER BARS SHALL BE SKEWED 30 DEGREES.
4. UPON COMPLETION OF SKIDDING LOGS, FOR THE LOGGING SEASON, EACH SKID ROAD WILL HAVE CROSS DRAINAGE CONSTRUCTED AS SHOWN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



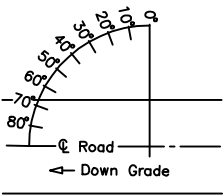
WATER DIP

See Exhibit C-12 for Armored Water Dip (AWD) detail.



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

SKEW DIAGRAM



WATER DIP/BAR SPACING *

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

* DISTANCES ARE MAXIMUM.

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

ALWAYS
THINK
SAFETY

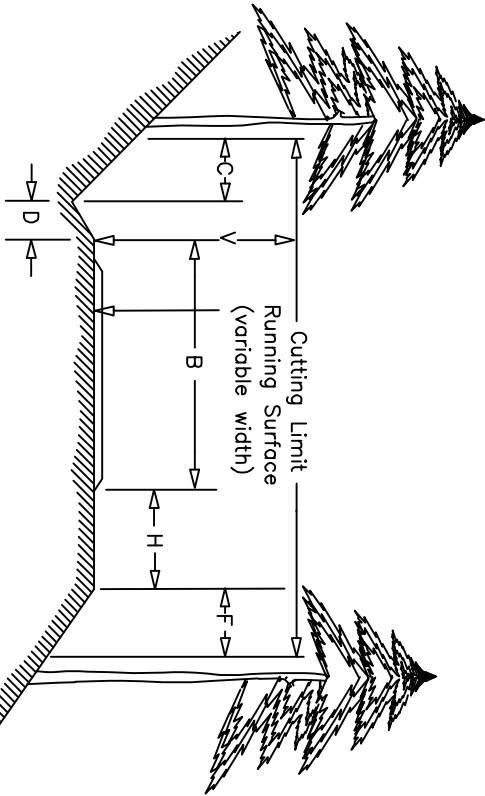
REV. NO.	DESCRIPTION	DATE	APPROV.
	DESIGNED		
	REVIEWED		
	APPROVED		
	DRAWN	DCM	SCALE NONE
	DATE	August 2006	SHEET 1 OF 1
	DRAWING NO.	OR-11-9113.4-9	

EXHIBIT C-9
SHEET 1 OF 1

ALWAYS
THINK
SAFETY

TWIN RANCH TIMBER SALE

EXHIBIT C-10
SHEET 1 OF 1



Brushing Diagram

Cutting Limit = C + D + B + H + F

B = Basic lane width (includes turnouts)

Width shall be determined by the PI

C = $\frac{4}{1}$ ft - Distance on cut slope
beyond centerline of ditch

D = Centerline of ditch to inside shoulder

H = Variable distance between edge of basic lane and
outside shoulder (does not include turnout widths)

F = Distance on fill slope beyond outside shoulder

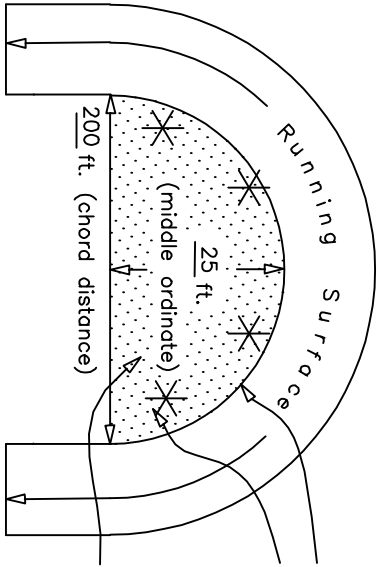
(F = $\frac{4}{1}$ when H is $\frac{4}{1}$ ft or less)

(F = $\frac{0}{1}$ when H is greater than $\frac{4}{1}$ ft)

V = $\frac{14}{1}$ ft - Height of vertical cutting limit

Typical Basic lane widths

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



Sight Distance Diagram

Inside shoulder
Thin, space and prune trees
through curved sections of road
for visibility as shown. Thinning
and spacing of trees shall be a
minimum (10) feet apart. A
minimum (1/3) tree crown shall
be maintained on any pruned tree.
Area to be cut

NOTES:

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

All distances shown are horizontal except for V

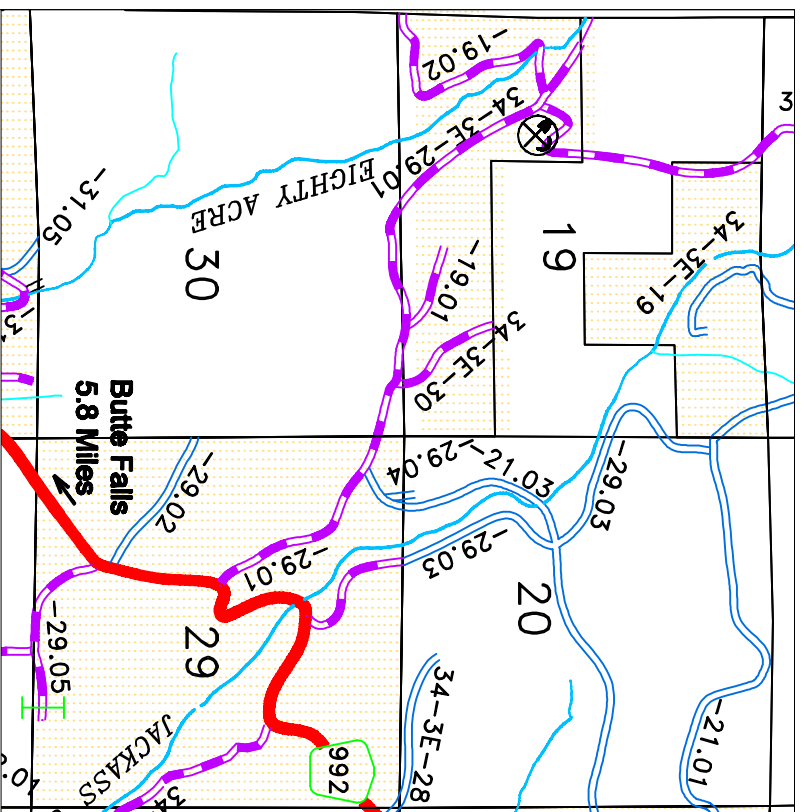
ALWAYS
THINK
SAFETY

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

ROADSIDE BRUSHING
DETAIL

DESIGNED	
REVIEWED	
APPROVED	
DRAWN	DCM
DATE	August 2006
DRAWING NO.	OR-11-9113.4-23

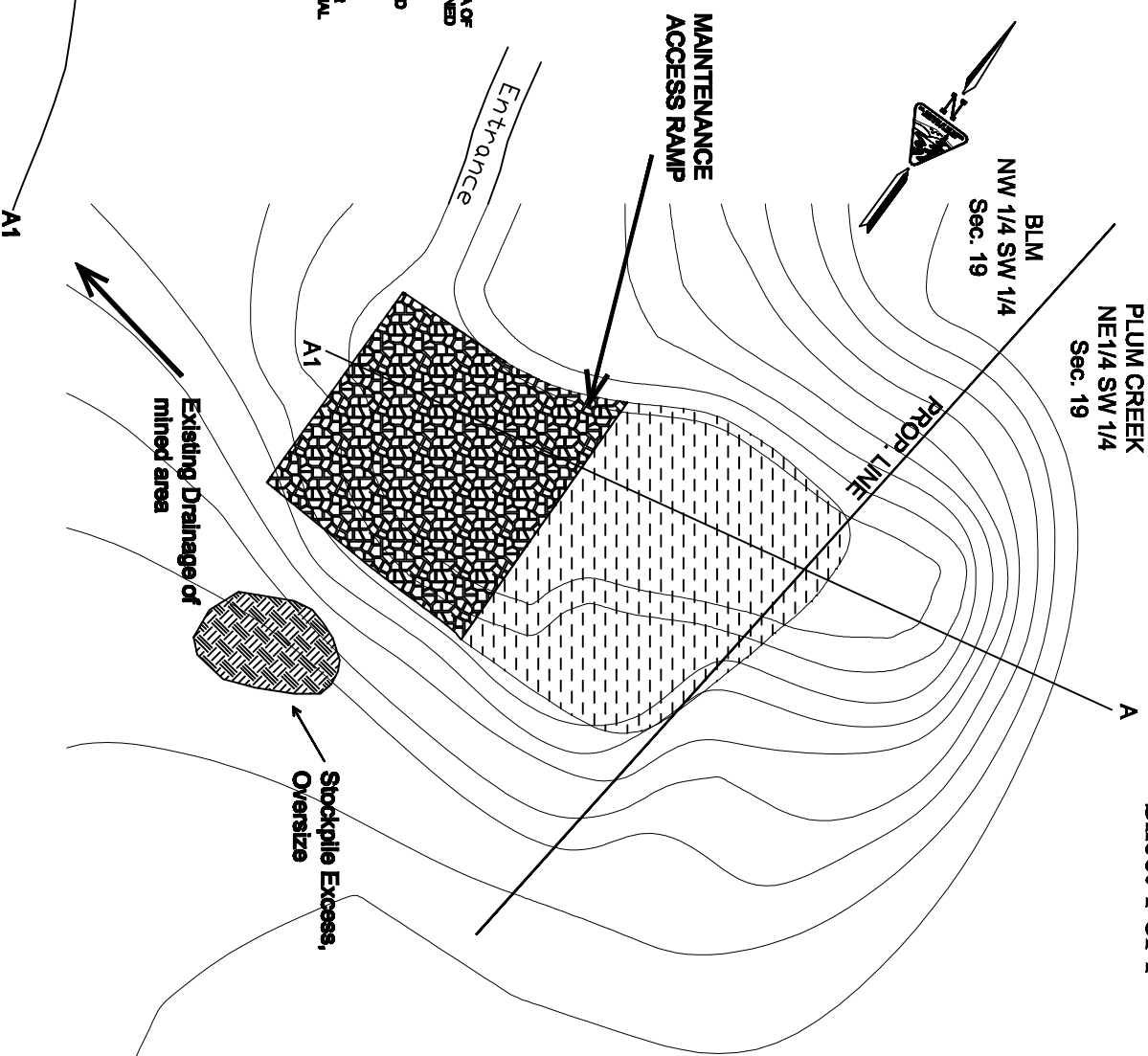
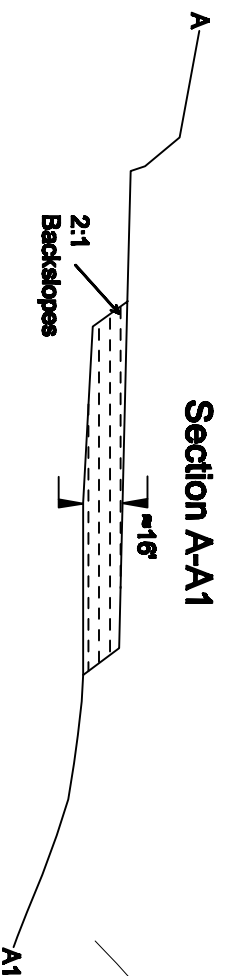
Exhibit C-11
Twin Ranch Sale
80 Acre Quarry Development Plan
NW 1/4 SW 1/4 Sec. 19, T.34S., R.3E. Will. Mer.
Sheet 1 of 1

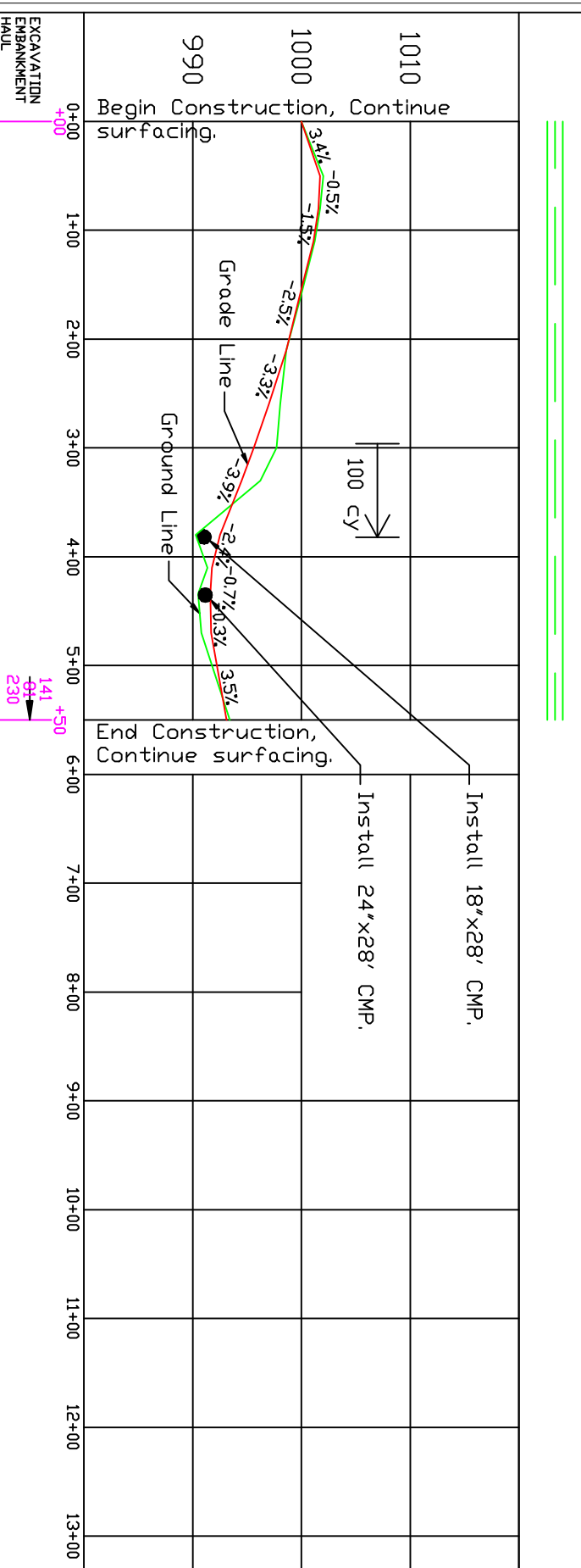
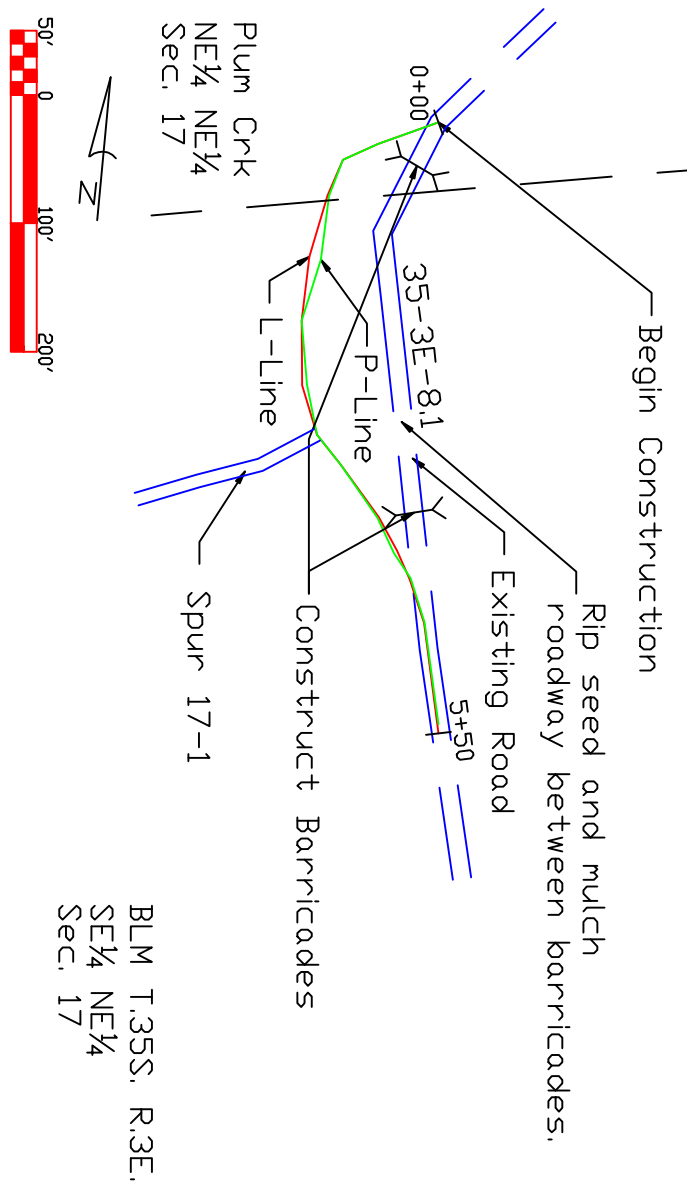


- LEGEND**
- APPROXIMATE AREA OF MATERIAL TO BE MINED
 - ROCK CRUSHER PAD
 - DISPOSAL SITE FOR OVERSIZED MATERIAL
 - EXISTING ROAD

0 25 50
SCALE IN FEET
(1" = 50')

Section A-A1





Install 18"x28' CMP.
 Install 24"x28' CMP.

EXCAVATION
 EMBANKMENT
 HAUL

Road Renovation Work list

Renovation: This consists of road work to be performed on the road prior to its use. The work includes, but not limited to, blading the road surface, ditching, cleaning, or enlarging catch basin, flushing corrugated metal pipes (CMP) and/or culverts, removing brush near inlet or outlet of pipe, cleaning outlet end of pipe, and removing brush, limbs, and trees along the roadway to improve sight distance. All drainage structures including culverts, and water dips shall be inspected and required work performed so that water flow is not impeded, and brought to the design standard as shown on the plans.

Temporary Spur Roads and Landings: See Exhibit A. Work is not required for road acceptance under Exhibit C Specifications. Clearing and grubbing shall be in accordance with Exhibit C-14 section 200 and 300. After use, rip, seed and mulch in accordance with E-1 of Special Provisions. Prior to use of the temporary spur into unit 1-7, install two 12 inch culvert pipes with clean rock fill material through swale area as directed by the Authorized Officer. Remove culvert pipe and rock fill after use.

ASC = Aggregate Surface Course

CMP = Corrugated metal pipe

NAT = Natural

C.Y. = Cubic Yards

DOL = Ditch out left

DOR = Ditch out right

Jct. = Junction

PRR = Pit Run Rock

TOL = Turn out left

TOR = Turn our right

Road 34-3E-15.03 B (Medco RR Grade) ASC. (Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-21.00 (left, right). Begin brushing. Begin renovation.
0.02	Existing cattle guard. Existing fence (right).
0.03	Existing culvert, draw.
0.13	Existing culvert.
0.22	Jct. 34-3E-27.01 (left). Existing culvert. End brushing. End renovation.

Road 34-3E-19.3 (Seven Up / 80 Acre Quarry) ASC (Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-29.1. Begin brushing. Begin renovation.

0.19 Eighty Acre Quarry (right). End brushing. End renovation.

Road 34-3E-21.00 (Camp Creek) ASC.
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. Butte Falls/Prospect Hwy. Begin brushing. Begin renovation.
0.04	Existing culvert.
0.08	Existing skid road (right).
0.31	Existing culvert.
0.32	Existing culvert.
0.58	Existing culvert.
0.70	Existing culvert.
1.02	Existing culvert.
1.15	Existing culvert.
1.22	Existing culvert.
1.30	Existing multi-plate culvert (North Fork Butte Creek).
1.34	Jct. 34-3E-15.03 (left, right). End brushing. End renovation.

Road 34-3E-27.01A (South Zebra Select A) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-15.03. Begin brushing. Begin renovation.
0.15	Existing culvert.
0.28	Existing culvert.
0.32	Jct. 34-3E-27.02 (right).
0.40	Existing culvert.

0.44	Jct. 34-3E-27.03 (left).
0.54	Existing culvert.
0.72	Existing culvert.
0.73	Jct. 34-3E-27.06 (right).
0.76	Jct. decommissioned road (left).
0.82	Jct. skid road (right).
0.92	Existing barricade. End brushing. End renovation.

Road 34-3E-29.1 (Sec. 19 select ML) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. Butte Falls – Prospect Hwy. Begin brushing. Begin renovation.
0.22	Existing 18” cross drain culvert.
0.48	Existing 18” cross drain culvert.
0.55	Jct. right. 34-3E-21.03. Existing 18” cross drain culvert.
0.75	Existing 18” cross drain culvert.
0.80	Jct. right. 34-3E-30.
0.81	Existing 18” cross drain culvert.
0.92	Existing 18” draw culvert.
0.96	Jct. right. Barricaded road.
0.97	Existing 18” cross drain culvert.
1.06	Existing 18” cross drain culvert.
1.19	Scarify and blade potholes. Existing 18” draw culvert.
1.37	Existing 18” cross drain culvert.
1.52	Existing 18” cross drain culvert.
1.74	Existing 18” cross drain culvert.

1.80 Jct. right. 34-3E-19.03. End brushing. End Renovation.

Road 34-3E-35.00 (Section 35 North Spur) NAT.
(Brush, Renovate, Spot rock 40 CY PRR. Waterbar-after use, Barricade)
(Decommission)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-3.00. Begin brushing. Begin renovation. Begin waterbar-after use.
0.02	Existing barricade. Construct barricade after use.
0.22	Property line.
0.39	Spot rock / 40 C.Y. PRR. Remove debris at outlet.
0.46	DOR, improve 60' drainage ditch.
0.49	DOL, improve drainage ditch.
0.54	Jct. 34-3E-35.01 (right). End brushing. End renovation. End waterbar-after use. Begin decommissioning to specifications shown in exhibit c-14 section 2600.
1.03	End Decommissioning.

Road 34-3E-35.02 (Section 35 ML) ASC, NAT.
(Brush, Renovate, Waterbar NAT portion-after use)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-3.00. Begin brushing. Begin renovation.
0.03	Existing pipe gate.
0.08	Jct. 34-3E-35.03 (left), Y intersection.
0.09	Jct. 34-3E-35.03 (left), Y intersection.
0.71	End ASC. Begin NAT. Begin waterbar-after use.
0.81	Existing barricade.
0.82	Jct. 34-3E-35.05 (right). Jct. 34-3E-35.00 (right). Existing barricade. Construct barricade. After use. End brushing. End renovation. End waterbar-after use.

Road 34-3E-35.03 (Section 35 Spur 3) NAT.
(Brush, Renovate, Spot rock 80 C.Y. PRR, Waterbar after use)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-35.02. Begin brushing. Begin renovation. Begin spot rocking. Begin waterbar-after use.
0.23	Jct. 34-3E-35.04 (right).
0.47	Existing landing. End brushing. End renovation. End spot rocking. End waterbar-after use.

Road 34-3E-35.04 (Section 35 Spur 4) NAT.
(Brush, Renovate, Spot rock 80 C.Y. PRR, Waterbar after use)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-35.03. Begin brushing. Begin renovation. Begin spot rocking. Begin waterbar-after use.
0.25	Existing landing.
0.42	Existing landing. End brushing. End renovation. End spot rocking. End waterbar-after use

Road 34-3E-35.05 (Section 35 Spur 5) NAT.
(Decommission)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 34-3E-35.02. Begin Decommissioning, to specifications shown in exhibit C-14 section 2600.
0.12	Property line. Construct barricade. End Decommissioning.

Road 35-3E-1.04 (Section 1 Spur) NAT.

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS32 road. Begin brushing. Begin Renovation.
0.08	Unit 1-2 Boundary. End Brushing End Renovation.

35-3E-3.00 (Titanic Creek) ASC.
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-10.00, Y intersection. Begin brushing. Begin renovation.
0.04	Jct. 35-3E-10.00 (left), Y intersection.
0.05	Existing culvert, draw.
0.11	Existing culvert, draw.
0.14	BLM quarry, Rancheria Quarry #282 (left).
0.27	Existing culvert.
0.41	Existing culvert.
0.46	Jct. unnumbered spur (right).
0.55	Existing culvert.
0.72	Existing culvert.
0.85	Existing culvert.
0.96	Jct. skid road (left).
1.02	Jct. unnumbered spur (left).
1.03	Existing culvert, draw.
1.06	Jct. unnumbered spur (right).
1.13	Property line, K-tag (right).
1.17	Existing culvert.
1.32	Existing culvert.
1.49	Existing culvert.
1.58	Jct. 34-3E-35.02 (left).
1.65	Existing culvert.
1.77	Existing culvert.

- 1.83 Property line, K-tags (right).
- 1.88 Jct. 34-3E-35.00 (left). End brushing. End renovation.

Road 35-3E-3.05 (Sec. 3 West Spur) NAT.
(Brush, Renovate, Barricade, Waterbar after use, Spot rock 20 C.Y. PRR)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-10.00. Begin brushing. Begin renovation. Begin spot rocking. Begin waterbar-after use.
0.01	Construct barricade after use.
0.18	Existing landing. End brushing. End renovation. End spot rocking. End waterbar-after use.

Road 35-3E-8.01 (Rancheria Flat) NAT
(Brush, Renovate, Surface)
(Decommission)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. Rancheria Road (MP 1.71). Begin brushing. Begin renovation.
0.01	Existing fence (left).
0.09	Existing culvert, draw.
0.22	Jct. unnumbered spur, wire gate, (left).
0.24	Jct. unnumbered spur (right).
0.46	Existing landing (right).
0.52	Jct. spur (Left) 35-3E-8.01 spur rd.
0.57	Begin surfacing.
0.58 = 0+00	Begin relocation. See Plan and Profile Exhibit C-14 Construct barricade, old road. Begin Spur 17-1 ahead. Begin decommission to specs shown in ex C-14 section 2600.
0.67 = 4+70	Jct. old road. End relocation. Existing fence (left). End decommission of spur road.
0.72	Jct. Spur 17-2 (left).

- 0.73 Jct. old road, divide (left). water coming up in old road.
- 0.77 Jct. old road, merge (left). water running in road.
- 0.81 Jct. old road, divide (left).
- 0.83 Jct. old road, merge (left).
- 0.86 Property line, K tags 2, (left). End brushing. End renovation. End surfacing.

Road 35-3E-10.00 (Rancheria Creek) ASC
(Brush, Renovate, CMP Splashpad (3), Surface)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS 32. Begin brushing. Begin renovation. Begin surfacing including turnouts. Begin remove rock from ditch.
0.29	Existing culvert. Install 5 C.Y. splashpad. End remove rock from ditch.
0.47	Existing culvert.
0.54	Remove existing culvert. Install 18" x 40' CMP (skew 35). Begin re-establish ditchline.
0.60	Remove existing culvert. Install 18" x 28' CMP (skew 35) / with 10' downspout.
0.66	Install 18" x 32' CMP (skew 35) with 5 C.Y. splashpad.
0.69	Re-establish ditchline 3' to west.
0.75	Remove existing culvert. Install 18" x 28' CMP (skew 35) with 5 C.Y. splashpad.
0.79	Existing private quarry # 283 (left). End re-establish ditchline.
0.80	Install 18" x 26' CMP.
0.82	Existing private quarry #283 (left).
0.85	Remove existing culvert. Install 18" x 36' CMP (skew 35).
0.88	Re-establish ditch 3' to west.
0.95	Jct. 35-3E-3.00, Y intersection.
1.00	Jct. 35-3E-3.00, Y intersection.

- 1.11 Existing culvert.
- 1.26 Jct. unnumbered spur (left). Jct. 35-3E-3.04 (right).
- 1.47 Jct. unnumbered spur (left).
- 1.62 Jct. 34-3E-29.00 (left), Y intersection.
- 1.63 Jct. 34-3E-29.00 (left, right), Y intersection.
- 1.69 Existing culvert, inlet damaged.
- 1.74 Jct. 35-3E-3.05 (left).
- 1.89 Property line, K-tag (left, right). End Surfacing.

Road 35-3E-10.01 / FS 3220 (Mud Spring) ASC
(Brush, Renovate, Surface, CMP Splashpad 1)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS 32. Jct. private road (right). Begin brushing. Begin renovation. Begin Surfacing.
0.01	Existing irrigation ditch.
0.07	Existing culvert.
0.12	Jct. private road (right).
0.14	Big Butte Creek bridge.
0.20	Jct. 35-3E-10.04 (left).
0.22	Existing culvert, jack open inlet.
0.23	Jct. 35-3E-15.00 (right).
0.27	Property boundary tag (right).
0.37	Existing culvert.
0.46	Existing culvert.
0.51	Existing culvert.
0.62	Existing culvert.

0.72	Existing culvert.
0.76	Existing culvert.
0.91	Jct. 35-3E-14.00 / FS 3220-100 (right). Y intersection.
0.99	Existing culvert.
1.06	Existing culvert.
1.11	Jct. unnumbered spur (left).
1.17	Existing culvert.
1.26	Existing culvert.
1.34	Property line.
1.38	Existing culvert, minor draw.
1.48	Existing culvert.
1.58	Remove existing culvert. Install 18" x 26' CMP.
1.66	Existing culvert.
1.74	Existing culvert.
1.84	Existing culvert. Pump chance (right). Remove existing culvert- Install 24"x30' CMP. Place 5 cy splash pad. Begin re-establish ditch.
1.87	Jct. 35-3E-14.01 (left).
1.89	Existing culvert, minor draw.
1.91	End Surfacing.
2.01	Jct. 35-3E-13.00 (right).
2.03	Existing culvert.
2.14	Jct. 35-3E-13.07 (left). End brushing. End renovation.

Road 35-3E-11.00 (Twincheria) ASC

(Brush, Renovate, Armor Fill slope 80 cy)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS 32. Begin brushing. Begin renovation.
0.11	Existing culverts (2), Twincheria Creek. Machine place est. 80 cy class V riprap on roadway fill slopes through stream crossing. Place riprap on both sides and between culvert inlets and outlets for the length specified and staked by the Authorized officer. Rock placement shall extend from toe of fill to road subgrade elevation. Work shall be completed between June 15 th and Sept 15 th .
0.13	Jct. 35-3E-11.01 (right). End brushing. End renovation.

Road 35-3E-11.01 (Twincheria Spur A) ASC

(Brush, Renovate, Waterbar after use.)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-11.00. Begin brushing. Begin renovation. Existing culvert.
0.03	Conserve surfacing, Construct Water dip, Replace Surfacing.
0.10	Conserve surfacing, Construct Water dip, Replace Surfacing.
0.15	Conserve surfacing, Construct Water dip, Replace Surfacing.
0.31	Existing landing. End brushing. End renovation. Begin 35-3E-11.01 OS.

Road 35-3E-11.04 (Sec. 11 Spur 4) NAT

(Brush, Barricade, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS 32. Begin brushing (prune trees for intersection site). Begin renovation.
0.14	Property line. Construct barricade after use.
0.19	Existing landing.
0.21	Jct. 35-3E-11.05 (left).
0.38	Existing landing. End brushing. End renovation. Construct temp spur.

Road 35-3E-12.01 (Fireline) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-14.01. Begin brushing. Begin renovation.
0.13	Existing culvert, stream draw.
0.17	Proposed landing.
0.32	Proposed landing.
0.36	End brushing. End renovation.

Road 35-3E-12.02 A (Mud Spring 12.02 A) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-13.07. Begin brushing. Begin renovation.
0.08	Existing culvert, minor draw.
0.26	Existing culvert.
0.38	Jct. unnumbered spur (right).
0.45	Existing culvert.
0.61	Existing culvert, minor draw.
0.78	End ASC. Begin 35-3E-12.02 B, NAT. End brushing. End renovation.

Road 35-3E-12.02 B (Mud Spring 12.02 B) NAT
(Brush, Renovate, Spot rock 40 C.Y. PRR Barricade)

<u>MP</u>	<u>Remarks</u>
0.78	End 35-3E-12.02 A. Begin brushing. Begin renovation. Begin spot rocking.
0.81	Existing waterbar.
0.93	Property line. Existing barricade. Construct barricade.
1.03	Proposed landing. End brushing. End renovation. End spot rocking.

Road 35-3E-13.07 (Mud Springs Spur 7) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-10.01. Begin brushing. Begin renovation.
0.07	Property line.
0.22	Existing culvert.
0.34	Jct. 35-3E-12.02 (right). End brushing. End renovation.

Road 35-3E-14.01 (Medco RW) ASC
(Brush, Renovate, Surface)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. 35-3E-10.01. Begin brushing. Begin renovation. Begin Surfacing. Re-establish ditch, left and right.
0.04	Install 18"x36' cmp. End re-establish ditch.
0.05	Section corner SE section 11 (left).
0.12	End surfacing.
0.56	Existing culvert, stream draw.
0.70	Jct. unnumbered spur (left). Existing culvert.
0.74	Existing culvert.
0.94	Existing culvert, stream draw.
1.16	Existing culvert.
1.21	Jct. 35-3E-12.01 (left).
1.33	Existing culvert.
1.57	Existing culvert, minor draw.
1.77	Property corner (left).
1.94	Proposed landing. End brushing. End renovation.

Road FS 32 (Upper Rancheria Creek) ASC

(Brush, Renovate, Spot Rock 200 cy. Place 200 cy. as Directed by Authorized Officer. Rock replacement is in-lieu of USFS rock wear fee.)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. Butte Falls / Prospect Hwy. County maintenance.
3.76 = 0.00	End Rancheria Road (county maintenance). Jct. Rancheria Ranch (right). Jct. unnumbered spur (left). Begin brushing. Begin renovation. Begin spot-rock.
0.26	Jct. 35-3E-10.01 / FS 3220 (right).
0.27	Existing culvert, inlet damaged.
0.44	Existing culvert.
0.50	Jct. unnumbered spur (left).
0.56	Jct. unnumbered spur, camp site (right).
0.58	Jct. unnumbered spur, camp site (right).
0.63	Jct. 35-3E-10.00 (left). Existing culvert.
0.70	Existing culvert, (Big Butte Creek).
0.71	Jct. 35-3E-10.03 (left).
0.72	Existing culvert, metal catch basin.
0.86	Existing culvert, metal catch basin.
1.03	Jct. unnumbered spur (left). Existing culvert, metal catch basin.
1.11	Existing culvert, metal catch basin.
1.22	Existing culvert, metal catch basin.
1.36	Existing culvert, metal catch basin.
1.48	Jct. 35-3E-11.04 (left). Existing culvert, metal catch basin.
1.54	Existing culvert, metal catch basin.
1.74	Existing culvert.
1.76	Jct. 35-3E-11.00 (right). Cinder pond/meadow (left).

- 1.81 K tag (right).
- 1.82 Existing culvert.
- 1.84 Jct. unnumbered spur (left).
- 1.89 Existing culvert.
- 1.94 Existing culvert.
- 1.98 Jct. unnumbered spur (right). Jct. unnumbered spur (left).
- 2.04 Existing culvert.
- 2.11 Existing culvert.
- 2.19 Jct. unnumbered spur (right).
- 2.28 Existing culvert.
- 2.34 K- tag (right).
- 2.37 Jct. unnumbered spur (right).
- 2.46 Existing culvert.
- 2.55 K-tag (left).
- 2.58 Jct. unnumbered spur (right). Existing culvert.
- 2.71 Existing culvert, draw.
- 2.73 Jct. unnumbered spur (right). Existing culvert.
- 2.75 Jct. 35-3E-2.00 (left).
- 2.90 Existing culvert.
- 2.98 Existing prvt. Stockpile site. (left).
- 3.01 Jct. unnumbered spur (right).
- 3.07 Existing culvert.
- 3.15 Jct. unnumbered spur (right). Existing culvert.
- 3.23 Property line. K-tag (Left).

- 3.25 Jct. 35-3E-1.00 (right). Remove existing guardrail barricade.
Install mega gate (35-3E-1.00).
- 3.37 Existing culvert.
- 3.57 Jct. proposed landing. (left). Existing culvert.
- 3.61 Jct. unnumbered spur / proposed landing (right).
- 3.66 Existing culvert.
- 3.82 OK Corral (right). Jct. FS 3240 (right).
- 3.95 Jct. unnumbered spurs (left). Jct. 35-3E-1.03 (right).
- 3.98 Existing culvert.
- 3.99 Property line. End brushing. End renovation. End spot-rock.

Road FS 3240 (Upper Big Butte) ASC
(Brush, Renovate)

<u>MP</u>	<u>Remarks</u>
0.00	Jct. FS 32. Begin brushing. Begin renovation.
0.06	Proposed landing.
0.10	Jct. unnumbered spur (Left).
0.20	Existing culvert.
0.30	Existing culvert.
0.35	Jct. stream access (left). Existing culvert, stream.
0.47	Existing culvert.
0.51	Existing culvert.
0.72	Existing culvert.
0.76	Jct. FS 100 (left).
0.78	Existing culvert.
0.87	Existing culvert, draw.

- 0.89 Jct. unnumbered spur (left).
- 0.99 Existing culvert.
- 1.07 Property line.
- 1.19 Existing culvert.
- 1.30 Property line, K-tag (Left, right). End brushing. End renovation.

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SPECIAL PROVISIONS

1. CMP, DEWATERING. - Live streams shall be diverted around or through the work area in a manner that will minimize sedimentation downstream. Keep excavation site dewatered so that installation of culverts can be carried out only under dry conditions. Dispose of excess water by using natural drainage ways or devices near the site to the extent of their natural capacity and in a manner that will avoid damage to adjacent property. Utilize dewatering methods such as temporary sediment traps and/or silt fences for areas to be excavated. Provide for down stream water flow without significant transport of excavated material or sediment during construction. At no time shall turbidity limits exceed DEQ's water quality standards.
2. Permits - All permits required are the responsibility of the Purchaser.
3. Shutdown - Before beginning road construction operations for the first time or after a shutdown of seven or more days, the Purchaser shall notify the Authorized Officer of the date he plans to begin operations. The Purchaser shall also notify the Authorized Officer if he intends to cease operations for any period of 30 or more days.
4. Water source – The Purchaser is responsible for obtaining water and associated rights and permits. BLM water sources are shown on Exhibit C-2
5. Winterized - All road segments not completed during dry weather periods shall be

winterized, by providing a well-drained roadway by water barring, maintaining drainage and any additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer.

General – 100

101 - Prewrite Conference(s):

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

The purpose 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). A prework conference shall be scheduled.

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. Also referred to as Equivalent Opening Size (EOS).

ASTM - American Society for Testing and Materials.

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

BLM - Bureau of Land Management

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

Burst Strength - The resistance of a geotextile material to rupture from pressure applied

at right angles to the plane of the geotextile material under specified conditions, usually expressed as the amount of pressure causing failure. Rupture or burst results from tensile failure of the geotextile material.

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

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

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

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

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

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.

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

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

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

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.

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 - Longitudinal center of roadbed.

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

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

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

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

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

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

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

Spalls - Flakes or chips of stone.

Specifications - A general term applied to all directions, provisions, and requirements

pertaining to performance of the work.

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

Subbase - Reinforcement of the subgrade with large particles of pitrun 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.

Tackifier - A compound which facilitates the penetration of the compound into the earth and assists in creating a crust through the cohesive bonding of the surface materials to a depth sufficient to stabilize the soil surface.

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.

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

102a - Tests Used in These Specifications:

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

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

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

plastic to a liquid state.

- AASHTO T 90 Plastic limits and plasticity index of soil.
A. Plastic limit - lowest water content at which the soil remains plastic.
B. Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
- AASHTO T 96 Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
- AASHTO T 99 Relationship between soil moisture and maximum density of soil.
Method A - 4 inch mold, soil passing a No. 4 Sieve.25 blows/layer & 3 layers.
Method D - 6 inch mold, soil passing a 19.00mm (3/4 inches) sieve. 56 blows/layer & 5 layers.
- AASHTO T 176 Shows relative portions of fine dust or clay-like materials in soil or graded aggregate.
- AASHTO T 180 (OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer and 18-in drop.
- AASHTO T 191 Sand Cone. Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.
- AASHTO T 205 Rubber balloon. Density of soil in place. Use for compacted or firmly bonded soil.
- AASHTO T 210 Durability of aggregates based on resistance to produce fines.
- AASHTO T 224 Correction for coarse particles in the soil.
- AASHTO T 238 Determination of density of soil and soil-aggregates in place by nuclear methods.
- AASHTO T 248 Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.

DES. E-12 Determination of relative density of
cohesionless soils.

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

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

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

- 103g - Vibratory compactor. Vibratory compactors shall consist of multiple or gang-type compacting units or pads with a minimum variable width of 2 feet. It shall be self-contained and capable of compacting material as required.
- 103h - Other. Compaction equipment approved by the Authorized Officer.

CLEARING AND GRUBBING - 200

- *201 - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections as shown on the plans, as staked on the ground, as posted and as specified in the Special Provisions section.
- 201a - This work shall consist of clearing grubbing removing and disposing of vegetation, debris, surface objects, and protruding obstructions from borrow pits, quarries, disposal sites, culverts structures, road construction and restoration, etc., in accordance with these specification , as staked on the ground and as posted.

- 202 - Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend 2 feet back of the top of the cut slope and 5 feet out from the toe of the fill slope.
- 202a - Where clearing limits for structures have not been staked or shown on the plans, the limits shall extend 10 feet out from the outside edge of the structure.
- 202b - Where clearing limits for stockpile sites have not been staked or shown on the plans, the limits shall extend 10 feet back of the top of the cut slope and 10 feet outside of the outside slope lines.
- *203 - Clearing shall consist of the removal and disposal of trees, logs, rotten material, brush, and other vegetative materials and surface objects in accordance with these specifications and within the limits established for clearing as specified under Subsections 202, 202a, and 202b.
- 203a - Brush under 2 feet in height need not be cut within the limits established for clearing.
- 203b - Standing trees and snags to be cleared shall be felled within the limits established for clearing,(unless otherwise authorized).
- 204 - Grubbing shall consist of the removal and disposal of stumps, roots, and other wood material embedded in the ground, and protruding obstacles remaining as a result of the clearing operation in accordance with Subsections 204a, 204c, 204d, and 204e. Undisturbed stumps, roots and other solid objects which will be a minimum of 3 feet below subgrades or slope surfaces of embankments are excepted.
- 204a - Stumps shall be removed within the required excavation limits.
- 204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.
- 204d - On areas to be occupied by embankments having heights greater than 4 feet, no stump or portion thereof shall remain within 3 feet of embankment subgrades or slope surfaces after grubbing is completed.
- 204e - Roots and embedded wood material shall be removed to a depth not less than 1 foot below embankment subgrades or slope surfaces.
- *206 - Clearing and grubbing debris shall not be disposed of by piling in accordance with Subsection 208c.
- 208c - Clearing debris shall be placed outside the roadway in a neat, compacted windrow laid approximately parallel and along the toe-line of embankment slopes. Windrows shall have 16-foot minimum breaks at least every 100 feet. Windrows shall not be placed

against trees. The clearing debris may remain within the clearing limits if it does not adversely affect the road/landing construction and their use, as determined by the Authorized Officer.

- *210 - Disposal of stumps and cull logs shall be by scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. The areas for such scattering shall have the prior approval of the Authorized Officer.
- 210b - Clearing and grubbing debris, stumps and cull logs resulting from construction on non-government shall be loaded and hauled to designated areas. Disposal shall be by scattering in accordance with Subsection 210.
- 213 - No clearing or grubbing debris shall be left lodged against standing trees.

EXCAVATION AND EMBANKMENT - 300

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

be placed and compacted as specified.

- 305b - Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 12 inches in depth.
- 306f - Compaction of embankment layers placed as specified under Subsection 305b above shall be accomplished by routing construction equipment over full width of embankment structures.
- 320 - Ditches shall conform to the slope, grade, dimensions, and shape of the required cross section shown on the plans. Roots, stumps, rocks, and other projections shall be removed to form smooth, even slopes.
- 321 - Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on a stream course or other body of water. Such materials shall be disposed of in accordance with Subsection 321c.
- 321c - End-dumping will be permitted for the placement of excess materials under Subsection 321 in designated disposal areas or within areas approved by the Authorized Officer. Watering, rolling, and placement in layers is (not) required. Materials placed shall be sloped, shaped, and otherwise brought to a neat and sightly condition acceptable to the Authorized Officer.
- *324 - Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of 2 feet on the uphill side.
- *327 - The finished grading shall be approved by the Authorized Officer prior to surfacing. The Purchaser shall give the Authorized Officer 3 days notice prior to final inspection of the grading operations or the start of surfacing operations.

PIPE CULVERTS - 400

- 401 - This work shall consist of furnishing and installing pipe culverts and downspout(s) in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Individual lengths and locations are approximate; final lengths and locations will be determined by the Authorized Officer upon completion of the roadbed. Additional pipe and erosion control devices may be required at the option of the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost of furnishing and installing such items. Costs will be based upon the unit prices set forth in the current BLM Timber Appraisal Production Cost Schedule.

- 403 - Grade culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade and shall be skewed down grade 30 - 45 degrees. As Per Culvert List as measured from the perpendicular to the centerline unless otherwise specified on the plans.
- 404 - Damage to the spelter, or burn back in excess of 3/8 inch, shall be wire brushed and painted with two coats of aluminum-rich paint on aluminum-coated pipe.
- 405 - Corrugated steel riveted and helical pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 274 as specified on the plans.
- 405a - Corrugated-steel-welded pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 274 as specified on the plans.
- 406 - Coupling bands shall conform to the requirements of AASHTO M 274 with the exception of band widths and the "Hugger"-type band which shall conform to the details, dimensions, and typical diagram shown on the plans.
- 406a - "Hugger"-type coupling bands shall only be used with annular corrugated pipe and pipe-arch culverts or helically corrugated pipe and pipe-arch culverts having annular reformed ends. Annular reformed ends shall consist of 2 annular corrugations.
- 406b - Coupling bands produced from flat galvanized steel sheets with impressed dimples will be permitted only for connecting annular corrugated steel pipe to helically corrugated steel pipe. Such coupling bands shall conform to the width requirements shown on the plans.
- 406f - Channel-type or flanged-end coupling bands may be used on helical pipe with reformed rolled ends and flanged specifically to receive these bands. Such coupling bands shall conform to the requirements shown on the plans.
- 407 - Special sections, such as elbows, branch connections, and flared-end sections, shall be of the same gauge as the pipe to which they are joined and shall conform to the requirements of AASHTO M 274.
- 407b - Full round culvert downspouts conforming to the material and construction requirements as shown on the plans shall be constructed for culverts at the specified locations.
- 408 - Pipe culverts and pipe-arch culverts shall be placed on the bed starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Coupling bands of the type required under these specifications shall be installed to provide the circumferential and longitudinal strength necessary to preserve the pipe alignment, prevent separation of the

pipe sections, and minimize infiltration of fill material.

- 410 - Pipe shall be unloaded and handled with reasonable care. If the Authorized Officer determines any structure is damaged to the extent that it is unsuitable for use in the road construction, it shall be replaced at the Purchaser's expense.
- 411 - Trenches necessary for the installation of pipe culverts shall conform to the lines, grades, dimensions, and typical diagram included in the plans, shown on Exhibits, and the Culvert Installation Detail Sheet.
- 412 - Where ledge rock, boulders, soft, or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled with selected granular or fine readily compactable soil material.
- 414 - The invert grade of the bedding shall be cambered in accordance with the requirements and details shown on the plans and as directed by the Authorized Officer.
- 417 - For CMP pipe culverts fill material shall be placed and compacted under the haunches of the pipe, and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe, in layers not exceeding 6 inches in depth and 1 pipe diameter/span, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers.
- 418 - The final subgrade shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103e, 103f, 103g, and 103h.
- 421 - Trenches and bedding rock necessary for the installation of perforated pipe shall conform to the lines, grades, dimensions, and typical diagram shown on the plans.
- 423 - Construction of catch basins and ditch dams conforming to lines, grades, dimensions and typical diagrams shown on the plans, shall be required for grade culverts.
- 424 - Construction of splash pads conforming to lines, grades, dimensions, and typical diagram shown on the plans shall be required for all culverts.
- 425 - Where pervious materials are used for backfill and bedding, collars consisting of selected impervious material shall be placed at the inlet and at various intervals along the pipe barrel as shown on the plans and as directed by the Authorized Officer.
- 427 - The Purchaser shall record culvert sizes, lengths, and location actually installed on a copy of the culvert list. This culvert list shall be furnished to the Authorized Officer.

- 427a - All existing culverts removed as specified in the plans or as directed by the Authorized Officer' Rep. shall be hauled away and properly disposed of by the Purchaser.

RENOVATION OF EXISTING ROADS - 500

- 501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, 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 or metal tags.
- 501a - This work shall include the removal and disposal of slides in accordance with these specifications.
- 502 - The existing road surface shall be bladed and shaped to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 502b - Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.
- 506 - The inlet end of all existing drainage structures shall be cleared of vegetative debris and boulders that are of sufficient size to obstruct normal stream flow. Pipe inverts shall be cleared of sediment and other debris lodged in the barrel of the pipe. The outflow area of all pipe structures shall be cleared of rock and vegetative obstructions which will impede the structures designed outflow configuration. Catch basins shall conform to the lines, grade, dimensions, and typical diagram shown on the plans.
- 507 - The finished grading shall be approved in writing by the Authorized Officer. The Purchaser shall give the Authorized Officer 5 days notice prior to final inspection of the grading operations.

WATERING - 600

- 601 - This work shall consist of furnishing and applying water required for the compaction of embankments, roadbeds, backfills, base courses, surface courses, finishing and reconditioning of existing roadbeds, laying dust, or for other uses in accordance with these specifications.
- 602 - Water, when needed for compaction or laying dust, shall be applied at the locations in the amounts and during the hours as directed by the Authorized Officer. Amounts of water to be provided will be the minimum needed to properly execute the compaction requirements in conformance with these specifications, and for laying dust during work periods.

- 603 - Water trucks used in this work shall be equipped with a distributing device of ample capacity and of such design as to ensure uniform application of water on the road bed.
- 605 - The Purchaser shall secure the necessary water permits and pay all required water fees for use of water source(s) selected by the Purchaser and approved by the Authorized Officer.

AGGREGATE BASE COURSE - 1000
CRUSHED ROCK MATERIAL

- *1001- This work shall consist of furnishing or crushing, hauling, and placing one or more lifts of crushed rock material on approved roadbeds in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road.
- 1002 - Crushed rock materials used in this work shall consist of quarry rock, stone, gravel or other approved materials obtained from the source shown on the plans or furnished from a commercial source. Development and mining of such source shall be in accordance with Subsection 1601 of these specifications.
- 1002a- Crushed rock materials may be obtained from a commercial source(s) selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.
- *1003- Crushed rock material produced from gravel shall have (2) manufactured fractured face(s) on 65 percent, by weight, of the material retained on the No. 4 sieve.
- *1004- Crushed rock materials shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1004
AGGREGATE BASE COURSE
CRUSHED ROCK MATERIAL
Percentage by Weight Passing Square Mesh Sieves
(AASHTO T 11 & T 27)

GRADATION

<u>Sieve</u>	
<u>Designation</u>	<u>A</u>
4-inch	-
3-inch	100
2-inch	90-95
1-1/2-inch	-
1-inch	45-75

- | | | |
|--|----------|-------|
| | 3/4-inch | - |
| | 1/2-inch | - |
| | 3/8-inch | - |
| | No. 4 | 15-45 |
| | No. 8 | - |
| | No. 10 | - |
| | No. 30 | - |
| | No. 40 | 5-25 |
| | No. 200 | 2-15 |
- *1005- Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- *1006- Crushed rock material shall show durability value of not less than 35, as determined by AASHTO T 210.
- *1008a- Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- 1009 - The roadbed, as shaped and compacted under Sections 300 and 500 of these specifications, shall be approved in writing by the Authorized Officer at least 1 day immediately prior to placement of crushed rock materials.
- 1010 - Crushed rock materials shall be placed and processed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and compacted in layers not to exceed 8 inches in depth. When more than one layer is required, each shall be shaped, processed, and compacted, and approved in writing by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing crushed rock material until the surface is smooth and uniform.
- 1010a - Crushed rock material used to repair or reinforce a soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing under this specification unless approved as such by the Authorized Officer prior to placement.
- 1012 - Each layer of crushed rock material shall be placed, processed, shaped, moistened or dried to a uniform moisture content suitable for maximum compaction, and compacted to full width by compaction equipment conforming to the requirements of Subsections 103f, and 103h. Minimum compaction shall be 1 hour of continuous compacting for each 6 stations, or fraction thereof, of crushed rock material placed per layer.

AGGREGATE SURFACE COURSE - 1200
CRUSHED ROCK MATERIAL

- 1201 - This work shall consist of furnishing, hauling, and placing one or more layers of crushed rock materials on the approved roadbeds and base courses in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road.
- 1202 - Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from source(s) shown on the plans. Development and mining of such source(s) shall be in accordance with Subsection 1601 of these specifications.
- 1204 - Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirement.

TABLE 1204
AGGREGATE SURFACE COURSE
CRUSHED ROCK MATERIAL
Percentage by weight passing square mesh sieves
AASHTO T 11 & T 27
GRADATION

<u>Sieve</u> <u>Designation</u>	<u>C-1</u>
1-1/2 inch	100
1 inch	-
3/4 inch	60-90
1/2 inch	-
No. 4	30-55
No. 8	22-43
No. 30	11-27
No. 40	-
No. 200	3-15

- 1204a- The Purchaser shall be required to take one sample for each 2,000 cubic yards of crushed rock material to be utilized using AASHTO sampling procedures. The Purchaser shall submit samples to a certified lab or perform testing for gradation requirements using AASHTO T 11 AND AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one half of the sample, with proper identification, available for testing by the Authorized Officer. Each sample and the results of the Purchaser testing shall be made available to the Authorized Officer within 24 hours of sampling. The Purchaser shall provide test results for the first 500 cubic yards produced prior to commencing production crushing and hauling.

- 1205 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T 210.
- 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.
- 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:

<u>Sand Equivalent</u>	<u>Percent Passing #200 Sieve AASHTO T 27</u>
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 shall be completed and approved in writing by the Authorized Officer at least 3 days prior to placement of crushed rock materials. Notification for subgrade approval prior to rocking shall be (3) days prior to that approval and shall be (10) days prior to start of rocking operations.

- 1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbeds in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and staked on the ground. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved in writing by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.
- 1210a- Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification.
- 1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsection 103f. Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards fraction thereof, of crushed rock material placed per layer.
- 1215 - The Purchaser is authorized to remove Gradation crushed rock material, truck measure, from BLM stockpiles, for placement on the roads, in accordance with the requirements and details shown on the plans.

QUARRY AND BORROW PIT DEVELOPMENT - 1600

- 1601 - This work shall consist of quarry development and rehabilitation in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- 1603 - The developed rock quarry site is located at the following location(s):

<u>Quarry Name and #</u>		<u>Willamette Meridian</u>			
		<u>T.</u>	<u>R.</u>	<u>Section</u>	<u>Subdivision</u>
80 Acre Quarry		34S	3E	19	NW1/4 SW1/4

Development and reclamation work at these sites shall be in strict accordance with these specifications and the mining and reclamation plan, as shown on the plans.

- 1604 - If the designated source proves insufficient as to quantity and quality of the required rock material, the Purchaser shall, when ordered in writing by the Authorized Officer, move his operation to an alternate materials source as selected by the Authorized Officer. Development, extraction and reclamation work on the alternate source shall be in accordance with the mining and reclamation plan(s) prepared by the BLM. An equitable adjustment will be made in the contract price.
- 1605c- The operation of equipment related to the production of rock aggregate and quarry operations shall be confined to the quarry operations area and to the designated tractor trails as shown on the plans.
- 1608 - Overburden or reject material which does not conform to the requirements of Subsections 1205 and 1206 shall be stockpiled and used for reclamation backfill.
- 1609 - Overburden, trees, stumps, logs, and loose rock shall be removed back from the edge of working quarry faces for a distance of 10 feet.
- 1609c- Overburden and reject material shall be placed at the disposal site(s) as directed by the Authorized Officer.
- 1611 - The Purchaser shall notify the Authorized Officer at least 5 days prior to commencing quarry operations.
- 1611a- The Purchaser shall not commence production drilling or crushing until the Authorized Officer has inspected and approved the site development in writing.
- 1612 - The Purchaser shall notify MSHA (Mining Safety and Health Administration) by standard form or telephone, and in accordance with part 56, Chapter 1 of Title 30 Code of Federal Regulations (CFR) of what date he intends to commence, terminate, and/or temporarily close down operations of the quarry. Notice shall be submitted a minimum of 10 days prior to the proposed date of the action to be taken. Notification shall be submitted to:

Mining Safety and Health Admin.
Attn: Supervisor
P.O. Box 70
Albany, Oregon 97321
Commercial Phone No. 503-967-5825

Mining Safety and Health Admin.
117 107th Ave. NE

Bellevue, Washington 98004
Commercial Phone No. 206-442-7037

The Purchaser shall also prepare and submit to MSHA at the above address the quarterly Employment Report and Injury and Illness Report for the mining operation.

- 1613 - The Purchaser shall comply with local and State Safety Codes covering quarrying operations, warning signs and traffic control.
- 1613a- The Purchaser shall submit a written blasting plan or modification of the plan to the Authorized Officer for the Flat Finger Quarry, 3 working days prior to the start of drilling. The plan shall include: a) plan view of delay pattern; b) cross section of a typical loaded hole; c) types of explosives; d) powder factor; e) burden spacing, hole diameter, depth of holes, and depth of subdrill; and f) number of lifts. Acceptance of the blasting plan does not relieve the Purchaser of the liability or responsibility for the results of the blasting.
- 1613b- Controlled blasting techniques shall be employed during production blasting to contain blasted rock.
- 1613c- The Purchaser shall submit to the Authorized Officer a blasting log showing "as built" data and a brief summary of the blasting results, within 10 days after the shot.
- 1614 - Rock materials extracted from the quarry walls shall be utilized or disposed of as shown on the plans. Secondary blasting or other methods shall be employed to reduce the quarried rock to a maximum of 24 inches in any dimension.
- 1615 - Operations on the quarry site shall be so conducted that, both during and after completion of work, erosion will be minimized and sediment will not enter streams or other bodies of water. Waste or disposal areas and quarry access roads shall be located, constructed, and maintained in a manner that will prevent sediment from entering live streams or other bodies of water. Noncombustible debris and silt-laden water material resulting from the quarry operation shall be placed in such waste or disposal areas as shown on the plans and as directed by the Authorized Officer.
- 1616 - Upon completion of quarrying operations, overburden and waste materials shall be disposed of in accordance with requirements of the approved reclamation plan or in a manner approved in writing by the Authorized Officer.
- 1616a- Excavation retained for impoundment of water shall be shaped to provide safe access to water for persons, livestock, and wildlife, as (shown on the plans)(and) directed by

the Authorized Officer.

- 1617 - Upon completion of quarrying operations, required site reclamation measures shall be performed to the satisfaction of the Authorized Officer, including but not limited to the following:
- (A) Permanently seal or fill unused drill holes as directed by the Authorized Officer.
 - (B) Construct water bars and take other erosion control measures as directed by the Authorized Officer.
 - (C) Remove blockages from drainage systems, streams, and water ways, and restore streams and water ways to their original courses.
 - (D) Erect barricades on quarry access roads as directed by the Authorized Officer.
 - (E) Complete required site reclamation measures within 14 days after final cessation of quarrying operations.
 - (F) Clear quarry benches and scale wall of loose or dislodged shot material and move to a designated location within the quarry.

SOIL STABILIZATION - 1800

- 1802a - Soil stabilization work consisting of seeding and mulching shall be performed on all disturbed portions of all roads to be fully decommissioned, and fill slopes of roads to be constructed, in accordance with these specifications and shown on the plans.
- 1803 - Soil stabilization work as specified under Subsection(s) 1802a shall be performed during the following seasonal periods:
- From: August 15 To: October 1
- 1804 - The BLM shall furnish the species of grass seed and mulch meeting corresponding germination, purity and weed content requirements.
- 1809d - Straw mulch shall be from native grass or other approved grain crops which are certified weed free, and free from noxious weeds, mold, or other objectionable materials. Straw mulch shall be in an air-dry condition and suitable for placing in a

uniform manner. Straw mulch shall be applied evenly in treatment areas to a depth of 2 inches (approximately 1000 lbs/ac), or as directed by the Authorized Officer.

- 1810 - Mulch material shall be delivered to the work area in a dry state. Material found to be wet will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state and has the approval of the Authorized Officer.
- 1811 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string, or hemp rope. Wire binding and plastic twine will not be permitted.
- 1812 - The Purchaser shall apply to acres designated for treatment as shown on the plans, a mixture of grass seed and mulch material at the following rate of application:

Grass seed	20 lbs./acre
Mulch	1000 lbs./acre
- 1816b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipacker seeders, or other approved mechanical seeding equipment may be used when seed is to be applied in dry form.
- 1820 - The Purchaser shall notify the Authorized Officer at least 5 days in advance of the date he intends to commence the specified soil stabilization work.
- 1822 - Mulch that collects at the ends of culverts or accumulates to excessive depths on the slopes shall be evenly spread by hand methods, as directed by the Authorized Officer's Rep.
- 1823 - No material shall be applied when wind velocities would prevent a uniform application of the mix or slurry or when winds would drift the mix or slurry spray outside of the designated treatment area.
- 1826 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operation shall be picked up and disposed of to the satisfaction of the Authorized Officer.

ROADSIDE BRUSHING-2100

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

- 2102 - Roadside brushing may be performed mechanically with self powered, self-propelled equipment and manually with hand tools, including chain saws.
- 2103 - Vegetation cut manually and or mechanically less than 6 inches in diameter when measured at DBH 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 sloped and all limbs will be severed from the trunk.
- 2103a - Vegetation shall be cut and removed from the road bed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. 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 14 feet above the running surface of the roadway on cut and fill slopes, within the road prism-variable distance. Limbs shall be cut to within 1 inch of the trunk to produce a smooth vertical face. Removal of trees larger than 6 inches in diameter for sight distance or safety may be directed by the Authorized Officer.
- 2105 - Vegetation that is outside of the road prism-variable distance that protrudes into the road prism and within 14 feet in elevation above the running surface shall be cut, to within 1 inch of the trunk to produce a smooth vertical face.
- 2106 - Vegetative growth capable of growing 1 foot in height or higher shall be cut within the road prism/variable distance or as directed by the Authorized Officer.
- 2107 - Inside curves shall be brushed out for a sight distance of 200 feet chord distance and or a middle ordinate distance of 25 feet. Overhanging limbs and vegetation in excess of 1 foot in height, shall be cut within these areas.
- 2108 - Self propelled equipment shall not be permitted on cut and fill slopes or in ditches.
- 2109 - Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. Debris in excess of (1) feet 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 Authorized Officer.
- 2113 - Roadside brushing shall be accomplished as specified on the plans on the roads listed on Exhibit C-4 specification sheets.

- 2116 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within 400 feet of the immediate operating area.
- 2117 - 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.

ROAD DECOMMISSIONING 2600

- 2601 - If a road requires renovation, and then decommissioning after use, both operations shall be preformed the same operating season
- 2610 - Full decommissioning shall consist of the following treatments:
 - a. Remove all cross drain and draw culverts, restore stream channel to the same adjacent stream gradient. The side slopes will be no steeper than 2 to 1 or match existing stream channel as directed by the authorized officer. Potentially unstable fills will be removed and all disturbed soil will be seeded and mulched.
 - b. Rip the roadways to a depth of 18" with 12" spacing, with wing toothed ripper or subsoiler.
 - c. Construct water bars at 100' spacing, or as staked or directed by the Authorized Officer's Representative.
 - d. Seed and straw mulch roads and disturbed areas, with Government furnished seed, and Purchaser furnished straw. See Section 1800.
 - e. The Purchaser shall construct two log/earth barricades near the beginning of each road to be decommissioned. The final locations will be staked by the Authorized Officer's Rep.
 - f. All existing culverts removed as specified in the plans or as directed by the Authorized Officer shall be hauled away and properly disposed of by the Purchaser.
- 2620 - Full decommissioning shall be accomplished as specified on the plans on the roads listed below:

Road # and Name	From	To
-----------------	------	----

Road # and Name	From	To
34-3E-35.00	0.54	1.03
34-3E-35.05	0.00	0.12
35-3E-8.01 spur rd.	0.00=0.52	0.08=0.60
Total Miles		0.69

GENERAL - 3000

- 3001 - The Purchaser shall be required to maintain all roads listed and/or referenced in Section 41(C)(4) Special Provisions of this contract in accordance with Sections 3000, 3100, 3200, 3300, and 3400 of this exhibit.
- 3001a - The Purchaser shall be required to provide maintenance on roads in accordance with Subsections 3403, 3404, and 3408.
- 3002 - The Purchaser shall maintain the cross section of existing dirt or graveled roads to the existing geometric standards. Any roads required to be constructed, improved, or renovated under terms of this contract shall be maintained to the 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 patrol 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 patrol grader, rubber-tired front-end bucket loader, rubber-tired backhoe or comparable equipment, and by the use of hand tools.

3104a - Removal of bank slough and slide material includes placement of material at the nearest suitable turnout or disposal site where material cannot erode into streams, lakes, or reservoirs or cause undue damage to road fill slopes which have been planted or mulched to control soil erosion.

3104b - The Purchaser shall be responsible for removal of all slides or slough, up to fifteen (15) station yards in quantity, at any one site. This work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to removal of any slough or slide material exceeding fifteen (15) station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, method of disposal, and the disposal site. Work may commence immediately after agreement.

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

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

3106 - The Purchaser shall be responsible for repair and replacement of all materials eroded from road shoulders and fill slopes, up to fifteen (15) station yards in quantity, at any one site. The work includes unlimited multiple sites on all roads required to be maintained by the Purchaser. Prior to repair and replacement of eroded material exceeding fifteen (15) station yards at any one site, the Purchaser and the Authorized Officer or their Authorized Representatives shall agree in writing, in the field, to the quantity of material, borrow source, and method of repair. Work may commence immediately after agreement.

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

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

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

- 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.
- 3108a - The Purchaser shall perform logging operations on gravel and/or bituminous roadways only where the locations have been marked on the ground and/or approved by the Authorized Officer. Repair of the graveled roadways shall be as specified in Subsection 3401.

SEASONAL MAINTENANCE - 3200

- 3201 - The Purchaser shall perform preventive 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 cross ditching, removing ruts or other surface irregularities, and all other requirements specified in Section 3100.
- 3201a - All road segments not completed during dry weather periods shall be winterized, by providing a well-drained roadway by water barring, maintaining drainage and other additional measures necessary to minimize erosion and other damage to the roadway, as directed by the Authorized Officer.
- 3202 - The Purchaser shall perform and complete maintenance, specified in Sections 3000, 3100, and 3200, on all roads maintained by him, prior to October 1 each year, except as specified in Subsection 3203, after initial commencement of construction or logging operations. Thereafter all roads shall have continuous preventive maintenance and road cleanup until suspension of seasonal operations. This includes all roads used and not used during the preceding operating seasons.
- 3203 - The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any road(s) 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 30 calendar days following the completion of hauling and in accordance with Sec. 16(b) of this contract. This work shall include any maintenance and/or damage repairs specified in Sections 3000, 3100, and 3200 necessary to meet the conditions specified in Subsection 3002 and shall be executed in accordance with Subsection 3302 of this section.

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

- 3302 - The Purchaser shall perform final road maintenance only when weather or soil moisture conditions are suitable for normal maintenance equipment operations as determined by the Authorized Officer.
If final maintenance is delayed after the date required in Subsection 3301 of this contract by adverse soil moisture or unsuitable equipment operating conditions, the Purchaser will be notified by the Authorized Officer when soil moisture and equipment operating conditions are suitable. The Purchaser shall then be required to complete final maintenance within 30 days.

OTHER MAINTENANCE - 3400

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

- 3402 - The Purchaser shall be permitted to remove ice and snow from roads authorized for use under this contract only when prior written approval has been secured from the Authorized Officer. The Purchaser shall submit a written request for permission to remove ice and snow in advance of the date operations are to begin. Upon receiving written authorization for ice or snow removal, the Purchaser will perform the work according to the conditions and equipment requirements set forth in the Authorization.
- 3403 - The Purchaser shall be required to furnish and apply non-saline water during dry hauling periods, when directed by the Authorized Officer, for the purpose of laying dust and to prevent loss of surface material. The first application of water shall be made at the rate of one-half gallon per yd² of road surface traveled. Subsequent applications shall be made for each 40 MBF of timber or 120 yds² of rock hauled. Subsequent watering may be done at a rate less than one-half gallon per yd² when a specified lesser rate is approved by the Authorized Officer.
- The roads shown in Exhibit C-2 shall be watered.
- During drought periods when the transportation of water from the source to the roads noted above exceeds 12 miles, a reduction shall be made in the total purchase price to reflect the additional haul, based on equipment rental rates from current BLM Timber Appraisal Production Cost Schedules.
- 3404 - The Purchaser may at his option and expense, substitute lignin sulfonate, magnesium chloride, or bituminous dust palliatives for water on any or all road segments listed in Subsection 3403 provided that written approval is received from the Authorized Officer. Such authorization shall include approval of product specifications for the application of the product to be used. Multiple applications may be required to maintain the conditions specified in Subsection 3403.
- 3408 - Dust palliatives shall be applied by distribution equipment designed, equipped, maintained and operated, in a manner that the material is uniformly applied on variable widths of surface at readily determined and controlled rates. All equipment shall be of a standard commercial type that will provide satisfactory performance.
- 3409 - The Purchaser shall notify the Authorized Officer a minimum of three 3 days in advance of application of required dust palliative.
- 3410 - The Purchaser shall prepare and submit to the Authorized Officer for his review and approval, an application schedule for all dust palliative work required under this Section. All such work shall be in accordance with the approved plan.

- 3411 - Required lignin sulfonate magnesium chloride dust palliatives shall only be applied when the atmospheric temperature is 45 degrees F. and steady or rising, and when the weather is not foggy or rainy. The material shall not be applied when rain is anticipated within 24 hours of application.
- 3411a - Required bituminous dust palliatives shall be applied only when the temperature of the road surface is 70 degrees F. or more and when the weather is not foggy or rainy and rain is not forecast within 24 hours of application.
- 3411b - The Purchaser shall be required to allow time for the bituminous dust palliative material to penetrate the surface and adequately cure, prior to use by traffic. Any blotter rock placed by the Purchaser, at his option, to facilitate earlier traffic, shall be at his own expense and approved by the Authorized Officer.
- 3412 - The Purchaser shall apply to the prepared roadbed specified under Subsection 3405 a lignin sulfonate magnesium chloride dust palliative conforming to the material requirements of Subsection 3412b 3412c. The rate of application shall be 0.5 gallons per square yard surface. A second application at the rate of 0.5 gallons per square yard shall be applied at a time designated by the Authorized Officer. Applied materials not penetrating the road surface shall be blade mixed with additional water into the top 1 to 1-1/2 inches of the surfacing at the contractor's expense.
- 3412a - If required, the lignin sulfonate magnesium chloride shall be field diluted within the application vehicle and be circulated at least 5 minutes to assure mixing. An air gap shall be provided between any water source and the materials being diluted. Accidental spills shall be contained to prevent entry in water courses or ponded water. The surface of adjacent structures and trees shall be protected from spattering or marring. A wetting agent may be used in addition to the certified compound or mixed with the road surface preparation watering. A mix of less than 1:6000 is recommended. Water used to dilute lignin sulfonate concentrate shall be reasonably clean and free of oil, salt, acid, alkali, vegetable matter, or any other substance injurious to the finished product.
- 3412b - Specifications for Lignin Sulfonate:
- Lignin sulfonate shall be the chemical residue produced as a by-product of the acid sulfite pulping process, and supplied as a water solution. The base cation shall be ammonia, calcium or sodium. The product shall be water soluble to allow field dilution. Solids determination shall be made according to the modified Technical Association of

the Pulp and Paper industry Standard T629-M53 or by a specific gravity/percent solids versus temperature graph that correlates with the standard. The pH of the applied solution shall be 4.5 minimum, as determined by AASHTO T 200.

Ammonium Lignin Sulfonate

Solids	48% min.
Moisture	50% max.
Sugars	12% max.
pH	4.5% min.
Protein	16% min.
NPH	15 max.
Ash	0.5%
Sulphur	5%
Calcium	0.025% min.
Viscosity at 77° F.	Less than 2000 CPS
lbs./gal.	10.2

Tract No : 10-17
 Sale Name: Twin Ranch
 Prep. By : Brandon Sikes
 Sale Date: 2010

UNITED STATES
 DEPARTMENT OF THE INTERIOR
 BUREAU OF LAND MANAGEMENT

ROAD MAINTENANCE AND ROAD USE APPRAISAL WORK SHEET

Summary of Costs

1. Road Use - Amortization: (1) \$6147.48/6893 MBF = \$0.89/MBF 1/
 (RC-3 & RC-3a) (Tot Sale Vol)

2. Road Maintenance Obligation:

<u>\$789.35</u>	+	<u>\$3775.20</u>	+	<u>\$0.00</u>	+	<u>\$0.00</u>	=	<u>\$4564.55</u>
(2.1)		(3.1)		(4.1)		(5.1)		(RC-2c)

3. Rockwear Obligation:

<u>\$0.00</u>	+	<u>\$0.00</u>	+	<u>\$5157.76</u>	+	<u>\$189.81</u>	=	<u>\$5347.57</u>
(4.2)		(5.2)		(7.1)		(7.2)		(RC-2g)

4. Other Maintenance Payments:

Total (6)	=	<u>\$6826.83</u>
		(RC-3a)

5. Purchaser Maintenance Allowances:

(7.3A) Move In	\$3819.00
(7.3B) Culverts, Catch Basins, Downspouts	\$5849.00
(7.3C) Grading, Ditching	\$10724.00
(7.3D) Slide Removal and Slump Repair	\$800.64
(7.3E) Dust Palliative (Water)	\$9879.60
(7.3F) Surface Repair (Aggregate)	\$0.00
(7.3G) Dust Palliative (Bituminous, Lignin, MgCl)	\$0.00
(7.3H) Other	\$160.00

Total (7.3)	=	<u>\$31232.24</u>
		(RC-2a & Ex D)

(2+3+4+5) Total = \$47,971.19/6893 MBF = \$6.96/MBF 1/
 (Total Sale Vol)

Costs are estimates only and do not include Profit and Risk.
 1/ Enter on Timber Sale Summary Form OSO 5420-1.

OR110-9113-1

1. Road Use Fees - Amortization

R/W Number	Road Number	Rd Use Fee x	Vol MBF	Road Use = Obligation
M2000F	35-3E-8.1	2.45	307	\$752.15
M2000F	35-3E-8.1	9.85	307	\$3023.95
M2000F	35-3E-11.4A	1.31	70	\$91.70
M2000F	35-3E-12.2	8.32	274	\$2279.68

(1) Subtotal \$6147.48

2. BLM Maintenance - Timber Haul 1/ 2/ 3/ 4/ 5/

Road Number and Segment	A Surf N Type	Maint Mi	Vol x Fee x MBF	Total = Maint
34-3E-21.00	C1N ASC	0.29	1.35 450	\$176.18
34-3E-21.00	B N ASC	0.86	1.35 450	\$522.45
34-3E-21.00	A A ASC	0.18	1.12 450	\$90.72

(2.1) Subtotal \$789.35

1/ Enter list of roads in Sec. 41(RC-2).

2/ Rockwear is included in fee as a maintenance cost for BLM maintained roads.

3/ Include lump sum logging damage repair (see Ex. D, Subsection 3108a Option F & 3401a).

3. BLM Maintenance - Rock Haul 1/ 2/ 3/

Road Number and Segment	A Surf N Type	Maint Mi	Vol x Fee x C.Y.	Total = Maint
34-3E-19.03	A N ASC	0.19	0.43 4800	\$392.16
34-3E-29.01	E N ASC	0.45	0.43 4800	\$928.80
34-3E-29.01	D N ASC	0.26	0.43 4800	\$536.64
34-3E-29.01	C N ASC	0.13	0.43 4800	\$268.32
34-3E-29.01	B N ASC	0.27	0.43 4800	\$557.28
34-3E-29.01	A A ASC	0.65	0.35 4800	\$1092.00

(3.1) Subtotal \$3775.20

1/ Enter list of roads in Section 41(RC-2).

2/ Rockwear is included in fee as a maintenance cost for BLM maintained roads.

3/ Include lump sum logging damage repair (See Ex. D, Subsection 3108a Option F & 3401a).

4. Third Party Maintenance and Rockwear - Timber Haul 1/

MAINTENANCE (4.1)					ROCKWEAR (4.2) 2/ 3/				
Road Number and Segment	A N	Maint Mi	Vol x Fee x MBF	Total = Maint	Rkwear Mi	Vol x Fee x MBF	Total = Rkwear		

(4.1) Subtotal

(4.2) Subtotal

1/ Enter list of roads in Sec. 41(RC-2).

2/ Rockwear is included in fee as a maintenance cost for BLM maintained roads.

3/ Include lump sum logging damage repair (see Ex. D, Subsection 3108a Option F & 3401a).

5. Third Party Maintenance and Rockwear - Rock Haul 1/

MAINTENANCE (5.1)					ROCKWEAR (5.2) 2/ 3/				
Road Number	A	Maint	Vol	Total	Rkwear	Vol	Total		
and Segment	N	Mi	x Fee x	C.Y. =	Maint	Mi	x Fee x	C.Y. =	Rkwear
(5.1) Subtotal					(5.2) Subtotal				

1/ Enter list of roads in Sec. 41(RC-2).

2/ Rockwear is included in fee as a maintenance cost for BLM maintained roads.

3/ Include lump sum logging damage repair (see Ex. D, Subsection 3108a Option F & 3401a).

6. Other Maintenance Payments - USFS or Others Perform Maintenance

Use of USFS Roads value of surface replacement

Agreement	Fee		Fee		Vol	Maint
Number	Road Number	MBF/Mi x	Mi =	/MBF x	Hauled =	Cost
USFS LA	FS32	0.55	0.26	0.143	6136	\$877.45
USFS LA	FS32	0.55	0.36	0.198	5148	\$1019.30
USFA LA	FS32	0.55	0.85	0.468	3076	\$1438.03
USFS LA	FS32	0.55	0.29	0.160	3006	\$479.46
USFS LA	FS32	0.55	0.39	0.215	2213	\$474.69
USFS LA	FS32	0.55	1.27	0.699	2124	\$1483.61
USFS LA	FS32	0.55	0.37	0.204	1320	\$268.62
USFS LA	FS 3240	0.55	1.30	0.715	558	\$398.97
USFS LA	FS32	0.55	0.17	0.094	300	\$28.05
USFS LA	FS3220 (10.1A)	0.55	0.24	0.132	988	\$130.42
USFS LA	FS3220 (10.1C)	0.55	0.42	0.231	988	\$228.23

(6) Subtotal \$6826.83

7. Purchaser Maintenance - Rock Wear

TIMBER HAUL (7.1)					ROCK HAUL (7.2) 2/ 3/				
Road No	1/	A	RkWear	Vol	Total	Rkwear	Vol	Total	
and Segment	N	Mi	x Fee x	MBF =	RkWear	Mi	x Fee x	C.Y.=	Rkwear
35-3E-11.04	N	0.38	0.00	70	\$0.00	0.00	0.00	0	\$0.00
35-3E-11.01	N	0.31	0.55	793	\$135.21				
35-3E-11.00	N	0.13	0.55	793	\$56.70				
35-3E-10.01	B N	0.24	0.55	988	\$130.42				
35-3E-10.01	D N	0.30	0.55	988	\$163.02				
35-3E-10.01	E N	0.26	0.55	674	\$96.38				
35-3E-10.01	F N	0.27	0.55	674	\$100.09				
35-3E-10.01	G N	0.24	0.55	274	\$36.17				
35-3E-14.01	A N	0.71	0.55	400	\$156.20				
35-3E-14.01	B A	0.48	0.46	400	\$88.32				
35-3E-14.01	C A	0.70	0.46	111	\$35.74				
35-3E-12.01	A	0.26	0.46	289	\$34.56				
35-3E-13.07	N	0.32	0.55	274	\$48.22				
35-3E-12.02	A N	0.35	0.55	274	\$52.75				
35-3E-12.02	B N	0.52	0.55	274	\$78.36				
35-3E-10.00	A N	0.95	0.55	2072	\$1082.62				
35-3E-10.00	B N	0.94	0.55	145	\$74.97				
35-3E-3.05	N	0.18	0.00	45	\$0.00	0.00	0.00	0	\$0.00
35-3E-3.00	N	1.66	0.55	1927	\$1759.35				
35-3E-3.00	N	0.22	0.55	279	\$33.76				
34-3E-35.03	A	0.23	0.46	1290	\$136.48				
34-3E-35.03	A	0.24	0.46	90	\$9.94				
34-3E-35.04	A	0.42	0.46	1200	\$231.84				
34-3E-35.02	A	0.06	0.46	1490	\$41.12				
34-3E-35.02	A	0.65	0.46	200	\$59.80				
34-3E-35.00	A N	0.22	0.55	200	\$24.20				

34-3E-35.00	B N	0.32	0.55	200	\$35.20				
35-3E-8.01	N	0.58	0.55	307	\$97.93	0.58	0.55	595	\$189.81
34-3E-27.01	A	1.24	0.46	450	\$256.68				
34-3E-15.03	B1N	0.22	0.55	450	\$54.45				
35-3E-8.01	N	0.28	0.55	307	\$47.28				

(7.1) Subtotal \$5157.76

(7.2) Subtotal \$189.81

- 1/ List all purchaser maintained roads and enter list in Section 41(RC-2a). Don't repeat any BLM maintained roads listed on appraisal. List may include new const. roads without fees.
- 2/ All surfaced roads have a rockwear fee, except no rockwear fee is charged for rock haul on roads surfaced or resurfaced under this timber sale.
- 3/ Include lump sum logging damage repair (See Ex. D, Subsection 3108a Option F & 3401a).

7. Purchaser Operational Maintenance

Cost allowances must be limited to work required under timber sale Exhibit D.
If purchaser maint. such as dust control/damage repair is performed on BLM maint. roads, add appropriate mandatory Ex. D provisions, RC-2a and RC-2h strips. Note in prospectus.

7.3A Move In

Equipment 1/	No Units	Move x in x	Cost/ 50 Mi x	Dist Factor	Sub- total
Motor Grader:	1	4	\$335.00	0.67	\$897.80
Back Hoe:	1	4	\$335.00	0.67	\$897.80
Loader:	1	4	\$335.00	0.67	\$897.80
Water Truck:	1	4	\$206.00	0.67	\$552.08
Dump Truck 2/:	1	4	\$214.00	0.67	\$573.52

(7.3A) Total \$3819.00

- 1/ Equipment limited to that allowed in Exhibit D. Refer to Sch. 20 Table 2.
- 2/ Dump truck is allowable for surface repair only.

7.3B Culvert Maintenance - Including Catchbasins and Downpipes 1/

Miles	x	Cost/Mi	=	Subtotal
20		292.45		\$5849.00

(7.3B) Total \$5849.00

- 1/ Does not include purchase or installation of culvert pipe. Refer to Sch. 20 Table 32.

7.3C Grading (Includes Ditches and Shoulders) 1/

	Miles	x	Cost/Mi	x Freq	= Subtotal
Blade Road:	10.00		459.60	2	\$9192.00
Blade Ditch:	5.00		153.20	2	\$1532.00

(7.3C) Total \$10724.00

- 1/ Watch for double allowance on roadway preparation for dust palliative application.

7.3D Slide and Slough removal, Slump Repair (15 sta-yds. ea.) 1/

Type Equipment	No Slides /Slumps	Hours x Each x	Equip Cost	= Subtotal
Grader:	3	1	119.90	\$359.70
Loader:	3	1	84.43	\$253.29
Backhoe:	3	1	62.55	\$187.65

(7.3D) Total \$800.64

1/ Maximum haul is 15 sta. yds. Use grader or front end loader only. Dump truck not allowed in specifications. Refer to Sch. 20 Table 28.

7.3E Dust Palliative (Water) 1/

Spreading Hours

Miles	/	MPH	=	Hours	x	No Days	x	Freq /Day	=	Truck Hours
20.00		10		2.0		20		2		80.0
Load & Haul-Roundtrip =				1.0		20		2		40.0
Fixed Hours (3000 Gal. tanker)										
										Total Hours = 120.0

Truck Cost: \$82.33/Hr. x 120.0 Hours = \$9879.60

(7.3E) Total \$9879.60

1/ Allow water for all BLM maint. non-oiled roads. Subsection 3403 requires 0.50 gal/syd.

7.3F Surface Repair (Aggregate)

Production Cost: 1/	0 C.Y. x \$0.00/C.Y.	=	\$0.00
Haul to Stockpile:	0 C.Y. x \$2.18/C.Y. x 0.00 Mi	=	\$0.00
Stockpile:	0 C.Y. x \$1.18/C.Y.	=	\$0.00
Load from Stockpile:	0 C.Y. x \$1.30/C.Y.	=	\$0.00
Haul from Stockpile:	0 C.Y. x \$2.18/C.Y. x 0.00 Mi	=	\$0.00
Process with Grader:	0 C.Y. x \$1.00/C.Y.	=	\$0.00

(7.3F) Total \$0.00

1/ Use unit cost from Road Construction Cost Guide.

7.3G Dust Palliative (Bituminous, Lignin, Magnesium Chloride)

(7.3G) Total

7.3H Other

Fallen Timber Cutting: 1/	2.0 Hours x \$40.00/Hour =	\$80.00
Brush Cutting/Tree Trimming: 2/	2.0 Hours x \$40.00/Hour =	\$80.00
Oil/Asphalt Materials: 3/	Lump Sum =	\$0.00
Signing for Dust Palliatives: 4/	Lump Sum =	\$0.00
Misc. L.S. =		\$0.00

(7.3H) Total \$160.00

1/ Exhibit D Subsection 3104.
2/ Exhibit D Subsection 3107.
3/ Exhibit D Subsection 3401a.
4/ Exhibit D Subsection 3405b.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of All Roads and Projects

T.S. Update 04/15/10

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Prepared by: B. Sikes Ph: 618-2286 Print Date: 7/19/2010 7:44:49 AM

Construction: 0.00 sta (Surfaced 0.00 sta Natural 0.00 sta)

Improve: 0.00 sta Renov: 1242.37 sta Decom: 36.21 sta Temp: 0.00 sta

200 Clearing and Grubbing: 0.3 acres	\$558.40
Clearing: 5.5 sta Grubbing: 0.3 acres	
Slash Treatment: 0.3 acres	
300 Excavation: 141 cy	\$871.26
Haul: 0 sta-yds	
400 Drainage:	\$9,525.40
Culvert: 272 lf wt = 4,108 lbs factor = 1.2	
DownSpout: 10 lf	
PolyPipe: 0 lf	
500 Renovation:	\$20,197.00
Blading 23.53 mi	
Surfacing:	\$131,371.99
1200 Quarry Name: 80 acre 4,066 cy	
Quarry Name: 80 acre (3") 856 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$4,453.60
Gradation Class 5: 80 cy	
1800 Soil Stabilization: 0.2 acres	\$107.77
Includes Small Quantity Factor of 1.59	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 24.4 acres	\$8,654.21
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$13,000.00
Mobilization: Const. \$3,550.00 Surf. \$10,237.35.....	\$13,787.35
Quarry Development:	\$10,000.00
Total: 6,893 mbf @ \$30.83/mbf =	\$212,526.98

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities are COMPACTED in place cubic yards.

File S:\Butte Falls\ENGINEERING\BF_Timber_Sales\Twin Ranch\twin ranch 10\twin ranch10.mdb

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-15.03 Road Name: MEDCO RR GRADE

Road Renovation: 0.22 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$199.16
Blading 0.22 mi	
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	\$46.82
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$4.63 Surf. \$0.00.....	\$4.63
Quarry Development:	\$0.00
	Total: \$250.60

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-15.03 Road Name: MEDCO RR GRADE

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.22 mi = \$101.11

Pull Ditches: \$153.20/mi x 0.22 mi = \$33.70

Clean Culverts: \$292.45/mi x 0.22 mi = \$64.34

Subtotal: \$199.16

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 0.20 acres = \$46.82

Subtotal: \$46.82

Section 2200 Surface Treatment:

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 - 0.13% of total Costs = \$4.63

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$4.63

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-15.03 MEDCO RR GRADE Continued

Total: \$250.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-19.03 Road Name: SEVEN UP

Road Renovation: 0.19 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$172.00
Blading 0.19 mi	
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	\$46.82
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$4.12 Surf. \$0.00.....	\$4.12
Quarry Development:	\$0.00
	Total: \$222.94

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-19.03 Road Name: SEVEN UP

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$459.60/\text{mi} \times 0.19 \text{ mi} = \87.32

Pull Ditches: $\$153.20/\text{mi} \times 0.19 \text{ mi} = \29.11

Clean Culverts: $\$292.45/\text{mi} \times 0.19 \text{ mi} = \55.57

Subtotal: \$172.00

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: 4ft. Right: 4ft.

RoadSide Brushing Light: $\$234.11/\text{acre} \times 0.20 \text{ acres} = \46.82

Subtotal: \$46.82

Section 2200 Surface Treatment:

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 - 0.12% of total Costs = \$4.12

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$4.12

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-19.03 SEVEN UP Continued

Total: \$222.94

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-21.00 Road Name: CAMP CREEK

Road Renovation: 1.34 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,213.04
Blading 1.34 mi	
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: 1.3 acres	\$304.34
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$28.54 Surf. \$0.00.....	\$28.54
Quarry Development:	\$0.00
Total:	\$1,545.92

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-21.00 Road Name: CAMP CREEK

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 1.34 mi = \$615.86

Pull Ditches: \$153.20/mi x 1.34 mi = \$205.29

Clean Culverts: \$292.45/mi x 1.34 mi = \$391.88

Subtotal: \$1,213.04

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 1.30 acres = \$304.34

Subtotal: \$304.34

Section 2200 Surface Treatment:

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 - 0.80% of total Costs = \$28.54

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$28.54

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-21.00 CAMP CREEK Continued

Total: \$1,545.92

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-27.01 Road Name: SUOTH ZEBRA SELECT B

Road Renovation: 0.92 mi 14 ft Subgrade 3 ft ditch T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$832.83
Blading 0.92 mi	
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: 0.9 acres	\$210.70
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$19.63 Surf. \$0.00.....	\$19.63
Quarry Development:	\$0.00
Total:	\$1,063.16

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-27.01 Road Name: SUOTH ZEBRA SELECT B

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$459.60/\text{mi} \times 0.92 \text{ mi} = \422.83

Pull Ditches: $\$153.20/\text{mi} \times 0.92 \text{ mi} = \140.94

Clean Culverts: $\$292.45/\text{mi} \times 0.92 \text{ mi} = \269.05

Subtotal: \$832.83

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: 4ft. Right: 4ft.

RoadSide Brushing Light: $\$234.11/\text{acre} \times 0.90 \text{ acres} = \210.70

Subtotal: \$210.70

Section 2200 Surface Treatment:

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 - 0.55% of total Costs = \$19.63

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$19.63

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-27.01 SUOTH ZEBRA SELECT B Continued

Total: \$1,063.16

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-29.01 Road Name: SEC.19 SELECT ML

Road Renovation: 1.80 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,629.45
Blading 1.80 mi	
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: 1.7 acres	\$397.99
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$38.13 Surf. \$0.00.....	\$38.13
Quarry Development:	\$0.00
	Total: \$2,065.57

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-29.01 Road Name: SEC.19 SELECT ML

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$459.60/\text{mi} \times 1.80 \text{ mi} = \827.28

Pull Ditches: $\$153.20/\text{mi} \times 1.80 \text{ mi} = \275.76

Clean Culverts: $\$292.45/\text{mi} \times 1.80 \text{ mi} = \526.41

Subtotal: \$1,629.45

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: 4ft. Right: 4ft.

RoadSide Brushing Light: $\$234.11/\text{acre} \times 1.70 \text{ acres} = \397.99

Subtotal: \$397.99

Section 2200 Surface Treatment:

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 - 1.07% of total Costs = \$38.13

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$38.13

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-29.01 SEC.19 SELECT ML Continued

Total: \$2,065.57

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.00 Road Name: Sec 35 North Spur

Road Renovation: 0.54 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$248.18
Blading 0.54 mi	
Surfacing:	\$1,130.00
Quarry Name: 80 acre (3") 40 cy	
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
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$900.00
Mobilization: Const. \$42.85 Surf. \$83.20.....	\$126.05
Quarry Development:	\$81.27
	Total: \$2,485.50

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.00 Road Name: Sec 35 North Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.54 mi = \$248.18

Subtotal: \$248.18

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

Comment: Spot Rocking

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									40cy

Rock Volume = 40cy

Production: \$8.02/cy x 40cy = \$320.80

Drill & Shoot: 100% x \$3.88/cy x 40cy = \$155.20

Processing: \$1.23/cy x 40cy = \$49.20

Compaction: \$1.00/cy x 40cy = \$40.00

T11 Testing: \$0.07/cy x 40cy = \$2.80

T27 Testing: \$0.05/cy x 40cy = \$2.00

Stockpiling: \$1.30/cy x 40cy = \$52.00

Basic Rock Haul cost: \$0.87/cy x 40cy = \$34.80

Rock Haul -15% grades: \$1.31/cy-mi x 40cy x 5.00 mi= \$262.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 40cy x 7.00 mi= \$162.40

Basic Water Haul cost: \$0.57/cy x 40cy = \$22.80

Water Haul -15% grades: \$0.13/cy-mi x 40cy x 5.00 mi= \$26.00

Subtotal: \$1,130.00

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: 4ft. Right: 4ft.

Subtotal: \$0.00

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Road Number: 34-3E-35.00 Sec 35 North Spur Continued

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

BARRICADE

construct barricade 1 ea. x \$300.00/ea. = \$300.00

DITCH OUTS

Improve ditchouts 2 ea. x \$200.00/ea. = \$400.00

WATERBAR

Construct waterbars 8 ea x \$25.00/ea = \$200.00

Subtotal: \$900.00

Mobilization:

Construction - 1.21% of total Costs = \$42.85

Surfacing - 0.81% by rock volume = \$83.20

Subtotal: \$126.05

Quarry Development:

Based on 0.81% of total rock volume

Subtotal: \$81.27

Total: \$2,485.50

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.00D Road Name:

Road Decommission: 0.49 mi 14 ft Subgrade ft ditch T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
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
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$6,400.00
Mobilization: Const. \$120.38 Surf. \$0.00.....	\$120.38
Quarry Development:	\$0.00
Total:	\$6,520.38

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.00D 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:

Subtotal: \$0.00

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 2200 Surface Treatment:

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:

Decommission

Rip 26 sta x \$100.00/sta = \$2,600.00

waterbar 12 ea x \$100.00/ea = \$1,200.00

Mulch 26 sta x \$100.00/sta = \$2,600.00

Subtotal: \$6,400.00

Mobilization:

Construction - 3.39% of total Costs = \$120.38

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$120.38

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-35.00D Continued

Total: \$6,520.38

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.02 Road Name: Section 35 ML

Road Renovation: 0.82 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$742.31
Blading 0.82 mi	
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: 0.9 acres	\$561.86
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$550.00
Mobilization: Const. \$34.87 Surf. \$0.00.....	\$34.88
Quarry Development:	\$0.00
Total:	\$1,889.04

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.02 Road Name: Section 35 ML

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.82 mi = \$376.87

Pull Ditches: \$153.20/mi x 0.82 mi = \$125.62

Clean Culverts: \$292.45/mi x 0.82 mi = \$239.81

Subtotal: \$742.31

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: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 0.90 acres = \$561.86

Subtotal: \$561.86

Section 2200 Surface Treatment:

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:

WATERBAR

Construct waterbars 5 each x \$50.00/each = \$250.00

BARRICADE

construct barricade 1 ea x \$300.00/ea = \$300.00

Subtotal: \$550.00

Mobilization:

Construction - 0.98% of total Costs = \$34.87

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$34.88

Road Number: 34-3E-35.02 Section 35 ML Continued

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,889.04

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.03 Road Name: Section 35 Spur

Road Renovation: 0.47 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$216.01
Blading 0.47 mi	
Surfacing:	\$2,260.00
Quarry Name: 80 acre (3") 80 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.6 acres	\$374.57
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$500.00
Mobilization: Const. \$63.02 Surf. \$166.39.....	\$229.41
Quarry Development:	\$162.54
	Total: \$3,742.54

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.03 Road Name: Section 35 Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.47 mi = \$216.01

Subtotal: \$216.01

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									80cy

Rock Volume = 80cy

Production: \$8.02/cy x 80cy = \$641.60

Drill & Shoot: 100% x \$3.88/cy x 80cy = \$310.40

Processing: \$1.23/cy x 80cy = \$98.40

Compaction: \$1.00/cy x 80cy = \$80.00

T11 Testing: \$0.07/cy x 80cy = \$5.60

T27 Testing: \$0.05/cy x 80cy = \$4.00

Stockpiling: \$1.30/cy x 80cy = \$104.00

Basic Rock Haul cost: \$0.87/cy x 80cy = \$69.60

Rock Haul -15% grades: \$1.31/cy-mi x 80cy x 5.00 mi= \$524.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 80cy x 7.00 mi= \$324.80

Basic Water Haul cost: \$0.57/cy x 80cy = \$45.60

Water Haul -15% grades: \$0.13/cy-mi x 80cy x 5.00 mi= \$52.00

Subtotal: \$2,260.00

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: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 0.60 acres = \$374.57

Subtotal: \$374.57

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Road Number: 34-3E-35.03 Section 35 Spur Continued

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

WATERBAR

Construct waterbars 10 each x \$50.00/each = \$500.00

Subtotal: \$500.00

Mobilization:

Construction - 1.78% of total Costs = \$63.02

Surfacing - 1.63% by rock volume = \$166.39

Subtotal: \$229.41

Quarry Development:

Based on 1.63% of total rock volume

Subtotal: \$162.54

Total: \$3,742.54

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.04 Road Name: 35.03 Spur

Road Renovation: 0.42 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$193.03
Blading 0.42 mi	
Surfacing:	\$2,260.00
Quarry Name: 80 acre (3") 80 cy	
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	\$124.86
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$250.00
Mobilization: Const. \$53.19 Surf. \$166.39.....	\$219.58
Quarry Development:	\$162.54
	Total: \$3,210.01

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.04 Road Name: 35.03 Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.42 mi = \$193.03

Subtotal: \$193.03

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									80cy

Rock Volume = 80cy

Production: \$8.02/cy x 80cy = \$641.60

Drill & Shoot: 100% x \$3.88/cy x 80cy = \$310.40

Processing: \$1.23/cy x 80cy = \$98.40

Compaction: \$1.00/cy x 80cy = \$80.00

T11 Testing: \$0.07/cy x 80cy = \$5.60

T27 Testing: \$0.05/cy x 80cy = \$4.00

Stockpiling: \$1.30/cy x 80cy = \$104.00

Basic Rock Haul cost: \$0.87/cy x 80cy = \$69.60

Rock Haul -15% grades: \$1.31/cy-mi x 80cy x 5.00 mi= \$524.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 80cy x 7.00 mi= \$324.80

Basic Water Haul cost: \$0.57/cy x 80cy = \$45.60

Water Haul -15% grades: \$0.13/cy-mi x 80cy x 5.00 mi= \$52.00

Subtotal: \$2,260.00

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: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 0.20 acres = \$124.86

Subtotal: \$124.86

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Road Number: 34-3E-35.04 35.03 Spur Continued

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

WATERBARS

Construct waterbars 5 ea x \$50.00/ea = \$250.00

Subtotal: \$250.00

Mobilization:

Construction - 1.50% of total Costs = \$53.19

Surfacing - 1.63% by rock volume = \$166.39

Subtotal: \$219.58

Quarry Development:

Based on 1.63% of total rock volume

Subtotal: \$162.54

Total: \$3,210.01

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 34-3E-35.05D Road Name: Sec.35 Spur5

Road Decommission: 0.12 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
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
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$1,600.00
Mobilization: Const. \$30.09 Surf. \$0.00.....	\$30.09
Quarry Development:	\$0.00
Total:	\$1,630.09

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 34-3E-35.05D Road Name: Sec.35 Spur5

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

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: 4ft. Right: 4ft.

Subtotal: \$0.00

Section 2200 Surface Treatment:

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:

Decommission

Rip 6 sta x \$100.00/sta = \$600.00

waterbar 4 ea x \$100.00/ea = \$400.00

Mulch 6 sta x \$100.00/sta = \$600.00

Subtotal: \$1,600.00

Mobilization:

Construction - 0.85% of total Costs = \$30.09

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$30.09

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 34-3E-35.05D Sec.35 Spur5 Continued

Total: \$1,630.09

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-01.04 Road Name: spur

Road Renovation: 0.08 mi 14 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$49.02
Blading 0.08 mi	
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	\$31.21
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$1.51 Surf. \$0.00.....	\$1.51
Quarry Development:	\$0.00
Total:	\$81.75

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-01.04 Road Name: spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.08 mi = \$36.77

Pull Ditches: \$153.20/mi x 0.08 mi = \$12.26

Subtotal: \$49.02

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: 4ft. Right: 4ft.

RoadSide Brushing Medium: \$312.14/acre x 0.10 acres = \$31.21

Subtotal: \$31.21

Section 2200 Surface Treatment:

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 - 0.04% of total Costs = \$1.51

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$1.51

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 35-3E-01.04 spur Continued

Total: \$81.75

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-03.00 Road Name: Titanic Creek

Road Renovation: 1.88 mi 16 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,701.87
Blading 1.88 mi	
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: 3.6 acres	\$983.25
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$50.50 Surf. \$0.00.....	\$50.50
Quarry Development:	\$0.00
Total:	\$2,735.62

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-03.00 Road Name: Titanic Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 1.88 mi = \$864.05

Pull Ditches: \$153.20/mi x 1.88 mi = \$288.02

Clean Culverts: \$292.45/mi x 1.88 mi = \$549.81

Subtotal: \$1,701.87

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 1.80 acres = \$421.40

RoadSide Brushing Medium: \$312.14/acre x 1.80 acres = \$561.85

Subtotal: \$983.25

Section 2200 Surface Treatment:

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 - 1.42% of total Costs = \$50.50

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$50.50

Quarry Development:

Based on 0.00% of total rock volume

Road Number: 35-3E-03.00 Titanic Creek Continued

Subtotal: \$0.00

Total: \$2,735.62

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-03.05 Road Name: Sec. 3 West Spur

Road Renovation: 0.18 mi 12 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$82.73
Blading 0.18 mi	
Surfacing:	\$565.00
Quarry Name: 80 acre (3") 20 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.4 acres	\$109.25
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$300.00
Mobilization: Const. \$19.88 Surf. \$41.60.....	\$61.48
Quarry Development:	\$40.63

Total: \$1,159.09

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-03.05 Road Name: Sec. 3 West Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.18 mi = \$82.73

Subtotal: \$82.73

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									20cy

Rock Volume = 20cy

Production: \$8.02/cy x 20cy = \$160.40

Drill & Shoot: 100% x \$3.88/cy x 20cy = \$77.60

Processing: \$1.23/cy x 20cy = \$24.60

Compaction: \$1.00/cy x 20cy = \$20.00

T11 Testing: \$0.07/cy x 20cy = \$1.40

T27 Testing: \$0.05/cy x 20cy = \$1.00

Stockpiling: \$1.30/cy x 20cy = \$26.00

Basic Rock Haul cost: \$0.87/cy x 20cy = \$17.40

Rock Haul -15% grades: \$1.31/cy-mi x 20cy x 5.00 mi= \$131.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 20cy x 7.00 mi= \$81.20

Basic Water Haul cost: \$0.57/cy x 20cy = \$11.40

Water Haul -15% grades: \$0.13/cy-mi x 20cy x 5.00 mi= \$13.00

Subtotal: \$565.00

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 0.20 acres = \$46.82

RoadSide Brushing Medium: \$312.14/acre x 0.20 acres = \$62.43

Subtotal: \$109.25

Section 2200 Surface Treatment:

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:

BARRICADE

Construct barricade 1 ea. x \$300.00/ea. = \$300.00

Subtotal: \$300.00

Mobilization:

Construction - 0.56% of total Costs = \$19.88

Surfacing - 0.41% by rock volume = \$41.60

Subtotal: \$61.48

Quarry Development:

Based on 0.41% of total rock volume

Subtotal: \$40.63

Total: \$1,159.09

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-08.01 Road Name: Rancheria Flat

Road Renovation: 0.86 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.3 acres	\$558.40
Clearing:5.5 sta Grubbing:0.3 acres	
Slash Treatment:0.3 acres	
300 Excavation: 141 cy	\$871.26
400 Drainage:	\$1,915.20
Culvert: 56 lf wt = 868 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$527.01
Blading 0.86 mi	
Surfacing:	\$14,340.95
Quarry Name: 80 acre (3") 596 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$107.77
Includes Small Quantity Factor of 1.59	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.8 acres	\$499.43
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$353.99 Surf. \$1,239.63.....	\$1,593.62
Quarry Development:	\$1,210.89
	Total: \$21,624.52

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-08.01 Road Name: Rancheria Flat

Section 200 Clearing and Grubbing:

Comment: Clearing and Grubbing costs for 5.5 sta new re-route

Clearing - Medium: \$29.69/sta x 5.50 sta = \$163.30

Grubbing - Medium: \$767.64/acre x 0.27 acres = \$207.26

Scatter: \$695.70/acre x 0.27 acres = \$187.84

Subtotal: \$558.40

Section 300 Excavation:

Comment: Excavation Costs for 5.5 sta of new re-route

Excavation - Rippable: \$3.50/cy x 141 cy = \$493.50

Layer Embankment - Common: \$0.25/cy x 141 cy = \$35.25

Compaction - Common: \$0.87/cy x 141 cy = \$122.67

Blading: \$39.97/station x 5.50 stations = \$219.84

Subtotal: \$871.26

Section 400 Drainage:

Aluminized 18 inch 16 ga 28 lf x \$25.45/lf x 1.2 = \$855.12

Aluminized 24 inch 16 ga 28 lf x \$31.55/lf x 1.2 = \$1,060.08

Subtotal: \$1,915.20

Section 500 Renovation:

Blading: \$459.60/mi x 0.86 mi = \$395.26

Pull Ditches: \$153.20/mi x 0.86 mi = \$131.75

Subtotal: \$527.01

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

<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>
0.29mi	12ft	14ft	8in	10%	3	10ft	50ft	25ft	

Rock Volume = 596cy

Production: \$8.02/cy x 596cy = \$4,779.92

Drill & Shoot: 100% x \$3.88/cy x 596cy = \$2,312.48

Processing: \$1.23/cy x 596cy = \$733.08

Compaction: \$1.00/cy x 596cy = \$596.00

T11 Testing: \$0.07/cy x 596cy = \$41.72

T27 Testing: \$0.05/cy x 596cy = \$29.80

Stockpiling: \$1.30/cy x 596cy = \$774.80

Basic Rock Haul cost: \$0.87/cy x 596cy = \$518.52

Rock Haul -15% grades: \$1.31/cy-mi x 596cy x 2.60 mi= \$2,029.98

Rock Haul St& Co Roads: \$0.58/cy-mi x 596cy x 5.20 mi= \$1,797.54

Basic Water Haul cost: \$0.57/cy x 596cy = \$339.72

Water Haul -15% grades: \$0.13/cy-mi x 596cy x 5.00 mi= \$387.40

Subtotal: \$14,340.95

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Comment: Seed and Mulch re-route

Dry Method with Mulch: \$538.84/acre x 0.20 acres = \$107.77

Includes Small Quantity Factor of 1.59

Subtotal: \$107.77

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 0.80 acres = \$499.43

Subtotal: \$499.43

Section 2200 Surface Treatment:

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 - 9.97% of total Costs = \$353.99

Surfacing - 12.11% by rock volume = \$1,239.63

Subtotal: \$1,593.62

Quarry Development:

Based on 12.11% of total rock volume

Subtotal: \$1,210.89

Total: \$21,624.52

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-08.01D Road Name:

Road Decommission: 0.08 mi 14 ft Subgrade ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
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
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$1,000.00
Mobilization: Const. \$18.81 Surf. \$0.00.....	\$18.81
Quarry Development:	\$0.00
Total:	\$1,018.81

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-08.01D 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:

Subtotal: \$0.00

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 2200 Surface Treatment:

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:

Decommission

Rip 4 sta x \$100.00/sta = \$400.00

waterbar 2 ea x \$100.00/ea = \$200.00

Mulch 4 sta x \$100.00/sta = \$400.00

Subtotal: \$1,000.00

Mobilization:

Construction - 0.53% of total Costs = \$18.81

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$18.81

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 35-3E-08.01D Continued

Total: \$1,018.81

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-10.00 Road Name: Rancheria Creek

Road Renovation: 1.89 mi 16 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$6,609.22
Culvert: 190 lf wt = 2,850 lbs factor = 1.2	
DownSpout: 10 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,710.92
Blading 1.89 mi	
Surfacing:	\$48,855.31
1200 Quarry Name: 80 acre 1,854 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.8 acres	\$1,123.72
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$1,096.55 Surf. \$3,856.17.....	\$4,952.71
Quarry Development:	\$3,766.76
Total:	\$67,018.65

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-10.00 Road Name: Rancheria Creek

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Comment: skew 35

Aluminized 18 inch 16 ga 26 lf x \$25.45/lf x 1.2 = \$794.04
 Aluminized 18 inch 16 ga 28 lf x \$25.45/lf x 1.2 = \$855.12
 Aluminized 18 inch 16 ga 28 lf x \$25.45/lf x 1.2 = \$855.12
 Aluminized 18 inch 16 ga 32 lf x \$25.45/lf x 1.2 = \$977.28
 Aluminized 18 inch 16 ga 36 lf x \$25.45/lf x 1.2 = \$1,099.44
 Aluminized 18 inch 16 ga 40 lf x \$25.45/lf x 1.2 = \$1,221.60
 Half Round 21 inch 10 lf x \$18.58/lf = \$185.80
 Splash Pads 18 inch 3 ea x \$206.94/ea = \$620.82

Subtotal: \$6,609.22

Section 500 Renovation:

Blading: \$459.60/mi x 1.89 mi = \$868.64
 Pull Ditches: \$153.20/mi x 1.89 mi = \$289.55
 Clean Culverts: \$292.45/mi x 1.89 mi = \$552.73

Subtotal: \$1,710.92

Section 1200 Crushed under 1 1/2 Quarry Name: 80 acre

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
1.89mi	12ft	14ft	4in	10%	10	10ft	50ft	25ft	

Rock Volume = 1,854cy
 Production: \$9.08/cy x 1,854cy = \$16,834.32
 Drill & Shoot: 100% x \$3.88/cy x 1,854cy = \$7,193.52
 Ripping: 0% x \$3.65/cy x 1,854cy = \$0.00
 Processing: \$1.23/cy x 1,854cy = \$2,280.42
 Compaction: \$1.00/cy x 1,854cy = \$1,854.00
 T11 Testing: \$0.07/cy x 1,854cy = \$129.78
 T27 Testing: \$0.05/cy x 1,854cy = \$92.70
 Stockpiling: \$1.30/cy x 1,854cy = \$2,410.20
 Basic Rock Haul cost: \$0.87/cy x 1,854cy = \$1,612.98
 Rock Haul -15% grades: \$1.31/cy-mi x 1,854cy x 2.63 mi= \$6,387.59
 Rock Haul St& Co Roads: \$0.58/cy-mi x 1,854cy x 7.70 mi= \$8,279.96
 Basic Water Haul cost: \$0.57/cy x 1,854cy = \$1,056.78
 Water Haul -15% grades: \$0.13/cy-mi x 1,854cy x 3.00 mi= \$723.06

Subtotal: \$48,855.31

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: 4ft. Right: 4ft.

Road Number: 35-3E-10.00 Rancheria Creek Continued

RoadSide Brushing Heavy: \$624.29/acre x 1.80 acres = \$1,123.72	Subtotal: \$1,123.72
Section 2200 Surface Treatment:	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 - 30.89% of total Costs = \$1,096.55	
Surfacing - 37.67% by rock volume = \$3,856.17	Subtotal: \$4,952.71
Quarry Development:	
Based on 37.67% of total rock volume	Subtotal: \$3,766.76
	Total: \$67,018.65

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-10.01 Road Name: Mud Springs

Road Renovation: 2.14 mi 16 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$1,000.98
Culvert: 26 lf wt = 390 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,937.24
Blading 2.14 mi	
Surfacing:	\$50,619.23
1200 Quarry Name: 80 acre 1,891 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 2.1 acres	\$491.63
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$1,016.61 Surf. \$3,933.12.....	\$4,949.73
Quarry Development:	\$3,841.93
Total:	\$62,840.74

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-10.01 Road Name: Mud Springs

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Aluminized 18 inch 16 ga 26 lf x \$25.45/lf x 1.2 = \$794.04

Splash Pads 18 inch 1 ea x \$206.94/ea = \$206.94

Subtotal: \$1,000.98

Section 500 Renovation:

Blading: \$459.60/mi x 2.14 mi = \$983.54

Pull Ditches: \$153.20/mi x 2.14 mi = \$327.85

Clean Culverts: \$292.45/mi x 2.14 mi = \$625.84

Subtotal: \$1,937.24

Section 1200 Crushed under 1 1/2 Quarry Name: 80 acre

Length	TopW	BotW	Depth	CWid	#Tos	Width	F.W.L	Taper	Other
1.91mi	12ft	14ft	4in	10%	12	10ft	50ft	25ft	

Rock Volume = 1,891cy

Production: \$9.08/cy x 1,891cy = \$17,170.28

Drill & Shoot: 100% x \$3.88/cy x 1,891cy = \$7,337.08

Ripping: 0% x \$3.65/cy x 1,891cy = \$0.00

Processing: \$1.23/cy x 1,891cy = \$2,325.93

Compaction: \$1.00/cy x 1,891cy = \$1,891.00

T11 Testing: \$0.07/cy x 1,891cy = \$132.37

T27 Testing: \$0.05/cy x 1,891cy = \$94.55

Stockpiling: \$1.30/cy x 1,891cy = \$2,458.30

Basic Rock Haul cost: \$0.87/cy x 1,891cy = \$1,645.17

Rock Haul -15% grades: \$1.31/cy-mi x 1,891cy x 2.75 mi= \$6,812.33

Rock Haul St& Co Roads: \$0.58/cy-mi x 1,891cy x 7.70 mi= \$8,445.21

Basic Water Haul cost: \$0.57/cy x 1,891cy = \$1,077.87

Water Haul -15% grades: \$0.13/cy-mi x 1,891cy x 5.00 mi= \$1,229.15

Subtotal: \$50,619.23

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 2.10 acres = \$491.63

Subtotal: \$491.63

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Road Number: 35-3E-10.01 Mud Springs Continued

	Subtotal:	\$0.00
Section 2400 Minor Concrete:		
	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 28.64% of total Costs = \$1,016.61		
Surfacing - 38.42% by rock volume = \$3,933.12		
	Subtotal:	\$4,949.73
Quarry Development:		
Based on 38.42% of total rock volume		
	Subtotal:	\$3,841.93
	Total:	\$62,840.74

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-11.00 Road Name: Twincheria

Road Renovation: 0.13 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$117.68
Blading 0.13 mi	
Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$4,453.60
Gradation Class 5: 80 cy	
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.1 acres	\$62.43
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$87.16 Surf. \$0.00.....	\$87.16
Quarry Development:	\$0.00

Total: \$4,720.87

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-11.00 Road Name: Twincheria

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$459.60/\text{mi} \times 0.13 \text{ mi} = \59.75

Pull Ditches: $\$153.20/\text{mi} \times 0.13 \text{ mi} = \19.92

Clean Culverts: $\$292.45/\text{mi} \times 0.13 \text{ mi} = \38.02

Subtotal: \$117.68

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Comment: Armor fill slopes around double culverts

Rock Source: 80 acre (3")

Royalty fee: $\$30.00/\text{cy} \times 80\text{cy} = \$2,400.00$

Shoot, Sort & Load Class 5 type rock: $\$11.27/\text{cy} \times 80\text{cy} = \901.60

Basic Rock Haul cost: $\$1.02/\text{cy} \times 80\text{cy} = \81.60

Rock Haul -15% grades: $\$1.02/\text{cy-mi} \times 80\text{cy} \times 7.00 \text{ mi} = \571.20

Rock Haul St& Co Roads: $\$0.45/\text{cy-mi} \times 80\text{cy} \times 7.00 \text{ mi} = \252.00

Placement of Buttress height < 20 ft: $80\text{cy} \times \$3.09/\text{cy} = \247.20

Subtotal: \$4,453.60

Section 1800 Soil Stabilization:

Subtotal: \$0.00

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 4ft. Right: 4ft.

RoadSide Brushing Heavy: $\$624.29/\text{acre} \times 0.10 \text{ acres} = \62.43

Subtotal: \$62.43

Section 2200 Surface Treatment:

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

Road Number: 35-3E-11.00 Twincheria Continued

Mobilization:

Construction - 2.46% of total Costs = \$87.16

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$87.16

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$4,720.87

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-11.01 Road Name: Twincheria Spur A

Road Renovation: 0.31 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$280.63
Blading 0.31 mi	
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: 0.3 acres	\$187.29
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$900.00
Mobilization: Const. \$25.73 Surf. \$0.00.....	\$25.73
Quarry Development:	\$0.00
Total:	\$1,393.64

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-11.01 Road Name: Twincheria Spur A

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.31 mi = \$142.48

Pull Ditches: \$153.20/mi x 0.31 mi = \$47.49

Clean Culverts: \$292.45/mi x 0.31 mi = \$90.66

Subtotal: \$280.63

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: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 0.30 acres = \$187.29

Subtotal: \$187.29

Section 2200 Surface Treatment:

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:

WATERBAR

CONSTRUCT WATER DIPS 3 EA x \$300.00/EA = \$900.00

Subtotal: \$900.00

Mobilization:

Construction - 0.72% of total Costs = \$25.73

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$25.73

Quarry Development:

Road Number: 35-3E-11.01 Twincheria Spur A Continued

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,393.64

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-11.04 Road Name: Sec. 11 Spur

Road Renovation: 0.38 mi 12 ft Subgrade 0 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$232.86
Blading 0.38 mi	
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: 0.4 acres	\$93.64
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$300.00
Mobilization: Const. \$11.78 Surf. \$0.00.....	\$11.78
Quarry Development:	\$0.00
Total:	\$638.29

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-11.04 Road Name: Sec. 11 Spur

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.38 mi = \$174.65

Pull Ditches: \$153.20/mi x 0.38 mi = \$58.22

Subtotal: \$232.86

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 0.40 acres = \$93.64

Subtotal: \$93.64

Section 2200 Surface Treatment:

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:

BARRICADE

construct barricade 1 ea x \$300.00/ea = \$300.00

Subtotal: \$300.00

Mobilization:

Construction - 0.33% of total Costs = \$11.78

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$11.78

Quarry Development:

Based on 0.00% of total rock volume

Road Number: 35-3E-11.04 Sec. 11 Spur Continued

Subtotal: \$0.00

Total: \$638.29

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-12.01 Road Name: Fireline

Road Renovation: 0.36 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$325.89
Blading 0.36 mi	
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: 0.4 acres	\$93.64
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$7.89 Surf. \$0.00.....	\$7.89
Quarry Development:	\$0.00
Total:	\$427.43

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-12.01 Road Name: Fireline

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$459.60/\text{mi} \times 0.36 \text{ mi} = \165.46

Pull Ditches: $\$153.20/\text{mi} \times 0.36 \text{ mi} = \55.15

Clean Culverts: $\$292.45/\text{mi} \times 0.36 \text{ mi} = \105.28

Subtotal: \$325.89

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: 4ft. Right: 4ft.

RoadSide Brushing Light: $\$234.11/\text{acre} \times 0.40 \text{ acres} = \93.64

Subtotal: \$93.64

Section 2200 Surface Treatment:

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 - 0.22% of total Costs = \$7.89

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$7.89

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 35-3E-12.01 Fireline Continued

Total: \$427.43

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-12.02 Road Name: Mud Spring 12.02B

Road Renovation: 1.03 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$932.41
Blading 1.03 mi	
Surfacing:	\$1,130.00
Quarry Name: 80 acre (3") 40 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.0 acres	\$312.14
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$300.00
Mobilization: Const. \$50.31 Surf. \$83.20.....	\$133.50
Quarry Development:	\$81.27
	Total: \$2,889.32

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-12.02 Road Name: Mud Spring 12.02B

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 1.03 mi = \$473.39

Pull Ditches: \$153.20/mi x 1.03 mi = \$157.80

Clean Culverts: \$292.45/mi x 1.03 mi = \$301.22

Subtotal: \$932.41

Section 1000 Crushed 1 1/2 to 3 in Quarry Name: 80 acre (3")

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									40cy

Rock Volume = 40cy

Production: \$8.02/cy x 40cy = \$320.80

Drill & Shoot: 100% x \$3.88/cy x 40cy = \$155.20

Processing: \$1.23/cy x 40cy = \$49.20

Compaction: \$1.00/cy x 40cy = \$40.00

T11 Testing: \$0.07/cy x 40cy = \$2.80

T27 Testing: \$0.05/cy x 40cy = \$2.00

Stockpiling: \$1.30/cy x 40cy = \$52.00

Basic Rock Haul cost: \$0.87/cy x 40cy = \$34.80

Rock Haul -15% grades: \$1.31/cy-mi x 40cy x 5.00 mi= \$262.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 40cy x 7.00 mi= \$162.40

Basic Water Haul cost: \$0.57/cy x 40cy = \$22.80

Water Haul -15% grades: \$0.13/cy-mi x 40cy x 5.00 mi= \$26.00

Subtotal: \$1,130.00

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: 4ft. Right: 4ft.

RoadSide Brushing Medium: \$312.14/acre x 1.00 acres = \$312.14

Subtotal: \$312.14

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Road Number: 35-3E-12.02 Mud Spring 12.02B Continued

	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
BARRICADE		
construct barricade 1 ea x \$300.00/ea = \$300.00		
	Subtotal:	\$300.00
Mobilization:		
Construction - 1.42% of total Costs = \$50.31		
Surfacing - 0.81% by rock volume = \$83.20		
	Subtotal:	\$133.50
Quarry Development:		
Based on 0.81% of total rock volume		
	Subtotal:	\$81.27
	Total:	\$2,889.32

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-13.07 Road Name: Mud Spring Spur 7

Road Renovation: 0.34 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$307.79
Blading 0.34 mi	
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: 0.3 acres	\$93.64
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$7.55 Surf. \$0.00.....	\$7.55
Quarry Development:	\$0.00
Total:	\$408.98

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-13.07 Road Name: Mud Spring Spur 7

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 0.34 mi = \$156.26

Pull Ditches: \$153.20/mi x 0.34 mi = \$52.09

Clean Culverts: \$292.45/mi x 0.34 mi = \$99.43

Subtotal: \$307.79

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: 4ft. Right: 4ft.

RoadSide Brushing Medium: \$312.14/acre x 0.30 acres = \$93.64

Subtotal: \$93.64

Section 2200 Surface Treatment:

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 - 0.21% of total Costs = \$7.55

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$7.55

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: 35-3E-13.07 Mud Spring Spur 7 Continued

Total: \$408.98

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: 35-3E-14.01 Road Name: MEDCO RW

Road Renovation: 1.94 mi 14 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,756.19
Blading 1.94 mi	
Surfacing:	\$3,397.50
1200 Quarry Name: 80 acre 121 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.9 acres	\$1,186.15
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$119.25 Surf. \$251.67.....	\$370.92
Quarry Development:	\$245.84
	Total: \$6,956.59

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 35-3E-14.01 Road Name: MEDCO RW

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 1.94 mi = \$891.62

Pull Ditches: \$153.20/mi x 1.94 mi = \$297.21

Clean Culverts: \$292.45/mi x 1.94 mi = \$567.35

Subtotal: \$1,756.19

Section 1200 Crushed under 1 1/2 Quarry Name: 80 acre

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
.12mi	12ft	14ft	4in	10%	1	10ft	50ft	25ft	

Rock Volume = 121cy

Production: \$9.08/cy x 121cy = \$1,098.68

Drill & Shoot: 100% x \$3.88/cy x 121cy = \$469.48

Ripping: 0% x \$3.65/cy x 121cy = \$0.00

Processing: \$1.23/cy x 121cy = \$148.83

Compaction: \$1.00/cy x 121cy = \$121.00

T11 Testing: \$0.07/cy x 121cy = \$8.47

T27 Testing: \$0.05/cy x 121cy = \$6.05

Stockpiling: \$1.30/cy x 121cy = \$157.30

Basic Rock Haul cost: \$0.87/cy x 121cy = \$105.27

Rock Haul -15% grades: \$1.31/cy-mi x 121cy x 3.75 mi= \$594.41

Rock Haul St& Co Roads: \$0.58/cy-mi x 121cy x 7.70 mi= \$540.39

Basic Water Haul cost: \$0.57/cy x 121cy = \$68.97

Water Haul -15% grades: \$0.13/cy-mi x 121cy x 5.00 mi= \$78.65

Subtotal: \$3,397.50

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: 4ft. Right: 4ft.

RoadSide Brushing Heavy: \$624.29/acre x 1.90 acres = \$1,186.15

Subtotal: \$1,186.15

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Road Number: 35-3E-14.01 MEDCO RW Continued

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 3.36% of total Costs = \$119.25

Surfacing - 2.46% by rock volume = \$251.67

Subtotal: \$370.92

Quarry Development:

Based on 2.46% of total rock volume

Subtotal: \$245.84

Total: \$6,956.59

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: USFS 032 Road Name: Upper Rancheria

Road Renovation: 3.99 mi 16 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$3,611.95
Blading 3.99 mi	
Surfacing:	\$6,814.00
1200 Quarry Name: 80 acre 200 cy	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.0 acres	\$0.00
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 3.9 acres	\$913.03
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$213.27 Surf. \$415.98.....	\$629.26
Quarry Development:	\$406.34

Total: \$12,374.57

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: USFS 032 Road Name: Upper Rancheria

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 3.99 mi = \$1,833.80

Pull Ditches: \$153.20/mi x 3.99 mi = \$611.27

Clean Culverts: \$292.45/mi x 3.99 mi = \$1,166.88

Subtotal: \$3,611.95

Section 1200 Crushed under 1 1/2 Quarry Name: 80 acre

<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> 200cy
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Rock Volume = 200cy

Production: \$9.08/cy x 200cy = \$1,816.00

Drill & Shoot: 100% x \$3.88/cy x 200cy = \$776.00

Ripping: 0% x \$3.65/cy x 200cy = \$0.00

Processing: \$1.23/cy x 200cy = \$246.00

Compaction: \$1.00/cy x 200cy = \$200.00

T11 Testing: \$0.07/cy x 200cy = \$14.00

T27 Testing: \$0.05/cy x 200cy = \$10.00

Stockpiling: \$1.30/cy x 200cy = \$260.00

Basic Rock Haul cost: \$0.87/cy x 200cy = \$174.00

Rock Haul -15% grades: \$1.31/cy-mi x 200cy x 7.00 mi= \$1,834.00

Rock Haul St& Co Roads: \$0.58/cy-mi x 200cy x 8.00 mi= \$928.00

Basic Water Haul cost: \$0.57/cy x 200cy = \$114.00

Water Haul -15% grades: \$0.13/cy-mi x 200cy x 17.00 mi= \$442.00

Subtotal: \$6,814.00

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: 4ft. Right: 4ft.

RoadSide Brushing Light: \$234.11/acre x 3.90 acres = \$913.03

Subtotal: \$913.03

Section 2200 Surface Treatment:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Road Number: USFS 032 Upper Rancheria Continued

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 6.01% of total Costs = \$213.27

Surfacing - 4.06% by rock volume = \$415.98

Subtotal: \$629.26

Quarry Development:

Based on 4.06% of total rock volume

Subtotal: \$406.34

Total: \$12,374.57

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number: USFS 3240 Road Name: Upper Big Butte

Road Renovation: 1.30 mi 16 ft Subgrade 3 ft ditch

T.S. Update 04/15/10

200 Clearing and Grubbing: 0.0 acres	\$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,176.83
Blading 1.30 mi	
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: 1.3 acres	\$405.78
2200 Surface Treatment: 0.0 tons	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$29.77 Surf. \$0.00.....	\$29.77
Quarry Development:	\$0.00
Total:	\$1,612.37

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: USFS 3240 Road Name: Upper Big Butte

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$459.60/mi x 1.30 mi = \$597.48

Pull Ditches: \$153.20/mi x 1.30 mi = \$199.16

Clean Culverts: \$292.45/mi x 1.30 mi = \$380.19

Subtotal: \$1,176.83

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: 4ft. Right: 4ft.

RoadSide Brushing Medium: \$312.14/acre x 1.30 acres = \$405.78

Subtotal: \$405.78

Section 2200 Surface Treatment:

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 - 0.84% of total Costs = \$29.77

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$29.77

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Road Number: USFS 3240 Upper Big Butte Continued

Total: \$1,612.37

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction

Drill and Comp: 1 ea x (1.00 x \$335.00/ea) = \$335.00
Graders-all: 1 ea x (1.00 x \$335.00/ea + 0 mi x \$11.99/mi) = \$335.00
Loaders < 3cy: 1 ea x (1.00 x \$335.00/ea + 0 mi x \$7.10/mi) = \$335.00
Excavators: 1 ea x (1.00 x \$648.00/ea + 0 mi x \$21.65/mi) = \$648.00
RTBackhoes 24/30: 1 ea x (1.00 x \$335.00/ea + 0 mi x \$5.58/mi) = \$335.00
Tractors <= D7: 1 ea x (1.00 x \$492.00/ea + 0 mi x \$30.48/mi) = \$492.00
Dump Truck >10cy: 5 ea x (1.00 x \$214.00/ea + 0 mi x \$4.29/mi) = \$1,070.00

Subtotal: \$3,550.00

Mobilization: Surfacing

Fire Equipment: 1ea x (1.00 x \$126.00/ea + 10 mi x \$3.36/mi) = \$159.60
Powder House: 1ea x (1.00 x \$335.00/ea) = \$335.00
Drill and Comp: 1ea x (1.00 x \$335.00/ea) = \$335.00
Graders-all: 1ea x (1.00 x \$335.00/ea + 10 mi x \$11.99/mi) = \$454.90
Loaders < 3cy: 1ea x (1.00 x \$335.00/ea + 10 mi x \$7.10/mi) = \$406.00
Loaders > 3cy: 1ea x (1.00 x \$492.00/ea + 1 mi x \$11.47/mi) = \$503.47
Rollers & Comp: 1ea x (1.00 x \$335.00/ea + 10 mi x \$19.20/mi) = \$335.00
Tractors <= D7: 1ea x (1.00 x \$492.00/ea + 1 mi x \$30.48/mi) = \$522.48
Dump Truck >10cy: 3ea x (1.00 x \$214.00/ea + 10 mi x \$4.29/mi) = \$770.70
Water Truck: 1ea x (1.00 x \$206.00/ea + 10 mi x \$4.12/mi) = \$247.20
Crusher 1 Stage: 1ea x (1.00 x \$2157.00/ea) = \$2,157.00
Crusher 2 Stage: 1ea x (1.00 x \$3819.00/ea) = \$3,819.00

Subtotal: \$10,237.35

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Quarry Development Costs - All Quarries

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Quarry Name: 80 acre Rock Volume = 4,066cy
Lump Sum: \$10,000.00

Subtotal: \$10,000.00

Quarry Name: Rancheria Rock Volume = 0cy

Subtotal: \$0.00

Quarry Name: 80 acre (3") Rock Volume = 856cy

Subtotal: \$0.00

Total all Quarries: \$10,000.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: TWIN RANCH Sale Date: 4-10

Road Number	Const	Improv	Renov	Decomm	Temp
34-3E-15.03			11.62		
34-3E-19.03			10.03		
34-3E-21.00			70.75		
34-3E-27.01			48.58		
34-3E-29.01			95.04		
34-3E-35.00			28.51		
34-3E-35.00D				25.87	
34-3E-35.02			43.30		
34-3E-35.03			24.82		
34-3E-35.04			22.18		
34-3E-35.05D				6.34	
35-3E-01.04			4.22		
35-3E-03.00			99.26		
35-3E-03.05			9.50		
35-3E-08.01			45.41		
35-3E-08.01D				4.00	
35-3E-10.00			99.79		
35-3E-10.01			112.99		
35-3E-11.00			6.86		
35-3E-11.01			16.37		
35-3E-11.04			20.06		
35-3E-12.01			19.01		
35-3E-12.02			54.38		
35-3E-13.07			17.95		
35-3E-14.01			102.43		
USFS 032			210.67		
USFS 3240			68.64		

Total Sta:	_____	_____	1,242.37	36.21	_____
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200 Clearing and Grubbing	Clearing stations	Grubbing acres	Slash acres
35-3E-08.01	5.50	0.3	0.3
Totals:	5.50	0.3	0.3

300 Excavation	Excav C.Y.s	Haul sta-yds
35-3E-08.01	141	0
Totals:	141	0

400 Drainage				
35-3E-08.01	Aluminized	18 inch	16 ga	28 lf
35-3E-08.01	Aluminized	24 inch	16 ga	28 lf
35-3E-10.00	Aluminized	18 inch	16 ga	26 lf
35-3E-10.00	Aluminized	18 inch	16 ga	28 lf
35-3E-10.00	Aluminized	18 inch	16 ga	28 lf
35-3E-10.00	Aluminized	18 inch	16 ga	32 lf
35-3E-10.00	Aluminized	18 inch	16 ga	36 lf
35-3E-10.00	Aluminized	18 inch	16 ga	40 lf
35-3E-10.01	Aluminized	18 inch	16 ga	26 lf
35-3E-10.00	Half Round	21 inch	10 lf	

Continuation of Construction Quantities

35-3E-10.00	Splash Pads 18 inch	3 ea
35-3E-10.01	Splash Pads 18 inch	1 ea

500 Renovation	Miles	Slide cy
34-3E-15.03	0.22	0
34-3E-19.03	0.19	0
34-3E-21.00	1.34	0
34-3E-27.01	0.92	0
34-3E-29.01	1.80	0
34-3E-35.00	0.54	0
34-3E-35.02	0.82	0
34-3E-35.03	0.47	0
34-3E-35.04	0.42	0
35-3E-01.04	0.08	0
35-3E-03.00	1.88	0
35-3E-03.05	0.18	0
35-3E-08.01	0.86	0
35-3E-10.00	1.89	0
35-3E-10.01	2.14	0
35-3E-11.00	0.13	0
35-3E-11.01	0.31	0
35-3E-11.04	0.38	0
35-3E-12.01	0.36	0
35-3E-12.02	1.03	0
35-3E-13.07	0.34	0
35-3E-14.01	1.94	0
USFS 032	3.99	0
USFS 3240	1.30	0

Totals:	23.53	0
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Surfacing (Cubic Yards)

Quarry Name: 80 acre

1200 Crushed under 1 1/2	Roadway	Turnouts	Other	
35-3E-10.00	1,761	92	0	1,853
35-3E-10.01	1,780	111	0	1,891
35-3E-14.01	111	9	0	120
USFS 032	0	0	200	200

Totals:	3,652	212	200	4,064
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Quarry Name: Rancheria

700 Pitrun

	Roadway	Turnouts	Other	
Totals:	0	0	0	0

Quarry Name: 80 acre (3")

1000 Crushed 1 1/2 to 3 in	Roadway	Turnouts	Other	
35-3E-08.01	540	55	0	595
34-3E-35.00	0	0	40	40
34-3E-35.03	0	0	80	80
34-3E-35.04	0	0	80	80
35-3E-03.05	0	0	20	20
35-3E-12.02	0	0	40	40

Totals:	540	55	260	855
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1300 Geotextiles

Totals: No Quantities

Continuation of Construction Quantities

1400 Slope Protection		
Slope Protection Class 5	C.Y.s	
35-3E-11.00	80	
Totals:	<hr/> 80	

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
35-3E-08.01	0.0	0.2	
Totals:	<hr/> 0.0	<hr/> 0.2	<hr/> 0.0

1900 Cattleguards	
Totals:	No Quantities

2100 RoadSide Brushing	acres
34-3E-15.03	0.2
34-3E-19.03	0.2
34-3E-21.00	1.3
34-3E-27.01	0.9
34-3E-29.01	1.7
34-3E-35.02	0.9
34-3E-35.03	0.6
34-3E-35.04	0.2
35-3E-01.04	0.1
35-3E-03.00	3.6
35-3E-03.05	0.4
35-3E-08.01	0.8
35-3E-10.00	1.8
35-3E-10.01	2.1
35-3E-11.00	0.1
35-3E-11.01	0.3
35-3E-11.04	0.4
35-3E-12.01	0.4
35-3E-12.02	1.0
35-3E-13.07	0.3
35-3E-14.01	1.9
USFS 032	3.9
USFS 3240	1.3
Totals:	<hr/> 24.4

2200 Surface Treatment	tons	L.F.
Totals:	No Quantities	

2300 Engineering	stations
Totals:	<hr/> 0.00

2400 Minor Concrete	
Totals:	No Quantities

Continuation of Construction Quantities

2500 Gabions

Totals: No Quantities

8000 Miscellaneous

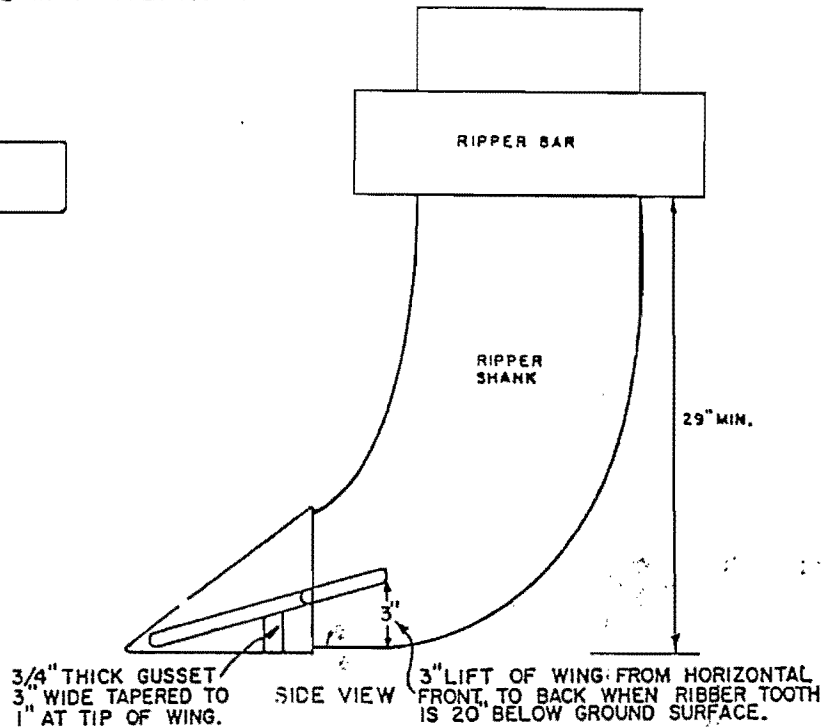
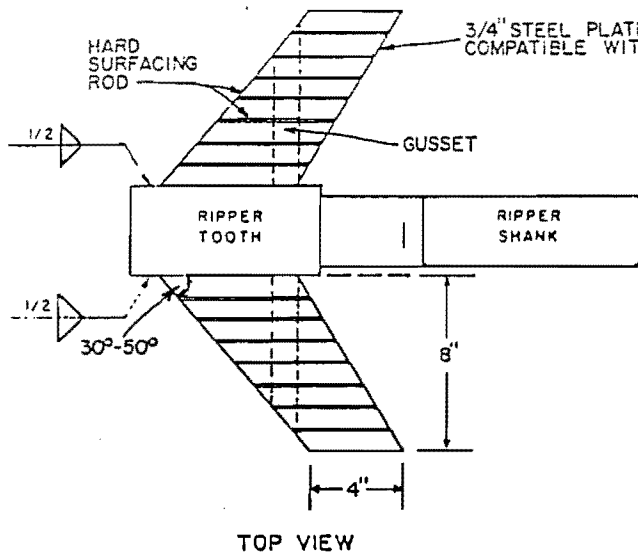
BARRICADE		
34-3E-35.00	construct barricade	1 ea.
DITCH OUTS		
34-3E-35.00	Improve ditchouts	2 ea.
WATERBAR		
34-3E-35.00	Construct waterbars	8 ea
Decommission		
34-3E-35.00D	Rip	26 sta
34-3E-35.00D	waterbar	12 ea
34-3E-35.00D	Mulch	26 sta
WATERBAR		
34-3E-35.02	Construct waterbars	5 each
BARRICADE		
34-3E-35.02	construct barricade	1 ea
WATERBAR		
34-3E-35.03	Construct waterbars	10 each
WATERBARS		
34-3E-35.04	Construct waterbars	5 ea
Decommission		
34-3E-35.05D	Rip	6 sta
34-3E-35.05D	waterbar	4 ea
34-3E-35.05D	Mulch	6 sta
BARRICADE		
35-3E-03.05	Construct barricade	1 ea.
Decommission		
35-3E-08.01D	Rip	4 sta
35-3E-08.01D	waterbar	2 ea
35-3E-08.01D	Mulch	4 sta
WATERBAR		
35-3E-11.01	CONSTRUCT WATER DIPS	3 EA
BARRICADE		
35-3E-11.04	construct barricade	1 ea
BARRICADE		
35-3E-12.02	construct barricade	1 ea

COMPACTION REDUCTION RIPPER TOOTH AND SHANK DETAILS

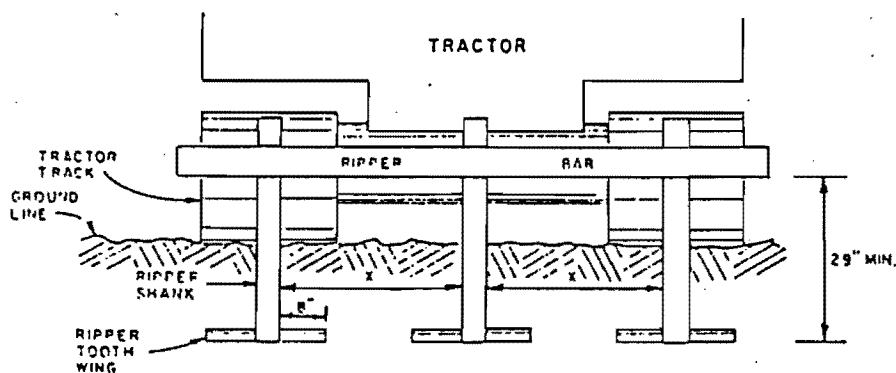
Tract Name: _____
Tract Number: _____

NOTES: TYPICAL RIPPER TOOTH CONSTRUCTION

1. Use hard surfacing rod for all edge and surface reinforcement.
2. Weld that attaches wings to ripper teeth must be compatible with metal in teeth and wings.
3. Ripper shanks and ripper teeth may be new or used.
4. Wings shall provide three (3) inches of lift from the horizontal when teeth are extended twenty (20) inches below the ground surface.



TYPICAL RIPPER POSITIONS



Three (3) shanks shall be equally spaced (X) behind a crawler tractor, with the outside shanks in line with the tractor tracks.

Form 1140-4
(June 1974)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NOTICE OF REQUIREMENT FOR CERTIFICATION
OF NONSEGREGATED FACILITIES

Bidders and offerors are cautioned as follows: by signing this bid or offer or entering into this contract or lease, as the case may be, the bidder, offeror, or contractor will be deemed to have signed and agreed to the provisions of the Certification of Non-segregated Facilities in this solicitation. The certification provides that the bidder or offeror does not maintain or provide for his employees facilities which are segregated on a basis of race, color, religion, sex, or national origin, whether such facilities are segregated by directive or on a de facto basis. The certification also provides that he will not maintain such segregated facilities. Failure of a bidder or offeror to agree to the Certification of Nonsegregated Facilities will render his bid or offer nonresponsive to the terms of solicitations involving awards of contract exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause.

In accordance with 41 CFR 60, as amended May 19, 1967, and Executive Order No. 11246 of September 24, 1965, as amended, this notification will be included in all notices of invitations for bid, lease, offers, and requests for proposal where prospective nonexempt contracts may exceed \$10,000.

INSTRUCTIONS TO BIDDERS

1. **AUTHORITY** – Timber located on the revested Oregon and California Railroad Grant Lands and on the reconveyed Coos Bay Wagon Road Grant Lands is administered and sold pursuant to authority of the Act of August 28, 1937 (50 Stat. 874; 43 U.S.C. 1181a); timber located on other lands and other vegetative resources on all public lands of the United States under jurisdiction of the Bureau of Land Management are administered and sold pursuant to authority of the Act of July 31, 1947 (61 Stat. 681), as amended, by the Act of July 23, 1955 (69 Stat. 367; 30 U.S.C. 601 et. seq.). Regulations of the Secretary of the Interior governing sale of timber are codified in 43 CFR Group 5400.

2. **QUALIFICATIONS OF BIDDERS** – A bidder for sale of timber/vegetative resources must be either (a) a citizen of the United States, (b) a partnership composed wholly of such citizens, (c) an unincorporated association composed wholly of such citizens, or (d) a corporation authorized to transact business in the State in which the timber/vegetative resource is located.

3. **INSPECTION OF TIMBER/VEGETATIVE RESOURCES** – Bidder is invited, urged, and cautioned to inspect the timber/vegetative resource prior to submitting a bid. By executing the timber/vegetative resource sale contract, bidder warrants that the contract is accepted on the basis of his examination and inspection of the timber/vegetative resource and his opinion of its value.

4. **DISCLAIMER OF WARRANTY** – Government expressly disclaims any warranty of the fitness of the designated timber/vegetative resource for any purpose of the bidder; all timber/vegetative resources are to be sold “As Is” without any warranty of merchantability by Government. Any warranty as to the quantity or quality of timber/vegetative resource to be sold is expressly disclaimed by Government.

5. **BIDS** – Sealed or written bids for not less than the advertised appraised price, per timber/vegetative resource must be submitted in duplicate to the District Manager who issued *Timber/Vegetative Resource Sale Notice*.

(a) **Sealed Bid Sales** – Bids will be received until time for opening which is set out in the Notice. Enclose both copies of bid with required bid deposit in a sealed envelope marked on the outside *Bid for Timber/Vegetative Resource*, time bid is to be opened, tract number, and legal description of land on which timber/vegetative resource is located. In event of a tie, the high bidder shall be determined by lot from among those who submitted the tie bids.

(b) **Auction Sales** – Submission of the required bid deposit and a written bid is required to qualify for oral bidding. Oral bidding shall begin from the highest written bid. No oral bid will be considered which is not higher than the preceding bid. In the event there is a tie in high written bids, and no oral bidding occurs, the bidder who was the first to submit his bid deposit and written bid shall be declared the high bidder. If the officer conducting the sale cannot determine who made the first submission of high tie written bids, the high bidder shall be determined by lot. High bidder must confirm his bid, in writing, immediately upon being declared high bidder.

(c) Except as otherwise provided in 43 CFR 5442.2, bids will not be considered in resale of timber/vegetative resource remaining from an uncompleted contract from any person or affiliate of such person who failed to complete the original contract because of (1) cancellation for the purchaser's breach or (2) through failure to complete payment by expiration date.

(d) When it is in the interest of the Government to do so, it may reject any and all bids and may waive minor deficiencies in bids or in sale advertisement.

6. **BID FORMS** – All sealed, written bids, and confirmation of oral bids shall be submitted on forms provided by Government.

(a) **Lump Sum Sales** – Bids shall specify (1) Bureau of Land Management estimated volume, (2) price per unit, and (3) total purchase price. Estimated volume and price per unit are to be used for administrative and appraisal purposes only. Upon award of contract, high bidder shall be liable for total purchase price, including any adjustment which may be made as a result of reappraisal if an extension of time is granted, even though quantity of timber/vegetative resource actually cut, removed, or designated for taking is more or less than the estimated volume or quantity listed.

(b) **Timber Scale Sales** – Bids must state price per thousand board feet that will be paid for each species. High bidder will be determined by multiplying bid price per thousand board feet per species by Bureau of Land Management estimate of volume of each species. Purchaser shall be liable for purchase price of all merchantable timber sold under contract even though all such timber is not actually cut

and removed prior to expiration of time for cutting and removal as specified in contract.*

7. **BID DEPOSIT** – All bidders must make a deposit of not less than the amount specified in the *Timber/Vegetative Resource Notice*. Deposit may be in the form of cash, money orders, bank drafts, cashiers or certified checks made payable to the Department of the Interior – BLM, bid bonds of a corporate surety shown on the approved list of the United States Treasury Department*, or any approved guaranteed remittance approved by the Authorized Officer. Upon conclusion of bidding, the bid deposit of all bidders, except high bidder, will be returned. The cash deposit of the successful bidder may be applied toward the required sale deposit and/or the purchase price. Cash not applied to the sale deposit or the purchase price, or a corporate surety bid bond, will be returned at the time the contract is signed by the Government.

8. **AWARD OF CONTRACT** – Government may require high bidder to furnish such information as is necessary to determine the ability of bidder to perform the obligation of contract. Contract will be awarded to high bidder, unless he is not qualified or responsible or unless all bids are rejected. If high bidder is not qualified or responsible or fails to sign and return the contract together with required performance bond and any required payment, contract may be offered and awarded to the highest bidders qualified, responsible, and willing to accept the contract.

9. **TIMBER/VEGETATIVE RESOURCE SALE CONTRACT** – To be executed by purchaser, has been prepared by Government, and may be examined in the District Manager's office.

10. **PERFORMANCE BOND** –

(a) A performance bond in an amount of not less than 20 percent of total purchase price is required, but the amount of the bond shall not be in excess of \$500,000, except when the purchaser opts to increase the minimum bond to permit cutting prior to payment as provided in 43 CFR 5451.2, or in the event the purchaser is a holder of an unresolved default the bond may be increased as provided in 43 CFR 5450.1(b). Performance bond may be (1) bond of a corporate surety shown on approval list issued by the United States Treasury Department and executed on an approved standard form, (2) personal surety bond executed on an approved standard form if Government determines principals and bondsman are capable of carrying out the terms of the contract, (3) cash bonds, (4) negotiable securities of the United States, or (5) any guaranteed remittance approved by the Authorized Officer.

(b) If purchaser elects to cut timber without skidding or yarding it to a loading point or removing it prior to the payment of the second or subsequent installments, Government shall require an increase in amount of performance bond initially required by an amount equal to the value of timber to be cut. Such increase must be on a bond rider form supplied by Government and be approved, in writing, by Government prior to cutting timber covered by the bond increase. This increased amount of bond shall be used to assure payment for timber cut in advance of payment.*

11. **PAYMENT BOND** – If purchaser elects to (a) cut and remove timber, or (b) remove timber already cut which has been secured by an increased performance bond as provided in paragraph 10(b) above, before payment of the second or subsequent installments, Government shall require a payment bond on a form supplied by Government. Purchaser shall obtain written approval from Government of payment bond prior to cutting and/or removal of timber covered by the bond. Payment bond shall be used to assure payment for timber cut and/or removed in advance of payment.*

12. **PAYMENT OF PURCHASE PRICE** – For sales of \$500 or more, Government may allow payment by installments. Except as discussed in paragraphs 10 and 11 above, no part of any timber/vegetative resource sold may be severed, cut, or removed unless advance payment has been made as provided in contract.

13. **LIQUIDATED DAMAGES** – Within thirty (30) days from receipt of *Timber/Vegetative Resource Sale Contract*, the successful bidder shall sign contract and return it to Government, together with required bond and any required payment. If successful bidder fails to comply within the stipulated time, his bid deposit shall be retained by Government as liquidated damages.

14. **NINETY-DAY SALES** – If no bid is received within time specified in the advertisement of sale and if Government determines that there has been no significant rise in the market value of timber/vegetative resource, it may, in its discretion, keep the sale open, not to exceed ninety (90) days.

*Applies to Timber Only

15. **UNAUTHORIZED USE OF GOVERNMENT PROPERTY** – A sale may be refused to high bidder who has been notified that he has failed to make satisfactory arrangements for payment of damages resulting from unauthorized use of, or injury to, property of the United States.

16. **EQUAL OPPORTUNITY CLAUSE** – This contract is subject to the provisions of Executive Order No. 11246 of September 24, 1965, as amended, which sets forth the nondiscrimination clauses. Copies of this order may be obtained from the District Manager. 43 CFR 60-1.7(b) requires that the Equal Opportunity *Compliance Report Certification* will be completed by prospective contractors. Certification may be obtained from District Manager.

17. **LOG EXPORT** – All timber offered for sale except as noted in the *Timber Sale Notice* is restricted from export from the United States in the form of unprocessed timber and cannot be used as a substitute for exported private timber. For the purpose of this contract, unprocessed timber is defined as: (1) any logs except those of utility grade or below, such as sawlogs, peeler logs, and pulp logs; (2) cants or squares to be subsequently remanufactured exceeding eight and three quarters (8-3/4) inches in thickness; (3) split or round bolts or other roundwood not processed to standards and specifications suitable for end product use; or (4) western

red cedar lumber which does not meet lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau R-List Grades of Number 3 common or better. Timber manufactured into the following will be considered processed: (1) lumber and construction timbers, regardless of size, manufactured to standards and specifications suitable for end product uses; (2) chips, pulp and pulp products; (3) green or dry veneer and plywood; (4) poles and piling cut or treated for use as such; (5) cants, squares, and lumber cut for remanufacture of eight and three quarters (8-3/4) inches in thickness or less; or (6) shakes and shingles. In event purchaser wishes to sell any or all of timber restricted from export in the form of unprocessed timber, the buyer, exchanges, or recipient shall be required to comply with contractual provisions relating to “*unprocessed timber*”. Special reporting, branding and painting of logs may be included in contract provisions.*

18. **DETAILED INFORMATION** – Detailed information concerning contract provisions, bid, performance bond forms, tract location maps, and access conditions may be obtained from the District Manager. All persons interested in bidding on the products listed are encouraged to familiarize themselves with all such detailed information.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEPOSIT AND BID FOR ☒ **TIMBER***
☐ **VEGETATIVE RESOURCE**
(Other Than Timber)

LUMP SUM SALE

Name of Bidder
Tract Number OR110-TS10-17
Sale Name Twin Ranch
Sale Notice (dated) August 18 th , 2010
BLM District Medford

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale	<input checked="" type="checkbox"/> Written Bid for Oral Auction Sale
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In response to the above dated Sale Notice, the required deposit and bid are hereby submitted for the purchase of designated timber/vegetative resource on the tract specified above.

Required bid deposited is \$51,900.00 and is enclosed in the form of ☐ cash ☐ money order ☐ bank draft
☐ cashier's check ☐ certified check ☐ bid bond of corporate surety on approved list of the United States Treasury
☐ guaranteed remittance approved by the authorized officer.

IT IS AGREED That the bid deposit shall be retained by the United States as liquidated damages if the bid is accepted and the undersigned fails to execute and return the contract, together with any required performance bond and any required payment within 30 days after the contract is received by the successful bidder. It is understood that no bid for less than the appraised price on a unit basis per species will be considered. If the bid is rejected the deposit will be returned.

BID SCHEDULE – LUMP SUM SALE

NOTE: Bidders should carefully check computations in completing the Bid Schedule

BID SUBMITTED					ORAL BID MADE	
PRODUCT SPECIES	UNIT	ESTIMATED VOLUME OR QUANTITY	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
Douglas-fir	MBF	3452	X	=	X	=
Incense-cedar	MBF	25	X	=	X	=
Ponderosa pine	MBF	1139	X	=	X	=
Sugar pine	MBF	18	X	=	X	=
White fir	MBF	2101	X	=	X	=
			X	=	X	=
Total	MBF	6735	X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
			X	=	X	=
TOTAL PURCHASE PRICE						

(Continued on reverse)

If sale contract is executed, undersigned is liable for total purchase price even though the quantity cut, removed, or designated for taking is more or less than the total estimated volume or quantity shown above. Undersigned certifies bid was arrived at by bidder or offeror independently, and was tendered without collusion with any other bidder or offeror. In submitting or confirming this bid, undersigned agrees to the foregoing provisions, applicable regulations, and certifies that he is authorized to act as, or on behalf of, the bidder.

Bid submitted on *(date)*

(Check appropriate box, sign in ink, and complete the following)

<input type="checkbox"/>	Signature, if firm is individually owned	Name of firm <i>(type or print)</i>
<input type="checkbox"/>	Signatures, if firm is a partnership or L.L.C.	Business address, include zip code <i>(type or print)</i>
<input type="checkbox"/>	Corporation organized under the state laws of	<i>(To be completed following oral bidding)</i>
	Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By <i>(signature)</i>
	Title	Date
Submit bid, in <i>duplicate</i> , to qualify for either an oral auction or sealed bid sale together with the required bid deposit made payable to the Department of the Interior – BLM. Oral Auction – Submit to Sales Supervisor prior to closing of qualifying period for tract.		Sealed Bid – Send to District Manager, who issued the sale notice, in a sealed envelope marked on the outside: (1) “Bid for Timber” (2) Vegetative Resource Other Than Timber (3) Time bids are to be opened (4) Legal description

NOTICE

The Privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USE: To determine that an individual is qualified to participate in oral auction bidding, and, as surety that bidder will fulfill contract requirements.

EFFECT OF NOT PROVIDING INFORMATION: Filing this deposit and bid information is necessary only when an individual wishes to participate in a sealed or auction bid sale for timber or vegetative resources.