

COOS BAY SALE NO. ORC00-TS-2017.0032
HIDDEN GEM CT

COOS BAY DISTRICT OFFICE
MYRTLEWOOD RESOURCE AREA

SALE DATE: January 27, 2017
SALE TIME: 10:00 a.m.

LOCKED GATES-KEY REQUIRED

SALE NO.: ORC00-TS-2017.0032, HIDDEN GEM CT

COOS COUNTY: OREGON: CBWR: ORAL AUCTION: Bid deposit required: \$34,800.00

All timber designated for cutting on: T. 28 S., R. 11 W., Sec. 5, Lots 9, 11, 12, 13; T. 28 S., R. 12 W., Sec. 1, Lots 1, 2, S½NE¼, E½SE¼, Will. Mer.

Approx. No. Merch. Trees	Est. Vol. MBF 32' Log	Species	Est. Vol. MBF 16' Log	Appraised Price Per MBF	Estimated Vol. Times Appraised Price
6396	1884	Douglas-fir	2192	\$144.00	\$315,648.00
696	263	grand fir	324	\$42.80	\$13,867.20
1470	150	red alder	205	\$41.40	\$8,487.00
430	73	western hemlock	85	\$43.00	\$3,655.00
3556	50	misc. hardwoods	71	\$3.50	\$248.50
241	14	western redcedar	18	\$293.40	\$5,281.20
12,789	2,434	Total	2,895		\$347,186.90

THIS TIMBER SALE HAS BEEN CRUISED, APPRAISED, AND ADVERTISED BASED UPON SCRIBNER BOARD FOOT MEASURE (16 FOOT LOG). THE MINIMUM BID FIGURES SHOWN BY SPECIES ARE DOLLARS PER THOUSAND BOARD FEET (MBF). THE MINIMUM BID INCREMENT WILL BE \$0.50 PER MBF. SCRIBNER BOARD FOOT VOLUMES (32 FOOT LOG) BY SPECIES ARE DISPLAYED FOR INFORMATIONAL PURPOSES.

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

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

CRUISE INFORMATION: With respect to merchantable trees of all species in all cruise strata: the average DBHOB is 14.4 inches: the average gross merchantable log contains 65 bd. ft.; the total gross volume is approximately 3,146 thousand bd. ft.; and 92 % recovery is expected. The average DBHOB for Douglas-fir is 15.9 inches; and the average gross merchantable log contains 66 bd. ft. None of the total sale volume is salvage material. The following cruise methods were used for volume determination:

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VARIABLE PLOT: Timber volumes in portions of Units 1, 2 and 3 and all of Unit 4 were based on a variable plot cruise. Using a 20 basal area factor (BAF), 193 plots were measured and 147 trees were randomly selected to be sampled. The sample trees were cruised and their volumes computed using form class tables for estimating board foot volumes of trees in 16-foot logs. The volumes are then expanded to a total sale volume.

3P: Volume within the road right-of-way and portions of Units 1, 2 and 3 was calculated using the 3P system to select 114 sample trees. The sample trees were cruised and their volumes computed using form class tables for estimating board foot volumes of trees in 16-foot logs. The volumes are then expanded to a total sale volume.

100% CRUISE: Volume for western redcedar in portions of Units 1, 2, and 3 and the road right-of-way were based on a 100% cruise using form class tables for estimating board foot volume of trees in 16-foot logs.

CUTTING AREA: Four units totaling approximately 109 acres must be partial cut. Five acres of right-of-way must be cut. Acres shown on Exhibit A have been computed using a Trimble Geo 7X Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction.

ACCESS: Access to the sale area is provided via: Oregon State highways, Coos County roads, privately controlled roads, and Government controlled roads.

DIRECTIONS TO SALE AREA: From Coquille, OR (at junction of N. Adams St. and Hwy. 42), travel east on Hwy. 42 towards Myrtle Point approximately 5.1 miles, turn left onto Lee Valley Rd. Travel approximately 7.6 miles and turn right onto McKinley Rd. Travel approximately 1.1 miles to BLM Rd. No. 28-12-12.1. Refer to Exhibits A and A-1 for unit locations.

ROAD USE & MAINTENANCE: Refer to Exhibit E Summary attached. Operator maintenance required on 6.72 miles of road.

Rockwear Fees Payable to BLM:	\$766.72
Road Use Fees Payable to FIA Timber Growth & Value Master, LLC (South):	\$2,656.50
Rockwear Fees Payable to FIA Timber Growth & Value Master, LLC (South):	\$177.12
Road Use Fees Payable to New Growth Olympus, LLC:	\$1,294.30
Rockwear Fees Payable to New Growth Olympus, LLC:	\$432.46

ROAD CONSTRUCTION:

Road Construction estimates include the following:

New Construction:

95.63 stations

Road Renovation:

264.18 stations

Aggregate (All quantities are truck measurement):

3" minus hardrock: 2,733 L.C.Y.
1 1/2" minus hardrock Ex. C & D: 5,532 L.C.Y.
6-0" Rock: 10 L.C.Y.
RipRap Class 2: 10 L.C.Y.

Drainage:

24" CPE double wall: 145'
Culvert Markers: 3

Soil Stabilization:

Dry Seed, fertilizer, & mulch: 9.6 acres (Pre-haul)
Dry Seed, fertilizer, & mulch: 11.9 acres (Post-haul)

Roadside Brushing:

11.3 acres

Road Decommissioning:

Riprap Barriers: 4 (20 each L.C.Y. minimum)
Normal Decommissioning: 95+63 stations/1.81 miles

DURATION OF CONTRACT: Shall be 36 months for cutting and removal of timber. The contract will contain special stipulations regarding logging, road construction, road use and maintenance, fire prevention, hazard reduction and logging residue reduction, log export and substitution, optional scale check of lump sum sales, equal opportunity in employment, cultural resource protection, and sensitive, threatened, or endangered plants or animals.

SPECIAL PROVISIONS: This list is not comprehensive. Please review the entire contract.

1. Units 1 and 4 are behind locked gates. Contact the BLM front office to access a gate key with \$50.00 refundable deposit. BLM 1300 Airport Lane, North Bend, OR 97459. (541) 756-0100.
2. A license agreement is required with FIA Timber Growth and Value Master, LLC, a performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required for this license agreement. A license agreement is required with New Growth Olympus, LLC, a performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required for this license agreement.
3. The Purchaser shall notify the Bonneville Power Administration (BPA) at least 30 days prior to the start of operations within or adjacent to the BPA Transmission Line R/W or within the BPA Hazard Tree Area. The purchaser must meet with a representative from BPA. The current contact for the BPA is Andy Crosby, phone no. (541) 297-8496.
4. The Purchaser shall notify the Coos-Curry Electric Cooperative (CCEC) at least 30 days prior to the start of operations within or adjacent to the CCEC Transmission Line R/W or within the CCEC Hazard Tree Area. The purchaser must meet with a representative from CCEC. The current contact for the CCEC is Scott Adams, phone no. (541) 332-3931 Ext. 227.
5. All equipment must be washed prior to entry into the contract area to control the spread of noxious weeds.
6. A Seasonal Restriction affects portions of Units 2, 3 & 4. Tree felling, yarding, and road construction operations are prohibited from March 1 through August 5. Additionally, a daily timing restriction confines tree felling, yarding, and road construction operations to the period from two hours after sunrise to two hours before sunset from August 6 through September 15.
7. BLM Road Nos. 28-11-6.3, 28-11-6.4, 28-11-5.4, -5.5, -5.6, Spur 1A, Spur 1B, Spur 1C, Spur 1D are approved for dry-season haul (June 1 through October 15) only. All other roads are approved for all-season haul.
8. No trees shall be felled into the Reserve Area, shown on the Exhibit A. Line pulling, jacking, or other mechanical devices shall be used as necessary.
9. Damage shall affect less than 5% of reserve trees.
10. Lift trees and intermediate support trees may be necessary.
11. One-end suspension required in cable and ground-based yarding areas.
12. Full suspension required over any stream channels. Trees cut for yarding corridors within the Reserve Area adjacent to Stream Channels shall be felled toward the channel and left on site.
13. Yarding corridors and skid trails shall be placed to avoid cutting reserve trees greater than or equal to 24" DBH within 220' of a Stream Channel. If a reserve tree greater than or equal to 24" DBH is cut for a yarding corridor or skid trail within 220' of a Stream Channel, the tree shall be left on site and will counted towards the required post-harvest down wood creation requirements.
14. A forwarder, log loader, tractor, or rubber tire skidder may be used to yard logs within the ground-based yarding areas. Ground-based equipment shall not operate within fifty feet of any Stream Channel and are restricted to areas with slopes less than 35%.
15. Conifer log lengths shall not exceed 41 feet. Hardwoods within the Special Yarding Area shall be whole tree yarded wherever possible.
16. All trees greater than 3" DBHOB and/or 25' in height designated for cutting within the Special Yarding Area shall be felled concurrently with all other timber.
17. All non-alder hardwood slash at least 5" in diameter and 8' in length generated from harvesting within the Special Yarding Area shall be yarded to the landing.

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18. Purchaser shall verify all landing locations and stake required clearing limits prior to construction.
19. Shape and restore all landings to a natural contour to prevent erosion.
20. Seed and fertilize all landings, road cuts and fills, and waste areas.
21. Soil stabilization, water bar construction, road decommissioning, and road barrier construction shall be conducted after the completion of harvest activities but no later than October 15.
22. BLM will assume supervisory responsibility for disposal of logging slash.
23. Machine piling of logging slash are required at all landing areas and along all roads.
24. After yarding is complete the purchaser shall top 155 conifer trees and fall 46 conifer trees in Units 1-4.
25. Purchaser shall obtain a permit from the Coos County Department of Roads, prior to operations on McKinley County Road and shall keep the McKinley County Road where it passes through the contract area open and free of debris.
26. The Purchaser shall provide signage and flaggers to control traffic when conducting operations adjacent to any road.
27. This contract contains provisions (Sec. 42.b(15) and Sec. 42.b(16)) for the sale and removal of additional timber necessary to facilitate safe and efficient Purchaser operations. These provisions include:
 - a. The designation and sale of additional timber, such as corridor and guyline trees, at contract price, as necessary to facilitate safe and efficient logging. Such trees may be felled and removed when they are painted by the Authorized Officer;
 - b. Sale of additional timber volume at current fair market value where the species and/or size of trees are not representative of the forest stand(s) being thinned;
 - c. Government reservation of trees previously marked for cutting replacement when the Authorized Officer determines that it is necessary in order to maintain stand densities consistent with objectives set forth in management prescriptions;
 - d. The use of unilateral modifications executed by BLM for such additional and replacement timber;
 - e. Revocation of the Purchaser's right to cut additional timber if the Authorized Officer determines that trees have been cut and removed that were not previously marked and approved for cutting and removal by the Authorized Officer; and,
 - f. It is estimated that approximately ten percent of the sale volume (estimated at 290 MBF) of such additional timber may be removed under the contract. This volume is not included in the advertised sale volume nor was it included in the timber sale appraisal. This estimate is a net figure reduced by the estimate of the volume of trees previously marked for cutting, which the Authorized Officer may elect to reserve.

Seasonal Restriction Matrix ORC00-TS-2016.0032 HIDDEN GEM CT Timber Sale Prospectus

***Restricted periods are Shaded; Conditional periods are hatched; See Exhibit A for portions of units affected.**

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
General All Units	Falling and bucking ²																								
	Cable yarding ²																								
	Road Construction, Renovation, or Improvement Work ¹																								
	Hauling ¹																								
	Hauling on approved rocked roads ⁴																								
	Ground based yarding ³											25 %													
Units 2, 3 & 4	Seasonal Restriction Area (NSO & MM) ⁵															5 th									

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

² Bark slip seasonal restrictions may be conditionally waived upon written request and Authorized Officer approval. Strict compliance with damage provision required for continued operations.

³ Ground based yarding restricted to periods when soil moisture levels are below 25% as determined by the Authorized Officer.

⁴ Wet season haul on rocked roads may be suspended during periods of heavy rain (>1" in 24 hours).

⁵ In the Seasonal Restriction Area (MM), as shown on Exhibit A, falling, yarding, and new road construction operations are prohibited in the period between April 1 and August 5. In addition; a daily timing restriction confines operations to the period from two hours after sunrise to two hours before sunset between August 6 and September 15 both days included.

⁶ In the Seasonal Restriction Area (NSO), as shown on Exhibit A, falling, yarding, and new road construction operations are prohibited in the period between March 1 and June 30.

SCHEDULE I

Sec 41. **TIMBER RESERVED FROM CUTTING.** The following timber on the Contract Area, shown on Exhibit A, which is attached hereto and made a part hereof, is hereby reserved from cutting and removal under the terms of this contract and is retained as the property of the Government:

- a. All timber on the Reserve Area, shown on Exhibit A, and all blazed, orange painted and/or posted trees which are on or mark the boundaries of the Reserve Area.
- b. All timber marked, by the Government, with orange paint above and below stump height within the Partial Cut Units, shown on Exhibit A. Approximately 2,079 trees marked with blue paint above and below stump height within roads to be renovated or constructed are the property of the Purchaser. Within the right-of-way of the road 28-11-6.3, on FIA Timber Growth and Value Master, LLC, approximately 369 trees are marked with green paint. The purchaser will be required to deck green painted trees in accordance with Sec.42.d.
- c. All existing standing dead trees, except those snags that must be felled to permit safe working operation provided that all snags felled must be retained on site;
- d. All existing downed wood in decay classes 3-5 and all existing downed wood 20 inches or larger in diameter measured on the large end regardless of decay class;
- e. All Bearing Trees with metal tags that mark property corners.

Sec 42. **SPECIAL PROVISIONS.** Purchaser shall comply with the special provisions which are attached hereto and made a part hereof unless otherwise authorized, in writing, by the Authorized Officer:

a. **Periodic Payment and First Installment Adjustment**

(1) Notwithstanding the provisions of Sec. 3(b), the amount of the first installment may be reduced by the Government when the Contracting Officer requests the Purchaser to interrupt or delay operations for a period expected to last more than 30 days during the operating season. Such interruption or delay must be beyond the Purchaser's control. Operating Season shall be defined, for this purpose, as the time of year in which operations of the type required are normally conducted and not specifically restricted under the contract. The first installment may be reduced to 5% of the installment amount listed in Sec. 3(b), during the delay period. The Purchaser must request such a reduction in writing. When the Contracting Officer notifies the Purchaser that operations may proceed, the purchaser shall have 15 days after such notification to return the first installment to the full value specified in Sec. 3(b). Failure to return the first installment to the full value within the allotted time will be considered a material breach of contract. No timber shall be cut or removed from the contract area until the first installment is restored to the full amount.

(2) Notwithstanding the provisions of Sec. 3(b), adjustments in the due dates for periodic payments may be made by the Government if the Contracting Officer interrupts or delays contract operations for a period expected to last at least 30 days, and the interruption or delay is beyond the Purchaser's control. Any adjustment made shall provide the Purchaser with an equal amount of operating time as would have been

available without the delay. The Purchaser shall request such adjustment in writing before the due date for a periodic payment contained in Sec. 3(b).

b. Logging

(1) Prior to 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.

(2) Prior to the pre-work conference and at least thirty days prior to the start of operations, the purchaser shall notify the Bonneville Power Administration (BPA) representative of a logging plan for the BPA Hazard Tree Area in Unit 1, as shown on the Exhibit A, and an operational plan for road construction and renovation work within the BPA Transmission Line R/W, as shown on the Exhibit A. No trees shall be felled into the BPA Transmission Line R/W. Line pulling, jacking, or other mechanical devices shall be used as necessary to prevent trees from falling into the transmission line right-of-way. The purchaser shall identify those trees that they deem unsafe to fell; if, after consultation with the BPA representative and the Authorized Officer, the safety concerns cannot be mitigated, the BLM shall repurchase the trees at the contract price.

(3) Prior to the pre-work conference and at least thirty days prior to the start of operations, the purchaser shall notify the Coos-Curry Electric Cooperative (CCEC) representative of a logging plan for the CCEC right-of-way in Unit 1, as shown on the Exhibit A, and an operational plan for road construction and renovation work within the CCEC Transmission Line R/W, as shown on the Exhibit A. At the beginning of road construction 28-11-5.6, purchaser shall coordinate with CCEC to allow for powerline pole replacement. No trees shall be felled into the CCEC Transmission Line R/W. Line pulling, jacking, or other mechanical devices shall be used as necessary to prevent trees from falling into the transmission line right-of-way. The purchaser shall identify those trees that they deem unsafe to fell; if, after consultation with the CCEC representative and the Authorized Officer, the safety concerns cannot be mitigated, the BLM shall repurchase the trees at the contract price.

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

(5) Due to bark slippage, falling or yarding may be restricted by the Authorized Officer within the contract area between March 1 and June 30 of the same calendar year, both days inclusive.

(6) No trees may be felled into the Reserve Area. Line pulling, jacking, or other mechanical devices shall be used as necessary to prevent trees from falling into these areas.

(7) Damage to residual trees shall affect less than 5% of reserve trees. Bark removed to cambium three inches wide or wider, top broken at three inches diameter or greater, root sprung trees, or any root collar damage shall constitute damage. Damage levels will be upon government sample of an affected area. Failure to resolve excess damage to reserve trees may result in suspension of operations and recovery of the value of the

damaged timber in accordance with Sec. 13.

(8) In the Seasonal Restriction Area (NSO & MM), shown on Exhibit A, falling, yarding, and new road construction operations are prohibited in the period between March 1 and August 5. In addition, a daily timing restriction confines operations to the period from two hours after sunrise to two hours before sunset between August 6 and September 15 of the same calendar year, both days inclusive.

(9) Conifer trees shall be felled, limbed, topped into lengths not to exceed 41 feet prior to yarding within the Partial Cut Units as shown on the Exhibit A. Hardwood trees shall be whole-tree yarded wherever possible.

(10) All trees three (3) inches DBHOB or larger and/or twenty five (25) feet or taller designated for cutting shall be felled concurrently with all other trees designated for cutting in the Special Yarding Area, shown on the Exhibit A.

(11) In the Special Yarding Area, all non-alder hardwood slash generated from harvesting operations to a minimum size of five (5) inches in diameter and eight (8) feet in length shall be gross yarded to the landing and piled in accordance with the requirements in Sec.42.e.(3). If a piece of slash meeting the minimum size requirements is bucked, all pieces shall be yarded to the landing.

(12) In the Partial Cut Units, yarding (except for road rights-of-way and Ground Based Yarding Area, shown on Exhibit A) shall be done with a skyline cable system according to the following:

(a) The skyline cable system shall be capable of being rigged in a multi-span configuration utilizing a carriage capable of yarding 75 feet laterally from the skyline. Skyline roads shall not be spaced closer than 150 feet apart, unless approved by the Authorized Officer.

(b) One-end log suspension is required during yarding operations. Intermediate supports and/or lift trees may be required to obtain the required suspension. Full suspension is required when yarding over a Stream Channel, shown on the Exhibit A.

(c) If the placement of a yarding corridor requires the cutting of a tree within the Reserve Area, adjacent to a Stream Channel, the tree shall remain on-site and felled toward the direction of the channel in a manner to protect the stream bank from disturbance during yarding. Yarding corridors shall cross Stream Channels perpendicular where possible to minimize cutting of trees within the Reserve Area. Yarding corridor location within the Reserve Area shall be approved by the Authorized Officer prior to cutting.

(d) Yarding corridors shall be placed to avoid cutting reserve trees greater than or equal to 24" in diameter within 220 feet of a Stream Channel where possible. If a reserve tree greater than or equal to 24 inches in diameter is required to be cut for a yarding corridor within 220 feet of a Stream Channel, the tree shall be felled and left on site and counted toward the post-harvest tree felling requirements in Sec 42.b(20).

(e) The Purchaser shall make all cable sky road changes by completely respooling cables and restringing the layout from head spar to tailhold.

(f) Where road locations allow, yarding will be done so that corridors run parallel to each other rather

than radiate from a central landing.

(13) In the Ground Based Yarding Area and within road right-of-ways, cutting and yarding shall be done according to the following:

(a) In addition to the requirements set forth in Sec. 26 of this contract, no ground-based logging operations shall be conducted on the contract area between October 15 of one calendar year and June 1 of the following calendar year, both days inclusive.

(b) Ground-based operations shall be conducted when soil moisture content is below 25%, as determined by the Authorized Officer; unseasonably dry or wet weather may shorten or extend the operating season. The Purchaser shall be notified in writing when weather conditions extend the operating season. The Purchaser shall cease operations during periods of rain and shall be notified, after a soil-moisture assessment by the Authorized Officer, when operations may resume.

(c) Trees shall be felled manually or by a mechanized harvester utilizing a "cut-to-length" system capable of directionally felling, cutting to length, and depositing slash along the harvesting path.

(d) The yarding machine must be approved by the Authorized Officer. It must be equipped with a grapple or an extendable and retractable arch and fairlead that is an integral part of the machine that is capable of lifting the leading end of the turn clear of the ground. All logs in the Ground Base Area shall be yarded with their leading end clear of the ground. A forwarder or tracked log loader may also be used to yard logs.

(e) Primary skid trails shall use existing trails wherever possible, be spaced at least 95 feet apart, and be no wider than 12 feet as measured between reserve trees.

(f) Primary skid trails shall be placed to avoid cutting reserve trees greater than or equal to 24" in diameter within 220 feet of a Stream Channel where possible. If a reserve tree greater than or equal to 24 inches in diameter is required to be cut for a skid trail within 220 feet of a Stream Channel, the tree shall be felled and left on site and counted towards the post-harvest tree felling requirements in Sec 42.b(20).

(g) Primary skid trails shall be blocked with cull material after completion of harvest where the Authorized Officer determines vehicle access is possible.

(h) All ground-based equipment shall be restricted to operating on slopes less than 35% and shall not operate within 50 feet of Stream Channels.

(i) Primary skid trails with a slope greater than 15% and/or are left with more than 100 feet of continuous bare ground shall have water bars installed and/or be covered with slash for erosion control prior to October 15 as directed by the Authorized Officer.

(14) Sec 42.b(15) shall be the primary method for the identification, cutting, and removal of additional timber required for skyline corridors, yarding trails, and guy-line trees. Sec. 42.b(16) may be used at the discretion of the Authorized Officer. The purchaser shall be notified in writing when Sec. 42.b(16) is authorized for use.

(15) Before cutting and removing any trees necessary to facilitate logging in the Partial Cut Units the Purchaser shall identify the location of the cable yarding roads, and tailhold, tieback, guyline, lift, intermediate support, and danger trees on the ground in a manner approved by the Authorized Officer at the pre-work

conference and documented in the Logging Plan. Said Purchaser identification of trees to be cut and removed does not constitute authority to proceed with cutting and removal. In addition, before proceeding the following conditions must be met:

- (a) All cable yarding roads upon which timber is identified by the Purchaser to be cut and removed in accordance with this special provision must be necessary for the removal of timber sold under this contract and shall be limited to the minimum width necessary for yarding of logs with a minimum of damage to reserve trees, however, unless otherwise approved in writing by the Authorized Officer, the width of each cable yarding road shall be limited to 12 feet.
- (b) The Purchaser may immediately cut and remove additional timber to clear cable yarding roads; and provide tailhold, tieback, guyline, lift, and intermediate support trees; and clear danger trees when the trees have been marked with blue paint above and below stump height by the Authorized Officer and thereby approved for cutting and removal by the Authorized Officer. The volume of the timber will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures. No timber may be cut or removed under terms of this provision unless sufficient installment payments have been made in accordance with Sec. 3.(b) of the contract or sufficient bonding has been provided in accordance with Sec. 3.(d) of the contract.
- (c) The Purchaser agrees that sale of this additional timber shall be accomplished by a unilateral modification of the contract executed by the Contracting Officer and that such timber shall be sold at the unit prices shown in Exhibit B of this contract unless: the value of the timber must be reappraised subject to the terms for contract extension set forth in Sec. 9 of the contract; or, the Authorized Officer determines that any tree that exceeds 24 inches diameter at breast height shall be appraised and sold by bilateral modification of the contract at current fair market value in accordance with Sec. 8 of the contract.
- (d) This authorization for the Purchaser to cut and remove additional timber prior to the execution of a modification may be withdrawn by the Contracting Officer if the Authorized Officer determines that the Purchaser has cut and removed any tree not previously marked and approved for cutting by the Authorized Officer, which under Sec. 10 of the contract constitutes a violation of the contract and under Sec. 13 of the contract may constitute a trespass rendering the Purchaser liable for damages under applicable law.
- (e) If authorization is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this special provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least two working days prior to the need for cutting and removing any additional timber, and execute a bilateral modification prior to cutting for such additional approved timber at the unit prices shown in Exhibit B of the contract or in accordance with Sec. 8 or 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Contracting Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary and
- (f) The Government may reserve trees previously designated for cutting and removal by applying orange paint as replacements for additional trees cut and removed for skid roads and/or cable yarding roads when the Authorized Officer determines such reservation is necessary to maintain stand densities

consistent with objectives set forth in the management prescription. This may include the replacement of trees damaged by storm events, or insects or disease. The volume of this timber to be reserved will be determined by the Authorized Officer in accordance with Bureau of Land Management prescribed procedures and the value shall be based on the unit prices shown in Exhibit B of the contract. The Purchaser agrees that the Total Purchase shall be reduced accordingly through a unilateral modification to the contract executed by the Contracting Officer.

(16) 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 the contract area which, is obstructing needed cable yarding roads, hazardous to workers, needed for guyline, tailhold, and/or tieback trees 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 Sec. 8 of the contract: provided, however, that:

- (a) Seed trees, bearing trees, trees larger than 24 inches in diameter at breast height, and trees located within the Reserve Areas are not included in this authorization;
- (b) the Purchaser shall identify each tree sold and cut in accordance with this provision by marking the surface of the stump immediately after cutting with a large "X", cut with a chain saw, and by painting the stump with florescent red paint so that the stump can be visually located from a distance of not less than 100 feet;
- (c) concurrently with falling, paint the end of the butt log of each tree with florescent red paint. When butt logs are yarded, deck separately for inspection by Authorized Officer;
- (d) the Purchaser conforms to all requirements of Sec. 8 of this contract; provided that (1) the unit prices for additional timber within unit boundaries shall be the unit prices shown in Exhibit B of this contract, or the reappraised unit prices arrived at in accordance with Sec. 9 of this contract, and (2) timber outside of unit boundaries shall be sold at fair market value;
- (e) no timber may be cut or removed under the terms of this provision if all contract payments required by Sec. 3.(b) or 3.(d) have been made; and,
- (f) 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 and red paint.
 - 2. failed to properly mark any butt log with red paint.
 - 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.

Failure to perform any of the conditions listed above may be considered a trespass.

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.

If the permission to cut and remove additional timber provision is withdrawn, the Contracting Officer shall issue a written notice to the Purchaser that the sale of additional timber under this special provision is no longer approved. In this case, the Purchaser shall inform the Authorized Officer at least two working days prior to the need for cutting and removing any additional timber, and execute a bilateral modification prior to cutting for such additional approved timber at the unit prices shown in Exhibit B of the contract or in accordance with Sec. 8 or 9 of the contract as determined by the Authorized Officer in accordance with this provision. The Authorized Officer may issue a written order to the Purchaser to suspend, delay, or interrupt any or all contract work for the period of time deemed necessary.

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

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.

(17) Prior to attaching any logging equipment to any tree within the Reserve Area, or any reserve tree within a Partial Cut Unit larger than 24 inches in diameter at breast height, the Purchaser shall obtain written approval from the Authorized Officer, and shall take precautions to protect the trees from damage, as directed in writing by the Authorized Officer.

(18) Purchaser shall obtain a permit prior to operations on McKinley Road from Coos County Road Master, John Rowe at Coos County Road Dept. 1281 W. Central Blvd. Coquille, OR 97423. (541) 396-7664. During logging operations, the Purchaser shall keep BLM road 28-11-5.4 and McKinley Rd., where it passes through the contract area, clear of trees, rock, dirt and other debris so far as is practicable. McKinley Rd. is a well-traveled public road and all efforts must be taken to minimize inconvenience to road users. This road shall not be blocked by such operations for more than 20 minutes. The Purchaser shall provide signage and flaggers to control traffic when conducting operations adjacent to any road.

(19) To control the spread of noxious weeds and Port-Orford-cedar root disease, the purchaser shall conduct all operations involving the transportation and use of equipment and vehicles in strict accordance with the requirements shown on Exhibit F, which is attached hereto and made a part hereof. All road building and

logging equipment shall be washed prior to moving in the Contract Area to minimize the spread of noxious weeds.

(20) After completion of yarding operations, the Purchaser shall top 155 conifer trees and fall 46 conifer trees in Units 1 through 4, as directed by the Authorized Officer, according to the following:

- (a) Unit 1: top 65 conifer trees, fall 26 conifer trees;
- (b) Unit 2: top 30 conifer trees, fall 20 conifer trees;
- (c) Unit 3: top 39 conifer trees;
- (d) Unit 4: top 21 conifer trees.

The Purchaser shall top the trees above the third live whorl at a minimum height of 40 feet or at 60 feet if no live limbs occur below 60 feet. Trees selected for treatment shall be from the co-dominant tree class as directed by the Authorized Officer. Topped trees shall have a number painted at breast height with fluorescent paint such that they are visible from at least 150 feet, felled trees shall have the butt ends painted. Existing snags, windfalls and reserve trees meeting the desired characteristics including recent broken tops or logging damage may be counted towards the requirements as directed by the Authorized Officer. Number and location of existing or treated trees shall be depicted on a map such that they may be easily verified.

c. Road Construction

(1) The Purchaser shall construct and renovate roads in strict accordance with the road plans and specifications, shown on Exhibit C, which is attached hereto and made a part hereof.

(2) Any required construction or renovation of structures and roads shall be completed and accepted prior to the removal of any timber, except right-of-way timber, over that road.

(3) In addition to the requirements set forth in Sec. 26 of this contract, the Purchaser shall complete erosion control and soil stabilization measures on all cuts, fills, waste areas, and scarified areas, as designated by the Authorized Officer, along all sections of roadway disturbed during the year prior to October 15 of each year. The Authorized Officer may set time limits for the beginning and completion of erosion control and soil stabilization measures and modify seasonal dates to conform to existing weather conditions and changes in the construction schedule. Such work shall be accomplished in accordance with Erosion Control and Soil Stabilization, 1700 and 1800 Series, contained in Exhibit C.

(4) The Purchaser, prior to construction of landings, shall stake all landing locations in accordance with the requirements set forth in Exhibit C. Concurrently with, or at the termination of logging operations, the Purchaser shall pull back and shape onto the landings all overhanging materials to prevent erosion in accordance with the requirements set forth in Exhibit C.

d. Road Use and Maintenance

(1) The Purchaser shall be required to secure written approval to use or haul equipment over Government owned or controlled structures when that equipment exceeds the maximum allowable weights or dimensions

established by the State for vehicles operating without a permit.

(2) Tracked type equipment shall not be allowed to cross over concrete bridge decks, other concrete surfaced structures or asphalt surfaced roads without the proper protection of that surface. Prior approval shall be obtained from the Authorized Officer when crossing with protective devices. Details of such equipment shall be furnished to the Authorized Officer for evaluation of load characteristics, at least 15 days prior to proposed move in. Details shall include:

- (a) Axle weights when fully loaded;
- (b) Axle spacing;
- (c) Transverse wheel spacing;
- (d) Tire size;
- (e) Outside width of vehicle;
- (f) Operating speed;
- (g) Frequency of use; and,
- (h) Special features (e.g. running tracks, overhang loads, etc.).

The Purchaser shall be responsible for repair of any damage to 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.

(3) The Purchaser is authorized to use the roads shown on Exhibit E, attached hereto and made a part hereof, for the removal of Government timber sold under the terms of this contract and for haul of mineral material required under the terms of this contract; provided, that the Purchaser shall pay the road maintenance fees and rockwear fees totaling \$626.15 shown on Exhibit E. Unless the total maintenance and rockwear fees due BLM are paid prior to commencement of operations on the contract area, payments shall be made in installments payable in the same manner as and together with payments required by Sec. 3 of this contract.

(4) The Purchaser shall perform maintenance and repair of such roads shown on Exhibit D in accordance with the maintenance specifications listed in Exhibit D, attached hereto and made a part hereof.

(5) At all times during the period of his operations on the contract area, and upon completion of said operations, the Purchaser shall be liable for maintenance and repair of such roads shown on Exhibit D resulting from wear or damage in accordance with the maintenance specifications as shown on Exhibit D.

(6) With the prior written approval of the Authorized Officer, the Purchaser may arrange for cooperative maintenance with other users of any BLM controlled road included in Sec. 42.c.(1) and 42.d.(3) 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) 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, as determined by the Authorized Officer, to be transported over the roads listed in Sec. 42.c.(1) and 42.d.(3). If the total road maintenance fee does not exceed \$500.00, the Purchaser shall pay such amount in full prior to use of such roads. If the total road maintenance fee exceeds \$500.00, the Authorized Officer shall establish an installment schedule of payments of the maintenance obligation.

(8) BLM Road Nos. 28-11-5.4, 28-11-5.5, 28-11-5.6, Spur -1A, -1B, -1C, -1D, 28-11-6.3 and 28-11-6.4 are approved for dry season haul only between June 1 and October 15 unless dry conditions extend the hauling season, as directed by the Authorized Officer. All other roads are approved for all season haul.

(9) The following management practices shall be used to prevent delivery of haul-related sediment to the stream network during wet season haul:

Apply additional lift of rock to the area of road that can influence the stream if rill erosion is evident or likely in the road near a stream crossing. Hard rock shall be in place at the start of winter haul and additional rock shall be applied as necessary to maintain the stream crossing for the duration of wet season haul.

Contain offsite movement of sediment from the road or ditch flow near stream by installing a silt fence or other sediment-trapping device. Such control measures must allow for the free flow of water without detention or plugging. The control measure must receive frequent maintenance with accumulated sediment disposed of in accordance with Authorized Officer instructions. Silt fences or sediment traps shall be in place prior to the start of winter haul.

Hauling during the wet season may be suspended if more than 1 inch of rain is expected in a 24-hour period and the Authorized Officer determines that the soils in the contract area are already saturated and the sediment prevention measures in described in Sec 42.d(9) would be ineffective at preventing sediment delivery to the stream network. The NOAA - National Weather Service - Hydrometeorological Prediction Center web site, <http://www.hpc.ncep.noaa.gov> (Quantitative Precipitation Forecast) shall be used as the rainfall forecast tool unless otherwise directed by the Authorized Officer.

(10) In the use of required company roads shown on the Exhibit E, the Purchaser shall comply with the conditions of the Right-of-Way and Road Use Agreement between the United States and (1.) FIA Timber Growth and Value Master, LLC., RWA C-599 and (2.) New Growth Olympus, LLC., RWA C-599. The agreement is available for inspection at the Bureau of Land Management, Coos Bay, Oregon.

Prior to commencement of operations, the Purchaser shall furnish to the Authorized Officer a copy of the executed License Agreements issued under the terms of the Right-of-Way Agreements. Default by the Purchaser of said Right-of-Way and Road Use Agreements, of any License Agreements executed pursuant thereto, for failure to pay appropriate road use fees or road maintenance 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. Road maintenance fees may change during the course of the contract as determined by the Licensor. It is the responsibility of the Purchaser to pay fees current at time of haul. The fees used for the appraisal include:

COOS BAY SALE NO. ORC00-TS-2017.0032
HIDDEN GEM CT

Road Use Fees Payable to FIA Timber Growth & Value Master, LLC (South):	\$2,656.50
Rockwear Fees Payable to FIA Timber Growth & Value Master, LLC (South):	\$177.12
Road Use Fees Payable to New Growth Olympus, LLC:	\$1,294.30
Rockwear Fees Payable to New Growth Olympus, LLC:	\$432.46

A license agreement is required with FIA Timber Growth and Value Master, LLC, a performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required for this license agreement.

A license agreement is required with New Growth Olympus, LLC, a performance bond in the amount of \$10,000.00 and comprehensive liability insurance will be required for this license agreement.

Merchantable timber located on FIA Timber Growth and Value Master, LLC. lands within the right-of-way of the BLM Road No. 28-11-6.3 C shall be cut, limbed, and bucked to a 5" top, and decked in a location with suitable access for a self-loading log truck. The Purchaser shall obtain current bucking specifications from FIA Timber Growth and Value Master, LLC. prior to felling.

If a Licensor is the purchaser, allowances have been made for the amortization of capital investment of roads covered by the Licensor's Agreement in accordance with 43 CFR 2812.6, 2(a)(5); it is understood that the purchase price stated in Sec. 2 of this contract is the net price and that no deduction will be made from the contract price because of such allowance.

e. Fire Prevention, Hazard Reduction and Logging Residue Reduction

(1) BLM will assume supervisory responsibility for disposal of logging slash. The assumption by the Government of all obligations for the disposal or reduction of fire hazard under state law does not relieve the Purchaser of the obligations to perform the fire prevention, hazard reduction, and logging residue reduction measures required by this contract.

(2) Fire Prevention and Hazard Reduction. Primarily for purposes of fire prevention and fire hazard reduction, the Purchaser shall comply with the following provisions:

- a) Prior to the operation of power driven equipment, in construction or logging operations under this contract, during the closed fire season or periods of fire danger, the Purchaser shall prepare a fire prevention and control plan to the satisfaction of the Authorized Officer.
- b) Slash shall be disposed of in accordance with the written instructions of the Authorized Officer.

(3) Logging Residue Reduction. In addition to the requirements of Section 15 of this contract and for hazardous fuel reduction, watershed protection, and silvicultural purposes, the Purchaser shall be responsible for logging residue reduction at all landing sites in the sale area and in the Hazardous Fuel Reduction Areas (HFRA) shown on the Exhibit A.

- a) In lieu of burning, the Purchaser may remove landing residue for off-site utilization. If the utilization method is selected, the Purchaser shall provide information on the total tonnage of landing residue being removed from the sale area.

- b) Prior to commencement of landing residue removal, the Purchaser shall provide advanced notification to the Authorized Officer in order to arrange for on-site inspections of the removal operations. Upon completion of landing residue removal, the Purchaser shall notify the Authorized Officer to arrange for a final inspection of the landing sites.

Specifications for Landing Piling

1. Unless otherwise approved in advance by the Authorized Officer, landing piling shall be completed at each yarding location (setting) concurrently with the conclusion of yarding operations while logging equipment is still on site.
2. Logging residue within the immediate vicinity of the landing, and any residue that overhangs the landing sites that can be reached by logging equipment, shall be pulled completely back up onto the landing surface and either piled for burning or segregated for other uses.
3. Logging residue at landings shall be accumulated into the fewest number of piles possible. Landing piles shall be constructed as upright as possible and have a solid base to prevent toppling. All piles with pointed, jagged tops shall be flattened or trimmed to ensure a smooth surface for the polyethylene covering. Unless directed by the Authorized Officer, no landing piles shall be constructed within fifteen (15) feet of any reserve tree.
4. All logging slash within 20 feet of BLM Road Nos. 28-11-5.4, 28-12-12.1 & 28-12-1.0 shall be scattered back into the completed harvest unit or piled as directed by the Authorized Officer.

Specifications for Landing Pile Covering

1. All piles shall be covered no later than September 30 of the same year of piling.
2. The purchaser shall place four (4) MIL, black polyethylene sheeting (PE) over the pile to provide maximum protection from fall/winter rains. Unless otherwise directed, the size of the plastic shall not exceed one-hundred (100) square feet (10' X 10').
3. To meet ignition and combustion needs, larger piles may require additional PE sheeting. The Purchaser shall contact the Authorized Officer before any pile covering begins. At that time, the Authorized Officer will identify all piles that are approved for covering in excess of the one-hundred (100) square foot maximum size.
4. Piles with material extending more than two (2) feet beyond the general contour of the pile shall be flattened or trimmed to create a uniform surface and to prevent the PE sheeting from tearing during wind events. Pile trimming or flattening shall be done prior to pile covering.
5. To ensure the center of the pile remains dry, all PE sheeting shall be weighted down with slash or logging

debris in order to prevent sheeting from tearing, and blowing or sliding off of the pile. An adequate amount of anchoring material should be used, but no more than twenty (20) percent of the material to be piled may be placed on top of the sheeting. Sheeting shall be tied down with twine on all four corners.

6. At landing sites with excessive logging residue below the landing that is out of reach of the equipment on site, the Purchaser shall place additional PE sheeting over the residue concentrations as directed by the Authorized Officer.
7. Piles of residue identified by the Authorized Officer for other uses shall not be covered with PE sheeting.

Specifications for Hazardous Fuel Reduction Area (HFRA) Treatments

Within the boundaries of the HFRA, as shown on the Exhibit A the Purchaser shall hand pile slash and logging debris in areas with greater than thirty-five (35) percent slope. In areas less than thirty-five (35) percent slope within the HFRA, the Purchaser may either hand pile or machine pile the material.

In accordance with written or verbal instructions to be issued by the Authorized Officer at least ten (10) days in advance of the earliest date of required performance, within the HFRA boundaries as shown on Exhibit A, the Purchaser shall commence slashing, piling and pile covering. At the Authorized Officer's discretion and to meet prescribed fire and hazardous fuels reduction objectives, slashing, piling and pile covering may be ordered to be completed in segments over multiple seasons. All work will be in accordance with the following specifications:

Specifications for Slashing within the HFRA

1. Slashing for hand and machine piled areas shall be done concurrently with the hand and machine piling.
2. The Purchaser shall slash all brush and stump sprouts greater than one (1) foot in height, including prostrate brush pinned down by logging debris, all hardwoods smaller than six (6) inches diameter at breast height not marked for retention, and all prostrate or damaged conifer reproduction. Stump heights of slashed vegetation shall not exceed six (6) inches as measured on the uphill side.

Specifications for Hand Piling within the HFRA

1. The Purchaser shall hand pile slashed vegetation and logging debris one-half (1/2) inch to six (6) inches in diameter (measured on the small end) and greater than two (2) feet in length. Material exceeding the diameter limits specified may be left un-piled; however, attached limbs and/or tops falling within the diameter and length limits shall be cut off and piled.
2. Piles shall be constructed as upright as possible with a solid base to prevent toppling. All piles shall be constructed with a compact core of smaller-diameter woody material to aid in pile ignition. Piles found without these features or with large air pockets will be rejected and shall require re-piling.
3. To prevent sliding and roll-out, all piled material shall be laid perpendicular to the slope and will be

constructed as compactly as possible. Material extending more than one (1) foot beyond the general contour of the pile shall be cut off and placed on the pile.

4. Unless approved by the Authorized Officer, maximum pile dimensions shall not exceed eight (8) feet in diameter and six (6) feet in height. Piled material that is greater than eight (8) feet in length shall be cut and added back to the pile. Minimum pile dimensions shall not be less than four (4) feet in diameter and four (4) feet in height.
5. No piles shall be constructed on road surfaces, in ditch lines or within thirty feet (30) feet of the McKinley Road.
6. Unless directed by the Authorized Officer, no hand piles shall be constructed within fifteen (15) feet of any green trees, snags, or coarse woody debris.
7. Hand piling shall start and be completed within the same year the unit is harvested.

Specifications for Machine Piling within the HFRA

1. Unless otherwise approved in advance by the Authorized Officer, machine piling shall be completed concurrently, or immediately after completion of ground-based yarding operations.
2. The purchaser shall provide a hydraulic excavator equipped with a “brush-type” attachment for piling debris. Equipment shall be washed prior to move-in and must be approved by the Authorized Officer before piling begins.
3. In areas to be machine piled, the Purchaser shall pile all slashed vegetation and logging debris one-half (1/2”) to six (6”) inches in diameter (measured on the small end) and greater than two (2) feet in length. Material exceeding the diameter limits specified may be left un-piled; however, attached limbs and tops falling within the diameter limits shall be cut off and piled. Material sixteen inches in diameter or larger (measured on the large end) shall not be piled. Relocation of existing coarse wood to facilitate movement of equipment is permitted but should be avoided if possible.
4. Piles shall be kept as soil free as possible. Re-piling will be required if piles contain an excessive amount of soil (>10% pile volume).
5. No machine piling shall be conducted in the contract area between October 15 of one calendar year and June 1 of the following calendar year, both days inclusive. In order to reduce the potential for soil compaction the operator shall avoid making repeated passes over an area.
6. Piles shall be constructed as upright as possible and have a solid base to prevent toppling. To prevent sliding and roll-out, all piled material shall be laid perpendicular to the slope and will be constructed as compactly as possible. Material extending more than two (2) feet beyond the general contour of the pile shall be flattened with the excavator or cut off and placed on the pile. Piles found with large air pockets will be

rejected and shall require re-piling.

7. Unless directed by the Authorized Officer, no piles shall be constructed within fifteen (15) feet of any reserve trees, snags, or coarse woody debris. The machine operator should consider the required spacing from these features when determining the size and shape of piles they are constructing.
8. No piles shall be constructed on road surfaces, in ditch lines or within thirty (30) feet of the McKinley Road.

Specifications for Hand and Machine Pile Covering within the HFRA

1. All piles shall be covered no later than September 30 of the same year of the piling.
2. The Purchaser shall place four (4) MIL, black polyethylene sheeting (PE) over the piles to provide maximum protection from fall/winter rains. Unless otherwise directed, the size of plastic shall not exceed one-hundred (100) square feet (10' X 10').
3. To meet ignition and combustion needs, larger piles may require additional PE sheeting. The Purchaser shall contact the Authorized Officer before any pile covering begins. At that time, the Authorized Officer will identify all piles that are approved for covering in excess of the one-hundred (100) square foot maximum size.
4. To ensure the center of the pile remains dry, all PE sheeting shall be weighted down with slash or logging debris in order to prevent sheeting from tearing, and blowing or sliding off of the pile. An adequate amount of anchoring material should be used, but no more than twenty (20) percent of the material to be piled may be placed on top of the sheeting. Sheeting shall be tied down with twine on all four corners.

Specifications for Landing and HFRA Pile Burning

In accordance with verbal or written instructions to be issued by the Authorized Officer at least ten (10) days in advance of the earliest date of required performance, the Purchaser shall, under supervision of the Authorized Officer or his/her designated representative, assist in burning and fire control, at his/her own expense, by providing the services of personnel and equipment as follows:

1. The purchaser shall begin pile burning within fourteen hours (14) of notification by the Authorized Officer.
2. For each entry, the Purchaser may provide more personnel, equipment and materials than indicated, but no less than the minimum requirements listed below. Minimum personnel, equipment and materials requirements are:
 - a. Landing Pile Burning
 1. One (1) English-speaking crew supervisor
 2. Three (3) person burn crew
 3. Three (3) drip torches and sufficient fuel to complete all pile burning

b. HFRA Pile Burning

1. One (1) English-speaking crew supervisor
 2. Five (5) person burn crew
 3. Five (5) drip torches and sufficient fuel to complete all pile burning
3. All listed personnel shall be physically fit, experienced and fully capable of functioning as required. All personnel shall arrive at the project area with the following personal safety equipment: Long-sleeve, natural (or nomex) fabric shirt, full-length, natural (or nomex) fabric trousers, minimum eight (8) inch tall leather boots, hardhat, and leather gloves. All equipment shall be in good condition.
 4. The Purchaser shall remove and dispose of all PE sheeting exceeding the one-hundred (100) square foot maximum size. The sheeting shall not be removed until directed by the Authorized Officer. The Purchaser shall dispose of removed PE sheeting in accordance with applicable Federal, State and municipal laws. Removed PE sheeting shall not be disposed of in burn piles.
 5. A minimum of eighty (80) percent consumption of landing piles, and ninety (90) percent consumption of piles within the Hazard Fuel Reduction Area (HFRA) is required. Some hand stoking of piles in the HFRA may be required in order to meet the consumption objectives.
 6. No mop-up is required of the Purchaser.

Based on the time of year and sequence in which harvest and treatment of the units is completed, burning may be required over multiple seasons.

Time is of the essence in complying with burning provisions. In the event the Purchaser fails to provide the personnel, equipment and materials required herein, the Purchaser shall be responsible for all additional costs incurred by the Government in completing the logging residue reduction. Additional costs may include, but are not limited to, wages and associated expenses of providing federal employees or others as a 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 the use of additional personnel and equipment to accomplish the planned burn, the Purchaser also shall be responsible for such additional costs.

f. Log Export and Substitution

All timber sales, including timber from Federal rights-of-ways, shall be subject to the restrictions relating to the export and substitution of unprocessed timber from the United States in accordance with P.L. 94165 and 43 CFR 5400 and 5424 as amended.

(1) All timber sold to the Purchaser under the terms of this contract 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 (8-3/4) 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 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 remanufacturing of eight and three-quarters (8-3/4) 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 12 months from the date of last export sale;
- (d) volume of Federal timber purchased in the past 12 months from the date of last export sale;
- (e) volume of timber exported in succeeding 12 months from date of last export sale; and,
- (f) volume of Federal timber purchased in succeeding 12 months from date of last export sale.

(2) 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 "Certificate as to Nonsubstitution and the Domestic Processing of Timber" (Form 5460-16). 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.

(3) In the event an affiliate of the Purchaser has exported private timber within 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

(4) Prior to the termination of this contract, the Purchaser shall submit to the Authorized Officer a "Log Scale and Disposition of Timber Removed Report" (Form 5460-15) 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.

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

The purchaser understands that in addition to other penalties which may be imposed for violating the foregoing, the purchaser may be declared ineligible to participate in future Federal timber sales that are set-aside for

preferential bidding by small business qualified concerns for two semi-annual triggered periods succeeding the violation.

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

(6) Unless otherwise authorized in writing by the Contracting Officer, the Purchaser shall brand clearly and legibly one end of all logs with a scaling diameter (small end inside bark) of over ten inches, prior to the removal of timber from the contract area. All loads of eleven (11) logs or more will have a minimum of ten logs clearly and legibly branded on one end regardless of the diameter of the logs. All logs will be branded on loads of ten logs or less. One end of all branded logs to be processed domestically will be marked with a three 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.

(7) 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 Sec. 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.

g. Optional Scale Check of Lump Sum Sales

(1) 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 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.

(2) 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 by yard scale, the purchase price of this contract shall be reduced by \$2,171.25. In the event only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of \$2,171.25 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 Eastside Scribner Scaling Rules 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.

h. Cultural Resource Protection

(1) If in connection with operations under this contract, the Purchaser, his contractors, sub-contractors, 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, fossils, or artifacts, the Purchaser shall immediately suspend all operations in the vicinity of the cultural value and 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.

(2) Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the Authorized Officer, by telephone, with written confirmation, immediately upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the Authorized Officer.

i. Sensitive, Threatened, or Endangered Plants or Animals

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 prevent incidental take of northern spotted owls in accordance with management direction in the Record of Decision (ROD) and Resource Management Plan (RMP), or to protect occupied marbled murrelet sites in accordance with the Standards and Guidelines or management direction of the ROD and 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;

(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, or management direction 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, or management direction established in the ROD and RMP, the Contracting Officer determines it may be necessary to modify or terminate the contract.

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

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

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

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

In the event that operating time is lost as a result of the incorporation of additional contract requirements, or delays due to Endangered Species Act consultation with the U.S. Fish and Wildlife Service or U.S. National Marine Fisheries Service, 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 modify the contract or terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, prevent incidental take of northern spotted owls in accordance with the ROD and RMP, protect 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 or management direction 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, if able to proceed without causing incidental take of northern spotted owls in accordance with the ROD and RMP and consistent with marbled murrelet occupied site protection in accordance with the ROD and RMP, consistent with survey and manage and/or protection buffer standards and guidelines or management direction established in the ROD and RMP, or court order requirements necessitating the modification or termination.

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

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

j. Safety

Purchaser's operations shall facilitate BLM's safe and practical inspection of Purchaser's operations and BLM's conduct of other official duties on Contract Area. Purchaser has all responsibility for compliance with safety requirements for Purchaser's employees, contractors and subcontractors.

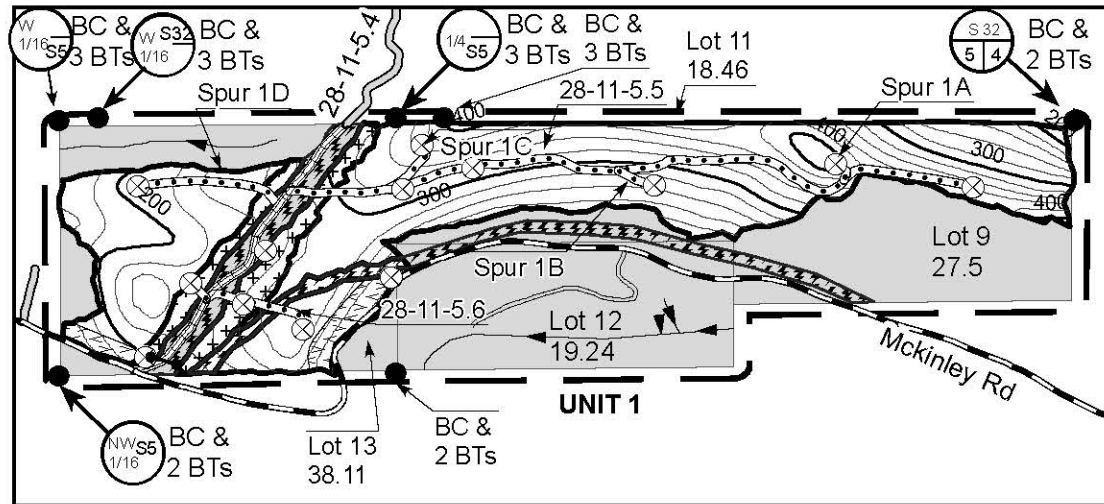
In the event that the Authorized Officer identifies a conflict between the requirements of this contract or agreed upon methods of proceeding hereunder and State or Federal safety requirements, the contract may be modified. If the cost of such contract modification is of a substantial nature (\$2,000.00 or more), the Purchaser may

request, in writing, an adjustment in the total contract purchaser price specified in Section 2 of the timber sale contract, as amended, to compensate for the changed conditions.

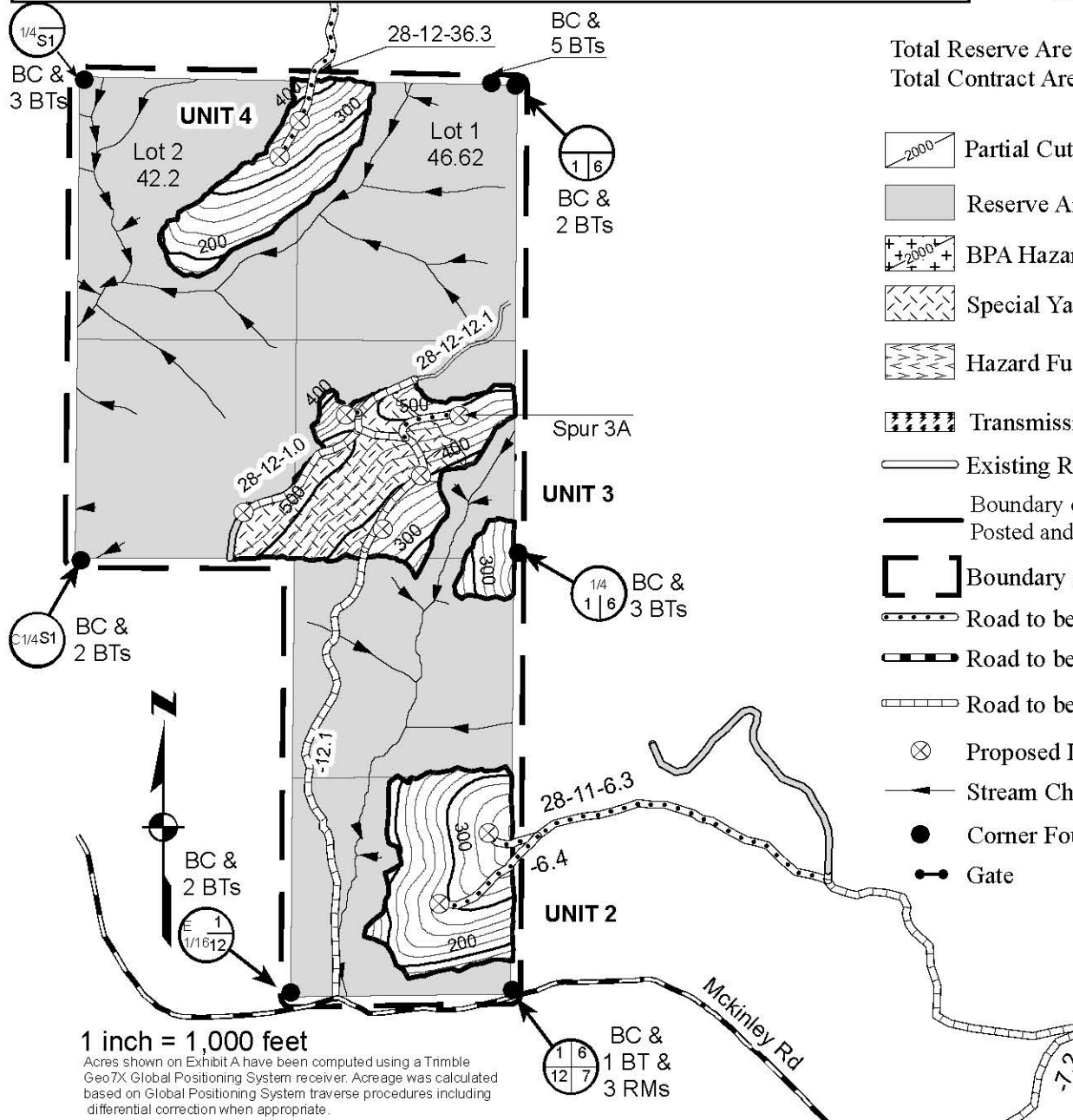
Unless otherwise specified in writing, when operations are in progress adjacent to or on roads and/or trails in the harvest unit area, Purchaser shall furnish, install, and maintain all temporary traffic controls that provide the road or trail user with adequate warning of and protection from hazardous or potentially hazardous conditions associated with its operations. Purchaser shall prepare a Traffic Control Plan, which the Purchaser has determined is compliant with state and local OSHA and Transportation standards no later than the pre-work meeting and prior to commencing operations. Traffic control devices shall be appropriate to current operating and/or weather conditions and shall be covered or removed when not needed. Flagmen and devices shall be as specified in state OSHA and Transportation standards for logging roads or the "Manual on Uniform Traffic Control Devices for Streets and Highways" (MUTCD) published by the U.S. Department of Transportation – Federal Highway Administration. Included in the Traffic Control Plan, Purchaser shall note traffic control device locations on a Purchaser produced copy of the contract Exhibit "A" Map.

TIMBER SALE CONTRACT MAP
 USDI-BLM COOS BAY DISTRICT
 T. 28 S., R. 11 W., Sec. 05 &
 T. 28 S., R. 12 W., Sec. 01 Will. Mer.

ORC00-TS-2017.0032
 EXHIBIT A
 Page 1 of 2
 Hidden Gem CT



THINNING	
UNIT 1	49 ACRES
UNIT 2	20 ACRES
UNIT 3	26 ACRES
UNIT 4	14 ACRES
R/W	05 ACRES
Total	114 ACRES



Total Reserve Area 238 ACRES
 Total Contract Area 352 ACRES

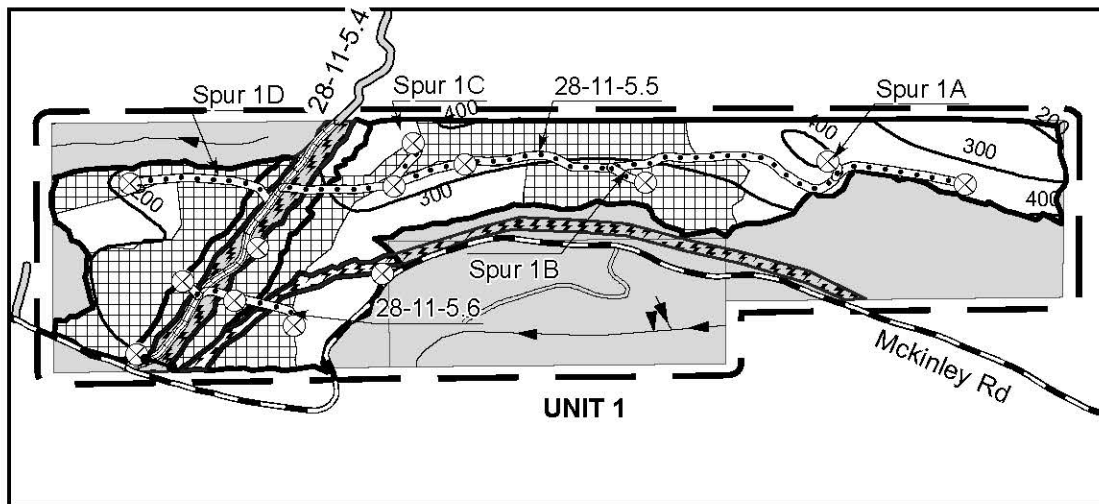
- Partial Cut Unit
- Reserve Area
- BPA Hazard Tree Area 5 Acres
- Special Yarding Area 14 Acres
- Hazard Fuel Reduction Area
- Transmission Line R/W
- Existing Road
- Boundary of Cutting Area, Blazed, Posted and Painted
- Boundary of Contract Area
- Road to be Constructed
- Road to be Improved
- Road to be Renovated
- Proposed Landing
- Stream Channel
- Corner Found
- Gate

1 inch = 1,000 feet

Acres shown on Exhibit A have been computed using a Trimble Geo7X Global Positioning System receiver. Acreage was calculated based on Global Positioning System traverse procedures including differential correction when appropriate.

TIMBER SALE CONTRACT MAP
 USDI-BLM COOS BAY DISTRICT
 T. 28 S., R. 11 W., Sec. 05 &
 T. 28 S., R. 12 W., Sec. 01 Will. Mer.

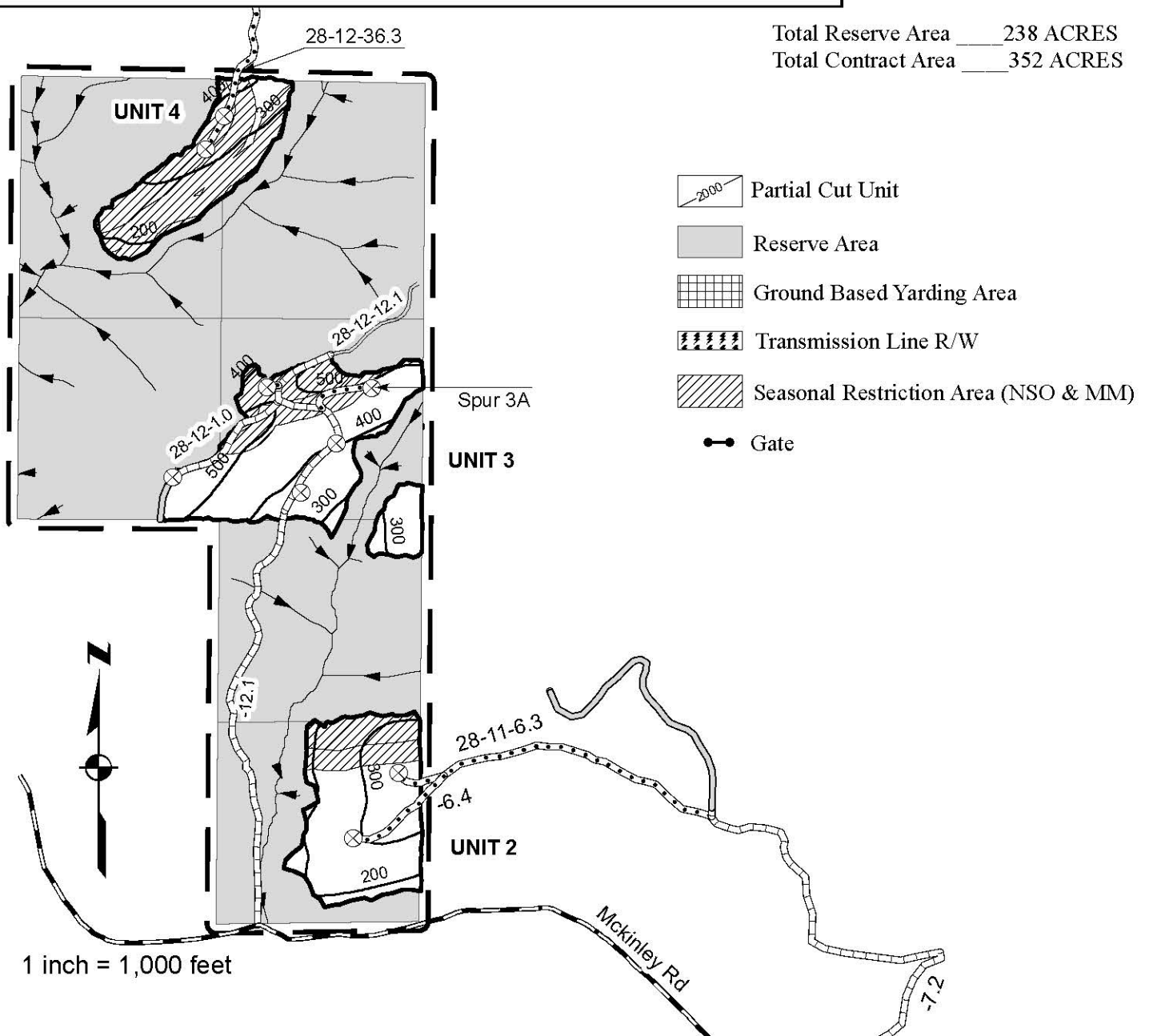
ORC00-TS-2017.0032
 EXHIBIT A
 Page 2 of 2
 Hidden Gem CT

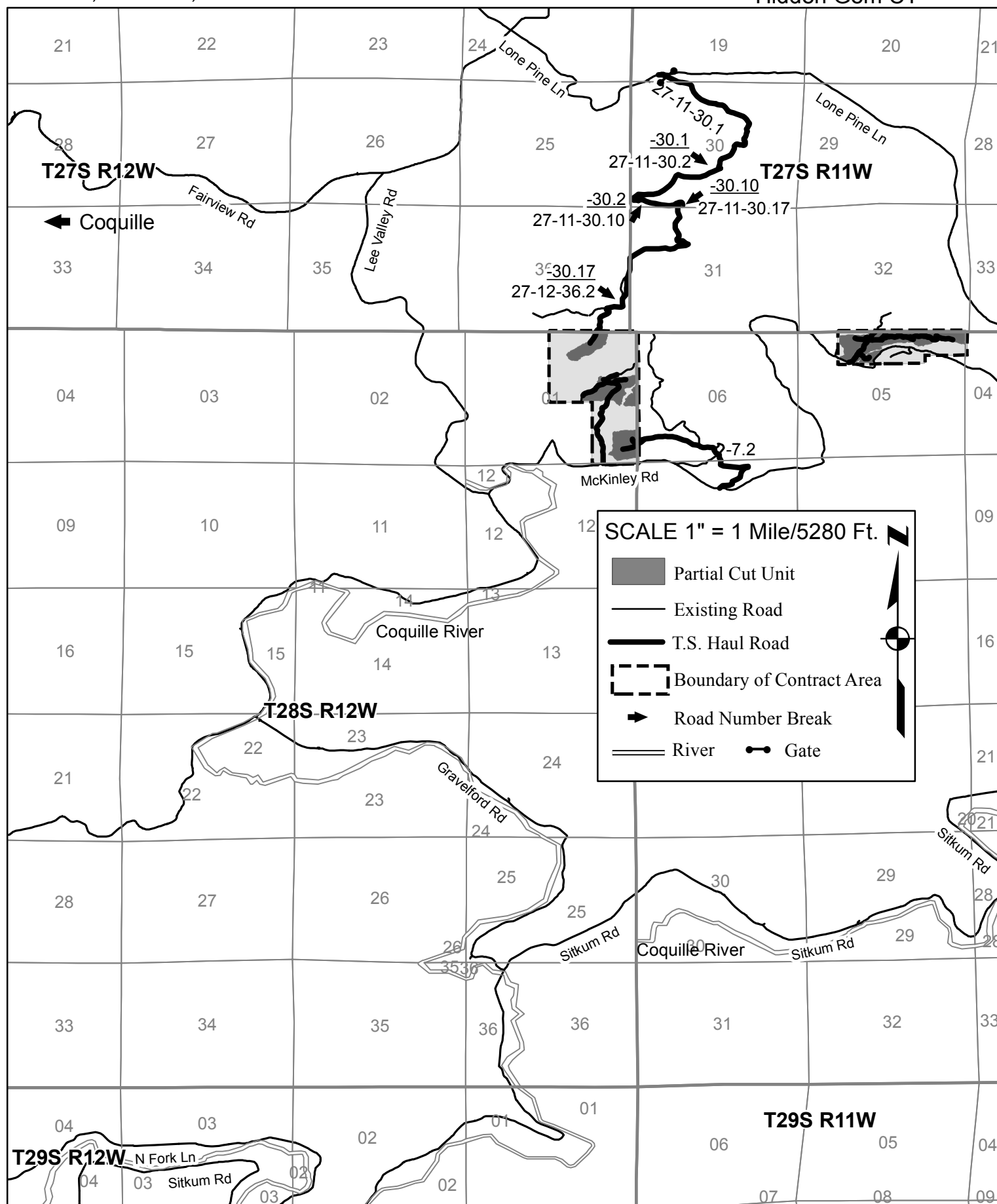


THINNING	
UNIT 1	49 ACRES
UNIT 2	20 ACRES
UNIT 3	26 ACRES
UNIT 4	14 ACRES
R/W	05 ACRES

Total 114 ACRES

Total Reserve Area 238 ACRES
 Total Contract Area 352 ACRES





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

Coos Bay
Hidden Gem CT
ORC00-TS-2017.0032

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	2,192		
Grand Fir	324		
Red Alder	205		
Western Hemlock	85		
Miscellaneous	71		
Western red-cedar	18		
Sale Totals	2,895		

Unit Details (16' MB)

Unit 1	49 Acres	Value per Acre : \$0.00	
Species	Net Volume	Bid Price	Species Value
Douglas-fir	954		
Grand Fir	142		
Miscellaneous	12		
Red Alder	39		
Western Hemlock	49		
Western red-cedar	7		
Unit Totals	1,203		

Coos Bay
Hidden Gem CT
ORC00-TS-2017.0032

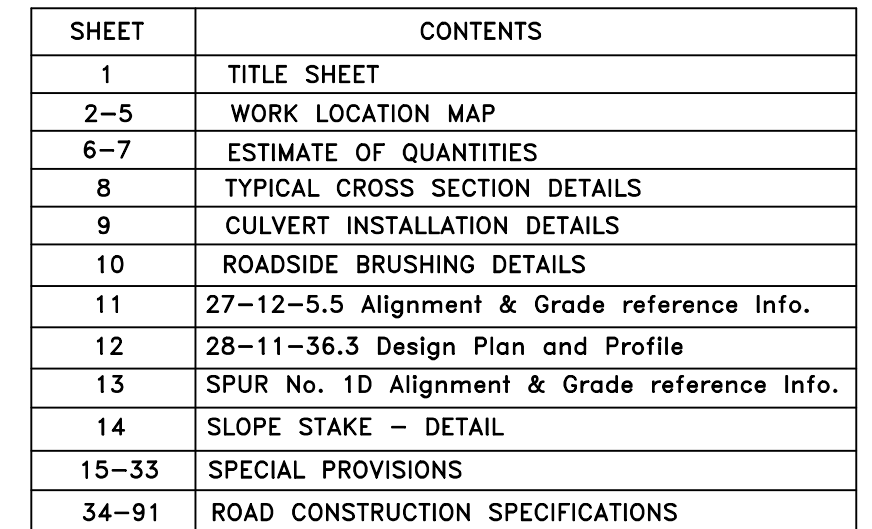
Species	Net Volume	Bid Price	Species Value
Douglas-fir	238		
Grand Fir	35		
Miscellaneous	14		
Red Alder	13		
Western Hemlock	9		
Western red-cedar	2		
Unit Totals	311		

Species	Net Volume	Bid Price	Species Value
Douglas-fir	193		
Grand Fir	36		
Miscellaneous	30		
Red Alder	111		
Western Hemlock	8		
Western red-cedar	3		
Unit Totals	381		

Species	Net Volume	Bid Price	Species Value
Douglas-fir	209		
Grand Fir	25		
Miscellaneous	3		
Red Alder	12		
Western Hemlock	9		
Western red-cedar	2		
Unit Totals	260		

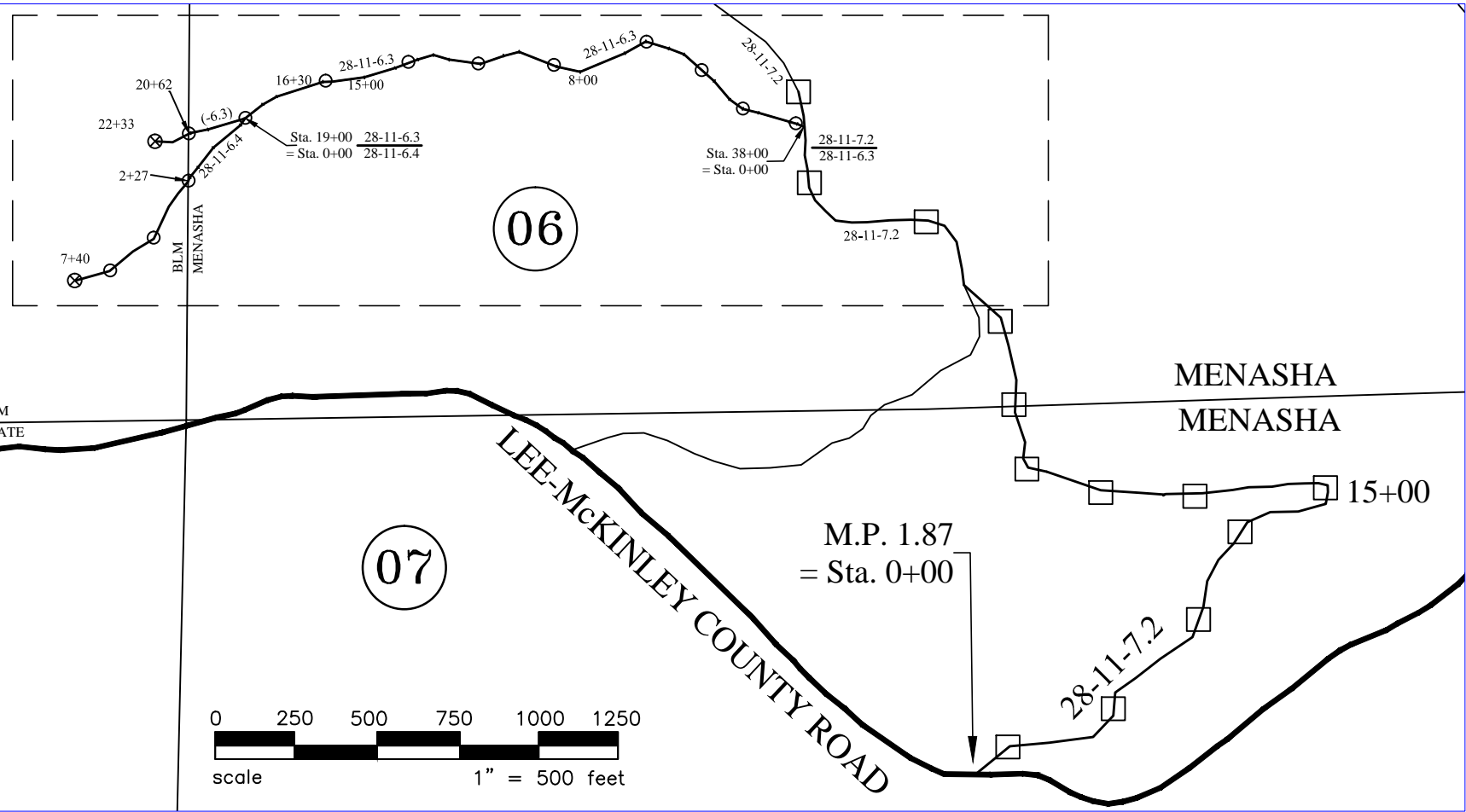
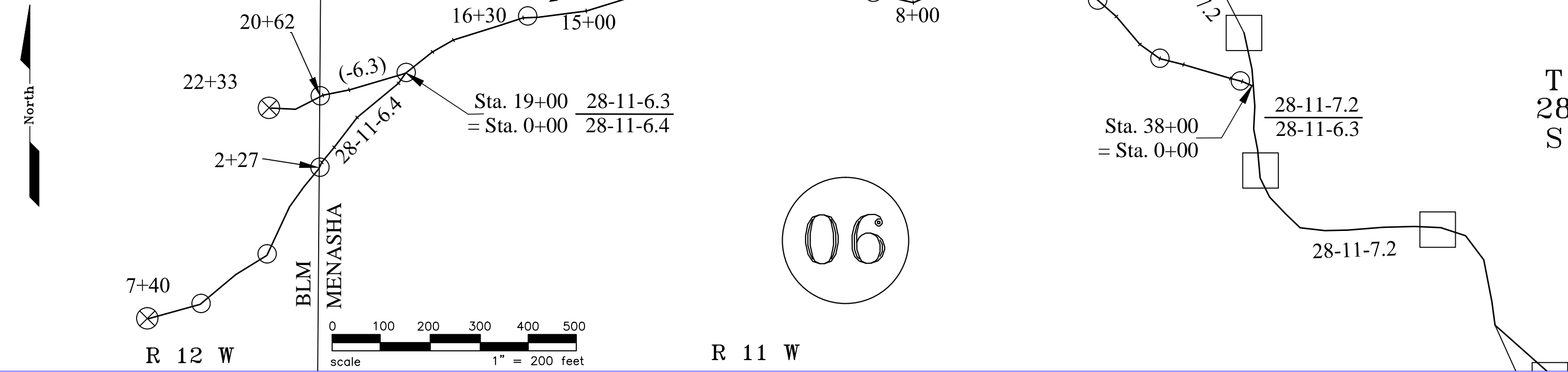
Species	Net Volume	Bid Price	Species Value
Douglas-fir	598		
Grand Fir	86		
Miscellaneous	12		
Red Alder	30		
Western Hemlock	10		
Western red-cedar	4		
Unit Totals	740		

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OFFICE
MYRTLEWOOD FIELD OFFICE



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
TITLE SHEET	
DESIGNED	K. SANDERS
REVIEWED	P. LEMAN
APPROVED	K. WESTENSKOW
DRAWN KGS	SCALE AS SHOWN
DATE 03/25/2016	SHEET 1 OF 91

HIDDEN GEM CT 2017.0032
Exhibit "C"



LEGEND

NEW CONSTRUCTION	○—○—○—○—○
RENOVATION	□—□—□—□—□
HAUL ROUTE	—
EXISTING ROAD	—
PAVED ROAD	—
LANDING	⊗

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

Work location map

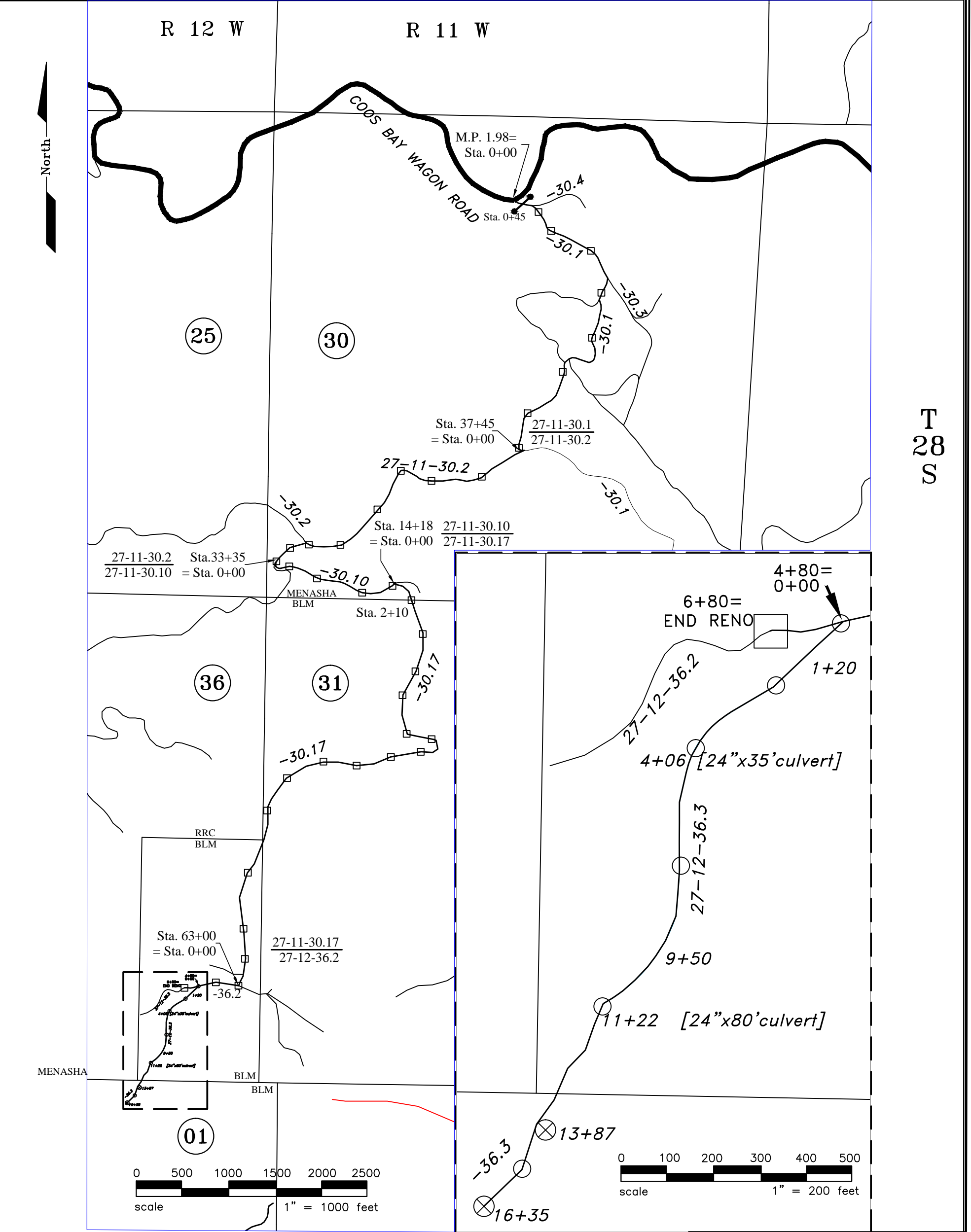
DESIGNED: K. SANDERS

REVIEWED: P. LEMAN

APPROVED: K. WESTENSKOW

DRAWN: K.SANDERS	SCALE: AS SHOWN
DATE: 03/30/2016	SHEET 2 of 91
DRAWING NO: NONE	

HIDDEN GEM CT 2017.0032
Exhibit "C"



LEGEND	
NEW CONSTRUCTION	—○—○—○—○—○—
RENOVATION	—□—□—□—□—□—
HAUL ROUTE	—————
EXISTING ROAD	—————
PAVED ROAD	—————
LANDING	⊗

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
Work location map	
DESIGNED:	K. SANDERS
REVIEWED	P. LEMAN
APPROVED	K. WESTENSKOW
DRAWN: K.SANDERS	SCALE: AS SHOWN
DATE: 03/30/2016	SHEET 3 of 91
DRAWING NO: NONE	

HIDDEN GEM CT 2017.0032
Exhibit "C"

R 11 W

MENASHA

BLM

SPUR 1C

2+90⊗

14+10 [24" x 30' culvert

SPUR 1A

1+20

SPUR 1E

 $(-5, 5)$ 28+00 T
28
S

LEE-McKINLEY COUNTY ROAD

05

BLM

PRIVATE

M.P. 4.45
= Sta. 0+00

LEGEND

NEW CONSTRUCTION

RENOVATION

EXISTING R

HAIR ROUTE

PAVED ROAD

LANDING

WASTE ARE

Borrow S

GATE

11

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

Work location map

DESIGNED: K. SANDERSREVIEWED P. LEMAN

APPROVED K. WESTENSKOW

DRAWN: K.SANDERS	SCALE: AS SHOWN
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DATE: 03/30/2016	SHEET 4 of 91
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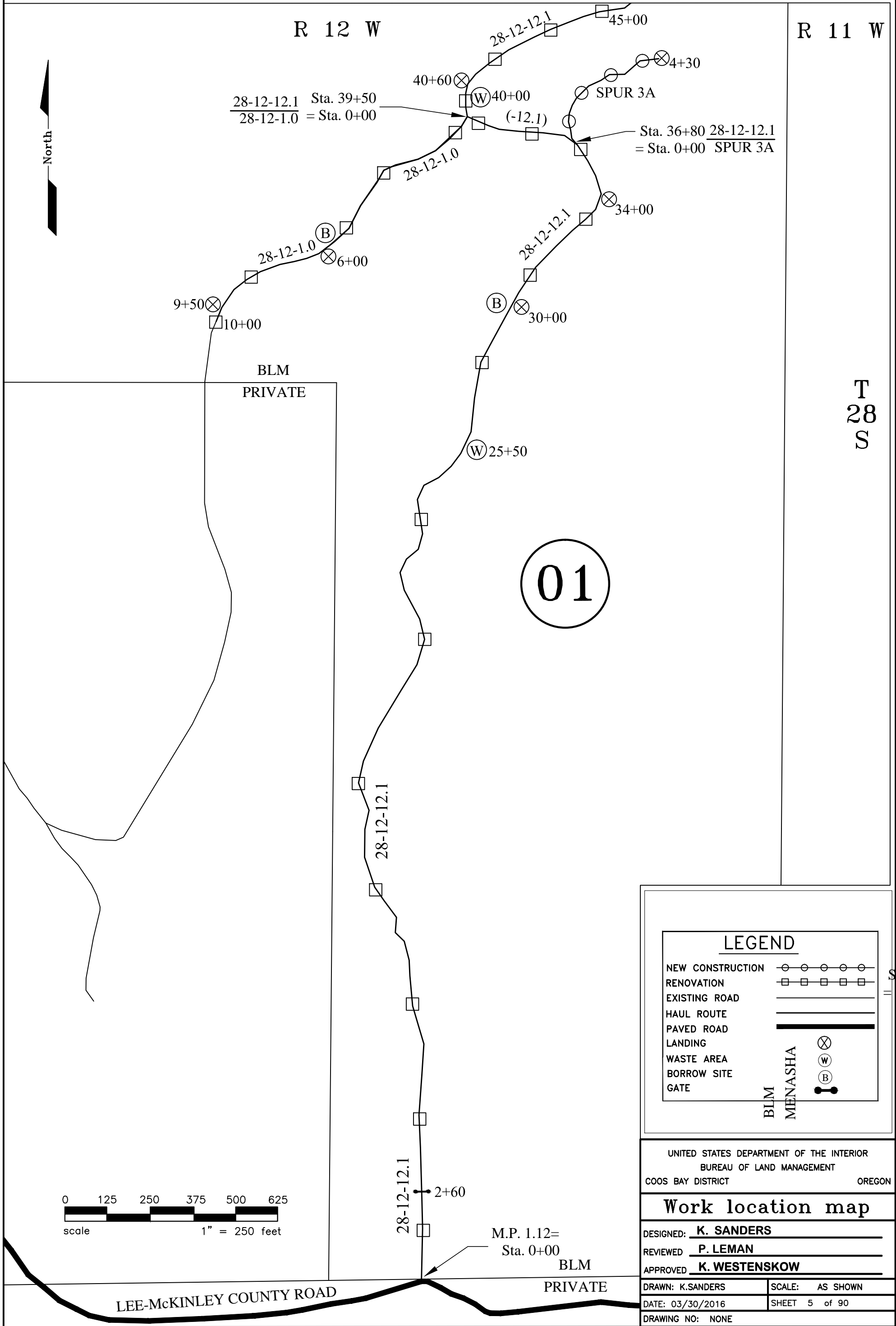
DRAWING NO: NONE

0 100 200 300 400 500

scale 1" = 200 feet

scale $1'' = 200 \text{ feet}$

HIDDEN GEM CT 2017.0032
Exhibit "C"



ESTIMATE OF QUANTITIES*

ROAD NUMBER	SURFACING					OTHER			SEEDING		OTHER (SEDIMENT CONTROL DEVICES)
	LANDING ROCK BASE	SPOT ROCK BASE	BASE ROCK	SURFACE ROCK	SPOT ROCK	RIPRAP	6” INLET ARMORING	GEO- TEXTIILE	SEED, FERTILIZE AND MULCH		
									1800	1800	
SECTION NO.	1000	1000	1000	1200	1200	1400	1000		DRY	HYDRO	
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	S.Y.	ACRES	ACRES	EACH
27-11-30.1 R	(A)	(A)	(A)	961 (C)	10 (C)	(A)	(A)		0.2		
27-11-30.2 R	(A)	(A)	(A)	1352 (C)	(C)	(A)	(A)		0.5		
27-11-30.10R	(A)	(A)	(A)	261 (C)	(C)	(A)	(A)		0.3		
27-11-30.17R	(A)	(A)	130 (A)	(C)	(C)	(A)	(A)		1.5		
27-12-36.2 R	(A)	(A)	100 (A)	(C)	(C)	(A)	(A)		0.1		
27-12-36.3 C	210 (A)	(A)	1356 (A)	424 (C)	(C)	10 (A)	10 (I)		1.3		
28-11-5.4 R	(A)	(A)	(A)	(C)	30 (C)	(A)	(A)		0.5		
28-11-5.5 C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		1.3		
28-11-5.6 C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		0.2		
28-11-6.3 C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		1.0		
28-11-6.4 C	(A)	(A)	(A)	(C)	30 (C)	(A)	(A)		0.3		
28-11-7.2 R	(A)	15 (A)	(A)	292 (C)	5 (C)	(A)	(A)		0.4		
28-12-12.1 R	240 (A)	(A)	30 (A)	707 (C)	5 (C)	(A)	(A)		1.0		
28-12-1.0 R	140 (A)	(A)	145 (A)	176 (C)	(C)	(A)	(A)		0.2		
SPUR No.1A C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		0.1		
SPUR No.1B C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		0.1		
SPUR No.1C C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		0.1		
SPUR No.1D C	(A)	(A)	(A)	(C)	(C)	(A)	(A)		0.3		
SPUR No.3A C	100 (A)	(A)	267 (A)	119 (C)	(C)	(A)	(A)		0.2		
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
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	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
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	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
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	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				
	(A)	(A)	(A)	(C)	(C)	(A)	(A)				

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

SECTION	GRADE	SIZE
1000	A	3"
	B	2"
	I	6"
1200	C	1 1/2"
	C1	1 1/2"
	D	1"
	D1	1"
	E	3/4"
	E1	3/4"
1400	A	RIPRAP
CHIP SEAL ROCK	S	3/4"

GRADE INDICATED IN CIRCLE ○



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
ESTIMATE OF QUANTITIES	
DESIGNED <u>K. SANDERS</u>	
REVIEWED <u>P. LEMAN</u>	
APPROVED <u>K. WESTENSKOW</u>	
DRAWN <u>JRC</u>	SCALE <u>NONE</u>
DATE <u>05/13</u>	SHEET <u>7</u> OF <u>91</u>
DRAWING NO.	

ROAD NUMBER **	FROM MILEPOST/ STATION	TO MILEPOST/ STATION	LENGTH MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH¹		CLEARING WIDTH		BRUSHING WIDTH		SURFACING										REMARKS	
					Subgrade	Ditch	BEYOND TOP CUT	TOE FILL	EXISTING ROADS	BASE COURSE					SURFACE COURSE							
										Minimum Top Width	Comp. Depth	Type²	Grading			Minimum Top Width	Comp. Depth	Type²		Grading		
27-11-30.1 R	0+00	13+80	13.80	4	16'	2'			10	10						12.0'	2"	D	1.5-0"		3% CROWN W/ DITCH	
27-11-30.1 R	13+80	37+45	23.65	4	16'	2'			10	10						12.0'	6"	D	1.5-0"		3% CROWN W/ DITCH	
27-11-30.2 R	0+00	14+00	14.00	4	16'	2'			10	10						12.0'	8"	D	1.5-0"		3% CROWN W/ DITCH	
27-11-30.2 R	14+00	33+35	19.35	4	16'	2'			10	10						12.0'	6"	D	1.5-0"		3% CROWN W/ DITCH	
27-11-30.10R	0+00	14+18	14.18	4	12'	2'			10	10						10.0'	4"	D	1.5-0"		3% CROWN W/ DITCH	
27-11-30.17R	0+00	63+00	63.00	4	14'	2'			10	10												
27-12-36.2 R	0+00	6+40	6.40	3	14'	0'			10	10												
27-12-36.3 C	0+00	16+35	16.35	4	18'	2'	10	5			13.33'	8"	D	3-0"		12.0'	4"	D	1.5-0"		3% CROWN W/ DITCH	
28-11-5.4 R	0+00	16+00	16.00	3	14'	0'			10	10						APPLY	30 CY	1.5"	SPOT ROCK		3% CROWN W/O DITCH	
28-11-5.5 C	0+00	28+00	28.00	1	14'	0'	10	5														
28-11-5.6 C	0+00	4+35	4.35	1	14	0'	10	5														
28-11-6.3 C	0+00	22+33	22.33	1	14'	0'	10	5														
28-11-6.4 C	0+00	7+40	7.40	1	14'	0'	10	5														
28-11-7.2 R	0+00	15+00	15.00	3	14'	2'			10	10	APPLY	15 CY	3"	SPOT ROCK		12.0'	3"	D	1.5-0"		3% CROWN W/ DITCH	
28-11-7.2 R	15+00	38+80	23.80	3	14'	2'			10	10						APPLY	5 CY	1.5"	SPOT ROCK			
28-12-12.1 R	0+00	45+00	45.00	3	14'	2'			10	10						10.0'	3"	D	1.5-0"		3% CROWN W/ DITCH	
28-12-1.0 R	0+00	7+00	7.00	3	14'	2'			10	10						10.0'	3"	D	1.5-0"		3% CROWN W/ DITCH	
28-12-1.0 R	7+00	10+00	3.00	3	14'	2'			10	10	13.0'	9"	D	3-0"		10.0'	3"	D	1.5-0"		3% CROWN W/ DITCH	
SPUR No.1A C	0+00	1+20	1.20	1	14'	0'	10	5														
SPUR No.1B C	0+00	1+55	1.55	1	14'	0'	10	5														
SPUR No.1C C	0+00	2+90	2.90	1	14'	0'	10	5														
SPUR No.1D C	0+00	7+25	7.25	1	14'	0'	10	5														
SPUR No.3A C	0+00	4+30	4.30	4	16'	2'	10	5			13.33'	8"	D	3-0"		12.0'	4"	D	1.5-0"		3% CROWN W/ DITCH	

NOTES

1. EXTRA SUBGRADE WIDTHS

ADD TO EACH FILL SHOULDER 1 FT. FOR FILLS OF 1-6 FT. AND 2 FT. FOR FILLS OVER 6 FT. WIDEN THE INSIDE SHOULDER OF ALL CURVES AS FOLLOWS:

WHEN THE RADIUS OF CURVE EQUALS

270-800 ADD 1FT.

165-270 ADD 2FT.

120-165 ADD 3FT.

90-120 ADD 4FT.

60-90 ADD 5FT.

OR AS SHOWN ON PLANS.

MATERIALS	CUT SLOPES	FILL SLOPES
COMMON	1/2:1	1 1/2:1
SOFT ROCK & SHALE	1/2:1	1 1/2:1
SOLID ROCK	1/4:1	REPOSE

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

2. SURFACING TYPE

- PIT RUN ROCK MATERIAL.
- GRID ROLLED ROCK MATERIAL.
- SCREENED ROCK MATERIAL.
- CRUSHED ROCK MATERIAL.
- CLASS 'C' ASPHALT MIX.

3. SURFACING

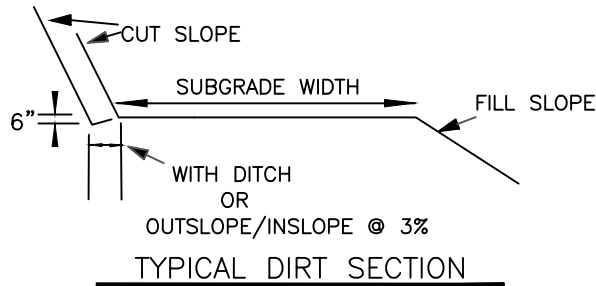
- TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.

4. DITCHES

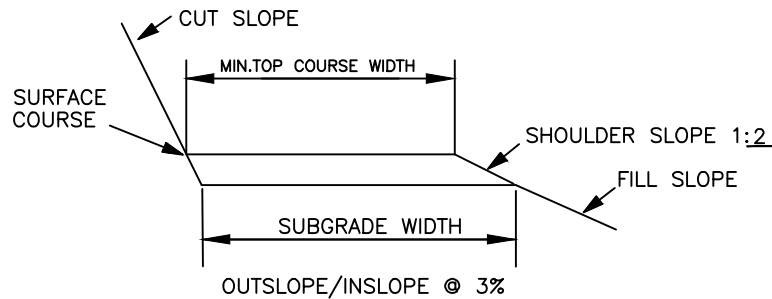
- 4:1 SLOPE FROM SUBGRADE, OR AS OTHERWISE NOTED. DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.

5. TURNOUTS

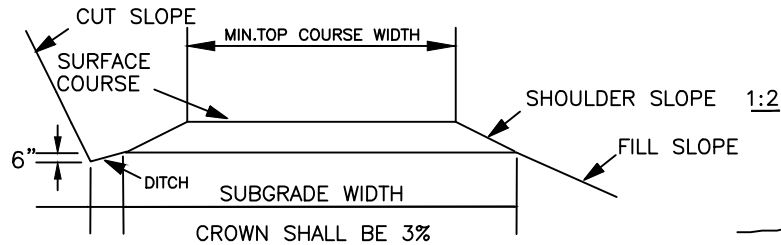
- WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
- LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS OR NARRATIVE.



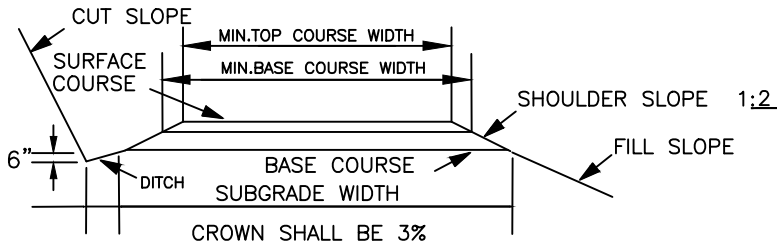
TYPE 1



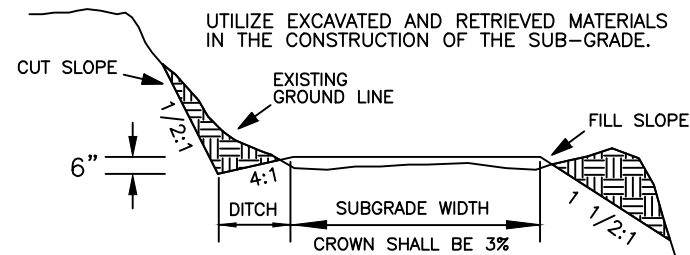
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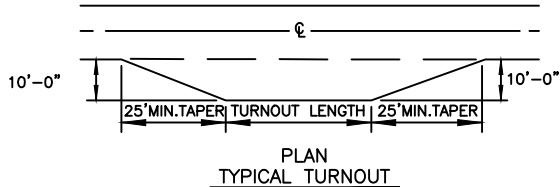
TYPE 3



TYPE 4



TYPICAL GRADING SECTION



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

TYPICAL CROSS SECTION DETAIL

DESIGNED K. SANDERS

REVIEWED P. LEMAN

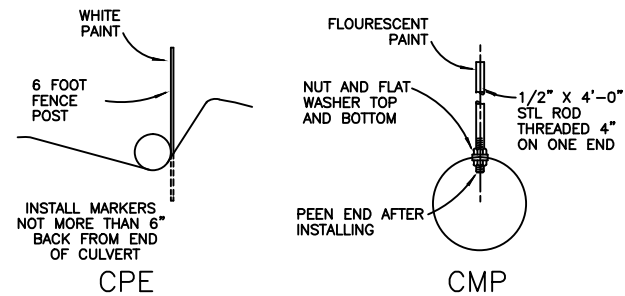
APPROVED K. WESTENSKOW

DRAWN JRC

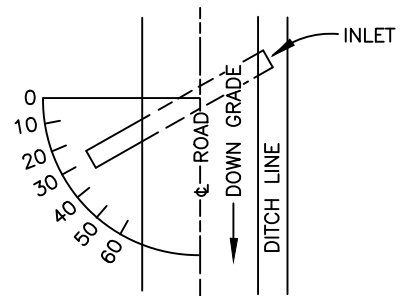
SCALE NONE

DATE 04/2016

SHEET 8 OF 91



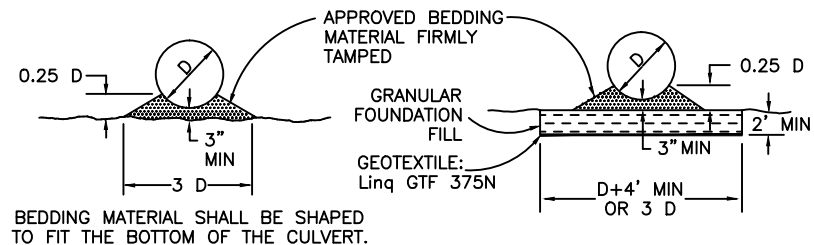
CULVERT MARKERS



SKIEW DIAGRAM

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

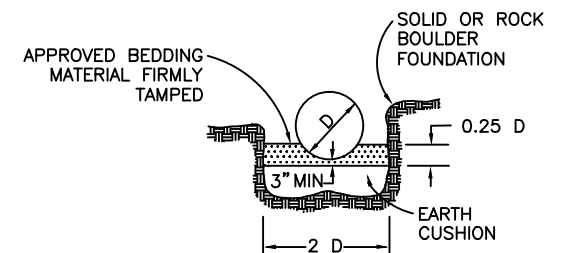
BEDDING OF CULVERTS



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

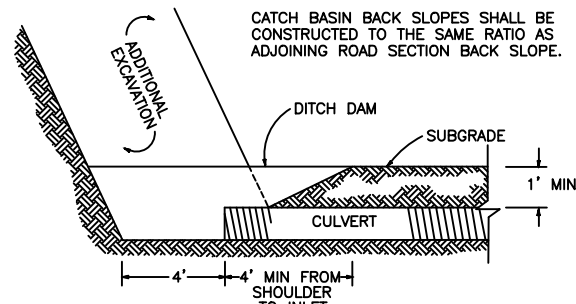
BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT.

BEDDING OF CULVERTS ON SOFT SPONGY OR UNSTABLE SOIL FOUNDATION

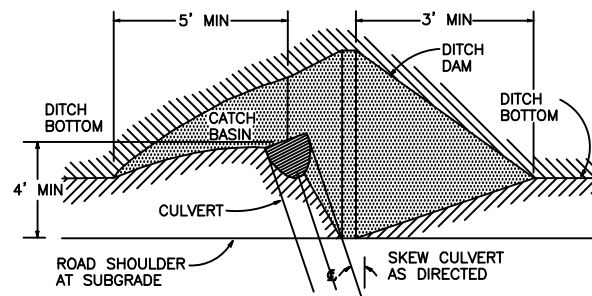


BEDDING MATERIAL SHALL BE SHAPED TO FIT THE BOTTOM OF THE CULVERT. EARTH CUSHIONING OF SILTY CLAY LOAM OR SAND MAY BE USED IF MATERIAL CAN BE PLACED IN THE DRY CONDITION. IF THE EXCAVATION IS WET, USE GRANULAR FOUNDATION FILL MATERIAL. MAINTAIN 8" MIN. DEPTH BETWEEN HIGH POINTS OF ROCKS AND/OR BOULDERS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

BEDDING OF CULVERT IN SOLID ROCK OR BOULDER FOUNDATION

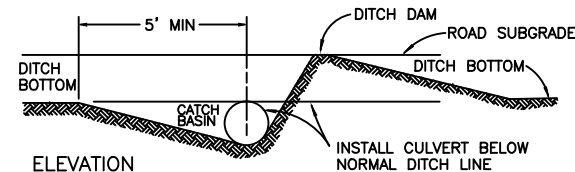


CROSS SECTION AT CATCH BASIN

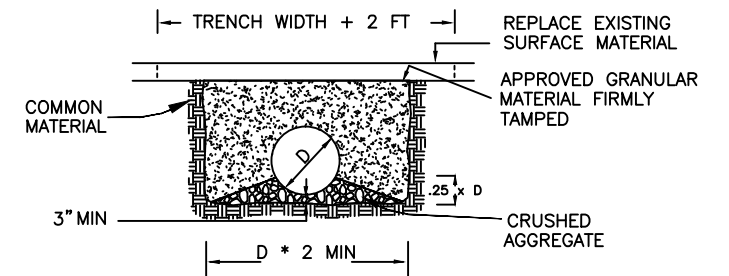


PLAN VIEW

CATCH BASIN



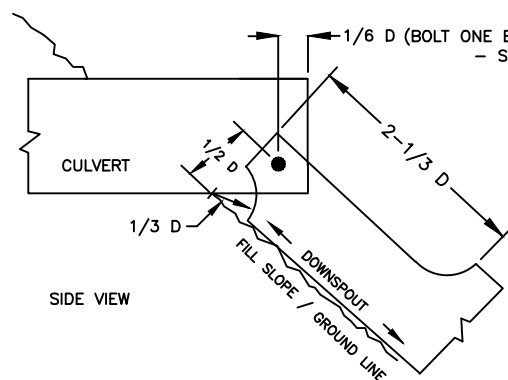
ELEVATION



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

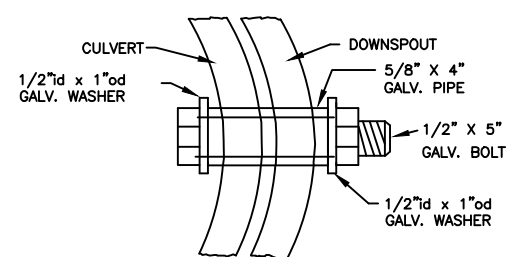
BEDDING OF CULVERTS ON EXISTING SURFACED ROADS

USE "ADJUSTABLE ELBOW" FOR CPE AND CMP DOWNSPOUTS



SIDE VIEW

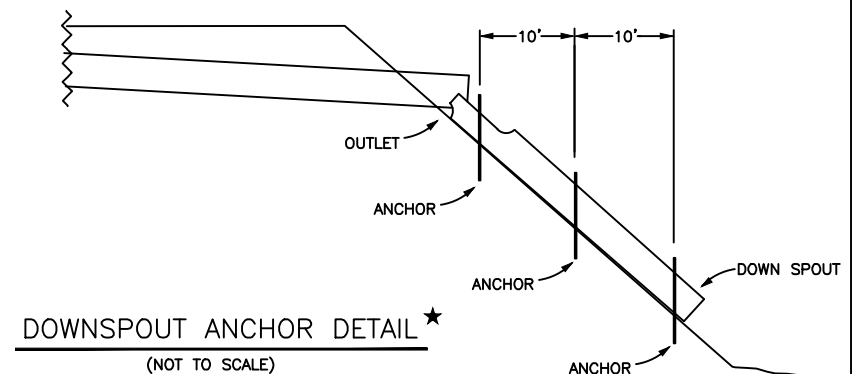
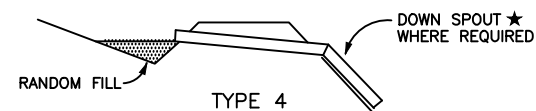
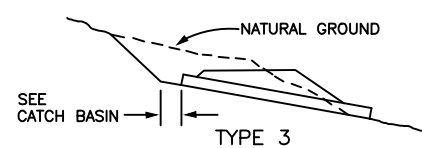
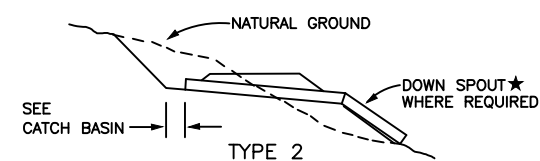
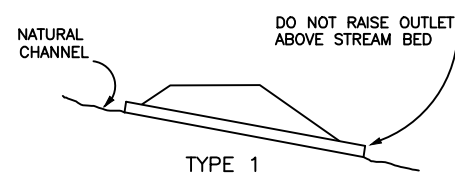
BOLT ASSEMBLY DETAIL**



★ NOTE: ANCHOR DOWNSPOUTS ACCORDING TO SECTION 407b OF THE ROAD CONSTRUCTION SPECIFICATIONS

BANDS SHALL MEET MANUFACTURER'S SPECIFICATIONS

CULVERT INSTALLATION TYPES

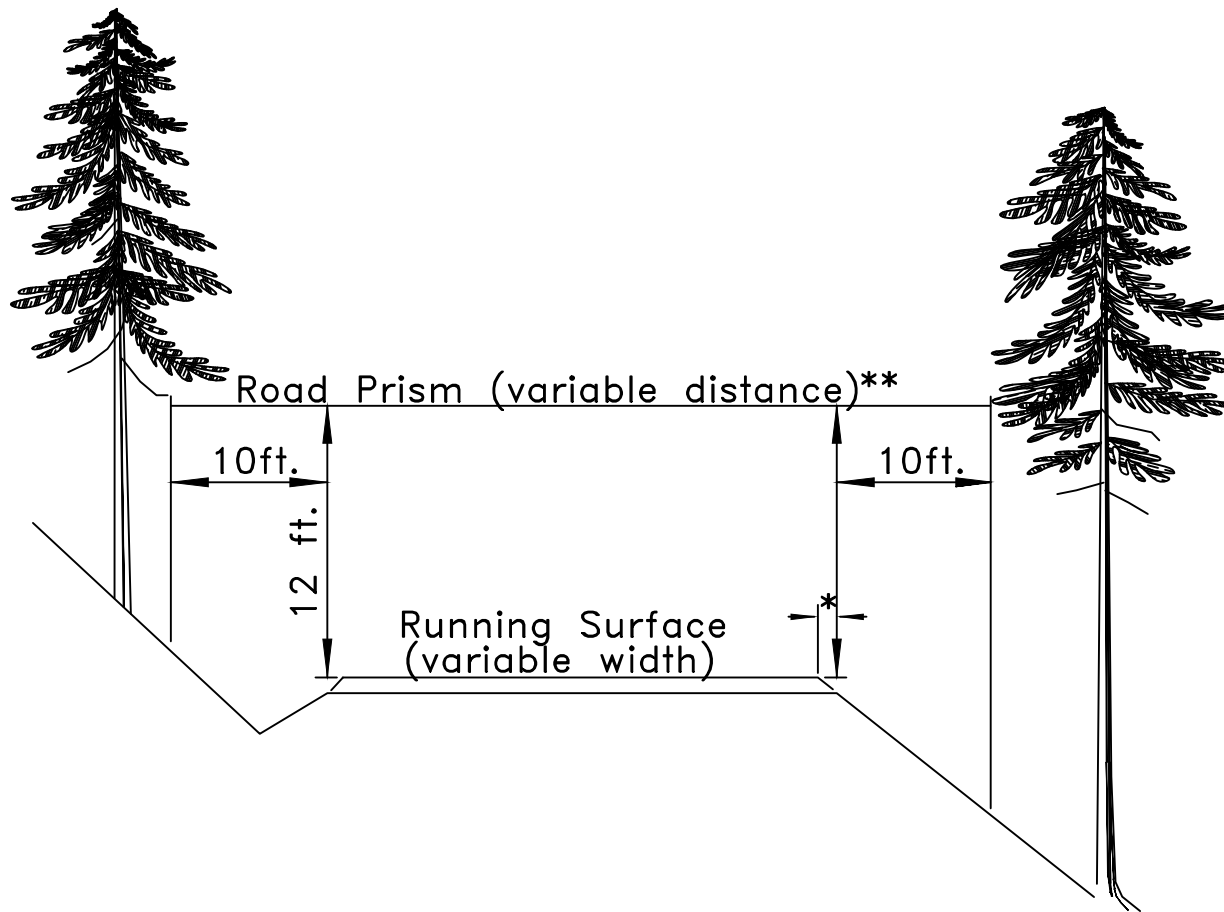


DOWNSPOUT ANCHOR DETAIL ★

(NOT TO SCALE)
★ INSTALL DOWNSPOUT ANCHORS IN ACCORDANCE WITH SECTION 407b OF THE SPECIFICATIONS.

ALWAYS
THINK
SAFETY

U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
CULVERT INSTALLATION DETAILS	
DESIGNED	K. SANDERS
REVIEWED	P. LEMAN
APPROVED	K. WESTENSKOW
DRAWN JRC	SCALE NONE
DATE 04/16	SHEET 9 OF 91



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

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

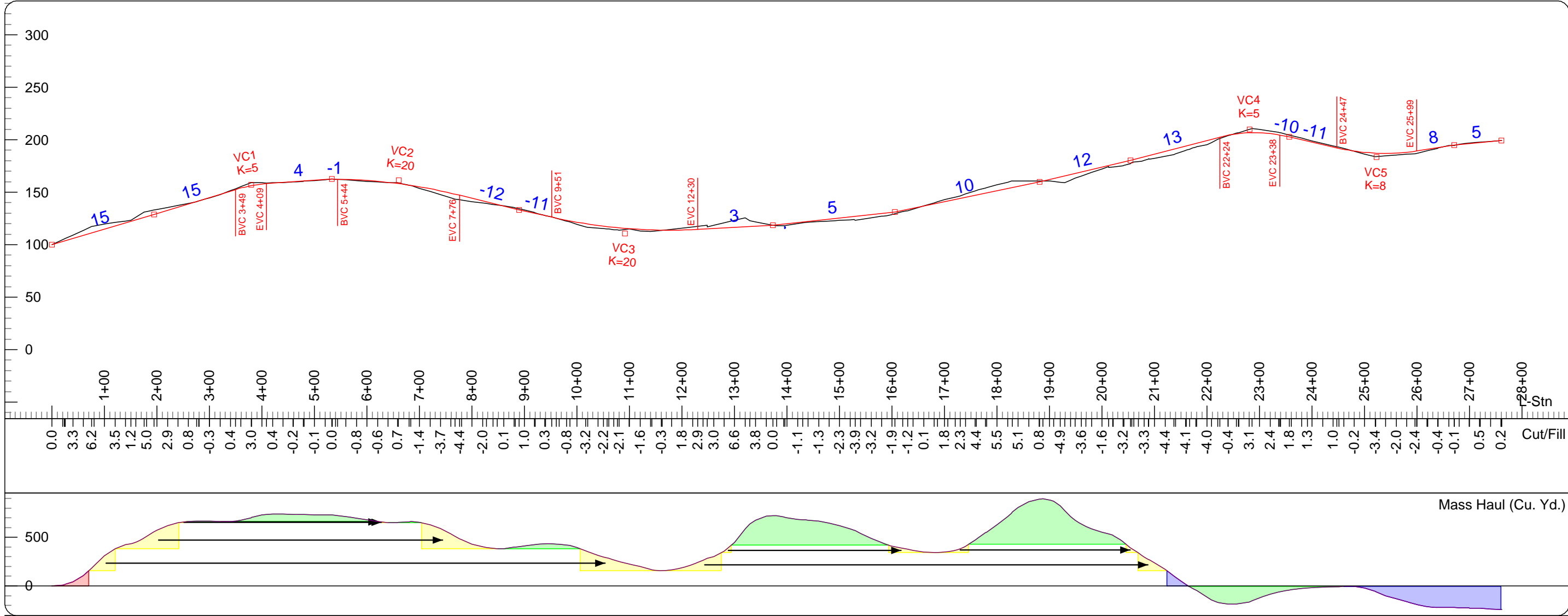
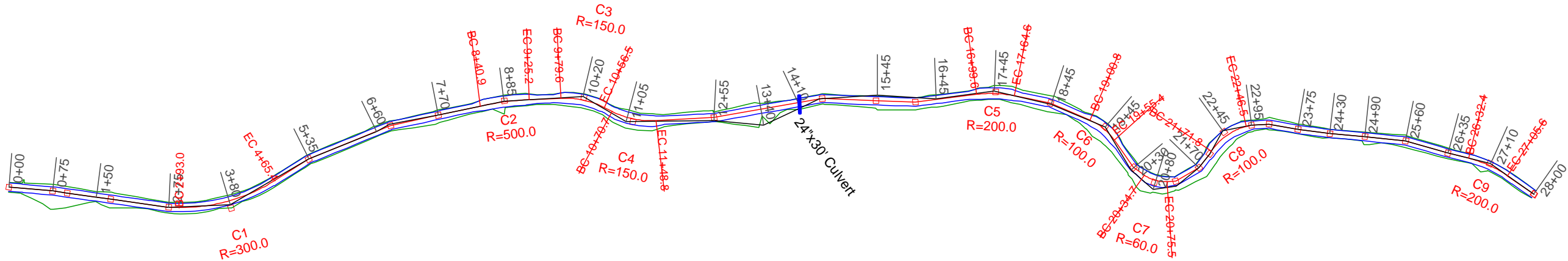
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

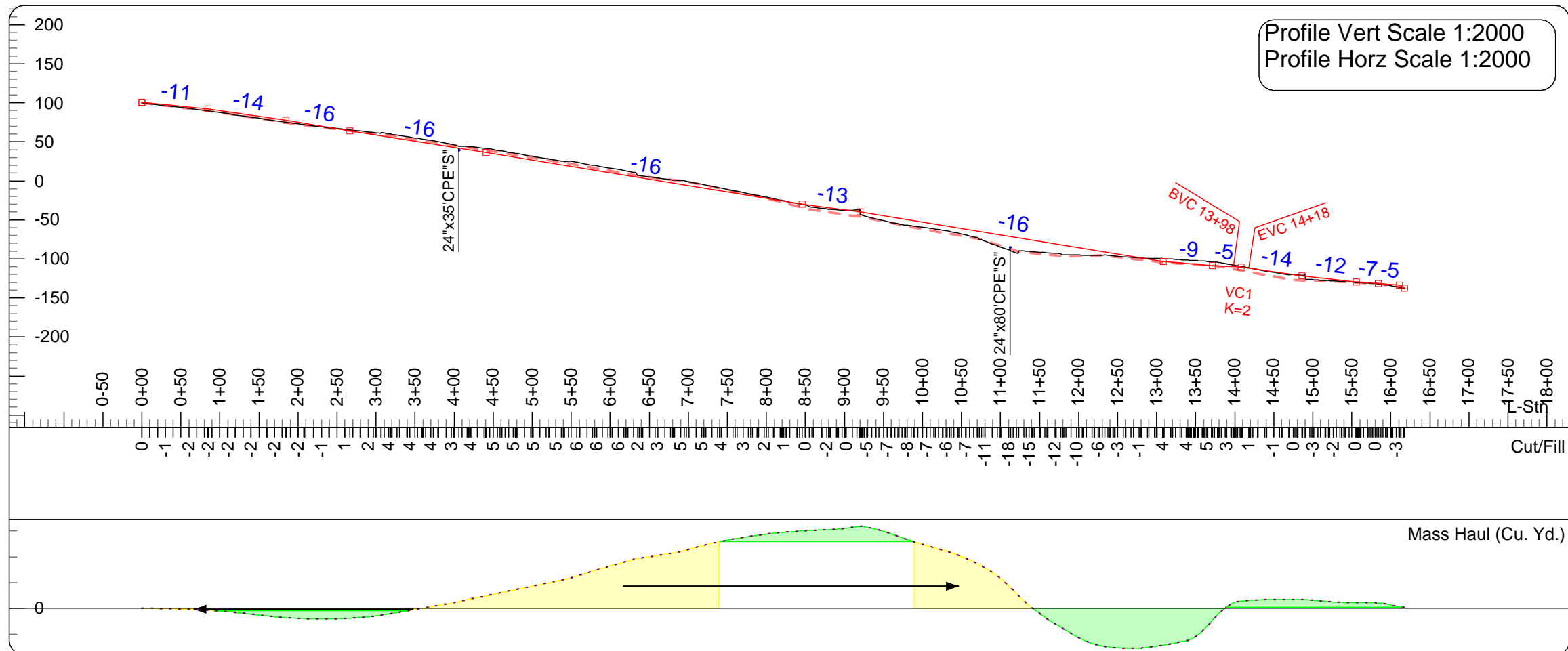
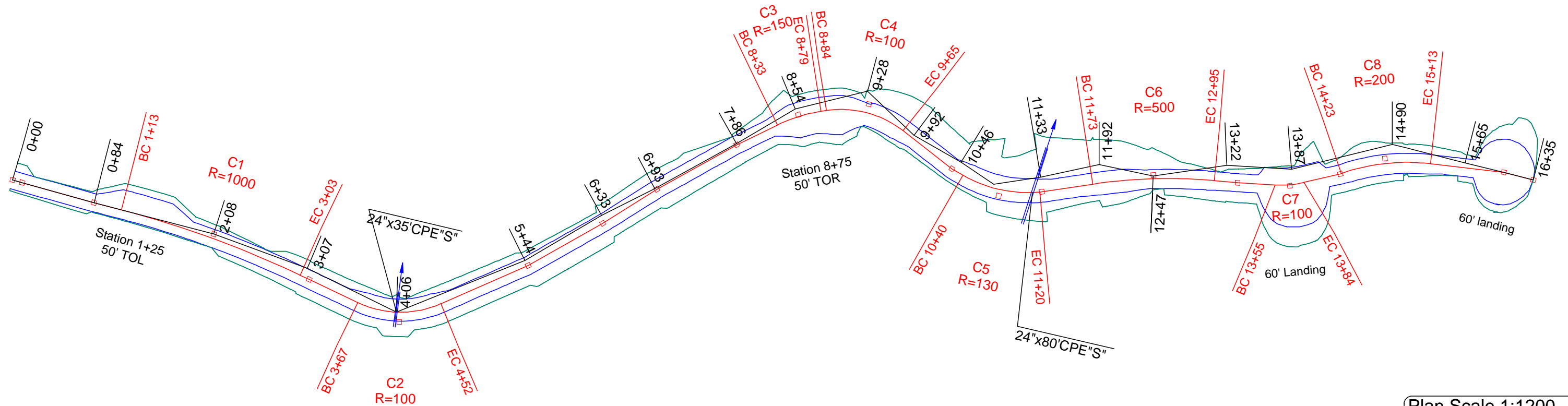
ROADSIDE BRUSHING DETAIL

DESIGNED K. SANDERS
REVIEWED P. LEMAN
APPROVED K. WESTENSKOW

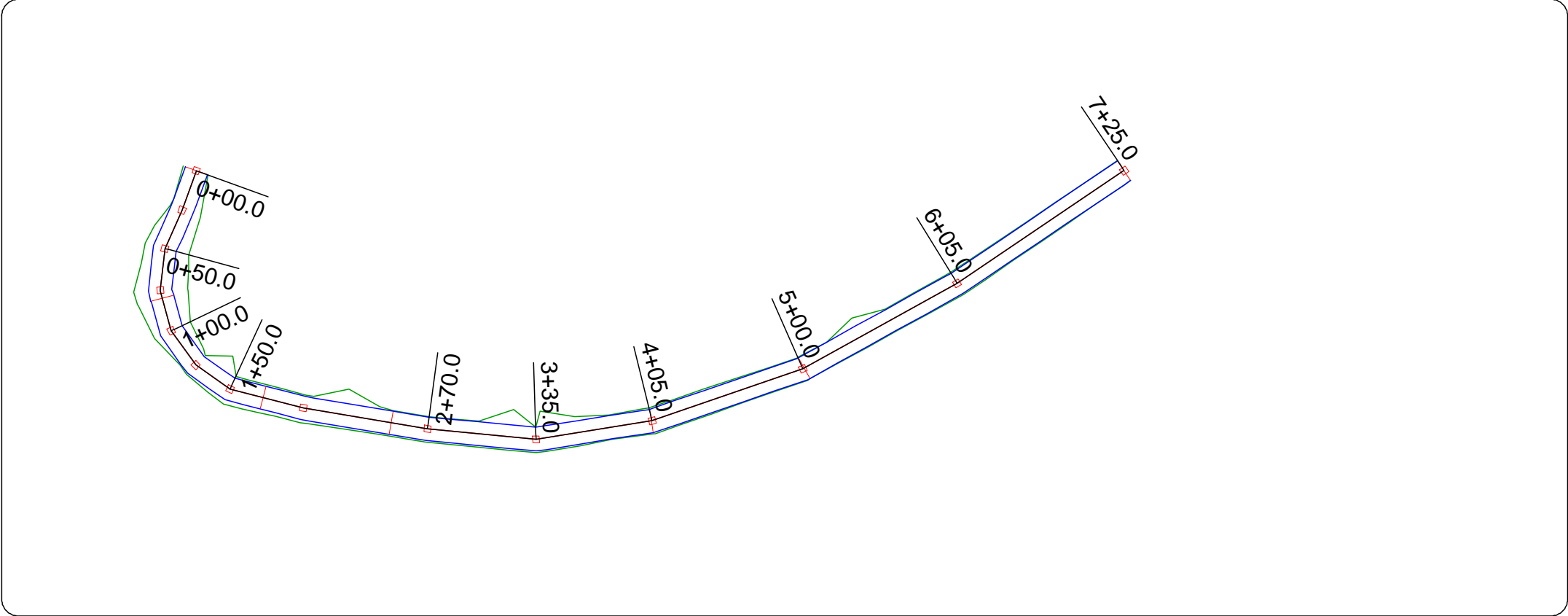
DRAWN <u>JRC</u>	SCALE <u>NONE</u>
DATE <u>04/2016</u>	SHEET <u>10</u> OF <u>91</u>

P-Stn ft.	L-Stn ft.	Cut Dp. ft.	SG Cut Cu. Yd.	SG Fill Cu. Yd.
0+00.0	0+00.0	0.0	560	3
1+94.4	1+94.4	4.3	152	43
3+49.2	3+49.4	0.8	72	4
4+10.5	4+08.6	0.7	28	33
5+34.5	5+32.8	0.0	0	6
5+45.8	5+44.1	-0.3	22	259
7+78.4	7+75.9	-4.4	24	105
8+91.7	8+89.1	1.1	34	8
9+54.0	9+51.4	0.0	175	364
12+37.4	12+30.0	2.9	482	1
13+89.7	13+72.6	0.0	6	327
16+20.6	16+05.0	-1.6	566	75
18+96.3	18+80.7	0.7	25	529
20+71.5	20+54.1	-2.9	8	574
22+63.9	22+24.4	-1.1	137	22
23+77.2	23+38.0	2.4	19	1
23+95.7	23+56.5	1.8	38	4
24+85.9	24+46.7	1.0	9	191
26+38.4	25+99.2	-2.2	4	37
27+10.6	26+70.4	0.0	5	23
28+00.8	27+60.8	0.1		
Pg. Tot.			2367	2608
Cum. Tot.			2367	2608

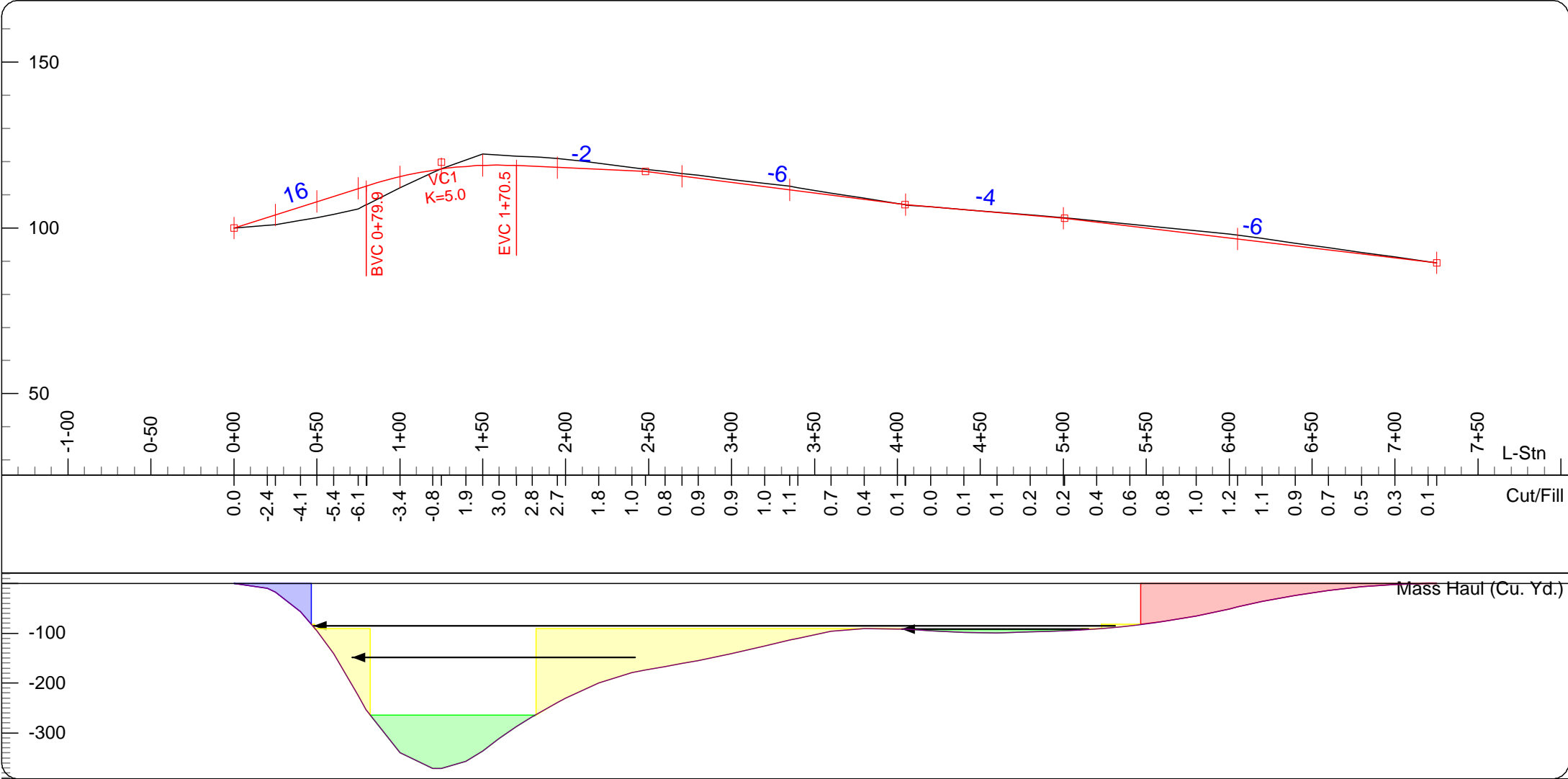




P-Stn ft.	L-Stn ft.	SG Cut V. Cu. Yd.	SG Fill V. Cu. Yd.	Mass H. Cu. Yd.
0+00	0+00	0	0	0
0+00	0+00	7	82	0
0+85	0+85	0	288	-75
1+84	1+84	42	66	-363
2+66	2+66	869	2	-387
4+39	4+41	2579	56	481
8+43	8+46	363	178	3004
9+18	9+20	163	4776	3189
13+24	13+09	967	0	-1424
13+87	13+72	684	11	-456
14+09	13+98	107	17	217
14+28	14+18	118	73	306
15+05	14+86	7	130	351
15+74	15+56	69	87	227
16+02	15+84	74	232	209
16+29	16+11	3	20	52
16+35	16+17			35
Pg. Tot.		6052	6016	
Cum. Tot.		6052	6016	

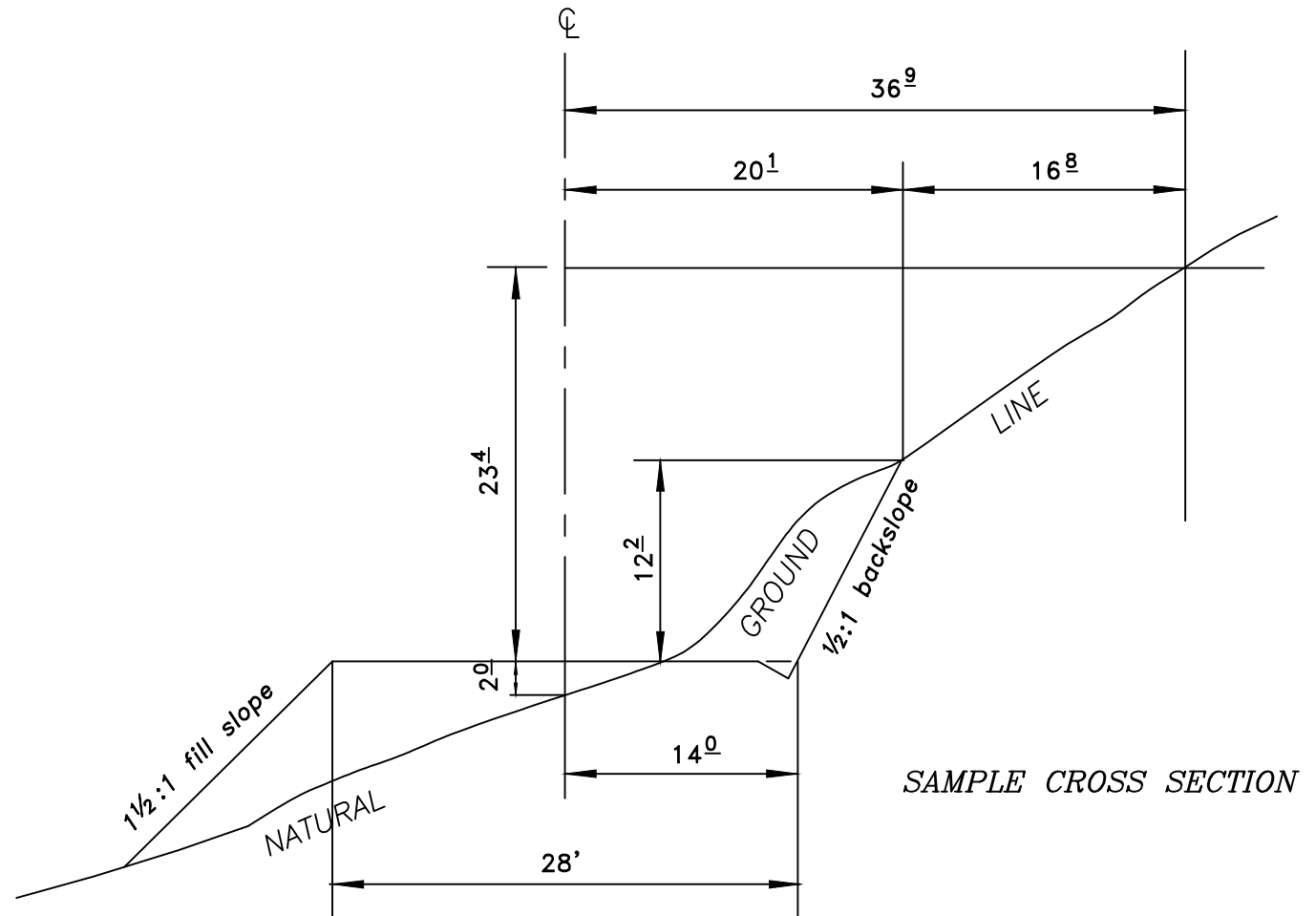
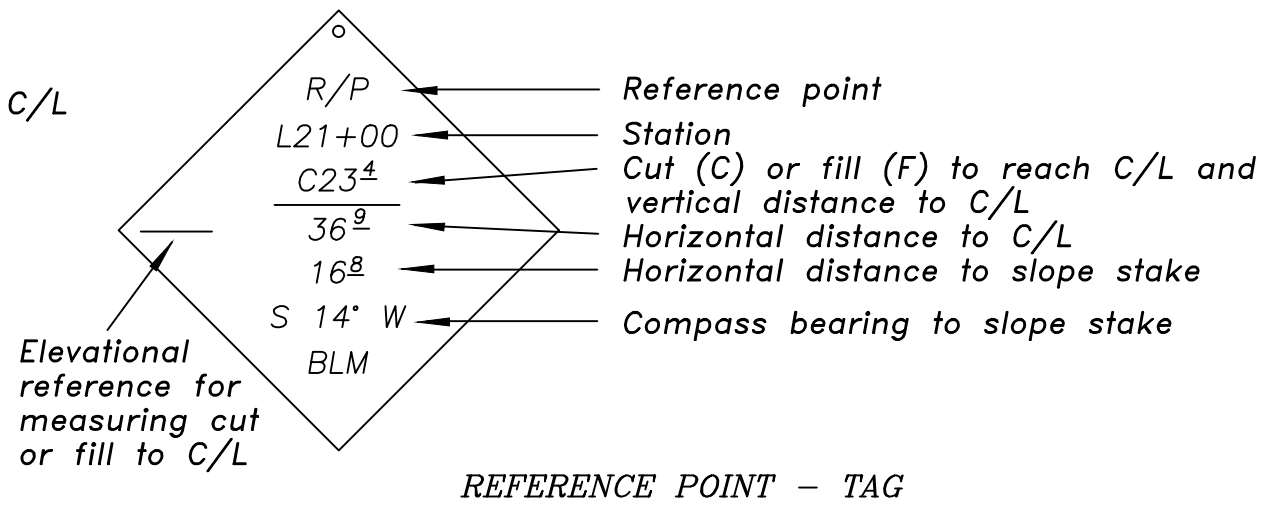
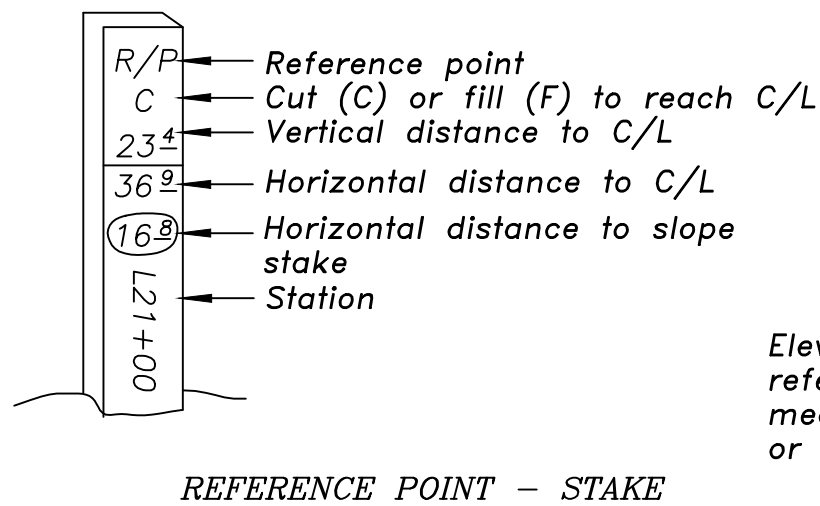
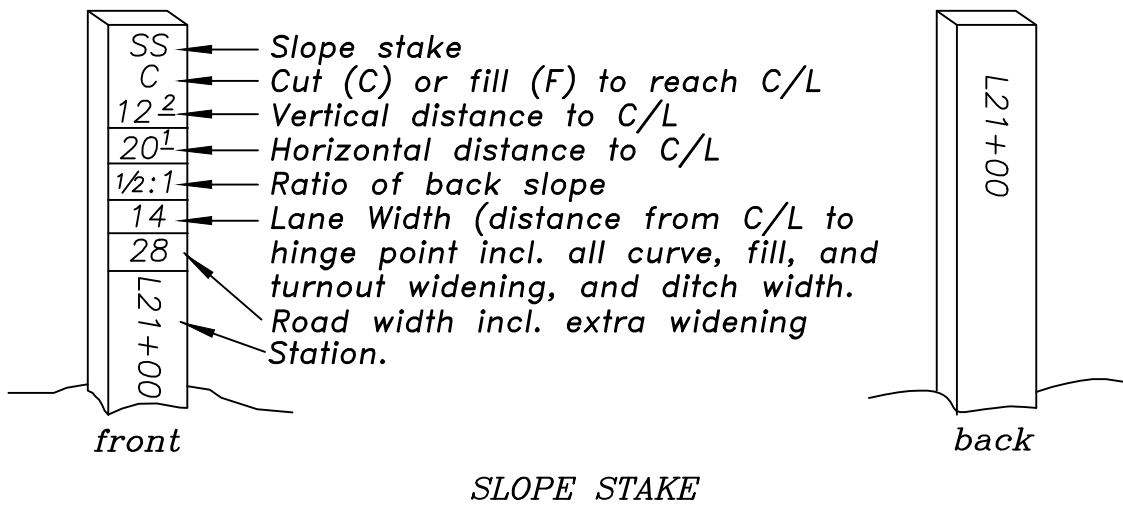
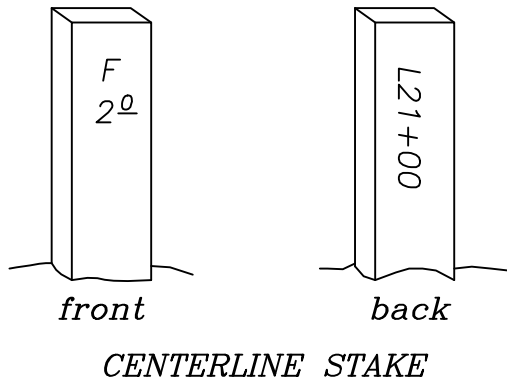


P-Stn ft.	L-Stn ft.	Cut Dp. ft.	SG Cut V. Cu. Yd.	SG Fill V. Cu. Yd.
0+00.0	0+00.0	0.0	4.3	258.7
0+79.9	0+79.9	-5.7	86.0	119.2
1+70.5	1+70.5	2.9	114.0	0.0
2+48.1	2+48.1	0.7	84.1	2.6
4+04.7	4+04.7	0.0	6.2	9.2
5+00.8	5+00.8	0.2	95.6	0.5
7+25.0	7+25.0	0.0		
Pg. Tot.			390.2	390.4
Cum. Tot.			390.2	390.4



HIDDEN GEM CT 2017.0032
ROAD SPUR No. 1D
Reference Alignment & Grade Information
SHEET 13 of 91

Minimum information on stakes shall be as follows:



U. S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT COOS BAY DISTRICT OREGON	
SLOPE STAKING DETAIL	
DRAWN	SCALE NONE
DATE :10/24/2016	SHEET 14 OF 91
DRAWING NO.	

SPECIAL PROVISIONS

Purchaser Responsibility

The Purchaser shall avoid damaging any bituminous surfaced roads, and will be responsible for the repair of any road damaged as a result of the activity. Bituminous roads shall be left in the same condition that they were prior to logging operations.

Seasonal Restrictions

For new road construction, the seasonal and daily timing restrictions are to be observed. Refer to EXHIBIT A and SEC. 42.b.(6) of the timber-sale contract.

All road construction, renovation, and decommissioning work shall be done during the dry construction season, avoiding precipitation periods, between June 1 and October 15

Spill Containment

Spill containment kit is required on-site during work. Kit contents shall include absorbent booms (two bales, four 8" x 10" booms/bale), absorbent pads (two bales, one hundred 17" x 19" x ¼" pads/bale), heavy duty garbage bags, gloves (PVC and latex), and goggles.

Equipment Washing

The Purchaser is responsible for vehicle/equipment entrance cleaning in accordance with the Exhibit F.

Utility structures and work area

BPA Right-of-Way 28-11-5.4 & 28-11-5.6 road – BPA Guild line sheet for logging activities provided at prework.

(50' radius clearance around transmission poles to the haul roads)

(25' height vertical clearance between transmission line conductors, equipment and personnel).

Road Renovation

On Operator Maintained aggregate surfaced roads, all potholes and washboard road prisms will be scarified and compacted to specification prior to grading and unit haul. Approval by the Authorized Officer of road renovations is required prior to Unit haul.

SPECIAL PROVISIONS (continued)

Sediment Traps

If needed, use Terra-Tubes fiber filtration tubes, manufactured by Profile, or equivalent. Install according to manufacturer's recommendations and drawings. Phone Number: 1-800-508-8681

Native Seed

The Government will furnish native seed mix, when available, to be used by the Purchaser.

Government furnished grass seed will be made available for pick-up at the Coos Bay District Office located at 1300 Airport Lane, North Bend, Oregon 97459.

The BLM personnel to contact is Jennifer Sperling at (541) 751-4336.

Call 3 business days in advance before pick-up.

Over-wintering

All natural-surfaced new construction shall not over-winter without being either decommissioned, as specified in the Exhibit D, or winterized, in accordance with the 1700 Erosion Control specifications, prior to the first rains of the wet season, but no later than October 15 in the year of construction.

27-12-36.3 - designed road construction:

Purchaser will be responsible for construction staking from the BLM provided design.

See sheet No.12 for the Plan and Profile and sheet No.23 for general construction information.

Additional information will be provided upon request during the pre-work conference. The information such as cross section data, survey staking information with the alignment (designed in Road Eng. 7.0 program), can be available in other formats.

SPECIAL DETAILS
RENOVATION OF ROAD NO. 27-11-30.1
Station 0+00 to station 37+45

Station	Remarks
0+00	Junction with Coos Bay Wagon County road, milepost 1.98. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 13+80, install a 2" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
0+45	Gate. Requires BLM key.
10+80	Renovate 50' turnout (left). install a 9" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
13+80	Junction road 27-11-30.3 left.
NOTE:	From Station 13+80 to station 37+45, install a 6" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
23+00	CPE – locate and clear Inlet and outlet.
25+00	Place an additional 10 cu yd 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
37+45	Junction, renovate Road No. 27-11-30.2 (Right). End Renovation.

RENOVATION OF ROAD NO. 27-11-30.2
Station 0+00 to station 33+35

Station	Remarks
0+00	Junction with 27-11-30.1 Station 37+45. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 14+00, install a 8" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
NOTE:	From Station 14+00 to station 33+35, install a 6" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
14+00	Renovate 50' turnout (Right). install a 8" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
28+35	Junction Road No. 27-11-30.12 (Right).
32+75	Renovate 50' turnout (Right). install a 8" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
33+35	Junction, renovate Road No. 27-11-30.10 (Left). End Renovation.

RENOVATION OF ROAD NO. 27-11-30.10
Station 0+00 to station 14+18

Station	Remarks
0+00	Junction with 27-11-30.2 Station 33+35. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 14+18, install a 4" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
14+18	Junction, renovate Road No. 28-11-30.17 (Right). End Renovation.

RENOVATION OF ROAD NO. 27-11-30.17
Station 0+00 to station 63+00

Station	Remarks
0+00	Junction with 27-11-30.10 Station 14+18. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1000, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
2+10	Private to BLM.
7+25	Renovate 50' turnout (Left). Place 40 cuyd 3" minus crushed aggregate in accordance with Section 1200 of the Road Specifications
17+25	Junction blocked road - renovate 50' turnout (Right). Place 20 cuyd 3" minus crushed aggregate in accordance with Section 1200 of the Road Specifications
27+80	Renovate 50' turnout (Left)
35+33	Renovate 50' turnout (Right). Place 20 cuyd 3" minus crushed aggregate in accordance with Section 1200 of the Road Specifications
53+00	Construct 50' turnout (Right) Place 50cuyd 3" minus of crushed aggregate base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
63+00	Junction, renovate Road No. 27-12-36.2 (Right). End Renovation.

RENOVATION OF ROAD NO. 27-12-36.2
Station 0+00 to station 6+40

Station	Remarks
0+00	Junction with 27-11-30.17 Station 63+00. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1000, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
4+40	Construct 20' wide turnout right (Station 4+00 to 5+00). Install 12" lift of 3" minus of crushed aggregate base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
4+80	Junction, construct Road No. 27-12-36.3 (Left).
6+40	End Renovation.

RENOVATION OF ROAD NO. 28-11-5.4
Station 0+00 to station 16+00

Station	Remarks
0+00	Junction with McKinley County road, milepost 4.5. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 0+40, install 30 cubic yards of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.SPOT ROCK.
0+30	Construct 50' x 60' Landing left.
0+40	BPA Gate. Requires BLM key.
4+40	Construct 50' x 60' long road widening (Left). Match existing road grade. Utilize for the 28-11-5.6 road ingress and egress.
5+25	Junction, construct Road No. 28-11-5.6 (Right). Construct 60' x 60' landing with 50' approach (Left)
8+25	Construct 50' Landing with 55' approach (Right)
9+40	Junction. Construct SPUR 1D (Right) begin 70' radius curve.
10+55	Crossing point of SPUR 1D (Station 1+25 = Centerline of -5.4 road).
11+50	Junction. Construct Road No. 28-11-5.5 (Right)
14+00	Renovate cut-slope embankment ½:1 to Station 16+00.
16+00	End Renovation.

RENOVATION OF ROAD NO. 28-11-7.2
Station 0+00 to station 37+45

Station	Remarks
0+00	Junction with McKinley County road, milepost 1.87. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 15+00, install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8. Install a 3" lift of 1 ½" minus on both approaches in the Wye Junction.
8+00	Install 5 cuyd of 3" minus of crushed aggregate repair base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8
10+75	Install 5 cuyd of 3" minus of crushed aggregate repair base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8
13+50	Install 5 cuyd of 3" minus of crushed aggregate repair base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8
25+00	Renovate 50' turnout (Left)
30+00	Renovate 25' turnout (Right)
33+00	Renovate 50' turnout (Right)
35+50	Place 5 cuyd 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8. Spot rock.
38+00	Junction. Construct Road No. 28-11-6.3 (Left)
38+80	End Renovation.

RENOVATION OF ROAD NO. 28-12-12.1
Station 0+00 to station 45+00

Station	Remarks
0+00	Junction with McKinley County road, milepost 1.12. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
<p>NOTE: From Station 0+00 to station 45+00, Clear duff and organic material off full road prism, Utilize waste/ fill area at station 25+50 as needed.</p> <p>Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8. Install 3" lift of 1 ½ " minus on the full width of the -12.1 road entrance.</p>	
1+00	Widening narrow to standard road prism width.
1+10	Culvert. Clear Inlet and Outlet.
2+60	Gate.
7+25	Renovate 50' turnout (Right) Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
13+85	Renovate 50' turnout (Right). Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
17+25	Renovate 50' turnout (Right). Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
20+80	Renovate 50' turnout (Right). Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
22+00	Place 5 cu yd 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8. Spot rock – In-sloped curve repair.
25+50	Construct Waste/fill area Right.
25+75	Renovate 50' turnout (Right). Install a 3" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
30+00	Construct 60' x 60' Landing (Right), Install 100 cubic yards 3" minus crushed aggregate. Clear / construct borrow site (Left). Construct Truck Turn around (Left). Install 30 cubic yards 3" minus crushed aggregate.
34+00	Construct 30' x 60' Landing (Right), Install 70 cubic yards 3" minus crushed aggregate.
36+80	Junction. Construct Road No. SPUR 3A (Right)

RENOVATION OF ROAD NO. 28-12-12.1(Continued)

Station	Remarks
39+50	Junction. Renovate Road No. 28-12-1.0 (Left)
40+00	Construct Waste/fill area Right.
40+60	Construct 60' x 60' Landing (Left), Install 70 cubic yards 3" minus crushed aggregate. Cut 3' / drift forward, Cover ditch line for landing area. Utilize waste/fill area (Station 40+00) or 28-12-1.0 landing Station (6+00).
40+80	Construct Ditch-out left.
45+00	End Renovation.

RENOVATION OF ROAD NO. 28-12-1.0
Station 0+00 to station 10+00

Station	Remarks
0+00	Junction with 28-12-12.1 Station 39+50. Begin brushing, slough and slide removal, and grading and shaping, rocking and soil stabilization in accordance with Sections 500, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section Sheet No. 8, and Roadside Brushing Detail Sheet No. 9.
NOTE:	From Station 0+00 to station 10+00, Clear duff and organic material off full road prism, Utilize waste/ fill area at Road No. 28-12-12.1 station 40+00 as needed. After Installation of 3" minus Base course from station 7+00 to 10+00, From Station 0+00 to station 10+00: Install a 4" lift of 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
6+00	Construct 30' x 60' Landing (Left), Install 70 cubic yards 3" minus crushed aggregate. Clear / construct borrow site (Right).
NOTE:	From Station 7+00 to station 10+00, Install a 9" lift of 3" minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.
7+25	Renovate 50' turnout (Left). Place 40 cu yd 1 ½ " minus crushed aggregate in accordance with Section 1200 of the Road Specifications
9+50	Construct 60' x 60' Landing (Right), Install 100 cubic yards 3" minus crushed aggregate. Install 12" lift of 3" minus of crushed aggregate base rock in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8
10+00	End Renovation.

CONSTRUCTION DETAIL SHEET

ROAD NO. 27-12-36.3

See sheet No. 12 for PLAN and Profile - Designed Road information.

GENERAL :

Purchaser shall construct Road No. 27-12-36.3 from Sta. 0+00 to Sta. 16+35 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which will follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Construct 50' turnout left at Sta. 1+25 and 50' turnout right at Sta. 8+75 (with widening left).

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections. *Additional subgrade widening included in curves and fill locations.*

DRAINAGE FEATURES

Sta. 4+06 24" x 35' CPE "S" Double wall culvert with 10' CPE "C" downspout.
Install one 6' steel post Inlet marker. Armor inlet with 5 cu yd 6"-0 per Spec. Section 1000.
Sta. 11+22 24" x 80' CPE "S" Double wall culvert with one 6' steel post Inlet marker.
Place 10 cubic yards of Class 2 rip rap at the outlet as energy dissipater in accordance with Road Specifications - Section 1400. Armor inlet with 5 cu yd 6"-0 per Spec. Section 1000.

SURFACING: *Additional Widening included in curves and fill widening of base and surface courses.*

The Purchaser shall apply 8" lift of 3" minus crushed aggregate in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8.

The Purchaser shall apply 4" lift of 1-1/2" minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.

ALIGNMENT: ***Purchaser will be responsible for construction staking from the BLM provided design.***

Roadway shall be constructed within posted or painted right-of-way boundaries.

Sta. 0+00 Construct junction with Road No. 27-12-36.2 at Station 4+80

Minimum curve radius shall be sixty (60) feet.

Additional widening of curves and fill locations – cross-section PDF provided upon request.

GRADE : ***Purchaser will be responsible for construction staking from the BLM provided design.***

Grade shall not exceed 16% adverse and 16% favorable.

TRUCK TURNAROUND

Utilize turnout at station 8+75 and landing locations.

LANDINGS

Construct 60' diameter landing at Station 13+74 L-line stationing.

Construct 60' diameter end landing at Station 15+86 L-line stationing.

Grade of landing approach shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilize and mulch as per Section 1800 of the Road specifications.

CONSTRUCTION DETAIL SHEET

ROAD NO. 28-11-5.5

CONTROL POINT ROAD : *See sheet No. 11 for alignment and grade reference information.*

GENERAL

Purchaser shall construct Road No. 28-11-5.5 from Sta. 0+00 to Sta. 28+00 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Truck turn out at station 22+45 Left.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

Sta. 14+10 Install a **temporary** 24" x 30' CPE "S" Dbl wall culvert with 6' Steel Post inlet marker.

SURFACING: None.

ALIGNMENT :

Roadway shall be constructed within posted or painted right-of-way boundaries.

Sta. 0+00 Construct junction with Road 28-11-5.4 at Station 11+50.

Sta. 3+80 Construct junction with SPUR No. 1C (Left).

Sta. 10+20 Construct Waste / Fill area Right.

Sta. 12+55 Construct junction with SPUR No. 1B (right).

Sta. 22+00 Construct junction with SPUR No. 1A (Left).

Sta. 22+45 Finish level of grade for TTA and TOL.

Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse and 15% favorable.

Sta 0+75 cut 5' end haul to 7+50. Sta 1+75 cut 5' end haul to Sta 10+00 to 12+00.

Sta 13+00 cut 6' drift fwd to sta 15+50. Sta 18+00 cut 5' drift forward to sta. 19+25

Sta 23+00 cut 3' top of ridge (daylight Left) drift forward to Sta. 25+00 & End landing.

TRUCK TURNAROUND

Utilize landing junction at station 22+45 (Left).

LANDINGS

Construct 40' x 60' diameter landing at Station 4+40 (Right).

Construct 40' x 60' diameter landing with 75' approach at Station 6+60 (Right).

Construct 60' diameter end landing at Station 27+10.

Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilize and mulch as per Section 1800 of the Road specifications.

CONSTRUCTION DETAIL SHEET
ROAD NO. 28-11-5.6
CONTROL POINT ROAD

GENERAL

Purchaser shall construct Road No. 28-11-5.6 from Sta. 0+00 to Sta. 4+35 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.

Sta. 0+00 Construct junction with Road No. 28-11-5.4 at Station 5+25.

Sta. 2+30 Coos Curry Power Right of way.(1 day required to replace with new power poles after road construction up to Station 2+30).

Minimum curve radius shall be sixty (60) feet.

50' minimum radial distance from the BPA Power poles (Station 0+00 to 1+00)

GRADE

Grade shall not exceed 15% adverse and 15% favorable.

TRUCK TURNAROUND

Construct truck-turnaround (Left) at Station 3+40.

LANDINGS

Construct 30' diameter landing at Station 1+60 (Right).

Construct 60' diameter end landing at Station 4+35.

Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
ROAD NO. 28-11-6.3
CONTROL POINT ROAD

GENERAL

Purchaser shall construct Road No. 28-11-6.3 from Sta. 0+00 to Sta. 22+33 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Construct 50' Turnout Left at Sta. 8+00
Construct 50' Turnout Right at Sta. 16+30

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 28-11-7.2 at Station 38+00.
Sta. 19+00 Construct junction with Road No. 28-11-6.4 (Left)
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse and 15% favorable.
Sta. 17+20 begin 5' cut drift forward to Sta. 20+00 fill 8'.

TRUCK TURNAROUND

None.

LANDINGS

Construct 60' diameter end landing at Station 22+33.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
ROAD NO. 28-11-6.4
CONTROL POINT ROAD

GENERAL

Purchaser shall construct Road No. 28-11-6.4 from Sta. 0+00 to Sta. 7+40 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Construct 50' Turnout Right at Sta. 6+00

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 28-11-6.3 at Station 19+00.
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse and 15% favorable.

TRUCK TURNAROUND

Construct Truck Turnaround Right at Sta. 6+00.

LANDINGS

Construct 60' diameter end landing at Station 7+40.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
SPUR NO. 1A
CONTROL POINT ROAD

GENERAL

Purchaser shall construct SPUR No. 1A from Sta. 0+00 to Sta. 1+20 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 28-11-5.5 at Station 22+00.
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 18% adverse and 18% favorable.

TRUCK TURNAROUND

Construct Truck turnaround Right at Sta. 0+75. Cut 3' grade 50'dia Utilize on landing.

LANDINGS

Construct 60' diameter end landing at Station 1+20.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
SPUR NO. 1B
CONTROL POINT ROAD

GENERAL

Purchaser shall construct SPUR No. 1B from Sta. 0+00 to Sta. 1+55 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 28-11-5.5 at Station 12+55.
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse and 15% favorable.

TRUCK TURNAROUND

None.

LANDINGS

Construct 40' diameter end landing at Station 1+55.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
SPUR NO. 1C
CONTROL POINT ROAD

GENERAL

Purchaser shall construct SPUR No. 1C from Sta. 0+00 to Sta. 2+90 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

None.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 28-11-5.5 at Station 3+80.
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse and 18% favorable.

TRUCK TURNAROUND

Construct Truck Turnaround Right at Sta. 2+50.

LANDINGS

Construct 60' diameter end landing at Station 2+90.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
SPUR NO. 1D
CONTROL POINT ROAD

GENERAL

Purchaser shall construct SPUR No. 1D from Sta. 0+00 to Sta. 7+25 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Construct Truck turnout Left at Station 5+00.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

Outslope &/or inslope at 3% with no ditch to achieve drainage.

SURFACING

None.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.

Sta. 0+00 Construct junction with Road No. 28-11-5.4 at Station 9+40.

Minimum curve radius shall be sixty (60) feet.

See sheet No. 13 for alignment and grade reference information.

GRADE

Grade shall not exceed 10% adverse and 15% favorable.

+ Cut 5' at station 1+50 drift back to station 0+00, 0% grade forward to station 2+50.

+ Fill 5' at station 0+75.

+ Match road prism grade of (28-11-5.4 Station 10+65) point of crossing.

(15% max grade from Station 0+00 to (Station 1+25 (-5.4 Road center line)).

TRUCK TURNAROUND

Construct Truck Turnaround Left at Sta. 5+00.

LANDINGS

Construct 60' diameter end landing at Station 7+25.

Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

CONSTRUCTION DETAIL SHEET
SPUR NO. 3A
CONTROL POINT ROAD

GENERAL

Purchaser shall construct SPUR No. 3A from Sta. 0+00 to Sta. 4+30 as shown on the location map. This work shall be accomplished in accordance with details and road specifications which follow:

SHAPING

The roadway shall be constructed and shaped to conform to standards shown on Sheet No. 8.

TURNOUTS

Construct Truck turnout Left at Station 1+00.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with the Road Specifications, 200 and 300 Sections.

DRAINAGE FEATURES

3% Crowned running surface with 2' ditch w/ ditch-outs to achieve drainage.

SURFACING

The Purchaser shall apply 8" lift of 3" minus crushed aggregate in accordance with Section 1000 of the Road Specifications and Typical Cross Section Sheet No. 8.

The Purchaser shall apply 4" lift of 1-1/2" minus crushed aggregate in accordance with Section 1200 of the Road Specifications and Typical Cross Section Sheet No. 8.

ALIGNMENT

Roadway shall be constructed within posted or painted right-of-way boundaries.
Sta. 0+00 Construct junction with Road No. 27-12-12.1 at Station 36+80.
Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 10% adverse and 15% favorable.

TRUCK TURNAROUND

Construct Truck Turnaround Left at Sta. 1+00.

LANDINGS

Construct 60' diameter end landing at Station 4+30.
Grade of landing shall not exceed 7%.

SOIL STABILIZATION

Apply seed, fertilizer, and mulch in accordance with Section 1800 of the Road Construction specifications.

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GENERAL – 100

*101 - Pre-work Conference(s):

A pre-work conference will be held prior to the start of operations. The Purchaser shall request the conference at least (48) hours prior to the time it is to be held. The conference will be attended by the Purchaser and/or his representative(s), subcontractor(s) and/or his or their representative(s) and the Authorized Officer and/or his representative(s).

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

*102 - Definitions:

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

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

ACI - American Concrete Institute

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

ASTM - American Society for Testing and Materials.

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

BLM - Bureau of Land Management

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Road Centerline - The longitudinal center of a roadbed.

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

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

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

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

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

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

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

Spalls - Flakes or chips of stone.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

*102a - Tests Used in These Specifications:

<u>AASHTO T 11</u>	Quantity of rock finer than No. 200 sieve.
<u>AASHTO T 27</u>	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
<u>AASHTO T 89</u>	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
<u>AASHTO T 90</u>	Plastic limits and plasticity index of soil. a. Plastic limit - lowest water content at which the soil remains plastic. b. Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
<u>AASHTO T 96</u>	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
<u>AASHTO T 99</u>	Relationship between soil moisture and density of soil. Method A - 4" mold, soil passing a No. 4 sieve 25 blows/layer & 3 layers. Method C - 4" mold, soil passing a 3/4 inch sieve 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 3/4 inch sieve. 56 blows/layer & 3 layers.
<u>AASHTO T 119</u>	Slump of hydraulic cement concrete.
<u>AASHTO T 152</u>	Air content of freshly mixed concrete.
<u>AASHTO T 166</u>	Specific Gravity of compacted Bituminous Mixtures.
<u>AASHTO T 176</u>	Shows relative portions of fine dust or claylike materials in soil or graded aggregate.
<u>AASHTO T 180</u>	(OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop height.

<u>AASHTO T 191</u>	<u>Sand Cone.</u> Density of soil in place: For subgrade use 6-inch or 12-inch cone. For rock surfacing for 1-1/2-inch minus to 3-inch minus use 12-inch cone.
<u>AASHTO T 205</u>	<u>Rubber balloon.</u> Density of soil in place. Use for compacted or firmly bonded soil.
<u>AASHTO T 209</u>	Maximum Specific Gravity of Bituminous Paving Mixtures.
<u>AASHTO T 210</u>	Durability of aggregates based on resistance to produce fines.
<u>AASHTO T 224</u>	Correction for coarse particles in the soil.
<u>AASHTO T 238</u>	Density of Soil and Soil-Aggregate in place by nuclear methods.
<u>AASHTO T 248</u>	Reducing field samples of aggregate to testing size by mechanical splitter, quartering, or miniature stockpile sampling.
<u>ASTM D 4564</u>	Determination of relative density of cohesionless soils.
<u>DMSO (dimethyl sulfide)</u>	Determines volume of expanding clays in aggregates. Usually associated with marine basalts.

- *103 - Compaction equipment shall meet the following requirements:
- 103a - Padded Drum (Tamping) Rollers. The unit shall consist of a drum with pads, be either self propelled or towed by a tractor, and capable of operating at a speed of 6 mph. The drum shall be no less than 48 inches in diameter over the pads and not less than 60 inches in width. The pads shall have a minimum height of 3 inches, and a face area of not less than 14 square inches. The weight at drum shall be no less than 8000 lb.
- 103b - (Sheepfoot) (Tamping) rollers. A tamping roller unit shall consist of two watertight metal drums mounted in frames in such manner as to be fully oscillating, together with a tractor having sufficient weight and power under actual working conditions to pull the roller drums at a minimum speed of 2.5 miles per hour. The drums shall be no less than 60 inches in diameter and no less than 54 inches in length, measured at the drum's surface, and shall be studded with tamping feet projecting not less than 7 inches from the face of the drums.

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

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

103c - Smooth-wheel power rollers. Smooth-wheel power rollers shall either be of the 3-wheel type, weighing not less than 10 tons, or of the tandem type, 2-wheel or 3-wheel, weighing not less than 8 tons. Smooth-wheel roller shall provide compression of 325 pounds per linear inch of width of rear wheels or drum.

103d - Pneumatic-tired rollers. Pneumatic-tired rollers shall be of the double-axle type equipped with pneumatic tires each of equal size and type. The spacing between the sidewalls of adjacent tires shall not exceed 5 inches and the rear tires shall be staggered in relation to the front tires. The rolling width of the unit shall be not less than 60 inches, exclusive of the power unit. The roller shall be so constructed that the contact pressure is uniformly distributed on all of the tires, and the tires shall be inflated to maintain the air pressure in the several tires within a total tolerance of 5 pounds per square inch. The roller shall be so constructed that the total weight shall be between 1,000 and 2,000 pounds per tire. The actual operating weight of the rollers shall be as ordered by the Authorized Officer.

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

103e - Grid roller. A grid roller shall consist of two or more cylindrical drums independently mounted on a common shaft in a rigid frame. Each drum shall have a minimum outside diameter of 5 feet and a minimum width of 2 feet 6

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

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

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

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

CLEARING AND GRUBBING - 200

- *201 - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions within the clearing limits in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans and as staked and with a flag line on the ground.
- 201a - This work shall consist of clearing, grubbing, removing and disposing of vegetation, debris, surface objects, and protruding obstructions from borrow pits, quarries, channel changes, stockpile sites, etc., in accordance with these specifications.
- *202 - Where clearing limits have not been staked, established by these specifications or shown on the plans, the limits shall extend (10) feet back of the top of the cut slope and (5) feet out from the toe of the fill slope.
- 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 borrow pits, and stockpile sites, and channel changes, and ditches have not been staked or shown on the plans, the limits shall extend (10) feet back of the top of the cut slope and (5) feet outside of the outside slope lines.
- *203 - Clearing shall consist of the removal and disposal of trees, logs, rotten material, brush, and other vegetative materials and surface objects in accordance with these specifications and within the limits established for clearing as specified under Subsection(s) 202, and 202a, and 202b as shown on the plans, and as staked and with a flag line on the ground and as posted.
- 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).

- 203c - Disposal of logs from private timber cleared within the limits established on the plans shall consist of decking at a location designated by the Authorized Officer.
- *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 Subsection(s) 204a, and 204b, and 204c, and 204d, and 204e ***between the top of the cut slope and the toe of the fill slope***. Undisturbed stumps, roots and other solid objects which will be a minimum of (3) feet below subgrades or slope surfaces or embankments are excluded.
- 204a - Stumps (including those overhanging cut banks,) shall be removed within the required excavation limits.
- 204b - Stumps and other protruding objects shall be completely removed within the limits of required embankments having heights of less than (4) feet. When authorized, stumps and other nonperishable objects may be left provided they do not extend more than (6) inches above the existing ground line.
- 204c - ***On excavated areas, roots and embedded wood shall be removed to a depth not less than (6) inches below the subgrade.***
- 204d - On areas to be occupied by embankments having heights greater than (4) feet, no stump or portion thereof shall remain within (3) feet of embankment subgrades or slope surfaces after grubbing is completed.
- 204e - ***Roots and embedded wood material shall be removed to a depth not less than (1) foot below embankment subgrades or slope surfaces.***
- 205 - Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections. (Such debris will, however, be permitted to remain under waste material from full-bench construction on steep side slopes.).
- 206 - Clearing and grubbing debris shall be disposed of by (scattering in accordance with Subsection 210).

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

EXCAVATION AND EMBANKMENT - 300

- *301 - This work shall consist of excavating, overhaul, placement of embankments, backfilling, borrowing, leveling, ditching, grading, insloping, outsloping, crowning and scarification of the subgrade, compaction, disposal of excess and unsuitable materials, and other earth-moving work in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- *302 - Excavation shall also consist of the excavation of road and landing cut sections, borrow sites, backfilling, leveling, ditching, grading, compaction, and other earth moving work necessary for the construction of the roadway in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans or as marked on the ground with stakes or plastic 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.
- 303a - ***Excavated material shall not be wasted as side-cast or perched. All material perched or side-casted as waste shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.***
- 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 as shown in these specifications, and 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 or as marked on the ground with stakes or plastic tags).
- 305a - Material used in the construction of embankment sections shall be free of stumps, cull logs, brush, muck, sod, roots, frozen material, and other deleterious materials and shall be placed and compacted as specified.

- 305b - Embankment materials shall be placed in successive parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding (8) inches in depth.
- 305c - Embankments formed of material containing less than (25) percent rock not larger than (8) inches in the greatest dimension shall be placed in (12)-inch layers. Material containing more than (25) percent rock not larger than (12) inches in the greatest dimension shall be placed in successive layers not exceeding (2) feet in thickness. Individual rocks and boulders greater than (12) inches in diameter may be used to construct (12)-foot embankment layers, provided they are carefully distributed, with interstices filled with fine material to form a dense and compact mass.
- 305d - Where embankments are constructed predominantly of blasted rock material, depth of layers shall not exceed (4) feet. Rock fragments having dimensions greater than 4 feet will be permitted provided that they have no dimensions greater than (6) feet and that clearance between adjacent fragments is adequate for the placing and compacting of material in horizontal layers as specified, and that no part of the larger fragments comes within (4) feet of subgrade.
- *306 - Layers of embankment, selected borrow, final subgrade and selected roadway excavation material as specified under Subsections 305a, and 305b shall be moistened or dried to a uniform optimum moisture content suitable for maximum density and compacted to full width with compacting equipment conforming to requirements of Subsections 103a, and 103b, and 103c, and 103d, and 103e, and 103f, and 103g, and 103h, and 103i and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.	Subsection 306
27-12-36.3	0+00	16+35	(306) (a)(b)(c)(d)
28-11-5.5	0+00	28+00	(306) (a)(b)(c)(d)
28-11-5.6	0+00	4+35	(306) (a)(b)(c)(d)
28-11-6.3	0+00	22+33	(306) (a)(b)(c)(d)
28-11-6.4	0+00	7+40	(306) (a)(b)(c)(d)
SPUR 1A	0+00	1+20	(306) (a)(b)(c)(d)
SPUR 1B	0+00	1+55	(306) (a)(b)(c)(d)
SPUR 1C	0+00	2+90	(306) (a)(b)(c)(d)
SPUR 1D	0+00	7+25	(306) (a)(b)(c)(d)

SPUR 3A	0+00	4+30	(306) (a)(b)(c)(d)
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- 306a - Minimum compaction for each layer of embankment, and selected borrow, and selected roadway excavation material placed at optimum moisture shall be (1) hour of continuous compacting for each (4) stations of road.
- 306c - Compacted materials shall have a uniform density of not less than (85) percent of the maximum density as determined by AASHTO T 99, Method A or Method D.
- 306d - Compacted materials within (3) feet of the established subgrade elevation shall have a density in place of not less than (95) percent of maximum density, and below the (3)-foot limit, these materials shall have a density in place of not less than (90) percent of maximum density. Maximum density shall be determined by AASHTO T 99, Method A or Method D.
- 306e - The final subgrade including landings and turn-outs and truck-turn arounds shall be compacted to full width with compacting equipment conforming to the requirements of Subsections 103a, and 103b, and 103c, and 103d, and 103e, and 103f, and 103g, and 103h, and 103i. Minimum compaction shall be 1 hour of continuous compacting for each (4) stations of road or a fraction of as measured along the center line of the constructed road. Landings and turn-outs and truck-turn arounds shall be compacted by routing construction equipment over full width.
- 306f - Compaction of embankment layers placed as specified under Subsection 305b above shall be accomplished by routing construction equipment over full width of embankment structures.
- 306g - *All fill slopes shall be compacted to (85) percent of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.*

- 308 - In the case of rock fills, placement of material in layers is not required and such material may be placed by end-dumping or other methods approved by the Authorized Officer provided that the rock be reasonably prevented from escaping beyond the embankment toe.
- 309 - The top of cut slopes shall be rounded by blending into the adjacent terrain for a distance not less than (1) foot and not more than (3) feet beyond the top of the cut. Rounding shall be performed in soils that can be shaped without ripping or blasting.
- 310 - Serrated cut slopes shall be constructed so that the final slope line shall consist of a series of steps. The step rise and tread dimensions shall be as shown on the plans.
- 310a - Steps are to be constructed on an approximately horizontal grade as determined by visual inspection. Construction on the first step shall begin immediately below the top of the cut. Each successive step shall be constructed in the opposite direction from the construction of the preceding one to minimize build up of loose excavated material at the ends of the cuts. Loose material at the end of the cuts shall be removed and the steps blended into the natural ground-line. Where rock too hard to rip is encountered within a cut, steps shall be blended into the rock.
- 310b - Each step shall be completed before beginning the following one, except when permitted by the Authorized Officer; portions of steps may be constructed at the ends of cuts to accommodate general construction practices.
- 311 - In solid rock cuts where pockets that will not drain are formed by blasting below the subgrade elevation, drainage shall be provided by ditching to the edge of the subgrade and backfilling to grade, and compacting the pockets and the ditch with rock fragments, gravel, or other suitable porous material.
- 312 - When material, except solid rock, encountered in cuts at subgrade, is suitable for use in forming the finished roadbed, the top 6-inch layer of the subgrade shall be thoroughly scarified for the full width of the roadbed. Roots, sod, and other deleterious material or stones that will not pass a 6-inch square opening shall be removed. The scarified material shall be processed to the optimum moisture content suitable for maximum density and compacted in accordance with (these specifications) (with Subsection 306).

- 313 - In cut areas where solid rock is encountered at, or near subgrade, the rock shall be excavated to a minimum depth of (6) inches below subgrade elevation and the excavated area backfilled with suitable material. The backfill material shall be processed to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.
- 314 - When heavy clays, muck, clay shale, or other deleterious material for forming the roadbed is encountered in cuts at subgrade, it shall be excavated to a minimum depth of (2) feet below the subgrade elevation and the excavated area backfilled with a selected borrow material approved by the Authorized Officer. The backfill material shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density in accordance with the requirements of Subsection 306. Unsuitable material shall be disposed of as directed by the Authorized Officer.

NOTE: Additional material excavated in accordance with Subsection(s) 313 and/or 314 should not be viewed as a design change under Section 20 of form 5450-3.

- 315 - Borrow material required for the construction of embankment or for other portions of the work shall be obtained from sources as shown on the plans, adjacent to the roadway of the following road section(s):

Road No.	From Sta./M.P.	To Sta./M.P.
28-12-12.1	29+50	30+50
28-12-1.0	5+00	6+00

- 316 - Borrow material from sources selected at the Purchaser's option shall be inspected and approved in writing by the Authorized Officer prior to placement.
- 317 - Selected borrow shall consist of talus material, finely broken rock, gravel, or other material of granular or favorable characteristics from sources shown on the plans.
- 317a - Where indicated on the plans, the Purchaser shall conserve excavation material consisting of talus material, gravel, finely broken rock or other material of granular or favorable characteristics for placement on the top portions of the roadbed as shown on the plans and as directed by the Authorized Officer.

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

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

NOTE: Thickness of lift selected for Subsection 318 is dependent on type and natural gradation of selected borrow or selected roadway excavation materials utilized in the construction of the roadbed. Usually "oversize" material is considered to be particles larger than 2/3 the thickness of the individual lift.

- 318a - Selected borrow or selected roadway excavation material shall be uniformly spread on the roadbed to a depth which, after compaction, will provide the depth shown on the plans. Compaction shall be accomplished by routing construction and hauling equipment over the full width of the roadbed.

- 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 outside the constructed subgrade 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 Subsections 321b, 321c. Materials not disposed of in this manner shall be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer.

- 321b - Excess construction material as specified under Subsection 321 shall be loaded, hauled, and disposed of at disposal sites at the following location(s):

Willamette Meridian			
Subdivision	Sec.	T.	R.
NW1/4,NE1/4	06	28S	11W
SE1/4,NE1/4	01	28S	12W
NE1/4,SE1/4	01	28S	12W

- 321c - End-dumping will be permitted for the placement of excess materials under Subsection 321 in designated disposal areas or within areas approved by the Authorized Officer. Watering, rolling, and placement in layers are not required. Materials placed shall be sloped, shaped, and otherwise brought to a visible condition acceptable to the Authorized Officer.
- 322 - When so indicated on the plans, selected coarse rock encountered in the excavation shall be conserved for slope protection or special rock embankment purposes and placed in accordance with the requirements and details of section 1400 of these specifications and as shown on the plans.
- 323 - In the construction of channel changes and stream-crossing embankment sections, natural stream flow shall be maintained unless otherwise provided.
- 324 - Excavated material shall not be allowed to cover boles of standing trees to a depth in excess of (2) feet on the uphill side.
- *327 - The finished grading shall be approved by the Authorized Officer in writing. The Purchaser shall give the Authorized Officer (3) days notice prior to final inspection of the grading operations, and start of surfacing operations.

PIPE CULVERTS - 400

- *401 - This work shall consist of furnishing and installing pipe culverts, and other erosion control devices in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Individual lengths and locations are approximate; final lengths and locations will be determined by the Authorized Officer upon completion of the roadbed and upon installation of the appurtenance structures. Additional pipe and erosion control devices may be required at the option of the Authorized Officer, in which case a reduction in the total purchase price shall be made to offset the cost of furnishing and installing such items. Costs will be based upon the unit prices set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 403 - Grade culverts shall have a gradient of from (2) percent to (4) percent greater than the adjacent road grade. Grade culverts shall be skewed down grade (30) degrees as measured from the perpendicular to the centerline unless otherwise specified on the plans.
- 404 - Damage to the spelter, or burn back in excess of 3/8 inch, shall be wire brushed and painted with two coats of zinc-rich paint on zinc-coated, steel pipe and aluminum-rich paint on aluminum or aluminum-coated pipe.
- 405 - Corrugated steel riveted and helical pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 as specified on the plans.
- 405a - Corrugated-(aluminized) steel-welded pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 36 and AASHTO M 218, AASHTO M 274, or AASHTO M 289 as specified on the plans.
- 405b - Corrugated-aluminum-alloy pipe culverts and pipe-arch culverts shall conform to the requirements of AASHTO M 196.
- 405c - Corrugated-steel-structural plate pipe culverts and pipe-arch culverts shall conform to the requirements of AASHTO M 167, except that single plates may exceed 75 pounds in weight.
- 405d - Corrugated-aluminum-structural plate pipe culverts and pipe-arch culverts and special sections shall conform to the requirements of AASHTO M 219.

- 405e - Corrugated-polyethylene pipe for culverts 12-inch through 36-inch diameter shall meet the requirements of AASHTO M 294.

Corrugated-polyethylene pipe for culverts 42-inch through 60-inch diameter shall meet the requirements of AASHTO M 294-03, Type D or Type S.

Corrugated-polyethylene pipe for culverts to be used for downspouts 12-inch through 60-inch diameter shall meet the requirements of AASHTO M 294-03, Type C.

Installation will be subject to the same specification as other pipe materials.

- 405f - Ring gaskets for rigid pipe shall meet the requirements of AASHTO M 198. Continuous flat gaskets for flexible metal pipe shall meet the requirements of ASTM D 1056, with grade RE 41 used for bands with projections or flat bands, and grade RE 43 used for corrugated bands. When used with metal pipe with annular reformed ends, the ring gasket shall be one-fourth greater in diameter than the depth of the corrugation. Gasket thickness for bands with projections or flat bands shall be 1/2 inch greater than the nominal depth of the corrugation and shall be 3/8 inch for corrugated bands. For pipe with flanged ends, a butyl-rubber-strip gasket shall be placed inside the channel band.
- *406 - Coupling bands shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274 with the exception of band widths and the "Hugger"-type band which shall conform to the details, dimensions, and typical diagram shown on the plans.
- 406a - "Hugger"-type coupling bands shall only be used with annular corrugated pipe and pipe-arch culverts, or helically corrugated pipe and pipe-arch culverts having annular reformed ends. Annular reformed ends shall consist of two annular corrugations.
- 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.

- 406d - (Pipe culverts) (and) (pipe-arch culverts) at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22
28-11-5.5	14+10

- 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 36 and AASHTO M 218 or AASHTO M 274.
- 407b - Full round culvert downspouts conforming to the material and construction requirements shall be constructed for culverts (as shown on the plans) (and) at the specified locations at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22

- *408 - Pipe culverts and pipe-arch culverts shall be placed on the bed starting at the downstream end with the inside circumferential laps pointing downstream and with the longitudinal laps at the side or quarter points. Coupling bands of the type required under these specifications shall be installed so as to provide the circumferential and longitudinal strength necessary to preserve the pipe alignment, prevent separation of the pipe sections, and minimize infiltration of fill material.
- 409 - Structural-plate pipe culverts and pipe-arch culverts shall be installed in accordance with the plans and detailed erection instructions furnished by the manufacturer. One copy of the erection instructions shall be submitted to the Authorized Officer (3) days prior to erection.

- *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 Exhibit C and the Culvert Installation Detail Sheet.
- 412 - Where ledge rock, boulders, soft, or spongy soils are encountered, they shall be excavated a minimum of 24 inches below the invert grade for a width of at least one pipe diameter or span on each side of the pipe and shall be backfilled with selected granular or fine readily compactable soil material.
- *413 - Pipe culverts and pipe-arch culverts shall be bedded on a crushed rock material in accordance with Section 1200 gradation (E-1) material having a depth of not less than 6 inches as shown on plans. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.
- 414a - The invert grade of the bedding shall be cambered at the middle ordinate a minimum of 1 percent of the total length of the drainage structure. Camber shall be developed on a parabolic curve.
- 415 - Inspection of pipe culverts having a diameter of 48 inches and pipe-arch culverts having a height of 40 inches or a cross sectional area of 13 or larger shall be made before backfill is placed. Culverts found to be out of alignment or damaged shall be replaced, reinstalled or repaired as directed by the Authorized Officer at the Purchaser's expense.
- *416 - Side-fill material for pipe culverts at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22
28-11-5.5	14+10

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

- *417 - For pipe culverts at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22
28-11-5.5	14+10

Side-fill material conforming to the requirements of Subsection 416 shall be placed and compacted under the haunches of the pipe, and shall be brought up evenly and simultaneously on both sides of the pipe to 1 foot above the pipe, in layers not exceeding 6 inches in depth and 1 pipe diameter/span, or a minimum of 2 feet in width each side of, and adjacent to, the full length of the pipe barrel. Each layer shall be moistened or dried to a uniform moisture content suitable for maximum compaction and immediately compacted by approved hand or pneumatic tampers until a uniform density of (95) percent of the maximum density, is attained as determined by AASHTO T 99, Method C.

- 418 - Side fills beyond the compaction limits specified under Subsection 417 shall be compacted as specified under Section 300.
- *419 - The pipe culverts after being bedded and backfilled as required by these specifications shall be protected by a 2-foot cover of fill before heavy equipment is permitted to cross the drainage structures. Removal of the protection fill shall be as directed by the Authorized Officer.

- 421 - Trenches and bedding rock necessary for the installation of perforated pipe shall conform to the lines, grades, dimensions and typical diagram as shown on the plans.
- 422 - Drain rock shall be carefully placed on geotextile material required in section 1300, to prevent damage or displacement. A minimum 4-inch bedding of drain rock shall be placed and compacted in the bottom of the trench before installing the underdrain pipe. Underdrain pipe shall be firmly embedded in this layer and drain rock placed to the height shown on the plans, or as directed by the Authorized Officer, and then compacted. Care shall be taken not to displace the underdrain pipe or the covering at open joints. Geotextile material shall be overlapped on top of the drain rock a minimum of 1 foot, as shown on the plans. Backfill shall then be placed and compacted in one foot lifts to the required grades.
- 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 and culverts at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22
28-11-5.5	14+10

- 424 - Construction of splash pads, energy dissipaters conforming to lines, grades, dimensions and typical diagram shown on the plans, shall be required for culverts at the following locations:

Road No.	Sta./M.P.
27-12-36.3	11+22

- 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.

- 426 - Culvert markers consisting of:
6 foot steel fence posts painted white top, shall be furnished, fabricated, and installed by the Purchaser at the following locations:

Road No.	Sta./M.P.
27-12-36.3	4+06
27-12-36.3	11+22
28-11-5.5	14+10

as shown on the plans and as directed by the Authorized Officer.

- *427 - Record culvert sizes, lengths and location actually installed on a copy of the culvert list. This culvert list shall be furnished to the Authorized Officer.
- 428 - Remove and dispose of old culverts in a legal manner, and for any fees required. The Purchaser shall remove the old culverts from the work site within three 3 working days of completion of the culvert replacement work for each road prior to road acceptance.

RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500

- *501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, minor excavation and/or embankment, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications, and as shown on the Exhibit C plans and as marked on the ground with stakes or plastic tags.
- 501a - This work shall include the removal and disposal of slides in accordance with these specifications as directed by the Authorized officer.
- 502 - The existing road surface shall be scarified to its full width and to a sufficient depth to eliminate surface irregularities and bladed and shaped to the lines, grades, dimensions, and typical cross sections shown on the plans at the following locations:

27-11-30.1	0+00	37+45
27-11-30.2	0+00	33+35
27-11-30.10	0+00	14+18
27-11-30.17	0+00	63+00
27-12-36.2	0+00	6+40
28-11-5.4	0+00	16+00
28-11-7.2	0+00	37+45
28-12-12.1	0+00	45+00
28-12-1.0	0+00	39+50

- 502a - Rocks larger than 4 inches in maximum dimension shall be removed from the scarified layers of the roadbed. Material so removed will not be permitted to remain on road shoulders or in ditches.
- 502b - Drainage ditches shall be bladed and shaped in accordance with the lines, grades, dimensions, and typical cross sections shown on the plans.
Note: Drainage ditches that are vegetated, capable of adequate water flow, and are in accordance with the lines, grades, dimensions and typical cross sections shown on the plans shall not be bladed upon approval of the Authorized Officer.

- 503 - Debris from slides shall be disposed of as directed by the Authorized Offier.
- 504 - Scarified material and the existing road surface shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsections 103a, and 103b, and 103c, and 103d, and 103e, and 103f, and 103g, and 103h, and 103i and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.	Subsection 504
27-11-30.1	0+00	37+45	(504)(a)(b)(c)
27-11-30.2	0+00	33+35	(504)(a)(b)(c)
27-11-30.10	0+00	14+18	(504)(a)(b)(c)
27-11-30.17	0+00	63+00	(504)(a)(b)(c)
27-12-36.2	0+00	6+40	(504)(a)(b)(c)
28-11-5.4	0+00	16+00	(504)(a)(b)(c)
28-11-7.2	0+00	37+45	(504)(a)(b)(c)
28-12-12.1	0+00	45+00	(504)(a)(b)(c)
28-12-1.0	0+00	39+50	(504)(a)(b)(c)

- 504a - Minimum compaction required shall be 1 hour of continuous rolling or tamping for each 4 stations of road, or fraction thereof, as measured along the centerline per layer of material.
- 504b - A uniform density of not less than 95 percent of the maximum density as determined by a penetrometer calibrated in accordance with Subsection 505 shall be attained.
- 504c - A uniform density of not less than 95 percent of the maximum density as determined by AASHTO T 99, Method A, C, or D.

- 506 - The inlet end of existing drainage structures at the following locations:

Road No.	Sta./M.P.	To Sta./M.P.
27-11-30.1	0+00	37+45
27-11-30.2	0+00	33+35
27-11-30.10	0+00	14+18
27-11-30.17	0+00	63+00
27-12-36.2	0+00	6+40
28-11-5.4	0+00	16+00
28-11-7.2	0+00	37+45
28-12-12.1	0+00	45+00
28-12-1.0	0+00	39+50

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

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

Road No.	Sta./M.P.	To Sta./M.P.
27-11-30.1	0+00	37+45
27-11-30.2	0+00	33+35
27-11-30.10	0+00	14+18
27-11-30.17	0+00	63+00
27-12-36.2	0+00	6+40
28-11-5.4	0+00	16+00
28-11-7.2	0+00	37+45
28-12-12.1	0+00	45+00
28-12-1.0	0+00	39+50

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

- 509 - The finished grading shall be approved in writing by the Authorized Officer. The Purchaser shall give the Authorized Officer 3days 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 (where the road crosses private property).
- 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.

AGGREGATE BASE COURSE - 1000
CRUSHED ROCK MATERIAL

- *1001 - This work shall consist of furnishing, hauling, and placing one or more lifts of crushed rock material on roadbeds and landings approved for placing crushed rock material, in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected and shall be removed from the road at the purchaser's expense.
- 1002 - Crushed rock materials used in this work shall consist of quarry rock, stone, gravel, or other approved materials obtained from the sources shown on the plans.
- 1002a - Crushed rock materials may be obtained from a commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.
- *1003 - Crushed rock material produced from gravel shall have 3 manufactured fractured faces on 75 percent, by weight, of the material retained on the No. 4 sieve. If necessary to meet the above requirement, or to eliminate an excess of filler, the gravel shall be screened before crushing.
- *1004 - Crushed rock materials shall consist of hard durable rock fragments conforming to the following graduation requirements:

TABLE 1004

AGGREGATE BASE COURSE
CRUSHED ROCK MATERIAL

Percentage by Weight Passing Square Mesh Sieves
(AASHTO T 11 & T 27)

GRADATION

Sieve Designation	A	B	C	D	F	G	H	I
(6) -inch	-	-	-	-	-	-	-	100
3-inch	100	-	100	-	100	-	-	45-65
2-inch	90-95	100	-	100	65-95	100	100	-
1 1/2-inch	-	90-95	-	-	-	-	-	-
1-inch	45-75	50-90	-	-	-	50-85	60-90	-
3/4-inch	-	-	-	-	28-70	-	-	-
1/2-inch	-	-	-	-	-	27-60	44-70	-
3/8-inch	-	-	-	-	-	-	-	-
No. 4	15-45	15-50	-	-	10-35	15-40	28-50	0-10
No. 8	-	-	-	-	-	-	20-41	-
No. 10	-	-	-	-	-	-	-	-
No. 30	-	-	-	-	5-22	8-26	9-26	-
No. 40	5-25	5-25	-	-	-	-	-	-
No. 200	2-15	2-15	-	-	3-10	3-12	3-12	-

- 1004a - The Purchaser shall be required to take one 1 sample of each 2,000 cubic yards of crushed rock material produced, using approved AASHTO sampling procedures. The Purchaser shall submit samples to a certified lab or shall perform testing for gradation requirements using ASHTO T 11 and AASHTO T 27 testing procedures and also perform testing for sand equivalency requirements using AASHTO T 176 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample with proper identification available for testing by the Authorized Officer. Each sample and the results of Purchaser testing shall be made available to the Authorized Officer within twenty-four 24 hours of sampling. The Purchaser shall provide test results for the first five hundred 500 cubic yards produced prior to commencing production crushing and hauling.
- 1005 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1006 - Crushed rock material shall show durability value of not less than 35, as determined by AASHTO T 210.

- 1007 - That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have liquid limits of not more than 35, and a plasticity index of not less than (4) and not more than (12) as determined by AASHTO T 89 and AASHTO T 90.
- 1007a - That portion of crushed rock material passing No. 4 sieve, including blending filler shall have a sand equivalent of not less than 35, as determined by AASHTO T 176, except where that portion exhibits a sand equivalent of less than 35, the aggregate will be accepted if it complies with the additional requirement as follows:

TABLE 1007a

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

- 1008 - If additional binder or filler is necessary in order to meet the grading or plasticity requirements, or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1008a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.

- *1009 - The roadbed, as shaped and compacted under Sections 300 and 500 of these specifications, shall be approved in writing by the Authorized Officer prior to placement of crushed rock materials. Notification for final inspection prior to rocking shall be 3 days prior to that inspection and shall be 6 days prior to start of rocking operations.
- *1010 - Crushed rock materials shall be placed and processed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans and compacted in layers not to exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted 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.
- 1011 - Crushed rock material shall be compacted by routing construction and hauling equipment over the full width of each layer placed.
- 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 103b, and 103c, and 103d, and 103f, and 103h. Minimum compaction shall be one 1 hour of continuous compacting for each 150 cubic yards, or fraction thereof, of crushed rock material placed per layer deemed adequate when the surface can withstand five passes of a truck with H-20 loading without appreciable deformation.
- 1013 - Each layer of crushed rock material for base placed, processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width until a uniform density of not less than 95 percent of the maximum density is attained as determined by AASHTO T 99, Method D).

AGGREGATE SURFACE COURSE - 1200
CRUSHED ROCK MATERIAL

- *1201 - This work shall consist of furnishing, hauling, and placing one or more layers of crushed rock material on roadbeds and base courses approved for placing crushed rock material in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans. Material not conforming to these specifications will be rejected, and shall be removed from the road at the purchaser's expense.
- 1202a - Crushed rock materials used in this work may be obtained from commercial source(s) selected by the Purchaser at his option and expense, (providing the rock materials furnished comply with the specifications) (providing laboratory tests performed by BLM of furnished rock samples in accordance with Subsection 1220 indicate compliance with the specifications in this section).
- *1203 - When crushed rock material is produced from gravel, not less than 75 percent by weight of the particles retained on the No. 4 sieve will have 3 manufactured fractured faces. If necessary to meet the above requirements or to eliminate an excess of filler, the gravel shall be screened before crushing.
- *1204 - Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirements:

TABLE 1204

AGGREGATE SURFACE COURSE
CRUSHED ROCK MATERIAL

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

GRADATION

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

- 1204a - The Purchaser shall be required to take one sample for each 1,000 cubic yards of crushed rock material to be utilized , using AASHTO sampling procedures. The Purchaser shall submit samples to a certified lab or perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures and also perform testing for sand equivalency requirements using AASHTO T 176 testing procedures. Prior to testing, each sample shall be split, making one half of the sample, with proper identification, available for testing by the Authorized Officer. Each sample and the results of Purchaser testing shall be made available to the Authorized Officer within 24 hours of sampling. The Purchaser shall provide test results for the first 500 cubic yards produced prior to commencing production crushing and hauling.
- 1205 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.
- 1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T210.
- 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:

TABLE 1207a

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

- 1208 - If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.
- 1208a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.
- *1209 - Shaping and compacting of roadbed and base course shall be completed and approved in writing, prior to placing crushed rock material, in accordance to the requirements of Subsections 300 and 500 for placing on the roadbed, landings, and Subsection 1000 for placing on the base course. Notification for final inspection prior to rocking shall be 3 days prior to the inspection and shall be 6 days prior to start of surfacing operations.

- *1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed, and landings, and base course in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved in writing by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.
- 1210a - Crushed rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted roadbed shall not be construed as surfacing required by this specification unless approved by the Authorized Officer.
- 1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsections 103c, and 103d, and 103f, and 103h . Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards of crushed rock material placed per layer or fraction thereof.
- 1213 - Each layer of crushed rock material placed, uniformly processed, and shaped as specified shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width until a uniform density of not less than 95 percent of maximum density is attained.

SLOPE PROTECTION - 1400

- *1401 - This work shall consist of furnishing, hauling, and placing stone materials for slope protection structures in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross-sections shown on the plans. Material not conforming to these specifications will be rejected and shall be removed from the slope protection structure at the purchaser's expense and as directed by the Authorized Officer.
- *1402 - Stone material shall consist of hard angular quarry rock of such quality that it will not disintegrate on exposure to water or weathering, and shall be graded in accordance with these specifications.

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

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

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

1405 - Rip rap shall conform to the following gradations:

TABLE 1405¹

Class	Range of Intermediate Dimensions ² (inches)	Range of Rock Mass ³ (pounds)	% of Rock Equal or Smaller by Count
0	6-8	18-42	100
	5-6	10-18	85
	2-5	1-10	50
	0-2	0-1	15
1	9-15	59-270	100
	7-11	28-110	85
	5-8	10-42	50
	3-6	2-18	15
2	15-21	270-750	100
	11-15	110-270	85
	8-11	42-110	50
	6-8	10-42	15
3	21-27	750-1600	100
	15-19	270-560	85
	11-14	110-220	50
	8-10	42-81	15
4	27-33	1600-2900	100
	19-23	560-990	85
	14-17	220-400	50
	9-12	59-140	15

¹Gradation includes spalls and rock fragments to provide a stable, dense mass.

²The intermediate dimension is the longest straight-line distance across the rock that is perpendicular to the rock's longest axis on the rock face with the largest projection plane.

³Rock mass is based on a specific gravity of 2.65 (165#/cu.ft.) and 85 percent of the cubic volume as calculated using the intermediate dimension.

- 1405a - Stone materials shall show a durability value of not less than 20 as determined by AASHTO T 210.
- 1405b Stone materials shall conform to a minimum apparent specific gravity of 2.50 and a maximum absorption of 4.2 percent as determined by AASHTO T 85.
- 1406 - The placement of slope protection stones by the end dumping method shall be conducted to prevent the stones from escaping beyond the embankment toe.
- 1406a - The embankment shall be placed in successive horizontal layers of sufficient depth to contain the maximum size rock present in the material. Spalls and finer fragments of stone other than specified in Subsection 1405 shall be used to chock the larger stones solidly in position and to fill voids between the major stones as laid in the embankment. The exposed face of the embankment shall be reasonably smooth and uniform; material shall be prevented from escaping beyond the toe of the structure.
- 1406b - Spaces in back of hand-laid embankment shall be filled with hand-tamped or rammed rock-spall material.
- *1407 - Determination of the acceptability of the slope protection material gradation will be through visual inspection, and /or physical measurements by the Authorized Officer.
- 1408 - Trenches for slope protection structures shall be excavated to the lines, elevations, and typical diagram shown on the plans. They shall be of sufficient size to permit the placing of structure footing of the full widths and length shown. Trenches shall be approved by the Authorized Officer prior to placement of slope protection material.

1409 - Slope protection material shall be placed so as to form the cross sections shown on the plans. The face of the slope protection structure above the low-water line shall be uniform, free from humps, depressions, or large cavities.

1410 - The embankment slopes at the following locations:

Road No.	From Sta./M.P.	To Sta./M.P.
27-12-36.3 – Culvert Outlet	11+22	11+22

shall be protected and stabilized by placement of rock materials to form a slope-protection structure conforming to the construction requirements and details of these specifications.

EROSION CONTROL - 1700

- *1701 - This work shall consist of measures to control soil erosion or water pollution during the construction operation through the use of berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, Terra-tubes filter fiber socks and other erosion control devices or methods in accordance with these specifications and conforming to the lines, grades, dimensions and typical cross sections shown on the plans.
- 1702 - The Purchaser shall construct the dikes, dams, diversion channels, and settling basins and other erosion control structures located outside of the road right-of-way in accordance with the requirements and details as directed by the Authorized Officer.
- 1703 - This work shall consist of furnishing and installing Terra tubes or sediment fences in accordance with these specifications and in reasonably close conformity with the lines and grades as directed by the Authorized Officer.
- 1704 - The erosion control provisions specified under this Subsection shall be coordinated with the Soil Stabilization requirements of Section 1800.
- 1705 - The surface area of erodible earth material exposed at any one time by clearing and grubbing shall not exceed 25,000 square feet without prior approval by the Authorized Officer.
- 1706 - The surface area of erodible earth material exposed at one time by excavation, borrow, or fill within the right-of-way shall not exceed 25,000 square feet without prior approval by the Authorized Officer.
- 1706a - The Purchaser shall perform, during the same construction season, erosion control measures specified in the plans, on all exposed excavation, borrow, and embankment areas.

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

Road No.	From Sta./M.P.	To Sta./M.P.
27-12-36.3	0+00	16+35
28-11-5.5	0+00	28+00
28-11-5.6	0+00	4+35
28-11-6.3	0+00	22+33
28-11-6.4	0+00	7+40
SPUR 1A	0+00	1+20
SPUR 1B	0+00	1+55
SPUR 1C	0+00	2+90
SPUR 1D	0+00	7+25
SPUR 3A	0+00	4+30

carried over the winter and early spring periods shall be stabilized by seeding, and fertilizing, and mulching in accordance with Section 1800 exposed areas at the rate of 2000 pounds per acre and seeded with BLM rye mix applied at the rate of 60 pounds per acre or with BLM *furnished* Native seed mix at a rate of 20 pounds per acre.

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

SOIL STABILIZATION – 1800

- *1801 - This work shall consist of seeding, fertilizing, and mulching on designated cut, fill, borrow, disposal, and special areas in accordance with these specifications and as shown on the plans. This work is not required for road acceptance under Section 18 of this contract.
- 1802a - Soil stabilization work consisting of seeding, fertilizing, and mulching shall be performed on new road construction, and road renovation, and improvements, and landings, and disturbed areas, and borrow sites, and disposal sites, and specials areas in accordance with these specifications and as shown on the plans.
- 1803 - Soil stabilization work as specified under Subsection 1802a shall be performed during the following seasonal periods:

From: (March 15th)	To: (April 30th)
From: (September 1st)	To: (October 15th)

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

- 1803a - The Purchaser shall begin soil stabilization work within 10 days of the starting work date when notified by the Authorized Officer.
- 1804 - ***The BLM shall provide native grass/forb seed or other plant materials (plugs, waddles, bulbs, etc.) for this project.*** If BLM is unable to provide native seed or other plant materials, the Purchaser shall furnish the following species of grass/forb seed or other plant materials.

All seed provided must meet corresponding germination, purity, and weed-content requirements:

Species	Germination Min. %	Purity Min. %	Weed Content Max. %
Annual Ryegrass <i>Lolium multiflorum</i>	85	95	0.5
Perennial Ryegrass <i>Lolium perenne</i>	85	95	0.5

The grass seed furnished shall meet the minimum requirement for Blue Tag Seed as set forth in the latest edition of the Oregon Certification Standards published by Oregon State University.

The Purchaser shall furnish the Authorized Officer a Seed Test Result for the mix from a certified seed testing lab (Oregon State University), Crop Certification Service, which shall include: date of test; lot number of each kind of seed; and results of tests as to name, percentages of purity and of germination, weed species and percentage of weed content, for each kind of seed furnished and, in case of mixture, the proportions of each kind of seed. The seed must have been tested within the last 2 years to be accepted for use on this contract.

The Purchaser shall provide in writing that the seed mixture is free of noxious weed species.

1805 - The Purchaser shall mix and sack grass seed specified under Subsection 1804 in the following proportions:

Seed Mixture "A":

Species	% of Total by Weight	Lbs. per Acre
Annual Ryegrass <i>Lolium multiflorum</i>	40	24
Perennial Ryegrass <i>Lolium perenne</i>	60	36
Totals	100	60 lbs/ac.

- 1805a - The Purchaser shall provide in writing compliance with seed mixture requirements specified under Subsection 1805. Seed weight and seed mixture type shall be shown on the tag attached to each sack.
- 1805b - Seed shall be sacked in quantities proportional to the capacity of the Purchaser's slurry tank and the required rate of application as specified under Subsection 1811.
- 1806 - The Purchaser shall apply the seed mixtures specified under Subsection 1805 to the corresponding seeding projects as shown on ***Sheet No. 7*** of the plans.
- 1806a - Additional soil stabilization work consisting of seeding, and fertilizing, and mulching, may be required at the option of the Authorized Officer. Providing the additional stabilization is not due to Purchaser negligence as specified in Sec. 12 of the contract, a reduction in the total purchased price shall be made to offset the cost of furnishing and applying such additional stabilization material. Cost shall be based upon the unit price set forth in the current BLM Timber Appraisal Production Cost Schedule.
- 1807 - Fertilizer shall be a standard commercial grade of fertilizer conforming (to all State and Federal regulations, and to Interim Federal Specification 0-5-241C, Amendment No. 1, and to the standards of the Association of Official Agricultural Chemists. Fertilizer furnished shall provide the minimum percentage of available nutrients as specified below:

Available nitrogen	(16) %
Available phosphoric acid	(20) %
Potassium	(16) %
(n/a)	(0)%

The Authorized Officer will take what samples he deems necessary for determining compliance with the above requirements.

Fertilizer shall be furnished in new sealed and properly labeled containers with name, weight, and guaranteed analysis of contents clearly marked. Material failing to meet these requirements, or that which has become wet or otherwise damaged in transit or storage, will be subject to rejection by the Authorized Officer.

- 1808 - Mulch materials conforming to the requirements of Subsections 1808a, and 1808b shall be furnished by the Purchaser in the amounts specified under Subsection 1811 and applied in accordance with Subsection 1812.
- 1808a - Straw mulch shall be certified weed free from commercial grain fields and native grass fields. Straw mulch shall be from oats, wheat, rye, or other approved grain crops and shall be free from, mold, or other objectionable material. Straw mulch shall be in an air-dry condition and suitable for placement.
- 1808b - Wood cellulose fiber shall have the property of dispersing readily in water and shall have no toxic effect when combined with seed or other materials. The homogeneous slurry or mixture shall be capable of application with power spray equipment. A green-colored dye which is non-injurious to plant growth shall be used. Processed wood cellulose fiber shall be packaged in new, labeled containers in an air dry condition. The following brand names or approved equal:

Silva Fiber	-	Weyerhaeuser Timber Company
Conweb Fiber	-	Wood Conversion Company
Spra-Mulch	-	Spra-Mulch Industries, Incorporated
Grass-Mulch	-	Grass Mulch Incorporated

If the purchaser proposes using a wood or grass fiber other than those listed above, the purchaser shall furnish a sample and descriptive literature to the Authorized Officer for approval prior to application. Processed wood cellulose fiber furnished by the Purchaser which has become wet or otherwise damaged in transit or storage will not be accepted.

- 1809 - Mulch material shall be delivered to the work area in a dry state. Material found to be wet will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state and has the approval of the Authorized Officer.
- 1810 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string or hemp rope. Wire binding will not be permitted.
- 1811 - The Purchaser shall furnish and apply to approximately **(9.6) acres** designated for treatment as shown on the plans and as specified under Subsections 1802a and 1806, a mixture of water, grass seed, and fertilizer, and mulch material at the following rate of application:

a. Single Stage:

Water	(3,000) gals./acre
Grass Seed	(60) lbs./acre
Fertilizer	(200) lbs./acre
Mulch	(3000) lbs./acre

b. Two Stage:

Water	(3,000) gals./acre
Grass & Legume Seed	(60) lbs./acre
Fertilizer	(200) lbs./acre
Mulch	(3000) lbs./acre

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

- 1812 - The Purchaser shall furnish and apply to the area designated for treatment as shown on the plans and as specified under Subsections 1802a and 1806, a mixture of water, and grass seed, and fertilizer, and mulch, material at the application rate to be determined by the Authorized Officer based on visual observation of trial applications.
- Mulches shall be spread/placed in treatment areas to a *depth of (2) inches* to allow seed germination or as directed by the Authorized Officer. Treatment area will be covered evenly and completely. Mulch can be broadcast onto the soil surface by hand or with hand/mechanical operated spreaders.
- 1814 - The Purchaser may reduce the application rate on partially covered slopes and refrain from application on areas already well stocked with grass or on rock surfaces as determined by the Authorized Officer.
- 1815 - The seed, and fertilizer, and mulch materials shall be placed by the hydraulic method in accordance with the requirements set forth in Subsection 1815a, dry method in accordance with the requirements set forth in Subsection 1815b.
- 1815a - Hydraulic Method - The seed, and fertilizer, and mulch materials shall be mixed with water to form a slurry and then applied under pressure by hydroseeder. Where only seed, and fertilizer, and are to be applied hydraulically, the mulch material and tackifier, if specified, may be applied after the seeding operation.
- When processed wood cellulose or fiber mulch material is to be incorporated as an integral part of the slurry mix, it shall be added after the seed and fertilizer have been thoroughly mixed.
- 1815b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment may be used when seed and fertilizer are to be applied in dry form. Fertilizer in dry form shall be spread separately at the rates set forth under these specifications and Subsection 1811.
- 1816 - Hydraulic equipment used for the application of slurry shall meet the following requirements:

The equipment shall have a built-in agitation system. The slurry distribution lines shall be large enough to prevent stoppage. Discharge line shall be equipped with a set of hydraulic spray nozzles which will provide even distribution of the slurry on the various slopes to be treated. The slurry tank shall have a minimum operation capacity of 1300 gallons and shall be mounted on a traveling unit which will place the slurry tank and spray nozzles within sufficient proximity to the areas to be treated so as to provide uniform distribution without waste. Lug-or track-type units are not authorized. The hydroseeder must be capable of spraying the slurry a minimum distance of 100 feet. The nozzle, mounted on a stand, must be capable of traversing 360 degrees on a horizontal plane and a minimum of 70 degrees on a vertical plane.

All equipment and tanks (internally and externally) shall be cleaned before entering BLM lands. Tanks shall be cleaned prior to mixing BLM seed mixes to avoid application of unwanted plant species.

- 1816a - Hydromulch slurry mixing shall be with water and seed first, followed by fertilizer, and finally fiber. The time between mixing and application shall not exceed 1 hour.
- 1816b - Hydroseeding shall be performed in two steps. Water, seed and fertilizer as specified in Subsection 1811, shall be mixed with a wood fiber tracer and applied to the area specified. The second step shall include the application of water and processed wood fiber, also specified in Subsection 1811, to be applied on the same area within an hour.
- 1817 - At the beginning of each day's operation, a measured area will be seeded, and fertilized, and mulched to assure uniform application.
- 1818 - The maximum distance to be seeded, and fertilized, and mulched from the road centerline shall be 100 feet for the cut slopes and 150 feet for the fill slopes.
- 1819 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.
- 1820 - When sprayed, the mix or slurry must overlap on the ground uniformly so that there will be no voids in the treated areas.

- 1821 - Mulch that collects at the end of culverts or accumulates to excessive depths on the slopes shall be evenly spread by hand methods, as directed by the Authorized Officer.
- 1822 - No materials shall be applied when wind velocities would prevent a uniform application of the mix or slurry or when winds would drift the mix or slurry spray outside of the designated treatment area.
- 1823 - Mix or slurry will not be applied above the upper edge of cut banks unless otherwise specified.
- 1824 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operation shall be picked up and disposed of to the satisfaction of the Authorized Officer.

ROADSIDE BRUSHING - 2100

- *2101 - This work shall consist of the removal of vegetation from the road prism - variable distance, and inside curves in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the Roadside Brushing Detail Sheet of this exhibit, at designated locations as shown in the plans.
- *2102 - Roadside brushing may be performed mechanically with self-powered, self-propelled equipment and / or manually with hand tools, including chain saws.
- *2103 - Vegetation cut manually and / or mechanically less than 6 inches in diameter at D.B.H.O.B. shall be cut to a maximum height of 6 inches above the ground surface or above obstructions such as rocks or stumps on cut and fill slopes and all limbs below the 6 inch area will be severed from the trunk.
- 2103a - Vegetation shall be cut and removed from the road bed between the outside shoulders and the ditch centerline and such vegetation shall be cut to a maximum height of 1 inch above the ground and running surface. Limbs below the 1 inch area will be severed from the trunk. Sharp pointed ends will not be permitted. Cuts shall be parallel to the ground line or running surface.
- 2104 - Trees in excess of 6 inches in diameter at D.B.H.O.B. shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of (12) 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 12 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.*
- 2108 - Self propelled equipment shall not be permitted on cut and fill slopes or in ditches.

- 2109 - Debris resulting from this operation shall be scattered downslope from the roadway. Debris shall not be allowed to accumulate in concentrations. ***Debris in excess of 1 foot in length and 2 inches in diameter shall not be allowed to remain on cut slopes, ditches, roadways or water courses,*** or as directed by the Authorized Officer.
- 2113 - Roadside brushing shall be completed in accordance with typical cross section and roadside brushing detail sheets.
- 2114 - Sections of roadway to have vegetation removed will be narrated in the road special detail sheets.
- 2115 - Mechanical brush cutters shall not be operated when there are people and occupied vehicles within (400) feet of the immediate operating area.
- 2116 - Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Devices.

SLOPE STAKING - 2300

- *2301 - This work shall consist of slope staking and referencing road locations from slope stake notes furnished by the BLM in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans.
- *2302 - Slope stakes shall consist of 1-3/4 inch x 1/4 inch smooth-finished wood slats of good quality, approximately 18 inches in length and tipped with red luminous paint.
- *2303 - Slope stakes shall be set as follows:
 - (a) A slope stake shall be set at the top of the cut slope for cut and fill and full bench sections as shown on the typical road sections sheet included in the plans.
 - (b) For through cut sections exceeding 2 feet in depth at the centerline both sides of the road shall be staked. There shall be a ditch on both sides of the road.
 - (c) For fill sections, only the uphill side shall be staked, unless otherwise specified).
 - (d) For through fill sections exceeding 2 feet in depth at the centerline, both sides of the road shall be staked.
 - (e) For balanced sections both sides of the road shall be staked.
 - (f) Stakes shall be set at
a maximum interval of 100 feet
on tangents and at
a maximum interval of 25 feet on curves.

- (g) The slope stake shall be moved back to the reference stake at time of staking. Slope stake and daylight locations shall be marked with a wire flag or equivalent approved by the Authorized Officer. Wire flags shall be colors approved by the Authorized Officer. The Purchaser shall reset the slope stakes after completion of clearing and grubbing operations, where needed.
- *2304 - A reference marker consisting of an aluminum or plastic tag nailed or stapled to the base of a stump or tree shall be set for each slope stake. If no stumps or trees are available, a stake identical to that used for slope staking may be used. Reference markers shall be readily visible from the slope stake and shall be set outside of the posted right-of-way. If not posted, the markers shall be set at least 15 feet beyond the slope stake.
- 2305 - Slope stakes and reference stakes shall be marked as shown on the plans.
- 2306 - Locations in which the stakes are placed in heavy brush and are difficult to see shall have the brush flagged with (Orange) flagging in such a manner as to facilitate relocation of the stakes.
- 2306a - If clearing limits are not posted, flagging shall be hung 10-feet horizontal distance past the slope stake set for a cut, 10-feet horizontal distance past the wire flag set for a daylight point, or 5-feet horizontal distance past the slope stake set for a fill. The flagging shall be inter-visible between sections and of a florescent color approved by the Authorized Officer.
- 2307 - Culvert locations shall be identified with a stake meeting the requirements of Subsection 2302 placed alongside the reference stake or slope stake.
- 2308 - Culvert locations shall have extra widening added to the catch basin side of the roadway based on 1-1/2 times the culvert diameter.
- 2309 - Stationing used is "L" or final location stationing.
- 2310 - Stakes shall be marked with black-lumber crayon or with a permanent waterproof felt-tip marker.

- *2311 - Slope and reference stakes shall be set to the following standards of accuracy:

maximum allowable horizontal error +/-	(2) feet
maximum allowable vertical error +/-	(1) foot

- 2312 - The Purchaser shall complete the required slope staking a minimum of 5 days in advance of construction unless otherwise agreed. Staking, and slope staking notes, shall be approved in writing by the Authorized Officer prior to right-of-way clearing, timber falling, and construction.

- 2313 - The Purchaser will slope stake and reference and furnish the BLM the resulting notes in advance of construction on the road shown below:

Road No.	Approximate Sta/Mi.
27-12-36.3	16.35 Stations

- *2314 - Data of Road Eng. 7.0 alignment and grade are available at :
BLM - Coos Bay District Office, Myrtlewood Resource Area,
Kenneth Sanders, Civil Engineering Technician,
1300 Airport Lane, North Bend, Oregon 97459.
541-751-4275. K1sander@blm.gov
P - Ground, Grade, Shift, and Template information shall be used to determine actual slope staked location.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Version: 5.2.0.62
Updated: 4/13/2016

Summary of All Roads and Projects

T.S. Contract Name: *HIDDEN GEM CT 2017.0032*

Prepared by: Ph: Print Date: 10/12/2016 5:20:03 PM

Construction: 95.63 sta

Improve: 0.00 sta Renov: 264.18 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing: 1.5 acres	\$4,925.09
300 Excavation: 6,062 cy	\$82,512.16
Haul < 500 ft: 28,625 sta-yds	
Haul > 500 ft: 150 yd-mi	
400 Drainage:	\$10,116.25
Culvert: 0 lf	DownSpout: 10 lf
PolyPipe: 145 lf	
500 Renovation:	\$18,496.92
Blading 4.99 mi	
700-1200 Surfacing:	\$165,351.81
Quarry Name: KincheloeRolf1.5-0" 4,342 LCY	
Quarry Name: KincheloeRolf 3.0-0" 2,733 LCY	
Commercial Quarry Name: KincheloeRolf6"-0 10 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$344.26
Gradation Class 2: 10 cy	
1800 Soil Stabilization: 9.6 acres	\$8,408.43
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 11.3 acres	\$6,054.30
2300 Engineering: 16.35 sta.	\$2,642.87
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$4,267.00 Surf. \$0.00.....	\$4,267.00
Quarry Development:	\$0.00

Total: = \$303,119.08

Notes:

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

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-11-30.1 R Road Name:

Road Renovation: 0.71 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,745.85
Blading 0.71 mi	
700-1200 Surfacing:	\$21,595.04
Quarry Name: KincheloeRolf1.5-0" 971 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$175.18
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.7 acres	\$490.11
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$342.76 Surf. \$0.00.....	\$342.76
Quarry Development:	\$0.00

Total: \$24,348.93

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-11-30.1 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.71 \text{ mi} = \511.56
Scarification: $\$893.46/\text{mi} \times 0.71 \text{ mi} = \634.36
Compaction: $\$403.47/\text{mi} \times 0.71 \text{ mi} = \286.46
Clean Culverts: $\$334.17/\text{mi} \times 0.71 \text{ mi} = \237.26
CPE inlet location Sta. 23+00
Backhoe 1 hr $\times \$76.21/\text{hr} = \76.21

Subtotal: \$1,745.85

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

<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>
0.26mi	12ft	12.75ft	2in	5%					0 LCY

Rock Volume = 147 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 147 \text{ LCY} = \$1,837.50$

Processing: $\$0.90/\text{LCY} \times 147 \text{ LCY} = \132.30

Compaction: $\$1.34/\text{LCY} \times 147 \text{ LCY} = \196.98

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 147 \text{ LCY} = \108.78

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 147 \text{ LCY} \times 1.00 \text{ mi} = \161.70

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 147 \text{ LCY} \times 10.00 \text{ mi} = \720.30

Basic Water Haul cost: $\$0.60/\text{LCY} \times 147 \text{ LCY} = \88.20

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 147 \text{ LCY} \times 2.00 \text{ mi} = \23.52

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: TOL Station 10+80 & Repair Station 25+00

<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>
0.45mi	12ft	14ft	6in	5%	1	10ft	50ft	25ft	10 LCY

Rock Volume = 824 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 824 \text{ LCY} = \$10,300.00$

Processing: $\$0.90/\text{LCY} \times 824 \text{ LCY} = \741.60

Compaction: $\$1.34/\text{LCY} \times 824 \text{ LCY} = \$1,104.16$

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 824 \text{ LCY} = \609.76

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 824 \text{ LCY} \times 1.00 \text{ mi} = \906.40

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 824 \text{ LCY} \times 10.00 \text{ mi} = \$4,037.60$

Basic Water Haul cost: $\$0.60/\text{LCY} \times 824 \text{ LCY} = \494.40

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 824 \text{ LCY} \times 2.00 \text{ mi} = \131.84

Subtotal: \$21,595.04

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$389.88/\text{acre} \times 0.20 \text{ acres} = \77.98
Includes Small Quantity Factor of 1.02
+ Seed Cost: $\$132.00/\text{acre} \times 0.20 \text{ acres} = \26.40
+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.20 \text{ acres} = \6.80
+ Mulch Cost: $\$320.00/\text{acre} \times 0.20 \text{ acres} = \64.00

	Subtotal:	\$175.18
Section 1900 Cattleguards:	Subtotal:	\$0.00
Section 2100 Roadside Brushing:		
Brushing width Left: 10ft. Right: 10ft.		
RoadSide Brushing Light: \$288.30/acre x 1.70 acres = \$490.11	Subtotal:	\$490.11
Section 2300 Engineering:	Subtotal:	\$0.00
Section 2400 Minor Concrete:	Subtotal:	\$0.00
Section 2500 Gabions:	Subtotal:	\$0.00
Section 8000 Miscellaneous:	Subtotal:	\$0.00
Mobilization:		
Construction - 8.03% of total Costs = \$342.76		
Surfacing - 13.71% by rock volume = \$0.00	Subtotal:	\$342.76
Quarry Development:		
Based on 13.71% of total rock volume	Subtotal:	\$0.00
	Total:	\$24,348.93

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-11-30.10 R Road Name:

Road Renovation: 0.27 mi 12 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$544.71
Blading 0.27 mi	
700-1200 Surfacing:	\$6,091.74
Quarry Name: KincheloeRolf1.5-0" 261 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.3 acres	\$262.76
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.2 acres	\$57.66
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$99.33 Surf. \$0.00.....	\$99.33
Quarry Development:	\$0.00

Total: \$7,056.20

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-11-30.10 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 0.27 \text{ mi} = \194.54

Scarification: $\$893.46/\text{mi} \times 0.27 \text{ mi} = \241.23

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.00 \text{ mi} = \0.00

Compaction: $\$403.47/\text{mi} \times 0.27 \text{ mi} = \108.94

Subtotal: \$544.71

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

<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>
0.27mi	10ft	11.333ft	4in	5%					0 LCY

Rock Volume = 261 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 261 \text{ LCY} = \$3,262.50$

Processing: $\$0.90/\text{LCY} \times 261 \text{ LCY} = \234.90

Compaction: $\$1.34/\text{LCY} \times 261 \text{ LCY} = \349.74

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 261 \text{ LCY} = \193.14

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 261 \text{ LCY} \times 2.00 \text{ mi} = \574.20

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 261 \text{ LCY} \times 10.00 \text{ mi} = \$1,278.90$

Basic Water Haul cost: $\$0.60/\text{LCY} \times 261 \text{ LCY} = \156.60

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 261 \text{ LCY} \times 2.00 \text{ mi} = \41.76

Subtotal: \$6,091.74

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$389.88/\text{acre} \times 0.30 \text{ acres} = \116.96

Includes Small Quantity Factor of 1.02

+ Seed Cost: $\$132.00/\text{acre} \times 0.30 \text{ acres} = \39.60

+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.30 \text{ acres} = \10.20

+ Mulch Cost: $\$320.00/\text{acre} \times 0.30 \text{ acres} = \96.00

Subtotal: \$262.76

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 10ft. Right: 10ft.

RoadSide Brushing Light: $\$288.30/\text{acre} \times 0.20 \text{ acres} = \57.66

Subtotal: \$57.66

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Road Number: 27-11-30.10 R Continued

	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 2.33% of total Costs = \$99.33		
Surfacing - 3.68% by rock volume = \$0.00		
	Subtotal:	\$99.33
Quarry Development:		
Based on 3.68% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$7,056.20

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-11-30.17 R Road Name:

Road Renovation: 1.19 mi 14 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,961.93
Blading 1.19 mi	
700-1200 Surfacing:	\$3,177.20
Quarry Name: KincheloeRolf 3.0-0" 130 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.5 acres	\$1,313.82
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 2.9 acres	\$1,672.14
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$130.29 Surf. \$0.00.....	\$130.29
Quarry Development:	\$0.00

Total: \$9,255.38

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-11-30.17 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: $\$720.50/\text{mi} \times 1.19 \text{ mi} = \857.40

Scarification: $\$893.46/\text{mi} \times 1.19 \text{ mi} = \$1,063.22$

Compaction: $\$403.47/\text{mi} \times 1.19 \text{ mi} = \480.13

Clean Culverts: $\$334.17/\text{mi} \times 1.19 \text{ mi} = \397.66

Truck turn out Station 53+00

Tractor: D7 with rippers 1 hr $\times \$163.53/\text{hr} = \163.53

Subtotal: \$2,961.93

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: SurfaceRock Stations 7+25(40), 17+25(20), 35+33(20), 53+00(50)

<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>
									130 LCY

Rock Volume = 130 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 130 \text{ LCY} = \$1,625.00$

Processing: $\$0.90/\text{LCY} \times 130 \text{ LCY} = \117.00

Compaction: $\$1.34/\text{LCY} \times 130 \text{ LCY} = \174.20

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 130 \text{ LCY} = \96.20

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 130 \text{ LCY} \times 3.00 \text{ mi} = \429.00

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 130 \text{ LCY} \times 10.00 \text{ mi} = \637.00

Basic Water Haul cost: $\$0.60/\text{LCY} \times 130 \text{ LCY} = \78.00

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 130 \text{ LCY} \times 2.00 \text{ mi} = \20.80

Subtotal: \$3,177.20

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$389.88/\text{acre} \times 1.50 \text{ acres} = \584.82

Includes Small Quantity Factor of 1.02

+ Seed Cost: $\$132.00/\text{acre} \times 1.50 \text{ acres} = \198.00

+ Fertilizer Cost: $\$34.00/\text{acre} \times 1.50 \text{ acres} = \51.00

+ Mulch Cost: $\$320.00/\text{acre} \times 1.50 \text{ acres} = \480.00

Subtotal: \$1,313.82

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: $\$576.60/\text{acre} \times 2.90 \text{ acres} = \$1,672.14$

Subtotal: \$1,672.14

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 3.05% of total Costs = \$130.29

Surfacing - 1.83% by rock volume = \$0.00

Subtotal: \$130.29

Quarry Development:

Based on 1.83% of total rock volume

Subtotal: \$0.00

Total: \$9,255.38

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-11-30.2 R Road Name:

Road Renovation: 0.63 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,481.51
Blading 0.63 mi	
700-1200 Surfacing:	\$31,555.68
Quarry Name: KincheloeRolf1.5-0" 1,352 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.5 acres	\$437.94
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.5 acres	\$432.45
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$484.13 Surf. \$0.00.....	\$484.13
Quarry Development:	\$0.00

Total: \$34,391.71

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-11-30.2 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.63 mi = \$453.92
Scarification: \$893.46/mi x 0.63 mi = \$562.88
Blading w/o Ditches: \$446.73/mi x 0.00 mi = \$0.00
Compaction: \$403.47/mi x 0.63 mi = \$254.19
Clean Culverts: \$334.17/mi x 0.63 mi = \$210.53

Subtotal: \$1,481.51

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: Station 14+00 & 32+75 TOR

<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>
0.27mi	12ft	15ft	8in	5%	2	10ft	50ft	25ft	

Rock Volume = 701 LCY

Purchase Price / Royalty: \$12.50/LCY x 701 LCY = \$8,762.50

Processing: \$0.90/LCY x 701 LCY = \$630.90

Compaction: \$1.34/LCY x 701 LCY = \$939.34

Basic Rock Haul cost: \$0.74/LCY x 701 LCY = \$518.74

Rock Haul -15% grades: \$1.10/LCY-mi x 701 LCY x 2.00 mi= \$1,542.20

Rock Haul St& Co Roads: \$0.49/LCY-mi x 701 LCY x 10.00 mi= \$3,434.90

Basic Water Haul cost: \$0.60/LCY x 701 LCY = \$420.60

Water Haul St&Co Roads: \$0.08/LCY-mi x 701 LCY x 2.00 mi= \$112.16

Crushed Quarry Name: KincheloeRolf1.5-0"

<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>
0.37mi	12ft	14ft	6in	5%	0	0ft	0ft	0ft	

Rock Volume = 651 LCY

Purchase Price / Royalty: \$12.50/LCY x 651 LCY = \$8,137.50

Processing: \$0.90/LCY x 651 LCY = \$585.90

Compaction: \$1.34/LCY x 651 LCY = \$872.34

Basic Rock Haul cost: \$0.74/LCY x 651 LCY = \$481.74

Rock Haul -15% grades: \$1.10/LCY-mi x 651 LCY x 2.00 mi= \$1,432.20

Rock Haul St& Co Roads: \$0.49/LCY-mi x 651 LCY x 10.00 mi= \$3,189.90

Basic Water Haul cost: \$0.60/LCY x 651 LCY = \$390.60

Water Haul St&Co Roads: \$0.08/LCY-mi x 651 LCY x 2.00 mi= \$104.16

Subtotal: \$31,555.68

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.50 acres = \$194.94

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.50 acres = \$66.00

+ Fertilizer Cost: \$34.00/acre x 0.50 acres = \$17.00

+ Mulch Cost: \$320.00/acre x 0.50 acres = \$160.00

	Subtotal:	\$437.94
Section 1900 Cattleguards:		
	Subtotal:	\$0.00
Section 2100 Roadside Brushing:		
Brushing width Left: 10ft. Right: 10ft.		
RoadSide Brushing Light: \$288.30/acre x 1.50 acres = \$432.45		
RoadSide Brushing Medium: \$576.60/acre x 0.00 acres = \$0.00		
	Subtotal:	\$432.45
Section 2300 Engineering:		
	Subtotal:	\$0.00
Section 2400 Minor Concrete:		
	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 11.35% of total Costs = \$484.13		
Surfacing - 19.08% by rock volume = \$0.00		
	Subtotal:	\$484.13
Quarry Development:		
Based on 19.08% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$34,391.71

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-12-36.2 R Road Name:

Road Renovation: 0.12 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$372.77
Blading 0.12 mi	
700-1200 Surfacing:	\$2,444.00
Quarry Name: KincheloeRolf 3.0-0" 100 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.1 acres	\$87.59
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$86.49
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$42.70 Surf. \$0.00.....	\$42.70
Quarry Development:	\$0.00

Total: \$3,033.55

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-12-36.2 R 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:

Scarification: $\$893.46/\text{mi} \times 0.12 \text{ mi} = \107.22

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.12 \text{ mi} = \53.61

Compaction: $\$403.47/\text{mi} \times 0.12 \text{ mi} = \48.42

20' Truck Turn out Station 4+00

Tractor: D7 with rippers 1 hr x $\$163.53/\text{hr} = \163.53

Subtotal: \$372.77

Section 700-1200 Surfacing:

Crushed Quarry Name: Kincheloe Rolf 3.0-0"

Comment: 20' Turn out right Station 4+00 to 5+00

<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>
									100 LCY

Rock Volume = 100 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 100 \text{ LCY} = \$1,250.00$

Processing: $\$0.90/\text{LCY} \times 100 \text{ LCY} = \90.00

Compaction: $\$1.34/\text{LCY} \times 100 \text{ LCY} = \134.00

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 100 \text{ LCY} = \74.00

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 100 \text{ LCY} \times 3.00 \text{ mi} = \330.00

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 100 \text{ LCY} \times 10.00 \text{ mi} = \490.00

Basic Water Haul cost: $\$0.60/\text{LCY} \times 100 \text{ LCY} = \60.00

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 100 \text{ LCY} \times 2.00 \text{ mi} = \16.00

Subtotal: \$2,444.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$389.88/\text{acre} \times 0.10 \text{ acres} = \38.99

Includes Small Quantity Factor of 1.02

+ Seed Cost: $\$132.00/\text{acre} \times 0.10 \text{ acres} = \13.20

+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.10 \text{ acres} = \3.40

+ Mulch Cost: $\$320.00/\text{acre} \times 0.10 \text{ acres} = \32.00

Subtotal: \$87.59

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 10ft. Right: 10ft.

RoadSide Brushing Light: $\$288.30/\text{acre} \times 0.30 \text{ acres} = \86.49

Subtotal: \$86.49

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 - 1.00% of total Costs = \$42.70

Surfacing - 1.41% by rock volume = \$0.00

Subtotal: \$42.70

Quarry Development:

Based on 1.41% of total rock volume

Subtotal: \$0.00

Total: \$3,033.55

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 27-12-36.3 C Road Name:

Road Construction: 0.31 mi 18 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: 1.5 acres	\$4,925.09
300 Excavation: 6,062 cy	\$23,048.50
Haul < 500 ft: 15,500 sta-yds	
400 Drainage:	\$8,082.55
Culvert: 0 lf	
DownSpout: 10 lf	
PolyPipe: 115 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$54,700.14
Quarry Name: KincheloeRolf1.5-0" 424 LCY	
Quarry Name: KincheloeRolf 3.0-0" 1,566 LCY	
Quarry Name: KincheloeRolf6"-0 10 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$344.26
Gradation Class 2: 10 cy	
1800 Soil Stabilization: 1.3 acres	\$1,138.64
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 16.35 sta.	\$2,642.87
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$1,354.72 Surf. \$0.00.....	\$1,354.72
Quarry Development:	\$0.00
Total: \$96,236.77	

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 27-12-36.3 C Road Name:

Section 200 Clearing and Grubbing:

Clearing - Heavy (Clearing): Adjustment Factor (2.54)

31-45% (Avg Side Slopes): Adjustment Factor (0.2)

Scatter (Slash): Adjustment Factor (1)

20-40' (Avg Clearing Widths): Adjustment Factor (0.1)

Total Adjustment Factor: $2.54 + 0.2 + 1 + 0.1 = 3.84$

Base Cost/Acre: \$855.05 x Adjustment Factor: 3.84 x Total Acres: 1.5 = \$4,925.09

Subtotal: \$4,925.09

Section 300 Excavation:

Excavation - Common: $\$1.93/\text{cy} \times 6,062 \text{ cy} = \$11,699.66$

Embankment Placement & Compaction 306.f - Common: $\$0.26/\text{cy} \times 0 \text{ cy} = \0.00

Subgrade Compaction: 4 Sta/hr $\$33.62/\text{sta.} \times 16.4 \text{ sta} = \549.69

Slope Rounding: $\$0.29/\text{lf} \times 1,135 \text{ lf} = \329.15

Embankment Placement & Compaction 306.a - Common: $\$0.90/\text{cy} \times 6,062 \text{ cy} = \$5,455.80$

End Hauling - 100 to 500 ft: $\$0.15/\text{sta-yd} \times 15,500 \text{ sta-yd} = \$2,325.00$

End Hauling > 500 ft and 10 mph: $\$2.69/\text{yd-mi} \times 0 \text{ yd-mi} = \0.00

Blading with ditch: $\$14.45/\text{station} \times 16.35 \text{ stations} = \236.26

Construction

Tractor: D7 with rippers Turn outs (2) (1+25)&(8+75)

5 hr x $\$163.53/\text{hr} = \817.65

Tractor: D7 with rippers Landings (2) (13+87)&(26+04)

10 hr x $\$163.53/\text{hr} = \$1,635.30$

Subtotal: \$23,048.50

Section 400 Drainage:

Full Round - Poly 4+06 24 inch 10 lf x $\$28.42/\text{lf} = \284.20

Poly Pipe Draw fed (4+06) 24 inch 35 lf x $\$63.29/\text{lf} = \$2,215.15$

Poly Pipe Station 4+06 24 inch 80 lf x $\$63.29/\text{lf} = \$5,063.20$

Culvert Bedding 1 1/2" minus

24" x 80' CPE "S" Station (11+22) 15 cuyd x $\$25.00/\text{cuyd} = \375.00

24" x 35' CPE "S" Station (4+06) 5 cuyd x $\$25.00/\text{cuyd} = \125.00

6' Steel T-post red top painted inlet marker

2 ea x $\$10.00/\text{ea} = \20.00

Subtotal: \$8,082.55

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: CURVE AND FILL WIDENING +422

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.31mi	12ft	13.33ft	4in	5%	2	10ft	50ft	25ft	42 LCY

Rock Volume = 424 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 424 \text{ LCY} = \$5,300.00$

Processing: $\$0.90/\text{LCY} \times 424 \text{ LCY} = \381.60

Compaction: $\$1.34/\text{LCY} \times 424 \text{ LCY} = \568.16

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 424 \text{ LCY} = \313.76

Rock Haul +15% grades: $\$2.21/\text{LCY-mi} \times 424 \text{ LCY} \times 1.00 \text{ mi} = \937.04

Rock Haul -15% grades: $\$1.10/\text{LCY-mi} \times 424 \text{ LCY} \times 2.00 \text{ mi} = \932.80

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 424 \text{ LCY} \times 10.00 \text{ mi} = \$2,077.60$

Basic Water Haul cost: $\$0.60/\text{LCY} \times 424 \text{ LCY} = \254.40

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 424 \text{ LCY} \times 2.00 \text{ mi} = \67.84

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: CURVE + FILL WIDENING 480 LCUYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.31mi	13.33ft	16ft	8in	5%	2	10ft	50ft	25ft	480 LCY

Rock Volume = 1,356 LCY

Purchase Price / Royalty: \$12.50/LCY x 1,356 LCY = \$16,950.00

Processing: \$0.90/LCY x 1,356 LCY = \$1,220.40

Compaction: \$1.34/LCY x 1,356 LCY = \$1,817.04

Basic Rock Haul cost: \$0.74/LCY x 1,356 LCY = \$1,003.44

Rock Haul +15% grades: \$2.21/LCY-mi x 1,356 LCY x 2.00 mi= \$5,993.52

Rock Haul -15% grades: \$1.10/LCY-mi x 1,356 LCY x 2.00 mi= \$2,983.20

Rock Haul St& Co Roads: \$0.49/LCY-mi x 1,356 LCY x 10.00 mi= \$6,644.40

Basic Water Haul cost: \$0.60/LCY x 1,356 LCY = \$813.60

Water Haul St&Co Roads: \$0.08/LCY-mi x 1,356 LCY x 2.00 mi= \$216.96

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: 12"deep Landing 3-0" outside road prism (13+74)&(16+04)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									210 LCY

Rock Volume = 210 LCY

Purchase Price / Royalty: \$12.50/LCY x 210 LCY = \$2,625.00

Processing: \$0.90/LCY x 210 LCY = \$189.00

Compaction: \$1.34/LCY x 210 LCY = \$281.40

Basic Rock Haul cost: \$0.74/LCY x 210 LCY = \$155.40

Rock Haul +15% grades: \$2.21/LCY-mi x 210 LCY x 2.00 mi= \$928.20

Rock Haul -15% grades: \$1.10/LCY-mi x 210 LCY x 2.00 mi= \$462.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 210 LCY x 10.00 mi= \$1,029.00

Basic Water Haul cost: \$0.60/LCY x 210 LCY = \$126.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 210 LCY x 2.00 mi= \$33.60

Commercial Quarry Name: KincheloeRolf6"-0

Comment: armor inlets Culverts Stations 4+06 & 11+22

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									10 LCY

Rock Volume = 10 LCY

Purchase Price / Royalty: \$9.25/LCY x 10 LCY = \$92.50

Basic Rock Haul cost: \$0.74/LCY x 10 LCY = \$7.40

Rock Haul +15% grades: \$2.21/LCY-mi x 10 LCY x 1.00 mi= \$22.10

Rock Haul -15% grades: \$1.10/LCY-mi x 10 LCY x 2.00 mi= \$22.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 10 LCY x 10.00 mi= \$49.00

Basic Water Haul cost: \$0.60/LCY x 10 LCY = \$6.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 10 LCY x 2.00 mi= \$1.60

Armor culvert inlets

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Sta.11+22 Energy dissipator

Excavator -Small (1.5 CY) 1 hr x \$97.09/hr = \$97.09

Subtotal: \$54,700.14

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Comment: Station 11+20 Energy dissipator 24" x 80 CPE Outlet

Rock Source: KincheloeRolf III RR

Purchase Price / Royalty: \$18.75/cy x 10cy = \$187.50

Furnish Class 2 type rock

Basic Rock Haul cost: \$1.35/cy x 10cy = \$13.50

Rock Haul +15% grades: \$2.69/cy-mi x 10cy x 1.00 mi= \$26.90

Rock Haul -15% grades: \$1.35/cy-mi x 10cy x 2.00 mi= \$27.00

Rock Haul St& Co Roads: \$0.60/cy-mi x 10cy x 10.00 mi= \$60.00

Placement on Fill slopes: 10cy x (\$2.85/cy x 1.03) = \$29.36

Subtotal: \$344.26

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 1.30 acres = \$506.84

Includes Small Quantity Factor of 1.02

Road Number: 27-12-36.3 C Continued

+ Seed Cost: \$132.00/acre x 1.30 acres = \$171.60
+ Fertilizer Cost: \$34.00/acre x 1.30 acres = \$44.20
+ Mulch Cost: \$320.00/acre x 1.30 acres = \$416.00

Subtotal: \$1,138.64

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Comment: NORMAL = (0+00-4+00)

Both Sides Normal: \$148.84/sta x 4.00 sta = \$595.36

Both Sides Difficult: \$165.79/sta x 12.35 sta = \$2,047.51

Subtotal: \$2,642.87

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 31.75% of total Costs = \$1,354.72

Surfacing - 28.23% by rock volume = \$0.00

Subtotal: \$1,354.72

Quarry Development:

Based on 28.23% of total rock volume

Subtotal: \$0.00

Total: \$96,236.77

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-5.4 R Road Name: BPA access

Road Renovation: 0.30 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,994.87
Blading 0.30 mi	
700-1200 Surfacing:	\$590.10
Quarry Name: KincheloeRolf1.5-0" 30 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.5 acres	\$437.94
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.3 acres	\$86.49
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$44.40 Surf. \$0.00.....	\$44.40
Quarry Development:	\$0.00

Total: \$3,153.79

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-5.4 R Road Name: BPA access

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Scarification: $\$893.46/\text{mi} \times 0.30 \text{ mi} = \268.04

Blading w/o Ditches: $\$446.73/\text{mi} \times 0.30 \text{ mi} = \134.02

Compaction: $\$403.47/\text{mi} \times 0.30 \text{ mi} = \121.04

Landing Construction

Tractor: D7 with rippers (Station 0+30) 1-12

3 hr x $\$163.53/\text{hr} = \490.59

Tractor: D7 with rippers (Station 5+25) 1-10 & widening

4 hr x $\$163.53/\text{hr} = \654.12

Tractor: D7 with rippers (Station 8+25) 1-9

2 hr x $\$163.53/\text{hr} = \327.06

Subtotal: \$1,994.87

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: Spot rock 0+00 to 0+40

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30 LCY

Rock Volume = 30 LCY

Purchase Price / Royalty: $\$12.50/\text{LCY} \times 30 \text{ LCY} = \375.00

Processing: $\$0.90/\text{LCY} \times 30 \text{ LCY} = \27.00

Compaction: $\$1.34/\text{LCY} \times 30 \text{ LCY} = \40.20

Basic Rock Haul cost: $\$0.74/\text{LCY} \times 30 \text{ LCY} = \22.20

Rock Haul St& Co Roads: $\$0.49/\text{LCY-mi} \times 30 \text{ LCY} \times 7.00 \text{ mi} = \102.90

Basic Water Haul cost: $\$0.60/\text{LCY} \times 30 \text{ LCY} = \18.00

Water Haul St&Co Roads: $\$0.08/\text{LCY-mi} \times 30 \text{ LCY} \times 2.00 \text{ mi} = \4.80

Subtotal: \$590.10

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: $\$389.88/\text{acre} \times 0.50 \text{ acres} = \194.94

Includes Small Quantity Factor of 1.02

+ Seed Cost: $\$132.00/\text{acre} \times 0.50 \text{ acres} = \66.00

+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.50 \text{ acres} = \17.00

+ Mulch Cost: $\$320.00/\text{acre} \times 0.50 \text{ acres} = \160.00

Subtotal: \$437.94

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Brushing width Left: 10ft. Right: 10ft.

RoadSide Brushing Light: $\$288.30/\text{acre} \times 0.30 \text{ acres} = \86.49

Road Number: 28-11-5.4 R BPA access Continued

RoadSide Brushing Medium: \$576.60/acre x 0.00 acres = \$0.00	Subtotal:	\$86.49
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 - 1.04% of total Costs = \$44.40		
Surfacing - 0.42% by rock volume = \$0.00	Subtotal:	\$44.40
Quarry Development:		
Based on 0.42% of total rock volume	Subtotal:	\$0.00
	Total:	\$3,153.79

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-5.5 C Road Name:

Road Construction: 0.53 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$18,525.28
Haul < 500 ft: 3,250 sta-yds	
Haul > 500 ft: 150 yd-mi	
400 Drainage:	\$2,033.70
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 30 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.3 acres	\$1,138.64
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$309.80 Surf. \$0.00.....	\$309.80
Quarry Development:	\$0.00

Total: \$22,007.42

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-5.5 C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 28.0 sta = \$941.36

End Hauling - 100 to 500 ft: \$0.15/sta-yd x 3,250 sta-yd = \$487.50

End Hauling > 500 ft and 10 mph: \$2.69/yd-mi x 150 yd-mi = \$403.50

Blading without ditch: \$12.14/station x 28.00 stations = \$339.92

Construction

Tractor: D7 with rippers ROAD PRISM 88 hr x \$163.53/hr = \$14,390.64

Tractor: D7 with rippers END Landing

5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers SIDE LANDINGS (2)

7 hr x \$163.53/hr = \$1,144.71

Subtotal: \$18,525.28

Section 400 Drainage:

Poly Pipe Sta.14+10

24 inch 30 lf x \$63.29/lf = \$1,898.70

Culvert bedding 1 1/2" minus

Station (14+10) 24"x30' CPE"S" 5 cuyd x \$25.00/cuyd = \$125.00

6' steel Tpost inlet marker 1 ea x \$10.00/ea = \$10.00

Subtotal: \$2,033.70

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 1.30 acres = \$506.84

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 1.30 acres = \$171.60

+ Fertilizer Cost: \$34.00/acre x 1.30 acres = \$44.20

+ Mulch Cost: \$320.00/acre x 1.30 acres = \$416.00

Subtotal: \$1,138.64

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Subtotal: \$0.00

Section 2300 Engineering:

Subtotal: \$0.00

Section 2400 Minor Concrete:

Subtotal: \$0.00

Section 2500 Gabions:

Road Number: 28-11-5.5 C Continued

Subtotal: \$0.00

Section 8000 Miscellaneous:

Subtotal: \$0.00

Mobilization:

Construction - 7.26% of total Costs = \$309.80

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$309.80

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$22,007.42

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-5.6 C Road Name:

Road Construction: 0.08 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$4,135.92
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$175.18
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$61.55 Surf. \$0.00.....	\$61.55
Quarry Development:	\$0.00
Total:	\$4,372.65

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-5.6 C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 4.4 sta = \$146.25

Blading without ditch: \$12.14/station x 5.35 stations = \$64.95

Construction

Tractor: D7 with rippers ROAD PRISM 17 hr x \$163.53/hr = \$2,780.01

Tractor: D7 with rippers END LANDING 5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers TTA and LDG (1+60)

2 hr x \$163.53/hr = \$327.06

Subtotal: \$4,135.92

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.20 acres = \$77.98

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.20 acres = \$26.40

+ Fertilizer Cost: \$34.00/acre x 0.20 acres = \$6.80

+ Mulch Cost: \$320.00/acre x 0.20 acres = \$64.00

Subtotal: \$175.18

Mobilization:

Construction - 1.44% of total Costs = \$61.55

Subtotal: \$61.55

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$4,372.65

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-6.3 C Road Name:

Road Construction: 0.42 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$13,286.57
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.0 acres	\$875.88
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$202.21 Surf. \$0.00.....	\$202.21
Quarry Development:	\$0.00
	Total: \$14,364.66

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-6.3 C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 22.3 sta = \$750.73

Blading without ditch: \$12.14/station x 22.33 stations = \$271.09

Construction

Tractor: D7 with rippers ROAD PRISM 63 hr x \$163.53/hr = \$10,302.39

Tractor: D7 with rippers END LANDING 8 hr x \$163.53/hr = \$1,308.24

Tractor: D7 with rippers 2 TURNOUTS 4 hr x \$163.53/hr = \$654.12

Subtotal: \$13,286.57

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 1.00 acres = \$389.88

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 1.00 acres = \$132.00

+ Fertilizer Cost: \$34.00/acre x 1.00 acres = \$34.00

+ Mulch Cost: \$320.00/acre x 1.00 acres = \$320.00

Subtotal: \$875.88

Mobilization:

Construction - 4.74% of total Costs = \$202.21

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$202.21

Total: \$14,364.66

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-6.4 C Road Name:

Road Construction: 0.14 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: 0.0 acres	\$0.00
300 Excavation:	\$4,917.46
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.3 acres	\$262.76
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$73.96 Surf. \$0.00.....	\$73.96
Quarry Development:	\$0.00
Total:	\$5,254.19

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-6.4 C Road Name:

Section 200 Clearing and Grubbing:

Clearing - Brush (Clearing): Adjustment Factor (0)
1-15% (Avg Side Slopes): Adjustment Factor (0)
Scatter (Slash): Adjustment Factor (1)
less than 20' (Avg Clearing Widths): Adjustment Factor (0.25)
Total Adjustment Factor: $0 + 0 + 1 + 0.25 = 1.25$

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 7.4 sta = \$248.79
Blading without ditch: \$12.14/station x 7.40 stations = \$89.84

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 21 hr x \$163.53/hr = \$3,434.13
Tractor: D7 with rippers END LANDING 5 hr x \$163.53/hr = \$817.65
Tractor: D7 with rippers TURN OUT 1 2 hr x \$163.53/hr = \$327.06

Subtotal: \$4,917.46

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:
Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.30 acres = \$116.96
Includes Small Quantity Factor of 1.02
+ Seed Cost: \$132.00/acre x 0.30 acres = \$39.60
+ Fertilizer Cost: \$34.00/acre x 0.30 acres = \$10.20
+ Mulch Cost: \$320.00/acre x 0.30 acres = \$96.00

Subtotal: \$262.76

Mobilization:

Construction - 1.73% of total Costs = \$73.96
Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$73.96

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$5,254.19

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-11-7.2 R Road Name:

Road Renovation: 0.73 mi 14 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$0.00
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$1,716.67
Blading 0.73 mi	
700-1200 Surfacing:	\$6,520.80
Quarry Name: KincheloeRolf1.5-0" 297 LCY	
Quarry Name: KincheloeRolf 3.0-0" 15 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.4 acres	\$350.35
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 1.8 acres	\$518.94
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$130.03 Surf. \$0.00.....	\$130.03
Quarry Development:	\$0.00

Total: \$9,236.79

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-11-7.2 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subtotal: \$0.00

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.73 mi = \$525.97
 Scarification: \$893.46/mi x 0.73 mi = \$652.23
 Compaction: \$403.47/mi x 0.73 mi = \$294.53
 Clean Culverts: \$334.17/mi x 0.73 mi = \$243.94

Subtotal: \$1,716.67

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: Curve 35cuyd(Station 15+00),+40cuyd(Wye 0+00)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.30mi	10ft	11ft	3in	5%					75 LCY

Rock Volume = 292 LCY

Purchase Price / Royalty: \$12.50/LCY x 292 LCY = \$3,650.00

Processing: \$0.90/LCY x 292 LCY = \$262.80

Compaction: \$1.34/LCY x 292 LCY = \$391.28

Basic Rock Haul cost: \$0.74/LCY x 292 LCY = \$216.08

Rock Haul +15% grades: \$2.21/LCY-mi x 292 LCY x 1.00 mi= \$645.32

Rock Haul St& Co Roads: \$0.49/LCY-mi x 292 LCY x 5.00 mi= \$715.40

Basic Water Haul cost: \$0.60/LCY x 292 LCY = \$175.20

Water Haul St&Co Roads: \$0.08/LCY-mi x 292 LCY x 2.00 mi= \$46.72

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: Spot rock Station (33+50)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									5 LCY

Rock Volume = 5 LCY

Purchase Price / Royalty: \$12.50/LCY x 5 LCY = \$62.50

Processing: \$0.90/LCY x 5 LCY = \$4.50

Compaction: \$1.34/LCY x 5 LCY = \$6.70

Basic Rock Haul cost: \$0.74/LCY x 5 LCY = \$3.70

Rock Haul +15% grades: \$2.21/LCY-mi x 5 LCY x 1.00 mi= \$11.05

Rock Haul -15% grades: \$1.10/LCY-mi x 5 LCY x 0.00 mi= \$0.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 5 LCY x 5.00 mi= \$12.25

Basic Water Haul cost: \$0.60/LCY x 5 LCY = \$3.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 5 LCY x 2.00 mi= \$0.80

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Base Spot rock Sta. 8+00,10+75 & 13+50.

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									15 LCY

Rock Volume = 15 LCY

Purchase Price / Royalty: \$12.50/LCY x 15 LCY = \$187.50

Processing: \$0.90/LCY x 15 LCY = \$13.50

Compaction: \$1.34/LCY x 15 LCY = \$20.10

Basic Rock Haul cost: \$0.74/LCY x 15 LCY = \$11.10

Rock Haul +15% grades: \$2.21/LCY-mi x 15 LCY x 1.00 mi= \$33.15

Rock Haul St& Co Roads: \$0.49/LCY-mi x 15 LCY x 5.00 mi= \$36.75

Basic Water Haul cost: \$0.60/LCY x 15 LCY = \$9.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 15 LCY x 2.00 mi= \$2.40

	Subtotal:	\$6,520.80
Section 1300 Geotextiles:		
	Subtotal:	\$0.00
Section 1400 Slope Protection:		
	Subtotal:	\$0.00
Section 1800 Soil Stabilization:		
Dry Method with Mulch: $\$389.88/\text{acre} \times 0.40 \text{ acres} = \155.95		
Includes Small Quantity Factor of 1.02		
+ Seed Cost: $\$132.00/\text{acre} \times 0.40 \text{ acres} = \52.80		
+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.40 \text{ acres} = \13.60		
+ Mulch Cost: $\$320.00/\text{acre} \times 0.40 \text{ acres} = \128.00		
	Subtotal:	\$350.35
Section 1900 Cattleguards:		
	Subtotal:	\$0.00
Section 2100 Roadside Brushing:		
Brushing width Left: 10ft. Right: 10ft.		
RoadSide Brushing Light: $\$288.30/\text{acre} \times 1.80 \text{ acres} = \518.94		
	Subtotal:	\$518.94
Section 2300 Engineering:		
	Subtotal:	\$0.00
Section 2400 Minor Concrete:		
	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 3.05% of total Costs = \$130.03		
Surfacing - 4.40% by rock volume = \$0.00		
	Subtotal:	\$130.03
Quarry Development:		
Based on 4.40% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$9,236.79

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-12-1.0 R Road Name:

Road Renovation: 0.19 mi 14 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$219.50
Haul < 500 ft: 500 sta-yds	
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$2,245.63
Blading 0.19 mi	
700-1200 Surfacing:	\$9,372.13
Quarry Name: KincheloeRolf1.5-0" 176 LCY	
Quarry Name: KincheloeRolf 3.0-0" 285 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$175.18
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.5 acres	\$288.30
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$175.63 Surf. \$0.00.....	\$175.63
Quarry Development:	\$0.00

Total: \$12,476.37

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-12-1.0 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Comment: Remove surface duff and organics to Sta 40+00 (28-12-12.1)

End Hauling - 100 to 500 ft: \$0.15/sta-yd x 500 sta-yd = \$75.00

Blading with ditch: \$14.45/station x 10.00 stations = \$144.50

Subtotal: \$219.50

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.19 mi = \$136.90

Scarification: \$893.46/mi x 0.19 mi = \$169.76

Compaction: \$403.47/mi x 0.19 mi = \$76.66

Clean Culverts: \$334.17/mi x 0.19 mi = \$63.49

Construction

Tractor: D7 with rippers Landing (6+00) Left

5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers Borrow (6+00) Right

2 hr x \$163.53/hr = \$327.06

Tractor: D7 with rippers Landing (10+00) Right

4 hr x \$163.53/hr = \$654.12

Subtotal: \$2,245.63

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: New Top course (40cuyd) Sta7+25 TOL

<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>
0.19mi	10ft	11ft	3in	5%					40 LCY

Rock Volume = 176 LCY

Purchase Price / Royalty: \$12.50/LCY x 176 LCY = \$2,200.00

Processing: \$0.90/LCY x 176 LCY = \$158.40

Compaction: \$1.34/LCY x 176 LCY = \$235.84

Basic Rock Haul cost: \$0.74/LCY x 176 LCY = \$130.24

Rock Haul +15% grades: \$2.21/LCY-mi x 176 LCY x 1.00 mi= \$388.96

Rock Haul St& Co Roads: \$0.49/LCY-mi x 176 LCY x 4.00 mi= \$344.96

Basic Water Haul cost: \$0.60/LCY x 176 LCY = \$105.60

Water Haul St&Co Roads: \$0.08/LCY-mi x 176 LCY x 1.00 mi= \$14.08

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Landing (6+00)

<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>
									70 LCY

Rock Volume = 70 LCY

Purchase Price / Royalty: \$12.50/LCY x 70 LCY = \$875.00

Processing: \$0.90/LCY x 70 LCY = \$63.00

Compaction: \$1.34/LCY x 70 LCY = \$93.80

Basic Rock Haul cost: \$0.74/LCY x 70 LCY = \$51.80

Rock Haul +15% grades: \$2.21/LCY-mi x 70 LCY x 1.00 mi= \$154.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 70 LCY x 4.00 mi= \$137.20

Basic Water Haul cost: \$0.60/LCY x 70 LCY = \$42.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 70 LCY x 1.00 mi= \$5.60

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: New base course

<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>
0.06mi	11ft	14ft	9in	5%					0 LCY

Rock Volume = 145 LCY
 Purchase Price / Royalty: \$12.50/LCY x 145 LCY = \$1,812.50
 Processing: \$0.90/LCY x 145 LCY = \$130.50
 Compaction: \$1.34/LCY x 145 LCY = \$194.30
 Basic Rock Haul cost: \$0.74/LCY x 145 LCY = \$107.30
 Rock Haul +15% grades: \$2.21/LCY-mi x 145 LCY x 1.00 mi= \$320.45
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 145 LCY x 4.00 mi= \$284.20
 Basic Water Haul cost: \$0.60/LCY x 145 LCY = \$87.00
 Water Haul St&Co Roads: \$0.08/LCY-mi x 145 LCY x 1.00 mi= \$11.60

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Landing (10+00) Right

<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>
									70 LCY

Rock Volume = 70 LCY
 Purchase Price / Royalty: \$12.50/LCY x 70 LCY = \$875.00
 Processing: \$0.90/LCY x 70 LCY = \$63.00
 Compaction: \$1.34/LCY x 70 LCY = \$93.80
 Basic Rock Haul cost: \$0.74/LCY x 70 LCY = \$51.80
 Rock Haul +15% grades: \$2.21/LCY-mi x 70 LCY x 1.00 mi= \$154.70
 Rock Haul St& Co Roads: \$0.49/LCY-mi x 70 LCY x 4.00 mi= \$137.20
 Basic Water Haul cost: \$0.60/LCY x 70 LCY = \$42.00
 Water Haul St&Co Roads: \$0.08/LCY-mi x 70 LCY x 1.00 mi= \$5.60

Subtotal: \$9,372.13

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.20 acres = \$77.98
 Includes Small Quantity Factor of 1.02
 + Seed Cost: \$132.00/acre x 0.20 acres = \$26.40
 + Fertilizer Cost: \$34.00/acre x 0.20 acres = \$6.80
 + Mulch Cost: \$320.00/acre x 0.20 acres = \$64.00

Subtotal: \$175.18

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

RoadSide Brushing Medium: \$576.60/acre x 0.50 acres = \$288.30

Subtotal: \$288.30

Mobilization:

Construction - 4.12% of total Costs = \$175.63
 Surfacing - 6.51% by rock volume = \$0.00

Subtotal: \$175.63

Quarry Development:

Based on 6.51% of total rock volume

Subtotal: \$0.00

Total: \$12,476.37

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: 28-12-12.1 R Road Name:

Road Renovation: 0.85 mi 14 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$2,056.50
Haul < 500 ft: 9,375 sta-yds	
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$5,432.99
Blading 0.85 mi	
700-1200 Surfacing:	\$19,964.06
Quarry Name: KincheloeRolf1.5-0" 712 LCY	
Quarry Name: KincheloeRolf 3.0-0" 270 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 1.0 acres	\$875.88
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 2.1 acres	\$2,421.72
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$439.06 Surf. \$0.00.....	\$439.06
Quarry Development:	\$0.00

Total: \$31,190.21

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: 28-12-12.1 R Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Comment: Remove surface duff and organics to Station 25+50.

End Hauling - 100 to 500 ft: \$0.15/sta-yd x 9,375 sta-yd = \$1,406.25

Blading with ditch: \$14.45/station x 45.00 stations = \$650.25

Subtotal: \$2,056.50

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Blading: \$720.50/mi x 0.85 mi = \$612.43

Scarification: \$893.46/mi x 0.85 mi = \$759.44

Compaction: \$403.47/mi x 0.85 mi = \$342.95

Clean Culverts: \$334.17/mi x 0.85 mi = \$284.04

Construction

Tractor: D7 with rippers Waste-fill (25+50)

3 hr x \$163.53/hr = \$490.59

Tractor: D7 with rippers (TOR x5) 5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers Landing/borrow/TTA (30+00)

5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers Landing (34+00)

2 hr x \$163.53/hr = \$327.06

Tractor: D7 with rippers Waste-fill (40+00)

2 hr x \$163.53/hr = \$327.06

Tractor: D7 with rippers Landing (40+60)

4 hr x \$163.53/hr = \$654.12

Subtotal: \$5,432.99

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Comment: 50cuyd(0+50) TOR (Sta7+25,13+85,17+25,20+80,25+75)5yd 22+00

<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>
0.85mi	10ft	11ft	3in	5%	5	10ft	50ft	25ft	55 LCY

Rock Volume = 712 LCY

Purchase Price / Royalty: \$12.50/LCY x 712 LCY = \$8,900.00

Processing: \$0.90/LCY x 712 LCY = \$640.80

Compaction: \$1.34/LCY x 712 LCY = \$954.08

Basic Rock Haul cost: \$0.74/LCY x 712 LCY = \$526.88

Rock Haul +15% grades: \$2.21/LCY-mi x 712 LCY x 1.00 mi= \$1,573.52

Rock Haul St& Co Roads: \$0.49/LCY-mi x 712 LCY x 4.00 mi= \$1,395.52

Basic Water Haul cost: \$0.60/LCY x 712 LCY = \$427.20

Water Haul St&Co Roads: \$0.08/LCY-mi x 712 LCY x 1.00 mi= \$56.96

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Landing (30+00)

<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>
									100 LCY

Rock Volume = 100 LCY

Purchase Price / Royalty: \$12.50/LCY x 100 LCY = \$1,250.00

Processing: \$0.90/LCY x 100 LCY = \$90.00

Compaction: \$1.34/LCY x 100 LCY = \$134.00

Basic Rock Haul cost: \$0.74/LCY x 100 LCY = \$74.00

Rock Haul +15% grades: \$2.21/LCY-mi x 100 LCY x 1.00 mi= \$221.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 100 LCY x 4.00 mi= \$196.00

Basic Water Haul cost: \$0.60/LCY x 100 LCY = \$60.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 100 LCY x 1.00 mi= \$8.00

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: TTA-Left (30+00)

<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>
									30 LCY

Rock Volume = 30 LCY

Purchase Price / Royalty: \$12.50/LCY x 30 LCY = \$375.00

Processing: \$0.90/LCY x 30 LCY = \$27.00

Compaction: \$1.34/LCY x 30 LCY = \$40.20

Basic Rock Haul cost: \$0.74/LCY x 30 LCY = \$22.20

Rock Haul +15% grades: \$2.21/LCY-mi x 30 LCY x 1.00 mi= \$66.30

Rock Haul St& Co Roads: \$0.49/LCY-mi x 30 LCY x 4.00 mi= \$58.80

Basic Water Haul cost: \$0.60/LCY x 30 LCY = \$18.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 30 LCY x 1.00 mi= \$2.40

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Landing (34+00)

<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>
									70 LCY

Rock Volume = 70 LCY

Purchase Price / Royalty: \$12.50/LCY x 70 LCY = \$875.00

Processing: \$0.90/LCY x 70 LCY = \$63.00

Compaction: \$1.34/LCY x 70 LCY = \$93.80

Basic Rock Haul cost: \$0.74/LCY x 70 LCY = \$51.80

Rock Haul +15% grades: \$2.21/LCY-mi x 70 LCY x 1.00 mi= \$154.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 70 LCY x 4.00 mi= \$137.20

Basic Water Haul cost: \$0.60/LCY x 70 LCY = \$42.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 70 LCY x 1.00 mi= \$5.60

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: Landing (40+60)

<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>
									70 LCY

Rock Volume = 70 LCY

Purchase Price / Royalty: \$12.50/LCY x 70 LCY = \$875.00

Processing: \$0.90/LCY x 70 LCY = \$63.00

Compaction: \$1.34/LCY x 70 LCY = \$93.80

Basic Rock Haul cost: \$0.74/LCY x 70 LCY = \$51.80

Rock Haul +15% grades: \$2.21/LCY-mi x 70 LCY x 1.00 mi= \$154.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 70 LCY x 4.00 mi= \$137.20

Basic Water Haul cost: \$0.60/LCY x 70 LCY = \$42.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 70 LCY x 1.00 mi= \$5.60

Subtotal: \$19,964.06

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 1.00 acres = \$389.88

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 1.00 acres = \$132.00

+ Fertilizer Cost: \$34.00/acre x 1.00 acres = \$34.00

+ Mulch Cost: \$320.00/acre x 1.00 acres = \$320.00

Subtotal: \$875.88

Section 1900 Cattleguards:

Subtotal: \$0.00

Section 2100 Roadside Brushing:

Road Number: 28-12-12.1 R Continued

RoadSide Brushing Heavy: \$1153.20/acre x 2.10 acres = \$2,421.72	Subtotal:	\$2,421.72
Section 2300 Engineering:	Subtotal:	\$0.00
Section 2400 Minor Concrete:	Subtotal:	\$0.00
Section 2500 Gabions:	Subtotal:	\$0.00
Section 8000 Miscellaneous:	Subtotal:	\$0.00
Mobilization:		
Construction - 10.29% of total Costs = \$439.06		
Surfacing - 13.86% by rock volume = \$0.00	Subtotal:	\$439.06
Quarry Development:		
Based on 13.86% of total rock volume	Subtotal:	\$0.00
	Total:	\$31,190.21

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: SPUR 1A C Road Name:

Road Construction: 0.02 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$1,853.74
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.1 acres	\$87.59
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$27.72 Surf. \$0.00.....	\$27.72
Quarry Development:	\$0.00
Total:	\$1,969.05

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: SPUR 1A C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 1.2 sta = \$40.34

Blading without ditch: \$12.14/station x 1.20 stations = \$14.57

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 4 hr x \$163.53/hr = \$654.12

Tractor: D7 with rippers END LANDING 5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers TTA 0+75 2 hr x \$163.53/hr = \$327.06

Subtotal: \$1,853.74

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.10 acres = \$38.99

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.10 acres = \$13.20

+ Fertilizer Cost: \$34.00/acre x 0.10 acres = \$3.40

+ Mulch Cost: \$320.00/acre x 0.10 acres = \$32.00

Subtotal: \$87.59

Mobilization:

Construction - 0.65% of total Costs = \$27.72

Subtotal: \$27.72

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$1,969.05

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: SPUR 1B C Road Name:

Road Construction: 0.03 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$1,542.70
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.1 acres	\$87.59
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$23.28 Surf. \$0.00.....	\$23.28
Quarry Development:	\$0.00
Total:	\$1,653.56

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: SPUR 1B C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 1.6 sta = \$52.11

Blading without ditch: \$12.14/station x 1.55 stations = \$18.82

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 6 hr x \$163.53/hr = \$981.18

Tractor: D7 with rippers END LANDING 3 hr x \$163.53/hr = \$490.59

Subtotal: \$1,542.70

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.10 acres = \$38.99

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.10 acres = \$13.20

+ Fertilizer Cost: \$34.00/acre x 0.10 acres = \$3.40

+ Mulch Cost: \$320.00/acre x 0.10 acres = \$32.00

Subtotal: \$87.59

Mobilization:

Construction - 0.55% of total Costs = \$23.28

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$23.28

Total: \$1,653.56

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: SPUR 1C C Road Name:

Road Construction: 0.05 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$3,239.77
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.1 acres	\$87.59
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$47.51 Surf. \$0.00.....	\$47.51
Quarry Development:	\$0.00
Total:	\$3,374.87

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: SPUR 1C C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 2.9 sta = \$97.50

Blading without ditch: \$12.14/station x 2.90 stations = \$35.21

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 12 hr x \$163.53/hr = \$1,962.36

Tractor: D7 with rippers END LANDING 6 hr x \$163.53/hr = \$981.18

Tractor: D7 with rippers Truck turnaround

1 hr x \$163.53/hr = \$163.53

Subtotal: \$3,239.77

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.10 acres = \$38.99

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.10 acres = \$13.20

+ Fertilizer Cost: \$34.00/acre x 0.10 acres = \$3.40

+ Mulch Cost: \$320.00/acre x 0.10 acres = \$32.00

Subtotal: \$87.59

Mobilization:

Construction - 1.11% of total Costs = \$47.51

Surfacing - 0.00% by rock volume = \$0.00

Subtotal: \$47.51

Quarry Development:

Based on 0.00% of total rock volume

Subtotal: \$0.00

Total: \$3,374.87

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: SPUR 1D C Road Name:

Road Construction: 0.14 mi 14 ft Subgrade 0 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$5,728.25
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$0.00
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.3 acres	\$262.76
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$85.54 Surf. \$0.00.....	\$85.54
Quarry Development:	\$0.00
Total:	\$6,076.55

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: SPUR 1D C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 7.3 sta = \$243.75

Blading without ditch: \$12.14/station x 7.25 stations = \$88.02

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 28 hr x \$163.53/hr = \$4,578.84

Tractor: D7 with rippers END LANDING 4 hr x \$163.53/hr = \$654.12

Tractor: D7 with rippers TTO/TTA Sta. 5+00

1 hr x \$163.53/hr = \$163.53

Subtotal: \$5,728.25

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Surfacing:

Subtotal: \$0.00

Section 1300 Geotextiles:

Subtotal: \$0.00

Section 1400 Slope Protection:

Subtotal: \$0.00

Section 1800 Soil Stabilization:

Dry Method with Mulch: \$389.88/acre x 0.30 acres = \$116.96

Includes Small Quantity Factor of 1.02

+ Seed Cost: \$132.00/acre x 0.30 acres = \$39.60

+ Fertilizer Cost: \$34.00/acre x 0.30 acres = \$10.20

+ Mulch Cost: \$320.00/acre x 0.30 acres = \$96.00

Subtotal: \$262.76

Mobilization:

Construction - 2.00% of total Costs = \$85.54

Total: \$6,076.55

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number: SPUR 3A C Road Name:

Road Construction: 0.08 mi 16 ft Subgrade 2 ft ditch 4/13/2016

200 Clearing and Grubbing: acres	\$0.00
300 Excavation:	\$3,957.96
400 Drainage:	\$0.00
Culvert: 0 lf	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	\$0.00
700-1200 Surfacing:	\$9,340.92
Quarry Name: KincheloeRolf1.5-0" 119 LCY	
Quarry Name: KincheloeRolf 3.0-0" 367 LCY	
1300 Geotextiles:	\$0.00
1400 Slope Protection:	\$0.00
1800 Soil Stabilization: 0.2 acres	\$175.18
Includes Small Quantity Factor of 1.02	
1900 Cattleguards:	\$0.00
2100 RoadSide Brushing: 0.0 acres	\$0.00
2300 Engineering: 0.00 sta.	\$0.00
2400 Minor Concrete:	\$0.00
2500 Gabions:	\$0.00
8000 Miscellaneous:	\$0.00
Mobilization: Const. \$192.38 Surf. \$0.00.....	\$192.38
Quarry Development:	\$0.00

Total: \$13,666.44

Notes:

Quantities shown are estimates only and not pay items.

Surfacing Quantities shown are loose cubic yards.

Road Construction Worksheet

Road Number: SPUR 3A C Road Name:

Section 200 Clearing and Grubbing:

Subtotal: \$0.00

Section 300 Excavation:

Subgrade Compaction: 4 Sta/hr \$33.62/sta. x 4.3 sta = \$144.57

Blading without ditch: \$12.14/station x 4.30 stations = \$52.20

CONSTRUCTION

Tractor: D7 with rippers ROAD PRISM 16 hr x \$163.53/hr = \$2,616.48

Tractor: D7 with rippers END LANDING 5 hr x \$163.53/hr = \$817.65

Tractor: D7 with rippers TOL/TTA Sta. 1+00

2 hr x \$163.53/hr = \$327.06

Subtotal: \$3,957.96

Section 400 Drainage:

Subtotal: \$0.00

Section 500 Renovation:

Subtotal: \$0.00

Section 700-1200 Surfacing:

Crushed Quarry Name: KincheloeRolf1.5-0"

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.08mi	12ft	13.333ft	4in	5%	1	20ft	50ft	25ft	

Rock Volume = 119 LCY

Purchase Price / Royalty: \$12.50/LCY x 119 LCY = \$1,487.50

Processing: \$0.90/LCY x 119 LCY = \$107.10

Compaction: \$1.34/LCY x 119 LCY = \$159.46

Basic Rock Haul cost: \$0.74/LCY x 119 LCY = \$88.06

Rock Haul -15% grades: \$1.10/LCY-mi x 119 LCY x 1.00 mi= \$130.90

Rock Haul St& Co Roads: \$0.49/LCY-mi x 119 LCY x 4.00 mi= \$233.24

Basic Water Haul cost: \$0.60/LCY x 119 LCY = \$71.40

Water Haul St&Co Roads: \$0.08/LCY-mi x 119 LCY x 1.00 mi= \$9.52

Crushed Quarry Name: KincheloeRolf 3.0-0"

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.08mi	13.333ft	16ft	8in	5%	1	20ft	50ft	25ft	

Rock Volume = 267 LCY

Purchase Price / Royalty: \$12.50/LCY x 267 LCY = \$3,337.50

Processing: \$0.90/LCY x 267 LCY = \$240.30

Compaction: \$1.34/LCY x 267 LCY = \$357.78

Basic Rock Haul cost: \$0.74/LCY x 267 LCY = \$197.58

Rock Haul -15% grades: \$1.10/LCY-mi x 267 LCY x 1.00 mi= \$293.70

Rock Haul St& Co Roads: \$0.49/LCY-mi x 267 LCY x 4.00 mi= \$523.32

Basic Water Haul cost: \$0.60/LCY x 267 LCY = \$160.20

Water Haul St&Co Roads: \$0.08/LCY-mi x 267 LCY x 1.00 mi= \$21.36

Crushed Quarry Name: KincheloeRolf 3.0-0"

Comment: 60 x 60 End Landing

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100 LCY

Rock Volume = 100 LCY

Purchase Price / Royalty: \$12.50/LCY x 100 LCY = \$1,250.00

Processing: \$0.90/LCY x 100 LCY = \$90.00

Compaction: \$1.34/LCY x 100 LCY = \$134.00

Basic Rock Haul cost: \$0.74/LCY x 100 LCY = \$74.00

Rock Haul -15% grades: \$1.10/LCY-mi x 100 LCY x 1.00 mi= \$110.00

Rock Haul St& Co Roads: \$0.49/LCY-mi x 100 LCY x 4.00 mi= \$196.00

Basic Water Haul cost: \$0.60/LCY x 100 LCY = \$60.00

Water Haul St&Co Roads: \$0.08/LCY-mi x 100 LCY x 1.00 mi= \$8.00

	Subtotal:	\$9,340.92
Section 1300 Geotextiles:		
	Subtotal:	\$0.00
Section 1400 Slope Protection:		
	Subtotal:	\$0.00
Section 1800 Soil Stabilization:		
Dry Method with Mulch: $\$389.88/\text{acre} \times 0.20 \text{ acres} = \77.98		
Includes Small Quantity Factor of 1.02		
+ Seed Cost: $\$132.00/\text{acre} \times 0.20 \text{ acres} = \26.40		
+ Fertilizer Cost: $\$34.00/\text{acre} \times 0.20 \text{ acres} = \6.80		
+ Mulch Cost: $\$320.00/\text{acre} \times 0.20 \text{ acres} = \64.00		
	Subtotal:	\$175.18
Section 1900 Cattleguards:		
	Subtotal:	\$0.00
Section 2100 Roadside Brushing:		
	Subtotal:	\$0.00
Section 2300 Engineering:		
	Subtotal:	\$0.00
Section 2400 Minor Concrete:		
	Subtotal:	\$0.00
Section 2500 Gabions:		
	Subtotal:	\$0.00
Section 8000 Miscellaneous:		
	Subtotal:	\$0.00
Mobilization:		
Construction - 4.51% of total Costs = \$192.38		
Surfacing - 6.86% by rock volume = \$0.00		
	Subtotal:	\$192.38
Quarry Development:		
Based on 6.86% of total rock volume		
	Subtotal:	\$0.00
	Total:	\$13,666.44

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction

Fire Equipment: 1 ea x (1.00 x \$65.00/ea + 0 mi x \$3.64/mi)= \$65.00
Graders-all: 1 ea x (1.00 x \$483.00/ea + 0 mi x \$14.73/mi)= \$483.00
Loaders < 3cy: 1 ea x (1.00 x \$483.00/ea + 0 mi x \$9.21/mi)= \$483.00
Rollers & Comp: 1 ea x (1.00 x \$483.00/ea + 0 mi x \$26.90/mi)= \$483.00
Excavators: 1 ea x (1.00 x \$861.00/ea = \$861.00
Tractors <= D7: 1 ea x (1.00 x \$672.00/ea + 0 mi x \$32.67/mi)= \$672.00
Dump Truck<=15cy: 1 ea x (1.00 x \$113.00/ea + 0 mi x \$4.69/mi)= \$113.00
Water Truck: 1 ea x (1.00 x \$107.00/ea + 0 mi x \$4.48/mi)= \$107.00
Equipment Washing: 4 ea x (\$250.00) /ea = \$1,000.00

Subtotal: \$4,267.00

Mobilization: Surfacing

Subtotal: \$0.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: HIDDEN GEM CT Sale Date:

Road Number	Const	Improv	Renov	Decomm	Temp
27-11-30.1 R			37.45		
27-11-30.10 R			14.18		
27-11-30.17 R			63.00		
27-11-30.2 R			33.35		
27-12-36.2 R			6.40		
27-12-36.3 C	16.35				
28-11-5.4 R			16.00		
28-11-5.5 C	28.00				
28-11-5.6 C	4.35				
28-11-6.3 C	22.33				
28-11-6.4 C	7.40				
28-11-7.2 R			38.80		
28-12-1.0 R			10.00		
28-12-12.1 R			45.00		
SPUR 1A C	1.20				
SPUR 1B C	1.55				
SPUR 1C C	2.90				
SPUR 1D C	7.25				
SPUR 3A C	4.30				
Total Sta:	95.63		264.18		

200 Clearing and Grubbing	Clearing acres
27-11-30.1 R	0.0
27-11-30.10 R	0.0
27-11-30.17 R	0.0
27-11-30.2 R	0.0
27-12-36.2 R	0.0
27-12-36.3 C	1.5
28-11-5.4 R	0.0
28-11-5.5 C	0.0
28-11-5.6 C	0.0
28-11-6.3 C	0.0
28-11-6.4 C	0.0
28-11-7.2 R	0.0
28-12-1.0 R	0.0
28-12-12.1 R	0.0
SPUR 1A C	0.0
SPUR 1B C	0.0
SPUR 1C C	0.0
SPUR 1D C	0.0
SPUR 3A C	0.0
Totals:	1.5

300 Excavation	Excav LCY.s	Haul sta-yds	Haul yd-mi
27-12-36.3 C	6,062	15,500	0
28-11-5.5 C	0	3,250	150
28-12-1.0 R	0	500	0
28-12-12.1 R	0	9,375	0

Continuation of Construction Quantities

Totals: 6,062 28,625 150

CONSTRUCTION	SPUR 1B C		
Tractor: D7 with rippers	ROAD PRISM	6 hr	
Tractor: D7 with rippers	END LANDING	3 hr	
CONSTRUCTION	SPUR 3A C		
Tractor: D7 with rippers	ROAD PRISM	16 hr	
Tractor: D7 with rippers	END LANDING	5 hr	
Tractor: D7 with rippers	TOL/TTA Sta. 1+00	2 hr	
CONSTRUCTION	SPUR 1D C		
Tractor: D7 with rippers	ROAD PRISM	28 hr	
Tractor: D7 with rippers	END LANDING	4 hr	
Tractor: D7 with rippers	TTO/TTA Sta. 5+00	1 hr	
CONSTRUCTION	SPUR 1A C		
Tractor: D7 with rippers	ROAD PRISM	4 hr	
Tractor: D7 with rippers	END LANDING	5 hr	
Tractor: D7 with rippers	TTA 0+75	2 hr	
CONSTRUCTION	SPUR 1C C		
Tractor: D7 with rippers	ROAD PRISM	12 hr	
Tractor: D7 with rippers	END LANDING	6 hr	
Tractor: D7 with rippers	Truck turnaround	1 hr	
CONSTRUCTION	28-11-6.4 C		
Tractor: D7 with rippers	ROAD PRISM	21 hr	
Tractor: D7 with rippers	END LANDING	5 hr	
Tractor: D7 with rippers	TURN OUT 1	2 hr	
Construction	28-11-6.3 C		
Tractor: D7 with rippers	ROAD PRISM	63 hr	
Tractor: D7 with rippers	END LANDING	8 hr	
Tractor: D7 with rippers	2 TURNOUTS	4 hr	
Construction	28-11-5.6 C		
Tractor: D7 with rippers	ROAD PRISM	17 hr	
Tractor: D7 with rippers	END LANDING	5 hr	
Tractor: D7 with rippers	TTA and LDG (1+60)	2 hr	
Construction	28-11-5.5 C		
Tractor: D7 with rippers	ROAD PRISM	88 hr	
Tractor: D7 with rippers	END Landing	5 hr	
Tractor: D7 with rippers	SIDELANDINGS (2)	7 hr	
Construction	27-12-36.3 C		
Tractor: D7 with rippers	Turn outs (2) (1+25)&(8+75)	5 hr	
Tractor: D7 with rippers	Landings (2) (13+87)&(26+04)	10 hr	

400 Drainage

Road Number	Culvert	Polypipe	Downspout
27-12-36.3 C	0 lf	115 lf	10 lf
28-11-5.5 C	0 lf	30 lf	0 lf
Total Drainage:		145 lf	10 lf

Culvert bedding 1 1/2" minus	28-11-5.5 C	
Station (14+10) 24"x30' CPE"S"		5 cuyd
6' steel Tpost inlet marker		1 ea
Culvert Bedding 1 1/2" minus	27-12-36.3 C	
24" x 80' CPE "S" Station (11+22)		15 cuyd
24" x 35' CPE "S" Station (4+06)		5 cuyd
6' Steel T-post red top painted inlet marker		2 ea

500 Renovation	Blade Miles	Slide cy
27-11-30.1 R	0.71	0
27-11-30.10 R	0.27	0
27-11-30.17 R	1.19	0

Continuation of Construction Quantities

27-11-30.2 R	0.63	0
27-12-36.2 R	0.12	0
28-11-5.4 R	0.30	0
28-11-7.2 R	0.73	0
28-12-1.0 R	0.19	0
28-12-12.1 R	0.85	0
Totals:	4.99	0
20' Truck Turn out Station 4+00 27-12-36.2 R		
Tractor: D7 with rippers		1 hr
Construction 28-12-1.0 R		
Tractor: D7 with rippers Landing (6+00) Left		5 hr
Tractor: D7 with rippers Borrow (6+00) Right		2 hr
Tractor: D7 with rippers Landing (10+00) Right		4 hr
Construction 28-12-12.1 R		
Tractor: D7 with rippers Waste-fill (25+50)		3 hr
Tractor: D7 with rippers (TOR x5)		5 hr
Tractor: D7 with rippers Landing/borrow/TTA (30+00)		5 hr
Tractor: D7 with rippers Landing (34+00)		2 hr
Tractor: D7 with rippers Waste-fill (40+00)		2 hr
Tractor: D7 with rippers Landing (40+60)		4 hr
CPE inlet location Sta. 23+00 27-11-30.1 R		
Backhoe		1 hr
Landing Construction 28-11-5.4 R		
Tractor: D7 with rippers (Station 0+30) 1-12		3 hr
Tractor: D7 with rippers (Station 5+25) 1-10 & widening		4 hr
Tractor: D7 with rippers (Station 8+25) 1-9		2 hr
Truck turn out Station 53+00 27-11-30.17 R		
Tractor: D7 with rippers		1 hr

Surfacing (Loose Cubic Yards)

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

Quarry Name: KincheloeRolf1.5-0"

Crushed	Roadway	Turnouts	Other	
28-11-7.2 R	217	0	75	292
27-11-30.1 R	147	0	0	147
27-11-30.1 R	795	18	10	823
27-11-30.2 R	652	49	0	701
27-11-30.2 R	651	0	0	651
27-11-30.10 R	261	0	0	261
28-11-5.4 R	0	0	30	30
28-11-7.2 R	0	0	5	5
28-12-12.1 R	611	46	55	712
28-12-1.0 R	136	0	40	176
27-12-36.3 C	357	25	42	424
SPUR 3A C	94	25	0	119
Totals:	3,921	163	257	4,341

Quarry Name: KincheloeRolf 3.0-0"

Crushed	Roadway	Turnouts	Other	
28-11-7.2 R	0	0	15	15
27-11-30.17 R	0	0	130	130
27-12-36.2 R	0	0	100	100
28-12-12.1 R	0	0	100	100
28-12-12.1 R	0	0	30	30
28-12-12.1 R	0	0	70	70
28-12-12.1 R	0	0	70	70
28-12-1.0 R	0	0	70	70
28-12-1.0 R	145	0	0	145

Continuation of Construction Quantities

28-12-1.0 R	0	0	70	70
27-12-36.3 C	827	49	480	1,356
27-12-36.3 C	0	0	210	210
SPUR 3A C	217	49	0	266
SPUR 3A C	0	0	100	100

Totals:	<u>1,189</u>	<u>98</u>	<u>1,445</u>	<u>2,732</u>
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Quarry Name: KincheloeRolf6"-0

Commercial	Roadway	Turnouts	Other	
27-12-36.3 C	0	0	10	10
Totals:	<u>0</u>	<u>0</u>	<u>10</u>	<u>10</u>

Quarry Name: KincheloeRolf II RR

Commercial	Roadway	Turnouts	Other	
Totals:	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Armor culvert inlets 27-12-36.3 C

Excavator -Small (1.5 CY) 1 hr

Sta.11+22 Energy dissapator 27-12-36.3 C

Excavator -Small (1.5 CY) 1 hr

1300 Geotextiles

Totals: No Quantities

1400 Slope Protection

Slope Protection Class 3	L.C.Y.s
27-12-36.3 C	10

Totals: 10

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
27-11-30.1 R	0.0	0.2	
27-11-30.10 R	0.0	0.3	
27-11-30.17 R	0.0	1.5	
27-11-30.2 R	0.0	0.5	
27-12-36.2 R	0.0	0.1	
27-12-36.3 C	0.0	1.3	
28-11-5.4 R	0.0	0.5	
28-11-5.5 C	0.0	1.3	
28-11-5.6 C	0.0	0.2	
28-11-6.3 C	0.0	1.0	
28-11-6.4 C	0.0	0.3	
28-11-7.2 R	0.0	0.4	
28-12-1.0 R	0.0	0.2	
28-12-12.1 R	0.0	1.0	
SPUR 1A C	0.0	0.1	
SPUR 1B C	0.0	0.1	
SPUR 1C C	0.0	0.1	
SPUR 1D C	0.0	0.3	
SPUR 3A C	0.0	0.2	

Totals: 0.0 9.6 0.0

Small Quantity Factor of 1.02 used

1900 Cattleguards

Continuation of Construction Quantities

Totals: No Quantities

2100 RoadSide Brushing	acres
27-11-30.1 R	1.7
27-11-30.10 R	0.2
27-11-30.17 R	2.9
27-11-30.2 R	1.5
27-12-36.2 R	0.3
28-11-5.4 R	0.3
28-11-7.2 R	1.8
28-12-1.0 R	0.5
28-12-12.1 R	2.1

Totals:

11.3

2300 Engineering	stations
27-12-36.3 C	16.35

Totals:

16.35

2400 Minor Concrete

Totals: No Quantities

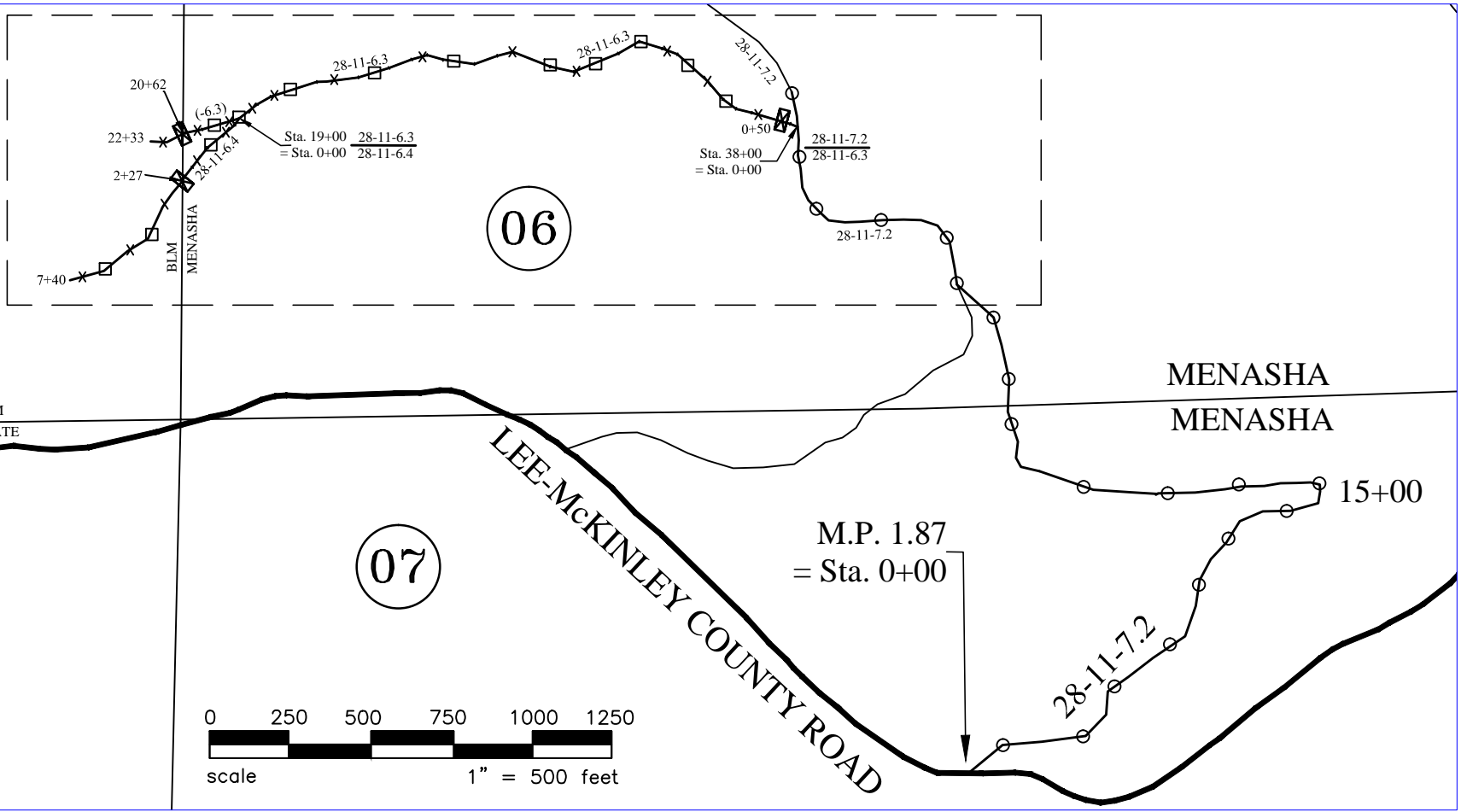
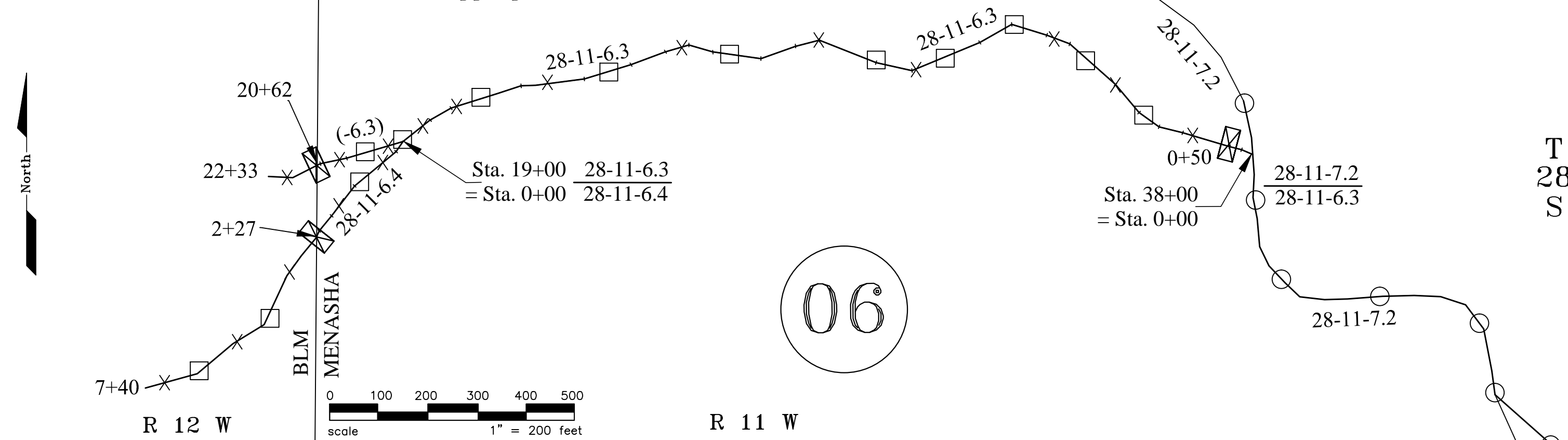
2500 Gabions

Totals: No Quantities

8000 Miscellaneous

Totals: No Quantities

Exhibit "D"
Maintenance rock: 100 CY 1.5-0" Aggregate



LEGEND

ALL ROADS ARE OPERATOR MAINTAINED

MENASHA FOREST PROD.

BPA ROAD

BLM ROAD

PAVED ROAD

DECOMMISSIONED

CONSTRUCT BARRIER

GATE

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

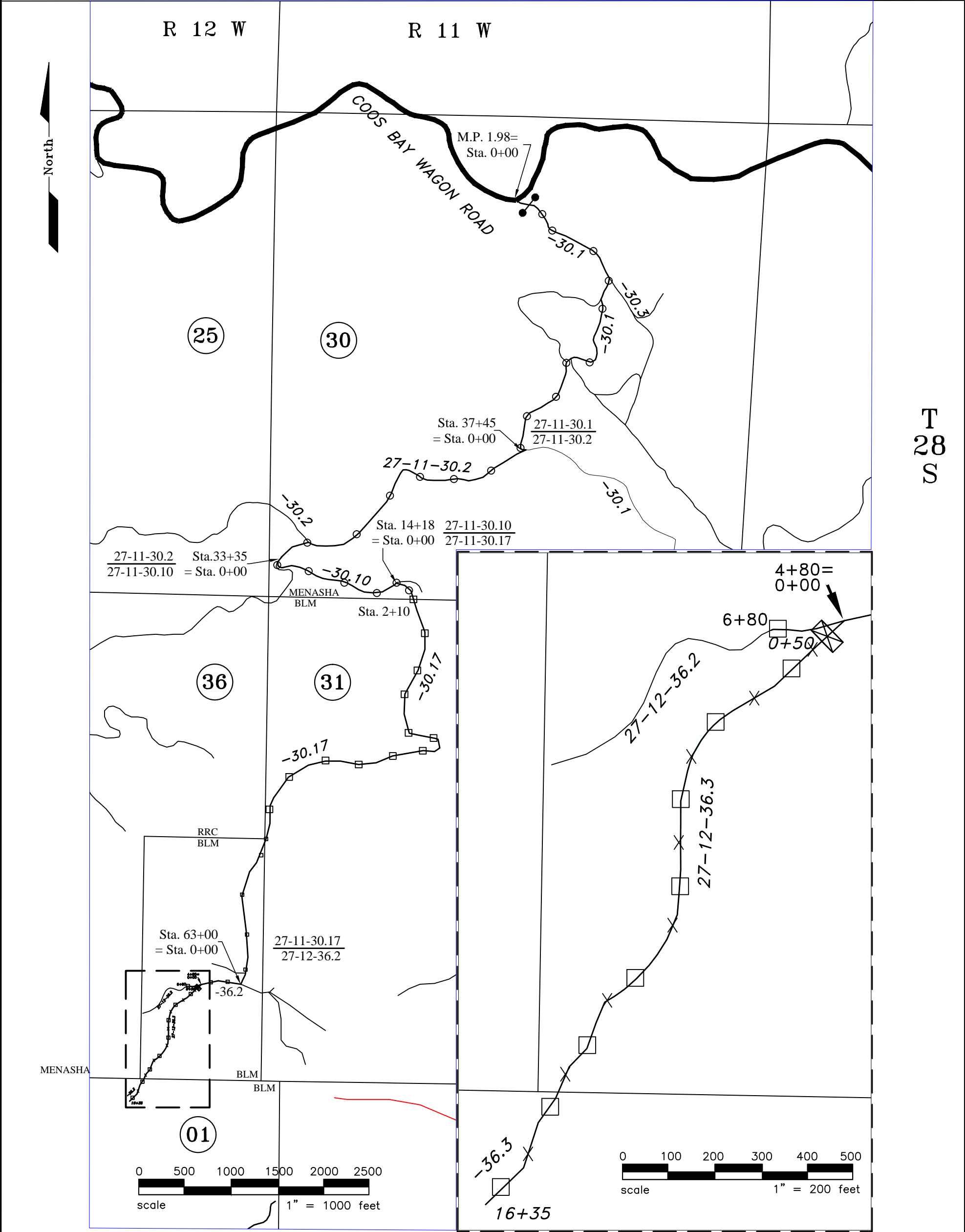
Maintenance Details

HIDDEN GEM CT
2017.0032

DRAWN: K.SANDERS SCALE: AS SHOWN
DATE: 04/06/2016 SHEET 1 of 13
DRAWING NO: NONE

Exhibit "D"

Maintenance rock: 660 CY 1.5-0" Aggregate



LEGEND

ALL ROADS ARE OPERATOR MAINTAINED

MENASHA FOREST PROD. ○-○-○-○-○

BPA ROAD ▲-▲-▲-▲-▲

BLM ROAD □-□-□-□-□

PAVED ROAD —————

DECOMMISSIONED X-X-X-X-X

CONSTRUCT BARRIER

GATE

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

Maintenance Details
HIDDEN GEM CT
2017.0032

DRAWN: K.SANDERS

SCALE: AS SHOWN

DATE: 04/06/2016

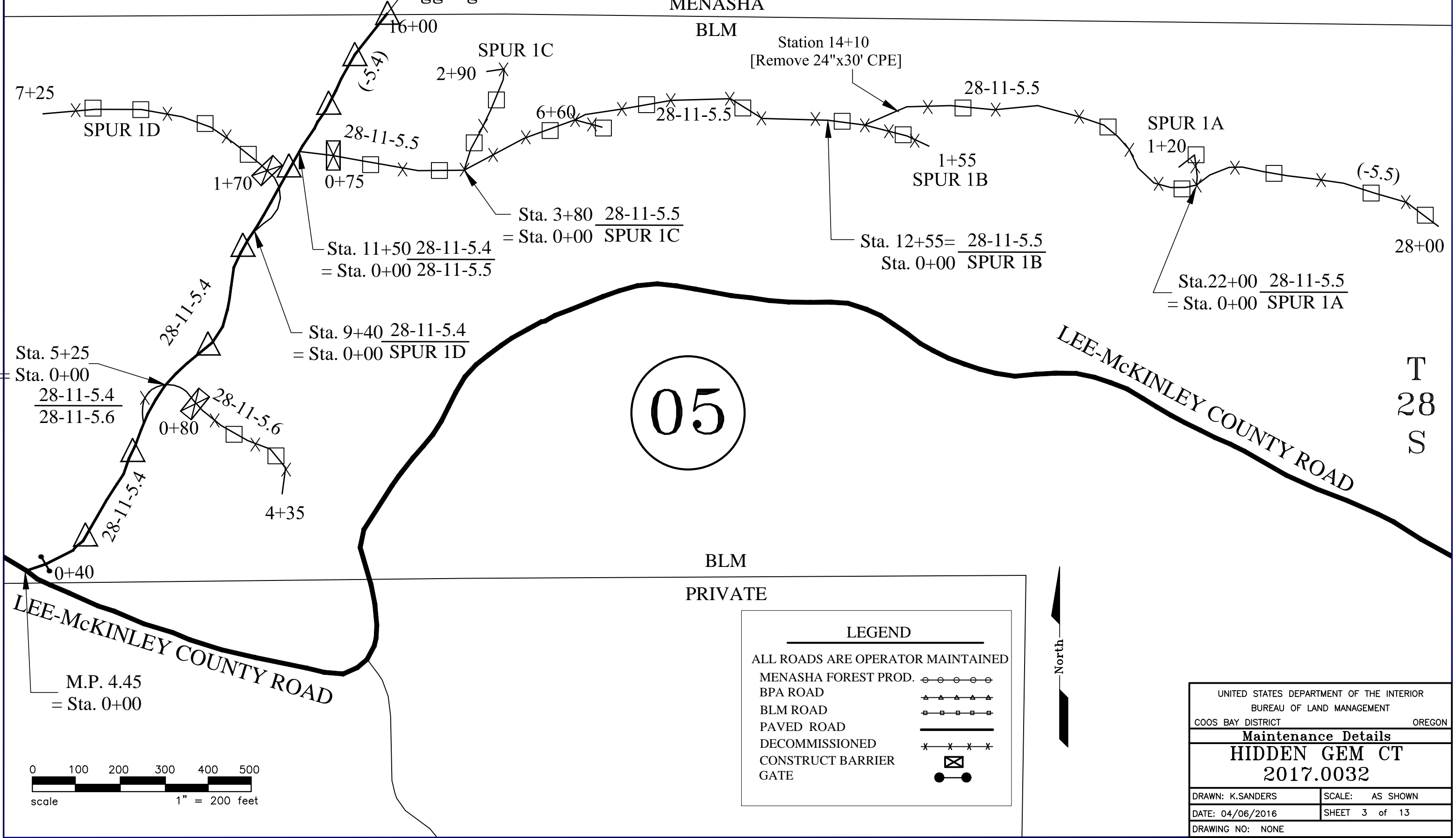
SHEET 2 of 13

DRAWING NO: NONE

Exhibit "D"

Maintenance rock: 50 CY 1.5-0" Aggregate

R 11 W
MENASHA



Maintenance rock: 350 CY 1.5-0" Aggregate

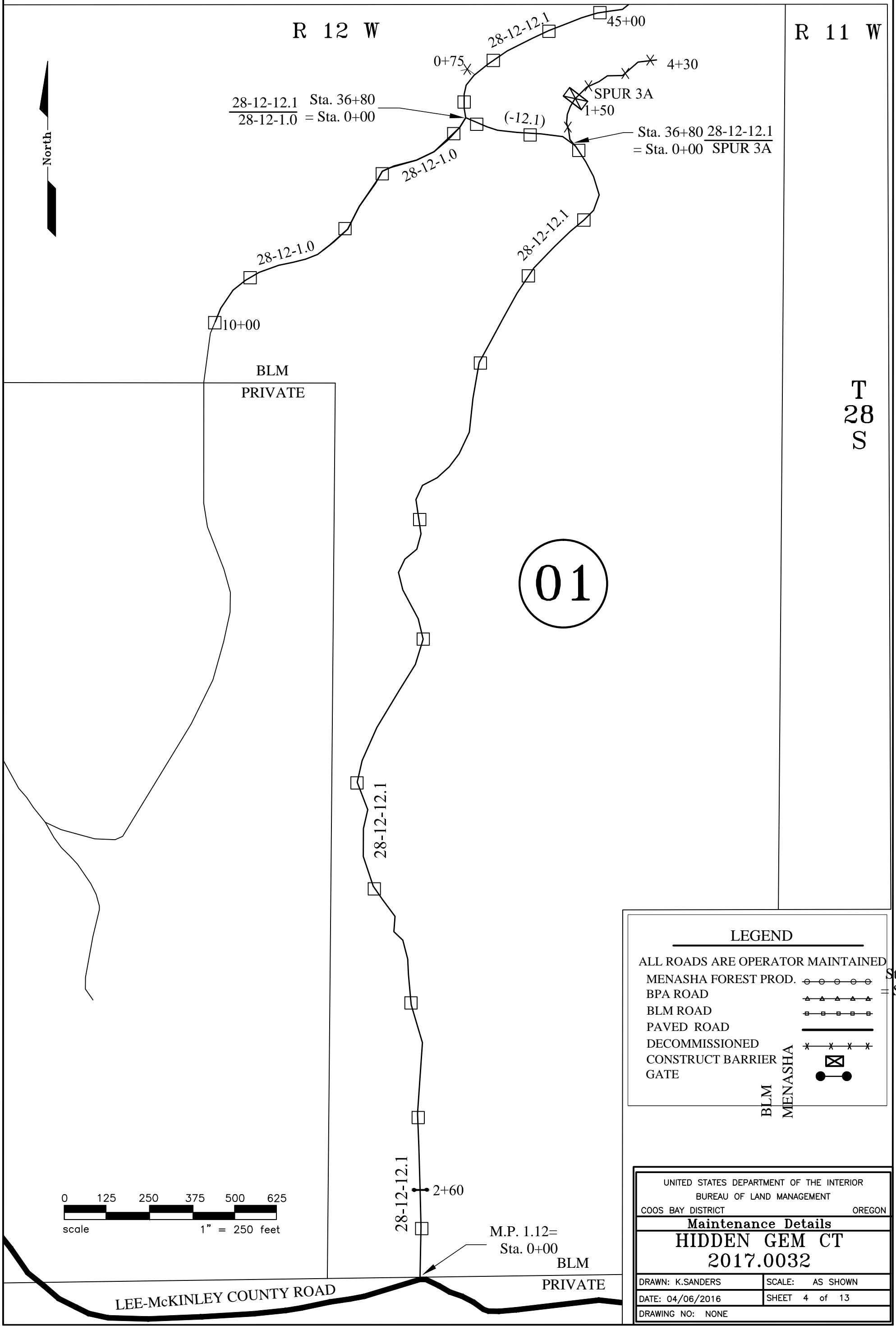
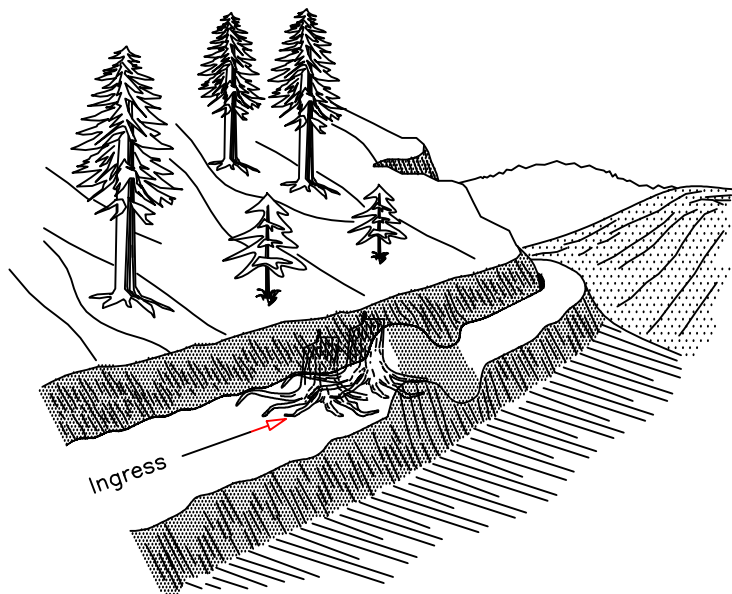
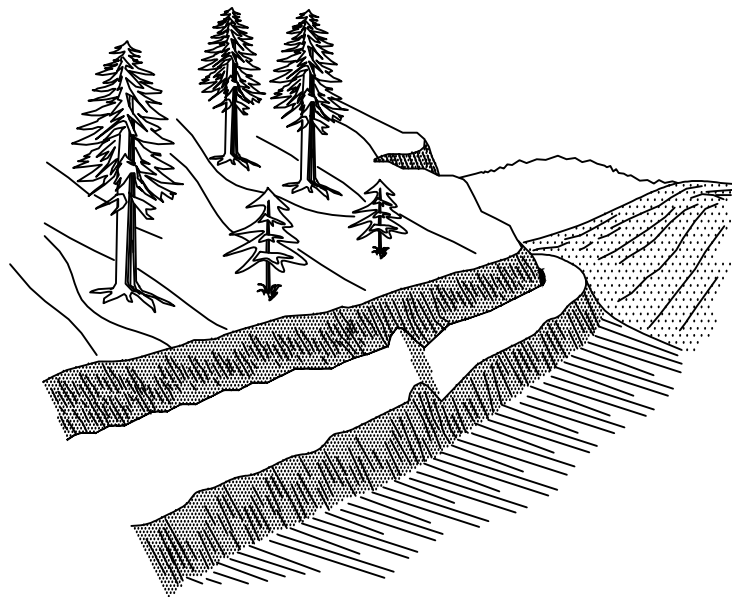


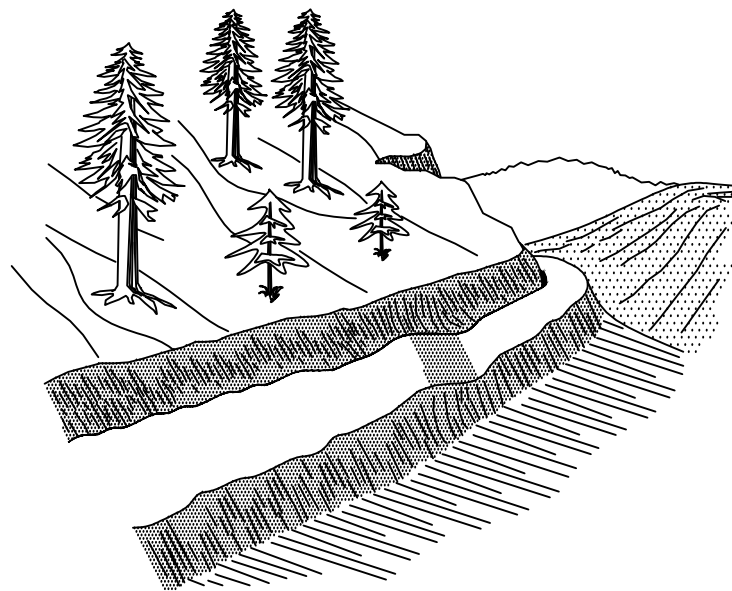
EXHIBIT D



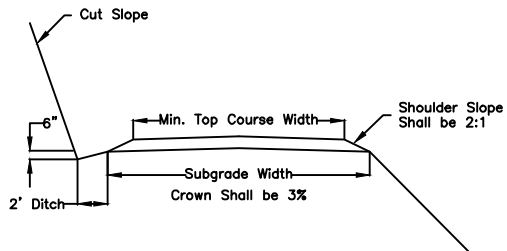
EARTHEN BERM BARRIER



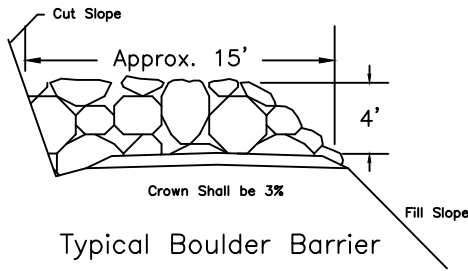
WATER BAR



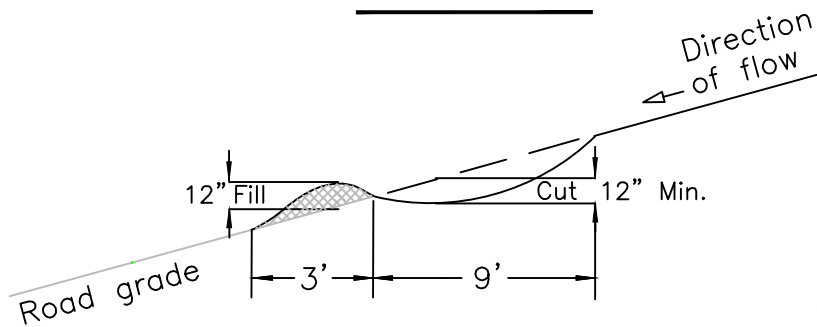
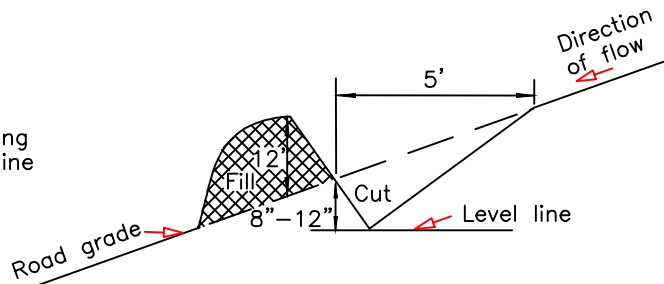
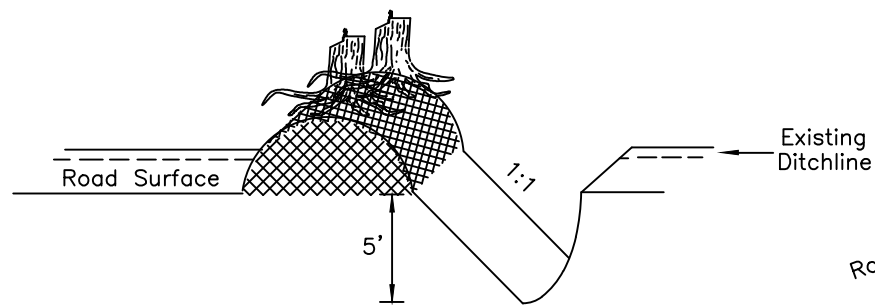
WATER DIP



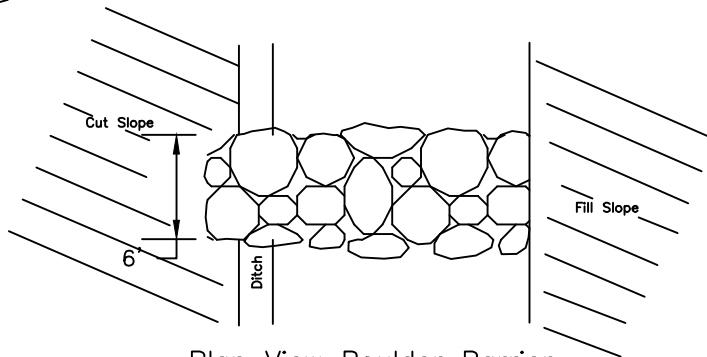
Typical Surfacing Section



Typical Boulder Barrier



(NOT TO SCALE)

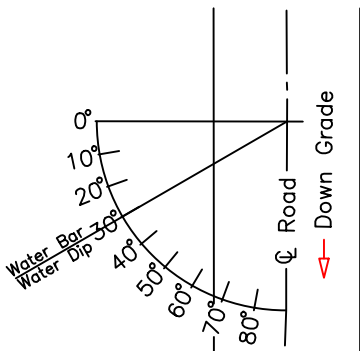


Plan View Boulder Barrier

NOTES

1. All Earthen barriers, water bars, and water dips, shall be constructed as shown above, prior to October 15th.
2. Exact structure locations will be agreed upon with the Authorized Officer prior to construction.
3. All water bars and water dips shall be cut into the roadbed from the ditchline, using ditchline as starting elevation for structure invert.
4. Ditchlines shall be blocked with excavated material (ditch dam) downgrade from all water bars and water dips, to deflect water flow into road-crossing trench.
5. The invert grade of water bars and water dips shall be outsloped a minimum of 2% to 5.
6. All water bars and water dips shall be skewed 30°-40° downhill (from perpendicular). See skew diagram.
7. All water bar and water dip berms (fills) shall be compacted to 85% of maximum density. Water dips shall be built for vehicle passage without degradation.
8. Additional rip rap barrier width is required on flat areas (adjacent to road surface) to achieve road blockage. Barrier height shall be a minimum of 4'.
9. Minimum of 20 cubic yards of boulders shall be used per boulder barrier.
10. Boulders shall be hard rock, (Durability of 35 as determined by AASHTO T210), open graded from to 28" to 36" equivalent diameter.

SKEW DIAGRAM



WATER DIP/BAR SPACING

ROAD GRADE	Road Class	
	Maximum Spacing (in feet)	
%	Natural	Rocked
3-5	200	300
6-10	150	200
11-15	100	150
16-20	75	100
21-25	50	50

* ON GRADES IN EXCESS OF 14%
CONSTRUCT WATER BARS.

ALWAYS
THINK
SAFETY

UNITED STATES DEPARTMENT OF THE INTERIOR	
BUREAU OF LAND MANAGEMENT	
COOS BAY DISTRICT	OREGON
BARRIER AND EROSION CONTROL DETAIL	
HIDDEN GEM CT	
2017.0032	
DRAWN: K.SANDERS	SCALE: AS SHOWN
DATE: 04/06/2016	SHEET 5 of 13
DRAWING NO: NONE	

”EXHIBIT D” ESTIMATE OF QUANTITIES*

ROAD NUMBER	SURFACING				OTHER			SOIL STABILIZATION		OTHER	
	TOP **	AGG. MAINT. ROCK **	AGG. MAINT. ROCK **	BASE	RIPRAP BARRIER **	BOULDER ARMOR **	JAWRUN ROCK **	DRY	HYDRO- MULCH		
SPEC. NO.	1200	1200	1000	1000	1400			1800	1800		
UNITS	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	C.Y.	ACRES	ACRES		
27-11-30.1	Ⓒ	100 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.1			
27-11-30.2	Ⓒ	100 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.1			
27-11-30.10	Ⓒ	70 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.1			
27-11-30.17	Ⓒ	200 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.3			
27-12-36.2	Ⓒ	40 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.1			
27-12-36.3	Ⓒ	150 Ⓒ	Ⓑ	Ⓑ	20 Ⓐ	Ⓑ	Ⓐ	1.0			
28-11-5.4	Ⓒ	50 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.3			
28-11-5.5	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	3.0			
28-11-5.6	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	20 Ⓐ	Ⓑ	Ⓐ	0.5			
28-11-6.3	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	20 Ⓐ	Ⓑ	Ⓐ	1.7			
28-11-6.4	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.7			
28-11-7.2	Ⓒ	100 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.5			
28-12-12.1	Ⓒ	270 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	1.4			
28-12-1.0	Ⓒ	60 Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.5			
SPUR No. 1A	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.2			
SPUR No. 1B	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.2			
SPUR No. 1C	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.3			
SPUR No. 1D	Ⓒ	— Ⓒ	Ⓑ	Ⓑ	— Ⓐ	Ⓑ	Ⓐ	0.7			
SPUR No. 3A	Ⓒ	20 Ⓒ	Ⓑ	Ⓑ	20 Ⓐ	Ⓑ	Ⓐ	0.2			
TOTALS	Ⓒ	1160 Ⓒ	Ⓑ	Ⓑ	80 Ⓐ	Ⓑ	Ⓐ	11.9			

ITEM	SIZE	GRADE
PITRUN		
1000 (Base)	3”	A
1100	4”	B
1200 (Top)	1 ½”	C
1400 (RIPRAP)	Class 4	A
CHIP SEAL ROCK	¾”	S

GRADE INDICATED IN CIRCLE ○

* FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.
** ROCK QUANTITES ARE TRUCK MEASUREMENT.

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

”EXHIBIT D”
ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED P. LEMAN
APPROVED K. WESTENSKOW

DRAWN KGS
DATE 04/06/2016
DRAWING NO.

SCALE NONE
SHEET 6 OF 13

ROAD MAINTENANCE SPECIFICATIONS

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

Section

3000	GENERAL
3100	OPERATIONAL MAINTENANCE
3200	SEASONAL MAINTENANCE
3300	FINAL MAINTENANCE
3400	OTHER MAINTENANCE

GENERAL - 3000

- 3001 The Purchaser shall be required to maintain all roads as shown on the Exhibit D map of this contract in accordance with Sections 3000, 3100, 3200, 3300, and 3400 of this exhibit.
- 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 road(s) with logging units substantially completed prior to moving operations to other roads. 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.
- 3102 The Purchaser shall place *0 yds³ of crushed aggregate*, conforming to the requirements in Section 1000 of Exhibit C of this contract and **1160 yds³ of crushed aggregate**, conforming to the requirements in Section 1200 of Exhibit C of this contract, on the roadway at locations and in the amounts designated by the Exhibit D location maps and by the Authorized Officer.
- This crushed aggregate shall be used to repair surface failures, and areas of depleted surface depth, excluding damages covered by Section 12 of this contract. The aggregate shall be furnished, hauled, placed, spread, and compacted by use of dump trucks, water trucks, and motor patrol grader.
- 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. Skidding of logs on the roadway in or outside designated logging units is not authorized without prior written approval by the Authorized Officer. Repair required by such skidding activity is not considered maintenance and shall be performed at the Purchaser's expense.
- 3108a The Purchaser shall perform logging operations on gravel and/or bituminous roadways only where the locations have been marked on the ground and/or approved by the Authorized Officer.

SEASONAL MAINTENANCE - 3200

- 3201 The Purchaser shall perform preventive maintenance at the end of Purchaser's hauling each season and during nonhauling periods which occur between other operations on the contract area. This includes cross ditching, blockage, removing ruts or other surface irregularities, and all other requirements specified in Section 3100.
- 3202 The Purchaser shall perform and complete maintenance, specified in Sections 3000, 3100, and 3200, on all roads maintained by him, prior to October 1 each year, except as specified in Subsection 3203, after initial commencement of construction or logging operations. Thereafter all roads shall have continuous preventive maintenance and road cleanup until suspension of seasonal operations. This includes all roads used and not used during the preceding operating seasons.
- 3203 The Purchaser shall complete road cleanup and maintenance, as specified in Section 3100, at the completion of logging operations on any 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 expiration of Purchaser's right to cut and remove timber (Sec. 4) 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 Section 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 Subsections 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.

3420 The Purchaser shall perform the following work:

<u>Road No.</u>	<u>Work</u>
27-11-30.1	Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C. ~ Utilize 100 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed. ~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
27-11-30.2	Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C. ~ Utilize 100 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed. ~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

- 27-11-30.10 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 70 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 27-11-30.17 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 200 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 27-12-36.2 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 40 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 27-12-36.3 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 150 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with a *Boulder Barrier* at station 0+50 in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-11-5.4 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 50 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-11-5.5 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities, remove the 24"x30' Culvert at station 14+10; dispose of off U.S. Government property. The road shall be blocked with an *Earthen Barrier* at station 0+75 (Tree line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

- 28-11-5.6 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with a *Boulder Barrier* at station 0+80 (Tree line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-11-6.3 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with an *Earthen Barrier* at station 20+60 (Property line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with a *Boulder Barrier* at station 0+50 (Tree line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-11-6.4 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with an *Earthen Barrier* at station 2+27 (Property line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-11-7.2 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 100 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-12-12.1 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Re establish the ditch-line from station 40+00 to 41+00
~ Utilize 270 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.
- 28-12-1.0 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 60 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

- SPUR No. 1A Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- SPUR No. 1B Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- SPUR No. 1C Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- SPUR No. 1D Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with an *Earthen Barrier* at station 1+70 (Tree line) in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch full road prism all disturbed areas in accordance with Section 1800 of the Exhibit C.
- SPUR No. 3A Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize 20 CY 1 ½ " (-) maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Water bars shall be placed in accordance with Sheet no. 5 of the Exhibit D and as directed by the Authorized Officer.
~ Upon completion of all logging activities the road shall be blocked with a *Boulder Barrier* at station 1+50 in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all disturbed areas in accordance with Section 1800 of the Exhibit C.

		EXCAVATOR/LOG LOADER		1	\$680.00	\$680.00
		TRACTOR/D7 w/rippers + LOWBOY HAUL		0	\$518.00	\$0.00
		ROLLER		2	\$356.00	\$712.00
		BACKHOE		2	\$483.00	\$966.00
		DUMP TRUCK		2	\$113.00	\$226.00
		MULCHING EQUIPMENT		1	\$131.00	\$131.00
		Water Truck		2	\$216.00	\$432.00
					TOTAL =	\$4,113.00
2.		CULVERT MAINT., SLOUGH REMOVAL, SLUMP REPAIRS, ETC.				
		MAINT. OBLIGATION		AVE. COST		= TOTAL
		6.7 MILES @		\$608.00 / MILE =		\$4,084.54
3.		GRADING FOR TIMBER HAUL				
		UNIT #	GRADINGS	X MILES	ACC. MILES	
		ALL UNITS	2.0	6.7	13.4	
				TOTAL MILES	13.4	
		13.4 MILES @		\$720.50 / MILE =		\$9,680.64
4.		GRADING FOR AGGREGATE HAUL:				
		0.0 MILES @		\$520.00 / MILE =		\$0.00
5.		MAINTENANCE ROCK:				
		ROYALTY	\$14.74	SIZE:	1.5" (-)	SOURCE: KINCHELOE ROLF
		BASE COSTS	1160	CU. YDS. @	\$17.72	= \$20,555.20
		SLOW HAUL	0	CU. YDS. @	\$2.21	1.0 -
		MED. HAUL	1160	CU. YDS. @	\$1.10	2.0 2,552.00
		FAST HAUL	1160	CU. YDS. @	\$0.49	10.0 5,684.00
		WATER	1160	CU. YDS. @	\$0.68	2.0 1,577.60
		MED. HAUL	0	CU. YDS. @	\$0.74	0.0 -
						\$30,368.80
		ROYALTY		SIZE:	3-0" (-)	SOURCE: KINCHELOE ROLF
		BASE COSTS	0	CU. YDS. @	\$2.19	= \$0.00
		SLOW HAUL	0	CU. YDS. @	\$2.78	0.0 -
		MED. HAUL	0	CU. YDS. @	\$1.10	0.0 -
		FAST HAUL	0	CU. YDS. @	\$0.49	0.0 -
		WATER	0	CU. YDS. @	\$0.61	0.0 -
		MED. HAUL	0	CU. YDS. @	\$0.13	0.0 -
						-
		ROYALTY		SIZE:	1.0" (-)	SOURCE: KINCHELOE ROLF
		BASE COSTS	0	CU. YDS. @	\$2.19	= \$0.00
		SLOW HAUL	0	CU. YDS. @	\$2.78	0.0 -
		MED. HAUL	0	CU. YDS. @	\$1.10	0.0 -
		FAST HAUL	0	CU. YDS. @	\$0.49	0.0 -
		WATER	0	CU. YDS. @	\$0.61	0.0 -
		MED. HAUL	0	CU. YDS. @	\$0.13	0.0 -
						-
						TOTAL = \$30,368.80
6.		NOXIOUS WEED EQUIPMENT WASHING				\$715.00

		(Entrance Only)				
7.		DECOMMISSIONING:				
		27-11-30.1				
		Soil stabilization		0.1	\$47.20	\$47.20
		27-11-30.2				
		Soil stabilization		0.1	\$47.20	\$47.20
		27-11-30.10				
		Soil stabilization		0.1	\$47.20	\$47.20
		27-11-30.17				
		Soil stabilization		0.3	\$141.60	\$141.60
		27-11-36.2				
		Soil stabilization		0.1	\$47.20	\$47.20
		27-11-36.3				
		Boulder Barrier	20 cuyd	1.0	\$600.00	
		Waterbar Construction		12.0	\$420.00	
		Soil stabilization		1	\$188.80	\$1,208.80
		28-11-5.4				
		Soil stabilization		0.3	\$141.60	\$141.60
		28-11-5.5				
		Waterbar Construction		12.0	\$420.00	
		Earthen Barrier		1.0	\$200.00	
		Remove 24"x30 CPE	Station 14+10	1.0	\$200.00	
		Soil stabilization		3	\$1,416.00	\$2,236.00
		28-11-5.6				
		Boulder Barrier	20 cuyd	1.0	\$600.00	
		Waterbar Construction		3.0	\$105.00	
		Soil stabilization		0.5	\$236.00	\$941.00
		28-11-6.3				
		Boulder Barrier	20 cuyd	1.0	\$600.00	
		Earthen Barrier		1.0	\$200.00	
		Waterbar Construction		12.0	\$420.00	
		Soil stabilization		1.7	\$802.40	\$2,022.40
		28-11-6.4				
		Earthen Barrier		1.0	\$200.00	
		Waterbar Construction		6.0	\$210.00	
		Soil stabilization		0.7	\$330.40	\$740.40
		28-11-7.2				
		Soil stabilization		0.5	\$236.00	\$236.00
		28-12-1.0				
		Soil stabilization		0.5	\$236.00	\$236.00
		28-12-12.1				

		Soil stabilization		1.4	\$660.80	\$660.80
		DECOMMISSIONING (Continued):				
		SPUR No. 1A				
		Soil stabilization		0.2	\$94.40	\$94.40
		SPUR No. 1B				
		Soil stabilization		0.2	\$94.40	\$94.40
		SPUR No. 1C				
		Waterbar Construction		1.0	\$35.00	
		Soil stabilization		0.3	\$141.60	\$176.60
		SPUR No. 1D				
		Earthen Barrier		1.0	\$200.00	
		Waterbar Construction		1.0	\$35.00	
		Soil stabilization		0.7	\$330.40	\$565.40
		SPUR No. 3A				
		Boulder Barrier	20 cuyd	1.0	\$600.00	
		Waterbar Construction		2.0	\$70.00	
		Soil stabilization		0.2	\$188.80	\$858.80
					Subtotal	\$10,543.00

SALE NAME: Hidden Gem CT

EXHIBIT E
Road Use and Maintenance Fees

SALE NUMBER: ORC00-TS-2017.0032

SALE VOLUME: 2895 NET MBF

A. ROAD USE FEES - Payable to Private Company:

COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	USE FEE per MBF	TOTAL FEES
FIA Timber Growth & Value Master, LLC (S)	C-599	28-11-7.2	385	\$6.90	\$2,656.50
New Growth Olympus, LLC	C-599	27-11-30.1	430	\$1.02	\$438.60
New Growth Olympus, LLC	C-599	27-11-30.2	430	\$0.99	\$425.70
New Growth Olympus, LLC	C-599	27-11-30.10	430	\$1.00	\$430.00
New Growth Olympus, LLC	C-599	27-11-30.17 A	430	\$0.00	\$0.00
					\$0.00
TOTAL USE FEE:					\$3,950.80

B. MAINTENANCE FEES:

1. Maintenance and Rockwear Fees Payable to the U.S. (BLM Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	Subtotal	MAINT. /MBF/Mile	Subtotal	TOTAL FEES
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
					\$0.00		\$0.00	\$0.00
0					\$0.00		\$0.00	\$0.00

2. ROCKWEAR Fees Payable to the U.S. (OPERATOR Maintained Roads):

a. Timber Haul:

Surface Type	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	TOTAL FEES
dirt	28-11-5.5	122	0.11	\$0.00	\$0.00
dirt	Spur 1A	172	0.02	\$0.00	\$0.00
dirt	28-11-5.5	294	0.19	\$0.00	\$0.00
dirt	Spur 1B	122	0.03	\$0.00	\$0.00
dirt	28-11-5.5	764	0.11	\$0.00	\$0.00
dirt	28-11-5.5	862	0.03	\$0.00	\$0.00
dirt	28-11-5.5	911	0.01	\$0.00	\$0.00
dirt	Spur 1C	74	0.05	\$0.00	\$0.00
dirt	28-11-5.5	985	0.04	\$0.00	\$0.00
dirt	28-11-5.5	1077	0.04	\$0.00	\$0.00
rock	28-11-5.4	1077	0.04	\$0.60	\$25.85
dirt	Spur 1D	98	0.09	\$0.00	\$0.00
dirt	Spur 1D	182	0.05	\$0.00	\$0.00
rock	28-11-5.4	1259	0.02	\$0.60	\$15.11
rock	28-11-5.4	1333	0.06	\$0.60	\$47.99
dirt	28-11-5.6	98	0.05	\$0.00	\$0.00
dirt	28-11-5.6	199	0.03	\$0.00	\$0.00
rock	28-11-5.4	1606	0.09	\$0.60	\$86.72
rock	28-11-5.4	1655	0.01	\$0.60	\$9.93
dirt	28-11-6.4	171	0.14	\$0.00	\$0.00
dirt	28-11-6.3	214	0.06	\$0.00	\$0.00
dirt	28-11-6.3	385	0.36	\$0.00	\$0.00
rock	28-12-1.0	44	0.07	\$0.60	\$1.85
rock	28-12-1.0	103	0.07	\$0.60	\$4.33
rock	28-12-1.0	147	0.04	\$0.60	\$3.53
rock	28-12-12.1	29	0.08	\$0.60	\$1.39
rock	28-12-12.1	44	0.02	\$0.60	\$0.53
rock	28-12-12.1	191	0.05	\$0.60	\$5.73
rock	Spur 3A	59	0.08	\$0.60	\$2.83
rock	28-12-12.1	250	0.05	\$0.60	\$7.50
rock	28-12-12.1	323	0.08	\$0.60	\$15.50
rock	28-12-12.1	425	0.57	\$0.60	\$145.35
rock	27-12-36.3	186	0.05	\$0.60	\$5.58
rock	27-12-36.3	430	0.26	\$0.60	\$67.08
rock	27-12-36.2	430	0.09	\$0.60	\$23.22
rock	27-11-30.17 B	430	1.15	\$0.60	\$296.70
					\$0.00
4.29					\$766.72

3. ROAD MAINTENANCE AND/OR ROCKWEAR FEES - Payable to Private Company:

Surface Type	COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR /MBF/Mile	TOTAL FEES
rock	FIA Timber Growth & Value Master, LLC (S)	C-599	28-11-7.2	410	0.72	\$0.60	\$177.12
rock	New Growth Olympus, LLC	C-599	27-11-30.10	437	0.27	\$0.60	\$70.79
rock	New Growth Olympus, LLC	C-599	27-11-30.2	437	0.63	\$0.60	\$165.19
rock	New Growth Olympus, LLC	C-599	27-11-30.1	437	0.71	\$0.60	\$186.16
rock	New Growth Olympus, LLC	C-599	27-11-30.17 A	430	0.04	\$0.60	\$10.32
							\$0.00
					2.37		\$609.58

4. OPERATOR MAINTENANCE WILL BE REQUIRED ON APPROX. 6.72 MILES OF ROAD. (SEE EXHIBIT D)

SUMMARY OF ROAD USE & ROAD MAINTENANCE FEES	ROAD USE FEES		ROCKWEAR & MAINTENANCE FEES		MAINTENANCE FEES	
	TOTAL	\$/MBF	TOTAL	\$/MBF	TOTAL	\$/MBF
1. COMPANY-OWNED ROADS:	\$3,950.80	\$1.36	\$609.58	\$0.21		\$0.00
2. BLM MAINTAINED ROADS:			\$0.00	\$0.00	\$0.00	\$0.00
3. BLM OPERATOR-MAINTAINED ROADS:			\$766.72	\$0.26		\$0.00
	\$3,950.80	\$1.36	\$1,376.30	\$0.48	\$0.00	\$0.00

	TOTAL	\$/MBF
MAINTENANCE OBLIGATION PAYABLE TO BLM:	\$766.72	\$0.26

Exhibit F
Sheet 1 of 1

SPECIAL PROVISIONS TO CONTROL THE SPREAD OF NOXIOUS WEEDS

Vehicle and Equipment Cleaning

1. Cleaning shall consist of the removal of soil and debris by washing with a high pressure hose or steam cleaning. Cleaning and inspection sites will be agreed to by Purchaser and BLM. All petroleum product residues shall be contained at wash sites and dealt with in accordance to DEQ standards. Contractor shall provide an approved plan for the cleaning station that demonstrates that the station meets all DEQ and water quality regulations. All necessary permits shall be obtained by the contractor.

2. All equipment parts shall be cleaned as designated by the Authorized Officer, including removal of tractor belly plates, in accordance with Sec.1 above.

All construction, logging and slash disposal equipment shall be cleaned prior to entering the contract area. The Authorized Officer will determine if log trucks and vehicles used for transportation of personnel shall be cleaned, based upon the location of use immediately prior to current timber sale. If the vehicles have been in a weed-infested area, they shall be washed before entering Contract Area, as shown on Exhibit A.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EQUAL OPPORTUNITY IN EMPLOYMENT
CERTIFICATION OF NONSEGREGATED FACILITIES

Bid, offer, or contract number or
other identification

By the submission of this bid or offer and/or by entering into this contract, the bidder, offeror, lessee, subcontractor, or applicant certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means, but is not limited to, any waiting rooms, work areas, rest rooms and wash rooms, restaurants and

other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT
FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities, as required by the May 9, 1967, order (32 F.R. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the

provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

In accordance with 41 CFR 60, as amended May 19, 1967, and Executive Order No. 11246 of September 24, 1965, as amended, this certification is applicable to all bids, offers, contracts and subcontracts as well as agreements with applicants who are themselves performing federally assisted contracts, which may exceed \$10,000 and are not exempt from the provisions of the Equal Opportunity clause of the Order.

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 Resources*, 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 Contracting 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 Contracting 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 Resources 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.

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 dimensions 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.

Save

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Form 5440-9
(November 2011)

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

☒ **TIMBER or
TIMBER AND OTHER WOOD PRODUCTS**

DEPOSIT AND BID FOR

☐ **VEGETATIVE RESOURCES
(Other Than Timber)**

Name of Bidder
Tract Number ORC00-TS-2017.0032
Sale Name Hidden Gem CT
Sale Notice (dated) December 29, 2016
BLM District Coos Bay District

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale	<input type="checkbox"/> Written Bid for Oral Auction Sale
Time for opening sealed bids <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Sale commences <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
On (date) Place	On (date) Jan. 27, 2017 Place Coos Bay District Conf. Rm A

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 deposit is **\$34,800.00** and is enclosed in the form of:
☐ cash ☐ money order ☐ cashier's check ☐ certified check ☐ bank draft
☐ 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	2,192	X	=	X	=
grand fir	MBF	324	X	=	X	=
red alder	MBF	205	X	=	X	=
western hemlock	MBF	85	X	=	X	=
misc. hardwoods	MBF	71	X	=	X	=
western redcedar	MBF	18	X	=	X	=
			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 page 2)

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” or (1a) “Vegetative Resources Other Than Timber” (2) Time bids are to be opened (3) Legal description

NOTICES

The Privacy Act and 43 CFR 2.48(d) require that you be furnished with the following information in connection with the information required by this form.

AUTHORITY: 38 FR 6280 and 43 CFR 5442.1

PRINCIPAL PURPOSE: To qualify an oral auction bidder, and then if successful, to bind bidder to certain contract conditions.

ROUTINE USES: 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.

(Continued on page 3)

(Form 5440-9, page 2)

Save

Print

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Form 5440-9
(November 2011)

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

☒ **TIMBER or
TIMBER AND OTHER WOOD PRODUCTS**

DEPOSIT AND BID FOR

☐ **VEGETATIVE RESOURCES
(Other Than Timber)**

Name of Bidder
Tract Number ORC00-TS-2017.0032
Sale Name Hidden Gem CT
Sale Notice (dated) December 29, 2016
BLM District Coos Bay District

<input type="checkbox"/> Sealed Bid for Sealed Bid Sale	<input type="checkbox"/> Written Bid for Oral Auction Sale
Time for opening sealed bids <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.	Sale commences <input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
On (date) Place	On (date) Jan. 27, 2017 Place Coos Bay District Conf. Rm A

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 deposit is **\$34,800.00** and is enclosed in the form of:
☐ cash ☐ money order ☐ cashier's check ☐ certified check ☐ bank draft
☐ bid bond of corporate surety on approved list of the United States Treasury ☐ guaranteed remittance approved by the authorized officer.

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grand fir	MBF	324	X	=	X	=
red alder	MBF	205	X	=	X	=
western hemlock	MBF	85	X	=	X	=
misc. hardwoods	MBF	71	X	=	X	=
western redcedar	MBF	18	X	=	X	=
			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 page 2)

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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” or (1a) “Vegetative Resources Other Than Timber” (2) Time bids are to be opened (3) Legal description

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(Continued on page 3)

(Form 5440-9, page 2)

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

Coos Bay
Hidden Gem CT
ORC00-TS-2017.0032

Legal Description

Forest Type	Township	Range	Section	Subdivision
CBWR	28 S	11 W	5	Lots 9, 11, 12, 13
CBWR	28 S	12 W	1	Lots 1, 2, S1/2NE1/4, E1/2SE1/4

Cutting Volume (16' MBF)

Unit	DF	GF	RA	WH	MISC	WRC			Total	Regen	Partial	ROW
1	954	142	39	49	12	7			1,203	0	49	0
2	238	35	13	9	14	2			311	0	20	0
3	193	36	111	8	30	3			381	0	26	0
4	209	25	12	9	3	2			260	0	14	0
RW	598	86	30	10	12	4			740	0	0	5
Totals	2,192	324	205	85	71	18			2,895	0	109	5

Logging Costs per 16' MBF

Stump to Truck	\$ 188.78
Transportation	\$ 36.29
Road Construction	\$ 104.70
Road Amortization	\$ 1.36
Road Maintenance	\$ 21.03

Other Allowances :

Gross Yarding	\$ 7.18
Habitat Creation	\$ 2.84
Landing pullback	\$ 1.07
Misc	\$ 3.41
Slash Disposal	\$ 2.00
Vehicle Washing	\$ 1.11
Total Other Allowances :	\$ 17.61

Profit & Risk

Total Profit & Risk	11 %
Basic Profit & Risk	8 % + Additional Risk 3 %
Back Off	0 %

Tract Features

Avg Log	Douglas-fir : 66 bf	All : 67 bf
Recovery	Douglas-fir : 94 %	All : 92 %
Salvage	Douglas-fir : 0 %	All : 0 %
Avg Volume (16' MBF per Acre)		25
Avg Yarding Slope		31 %
Avg Yarding Distance (feet)		243
Avg Age		63
Volume Cable		53 %
Volume Ground		47 %
Volume Aerial		0 %
Road Construction Stations		95.63
Road Improvement Stations		0.00
Road Renovation Stations		264.18
Road Decommission Stations		89.88

Cruise

Cruised By	C. Wooley & D. Stover
Date	03/17/2016
Type of Cruise	VP, 3P, BLM100
County, State	Coos, OR

Net Volume

Green (16' MBF)	2,895
Salvage (16' MBF)	0
Douglas-fir Peeler	0
Export Volume	0
Scaling Allowance (\$0.75 per 16' MBF)	\$2,171.25

Total Logging Costs per 16' MBF

\$ 369.78

Utilization Centers

Center #1 : Coquille, OR	15 Miles
Center #1 : Broadbent, OR	24 Miles
Weighted distance to Utilization Centers	16

Length of Contract

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Coos Bay
Hidden Gem CT
ORC00-TS-2017.0032

Stumpage Summary

Stumpage Computation (16' MBF)

Species	Trees	Net Volume	Pond Value	(-) Profit & Risk	(-) Logging Cost	(+) Marginal Log Value	(-) Back Off	Appraised Price	Appraised Value
DF	6,396	2,192	\$ 577.24	\$ 63.50	\$ 369.78			\$ 144.00	\$ 315,648.00
GF	696	324	\$ 427.88	\$ 47.07	\$ 369.78			\$ 42.80	\$ 13,867.20
RA	1,470	205	\$ 414.08	\$ 45.55	\$ 369.78			\$ 41.40	\$ 8,487.00
WH	430	85	\$ 429.57	\$ 47.25	\$ 369.78			\$ 43.00	\$ 3,655.00
MISC	3,556	71	\$ 35.21	\$ 3.87	\$ 369.78	\$ 21.83		\$ 3.50	\$ 248.50
WRC	241	18	\$ 745.13	\$ 81.96	\$ 369.78			\$ 293.40	\$ 5,281.20
Totals	12,789	2,895							\$ 347,186.90

Log Code by Percent

Species	Code #1	Code #2	Code #3	Code #4	Code #5	Code #6
Grand Fir				74.0	24.0	2.0
Douglas-fir				60.0	36.0	4.0
Western red-cedar			77.0	23.0		
Western Hemlock				57.0	38.0	5.0
Red Alder		55.0	26.0	19.0		
Miscellaneous		5.0	34.0	60.0	1.0	

Marginal Log Volume

Species	Grade #7	Grade #8
Grand Fir		
Douglas-fir		
Western red-cedar		
Western Hemlock		
Red Alder		
Miscellaneous	31	

Appraised By : Sill, Tom

Date : 04/22/2016

Area Approval By : Wooley, Michael

Date : 04/27/2016

District Approval By : Davis, Brian

Date : 12/20/2016

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

Coos Bay
Hidden Gem CT
ORC00-TS-2017.0032

Prospectus

Appraisal Method : (16' MBF)

Species	Trees	Net Volume 16' MBF	Net Volume 32' MBF	Net Volume CCF
Douglas-fir	6,396	2,192	1,884	
Grand Fir	696	324	263	
Red Alder	1,470	205	150	
Western Hemlock	430	85	73	
Miscellaneous	3,556	71	50	
Western red-cedar	241	18	14	
Total	12,789	2,895	2,434	

All Species

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
3,146	12,789	245	14.4	3,100	46,277	67

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
46,277	3,166	49,443	3.9	2,895	3,146	92 %

Douglas-fir

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
2,323	6,396	363	15.9	2,294	34,610	66

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
34,610	926	35,536	5.6	2,192	2,323	94 %

Cutting Areas

Unit	Regen Acres	Partial Cut Acres	Right Of Way Acres	Total Acres
1		49		49
2		20		20
3		26		26
4		14		14
RW			5	5
Totals :		109	5	114