COOS BAY DISTRICT OFFICE
MYRTLEWOOD RESOURCE AREA

SALE DATE: April 25, 2014
SALE TIME: 10:00 a.m.

SALE NO.: ORC00-TS-2014.0033, BROWNSTONE CT

COOS COUNTY: OREGON: CBWR: ORAL AUCTION: Bid deposit required: $95,200.00
All timber designated for cutting on: T. 28 S., R. 9 W., Sec. 17, NE¼, NW¼, SW¼, W½SE¼, 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
28,992	5,742	Douglas-fir	6,440	$130.20	$838,488.00
6,793	1,403	western hemlock	1,622	$46.40	$75,260.80
2,964	442	red alder	576	$42.00	$24,192.00
2,676	110	Port-Orford-cedar	129	$45.90	$5,921.10
1,267	39	Western red-cedar	45	$165.30	$7,438.50
42,692	**7,736**	**Total**	**8,812**		**$951,300.40**

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 $0.10 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 13.3 inches: the average gross merchantable log contains 48 bd. ft.; the total gross volume is approximately 9,389 thousand bd. ft.; and 94 % recovery is expected. The average DBHOB for Douglas-fir is 13.6 inches; and the average gross merchantable log contains 47 bd. ft. None of the total sale volume is salvage material. The following cruise methods were used for volume determination:

VARIABLE PLOT: Timber volumes in Units 1-5 were based on a variable plot cruise. Using a 20 basal area factor (BAF), 369 plots were measured and 319 trees were randomly selected to be sampled. The sample trees have been 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: Timber within the road right-of-way has been cruised using the 3P system to select 69 sample trees. The sample trees have been 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: Trees marked as power line danger trees, which were not included in the variable plot cruise, were based on a 100% cruise using form class tables for estimating board foot volume of trees in 16-foot logs.

CUTTING AREA: Five units totaling approximately 343 acres must be partial cut. Five acres of right-of-way must be cut.

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 Hwy 42 traveling east towards Coquille, OR, turn left onto W. Central Blvd. Travel one mile going past Coquille High School and turn left onto Coquille-Fairview Rd. Continue 8.3 miles to Fairview and turn right onto the Coos Bay Wagon Rd. Travel 20.4 miles and turn right on to Old Camas Cr. Rd. (BLM Rd. # 28-9-8.1) and travel approximately 0.6 miles to the sale area. Refer to Exhibits A and A-1 for unit locations.

ROAD USE & MAINTENANCE: Refer to Exhibit E Summary attached. Operator maintenance required on 13.0 miles of road.

Rockwear and Maintenance Fees Payable to BLM:	$19,109.54
Rockwear and Maintenance Fees Payable to Plum Creek:	$ 6,844.29
Road Use Fees Payable to Plum Creek:	$26,436.00

ROAD CONSTRUCTION:

Road Construction estimates include the following:

New Construction:

44.20 stations

Road Renovation:

387.65 stations

Road Improvement:

83.30 stations

Aggregate:

Base Rock, 3" minus hardrock: 5889 C.Y. (Compacted Measure)
Landing Rock, 3" minus hardrock: 4742 (Truck Measure)
Surface Rock, 1 ½" minus hardrock: 3722 C.Y. (Compacted Measure)
Spot Rock, 1 ½" minus hardrock: 440 C.Y. (Compacted Measure)
Pipe Bedding Rock, 1 ½" minus hardrock: 315 C.Y. (Truck Measure)
Pipe Surfacing Rock, 1 ½" minus hardrock: 415 C.Y. (Truck Measure)
Repair & Maintenance Rock, 1 ½" minus hardrock: 3960 C.Y. (Truck Measure)
Repair & Maintenance Rock, 3" minus hardrock: 390 C.Y. (Truck Measure)
Pitrun Rock, 6" open hardrock: 40 C.Y. (Truck Measure)
Riprap Class IV: 45 C.Y (Truck Measure)

Soil Stabilization:

Dry Seed, fertilizer, & mulch: 19.1 acres (Pre Haul)
Dry Seed, fertilizer, & mulch: 11.8 acres (Post Haul)

Roadside Brushing:

28.1 acres

Road Decommissioning:

Riprap Barriers: 10 (200 C.Y. Minimum)
Earthen Barriers: 5
Full Decommissioning: 4.65 stations
Normal Decommissioning: 81.55 stations

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. License agreement is required with Plum Creek Timberlands, LP.
2. 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 current contact for the BPA is Andy Crosby, phone no. (541) 297-8496.
3. All equipment must be washed prior to entry into the contract area to control the spread of noxious weeds.
4. A Seasonal Restriction Area (MM) affects part of Unit 4. Harvest activities are prohibited April 1 through August 5, and a daily timing restriction restricts harvest activities to the period two hours after sunrise to two hours before sunset August 6 thought September 15.
5. A Seasonal Restriction Area (NSO) affects parts of Units 1, 2, & 4. Harvest activities are prohibited March 1 through June 30.
6. 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.
7. Damage shall affect less than 5% of reserve trees.
8. Lift trees and intermediate support trees may be necessary.
9. One-end suspension required in cable and ground-based yarding areas.
10. 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.
11. 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.
12. 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%.
13. Log lengths shall not exceed 41 feet.
14. Purchaser shall verify all landing locations and stake required clearing limits prior to construction.
15. Shape and restore all landings to a natural contour to prevent erosion.
16. Seed and fertilize all landings, road cuts and fills, and waste areas.
17. 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 15th.
18. BLM will assume supervisory responsibility for disposal of logging slash.
19. Machine and/or hand piling of logging slash are required at all landing areas.
20. After yarding is complete the purchaser shall top 515 conifer trees and fall 343 conifer trees in Units 1 through 5.
21. This contract contains provisions (Sec. 42.b(13) and Sec. 42.b(14)) 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 329 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-2014.0033 BROWNSTONE 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[6]																								
	Ground based yarding[3]											25%													
Unit 4	Seasonal Restriction Area (MM)[4]																								
Units 1, 2 & 4	Seasonal Restriction Area (NSO)[5]																								

[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] 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 inclusive.
[5] 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 the Exhibit A.

c. Approximately 443 trees within the BPA Hazard Tree Area, previously marked as reserve and boundary trees by the Government and painted above and below stump height with blue paint, are the property of the Purchaser.

d. 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;

e. 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;

f. 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 prework 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 Units 1, 2, & 4, as shown on the Exhibit A, and an operational plan for road construction, renovation, and improvement 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. Approximately 50 trees within the BPA Hazard Tree Area marked with orange paint above and below stump height shall be felled and left on site immediately after the completion of yarding operations and counted toward the post-harvest tree felling requirements in Sec.42.b.(17).

(3) 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.

(4) 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 inclusive.

(5) 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.

(6) 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 each calendar year, both days inclusive.

(7) 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.

(8) 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.

(9) Trees shall be felled, limbed, topped into lengths not to exceed 41 feet prior to yarding.

(10) In the Partial Cut Units, yarding (except for road rights-of-way and Ground Base 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 Stream Channels shown on the Exhibit A.

(c) If the placement of a yarding corridor requires the cutting of a tree within the Reserve Area or No Harvest Buffer , as shown on the Exhibit A, 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 or No Harvest Buffer. Yarding corridor location within the Reserve Area or No Harvest Buffer 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(13).

(e) Where road locations allow, yarding will be done so that corridors run parallel to each other rather than radiate from a central landing.

(11) In the Ground Base Area, shown on Exhibit A 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 onsite and counted toward the post-harvest tree felling requirements in Sec 42.b(13).

(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.

(12) Sec 42.b(13) 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(14) may be used at the discretion of the Authorized Officer. The purchaser shall be notified in writing when Sec. 42.b(14) is authorized for use.

(13) 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.

(14) 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 contact 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.

(15) 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.

(16) 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.

(17) After completion of yarding operations, the Purchaser shall top 515 conifer trees and fell 343 conifer trees in Units 1 through 5, as directed by the Authorized Officer, according to the following:

(a) Unit 1: top 77 conifer trees, fell 51 conifer trees;

(b) Unit 2: top 10conifer trees, fell 7 conifer trees;

(c) Unit 3: top 16 conifer trees, fell 11 conifer trees;

(d) Unit 4: top 320 conifer trees, fell 213 conifer trees;

(e) Unit 5: top 92 conifer trees, fell 61 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, improve, 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, improvement, 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, which is attached hereto and made a part hereof.

(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 $19,109.54 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. 41.c.(1) and 41.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) Hauling on BLM Road Nos. 28-9-8.1 Seg. D, 28-9-8.2 Seg. A (Sta 26+60 to 59+40), 28-9-8.4, 28-9-8.5, and 28-9-8.6 shall be permitted 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 wet 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 Plum Creek Timberlands L.P. RWA C-344. 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:

Road Use Fees Payable to Plum Creek Timberlands, L.P.:	$26,436.00
Rockwear Fees Payable to Plum Creek Timberlands, L.P.:	$ 6,844.29

If a Licensor is the purchaser, allowances have been made for amortization of capital investment of the 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, Roadside Hazard Reduction and Biomass Removal. Primarily for purposes of fire prevention the Purchaser shall comply with the following provisions:

(a) Notwithstanding the provisions of Sec. 15 of this contract, the Government shall be responsible for disposing of slash created by the Purchaser's operations at all landing sites in the sale area.

(b) All logging debris accumulated on the landing shall be piled. As much as possible, piling on landings shall be reduced to the least amount of piles necessary and shall be free of soil and rock. Alternatively, accumulations of logging debris can be scattered throughout the unit by logging equipment at the direction of the Authorized Officer.

(c) Unless directed by the Authorized Officer, no landing piles shall be within 15 feet of any reserve tree.

(d) All heavy accumulations of logging slash within 20 feet of BLM Road No. 28-11-12.0 shall be scattered back into the completed harvest unit as directed by the Authorized Officer.

Specifications for Landing and Roadside Hazard Pile Covering

(a) The Purchaser shall place polyethylene plastic, maximum 4 MIL thick and black in color over the pile to provide a barrier from winter rains. Unless otherwise directed, the size of plastic shall not exceed 100 square feet (10 X 10).

(b) Larger piles may receive additional polyethylene plastic sheeting in excess of the 100 square feet to adequately cover the pile. Piles within this size limit will be identified by the Authorized Officer before the landing pile covering begins.

(c) In the piled area being covered, material that extends beyond the general contour of the pile shall be cut off and placed on the pile to prevent tearing of the plastic during seasonal winds.

(d) Plastic covering shall be placed on top of the pile to ensure the center of the piles remains dry and shall be weighted down with logging debris and shall be tied down with twine on all four corners.

(e) All piles shall be covered by September 30 of the same year of piling.

(f) Biomass Utilization Option:

1. If the Purchaser elects to remove biomass generated from harvest activities within the Partial Cut Unit, the Purchaser shall notify the Authorized Officer in order to arrange for on-site

inspections of the removal operations and shall provide information on the total tonnage of biomass material removed from the sale area.

2. Upon completion of the biomass removal, the Purchaser shall notify the Authorized Officer to arrange for a final inspection of the landing site.

Specifications Applicable to Landing Pile Burning

(a) The Purchaser shall begin landing pile burning within 14 hours of notification by the Authorized Officer.

(b) The Purchaser shall remove and dispose of all plastic exceeding the 100 square foot limit in accordance with Federal, State and municipal laws. Removed polyethylene sheeting shall be not be disposed of in burn piles.

(c) Manpower and Equipment Requirements for burning of piles are:

1. One (1) English-speaking foreman for crew supervision
2. Three (3) person burn crew
3. Three (3) drip torches and a sufficient amount of fuel to complete all landing pile burning.

(d) A minimum of 80 % consumption of each pile is required.

(e) No mop-up is required of the Purchaser.

All listed personnel shall be physically fit, experienced and fully capable of functioning as required. All personnel shall arrive at the project area(s) with the following personal safety equipment: Long sleeve natural fabric shirt (or nomex), full length natural fabric trousers (or nomex), minimum eight-inch top leather boots, hardhat, and leather gloves. All listed equipment shall be in good usable condition.

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

Time is of the essence in complying with this provision. In the event the Purchaser fails to provide the men and equipment required herein, the Purchaser shall be responsible for all additional costs incurred by the Government in disposing of slash including but not limited to the wages and other costs of providing federal employees and others as substitute labor force, the cost of providing substitute equipment and appropriate additional overhead expenses.

f. Log Export and Substitution

(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.

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

(3) 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 12months 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.

(4) 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.

(5) 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

(6) 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.

(7) 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.

(8) 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 $6,609.00. In the event only a portion of the contract timber is scaled, the purchase price shall be reduced by that portion of $6,609.00 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. Equal Opportunity in Employment

(1) Certification of Nonsegregated Facilities, Form 1140-3, is attached hereto and made a part hereof.

i. 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.

j. 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:

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

(b) when, in order to comply with the Endangered Species Act or to protect occupied marbled murrelet sites in accordance with the Standards and Guidelines of the Coos Bay District Record of Decision (ROD) and Resource Management Plan (RMP), the Contracting Officer determines it may be necessary to modify or terminate the contract, or;

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

(d) 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;

(e) 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;

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

(g) species have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, and the Contracting Officer determines that continued operations would affect the species or its habitat, or;

(h) when, in order to protect species which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and

(i) 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 Sec. 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 Sec. 3.b. of the contract within 15 days after the bill for collection is issued, subject to Sec. 3.h. of the contract. The Purchaser shall not resume contract operations until the First Installment amount is fully restored.

In the event of a suspension period or a combination of suspension periods that exceed a total of 30 days, the unamortized Out-of-Pocket Expenses for road or 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 terminate the cutting and removal rights under the contract in order to comply with the Endangered Species Act, protect occupied marbled murrelet sites in accordance with the ROD and RMP, protect species that have been discovered which were identified for protection through survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or comply with a court order. Following the issuance of a written notice that cutting and removal rights will be terminated, the Purchaser will be permitted to remove timber cut under the contract, if allowed by the Endangered Species Act, marbled murrelet occupied site protection in accordance with the ROD and RMP, survey and manage and/or protection buffer standards and guidelines established in the ROD and RMP, or court order requirements necessitating the modification or termination.

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

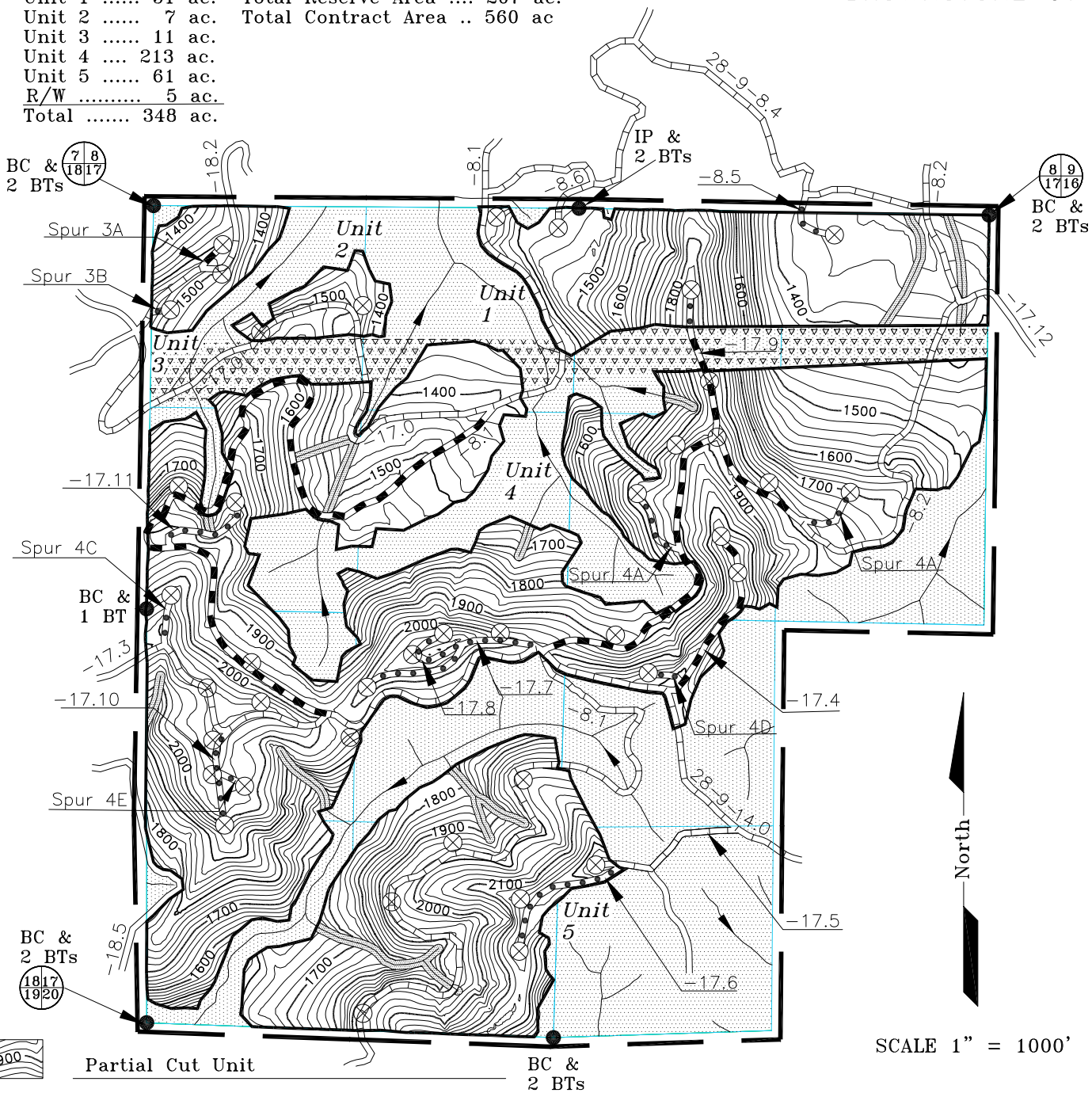
costs and Government estimates of timber volumes. At the Authorized Officer's request, the Purchaser agrees to provide documentation of the actual costs incurred in the performance of the contract. In addition, the Purchaser shall be released from the obligation to pay the contract price for any timber 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.

TIMBER SALE CONTRACT MAP
USDI–BLM COOS BAY DISTRICT
T. 28 S., R. 9 W., Sec. 17 Will. Mer.

ORCOO–TS–2014.33
EXHIBIT A
Page 1 of 2
BROWNSTONE CT

Unit 1	51 ac.	Total Reserve Area	207 ac.
Unit 2	7 ac.	Total Contract Area ..	560 ac
Unit 3	11 ac.		
Unit 4	213 ac.		
Unit 5	61 ac.		
R/W	5 ac.		
Total	348 ac.		



SCALE 1" = 1000'

1900	Partial Cut Unit	BC & 2 BTs	
	Reserve Area		Road to be Improved
	BPA Transmission Line R/W		Road to be Constructed
	No Harvest Buffer		Road to be Renovated
	Boundary of Cutting Area, Blazed, Posted and Painted		Proposed Landing
	Boundary of Contract Area		Stream Channel
	Existing Road		Corner Found

TIMBER SALE CONTRACT MAP
USDI–BLM COOS BAY DISTRICT
T. 28 S., R. 9 W., Sec. 17 Will. Mer.

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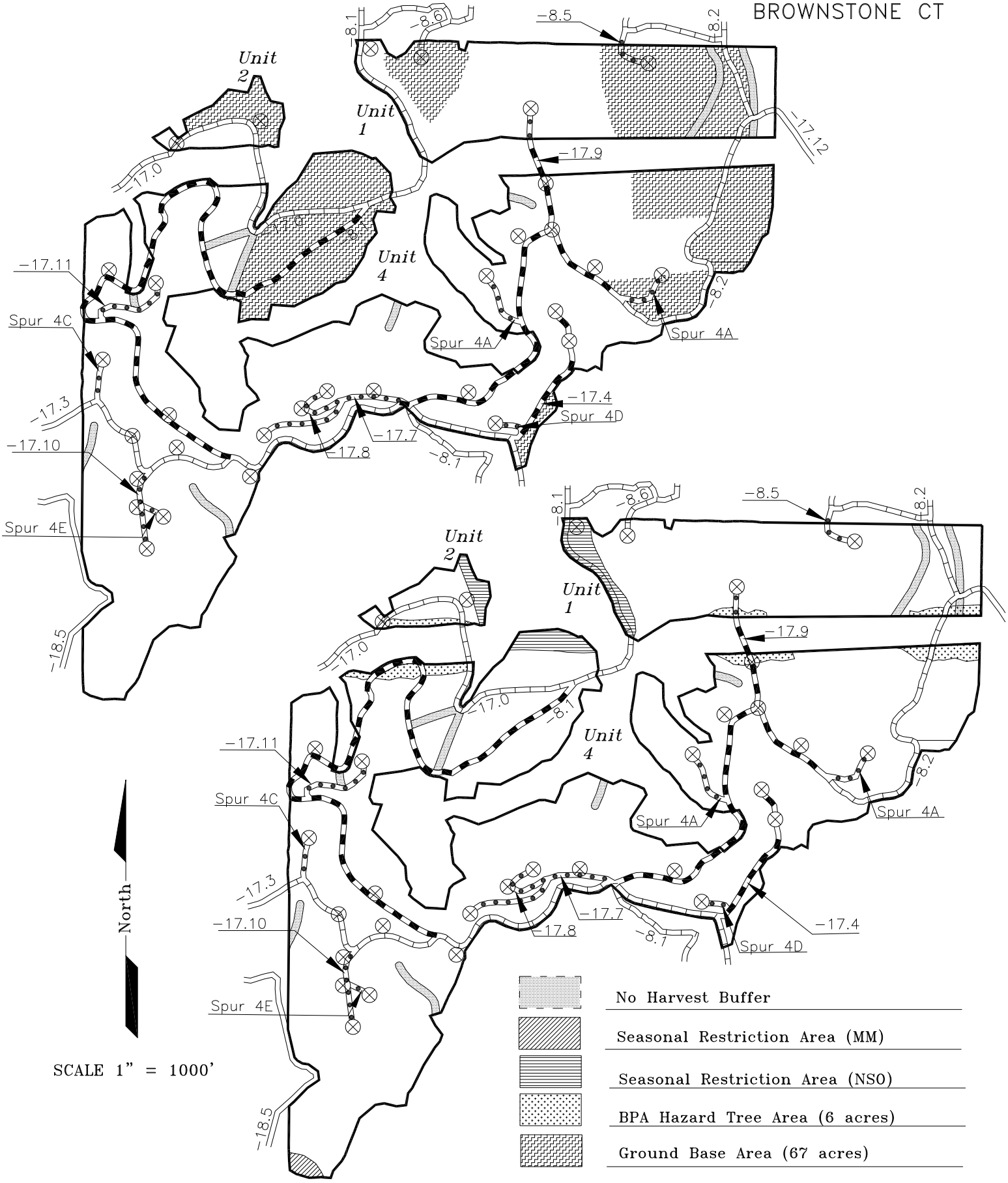
BROWNSTONE CT



TIMBER SALE CONTRACT MAP
USDI–BLM COOS BAY DISTRICT
T. 28 S., R. 9 W., Sec. 17 Will. Mer.

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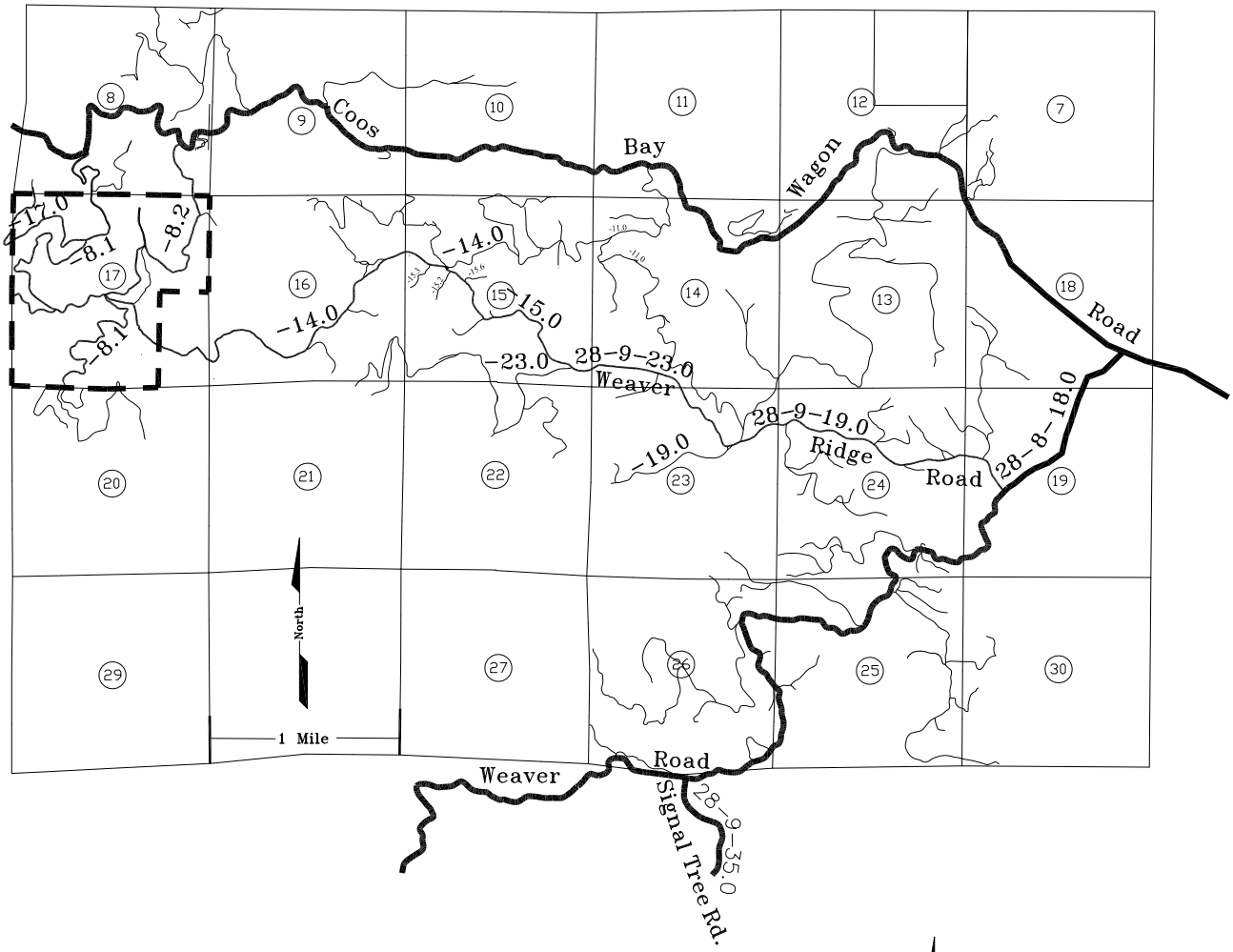
BROWNSTONE CT



Existing Road

Boundary of Contract Area

SCALE 1" = 1 MILE

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Coos Bay
Brownstone CT
ORC00-TS-2014.0033

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	6,440		
Western Hemlock	1,622		
Red Alder	576		
Port-Orford-cedar	129		
Western red-cedar	45		
Sale Totals	**8,812**		

Unit Details (16' MB)

Unit 1 **51 Acres** **Value per Acre : $0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	963		
Port-Orford-cedar	18		
Red Alder	84		
Western Hemlock	238		
Western red-cedar	7		
Unit Totals	**1,310**		

Unit 2 **7 Acres** **Value per Acre : $0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	150		
Port-Orford-cedar	2		
Red Alder	12		
Western Hemlock	34		
Western red-cedar	1		
Unit Totals	**199**		

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Unit 3 **11 Acres** **Value per Acre : $0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	191		
Port-Orford-cedar	4		
Red Alder	18		
Western Hemlock	50		
Western red-cedar	1		
Unit Totals	**264**		

Unit 4 **213 Acres** **Value per Acre : $0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	3,810		
Port-Orford-cedar	76		
Red Alder	351		
Western Hemlock	982		
Western red-cedar	27		
Unit Totals	**5,246**		

Unit 5 **61 Acres** **Value per Acre : $0.00**

Species	Net Volume	Bid Price	Species Value
Douglas-fir	1,061		
Port-Orford-cedar	22		
Red Alder	100		
Western Hemlock	280		
Western red-cedar	8		
Unit Totals	**1,471**		

Unit RW **5 Acres** **Value per Acre : $0.00**

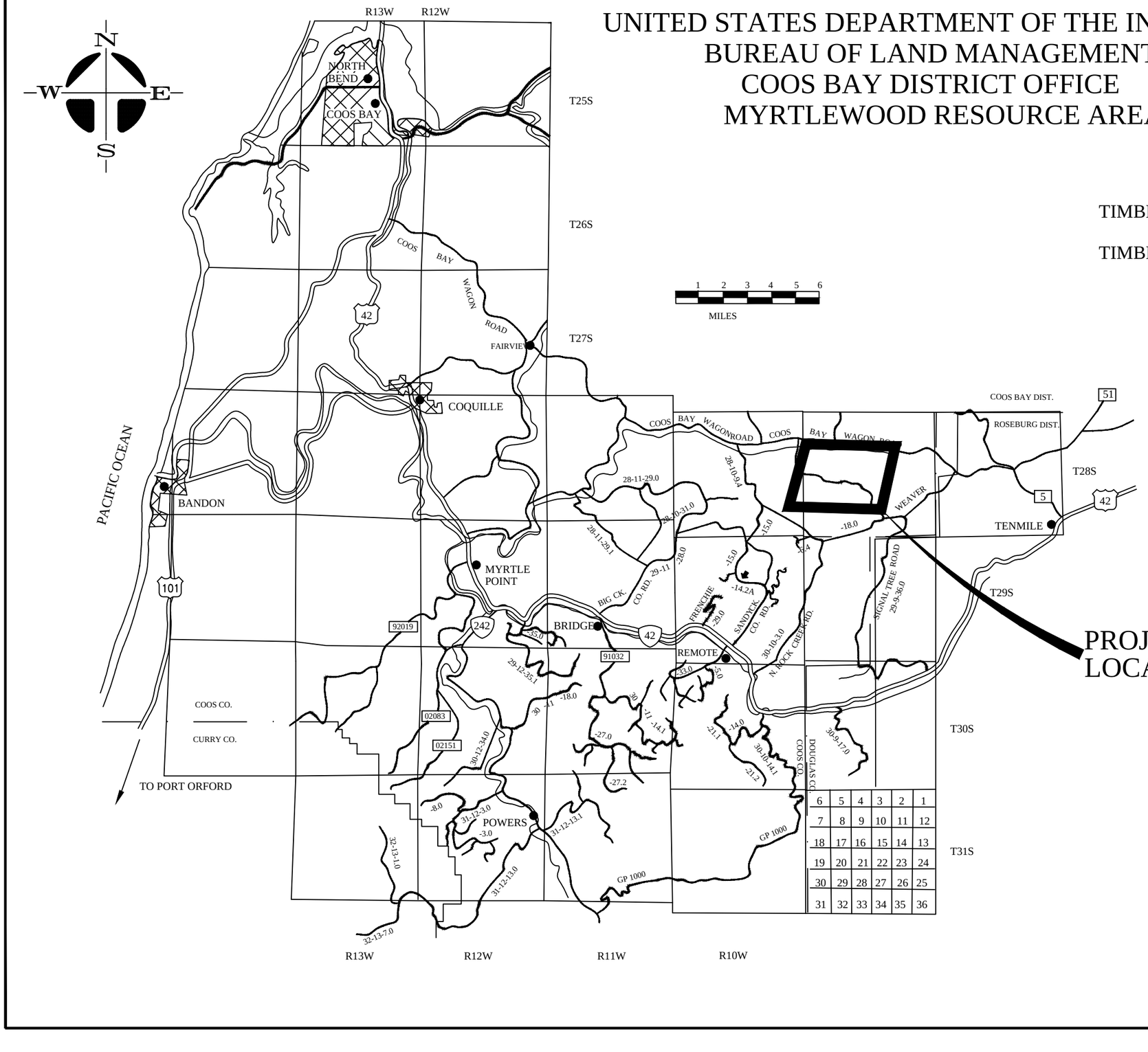
Species	Net Volume	Bid Price	Species Value
Douglas-fir	265		
Port-Orford-cedar	7		
Red Alder	11		
Western Hemlock	38		
Western red-cedar	1		
Unit Totals	**322**		

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

EXHIBIT C

TIMBER SALE NAME: BROWNSTONE CT

TIMBER SALE NO.: 2014.0033



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4-7	ESTIMATE OF QUANTITIES
8	CULVERT INSTALLATION DETAILS
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11	LANDING DETAIL
12	ROADSIDE BRUSHING DETAIL
13	PROFILE SHEET
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47-79	ROAD CONSTRUCTION SPECIFICATIONS

PROJECT LOCATION

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
31	32	33	34	35	36

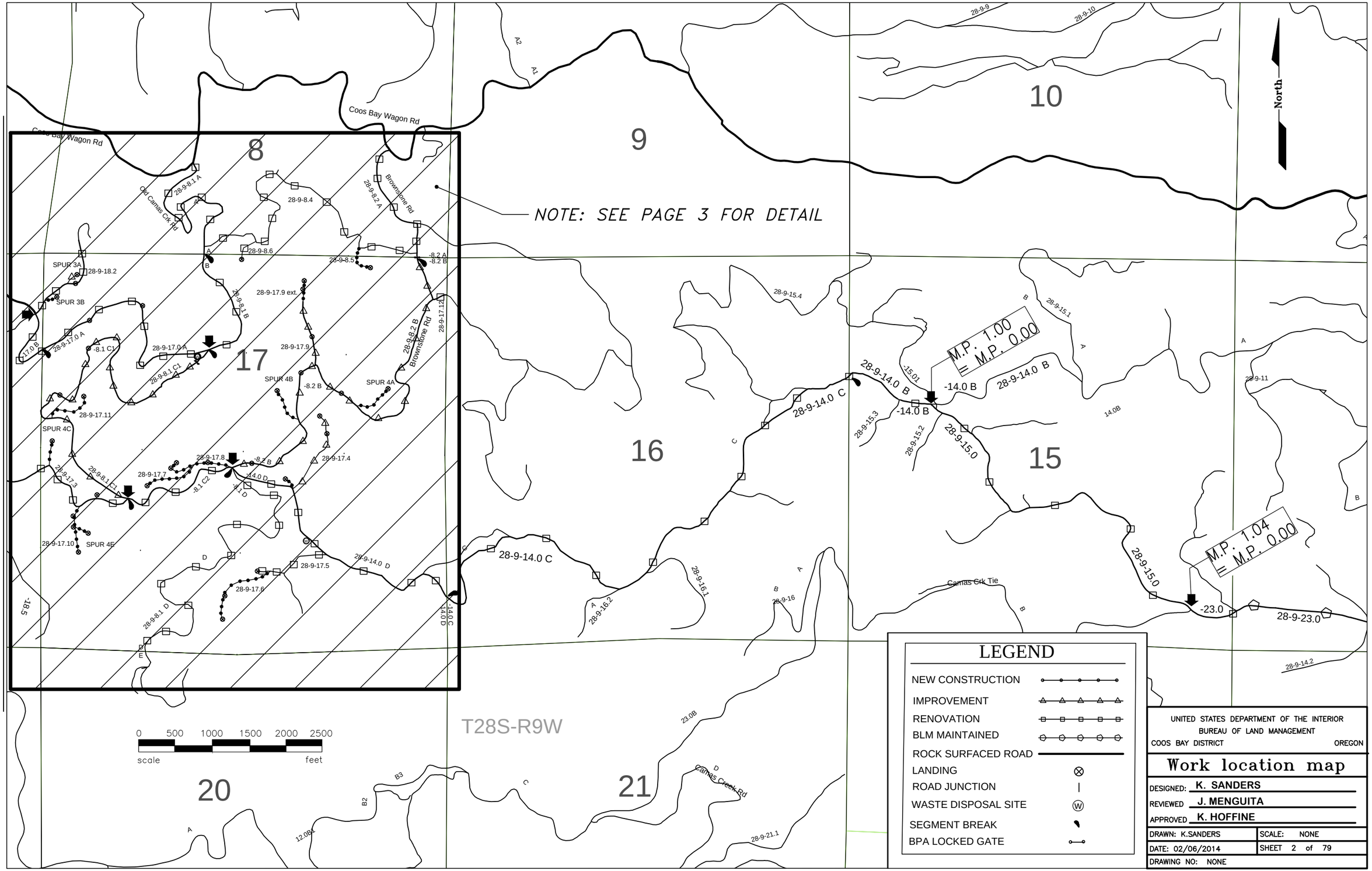
ALWAYS THINK SAFETY

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

TITLE SHEET

DESIGNED K. Sanders
REVIEWED J. Menguita
APPROVED K. Hoffine

DRAWN RCS | SCALE AS SHOWN
DATE 02/14 | SHEET 1 OF 79
DRAWING NO.



LEGEND

- NEW CONSTRUCTION
- IMPROVEMENT
- RENOVATION
- BLM MAINTAINED
- ROCK SURFACED ROAD
- LANDING
- ROAD JUNCTION
- WASTE DISPOSAL SITE
- SEGMENT BREAK
- BPA LOCKED GATE

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

Work location map

DESIGNED: K. SANDERS	
REVIEWED J. MENGUITA	
APPROVED K. HOFFINE	
DRAWN: K.SANDERS	SCALE: NONE
DATE: 02/06/2014	SHEET 2 of 79
DRAWING NO: NONE	

BROWNSTONE CT 2014.0033

Exhibit"C"

RANGE 9 WEST

8

17

TOWNSHIP 28 SOUTH

North

Coos Bay Wagon Rd

Coos Bay Wagon Rd

Milepost 29.60 = Sta. 0+00

Milepost 30.30 = Sta. 0+00

Old Camas Crk Rd

28-9-8.1 A

A

28-9-8.4

Sta. 8+00 = Sta. 0+00

28-9-8.2 A

Brownstone Rd

Station 26+00 = Station 48+50

Station 34+00 = Station 0+00

Sta. 40+00 = Sta. 0+00

Station 1+20 = Station 0+00

Station 45+50= Station 0+00

Sta. 11+75

Sta. 34+80

A

B

28-9-8.6

Sta. 2+80

28-9-8.5

Sta. 8+00

Sta. 26+60

-8.2 A

-8.2 B

SPUR 3A

Sta. 2+50

28-9-18.2

Sta. 7+00

Sta. 5+75 =Sta. 0+00

Sta. 3+10

Sta. 2+50

28-9-17.9 ext.

Sta. 5+40 = Sta. 0+00

28-9-8.1 B

Sta. 31+00 = Sta. 0+00

Sta. 3+46

28-9-17.12

SPUR 3B

Sta. 1+30

-17.0 B

28-9-17.0 A

-8.1 C1

28-9-17.0 A

Sta. 34+25

28-9-8.1 C1

Sta. 3+15

28-9-17.9

Sta. 68+75 =Sta. 0+00

Sta. 60+00 =Sta. 0+00

28-9-8.2 B

Brownstone Rd

Station 99+50= Station 0+00

Sta. 9+00

28-9-17.11

{-17.0 } 0+00 = {-8.1B/C} 54+00

{-17.8 } 0+00 {-8.1 C} 135+10 {-8.1 D} 0+00 {-8.2 B} 92+50 {-14.0D} Mp2.23

SPUR 4B

Sta. 4+65

-8.2 B

SPUR 4A

Sta. 3+70

Sta. 14+00

Sta. 76+15 = Sta. 0+00

Sta. 12+70

Sta. 59+40 End Renovation Begin Improvement

SPUR 4C

Sta. 2+90

{-17.3} 0+00 = {-8.1C} 117+50

Sta. 6+60 = Sta. 0+00

28-9-17.8

Station 14+70= Station 0+00

Sta. 9+00

28-9-17.7

-8.2 B

28-9-17.4

SPUR 4D

Sta. 2+10

28-9-17.3

28-9-8.1 C1

Sta. 7+10

-14.0 D

Sta. 16+50

Sta. 4+65

-8.1 C2

-8.1 D

M.P. 2.03 =0+00

Sta. 1+70

Sta. 3+60

Sta. 2+10

SPUR 4E

28-9-17.10

Sta. 6+15

Sta. 7+80 =Sta. 0+00

8+00 =0+00

M.P. 1.96 Waste area

M.P. 1.87 =0+00

D

Sta. 10+50

28-9-17.5

28-9-14.0 D

Sta. 3+60 =Sta. 0+00

28-9-17.6

Sta. 6+70

M.P. 1.52

-18.5

28-9-8.1 D

Sta. 9+85

-14.0 C

-14.0 D

D

E

Sta. 9+85

LEGEND

- NEW CONSTRUCTION
- IMPROVEMENT
- RENOVATION
- BLM MAINTAINED
- ROCK SURFACED ROAD
- LANDING
- ROAD JUNCTION
- WASTE DISPOSAL SITE
- SEGMENT BREAK
- BPA LOCKED GATE

0 500 1000 1500 2000 2500

scale feet

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

Work location map

DESIGNED: K. SANDERS	
REVIEWED J. MENGUITA	
APPROVED K. HOFFINE	
DRAWN: K.SANDERS	SCALE: NONE
DATE: 02/07/2014	SHEET 3 of 79
DRAWING NO: NONE	

ROAD NUMBER	NEW CONSTRUCTION	RENOVATION	IMPROVEMENT	CLEARING	SLASH TREATMENT	GRUBBING	ROADSIDE BRUSHING	EARTHWORK						CULVERTS							
								COMMON	RIPPABLE ROCK	ROCK CUT	FILL	SHORT HAUL 200-5000'	LONG HAUL 5000'+	12" CPE "S"	Full Round 36" CPP "C"	36" CPP "S"	Full Round 18" CPP "C"	Full Round 24" CPP "C"	18" CPP "S"	24" CPP "S"	CULVERT MARKERS
SPEC. NO.		500	500	200	200	200	2100	300	300	300	300	300	300	400	400	400	400	400	400	400	400
UNITS	Sta.	Sta.	Sta.	Sta.	ACRES	ACRES	ACRES	C.Y.	C.Y.	C.Y.	YDS.	STA.YD.	YD.MI.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Pair
28-9-14.0 B		12.67					0.6														
28-9-14.0 C		67.58					3.1														
28-4-14.0 D		37.49					1.7														
28-9-15.0		52.80					2.4														
28-9-17.0 A		34.25					1.6												75	35	8
28-9-17.0 B		11.25					0.5														3
28-9-17.10	6.15						0.0														
28-9-17.11	9.00						0.0	1100				1100									
28-9-17.12		3.46					0.2													40	1
28-9-17.3		16.50					0.8														
28-9-17.4			14.40				0.7	410				1245					10		30		1
28-9-17.5		10.80					0.5														
28-9-17.6	9.85						0.0	3080			250	57658									
28-9-17.7	7.10						0.0														
28-9-17.8	9.00						0.0	1100				1100									
28-9-17.9			5.40				0.2														
28-9-17.9 ext.	3.10						0.0														
28-9-18.2		11.75					0.5														
28-9-8.1 A		34.80					1.6										10	60	35	100	5
28-9-8.1 B		19.20					0.4								20	50		20		35	3
28-9-8.1 C1			63.50				2.9										60	80	170	145	10
28-9-8.1 C2		17.60					0.8														
28-9-8.1 D		57.50					2.6													35	5
TOTALS	44.20	387.65	83.30				21.1	5690			250	64623			20	50	80	160	310	390	36

CPP "S" – (DW) – DOUBLE WALL CORRUGATED POLYETHYLENE PIPE
CPP "C" – (SW) – SINGLE WALL CORRUGATED POLYETHYLENE PIPE
CMP – CORRUGATED METAL PIPE

THIS SHEET PROVIDED FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ALWAYS THINK SAFETY

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

BROWNSTONE CT
2014.0033
ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS | SCALE NONE
DATE 02/08/2014 | SHEET 4 OF 79

ROAD NUMBER	NEW CONSTRUCTION	RENOVATION	IMPROVEMENT	CLEARING	SLASH TREATMENT	GRUBBING	ROADSIDE BRUSHING	EARTHWORK						CULVERTS							CULVERT MARKERS
								COMMON	RIPPABLE ROCK	ROCK CUT	FILL	SHORT HAUL 200-5000'	LONG HAUL 5000'+	12" CPE "S"	36" CPP "C"	36" CPP "S"	18" CPP "C"	24" CPP "C"	18" CPP "S"	24" CPP "S"	
SPEC. NO.		500	500	200	200	200	2100	300	300	300	300	300	300	400	400	400	400	400	400	400	400
UNITS	Sta.	Sta.	Sta.	STA.	ACRES	ACRES	ACRES	C.Y.	C.Y.	C.Y.	YDS.	STA.YD.	YD.MI.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	L.F.	Pair
28-9-8.2 A		26.60					1.2														
28-9-8.2 B		32.80					1.7														
28-9-8.2 B			33.10				1.8										40	80	70	100	6
28-9-8.4		48.50					2.2														
28-9-8.5	8.00						0.0												20	20	2
28-9-8.6		2.80					0.1														
SPUR 3A			2.50				0.0														
SPUR 3B	1.30						0.0	500				3221									
SPUR 4A	3.70						0.0														
SPUR 4B	4.65						0.0														
SPUR 4C	2.90						0.0														
SPUR 4D	2.05						0.0														
SPUR 4E	2.10						0.0														
TOTALS	24.70	110.70	35.60				7.0	500				3221					40	80	90	120	8

CPP "S" – (DW) – DOUBLE WALL CORRUGATED POLYETHYLENE PIPE
CPP "C" – (SW) – SINGLE WALL CORRUGATED POLYETHYLENE PIPE
CMP – CORRUGATED METAL PIPE

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COOS BAY DISTRICT OREGON

BROWNSTONE CT
2014.0033
ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN	KGS	SCALE	NONE
DATE	02/08/2014	SHEET	5 OF 79

THIS SHEET PROVIDED FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ROAD NUMBER	SURFACING							RIP RAP CLASS "V"	DRY SEED, FERTILIZER, & MULCH	
	BASE ROCK	LANDING ROCK **	SURFACE ROCK	SPOT ROCK **	PIPE BEDDING ROCK	PIPE SURFACE ROCK: **	OPEN ROCK **		PRE-HAUL EX. C	HUYDRO MULCH EX. C
SPEC. NO.	1000	1000	1200	1200	1200	1200	700	RIPRAP	1800	1800
UNITS	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	ACRES	ACRES
28-9-14.0 B	(A)	(A)	(C)	25 (C)	(D)	(C)	(B)		0.3	
28-9-14.0 C	(A)	(A)	(C)	130 (C)	(D)	(C)	(B)		0.8	
28-9-14.0 D	(A)	3 (A)	(C)	70 (C)	(D)	(C)	50 (B)		0.4	
28-9-15.0	(A)	(A)	(C)	100 (C)	(D)	(C)	(B)		0.1	
28-9-17.0 A	(A)	179 (A)	32 (C)	65 (C)	30 (D)	60 (C)	(B)	20	0.8	
28-9-17.0 B	(A)	(A)	131 (C)	20 (C)	31 (D)	42 (C)	5 (B)		0.3	
28-9-17.10	233 (A)	180 (A)	100 (C)	(C)	(D)	(C)	(B)		0.3	
28-9-17.11	417 (A)	630 (A)	(C)	(C)	(D)	(C)	(B)		0.4	
28-9-17.12	(A)	50 (A)	(C)	(C)	13 (D)	25 (C)	(B)		0.2	
28-9-17.3	(A)	200 (A)	(C)	30 (C)	(D)	(C)	(B)		0.4	
28-9-17.4	518 (A)	240 (A)	224 (C)	(C)	8 (D)	17 (C)	(B)		0.7	
28-9-17.5	399 (A)	210 (A)	172 (C)	(C)	(D)	(C)	(B)		0.5	
28-9-17.6	393 (A)	250 (A)	170 (C)	(C)	(D)	(C)	(B)		0.5	
28-9-17.7	269 (A)	160 (A)	116 (C)	(C)	(D)	(C)	(B)		0.5	
28-9-17.8	228 (A)	230 (A)	147 (C)	(C)	(D)	(C)	(B)		1.0	
28-9-17.9	(A)	50 (A)	88 (C)	(C)	(D)	(C)	(B)		0.1	
28-9-17.9 ext.	117 (A)	120 (A)	50 (C)	(C)	(D)	(C)	(B)		0.1	
28-9-18.2	50 (A)	(A)	114 (C)	(C)	(D)	(C)	(B)		0.5	
28-9-8.1 A	223 (A)	(A)	417 (C)	(C)	40 (D)	70 (C)	(B)		0.8	
28-9-8.1 B	38 (A)	(A)	66 (C)	(C)	40 (D)	35 (C)	(B)	5	1.0	
28-9-8.1 C1	1681 (A)	130 (A)	1241 (C)	(C)	87 (D)	131 (C)	(B)	20	1.5	
28-9-8.1 C2	(A)	50 (A)	(C)	(C)	(D)	35 (C)	(B)		0.1	
28-9-8.1 D	(A)	(A)	15 (C)	(C)	11 (D)	(C)	(B)		2.7	
28-9-8.2 A	50 (A)	(A)	(C)	(C)	(D)	(C)	(B)		0.6	
28-9-8.2 B	1273 (A)	310 (A)	639 (C)	(C)	45 (D)	(C)	(B)		1.8	
28-9-8.4	(A)	(A)	(C)	(C)	(D)	(C)	(B)		1.1	
28-9-8.5	(A)	(A)	(C)	(C)	10 (D)	(C)	(B)		0.4	
28-9-8.6	(A)	(A)	(C)	(C)	(D)	(C)	10 (B)		0.1	
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
GRAND TOTALS	5889 (A)	2992 (A)	3722 (E)	440 (C)	315 (D)	415 (C)	65 (B)	45	18.0	

ITEM	SIZE	GRADE
1000	3"	A
	2"	B
	11/2"	C
	6"	D
700	4"	A
	6"	B
1100	4"	B
1200	1 1/2"	C
	1"	D
	3/4"	E
RIPRAP	CLASS V	B

GRADE INDICATED IN CIRCLE ◯

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

** PITRUN ROCK, SPOT ROCK, AND RIP RAP ARE TRUCK MEASUREMENT QUANTITIES. QUANTITIES SHOWN IN BASE AND SURFACE ROCK ARE IN COMPACTED CUBIC YARDS.

TTA = TRUCK TURNAROUND

ALWAYS THINK SAFETY

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

BROWNSTONE CT
2014.0033
ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS | SCALE NONE
DATE 02/08/2014 | SHEET 6 OF 79

THIS SHEET PROVIDED FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ROAD NUMBER	SURFACING							RIP RAP CLASS "IV"	DRY SEED, FERTILIZER, & MULCH	
	BASE ROCK	LANDING ROCK **	SURFACE ROCK	SPOT ROCK **	PIPE BEDDING ROCK	PIPE SURFACE ROCK: **	OPEN ROCK **		PRE–HAUL EX. C	HUYDRO MULCH EX. C
SPEC. NO.	1000	1000	1200	1200	1200	1200	700	RIPRAP	1800	1800
UNITS	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	ACRES	ACRES
SPUR 3A	(A)	200 (A)	(C)	(C)	(D)	(C)	(B)		0.3	
SPUR 3B	(A)	200 (A)	(C)	(C)	(D)	(C)	(B)		0.1	
SPUR 4A	(A)	260 (A)	(C)	(C)	(D)	(C)	(B)		0.2	
SPUR 4B	(A)	360 (A)	(C)	(C)	(D)	(C)	(B)		0.2	
SPUR 4C	(A)	400 (A)	(C)	(C)	(D)	(C)	20 (B)		0.1	
SPUR 4D	(A)	170 (A)	(C)	(C)	(D)	(C)	(B)		0.1	
SPUR 4E	(A)	160 (A)	(C)	(C)	(D)	(C)	(B)		0.1	
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
GRAND TOTALS	(A)	1750 (A)	(E)	(C)	(D)	(C)	20 (B)		1.1	

ITEM	SIZE	GRADE
1000	3"	A
	2"	B
	11/2"	C
	6"	D
700	4"	A
	6"	B
1100	4"	B
1200	1 ½"	C
	1"	D
	¾"	E
RIPRAP	CLASS V	B

GRADE INDICATED IN CIRCLE ○

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

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TTA = TRUCK TURNAROUND

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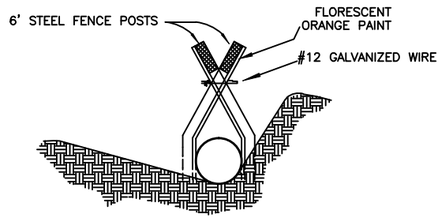
U. S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
COOS BAY DISTRICT OREGON

BROWNSTONE CT
2014.0033
ESTIMATE OF QUANTITIES

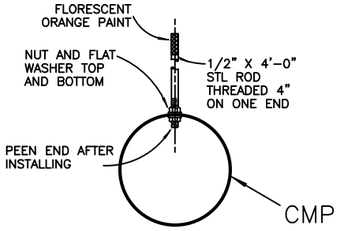
DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS	SCALE NONE
DATE 02/08/2014	SHEET 7 OF 79



CPE – CULVERT MARKER

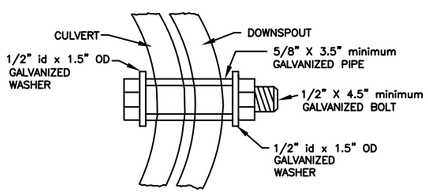
INSTALL MARKERS NOT MORE THAN 6" BACK FROM END OF CULVERT



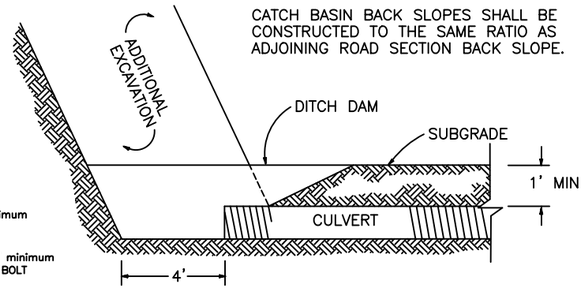
CMP – CULVERT MARKER

BANDS SHALL MEET MANUFACTURER'S SPECIFICATIONS

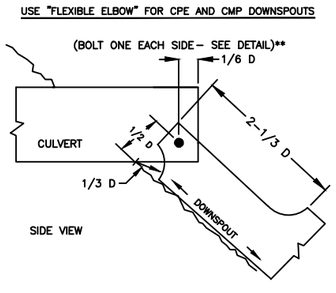
BOLT ASSEMBLY DETAIL**

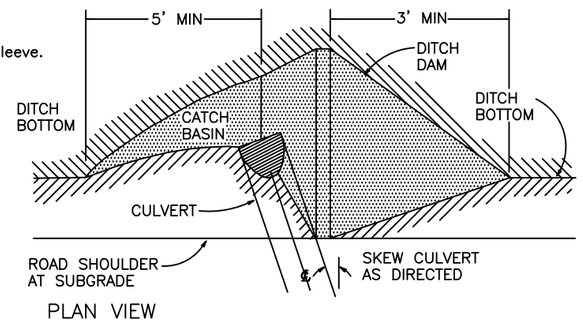


NOTE: 24" CPE Culverts use 5" long bolts with a 4.0" minimum length Galvanized pipe sleeve.

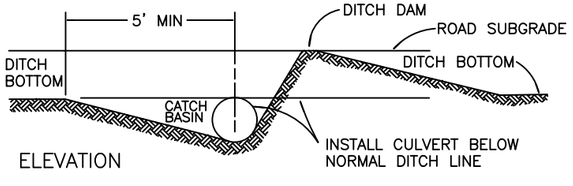


CROSS SECTION AT CATCH BASIN





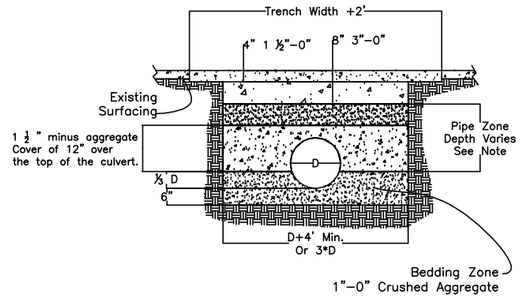
PLAN VIEW



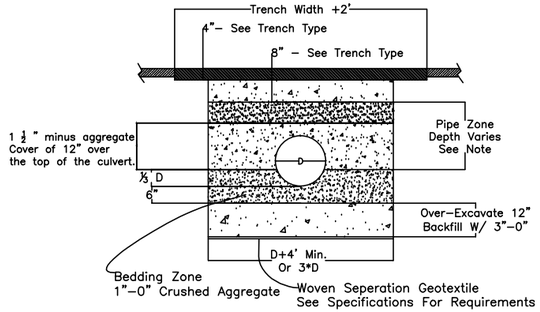
ELEVATION

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

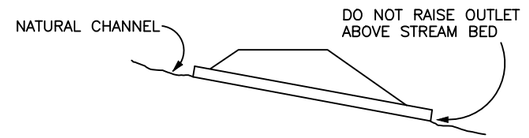
CATCH BASIN



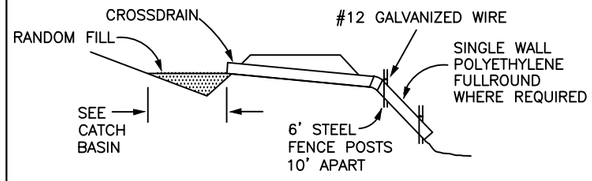
AGGREGATE & UNSURFACED ROAD TRENCH DETAIL



SOFT SUBGRADE TRENCH DETAIL
(Applies To All Surface Types)



TYPE 1



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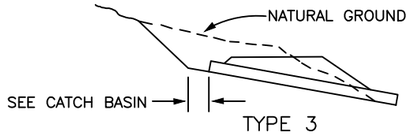

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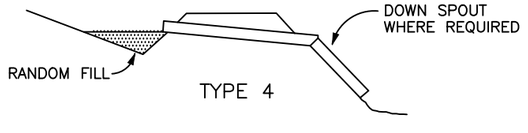


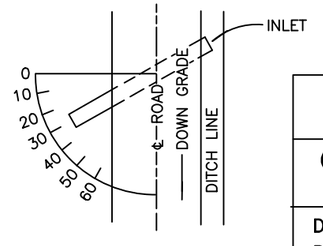
TYPE 4

CULVERT INSTALLATION TYPES

Notes:

Pipe Zone material shall be select common material. Unified Soil Classification System Symbol GW, GP, GM, GC, SW, SP or SM and as approved by COR.

Minimum trench width shown. Trench may be wider due to trench depth and soil type. Slope trench walls and/or shore to comply with OSHA regulations.



SKEW DIAGRAM

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

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

CULVERT INSTALLATION DETAILS

DESIGNED	K. SANDERS
REVIEWED	J. MENGUITA
APPROVED	K. HOFFINE
DRAWN KGS	SCALE NONE
DATE: 10/24/2011	SHEET 8 OF 79

ALWAYS THINK *SAFETY*

ROAD NUMBER **	FROM MILEPOST/ STATION	TO MILEPOST/ STATION	LENGTH IN MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH[1]		CLEARING WIDTH				SURFACING										REMARKS
							BEYOND		EXISTING ROADS[5]		BASE COURSE					SURFACE COURSE					
					Subgrade	Ditch	TOP CUT	TOE FILL	L	R	Minimum Top Width	Comp. Depth	Type[2]	Grading		Minimum Top Width	Comp. Depth	Type[2]	Grading		
28-9-14.0B R	0.00	0.24	0.24	2	16'	2'			10	10											3% crowned W/ Ditchline
28-9-14.0C R	0.24	1.52	1.28	2	16'	2'			10	10											3% crowned W/ Ditchline
28-9-14.0D R	1.52	2.23	0.71	2	16'	2'			10	10											3% crowned W/ Ditchline
28-9-15.0 R	0.00	1.00	1.00	2	16'	2'			10	10											3% crowned W/ Ditchline
28-9-17.0A R	0+00	27+50	27.50	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.0A R	27+50	29+50	2.00	2	16'	3'			10	10						12 ft	6 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.0A R	29+50	34+25	4.75	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.0B R	34+25	37+50	3.25	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.0B R	37+50	45+50	8.00	2	16'	3'			10	10						12 ft	6 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.10 C	0+00	6+15	6.15	2	16'	0'	10	5			13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/O Ditchline
28-9-17.11 C	0+00	9+00	9.00	3	16'	0'	10	5			12.0 ft	12 "	"D"	"A"1000							3% crowned W/O Ditchline
28-9-17.12 R	0+00	3+46	3.46	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.3 R	0+00	16+50	16.50	2	16'	2'			10	10											3% crowned W/ Ditchline
28-9-17.4 I	0+00	0+35	0.35	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.4 I	0+35	14+00	13.65	2	16'	3'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.4 I	14+00	14+40	0.40	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.5 R	0+00	10+50	10.50	2	16'	3'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.5 R	10+50	10+80	0.30	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-17.6 C	0+00	9+85	9.85	3	16'	2'	10	5			13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.7 C	0+00	7+10	7.10	2	16'	2'	10	5			13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.8 C	0+00	9+00	9.00	2	16'	2'	10	5			13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline
28-9-17.9 I	0+00	5+40	5.40	2	16'	0'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/O Ditchline
28-9-17.9extC	0+00	3+10	3.10	2	16'	0'	10	5			13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200		3% crowned W/O Ditchline
28-9-18.2 R	0+00	7+00	7.00	3	16'	0'			10	10						12 ft	4 "	"D"	"C" 1200		3% crowned W/O Ditchline
28-9-8.1A R	0+00	10+00	10.00	2	16'	3'			10	10											3% crowned W/ Ditchline
28-9-8.1A R	10+00	34+80	24.80	2	16'	3'			10	10						12 ft	4 "	"D"	"C" 1200		3% crowned W/ Ditchline

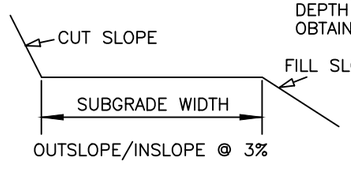
NOTES

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
   105'–200" ADD 1FT.
   75'–100' ADD 3FT.
   50'– 70' ADD 5FT.
   OR AS SHOWN ON PLANS.

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

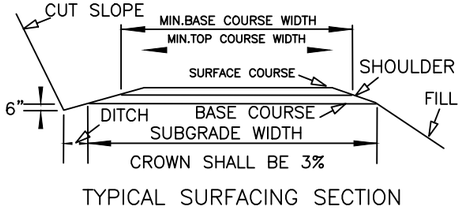
   FULL BENCH CONSTRUCTION IS REQUIRED ON SIDE SLOPES EXCEEDING 60%.
2. SURFACING TYPE
   A. PIT RUN ROCK MATERIAL.
   B. GRID ROLLED ROCK MATERIAL
   C. SCREENED ROCK MATERIAL.
   D. CRUSHED ROCK MATERIAL.
3. TURNOUTS
   A. WIDTH 10 FT. IN ADDITION TO SUBGRADE WIDTH, OR AS SHOWN ON THE PLANS.
   B. LOCATED APPROXIMATELY AS SHOWN ON THE ROAD PLANS OR NARRATIVE.
4. SURFACING
   A. TURNOUTS, CURVE WIDENING AND ROAD APPROACH APRONS SHALL BE SURFACED.
5. CLEARING WIDTH
   SEE SUBSECTION 200 OR 2100.

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



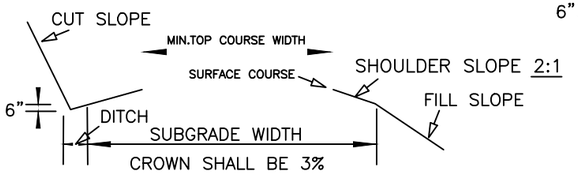
TYPICAL DIRT SECTION

TYPE 1



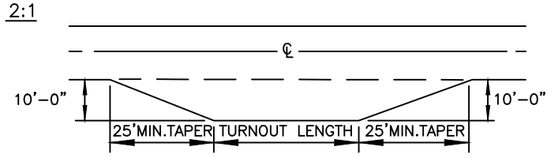
TYPICAL SURFACING SECTION

TYPE 2

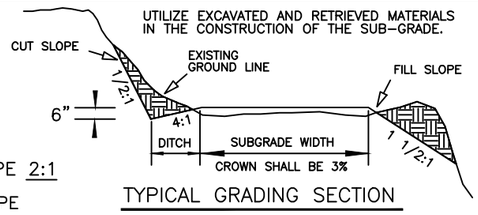


TYPICAL SURFACING SECTION

TYPE 3



PLAN
TYPICAL TURNOUT



TYPICAL GRADING SECTION

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

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

TYPICAL CROSS SECTION DETAIL

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS | SCALE NONE
DATE: 02/09/2014 | SHEET 9 OF 79

ROAD NUMBER **	FROM MILEPOST/ STATION	TO MILEPOST/ STATION	LENGTH IN MILES/ STATIONS	TYPICAL SECTION TYPE	ROAD WIDTH[1]		CLEARING WIDTH				SURFACING											REMARKS
							BEYOND		EXISTING ROADS[5]		BASE COURSE					SURFACE COURSE						
					Subgrade	Ditch	TOP CUT	TOE FILL	L	R	Minimum Top Width	Comp. Depth	Type[2]	Grading		Minimum Top Width	Comp. Depth	Type[2]	Grading			
28-9-8.1B R	34+80	48+50	13.70	2	16'	3'			10	10												3% crowned W/ Ditchline
28-9-8.1B R	48+50	49+50	10.00	2	16'	3'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.1B R	49+50	54+00	4.50	2	16'	3'			10	10												3% crowned W/ Ditchline
28-9-8.1C1 I	54+00	55+50	1.50	2	16'	3'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.1C1 I	55+00	78+65	23.65	2	16'	3'			10	10						12 ft	6 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.1C1 I	78+65	117+25	38.60	2	16'	3'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.1C2 R	117+25	135+10	17.85	2	16'	3'			10	10												3% crowned W/ Ditchline
28-9-8.1D R	0+00	57+50	57.50	1	14'	3'			10	10												3% crowned W/ Ditchline
28-9-8.2A R	0+00	26+60	26.60	2	16'	2'			10	10												3% crowned W/ Ditchline
28-9-8.2B R	26+60	59+40	32.80	3	16'	2'			10	10												3% crowned W/ Ditchline
28-9-8.2B I	59+40	69+00	9.60	3	16'	2'			10	10						12 ft	6 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.2B I	69+00	92+50	23.50	3	16'	2'			10	10	13.3 ft	8 "	"D"	"A"1000		12 ft	4 "	"D"	"C" 1200			3% crowned W/ Ditchline
28-9-8.4 R	0+00	3+65	3.65	2	16'	3'			10	10												3% crowned W/ Ditchline
28-9-8.5 C	0+00	6+35	6.35	2	16'	3'	10	5														3% crowned W/ Ditchline
28-9-8.6 R	0+00	4+50	4.50	2	16'	3'			10	10												3% crowned W/ Ditchline
SPUR 3A I	0+00	2+50	2.50	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 3B C	0+00	1+30	1.30	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 4A C	0+00	3+70	3.70	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 4B C	0+00	4+65	4.65	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 4C C	0+00	2+90	2.90	3	16'	0'	10	5			12.0 ft	12 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 4D C	0+00	2+05	2.05	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline
SPUR 4E C	0+00	2+10	2.10	3	16'	0'	10	5			12.0 ft	10 "	"D"	"A"1000								3% crowned W/O Ditchline

NOTES

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   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
   105'-200" ADD 1FT.
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COMMON	1/2:1	1 1/2:1
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5. CLEARING WIDTH
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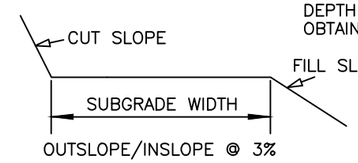
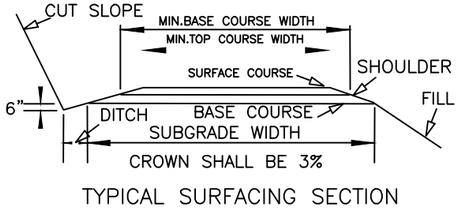
ALL DITCHES:
4:1 SLOPE FROM SUBGRADE
DEPTH MAY BE EXCEEDED TO OBTAIN REQUIRED DRAINAGE.



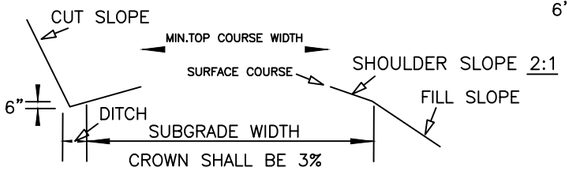
TYPICAL DIRT SECTION

TYPE 1



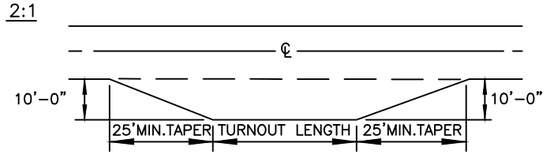
TYPICAL SURFACING SECTION

TYPE 2

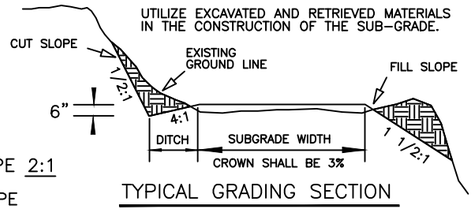


TYPICAL SURFACING SECTION

TYPE 3



PLAN
TYPICAL TURNOUT



TYPICAL GRADING SECTION

** RENOVATION = R
IMPROVEMENT = I
CONSTRUCTION = C

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

TYPICAL CROSS SECTION DETAIL

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS | SCALE NONE
DATE: 02/09/2014 | SHEET 10 OF 79

PRE–LOGGING

1. Purchaser shall stake landing locations a minimum of five (5) days in advance of construction unless otherwise agreed. Locations shall be aproved by the Authorized Officer prior to construction.

   (a) The top edges of required back–slopes shall be flagged in a prominent manner with colored plastic ribbon.

   (b) 1. For cut only landing – the elevation and perimeter of landing shall be delineated by a series of intervisible stakes located along the "daylight" points of desired exca–vation.

   2. For cut and fill landing – the toe of the fill shall be delineated by a series of intervisible stakes.

2. When required, all excavated material shall be end–hauled to disposal areas specified by the Authorized Officer at the time of approval.

3. The 300 Series of Road Specifications applies for the construction of landings.

   (a) The fill slope ratio shall not be steeper than 1 1/2:1.

   (b) The cut slope ratio shall be 1/2:1 for common and 1/4:1 for rock.

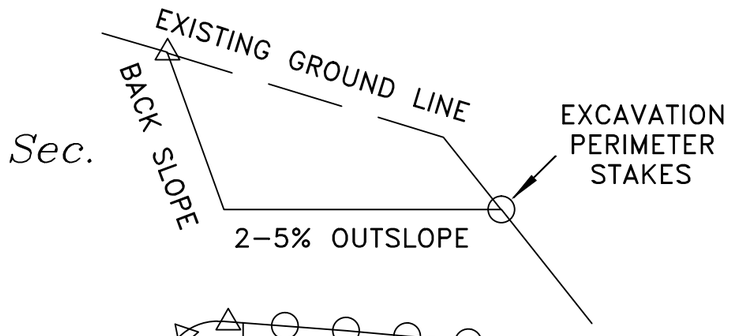
4. Landing shall be constructed with a 2–5% slope for drainage.

POST–LOGGING

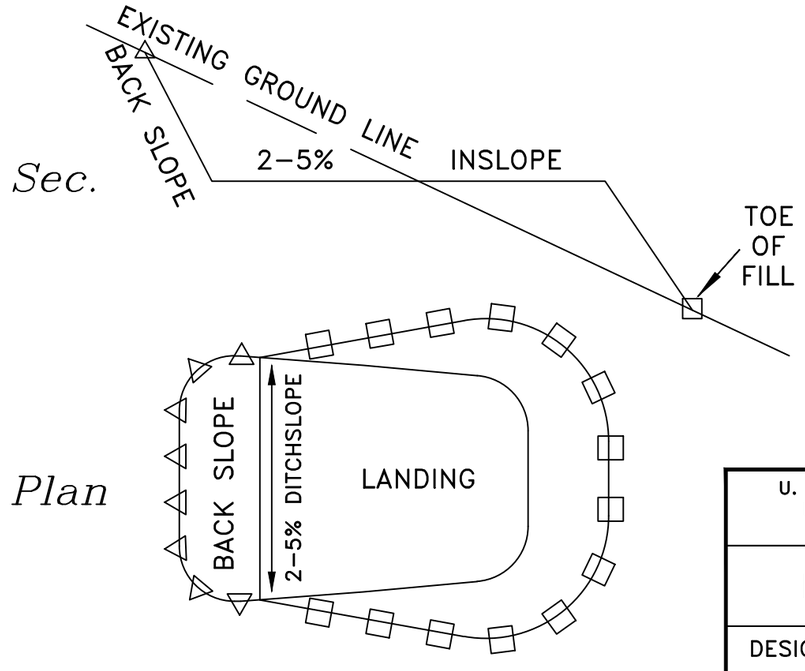
1. Purchaser shall remove and dispose of debris from the perimeter of landing in strict accordance with written instructions of the Authorized Officer. Debris is con–sidered as unclassified excavation and shall include any woody material such as log ends, cull chunks, stumps, bark, limbs, etc., and any common soil material.

2. All natural water courses shall be opened to prevent erosion.

3. Landing shall be graded, crowned, and shaped to prevent puddling and permit drainage.



TYPICAL LANDING CUT ONLY

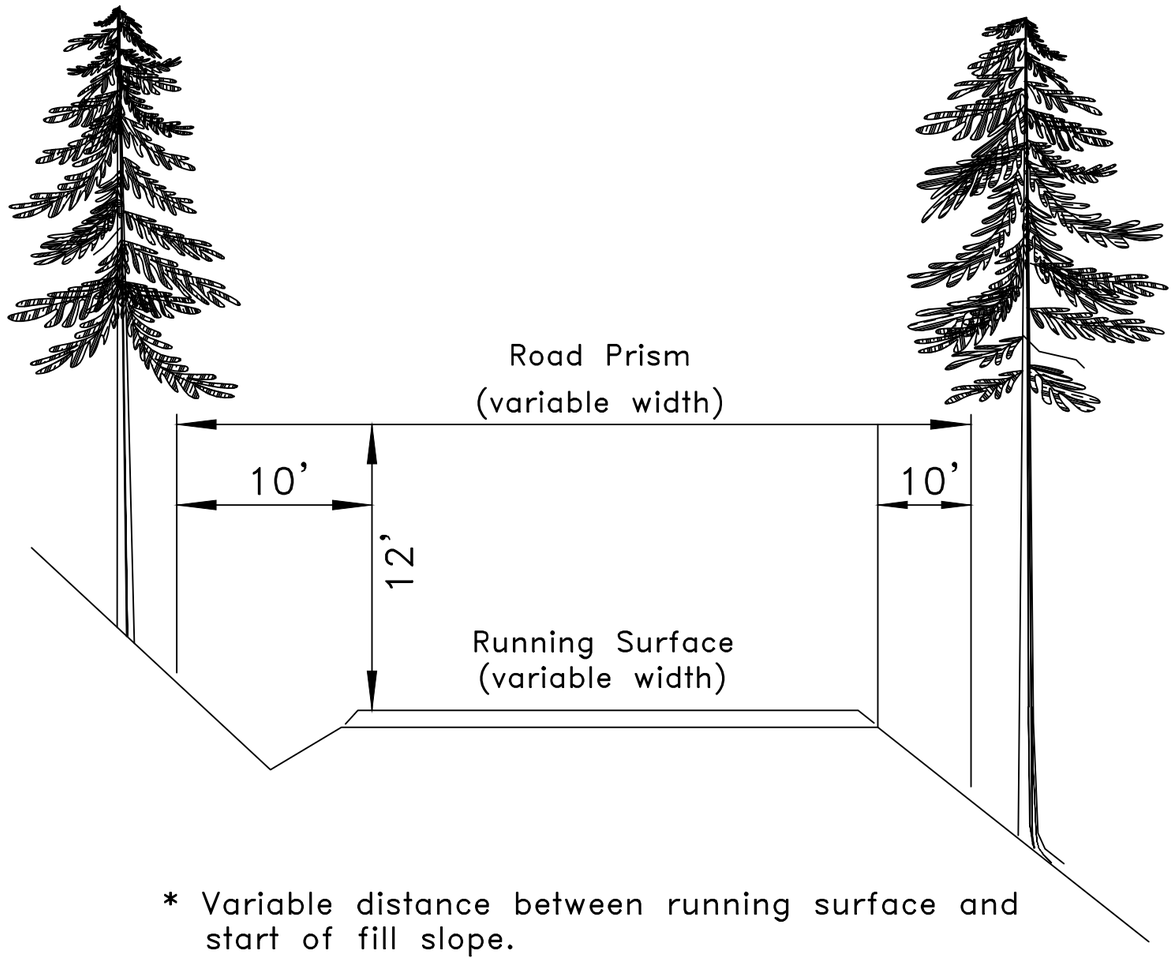


TYPICAL LANDING CUT AND FILL

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

LANDING DETAILS

DESIGNED	K. SANDERS
REVIEWED	J. MENGUITA
APPROVED	K. HOFFINE
DRAWN KGS	SCALE NONE
DATE: 09/05/2012	SHEET 11 OF 79
DRAWING NO.	



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

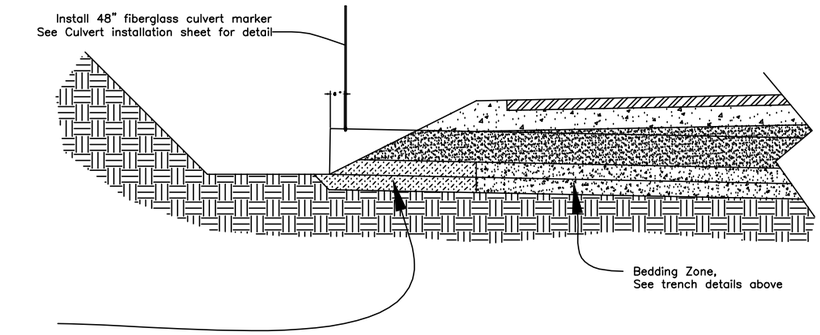
** All areas within the variable distance shall be free of all vegetation capable of growing one (1) foot in height or higher, and free of all over-hanging limbs and branches 12 feet in elevation above the running surface.

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

ROADSIDE BRUSHING DETAIL

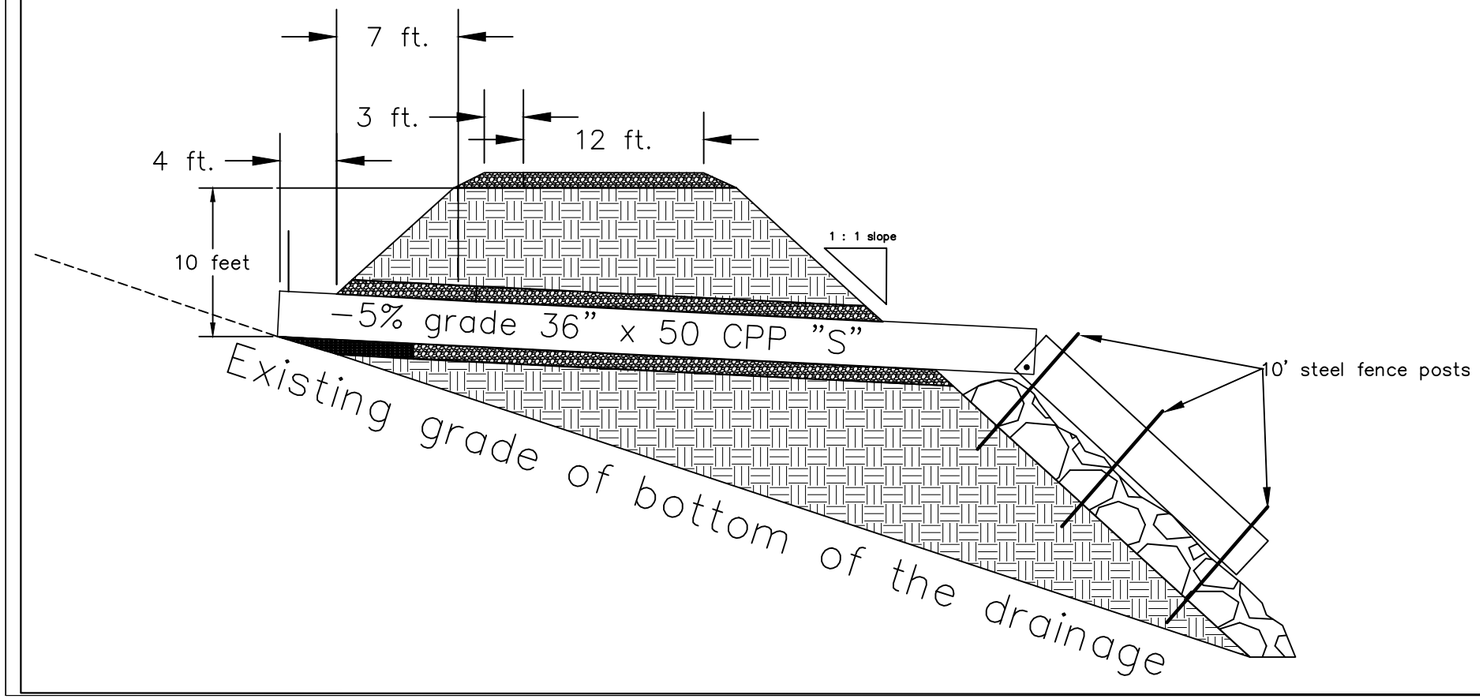
DESIGNED	K. SANDERS
REVIEWED	J. MENGUITA
APPROVED	K. HOFFINE
DRAWN BB	SCALE NONE
DATE 09/15/2013	SHEET 12 OF 79

PROFILE SHEET



Clay Seal Zone:
Edge of shoulder to inlet invert. depths to match Bedding Zone.
Soil Type CH (inorganic high plasticity clays)
Per Unified Soil Classification System,
or other available materials on-site as approved by the COR.

CULVERT INLET TRENCH DETAIL
(Applies To All Surface & Installation Types)



ALWAYS THINK SAFETY

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

28-9-8.1B Station 49+00

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN BY: K.SANDERS	SCALE: NONE
DATE:02/10/2014	SHEET 13 OF 79

SPECIAL DETAILS

Clearing Limits

Maximum clearing widths for new construction are 10' from top of cuts and 5’ below the toe of fills. Clearing debris must be removed from areas of excavation and embankment.

The limits of disturbance for all landings shall be designated by the Purchaser with stakes or flags and approved by the Authorized Officer, prior to clearing or construction (see Landing Details Sheet no. 11). Landings shall not be constructed until the Purchaser has verified landing size, shape, and location with the logger. The entire landing rock quantities listed shall be installed either on designated landings or on haul routes, at the direction of the Authorized Officer.

Excavated Material/Compaction

Excavated material shall not be wasted as side-cast or perched. All material perched or lost over the side will be retrieved and disposed of at the Purchaser's expense and at the direction of the Authorized Officer. All fill-slopes shall be compacted equal to 85% of maximum density, either by walking with cat/excavator tracks or by pressing with excavator bucket, to prevent surface erosion and raveling.

Drainage Ditches

Existing drainage ditches that are functioning and have a protective layer of non-woody vegetation shall not be disturbed.

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

Minimum Quantities

At a minimum, all estimated aggregate and asphalt quantities shall be applied, either at the specified sites, or at adjacent locations designated by the Authorized Officer.

Purchaser Responsibility

The Purchaser shall avoid damaging any aggregate or bituminous surfaced roads, and will be responsible for the repair of any road damaged as a result of his activity. Aggregate or bituminous roads shall be left in the same condition that they were prior to logging operations. Care shall be taken during road/landing work operations to avoid damaging adjacent reproduction. Any damaged trees shall be brought to the attention of the project inspector.

SPECIAL DETAILS (continued)

BLM Brass Capped monuments: The purchaser has the responsibility to protect, preserve or reference and re-monument the corners following a disturbance through the use of Oregon State Licensed Surveyor. Reference: (ORS Chapter 209)

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. Documentation of the equipment washing is required prior to the beginning of work.

Road Decommissioning

Road decommissioning shall be performed as specified in the Exhibit D Special Details.

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.

After brushing and renovation: All culverts are to be cleared out with water only.

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.

SPECIAL DETAILS (continued)

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

Renovation of the 28-9-8.1B road from station 34+00 to 45+00 no activity shall occur between March 1 and June 30 of the same calendar year.

The following culvert replacements have an in-stream construction replacement restriction of between July 1st to September 15th.

29-9-8.1 segment B \ Station 49+00 \ 36" dia. x 50' CPP "S" double wall poly culvert
29-9-8.1 segment C1 \ Station 91+00 \ 24" dia. x 60' CPP "S" double wall poly culvert
29-9-17.0 segment B \ Station 37+25 \ 24" dia. x 40' CPP "S" double wall poly culvert
29-9-17.12 \ Station 1+80 \ 24" dia. x 40' CPP "S" double wall poly culvert

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

Seed: 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.

Personnel to contact are Steve Langenstein at (541) 751-4417 or Jennifer Sperling at (541) 751-4336.

Call 3 business days in advance before pick-up.

Renovation of 28-9-8.1 Old Camas Creek Road Seg "A"

Station 0+00 to Station 34+80 (ASC surface – All Season Haul)

Station	Remarks
0+00	Right - Junction with Coos Bay Wagon Road (Milepost 29.6) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 400, 500, 600, 1000, 1200,1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12).
6+20	18" x 30' CMP with 18" x 20' half round downspout. Buried inlet, Clear and clean.
8+70	Remove and dispose: 18" x 30' CMP Buried Inlet. Install 18" x 35 CPP "S" with a 18" x 10' CPP "C" downspout with posts and inlet marker.
10+00	Begin 4" lift of 1 ½ " minus surfacing aggregate to station 34+80.
12+40	18" x 20' CMP with 18" x 10' CMP downspout. Clean out and install new inlet marker.
14+50	Remove and dispose: 18" x 25' CMP with 18" x 10' half round downspout. Install 24" x 30 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
17+00	Switch back. (apply 50 cubic yards 3" minus aggregate base for the inside and outside curve widening. ***Potential Location of estimated 200 cubic yards of assorted sandstone riprap for slope protection of culvert replacement at 28-9-8.1 segment "B" Station 49+00 and boulder barriers. Property of Plum Creek Timberlands, L.P.***
18+50	Remove and dispose: 18" x 35' CMP with 18" x 10' half round downspout. Install 24" x 35 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
21+00	Left - Truck turn-out. Install 50 cubic yards 3" minus base aggregate
21+75	Remove and dispose: 18" x 30' CMP with 18" x 10' half round downspout. Install 24" x 35 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
23+00	Left - Truck turn-out. Install 50 cubic yards 3" minus base aggregate Use 15 cubic yards waste at station 25+00.
25+00	Rebuild fill slope slumping.
29+00	Right - Truck turn-out. Install 50 cubic yards 3" minus base aggregate
34+00	Junction road 28-9-8.4 Left (Renovation)
34+80	Junction with 28-9-8.1 Segment "B" (Renovation) End 4" lift of 1 ½ " minus surfacing aggregate END RENOVATION

Renovation of 28-9-8.1 Old Camas Creek Road Seg "B"
Station 34+80 to Station 54+00 (ASC surface – All Season Haul)

Station	Remarks
34+80	Junction with 28-9-8.1 Segment "A" Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 300, 400, 500, 600, 1000, 1200, 1300,1400, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 35 YARDS OF 1 ½ " MINUS FOR SPOT ROCK.*
38+10	Remove and dispose: 18" x 35' CMP Install 24" x 35 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
40+00	18" CMP. Bent inlet. Install new inlet marker.
41+00	Re-grade ditch-line to Station 42+00
42+00	End ditch-line re-grade
44+60	18" CMP. Install new inlet marker.
47+25	18" CMP. Install new inlet marker. Place 5 cubic yards Class IV riprap at outlet.
47+50	Right - Truck turn-out. Install 50 cubic yards 3" minus base aggregate
48+50	Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta 49+50.
49+00	Remove and dispose: 18" x 50' CMP and 36" x 20' CMP Remove est. 600 cubic yards of material (logs, boulders and earth, debris) from the site. Inlet excavation is 10 feet below road surface. Outlet excavation is 30 feet below road surface. Install 36" x 50 CPP "S" with a 36" x 20' CPP "C" downspout with posts and inlet marker. The top of 36" CMP is 8 feet below the subgrade. Rebuild subgrade fill material estimated 500 cubic yards. Install 80 cubic yards of class IV Riprap as the fill reinforcement. Utilize Riprap located at station 17+00 BLM Road 28-9-8.1 Segment "A". *Seasonal in-stream construction restriction July 1st to September 15th .
49+50	End 8" lift of 3" minus base aggr. and a 4" lift of 1 ½ " minus surfacing aggr. to sta 49+50.
54+00	Left – Wye junction with 28-9-8.1 Segment "C1" (Renovation) Junction with 29-8-17.0 Segment "A" (Renovation) END RENOVATION

Improvement of 28-9-8.1 Old Camas Creek Road Seg "C1"
Station 54+00 to Station 117+50 (ASC surface – All Season Haul)

Station	Remarks
54+00	Junction with 28-9-8.1 Segment "B" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 300, 400, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). Scarify surfacing to station 55+50 remove rutting. Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 55+50.
55+00	Right – Junction road wye -8.1 "C" Westerly approach.
55+50	End 12" lift of aggregate. Ditch-out left. Begin 6" lift of 1 ½ " minus surfacing aggregate to station 78+65.
56+30	Location of Boulder Barrier rip rap stockpile (estimated 15 cubic yards)
56+50	Right - Truck turn-out. Place 50 cubic yards 3" minus base aggregate.
57+00	Locked BPA Gate (Check Key out from BLM CBDO)
67+75	24" CMP. Place 5 cubic yards Class IV riprap at outlet.
69+20	Subgrade exposed rutting. Scarify rutted area. Place 30 cubic yards of 3" minus base aggregate before the 6" lift 1 ½ " minus surfacing course.
72+00	Right - Truck turn-out. Place 50 cubic yards 3" minus base aggregate.
73+00	Install 24" x 30 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
76+00	Install 18" x 35 CPP "S" with a 18" x 20' CPP "C" downspout with posts and inlet marker.
78+65	End 6" lift of 1 ½ " minus surfacing aggregate. Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 117+25 Begin full scarification of road prism to station 117+25. Construct to Type II road cross section (See sheet no.9)
81+00	Install 18" x 35 CPP "S" and inlet marker. Grade out inslope road prism. Grade road to 18% or less.
83+30	Right - Construct landing.
86+00	Install 24" x 30 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.

Improvement of 28-9-8.1 (Continued) Old Camas Creek Road Seg "C1"

Station	Remarks
91+00	Install 24" x 60 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker. Lower inlet of culvert 2 feet. (Reconstruct Catch basin) Place 10 cubic yards Class IV rip rap at outlet (Reconstruct outlet) *Seasonal in-stream construction restriction July 1st to September 15th .
94+50	Grade road to 18% or less
95+00	Install 18" x 25 CPP "S" with a 18" x 20' CPP "C" downspout with posts and inlet marker.
98+20	Right - Begin taper to 10 curve widening
98+40	Right - Begin 10' curve widening to station 99+15
99+15	Right - End 10' curve widening. Begin taper to existing road edge.
99+35	Right - End taper.
99+50	Left – Junction road 28-9-17.11 (New Construction)
103+00	Install 18" x 20 CPP "S" and inlet marker.
105+50	Install 18" x 30 CPP "S" with a 18" x 20' CPP "C" downspout with posts and inlet marker.
110+60	Install 18" x 35 CPP "S" and inlet marker. Place 5 cubic yards Class IV riprap at outlet.
113+50	Left - Truck turn-out. Place 50 cubic yards 3" minus base aggregate.
114+50	Install 24" x 25 CPP "S" with a 24" x 20' CPP "C" downspout with posts and inlet marker.
117+25	Edge of existing rock road End Scarification of road subgrade End 8" lift 3" minus base aggregate and 4" lift of 1 ½ " minus aggregate.
117+50	Junction with centerline 28-9-8.1 Segment "C2" (Renovation) Right - Junction with centerline 29-8-17.3 Segment "A" (Renovation) END RENOVATION

Renovation of 28-9-8.1 Old Camas Creek Road Seg "C2"
Station 117+50 to station 135+10 (ASC surface – All Season Haul)

Station	Remarks
117+50	Junction with 28-9-8.1 Segment "C1" (Renovation) Right - Junction with 28-9-17.3 Segment "A" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12) *NOTE: 35 YARDS OF 1 ½ " MINUS FOR SPOT ROCK.*
135+10	Right – Wye junction road 28-9-8.1 Segment "D" Station 0+00 (Renovation) Junction with centerline 29-8-14.0 Segment "D" M.P. 2.23 (Renovation) Left – Wye junction road 28-9-8.2 Segment "B" Station 102+50 (Renovation) Left – Reverse wye junction road 28-9-17.8 Station 0+00 (New Construction) END RENOVATION

Renovation of 28-9-8.1 Old Camas Creek Road Seg "D"
Station 0+00 to Station 57+50 (Natural surface – Summer haul)

Station	Remarks
0+00	Junction road 28-9-8.1 Segment "C2" Station 135+10 (Renovation) Left - Junction road 29-8-14.0 Segment "D" M.P. 2.47 (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 400, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). Re grade ditch line.
0+75	Remove earthen barrier.
14+10	18" CPP. Install inlet marker.
16+00	18" CMP. Install inlet marker.
30+15	Install 24" x 35 CPP "S" and inlet marker.
33+00	Right - Waste area, develop as needed.
45+38	18" CPP. Install inlet marker.
49+45	18" CPP. Place 5 cubic yards Class IV riprap at outlet.

Renovation of 28-9-8.1 (Continued) Old Camas Creek Road Seg "D"

Station	Remarks
54+00	Right – Construct truck turn-out
57+50	East West Section line (Sections 17/20) END RENOVATION

Renovation of 28-9-8.2 Brownstone Road Seg "A"
Station 0+00 to Station 26+60 (ASC surface – Summer Haul)

Station	Remarks
0+00	Right - Junction with Coos Bay Wagon Road (Milepost 30.3) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Roadside brushing detail (Sheet No. 12).
17+00	Waste Area left
20+00	Truck turn-out left.
26+00	Right - Junction road 28-9-8.4 (Renovation) Widen junction to -8.4 Repair approach to Gate at 26+60 Install 50 cubic yards of 1 ½" minus aggregate at the junction to 26+60 gate.
26+60	Locked BPA Gate / Junction with 28-9-8.2 Segment "B" (Renovation) END RENOVATION

Renovation of 28-9-8.2 Brownstone Road Seg "B"
Station 26+60 to Station 59+40 (Natural surface – Summer Haul)

Station	Remarks
26+60	Locked BPA Gate / Junction with 28-9-8.2 Segment "A" (Check Key out from BLM CBDO) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 400, 500, 600, 1200, 1300, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Roadside brushing detail (Sheet No. 12) Reestablish the 6" deep cut ditch line. Reestablish all ditch-outs.
31+00	Left - wye Junction road 28-9-17.12 (Renovation)
33+00	Left - reverse wye Junction road 28-9-17.12 (Renovation)
38+60	Right -Truck turn-out

Renovation of 28-9-8.2 Brownstone Road Seg "B" Continued

Station	Remarks
45+00	Right -Truck turn-out
50+75	Begin slump repair – fill slope side
52+25	End slump repair. Remove slide on cut slope
57+00	Left -Truck turn-out

Improvement of 28-9-8.2 Brownstone Road Seg "B"

Station 59+40 to Station 92+50 (ASC - All Season Haul)

Station	Remarks
59+40	Begin 6" lift of (1 ½ minus aggregate) to station 69+00. Begin All Season haul segment.
60+00	Right – reverse wye Junction SPUR 4A (New Construction)
61+60	Right – Truck turn out. Place 50 cuyd 3" minus base aggreagate
64+50	Install 18"dia. x 20' CPP "S" with 20' CPP "C" down spout with posts and marker.
68+75	Right - Junction road 28-9-17.9 (Improvement)
69+00	Begin full scarification, Rebuild road prism to Type II road design. See sheet No. 10 End 6" lift of 1 ½ "minus aggregate, Blend with 12" lift of aggregates. Begin 8" lift of 3" minus aggregate base rock with 4" lift of 1 ½ " minus aggregate surface rock.
71+00	Install 18"dia. x 20' CPP "S" with 20' CPP "C" down spout with posts and marker.
75+30	Install 24"dia. x 20' CPP "S" with 24" x 10' CPP "C" down spout with posts and marker.
76+15	Right – reverse wye Junction SPUR 4B (New Construction)
79+80	Begin installation of subgrade separation / stabilization Geotextile (Tencate Mirafi RS580i)
80+00	Install 24"dia. x 30' CPP "S" with 24" x 20' CPP "C" down spout with posts and marker.
81+50	Install 24"dia. x 50' CPP "S" with marker. Place 5 cubic yards Class IV rip rap at outlet.
83+00	Left - Construct truck turn-out Install 80 cubic yards 3" minus base aggregate
85+00	End installation of subgrade separation / stabilization Geotextile (Tencate Mirafi RS580i)
87+50	Center road – Construct 40' x 60' LANDING ZONE. Place 70 cu yd 3" minus base aggregate.
88+00	Install 18"dia. x 30' CPP "S" and marker.
92+25	Remove Earthen barrier . Cut 3 feet blend for transition.

Improvement of 28-9-8.2 Brownstone Road Seg "B" Continued

Station	Remarks
92+50	End Scarification End 8" lift of 3" minus aggregate base rock and 4" lift of 1 ½ " minus aggregate surface rock. Blend surfacing with road(s) 28-9-8.1 "C2" (Renovation), 28-9-17.8 (New Construction) END RENOVATION

Renovation of 28-9-8.4 Road

Station 0+00 to Station 48+50 (ASC surface – Summer haul)

Station	Remarks
0+00	Junction with Road No. 28-9-8.1 "Old Camas Creek" Road Segment "A" Station 34+00. Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Roadside brushing detail (Sheet No. 12).
8+00	Right - Junction road 28-9-8.6 (Renovation)
9+00	Right – Waterhole
20+00	Left – Truck turn-out
40+00	Right - Junction road 28-9-8.5 (New Construction)
48+50	Junction with Road No. 28-9-8.2 "Brownstone Road" Segment "A" Station 26+00. END RENOVATION

Renovation of 28-9-8.6 Road

Station 0+00 to Station 2+80 (Natural surface – Summer haul)

Station	Remarks
0+00	Junction with Road No. 28-9-8.4 Station 8+00. Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Roadside brushing detail (Sheet No. 12). Construct 2' wide / 6" deep ditch line left.
2+49	E/W section line. Sections (8/17). Place 10 cubic yards 6" open rock in draw for drainage. Cover with 12" minimum compacted soil
2+80	END RENOVATION

Renovation of 28-9-14.0 Segment "B" road
Milepost 0.00 to 0.24 (ASC surface – All Season Haul)

Milepost	Remarks
0.00	Junction with 28-9-15.0 Milepost 1.0 (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 25 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
0.24	Junction road 28-9-14.0 "C"

Renovation of 28-9-14.0 Segment "C" road
Milepost 0.24 to 1.52 (ASC surface – All Season Haul)

Milepost	Remarks
0.24	Junction with 28-9-14.0 Segment "B" Milepost 0.24 (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 130 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
0.59	Right – Tree marked "MP 4"
1.52	Right Tag on Steel post - N/S section line. Sections (17/16). END RENOVATION Junction road 28-9-14.0 "D"

Renovation of 28-9-14.0 Segment "D" road
Milepost 1.52 t0 2.23 (ASC surface – All Season Haul)

Milepost	Remarks
1.52	Junction with 28-9-14.0 Segment "C" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 70 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
1.87	Left – Wye junction road 28-9-17.5 (Renovation)
1.96	Left – Construct and develop waste area for 28-9-17.6 End haul (Estimated 3080 cu yd) Place 5 cubic yards 6" open in ditch line for drainage. (50 ft. length x 18"deep x 36" wide) Place 3 cubic yards 3" minus base aggregate as a 4" surface course.

Renovation of 28-9-14.0 Segment "D" road Continued

Station	**Remarks**
2.03	Right - Wye junction road 28-9-17.4 (Improvement) Right - Wye junction road SPUR 4D (New Construction)
2.23	Left – Wye junction road 28-9-8.1 Segment "D" Station 0+00 (Renovation) Junction with centerline 29-8-8.1 Segment "C2" Station 135+10 (Renovation) Right – Reverse wye junction road 28-9-8.2 Segment "B" Station 102+50 (Renovation) Right – Wye junction road 28-9-17.8 Station 0+00 (New Construction) END RENOVATION

Renovation of 28-9-15.0 road
Milepost 0.00 to 1.00 (ASC surface – All Season Haul)

Milepost	**Remarks**
0.00	Junction with 28-9-23.0 Milepost 1.04 (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 100 YARDS OF 1 ½ " MINUS FOR SPOT ROCK.*
0.25	Steel Gate
1.00	Right - Wye junction road Junction road 28-9-14.0 "B" END RENOVATION

Renovation of 28-9-17.0 Segment "A" road
Station 0+00 to station 34+25 (ASC surface – All Season Haul)

Station	**Remarks**
0+00	Left –Wye junction with 28-9-8.1 Segment "C1" (Improvement) Junction with 28-9-8.1 Segment "B" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 400, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 65 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
1+00	Left – Reverse wye junction Road 28-9-8.1 "C1"
2+30	18" CPP. Install inlet marker.
4+25	18" CPP. Install inlet marker.

Renovation of 28-9-17.0 Segment "A" road Continued

Station	Remarks
4+75	Right – Truck turn-out. Place 50 cubic yards 3" minus base aggregate.
6+25	Remove and dispose: 18" x 30' CMP Install 24" x 35 CPP "S" with an inlet marker Lower inlet 6 inches, extend 18" Renovate Catch basin
9+40	24" CMP. Install inlet marker.
13+30	18" CPP.
18+60	Remove and dispose: 18" x 25' CMP Install 18" x 40 CPP "S" with an inlet marker. Lower inlet 6 inches
19+00	Right - Truck turn-out. Place 50 cubic yards 3" minus base aggregate.
20+20	18" CPP. Install inlet marker.
25+00	Right – Road side LANDING ZONE. . Place 50 cubic yards 3" minus base aggregate.
25+45	Re-grade ditch-line forward to station 26+50
26+50	24" CMP. Install inlet marker. Place 10 cubic yards Class IV rip rap at outlet.
27+50	Place 4" lift of 1 ½ "minus surfacing aggregate to station 29+50
29+50	End 4" lift of 1 ½ "minus surfacing aggregate
33+75	Remove and dispose: 18" x 35' CMP Install 18" x 35 CPP "S" with an inlet marker. Set culvert skew per specifications. Place 10 cubic yards Class IV rip rap at outlet.
34+25	Junction with 28-9-17.0 Segment "B" (Renovation) END RENOVATION

Renovation of 28-9-17.0 Segment "B" road

Station 34+25 to station 45+50 (ASC surface – All Season Haul)

Station	Remarks
34+25	Junction with 28-9-17.0 Segment "A" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 400, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 20 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
37+25	Remove and dispose: 18" x 35' CMP Install 24" x 40 CPP "S" with an inlet marker Place 10 cubic yards Class IV rip rap at outlet Re- build the catch basin. Armor inlet with 5 cubic yards of 6" minus *Seasonal in-stream construction restriction July 1st to September 15th .
37+50	Place 4" lift of 1 ½ "minus surfacing aggregate to station 45+50
40+75	Remove and dispose: 18" x 35' CMP Install 24"dia. x 35' CPP "S" with 24" x 10' CPP "C" down spout with posts and marker.
45+25	Right - Junction with 28-9-18.2 road (Renovation)
45+50	End 4" lift of 1 ½ "minus surfacing aggregate END RENOVATION

Renovation of 28-9-17.3 road

Station 0+00 to station 16+50 (ASC surface – All Season Haul)

Station	Remarks
0+00	Left – Reverse wye junction with 28-9-8.1 Segment "C1" (Improvement) Junction with 28-9-8.1 Segment "C2" (Renovation) Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 300, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). *NOTE: 30 YARDS OF 1 ½ "MINUS FOR SPOT ROCK.*
4+65	Right – Construct rock 50' x 50' landing. Protect the 18" CPP Poly culvert. Place 150 cubic yards of 3" minus base aggregate
7+80	Left – Wye junction Road 28-9-17.10 (New Construction)
14+70	Right – Wye junction Road SPUR 4C (New Construction)
16+50	END RENOVATION

Improvement of 28-9-17.4

Station 0+00 to Station 14+40 (ASC surface – All Season Haul)

Station	Remarks
0+00	Junction with 28-9-14.0 Segment "D" Milepost 2.03 Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 300, 400, 500, 600, 1000, 1200, 1400, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12).
0+25	Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta 14+00. Blend back into the edge of the -14.0 Segment "D" rock surfacing Cut ditch-out right along right road edge for drainage of the -14.0 segment "D" road
0+29	Left – Wye junction with SPUR 4D Station 0+00 (New Construction)
0+35	Begin Scarification of road Subgrade to station 14+00 Cut 16' subgrade width, drift forward to station 5+00 Construct ditch line left 2' wide / 6" deep. Ditch out where possible Begin 1' cut to station 4+50. Max grade is 18%.
1+80	Right – Begin fill slope rebuild to match right road edge to station 2+20
3+24	Install 18"dia. x 30' CPP "S" with 10' CPP "C" down spout with posts and marker.
4+50	End 1' cut.
5+00	Clear for waste disposal of 1' cut from station 0+35 to 4+50 (Estimate 170 cubic yards) Waste disposal of 3' cut from station 8+00 to 9+00 (Estimate 160 cubic yards) Waste disposal of 1' cut from station 10+50 to 12+00 (Estimate 80 cubic yards) Utilize as truck turn out and truck turn around. Place 80 cubic yards of 3" minus base rock for Truck turn around and staging area (30'x60')
6+00	Begin daylight road (left and right). Drift forward to station 7+00
7+00	Fill from daylight at Station 6+00
8+00	Begin 3' cut full width of road to station 9+00. End haul to station 5+00.
9+00	End 3' cut. Blend forward to station 10+50. Construct the grade at 17 % or less.
10+50	Begin 1' cut to station 12+00. End haul to station 5+00
12+00	End 1' cut Right - Construct Truck turn around Place 50 cubic yards 3" minus base aggregate

Improvement of 28-9-17.4 road (Continued)

Station	Remarks
12+70	Right – Construct Landing zone Place 50 cubic yards 3" minus base aggregate
14+00	Daylight right. Construct center of (40'wide x 80'long) end landing End Scarification End 8" lift of 3" minus base aggr. with a 4" lift of 1 ½ " minus surfacing aggr. Place 60 cubic yards 3" minus base aggregate (12" lift for landing zone).
14+40	End 12" lift of 3" minus base aggregate END RENOVATION

Renovation of 28-9-17.5 Road

Station 0+00 to Station 10+80 (ASC Surface – Winter haul)

Station	Remarks
0+00	Junction with Road No. 28-9-14.0 Segment "B" Milepost 2.11 Begin brushing, slough and slide removal, and grading and shaping, compacting and soil Stabilization in accordance with Sections 400, 500, 600, 1000, 1200, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Roadside brushing detail (Sheet No. 12). Construct 3' wide / 1' deep ditch line left to station 7+25. Begin Scarification of road subgrade to station 10+50. Maximum grade is 18%. Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta 10+50. Blend back into the edge of the -14.0 Segment "D" rock surfacing
0+30	Left – Remove slide, clear catch-basin and inlet to 18"CMP. Clear culvert with water. Install inlet marker.
1+80	Right – Construct Truck Turn-out. Place 60 cubic yards 3" minus base aggregate
3+60	Left – Remove slide, clear catch-basin and inlet to 18"CMP. Clear culvert with water. Install inlet marker.
4+25	Left - Realign road. Rebuild fill slope
7+25	Left – Construct Truck turn around on existing road subgrade. End 3' wide / 1' deep ditch line. Utilize material to build turn out with 3' cut from stations 9+30 to 9+80. Place 50 cubic yards 3" minus base aggregate Construct ditch-out left beyond edge of TTA down the road grade.
8+25	Left – Construct wye junction road 28-9-17.6 (New Construction)
9+00	Begin blended grade into 3' cut of subgrade (station 9+30 to station 9+80)

Renovation of 28-9-17.5 road (Continued)

Station	Remarks
9+30	Cut 3' subgrade to station 9+80 Drift back to station 7+50 and forward to landing at station 10+50
9+80	End blended grade of 3' cut of subgrade.
10+50	Center 60' landing. End 8" lift of 3" minus base aggr. with a 4" lift of 1 ½ " minus surfacing aggr. Place 100 cubic yards 3" minus base aggregate (12" lift for landing zone).
10+80	End of landing. End 12" lift of 3" minus base aggregate END RENOVATION

Improvement of 28-9-17.9

Station 0+00 to Station 5+40 (ASC surface – All Season Haul)

Station	Remarks
0+00	Junction with 28-9-8.2 Segment "B" Station 68+75 Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1400, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). Place 4" lift of 1 ½ " minus surfacing aggr. to sta 5+40 Blend back into the edge of the -8.2 Segment "B" rock surfacing
3+15	Right – Construct Landing Place 50 cubic yards 3" minus base aggregate
5+40	Junction road 28-9-17.9 extension (New Construction) END Improvement

Renovation of 28-9-17.12

Station 0+00 to Station 3+46 (ASC surface – Summer haul)

Station	Remarks
0+00	Junction with 28-9-8.2 Segment "B" Station 31+00 Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 300, 400, 500, 600, 1000, 1200, 1400, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12).
1+65	Begin 5' cut excavation for culvert to station 1+90
1+80	Remove and dispose: 18" x 35' CMP Lower inlet and channel 2'. Cut fallen tree and root wad from water channel. Re-establish channel to culvert catch basin. Install 24" x 40 CPP "S" with inlet marker. *Seasonal in-stream construction restriction July 1st to September 15th .
1+90	End 5' cut excavation.
3+46	N/S Section line. Sections (17/16). END RENOVATION

Renovation of 28-9-18.2

Station 0+00 to Station 11+75 (ASC surface – All Season Haul)

Station	Remarks
0+00	Junction with 28-9-17.0 Segment "B" Station 45+25 Begin brushing, slough and slide removal, and grading and shaping, compacting and soil stabilization in accordance with Sections 500, 600, 1000, 1200, 1400, 1800 and 2100 of the Road Specifications, Typical Cross Section (Sheet no. 9) and Road side brushing detail (Sheet No. 12). Place 4" lift of 1 ½ " minus surfacing aggr. to sta 7+00 Blend back into the edge of the 17.0 Segment "B" rock surfacing
1+20	Right – Wye junction SPUR 3B (New Construction)
5+75	Left – Junction SPUR 3A (New Construction) Utilize area as waste area for SPUR 3B.
7+00	Right – Construct Landing Place 50 cubic yards 3" minus base aggregate End 4" lift of 1 ½" minus surfacing aggregate.
11+75	END RENOVATION

SPUR 3A Control point

IMPROVEMENT

Station 0+00 to Station 2+50 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 3A from Sta. 0+00 to Sta. 2+50 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10).

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 5% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300, 500 and 600, and 1000 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 200 CY of 10” lift of 3” minus base rock.

TURN OUTS / TURN-AROUND

None.

LANDING

Construct center end landing at station 2+10. NOTE: 200 CY used for road and landing combined.

CONSTRUCTION NOTES

Utilize from station 0+70 to 2+50 for waste area. The landing with approach will be constructed to the full width of the existing subgrade. (60’ width).

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

None

SPUR 3B Control point

New Construction

Station 0+00 to Station 1+30 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 3B from Sta. 0+00 to Sta. 1+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 the standards shown on the Typical Cross Section Detail (Sheet no. 10).

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 1000 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%

SURFACING

Place 200 cuyd 10" lift of 3" minus base rock.

TURN OUTS / TURN-AROUND

None.

LANDING

Construct End landing at station 1+30 (40' x 80' landing) .
NOTE: 200 cu yd used for road and landing combined.

CONSTRUCTION NOTES

Endhaul excess material to Spur 3A. Estimated 500 CY end haul
Stakes are left edge of road
At station 0+25 to 0+75 cut 5 feet and daylight right

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

None

SPUR 4A Control point

New Construction

Station 0+00 to Station 3+70 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 4A from Sta. 0+00 to Sta. 3+70 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

10" lift of 3" minus. 210 cubic yards.

TURN OUTS / TURN-AROUND

None.

LANDING

Construct end-landing at sta. 3+70. 5% Grade from station 3+10 to station 3+70.
+50 cubic yards 3" minus..

CONSTRUCTION NOTES:

Cut 3 feet at station 1+90 Drift forward

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

SPUR 4B Control point

New Construction

Station 0+00 to Station 4+65 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 4B from Sta. 0+00 to Sta. 4+65 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Flat construction out-sloped 3%.

SURFACING

10" lift 3" minus base aggregate. 260 cubic yards.

TURN OUTS / TURN-AROUND

Left at station 3+15. +50 cubic yards 3" minus

LANDING

Construct end-landing at sta. 4+65. + 50 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Cut 3 feet at 1+30 drift forward. Cut 5' at 2+05 drift forward and blend.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

SPUR 4C Control point

New Construction

Station 0+00 to Station 2+90 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 4C 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

20 cubic yards of 6" pit run as drainage at station 0+50 in ditch out feature.
Outsloped construction 3%.

SURFACING : 12" lift of 3" minus base aggregate. 250 cubic yards 3" minus.

TURN OUTS / TURN-AROUND

At station 0+00

LANDING

Construct end-landing at sta. 2+90. Fill 3' at center landing.
+ 150 cubic yards 3" minus base rock

CONSTRUCTION NOTES:

Begin cut 50 up the ridge line and drift forward to 5% grade.
Use balanced construction from 0+50 to 2+15, drift forward to end landing 50'as fill material
Stakes are right side of the road.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

SPUR 4D Control point

New Construction

Station 0+00 to Station 2+05 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 4D from Sta. 0+00 to Sta. 2+05 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

10” lift of 3” minus. 110 cubic yards.

TURN OUTS / TURN-AROUND

None.

LANDING

Construct end-landing at sta. 2+05. 5% Grade from station 1+40 to station 2+05.
+60 cubic yards 3” minus..

CONSTRUCTION NOTES:

None.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

SPUR 4E Control point

New Construction

Station 0+00 to Station 2+10 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct SPUR 4E from Sta. 0+00 to Sta. 2+10 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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

10" lift of 3" minus. 110 cubic yards.

TURN OUTS / TURN-AROUND

At junction with the road 28-9-17.10

LANDING

Construct end-landing at sta. 2+10. 5% Grade from station 1+90 to station 2+10.
+50 cubic yards 3" minus..

CONSTRUCTION NOTES:

None.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-8.5 Control point

New Construction

Station 0+00 to Station 8+00 (Natural surface – Summer haul)

GENERAL

Purchaser shall construct 28-9-8.5 from Sta. 0+00 to Sta. 8+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 the standards shown on the Typical Cross Section Detail (Sheet no. 10)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.
Station 3+55 Poly Culvert Install 18" x 20' CPP "S"
Station 5+15 Poly Culvert Install 24" x 20' CPP "S"

SURFACING

Natural.

TURN OUTS / TURN-AROUND

Truck Turn around at Station 6+70

LANDING

Construct end-landing at sta. 8+00

CONSTRUCTION NOTES:

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.6 Control point

New Construction

Station 0+00 to Station 9+85 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.6 from Sta. 0+00 to Sta. 9+85 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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 9+85.

TURN OUTS / TURN-AROUND

Left at station 5+00. + 50 cubic yards 3" minus

LANDING

Left - Construct Landing 6+70. + 100 cu yd 3" minus base aggr. (Sta. 6+00 begin 5% approach)
Construct end-landing at sta. 9+85. + 150 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Waste area located at 28-9-14.0 Seg. "D" at Milepost 2.20
Full bench const. (Stakes- left edge of road) Station 0+45 to 3+35 = 1530 cuyd End Haul
3/4 bench const. (Stakes- Right edge of road) Station 5+25 to 6+05 = 300 cuyd EH.
Full bench const (Stakes are Center line of road) Station 6+70{4' cut} to 7+20 = 250 cuyd EH.
Full bench const. (Stakes- Right edge of road) Station 7+20 to 9+40 = 1000 cuyd EH.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.7 Control point

New Construction

Station 0+00 to Station 7+10 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.7 from Sta. 0+00 to Sta. 7+10 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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 7+10.

TURN OUTS / TURN-AROUND

Left Truck turn out at station 5+00. + 60 cubic yards 3" minus
TTA located within the end landing area.

LANDING

Construct end-landing at sta. 7+10. + 100 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Waste area located Left of Station 5+00 place on old road subgrade.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.8 Control point

New Construction

Station 0+00 to Station 9+00 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.8 from Sta. 0+00 to Sta. 9+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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 9+00
Place +50 cubic yards of 3" minus at the turn off entrance to station 0+00.

TURN OUTS / TURN-AROUND

Truck Turn around at Station 9+00. +50 cubic yards 3" minus base aggregate.

LANDING

Construct landing at station 2+50. +50 cubic yards 3" minus base aggregate
Construct end-landing at sta. 9+00. 120 foot continuous landing on ridgeline.
+ 180 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Waste area located at Station 5+00 left place on road subgrade.
Full bench const. (Stakes- left edge of road) Station 4+80 to 6+60 = 1100 cuyd End Haul
Truck turnaround within the end landing at 9+00.
(Station 6+60) Left - Construct road junction 28-9-17.7

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.9 extension Control point

New Construction

Station 0+00 to Station 3+10 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.9ext. from Sta. 0+00 to Sta. 3+10 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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 3+10

TURN OUTS / TURN-AROUND

Left - Truck Turn around at Station 2+50. +50 cubic yards 3" minus base aggregate.

LANDING

Construct end-landing at sta. 3+10. +70 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Contact Bonneville Power Administration for guidance when construction begins.
Remain 20 feet away from the tower concrete footings and overhead power lines.
Wooden stakes are left edge of road.
Fill depression at station 1+60. Estimate 180 cubic yards of fill required.
Beginning at station 2+30 Daylight left, Drift material back to Station 0+90.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.10 Control point

New Construction

Station 0+00 to Station 6+15 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.10 from Sta. 0+00 to Sta. 6+15 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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 15% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.

SURFACING

Place 8" lift of 3" minus base aggr. With a 4" lift of 1 ½ " minus surfacing aggr. to sta. 6+15.

TURN OUTS / TURN-AROUND

Right at station 1+70. +50 cubic yards 3" minus

LANDING

Construct Landing / TTA Jct. of SPUR 4E Sta 3+60 + 80 cu yd 3" minus base aggregate.
Construct end-landing at sta. 6+15. + 50 cubic yards 3" minus base aggregate.

CONSTRUCTION NOTES:

Cut 5 feet at 2+10 to 1+70 Drift back to fill at 0+30 for fill and drift forward. Fill 4' at 0+30 drift forward and blend.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

28-9-17.11 Control point

New Construction

Station 0+00 to Station 9+00 (ASC surface – All Season haul)

GENERAL

Purchaser shall construct 28-9-17.11 from Sta. 0+00 to Sta. 9+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 the standards shown on the Typical Cross Section Detail (Sheet no. 9)

ALIGNMENT

The roadway shall be constructed in close proximity to the stakes on the ground and within the posted or painted right-of-way boundaries. Minimum curve radius shall be sixty (60) feet.

GRADE

Grade shall not exceed 16% adverse grade.

SUBGRADE

The subgrade shall be excavated and compacted in accordance with Sections 200, 300 and 600 of the Road Specifications.

DRAINAGE FEATURES

Crowned 3%.Outslope 3% where possible.

SURFACING

Place 10” lift of 3” minus base aggregate to station 9+00.

TURN OUTS / TURN-AROUND

Right TTO / TTA at station 5+75. + 70 cubic yards 3” minus base aggregate
10” lift (110’x110’area) 0+00 to 1+50. Place 400 cubic yards 3” minus base course

LANDING

Construct end-landing at sta. 9+00. + 160 cubic yards 10” lift of 3” minus base aggregate.

CONSTRUCTION NOTES:

Waste area located at Station 3+00 to 4+00 (left). And (Right) beyond TTO at station 6+00.
Balanced cut/fill from station 6+20 to 6+90.
Full bench const. (Stakes- Right edge of road) Station 6+90 to 8+50 = 1100 cuyd End Haul
Station 8+15 stake at grade level.

SOIL STABILIZATION

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

SEASONAL RESTRICTIONS

Soil moisture less than 25% for ground based operations

ROAD CONSTRUCTION SPECIFICATIONS

Section	
100	GENERAL
200	CLEARING AND GRUBBING
300	EXCAVATION AND EMBANKMENT
400	PIPE CULVERTS
500	RENOVATION AND IMPROVEMENT OF EXISTING ROADS
600	WATERING
700	AGGREGATE BASE COURSE (PIT RUN ROCK)
1000	AGGREGATE BASE COURSE (CRUSHED ROCK)
1200	AGGREGATE SURFACE COURSE (CRUSHED ROCK)
1300	GEOTEXTILES
1400	RIP RAP SLOPE PROTECTION
1700	EROSION CONTROL
1800	SOIL STABILIZATION
2100	ROADSIDE BRUSHING

GENERAL - 100

101 - Pre-work Conference(s):

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

The purpose 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.

ASTM - American Society for Testing and Materials.

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

BLM - Bureau of Land Management

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Road Centerline - Longitudinal center of roadbed.

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

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

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

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

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

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 or crushed stone. Usually confined to roads having wet subgrades or subgrades with weak support characteristics.

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

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

Tackifier - A compound which penetrates into the earth and assists in creating a crust through the cohesive bonding of the surface materials to a depth sufficient to stabilize the soil surface and/or a compound used to mat together mulching material.

Timber - Standing trees, downed trees, or logs, or portions thereof, which are capable of being measured in board feet.

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

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

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

102a - Tests Used in These Specifications:

AASHTO T 11	Quantity of rock finer than No. 200 sieve.
AASHTO T 27	Sieve analysis of fine and coarse aggregate using sieves with square openings; gradation.
AASHTO T 89	Liquid limit of material passing the No. 40 sieve. Water content at which the soil passes from a plastic to a liquid state.
AASHTO T 90	Plastic limits and plasticity index of soil. a. Plastic limit - lowest water content at which the soil remains plastic. b. Plasticity index - range of water content, within which the material is in a plastic state. Numerical difference between the liquid and plastic limits of the soil.
AASHTO T 96	Resistance to abrasion of small size coarse aggregate by use of the Los Angeles machine.
AASHTO T 99	Relationship between soil moisture and maximum density of soil. Method A - 4" mold, soil passing a No. 4 Sieve. 25 blows/layer & 3 layers. Method D - 6" mold, soil passing a 19.00 mm (3/4 inches) sieve. 56 blows/layer & 5 layers.
AASHTO T 176	Shows relative portions of fine dust or clay-like materials in soil or graded aggregate.
AASHTO T 180	(OSHD 106-71) moisture density relationship of soil same as AASHTO T 99 proctor but uses a 10-lb rammer & 18-in drop.

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

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

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

AASHTO T 224 Correction for coarse particles in the soil.

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

AASHTO T 310 Determination of density of soil and soil-aggregates in place by nuclear methods.

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

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

103 - Compaction equipment shall meet the following requirements:

103b - Sheepfoot roller. 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 or 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 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 - Other. Compaction equipment approved by the Authorized Officer.

CLEARING AND GRUBBING - 200

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

202 - Where clearing limits have not been staked, established by these specifications, or shown on the plans, the limits shall extend 10 feet beyond 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.

203 - Clearing shall consist of the removal and disposal of trees, logs, rotten material, brush, and other vegetative materials and surface objects in accordance with these specifications and within the limits established for clearing as specified under Subsections 202 and 202a as shown on the plans and as staked on the ground.

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

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

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

204c - On excavated areas, roots and embedded wood shall be removed to a depth not less than 6 inches below the subgrade.

205 - Clearing and grubbing debris shall not be placed or permitted to remain in or under road embankment sections.

210 - Disposal of clearing and grubbing debris, stumps and cull logs, shall be by scattering over government owned lands outside of established clearing limits in a manner acceptable to the Authorized Officer. The areas for such scattering shall have the prior approval of the Authorized Officer.

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

EXCAVATION AND EMBANKMENT - 300

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

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

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.

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

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

305b - Embankment materials shall be placed in successive, horizontal, parallel layers on areas cleared of stumps, cull logs, brush, sod, and other vegetative and deleterious materials, except as provided under Subsection 204. Roadway embankments of earth material shall be placed in horizontal layers not exceeding 12 inches in depth.

306 - Layers of embankment and final subgrade material as specified under Subsection(s) 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 Subsection(s) (103a)(,)(and) (103b)(,)(and) (103c)(,)(and) (103d)(,)(and) (103e)(,)(and) (103f)(,)(and) (103g)(,)(and) (103h) as directed by the Authorized Officer, and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.
SPUR 3A	0+00	2+50
SPUR 3B	0+00	1+30
SPUR 4A	0+00	3+70
SPUR 4B	0+00	4+65
SPUR 4C	0+00	2+90
SPUR 4D	0+00	2+05
SPUR 4E	0+00	2+10
28-9-8.5	0+00	8+00
28-9-17.6	0+00	9+85
28-9-17.7	0+00	7+10
28-9-17.8	0+00	9+00
28-9-17.9 ext.	0+00	3+10
28-9-17.10	0+00	6+15
28-9-17.11	0+00	9+00

306a - Minimum compaction for each layer of material placed shall be 1 hour of continuous compacting for each 150 cubic yards in place.

306d - Compacted materials within 1 foot of the established subgrade elevation shall have a density in place of not less than 95 percent of maximum density, and below the 1-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 shall be compacted to full width with compacting equipment conforming to the requirements of Subsection 103. 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.

306g - The face of all fill slopes shall be compacted to 85% of maximum density, either by walking with cat/excavator or by pressing with excavator bucket, to prevent surface erosion and raveling.

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 both the pockets and the ditch with rock fragments, gravel, or other suitable porous material.

312 - When material, except solid rock, encountered in cuts at subgrade, is suitable for use in forming the finished roadbed, the top 6-inch layer of the subgrade shall be thoroughly scarified for the full width of the roadbed. Roots, sod, and other deleterious material or stones that will not pass a 6-inch square opening shall be removed. The scarified material shall be processed to the optimum moisture content suitable for maximum density and compacted in accordance with Subsection 306.

313 - In cut areas where solid rock is encountered at or near subgrade, the rock shall be excavated to a minimum depth of 6 inches below subgrade elevation and the excavated area backfilled with suitable material. The backfill material shall be processed to the optimum moisture content suitable for maximum density and compacted to full width in accordance with the requirements of Subsection 306.

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

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

321 - Excess excavated, unsuitable, or slide materials shall not be disposed of on areas where the material will encroach on riparian reserve area.

NOTE: Any material being hauled over gravel or bituminous surfaced roads will be done in vehicles which meet legal highway weight requirements while hauling.

321c - End-dumping will be permitted for the placement of excess materials in conformance with Subsection 321, in designated disposal areas, or within approved areas. Watering, rolling, and placement in layers are not required. Materials placed shall be sloped and shaped to facilitate drainage, as approved by the Authorized Officer.

324 - Excavated material shall not be placed so as to cover boles of standing trees to a depth in excess of ½ foot on the uphill side.

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

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

PIPE CULVERTS - 400

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

403 - Grade culverts shall have a gradient of from 2 percent to 4 percent greater than the adjacent road grade and shall be skewed down grade 30 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-steel-welded 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.

405e - Corrugated-polyethylene pipe for culverts 12-inch through 24-inch diameter shall meet the requirements of AASHTO M 294 for type S. Installation will be subject to the same specification as other pipe materials.

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 2 annular corrugations.

406b - Coupling bands produced from flat galvanized steel sheets with impressed dimples will be permitted only for connecting annular corrugated steel pipe to helically corrugated steel pipe. Such coupling bands shall conform to the width requirements shown on the plans

406f - Channel-type or flanged-end coupling bands may be used on helical pipe with reformed rolled ends and flanged specifically to receive these bands. Such coupling bands shall conform to the requirements shown on the plans.

407 - Special sections, such as elbows, branch connections, and flared end sections, shall be of the same gauge as the pipe to which they are joined and shall conform to the requirements of AASHTO M 36 and AASHTO M 218 or AASHTO M 274.

407b - Full round culvert downspouts conforming to the material and construction requirements as shown on the plans shall be anchored with two six-foot steel fence posts (one on each side of the pipe) wired together with No. 12 galvanized wire. These anchors shall be placed every ten feet along the pipe beginning at the outlet of the culvert pipe.

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 furnished the Authorized Officer 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 selected granular or fine readily compactable soil material. Foundation material shall be of uniform density throughout the length of the structure and shall be shaped to fit the pipe.

413a - Bedding material for pipe culverts on existing surfaced roads shall be 1 inch minus crushed aggregate meeting the requirements of Sections 1204, 1205, 1206, 1207, and 1208 of these specifications.

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 square feet 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 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 culvert(s) 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 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.

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.

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 marker(s) consisting of ½-inch round fiberglass bars 4 feet in length bolted to the culvert at the inlet or 6 foot steel fence posts painted white with 6” orange ends, shall be furnished, fabricated, and installed by the Purchaser at all grade culverts as shown on the plans and as directed by the Authorized Officer.

RENOVATION AND IMPROVEMENT OF EXISTING ROADS - 500

501 - This work shall consist of reconditioning and preparing the roadbed and shoulders, cleaning and shaping drainage ditches, trimming vegetation from cut and embankment slopes, and cleaning and repairing drainage structures of existing roads in accordance with these specifications and as shown on the plans.

501a - This work shall include the removal and disposal of slides in accordance with these specifications.

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 location(s):

Road No.	From Sta./M.P.	To Sta./M.P.
28-9-8.1 “C1”	54+00	55+50
28-9-8.1 “C1”	69+00	69+40
28-9-8.1 “C1”	78+65	117+25
28-9-8.2 “B”	69+00	92+50
28-9-17.4	0+35	14+00
28-9-17.5	0+00	10+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.

503 - Debris from slides shall be disposed of as directed by the Authorized Officer.

504 - Scarified material and existing road surface shall be uniformly moistened or dried to the optimum moisture content suitable for maximum density and compacted to full width with equipment conforming to requirements of Subsection(s) (103a)(,)(and) (103b)(,)(and) (103c)(,)(and) (103d)(,)(and) (103e)(,)(and) (103f)(,)(and) (103g)(,)(and) (103h) and in accordance with the following table:

Road No.	From Sta./M.P.	To Sta./M.P.	Subsection 504
28-9-8.1 “C1”	54+00	55+50	(504)(a)
28-9-8.1 “C1”	69+00	69+40	(504)(a)
28-9-8.1 “C1”	78+65	117+25	(504)(a)
28-9-8.2 “B”	69+00	92+50	(504)(a)
28-9-17.4	0+35	14+00	(504)(a)
28-9-17.5	0+00	10+50	(504)(a)

504a - Minimum compaction required shall be 1 hour of continuous rolling for each 4 stations of road, or fraction thereof, as measured along the centerline per layer of material.

506 - The inlet end of existing drainage structures shall be cleared of vegetative debris and boulders that are of sufficient size to obstruct normal stream flow. Pipe inverts shall be cleared of sediment and other debris lodged in the barrel of the pipe. The outflow area of 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.

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

WATERING - 600

601 - This work shall consist of furnishing and applying water required for the 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 - 700
PITRUN ROCK MATERIAL

701 - This work shall consist of furnishing, hauling, and placing one or more layers of pitrun rock material ditch line approved for placing pitrun materials in accordance with these specifications and conforming to the dimensions and typical cross sections shown on the plans.

702a - Pitrun rock materials used in this work may be obtained from source(s) selected by the Purchaser at his option, providing the materials furnished comply with these specifications and the source is approved in writing by the Authorized Officer prior to use.

703 - Pitrun rock materials shall consist of talus rock, bank run or river run gravels, partly decomposed granite or basalt, cinders, or other approved materials. The materials shall be reasonably free from vegetative matter or other deleterious material. The material obtained from the sources identified under Section (702a) shall consist of the best material available from these sources as designated by the Authorized Officer).

704 - Pitrun rock material shall consist of native materials of such a size and grading that it can be taken directly from the source and placed in the ditch line without crushing or screening.

705 - Pitrun rock material shall be placed in layers of sufficient thickness to accommodate the material.

710 - Pitrun rock material shall be compacted by routing construction and hauling equipment over the full width of each layer placed.

713 - Pitrun rock material used to repair or reinforce soft, muddy, frozen, yielding, or rutted subgrades shall not be construed as surfacing required under this specification unless approved in writing by the Authorized Officer prior to placement.

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AGGREGATE BASE COURSE AND LANDING ROCK – 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.

1002a - Crushed rock materials may be obtained from commercial sources selected by the Purchaser at his option and expense providing that the rock materials selected comply with the specifications in this section.

1003 - Crushed rock material produced from gravel shall have 3 manufactured fractured face(s) on 75 percent, by weight, of the material retained on the No. 4 sieve.

1004 - Crushed rock materials shall consist of hard durable rock fragments conforming to the following gradation requirements:

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

Sieve Designation	A
4-inch	-
3-inch	100
2-inch	90-95
1½-inch	-
1-inch	45-75
3/4-inch	-
½-inch	-
3/8-inch	-
No. 4	15-45
No. 8	-
No. 10	-
No. 30	-
No. 40	5-25
No. 200	2-15

-

1005 - Crushed rock material retained on the No. 4 sieve shall have a percentage of loss of not more than 35 at 500 revolutions, as determined by AASHTO T 96.

1006 - Crushed rock material shall show durability value of not less than 35 as determined by AASHTO T 210.

1006a - Crushed rock material shall show a loss of not more than 20 percent by weight when immersed in DMSO, dimethyl sulfoxide, for five days, in accordance with Federal Highway Administrations Region 10 Accelerated Weathering Test Procedure.

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:

Sand Equivalent AASHTO T 176 Maximum	Liquid Limit AASHTO T 89 Maximum	Plasticity Index AASHTO T 90 Maximum	Percentage Passing No. 200 Sieve AASHTO T 27 Maximum
34	25	9	9
33	25	8	8
32	25	7	7
31	25	6	6
30	25	5	5
29 or less	25	4	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.

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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 subgrade approval prior to rocking shall be 3 days prior to that approval 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, and 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.

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 Subsection(s) (103a)(,)(and) (103b)(,)(and) (103c)(,)(and) (103d)(,)(and) (103e)(,)(and) (103f)(,)(and) (103g)(,)(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.

AGGREGATE SURFACE COURSE, SPOT, AND MAINTENANCE ROCK - 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.

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 rock materials furnished comply 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 face(s).

1204 - Crushed rock material shall consist of hard durable rock fragments conforming to the following gradation requirements:

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TABLE 1204

AGGREGATE SURFACE COURSE
CRUSHED ROCK MATERIAL
1 ½ " minus

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

Sieve Designation	C
1-1/2-inch	100
1-inch	-
3/4-inch	50-90
½-inch	-
No. 4	25-50
No. 8	-
No. 30	-
No. 40	5-25
No. 200	2-15

CRUSHED ROCK MATERIAL
1 " minus

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

Sieve Designation	C
1-inch	100
3/4-inch	90-100
3/8 -inch	55-75
¼ inch	40-60
No. 40	5-25
No. 200	2-15

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.

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1206 - Crushed rock material shall show a durability value of not less than 35 as determined by AASHTO T 210.

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

1207 - That portion of crushed rock material passing the No. 40 sieve, including blending filler, shall have 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.

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:

Sand Equivalent AASHTO T 176 Maximum	Liquid Limit AASHTO T 89 Maximum	Plasticity Index AASHTO T 90 Maximum	Percentage Passing No. 200 Sieve AASHTO T 27 Maximum
34	25	9	9
33	25	8	8
32	25	7	7
31	25	6	6
30	25	5	5
29 or less	25	4	4

1208 - If additional binder or filler material is necessary to meet the grading or plasticity requirements or for satisfactory bonding of the material, it shall be uniformly blended with the crushed rock material at the crushing and screening plant prior to placing on the road, unless otherwise agreed. The material for such purposes shall be obtained from sources approved by the Authorized Officer and shall be free from stones, vegetative matter, and other deleterious materials.

1208a - Each layer of crushed rock material shall be thoroughly mixed on the roadbed by alternately blading, to full depth, until a uniform mixture has been obtained. The mixture shall then be spread to full width. When completed, the spreading shall produce a surface which is smooth, presents uniform shoulder lines, and conforms to the specified cross section.

1209 - Shaping and compacting of roadbed shall be completed and approved in writing, prior to placing crushed rock material, in accordance to the requirements of Subsections 500 for placing on the roadbeds. Notification for roadbed inspection, prior to rocking, shall be 3 days prior to that inspection and shall be 6 days prior to start of rocking operations.

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1210 - Crushed rock material conforming to the requirements of these specifications shall be placed on the approved roadbed in accordance with these specifications and conforming to the lines, grades, dimensions, and typical cross sections shown on the plans. Compacted layers shall not exceed 4 inches in depth. When more than one layer is required, each shall be shaped, processed, compacted, and approved by the Authorized Officer before the succeeding layer is placed. Irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and then adding or removing crushed rock material until the surface is smooth and uniform.

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

1212 - Each layer of crushed rock material placed, processed, and shaped as specified shall be moistened or dried to a uniform moisture content suitable for maximum compaction and compacted to full width by compacting equipment conforming to the requirements of Subsection 103i. Minimum compaction shall be 1 hour of continuous compacting for each 150 cubic yards or fraction thereof, of crushed rock material placed per layer.

1216 - The Purchaser shall place in stockpile (_) cubic yards (truck measure)(stockpile measure)(load ticket measure) of Gradation (___) crushed rock material at site(s) shown on the plans. (This work is (not) required for road acceptance under Section 18 of this contract). Such material shall be used to reinforce and repair areas of deficient support which appear during the hauling operation. Crushed rock material so stockpiled shall be placed on the designated road prior to termination of the timber sale contract.

1217 - Prior to stockpiling Subsection 1204 Gradation (C) crushed rock material, the stockpile site(s) shall be prepared by clearing and disposing of all trees, stumps, brush, and other debris in accordance with Section 200. The floor of each stockpile site shall be graded to a level and uniform cross section. (A minimum of ((1) foot)(feet) (of crushed rock material shall be placed and compacted on the entire floor area). A minimum of (0) cubic yards, stockpile measure, shall be placed at the following stockpile site(s):

Stockpile Number	Willamette Meridian Section	T.	R.	Approximate Cubic Yards
_____	____	__	__	
_____	____	__	__	
_____	____	__	__	
_____	____	__	__	
_____	____	__	__	

1218 - The equipment and methods used for stockpiling crushed rock material and for removing material from the stockpiles shall be such that minimum degradation or segregation of the material will result and that minimal amounts of foreign material will be incorporated into the crushed base material and that there will be no intermingling of stockpiled materials.

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GEOTEXTILES - 1300

1301 - This work shall consist of furnishing, hauling, and installing geotextile material at the locations and in accordance with these specifications and the lines, grades, dimensions, and typical cross sections shown on the plans.

1302 - Fibers used in the manufacture of geotextile material shall consist of long-chain synthetic polymers composed of at least 85 percent by weight of polyolephines, polyesters, or polyamides.

1303 - The Purchaser shall furnish a mill certificate verifying that the geotextile material furnished meets the requirements of these specifications. (INCLUDE__A sample of 5 square yards of the geotextile material shall be furnished to the Authorized Officer from each shipment for verification testing.)

1303a - Each roll of geotextile material shall be labeled to provide for identification of the material. The geotextile material shall be wrapped in a heavy duty protective covering and shall be protected from mud, dirt, dust, debris, and direct sunlight.

1303b - Geotextile materials subject to deterioration by ultraviolet rays shall be protected from direct sunlight during transport and storage. For those geotextile materials subject to damage by sunlight, the information on the package label shall warn against exposing the geotextile material to sunlight. (INCLUDE__Material with a 10 percent grab tensile or trapezoidal tear strength loss will be rejected and not used.) (INCLUDE__Geotextile material deemed to have been overexposed to sunlight by the Authorized Officer shall be rejected.)

NOTE: GUIDELINES FOR GEOTEXTILE MATERIAL SPECIFICATIONS

Hydraulic Considerations:

A. Permeability (affected by texture, gradation, degree of compaction, and primary structure of the soil):
   a. Normal application: K (geotextile material)* = K (soil)
   b. Critical application: K (geotextile material)* = 10K (soil)

*For woven geotextile material only; % Open area = 4.0; AOS = No. 10

B. Piping Resistance (soil retention):
   Soil particles by weight passing the No. 200 sieve:**
   a. Less than 50 percent: AOS less than 0.6mm (No. 30 sieve)
   b. More than 50 percent: AOS less than 0.3mm (No. 50 sieve)

**Problem soils where the above guidelines may not apply are silts and uniform sands with 85 percent passing the No. 100 sieve.

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1304 - Where a geotextile brush barrier is shown on the plans, the geotextile material shall be laid over the upper-slope face of the barrier. The bottom of the geotextile material shall be trenched into the existing ground a minimum of 6 inches. The top of the geotextile material shall be tied, stapled, nailed, or otherwise securely fastened to the side or top of the brush barrier. Intermediate attachments of the geotextile material shall be by suitable ties, staples, or nails. A 12-inch overlap of geotextile material for vertical and horizontal piercing shall be maintained. Care must be exercised in securing the geotextile material to the brush barrier to avoid puncturing by protruding limbs.

1305 - Where a geotextile silt fence is shown on the plans, the geotextile material shall be laid against the fence on the upper slope face. The bottom of the geotextile material shall be trenched into the existing ground a minimum of 6 inches. The top of the geotextile material shall be tied, stapled, nailed, or otherwise securely fastened to the side or top of the silt fence. Intermediate attachments of the geotextile material shall be by the weight of aggregate. A 24-inch overlap of geotextile material for vertical and horizontal piercing shall be maintained. Care must be exercised in securing the geotextile material to the fence to avoid puncturing.

1306 - The geotextile material used to construct brush barriers or silt fences shall be constructed of woven polypropylene or polyester filament fibers and meet the following requirements:

Geotextile Property	**Acceptable Test Results for Unaged Geotextile**
Weight, (ASTM D 1910)	4 oz./sq.yd., minimum
Mullen Bursting Strength (ASTM D 3786)	200 psi minimum
Trapezoidal Tear Strength (ASTM D 1117)	50 lbs., minimum
Coefficient of permeability, K	.01 cm./sec., minimum
AOS (Corps of Engineer Test CW-02215)	U.S. Standard Sieve No. Equivalent 60-140
Ultraviolet Degradation (ASTM D 2565)	Minimum Strength of Mullen Burst 160 psi and Trapezoidal Tear 40 lbs. after 500 hours in Xenon weatherometer.

1307 - Where subgrade reinforcement and material separation is required, clearing, grubbing, and excavation of the subgrade shall be completed prior to the placement of geotextile material. The subgrade shall be leveled and smoothed to remove lumps and depressions which exceed (6) inches in height and depth. Small pieces of woody debris shall be removed. Light vegetation, i.e., grasses, weeds, leaves, and other small woody debris, may be left in place.

1308 - The geotextile material shall be installed directly on the prepared surface. Longitudinal and transverse joints shall be overlapped a minimum of 2 feet.

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1309 - Borrow or base course material shall be placed to the designated thickness in one lift and spread in the direction of the geotextile material overlap. Borrow or base course material shall be spread in a manner to fill soft or weak bearing areas. Hauling equipment shall not be operated on the geotextile until the total thickness of borrow or base course is placed.

1310 - Torn, punctured, or separated sections of the geotextile material shall be repaired by installing a geotextile material patch over the damaged area prior to placing the borrow or base course material. The patch shall be at least 3 feet larger in horizontal dimensions than the hole to be repaired.

1311 - Geotextile:

1. The geotextile shall be woven from super high-tenacity polypropylene yarns with a weave pattern to maximize strength, water flow, soil interaction and soil retention. The yarns shall be from high-tenacity long-chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.

1. The geotextile shall meet the requirements of Table 1. All numeric values in Table 1 except AOS represent MARV in the specified direction. Values for AOS represent maximum average roll values.

2. All geotextile products shall have a separation factor of 0.9 or higher per ASTM D422, Modified.

Acceptable Test Results
Geotextile Propertyfor Unaged Geotextile

Mechanical Properties	**Test Method**	**Unit**	**Minimum Average Roll Value**
STRENGTH			
Tensile Modulus @ 2% strain (CD)	ASTM D4595	lbs/ft (kN/m)	90,000 (1313)
HYDRAULIC			
Flow Rate	ASTM D4491	gal/min/ft^2 (l/min/m^2)	75 (3056)
Permittivity	ASTM D4491	sec^{-1}	1.0
SOIL RETENTION			
Apparent Opening Size (AOS)[1]	ASTM D4751	U.S. Sieve (mm)	40 (0.43)
Pore Size 0_{95}	ASTM D6767	microns	350[3]
Pore Size 0_{50}	ASTM D6767	microns	185[3]
SOIL INTERACTION			
Interaction Coefficient[2]	ASTM D6706	--	0.9
Factory Seam Strength	ASTM D4884	lbs/ft (kN/m)	3000 (43.8)
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	80

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[1] ASTM D4751: AOS is a Maximum Opening Diameter Value
[2] Interaction Coefficient value is for sand or gravel based on testing conducted by SGI Testing Services.
[3] Typical Values

4. Approved geotextiles are as follows:

Mirafi® RS580i

MANUFACTURERS

A. TenCate Geosynthetics Americas
365 South Holland Drive
Pendergrass, GA, USA 30567
1-800-685-9990
1-706-693-2226
1-706-693-4400, fax
www.mirafi.com

1312 - Where geotextile material is specified as filter wrap for underdrains, it shall be inert to commonly encountered chemicals, mildew and rot resistant, resistant to ultraviolet light exposure, and insect and rodent resistant.

PREPARATION

A. The installation site shall be prepared by clearing, grubbing, and excavation or filling the area to the design grade. This includes removal of topsoil and vegetation.

INSTALLATION

A. The geotextile shall be laid smooth without wrinkles or folds on the prepared subgrade in the direction of construction traffic. Adjacent geotextile rolls shall be overlapped, sewn or joined as required in the plans. Overlaps shall be in the direction as shown on the plans. See table below for overlap requirements.

Soil CBR	Method of Joining
Greater than 3	12 – 18 in (300 - 450 mm) overlap
1 - 3	24 – 40 in (600 - 1000 mm) overlap
0.5 - 1	40 in (1000 mm) overlap or sewn
Less than 0.5	Sewn
All roll ends	40 in (1000 mm) overlap or sewn

B. On curves, the geotextile may be folded or cut to conform to the curves. The fold or overlap shall be shingled in the direction of construction and held in place by pins, staples, or piles of fill or rock.

C. Prior to covering, the geotextile shall be inspected by a certified representative or inspector of the Engineer to ensure that the geotextile has not been damaged during installation. Damaged geotextile, as identified by the Engineer, shall be repaired immediately. Cover the damaged area with a geotextile patch which extends an amount equal to the required overlap, or a minimum of two feet beyond the damaged area.

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D. The aggregate base or subbase shall be placed by end dumping onto the geotextile from the edge of the geotextile, or over previously placed subbase aggregate. On subgrade soils having a CBR value greater than 3, most rubber-tired vehicles can be driven at slow speeds, less than 10 mph (16 km/h) and in straight paths over the exposed geotextile without causing damage to the geotextile. Sudden braking and sharp turning should be avoided. Tracked construction equipment should not be operated directly upon the geotextile. A minimum fill soil thickness of 6 in (15cm) is required prior to operation of tracked vehicles over the geotextile. Turning of tracked vehicles should be kept to a minimum to prevent tracks from displacing the fill and damaging the geotextile. Turning of vehicles shall not be permitted on the first lift above the geotextile.

E. On subgrades having a CBR value of less than 1, the aggregate base or subbase should be spread in its full thickness as soon as possible after dumping to minimize the potential of localized subgrade failure due to overloading of the subgrade.

F. Any ruts occurring during construction shall be filled with additional subbase material, and compacted to the specified density.

G. If placement of the backfill material causes damage to the geotextile, the damaged area shall be repaired as previously described above. The placement procedure shall then be modified to eliminate further damage to the geotextile from taking place.

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RIP RAP SLOPE PROTECTION – 1400

1401 - This work shall consist of furnishing, hauling, and placing stone materials for slope protection structures in the construction of energy dissipaters at specified culvert outlets. Material not conforming to these specifications will be rejected, and shall be removed from the slope protection structure as directed by the Authorized Officer.

1402 - Riprap shall be hard, durable, angular in shape, and resistant to weathering and water action. Thickness of a single stone should be more than one-third its length. Do not use rounded rock or boulders. Stone shall be free from overburden, spoil, shale, and organic material and conforming to the following:

A. Apparent Specific Gravity (AASHTO T85)	2.50 Min.
B. Absorption (AASHTO T85)	4.2% Max.
C. Coarse Durability Index (AASHTO T210)	20 Min.

1403 - Loose riprap shall meet the following gradation:

Equivalent Cubic Dimensions	Total Size Smaller Than Given
34 inches	100
27 inches	80
22 inches	50
10 inches	10

1404 - The placement of slope protection riprap by the end dumping method is not permitted.

1405 - Riprap shall be placed to produce a well keyed mass of rock with the least practical amount of void spaces. The foundation course is the course placed in contact with the ground surface, and shall be placed on a stable key bench. Bearing shall not be on smaller rocks that may be used for filling voids.

1405a - Riprap shall be placed directly under the culvert outlet and extend to the point where a 45-degree angle from the outlet invert intersects the key bench. Riprap shall extend a minimum distance equal to the culvert diameter on all sides.

1406 Determination of the acceptability of the slope protection structure will be by visual inspection and / or physical measurements by the Authorized Officer.

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 and material shall be prevented from escaping beyond the toe of the structure.

1407 - Determination of gradation acceptability of the slope protection material will be made through visual inspection and physical measurements by the Authorized Officer.

1408a - Foundation trenches and other required excavation shall be approved prior to placing the slope protection material.

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EROSION CONTROL - 1700

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

1702 - The Purchaser shall construct dike(s), dam(s), diversion channel(s), settling basin(s) and other erosion control structure(s) as directed by the Authorized Officer.

1704 - The erosion control provisions specified under this subsection shall be coordinated with the soil stabilization requirement(s) 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 after October 1 without prior approval by the Authorized Officer.

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

1707 - Completed and partially completed portions of un-surfaced roads/landings to be carried over the winter and early spring periods shall be stabilized in accordance with Section 1812.

1708 - Newly constructed un-surfaced roads/landings to be carried over the winter period, shall be blocked to vehicular traffic.

1708a - Road segments/landings not completed during dry weather periods shall be winterized, by providing a well-drained roadway by water barring, 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/landings not having surface rock in place will be blocked or barricaded to prevent vehicular traffic.

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SOIL STABILIZATION - 1800

1801 - This work consists of seed, fertilizer, and mulch application on designated cut, fill, borrow, disposal, and all other contract-disturbed 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 and landing construction, culvert replacement sites, and areas where vegetative cover has been disturbed, 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 15	to:	April 30
From:	September 1	to:	October 15

The Authorized Officer may modify the above seasonal dates to conform to existing weather conditions and changes in the construction schedule.

1806 - The Purchaser shall apply the seed mixtures specified Gov't furnished native seed corresponding seeding projects as shown on Sheet No. 6 & 7.

1806a - Additional soil stabilization work consisting of seeding, 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 Section 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.

1808 - Fertilizer shall be a standard, water soluble, commercial grade of fertilizer conforming to all State and Federal regulations 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	0%

The Authorized Officer will take samples as necessary for the determination of 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.

1809 - Mulch materials conforming to the requirements of Subsections 1809d, 1809e, 1809f, and 1809g shall be furnished by the Purchaser in the amounts specified under Subsection 1812.

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1809d - Straw mulch shall be from oats, wheat, rye, or other approved grain crops which are free from noxious weeds, mold, or other objectionable materials

1809e - Grass straw mulch shall be from perennial grass or, if specified, an annual rye grass, from which the seed has been removed. The straw shall be free from noxious weed seed, mold, or other objectionable materials.

1809f - Peat mulch shall be furnished in bales not less than 7-1/2 cubic feet per bale compressed and 12 to 14 bushels loose. Peat moss shall be a granulated sphagnum peat moss free from woody substances consisting of at least 75 percent of partially decomposed stems and leaves of sphagnum and essentially brown in color. The texture may vary from porous fibrous to spongy fibrous and shall be free of sticks, stones, and mineral matter. Peat moss shall be in air-dry condition, shall show an acid reaction of 3.5 pH to 5.5 pH, and shall other wise conform to State and Federal regulations.

1809g - Peat humus mulch shall be a natural peat or peat humus from fresh water saturated areas, consisting of sedge, sphagnum, or reed peat and be of such physical condition that it will pass through a 1/2-inch mesh screen. The humus shall be free from sticks, stones, roots, and other objectionable materials. Samples taken at the source of supply shall have the following analysis: Acidity range 4.0 to 7.5 pH; minimum water absorbing ability 200 percent by weight on oven-dry basis. Minimum organic content shall be 60 percent when dried at 105° C. Freshly excavated peat, if saturated with water, shall be stored for a sufficient length of time to condition it for workability.

1810 - Mulch material shall be delivered to the work area in a dry state. Wet material will not be accepted. Material to be used in the mulching operation may be stockpiled along the road designated for treatment provided that it is maintained in a dry state, and has the approval of the Authorized Officer.

1811 - Bulk mulching material required under these specifications shall be delivered to the work area bound either by twine, string, or hemp rope. Wire binding and plastic twine will not be permitted.

1812 - The Purchaser shall furnish and apply to approximately ***18 ACRES*** designated for treatment as shown on the plans and as specified under Subsection 1806, a mixture of water, grass seed, fertilizer and mulch material, or a mixture of grass seed and fertilizer material at the following rate of application:

A. *Dry Application*: _____

BLM Grass Seed Mix	40 lbs. /acre
Commercial Grass Seed Mix	60 lbs. /acre
Fertilizer	200 lbs. /acre
Mulch/Straw	3,000 lbs. /acre

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

1815 - The Purchaser may reduce the application rate on partially covered slopes and no application on areas already well stocked with grass or on rock surfaces.

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1816 - The seed, fertilizer, and mulch materials shall be placed by the dry method in accordance with the requirements set forth in Subsection 1816b.

1816b - Dry Method - Blowers, mechanical seeders, seed drills, landscape seeders, cultipaker seeders, fertilizer spreaders, or other approved mechanical seeding equipment may be used when seed and fertilizer are to be applied in dry form.

1819 - The maximum distance to be seeded, fertilized and mulched from the road centerline shall be 100 feet for the cut slopes and 150 feet for the fill slopes.

1820 - The Purchaser shall notify the Authorized Officer at least 3 days in advance of date he intends to commence the specified soil stabilization work.

1822 - 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.

1823 - 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.

1826 - Twine, rope, sacks, and other debris resulting from the soil-stabilization operation shall be picked up and disposed of to the satisfaction of the Authorized Officer.

ROADSIDE BRUSHING - 2100

2101 - This work shall consist of cutting and removal of vegetation from the road prism in accordance with these specifications. This work shall conform to the dimensions shown on the Typical Cross Section and Roadside Brushing Detail sheets, at designated locations.

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

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

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

2104 - Trees in excess of 6 inches in diameter when measured 6 inches above the ground line shall be limbed, so that no limbs extend into the treated area or over the roadbed to a height of 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.

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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.

2107 - Inside curves shall be brushed out for a sight distance of 100 feet chord distance. Overhanging limbs and vegetation in excess of 1 foot in height shall be cut within these areas.

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

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

2113 - Roadside brushing shall be accomplished as specified on the Typical Cross Section Detail Sheets.

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

2117 - Traffic warning signs shall be required at each end of the work area. Signs shall meet the requirements of the Manual on Uniform Traffic Devices.

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of All Roads and Projects Updated: 5/1/2013

T.S. Contract Name: BROWNSTONE CT 2014.033 Tract No: Sale Date: 25 APRIL14
Prepared by: K.Sanders Ph: Print Date: 3/10/2014 12:35:18 PM
Construction: 68.90 sta
Improve: 151.70 sta Renov: 465.55 sta Decom: 0.00 sta Temp: 0.00 sta

200 Clearing and Grubbing: 0.0 acres $2,270.64
Clearing: 0.0 sta Grubbing: 0.0 acres
Slash Treatment: 0.0 acres

300 Excavation: 6,190 cy $55,550.57
Haul: 67,844 sta-yds

400 Drainage: $40,738.80
Culvert: 0 lf wt = 0 lbs
DownSpout: 380 lf
PolyPipe: 960 lf

500 Renovation: $35,236.22
Blading 11.62 mi

Surfacing: $421,456.22
Quarry Name: B&B 1.5 CCYD 3,722 cy
Quarry Name: B&B 3.0 CCYD 5,889 cy
Quarry Name: B&B 1.5" LCYD 315 cy
Quarry Name: B&B 6" open 85 cy
Quarry Name: B&B 3" LCYD 4,742 cy
Quarry Name: B&BSR 1.5" LCYD 855 cy

1300 Geotextiles: $5,328.60

1400 Slope Protection: $1,254.30
Gradation Class 4: 45 cy

1800 Soil Stabilization: 19.1 acres $7,012.23

1900 Cattleguards: $0.00

2100 RoadSide Brushing: 28.1 acres $9,491.39

2300 Engineering: 0.00 sta. $0.00

2400 Minor Concrete: $0.00

2500 Gabions: $0.00

8000 Miscellaneous: $4,500.00

Mobilization: Const. $5,864.00 Surf. $0.00..... $5,864.00

Quarry Development: $0.00

Total: $588,702.97

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities are COMPACTED in place cubic yards.

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-14.0 B Road Name:
Road Renovation: 0.24 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$542.23
Blading 0.24 mi	
Surfacing:	$648.38
Quarry Name: B&BSR 1.5" LCYD 25 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$110.31
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.6 acres	$167.00
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $14.77 Surf. $0.00	$14.77
Quarry Development:	$0.00
Total:	$1,482.69

Notes:
- Quantities shown are estimates only and not pay items.
- Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-14.0 B 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: $519.72/mi x 0.24 mi = $124.73
  Pull Ditches: $140.38/mi x 0.24 mi = $33.69
  Compaction: $1329.15/mi x 0.24 mi = $319.00
  Clean Culverts: $270.05/mi x 0.24 mi = $64.81

Subtotal: $542.23

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: SPOT ROCK

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									25cy

  Rock Volume = 25cy
  Royalty: $9.80/cy x 25cy = $245.00
  Processing: $1.40/cy x 25cy = $35.00
  Compaction: $0.79/cy x 25cy = $19.75
  T11 Testing: $0.06/cy x 25cy = $1.50
  T27 Testing: $0.06/cy x 25cy = $1.50
  Basic Rock Haul cost: $0.93/cy x 25cy = $23.25
  Rock Haul -15% grades: $1.39/cy-mi x 25cy x 2.50 mi= $86.88
  Rock Haul St& Co Roads: $0.62/cy-mi x 25cy x 14.00 mi= $217.00
  Basic Water Haul cost: $0.61/cy x 25cy = $15.25
  Water Haul -15% grades: $0.13/cy-mi x 25cy x 1.00 mi= $3.25

Subtotal: $648.38

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.30 acres = $110.31

Subtotal: $110.31

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 0.60 acres = $167.00

Subtotal: $167.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.25% of total Costs = $14.77
  Surfacing - 0.16% by rock volume = $0.00

Subtotal: $14.77

Quarry Development:
  Based on 0.16% of total rock volume

Subtotal: $0.00

Total: $1,482.69

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-14.0 C Road Name:
Road Renovation: 1.28 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$2,891.90
Blading 1.28 mi	
Surfacing:	$3,371.55
Quarry Name: B&BSR 1.5" LCYD 130 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.8 acres	$294.17
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 3.1 acres	$862.85
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $74.66 Surf. $0.00	$74.66
Quarry Development:	$0.00
Total:	$7,495.13

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-14.0 C 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: $519.72/mi x 1.28 mi = $665.24
  Pull Ditches: $140.38/mi x 1.28 mi = $179.69
  Compaction: $1329.15/mi x 1.28 mi = $1,701.31
  Clean Culverts: $270.05/mi x 1.28 mi = $345.66

Subtotal: $2,891.90

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: SPOT ROCK

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									130cy

  Rock Volume = 130cy
  Royalty: $9.80/cy x 130cy = $1,274.00
  Processing: $1.40/cy x 130cy = $182.00
  Compaction: $0.79/cy x 130cy = $102.70
  T11 Testing: $0.06/cy x 130cy = $7.80
  T27 Testing: $0.06/cy x 130cy = $7.80
  Basic Rock Haul cost: $0.93/cy x 130cy = $120.90
  Rock Haul -15% grades: $1.39/cy-mi x 130cy x 2.50 mi= $451.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 130cy x 14.00 mi= $1,128.40
  Basic Water Haul cost: $0.61/cy x 130cy = $79.30
  Water Haul -15% grades: $0.13/cy-mi x 130cy x 1.00 mi= $16.90

Subtotal: $3,371.55

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.80 acres = $294.17

Subtotal: $294.17

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 3.10 acres = $862.85

Subtotal: $862.85

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 - 1.27% of total Costs = $74.66
  Surfacing - 0.83% by rock volume = $0.00

Subtotal: $74.66

Quarry Development:
  Based on 0.83% of total rock volume

Subtotal: $0.00

Total: $7,495.13

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-14.0 D Road Name:
Road Renovation: 0.71 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$2,102.14
Blading 0.71 mi	
Surfacing:	$3,651.06
Quarry Name: B&B 6" open 50 cy	
Quarry Name: B&B 3" LCYD 3 cy	
Quarry Name: B&BSR 1.5" LCYD 70 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.4 acres	$128.70
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 1.7 acres	$473.18
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $63.94 Surf. $0.00	$63.94
Quarry Development:	$0.00
Total:	$6,419.02

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-14.0 D Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Medium: $30.57/sta x 0.00 sta = $0.00
  Grubbing - Medium: $822.91/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $519.72/mi x 0.71 mi = $369.00
  Pull Ditches: $140.38/mi x 0.71 mi = $99.67
  Compaction: $1329.15/mi x 0.71 mi = $943.70
  Clean Culverts: $270.05/mi x 0.71 mi = $191.74
  Develop waste area MP 1.96
   Tractor: D6 with winch 4 hr x $124.51/hr = $498.04

Subtotal: $2,102.14

6" Quarry Name: B&B 6" open
 Comment: MP 2.2 Waste area ditch fill

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

  Rock Volume = 50cy
  Royalty: $9.25/cy x 50cy = $462.50
  Processing: $1.40/cy x 50cy = $70.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.50 mi= $173.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: MP 2.2 Left Waste area Ditch fill cover

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									3cy

  Rock Volume = 3cy
  Royalty: $9.50/cy x 3cy = $28.50
  Processing: $1.40/cy x 3cy = $4.20
  Compaction: $0.79/cy x 3cy = $2.37
  T11 Testing: $0.06/cy x 3cy = $0.18
  T27 Testing: $0.06/cy x 3cy = $0.18
  Basic Rock Haul cost: $0.93/cy x 3cy = $2.79
  Rock Haul -15% grades: $1.39/cy-mi x 3cy x 1.00 mi= $4.17
  Rock Haul St& Co Roads: $0.62/cy-mi x 3cy x 30.00 mi= $55.80
  Basic Water Haul cost: $0.61/cy x 3cy = $1.83
  Water Haul -15% grades: $0.13/cy-mi x 3cy x 1.00 mi= $0.39

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: SPOT ROCK

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									70cy

  Rock Volume = 70cy
  Royalty: $9.80/cy x 70cy = $686.00
  Processing: $1.40/cy x 70cy = $98.00
  Compaction: $0.79/cy x 70cy = $55.30
  T11 Testing: $0.06/cy x 70cy = $4.20
  T27 Testing: $0.06/cy x 70cy = $4.20
  Basic Rock Haul cost: $0.93/cy x 70cy = $65.10

Road Number: 28-9-14.0 D Continued

Rock Haul -15% grades: $1.39/cy-mi x 70cy x 1.00 mi= $97.30
Rock Haul St& Co Roads: $0.62/cy-mi x 70cy x 30.00 mi= $1,302.00
Basic Water Haul cost: $0.61/cy x 70cy = $42.70
Water Haul -15% grades: $0.13/cy-mi x 70cy x 1.00 mi= $9.10

Subtotal: $3,651.06

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.35 acres = $128.70

Subtotal: $128.70

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 1.70 acres = $473.18

Subtotal: $473.18

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 - 1.09% of total Costs = $63.94
Surfacing - 0.79% by rock volume = $0.00

Subtotal: $63.94

Quarry Development:
Based on 0.79% of total rock volume

Subtotal: $0.00

Total: $6,419.02

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-15.0 Road Name:
Road Renovation: 1.00 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$1,989.25
Blading 1.00 mi	
Surfacing:	$2,593.50
Quarry Name: B&BSR 1.5" LCYD 100 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 2.4 acres	$668.02
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $53.20 Surf. $0.00	$53.20
Quarry Development:	$0.00
Total:	$5,340.74

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-15.0 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $519.72/mi x 1.00 mi = $519.72
  Pull Ditches: $140.38/mi x 1.00 mi = $140.38
  Compaction: $1329.15/mi x 1.00 mi = $1,329.15

Subtotal: $1,989.25

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: SPOT ROCK

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100cy

  Rock Volume = 100cy
  Royalty: $9.80/cy x 100cy = $980.00
  Processing: $1.40/cy x 100cy = $140.00
  Compaction: $0.79/cy x 100cy = $79.00
  T11 Testing: $0.06/cy x 100cy = $6.00
  T27 Testing: $0.06/cy x 100cy = $6.00
  Basic Rock Haul cost: $0.93/cy x 100cy = $93.00
  Rock Haul -15% grades: $1.39/cy-mi x 100cy x 2.50 mi= $347.50
  Rock Haul St& Co Roads: $0.62/cy-mi x 100cy x 14.00 mi= $868.00
  Basic Water Haul cost: $0.61/cy x 100cy = $61.00
  Water Haul -15% grades: $0.13/cy-mi x 100cy x 1.00 mi= $13.00

Subtotal: $2,593.50

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 2.40 acres = $668.02

Subtotal: $668.02

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.91% of total Costs = $53.20
Surfacing - 0.64% by rock volume = $0.00

Subtotal: $53.20

Quarry Development:
Based on 0.64% of total rock volume

Subtotal: $0.00

Total: $5,340.74

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.0 A Road Name:
Road Renovation: 0.65 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$3,209.05
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 110 lf	
500 Renovation:	$1,468.55
Blading 0.65 mi	
Surfacing:	$8,961.55
Quarry Name: B&B 1.5 CCYD 32 cy	
Quarry Name: B&B 1.5" LCYD 30 cy	
Quarry Name: B&B 3" LCYD 179 cy	
Quarry Name: B&BSR 1.5" LCYD 125 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$542.80
Gradation Class 4: 20 cy	
1800 Soil Stabilization: 0.8 acres	$294.17
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 1.6 acres	$445.34
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $150.13 Surf. $0.00	$150.13
Quarry Development:	$0.00
Total:	$15,071.58

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.0 A Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Poly Pipe 18+60	18 inch 40 ea x $24.22/ea = $968.80	
Poly Pipe 33+75	18 inch 35 ea x $24.22/ea = $847.70	
Poly Pipe 6+25	24 inch 35 ea x $32.93/ea = $1,152.55	
MISC CULVERT COSTS		
4' fiberglass inlet marker	8 ea x $5.00/ea = $40.00	
Disposal fee for removed CMP culverts	2 ea x $100.00/ea = $200.00	

Subtotal: $3,209.05

Section 500 Renovation:

Blading: $519.72/mi x 0.65 mi = $337.82
Pull Ditches: $140.38/mi x 0.65 mi = $91.25
Compaction: $1329.15/mi x 0.65 mi = $863.95
Clean Culverts: $270.05/mi x 0.65 mi = $175.53

Subtotal: $1,468.55

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: 27+50 to 29+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.04mi	12ft	13.33ft	4in	5%					

Rock Volume = 32cy
Royalty: $13.03/cy x 32cy = $416.96
Processing: $1.40/cy x 32cy = $44.80
Compaction: $0.79/cy x 32cy = $25.28
T11 Testing: $0.06/cy x 32cy = $1.92
T27 Testing: $0.06/cy x 32cy = $1.92
Basic Rock Haul cost: $0.93/cy x 32cy = $29.76
Rock Haul -15% grades: $1.39/cy-mi x 32cy x 2.50 mi= $111.20
Rock Haul St& Co Roads: $0.62/cy-mi x 32cy x 14.00 mi= $277.76
Basic Water Haul cost: $0.61/cy x 32cy = $19.52
Water Haul -15% grades: $0.13/cy-mi x 32cy x 1.00 mi= $4.16

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: Culvert bedding 6+25, 18+60, 33+75

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30cy

Rock Volume = 30cy
Royalty: $9.80/cy x 30cy = $294.00
Processing: $1.40/cy x 30cy = $42.00
Compaction: $0.79/cy x 30cy = $23.70
T11 Testing: $0.06/cy x 30cy = $1.80
T27 Testing: $0.06/cy x 30cy = $1.80
Basic Rock Haul cost: $0.93/cy x 30cy = $27.90
Rock Haul -15% grades: $1.39/cy-mi x 30cy x 1.25 mi= $52.13
Rock Haul St& Co Roads: $0.62/cy-mi x 30cy x 14.00 mi= $260.40
Basic Water Haul cost: $0.61/cy x 30cy = $18.30
Water Haul -15% grades: $0.13/cy-mi x 30cy x 1.00 mi= $3.90

3"-0 Quarry Name: B&B 3" LCYD
Comment: TTO 4+75, 19+00 . LZ 25+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									160cy

Road Number: 28-9-17.0 A Continued

Rock Volume = 160cy
Royalty: $9.50/cy x 160cy = $1,520.00
Processing: $1.40/cy x 160cy = $224.00
Compaction: $0.79/cy x 160cy = $126.40
T11 Testing: $0.06/cy x 160cy = $9.60
T27 Testing: $0.06/cy x 160cy = $9.60
Basic Rock Haul cost: $0.93/cy x 160cy = $148.80
Rock Haul -15% grades: $1.39/cy-mi x 160cy x 1.25 mi= $278.00
Rock Haul St& Co Roads: $0.62/cy-mi x 160cy x 14.00 mi= $1,388.80
Basic Water Haul cost: $0.61/cy x 160cy = $97.60
Water Haul -15% grades: $0.13/cy-mi x 160cy x 1.00 mi= $20.80

3"-0 Quarry Name: B&B 3" LCYD
Comment: Culvert road base course cover 3 culverts

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									19cy

Rock Volume = 19cy
Royalty: $9.50/cy x 19cy = $180.50
Processing: $1.40/cy x 19cy = $26.60
Compaction: $0.79/cy x 19cy = $15.01
T11 Testing: $0.06/cy x 19cy = $1.14
T27 Testing: $0.06/cy x 19cy = $1.14
Basic Rock Haul cost: $0.93/cy x 19cy = $17.67
Rock Haul -15% grades: $1.39/cy-mi x 19cy x 1.25 mi= $33.01
Rock Haul St& Co Roads: $0.62/cy-mi x 19cy x 14.00 mi= $164.92
Basic Water Haul cost: $0.61/cy x 19cy = $11.59
Water Haul -15% grades: $0.13/cy-mi x 19cy x 1.00 mi= $2.47

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: Trench culvert cover and road surfacing 3 culvers

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									60cy

Rock Volume = 60cy
Royalty: $9.80/cy x 60cy = $588.00
Processing: $1.40/cy x 60cy = $84.00
Compaction: $0.79/cy x 60cy = $47.40
T11 Testing: $0.06/cy x 60cy = $3.60
T27 Testing: $0.06/cy x 60cy = $3.60
Basic Rock Haul cost: $0.93/cy x 60cy = $55.80
Rock Haul -15% grades: $1.39/cy-mi x 60cy x 1.25 mi= $104.25
Rock Haul St& Co Roads: $0.62/cy-mi x 60cy x 14.00 mi= $520.80
Basic Water Haul cost: $0.61/cy x 60cy = $36.60
Water Haul -15% grades: $0.13/cy-mi x 60cy x 1.00 mi= $7.80

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: SPOT ROCK

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									65cy

Rock Volume = 65cy
Royalty: $9.80/cy x 65cy = $637.00
Processing: $1.40/cy x 65cy = $91.00
Compaction: $0.79/cy x 65cy = $51.35
T11 Testing: $0.06/cy x 65cy = $3.90
T27 Testing: $0.06/cy x 65cy = $3.90
Basic Rock Haul cost: $0.93/cy x 65cy = $60.45
Rock Haul -15% grades: $1.39/cy-mi x 65cy x 1.25 mi= $112.94
Rock Haul St& Co Roads: $0.62/cy-mi x 65cy x 14.00 mi= $564.20
Basic Water Haul cost: $0.61/cy x 65cy = $39.65
Water Haul -15% grades: $0.13/cy-mi x 65cy x 1.00 mi= $8.45

Subtotal: $8,961.55

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:
Comment: station 26+50, 33+75
Rock Source: B&B Rip Rap
Royalty fee: $13.00/cy x 20cy = $260.00
Furnish Class 4 type rock
Basic Rock Haul cost: $1.30/cy x 20cy = $26.00
Rock Haul -15% grades: $1.30/cy-mi x 20cy x 1.00 mi= $26.00
Rock Haul St& Co Roads: $0.58/cy-mi x 20cy x 14.00 mi= $162.40
Placement on Fill slopes: 20cy x $3.42/cy = $68.40

Subtotal: $542.80

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.80 acres = $294.17

Subtotal: $294.17

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 1.60 acres = $445.34

Subtotal: $445.34

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 2.56% of total Costs = $150.13
Surfacing - 2.34% by rock volume = $0.00

Subtotal: $150.13

Quarry Development:
Based on 2.34% of total rock volume

Subtotal: $0.00

Total: $15,071.58

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.0 B Road Name:
Road Renovation: 0.21 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$15.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$474.45
Blading 0.21 mi	
Surfacing:	$6,032.94
Quarry Name: B&B 1.5 CCYD 131 cy	
Quarry Name: B&B 1.5" LCYD 31 cy	
Quarry Name: B&B 6" open 5 cy	
Quarry Name: B&BSR 1.5" LCYD 62 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$110.31
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.5 acres	$139.17
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $68.13 Surf. $0.00	$68.13
Quarry Development:	$0.00
Total:	$6,840.00

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.0 B Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:
  CULVERT MISC COSTS
   4' fiberglass inlet marker 3 ea x $5.00/ea = $15.00

Subtotal: $15.00

Section 500 Renovation:
  Blading: $519.72/mi x 0.21 mi = $109.14
  Pull Ditches: $140.38/mi x 0.21 mi = $29.48
  Compaction: $1329.15/mi x 0.21 mi = $279.12
  Clean Culverts: $270.05/mi x 0.21 mi = $56.71

Subtotal: $474.45

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 37+50 to 45+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.15mi	12ft	13.33ft	4in	5%					

  Rock Volume = 131cy
  Royalty: $13.03/cy x 131cy = $1,706.93
  Processing: $1.40/cy x 131cy = $183.40
  Compaction: $0.79/cy x 131cy = $103.49
  T11 Testing: $0.06/cy x 131cy = $7.86
  T27 Testing: $0.06/cy x 131cy = $7.86
  Basic Rock Haul cost: $0.93/cy x 131cy = $121.83
  Rock Haul -15% grades: $1.39/cy-mi x 131cy x 1.50 mi= $273.14
  Rock Haul St& Co Roads: $0.62/cy-mi x 131cy x 14.00 mi= $1,137.08
  Basic Water Haul cost: $0.61/cy x 131cy = $79.91
  Water Haul -15% grades: $0.13/cy-mi x 131cy x 1.00 mi= $17.03

1.5"-0 Quarry Name: B&B 1.5" LCYD
 Comment: 37+25 , 40+75 bedding

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									31cy

  Rock Volume = 31cy
  Royalty: $9.80/cy x 31cy = $303.80
  Processing: $1.40/cy x 31cy = $43.40
  Compaction: $0.79/cy x 31cy = $24.49
  T11 Testing: $0.06/cy x 31cy = $1.86
  T27 Testing: $0.06/cy x 31cy = $1.86
  Basic Rock Haul cost: $0.93/cy x 31cy = $28.83
  Rock Haul -15% grades: $1.39/cy-mi x 31cy x 1.50 mi= $64.64
  Rock Haul St& Co Roads: $0.62/cy-mi x 31cy x 14.00 mi= $269.08
  Basic Water Haul cost: $0.61/cy x 31cy = $18.91
  Water Haul -15% grades: $0.13/cy-mi x 31cy x 1.00 mi= $4.03

6" Quarry Name: B&B 6" open
 Comment: 37+25 armor inlet

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									5cy

  Rock Volume = 5cy
  Royalty: $9.25/cy x 5cy = $46.25
  Processing: $1.40/cy x 5cy = $7.00
  Basic Rock Haul cost: $0.93/cy x 5cy = $4.65
  Rock Haul -15% grades: $1.39/cy-mi x 5cy x 1.50 mi= $10.43

Road Number: 28-9-17.0 B Continued

Rock Haul St& Co Roads: $0.62/cy-mi x 5cy x 14.00 mi= $43.40

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: er 37+25, 40+75 and road 37+25,

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									42cy

Rock Volume = 42cy
Royalty: $9.80/cy x 42cy = $411.60
Processing: $1.40/cy x 42cy = $58.80
Compaction: $0.79/cy x 42cy = $33.18
T11 Testing: $0.06/cy x 42cy = $2.52
T27 Testing: $0.06/cy x 42cy = $2.52
Basic Rock Haul cost: $0.93/cy x 42cy = $39.06
Rock Haul -15% grades: $1.39/cy-mi x 42cy x 1.50 mi= $87.57
Rock Haul St& Co Roads: $0.62/cy-mi x 42cy x 14.00 mi= $364.56
Basic Water Haul cost: $0.61/cy x 42cy = $25.62
Water Haul -15% grades: $0.13/cy-mi x 42cy x 1.00 mi= $5.46

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: SPOT ROCK.

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

Rock Volume = 20cy
Royalty: $9.80/cy x 20cy = $196.00
Processing: $1.40/cy x 20cy = $28.00
Compaction: $0.79/cy x 20cy = $15.80
T11 Testing: $0.06/cy x 20cy = $1.20
T27 Testing: $0.06/cy x 20cy = $1.20
Basic Rock Haul cost: $0.93/cy x 20cy = $18.60
Rock Haul -15% grades: $1.39/cy-mi x 20cy x 1.50 mi= $41.70
Rock Haul St& Co Roads: $0.62/cy-mi x 20cy x 14.00 mi= $173.60
Basic Water Haul cost: $0.61/cy x 20cy = $12.20
Water Haul -15% grades: $0.13/cy-mi x 20cy x 1.00 mi= $2.60

Subtotal: $6,032.94

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.30 acres = $110.31

Subtotal: $110.31

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 0.50 acres = $139.17

Subtotal: $139.17

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Road Number: 28-9-17.0 B Continued

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 1.16% of total Costs = $68.13
  Surfacing - 1.47% by rock volume = $0.00

Subtotal: $68.13

Quarry Development:
  Based on 1.47% of total rock volume

Subtotal: $0.00

Total: $6,840.00

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.10 Road Name:
Road Construction: 0.12 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$3,070.43
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$14,233.05
Quarry Name: B&B 1.5 CCYD 100 cy	
Quarry Name: B&B 3.0 CCYD 233 cy	
Quarry Name: B&B 3" LCYD 180 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$110.31
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. $175.20 Surf. $0.00	$175.20
Quarry Development:	$0.00
Total:	$17,588.99

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.10 Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Pile and Burn: $1149.48/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 6.2 sta = $116.11
  Blading: $11.43/station x 6.15 stations = $70.29
  TTA / TTO / LZ DEVELOPMENT
   Excavator 235B (1.75 CY) Sta. 1+70, 3+60, 6+15
9 hr x $112.93/hr = $1,016.37
   Tractor: D6 with winch (0+30 build up)
3 hr x $124.51/hr = $373.53
   Tractor: D6 with winch ROAD CONSTRUCTION
12 hr x $124.51/hr = $1,494.12
Subtotal: $3,070.43

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 0+00 to 6+15

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.12mi	12ft	13.33ft	4in	5%					

  Rock Volume = 100cy
  Royalty: $13.03/cy x 100cy = $1,303.00
  Processing: $1.40/cy x 100cy = $140.00
  Compaction: $0.79/cy x 100cy = $79.00
  T11 Testing: $0.06/cy x 100cy = $6.00
  T27 Testing: $0.06/cy x 100cy = $6.00
  Basic Rock Haul cost: $0.93/cy x 100cy = $93.00
  Rock Haul -15% grades: $1.39/cy-mi x 100cy x 2.50 mi= $347.50
  Rock Haul St& Co Roads: $0.62/cy-mi x 100cy x 14.00 mi= $868.00
  Basic Water Haul cost: $0.61/cy x 100cy = $61.00
  Water Haul -15% grades: $0.13/cy-mi x 100cy x 1.00 mi= $13.00

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 to 6+16

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.12mi	13.33ft	16ft 8in	5%						

  Rock Volume = 233cy
  Royalty: $12.63/cy x 233cy = $2,942.79
  Processing: $1.40/cy x 233cy = $326.20
  Compaction: $0.79/cy x 233cy = $184.07
  T11 Testing: $0.06/cy x 233cy = $13.98
  T27 Testing: $0.06/cy x 233cy = $13.98
  Basic Rock Haul cost: $0.93/cy x 233cy = $216.69
  Rock Haul -15% grades: $1.39/cy-mi x 233cy x 2.50 mi= $809.68
  Rock Haul St& Co Roads: $0.62/cy-mi x 233cy x 14.00 mi= $2,022.44
  Basic Water Haul cost: $0.61/cy x 233cy = $142.13
  Water Haul -15% grades: $0.13/cy-mi x 233cy x 1.00 mi= $30.29

3"-0 Quarry Name: B&B 3" LCYD
 Comment: 1+70, 3+60, 6+15

Road Number: 28-9-17.10 Continued

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									180cy

Rock Volume = 180cy
Royalty: $9.50/cy x 180cy = $1,710.00
Processing: $1.40/cy x 180cy = $252.00
Compaction: $0.79/cy x 180cy = $142.20
T11 Testing: $0.06/cy x 180cy = $10.80
T27 Testing: $0.06/cy x 180cy = $10.80
Basic Rock Haul cost: $0.93/cy x 180cy = $167.40
Rock Haul -15% grades: $1.39/cy-mi x 180cy x 2.50 mi= $625.50
Rock Haul St& Co Roads: $0.62/cy-mi x 180cy x 14.00 mi= $1,562.40
Basic Water Haul cost: $0.61/cy x 180cy = $109.80
Water Haul -15% grades: $0.13/cy-mi x 180cy x 1.00 mi= $23.40

Subtotal: $14,233.05

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.30 acres = $110.31

Subtotal: $110.31

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 - 2.99% of total Costs = $175.20
Surfacing - 3.29% by rock volume = $0.00

Subtotal: $175.20

Quarry Development:
Based on 3.29% of total rock volume

Subtotal: $0.00

Total: $17,588.99

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.11 Road Name:
Road Construction: 0.17 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation: 1,100 cy	$9,045.80
Haul: 4,620 sta-yds	
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$28,145.06
Quarry Name: B&B 3.0 CCYD 417 cy	
Quarry Name: B&B 3" LCYD 630 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.4 acres	$147.08
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. $375.66 Surf. $0.00	$375.66
Quarry Development:	$0.00
Total:	$37,713.60

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.11 Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Pile and Burn: $1149.48/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 1,100 cy = $1,892.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 9.0 sta = $169.92
  Compaction - Common: $0.76/cy x 0 cy = $0.00
  End Hauling - 100 to 500 ft: $0.14/sta-yd x 4,620 sta-yd = $646.80
  Blading: $11.43/station x 9.00 stations = $102.87
  TTO AND LZ DEVELOPMENT
   Excavator 235B (1.75 CY) Sta. 5+00 and 9+00
10 hr x $112.93/hr = $1,129.30
   Tractor: D6 with winch ROAD CONSTRUCTION
36 hr x $124.51/hr = $4,482.36
  0+00 to 1+30 Plateau develop
   Tractor: D6 with winch 5 hr x $124.51/hr = $622.55
Subtotal: $9,045.80

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 to 9+00 (10" lift)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.17mi	12.66ft								
		16ft 10in	5%						

  Rock Volume = 417cy
  Royalty: $12.63/cy x 417cy = $5,266.71
  Processing: $1.40/cy x 417cy = $583.80
  Compaction: $0.79/cy x 417cy = $329.43
  T11 Testing: $0.06/cy x 417cy = $25.02
  T27 Testing: $0.06/cy x 417cy = $25.02
  Basic Rock Haul cost: $0.93/cy x 417cy = $387.81
  Rock Haul -15% grades: $1.39/cy-mi x 417cy x 2.50 mi= $1,449.08
  Rock Haul St& Co Roads: $0.62/cy-mi x 417cy x 14.00 mi= $3,619.56
  Basic Water Haul cost: $0.61/cy x 417cy = $254.37
  Water Haul -15% grades: $0.13/cy-mi x 417cy x 1.00 mi= $54.21

3"-0 Quarry Name: B&B 3" LCYD
 Comment: TTO / LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									230cy

  Rock Volume = 230cy
  Royalty: $9.50/cy x 230cy = $2,185.00
  Processing: $1.40/cy x 230cy = $322.00
  Compaction: $0.79/cy x 230cy = $181.70
  T11 Testing: $0.06/cy x 230cy = $13.80
  T27 Testing: $0.06/cy x 230cy = $13.80
  Basic Rock Haul cost: $0.93/cy x 230cy = $213.90
  Rock Haul -15% grades: $1.39/cy-mi x 230cy x 2.50 mi= $799.25
  Rock Haul St& Co Roads: $0.62/cy-mi x 230cy x 14.00 mi= $1,996.40
  Basic Water Haul cost: $0.61/cy x 230cy = $140.30
  Water Haul -15% grades: $0.13/cy-mi x 230cy x 1.00 mi= $29.90

3"-0 Quarry Name: B&B 3" LCYD
Comment: 0+00 to 1+30 entrance 10" lift

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									400cy

Rock Volume = 400cy
Royalty: $9.50/cy x 400cy = $3,800.00
Processing: $1.40/cy x 400cy = $560.00
Compaction: $0.79/cy x 400cy = $316.00
T11 Testing: $0.06/cy x 400cy = $24.00
T27 Testing: $0.06/cy x 400cy = $24.00
Basic Rock Haul cost: $0.93/cy x 400cy = $372.00
Rock Haul -15% grades: $1.39/cy-mi x 400cy x 2.50 mi= $1,390.00
Rock Haul St& Co Roads: $0.62/cy-mi x 400cy x 14.00 mi= $3,472.00
Basic Water Haul cost: $0.61/cy x 400cy = $244.00
Water Haul -15% grades: $0.13/cy-mi x 400cy x 1.00 mi= $52.00

Subtotal: $28,145.06

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.40 acres = $147.08

Subtotal: $147.08

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 - 6.41% of total Costs = $375.66
Surfacing - 6.71% by rock volume = $0.00

Subtotal: $375.66

Quarry Development:
Based on 6.71% of total rock volume

Subtotal: $0.00

Total: $37,713.60

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.12 Road Name:
Road Renovation: 0.07 mi 12 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$1,322.20
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 40 lf	
500 Renovation:	$869.84
Blading 0.07 mi	
Surfacing:	$2,083.80
Quarry Name: B&B 1.5" LCYD 13 cy	
Quarry Name: B&B 3" LCYD 50 cy	
Quarry Name: B&BSR 1.5" LCYD 25 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$73.54
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.2 acres	$55.67
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $44.32 Surf. $0.00	$44.32
Quarry Development:	$0.00
Total:	$4,449.37

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.12 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:
  Poly Pipe 1+80 24 inch 40 ea x $32.93/ea = $1,317.20
  MISC CULVERT COSTS
   4' fiberglass inlet marker 1 ea x $5.00/ea = $5.00

Subtotal: $1,322.20

Section 500 Renovation:
  Blading: $519.72/mi x 0.07 mi = $36.38
  Pull Ditches: $140.38/mi x 0.07 mi = $9.83
  Compaction: $1329.15/mi x 0.07 mi = $93.04
  Clean Culverts: $270.05/mi x 0.07 mi = $18.90
  1+80 CULVERT EXCAVATION
   Excavator 235B (1.75 CY) 5 hr x $112.93/hr = $564.65
   Chainsaw 4 hr x $36.76/hr = $147.04

Subtotal: $869.84

1.5"-0 Quarry Name: B&B 1.5" LCYD
 Comment: 1+80 bedding

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									13cy

  Rock Volume = 13cy
  Royalty: $9.80/cy x 13cy = $127.40
  Processing: $1.40/cy x 13cy = $18.20
  Compaction: $0.79/cy x 13cy = $10.27
  T11 Testing: $0.06/cy x 13cy = $0.78
  T27 Testing: $0.06/cy x 13cy = $0.78
  Basic Rock Haul cost: $0.93/cy x 13cy = $12.09
  Rock Haul -15% grades: $1.39/cy-mi x 13cy x 1.00 mi= $18.07
  Rock Haul St& Co Roads: $0.62/cy-mi x 13cy x 14.00 mi= $112.84
  Basic Water Haul cost: $0.61/cy x 13cy = $7.93
  Water Haul -15% grades: $0.13/cy-mi x 13cy x 1.00 mi= $1.69

3"-0 Quarry Name: B&B 3" LCYD
 Comment: base repair 1+80

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

  Rock Volume = 50cy
  Royalty: $9.50/cy x 50cy = $475.00
  Processing: $1.40/cy x 50cy = $70.00
  Compaction: $0.79/cy x 50cy = $39.50
  T11 Testing: $0.06/cy x 50cy = $3.00
  T27 Testing: $0.06/cy x 50cy = $3.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 1.00 mi= $69.50
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
  Basic Water Haul cost: $0.61/cy x 50cy = $30.50
  Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: base repair 1+80

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									25cy

  Rock Volume = 25cy

Road Number: 28-9-17.12 Continued

Royalty: $9.80/cy x 25cy = $245.00
Processing: $1.40/cy x 25cy = $35.00
Compaction: $0.79/cy x 25cy = $19.75
T11 Testing: $0.06/cy x 25cy = $1.50
T27 Testing: $0.06/cy x 25cy = $1.50
Basic Rock Haul cost: $0.93/cy x 25cy = $23.25
Rock Haul -15% grades: $1.39/cy-mi x 25cy x 1.00 mi= $34.75
Rock Haul St& Co Roads: $0.62/cy-mi x 25cy x 14.00 mi= $217.00
Basic Water Haul cost: $0.61/cy x 25cy = $15.25
Water Haul -15% grades: $0.13/cy-mi x 25cy x 1.00 mi= $3.25

Subtotal: $2,083.80

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.20 acres = $73.54

Subtotal: $73.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 0.20 acres = $55.67

Subtotal: $55.67

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.76% of total Costs = $44.32
Surfacing - 0.56% by rock volume = $0.00

Subtotal: $44.32

Quarry Development:
Based on 0.56% of total rock volume

Subtotal: $0.00

Total: $4,449.37

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.3 Road Name:
Road Renovation: 0.31 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$700.38
Blading 0.31 mi	
Surfacing:	$5,905.05
Quarry Name: B&B 3" LCYD 200 cy	
Quarry Name: B&BSR 1.5" LCYD 30 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.4 acres	$147.08
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.8 acres	$222.67
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $70.18 Surf. $0.00	$70.18
Quarry Development:	$0.00
Total:	$7,045.37

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.3 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $519.72/mi x 0.31 mi = $161.11
  Pull Ditches: $140.38/mi x 0.31 mi = $43.52
  Compaction: $1329.15/mi x 0.31 mi = $412.04
  Clean Culverts: $270.05/mi x 0.31 mi = $83.72

Subtotal: $700.38

3"-0 Quarry Name: B&B 3" LCYD
 Comment: LZ Right 4+65 w/ approach

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									150cy

  Rock Volume = 150cy
  Royalty: $9.50/cy x 150cy = $1,425.00
  Processing: $1.40/cy x 150cy = $210.00
  Compaction: $0.79/cy x 150cy = $118.50
  T11 Testing: $0.06/cy x 150cy = $9.00
  T27 Testing: $0.06/cy x 150cy = $9.00
  Basic Rock Haul cost: $0.93/cy x 150cy = $139.50
  Rock Haul -15% grades: $1.39/cy-mi x 150cy x 2.50 mi= $521.25
  Rock Haul St& Co Roads: $0.62/cy-mi x 150cy x 14.00 mi= $1,302.00
  Basic Water Haul cost: $0.61/cy x 150cy = $91.50
  Water Haul -15% grades: $0.13/cy-mi x 150cy x 1.00 mi= $19.50

3"-0 Quarry Name: B&B 3" LCYD
 Comment: PURCHASER SELECT LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

  Rock Volume = 50cy
  Royalty: $9.50/cy x 50cy = $475.00
  Processing: $1.40/cy x 50cy = $70.00
  Compaction: $0.79/cy x 50cy = $39.50
  T11 Testing: $0.06/cy x 50cy = $3.00
  T27 Testing: $0.06/cy x 50cy = $3.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.50 mi= $173.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
  Basic Water Haul cost: $0.61/cy x 50cy = $30.50
  Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
 Comment: SPOT ROCK.

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30cy

  Rock Volume = 30cy
  Royalty: $9.80/cy x 30cy = $294.00
  Processing: $1.40/cy x 30cy = $42.00
  Compaction: $0.79/cy x 30cy = $23.70
  T11 Testing: $0.06/cy x 30cy = $1.80
  T27 Testing: $0.06/cy x 30cy = $1.80
  Basic Rock Haul cost: $0.93/cy x 30cy = $27.90

Road Number: 28-9-17.3 Continued

Rock Haul -15% grades: $1.39/cy-mi x 30cy x 2.50 mi= $104.25
Rock Haul St& Co Roads: $0.62/cy-mi x 30cy x 14.00 mi= $260.40
Basic Water Haul cost: $0.61/cy x 30cy = $18.30
Water Haul -15% grades: $0.13/cy-mi x 30cy x 1.00 mi= $3.90

Subtotal: $5,905.05

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.40 acres = $147.08

Subtotal: $147.08

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 0.80 acres = $222.67

Subtotal: $222.67

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.20% of total Costs = $70.18
Surfacing - 1.47% by rock volume = $0.00

Subtotal: $70.18

Quarry Development:
Based on 1.47% of total rock volume

Subtotal: $0.00

Total: $7,045.37

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.4 Road Name:
Road Improvement: 0.27 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation: 410 cy	$879.50
Haul: 1,245 sta-yds	
400 Drainage:	$958.10
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 10 lf	
PolyPipe: 30 lf	
500 Renovation:	$3,372.45
Blading 0.27 mi	
Surfacing:	$28,234.01
Quarry Name: B&B 1.5 CCYD 224 cy	
Quarry Name: B&B 3.0 CCYD 518 cy	
Quarry Name: B&B 1.5" LCYD 8 cy	
Quarry Name: B&B 3" LCYD 240 cy	
Quarry Name: B&BSR 1.5" LCYD 17 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.7 acres	$257.40
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.7 acres	$389.68
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $342.99 Surf. $0.00	$342.99
Quarry Development:	$0.00
Total:	$34,434.12

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.4 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:
- Excavation - Common: $1.72/cy x 410 cy = $705.20
- Subgrade Compaction: 4 Sta/hr $18.88/sta. x 0.0 sta = $0.00
- Compaction - Common: $0.76/cy x 0 cy = $0.00
- End Hauling - 100 to 500 ft: $0.14/sta-yd x 1,245 sta-yd = $174.30
- Blading: $11.43/station x 0.00 stations = $0.00

Subtotal: $879.50

Section 400 Drainage:
- Full Round 3+24 18 inch 10 ea x $20.65/ea = $206.50
- Poly Pipe 3+24 18 inch 30 ea x $24.22/ea = $726.60
- MISC CULVERT COSTS
  - 4' Fiberglass inlet marker 1 ea x $5.00/ea = $5.00
  - 6' Steel fence posts 2 pair x $10.00/pair = $20.00

Subtotal: $958.10

Section 500 Renovation:
- Blading: $519.72/mi x 0.27 mi = $140.32
- Scarification: $866.20/mi x 0.26 mi = $225.21
- Pull Ditches: $140.38/mi x 0.06 mi = $8.42
- Compaction: $1329.15/mi x 0.27 mi = $358.87
- Clean Culverts: $270.05/mi x 0.06 mi = $16.20
- TTO / TTA / LZ
  - Excavator 235B (1.75 CY) 5+00, 12+00, 14+00
    10 hr x $112.93/hr = $1,129.30
- ROAD WIDTH GRADING
  - Tractor: D6 with winch 12 hr x $124.51/hr = $1,494.12

Subtotal: $3,372.45

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: 0+35 to 14+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.26mi	12ft	13.33ft	4in	5%					

- Rock Volume = 224cy
- Royalty: $13.03/cy x 224cy = $2,918.72
- Processing: $1.40/cy x 224cy = $313.60
- Compaction: $0.79/cy x 224cy = $176.96
- T11 Testing: $0.06/cy x 224cy = $13.44
- T27 Testing: $0.06/cy x 224cy = $13.44
- Basic Rock Haul cost: $0.93/cy x 224cy = $208.32
- Rock Haul -15% grades: $1.39/cy-mi x 224cy x 2.50 mi= $778.40
- Rock Haul St& Co Roads: $0.62/cy-mi x 224cy x 14.00 mi= $1,944.32
- Basic Water Haul cost: $0.61/cy x 224cy = $136.64
- Water Haul -15% grades: $0.13/cy-mi x 224cy x 1.00 mi= $29.12

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 0+35 to 14+00 base

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.26mi	13.33ft	16ft 8in		5%					

- Rock Volume = 518cy
- Royalty: $12.63/cy x 518cy = $6,542.34
- Processing: $1.40/cy x 518cy = $725.20
- Compaction: $0.79/cy x 518cy = $409.22
- T11 Testing: $0.06/cy x 518cy = $31.08
- T27 Testing: $0.06/cy x 518cy = $31.08

Basic Rock Haul cost: $0.93/cy x 518cy = $481.74
Rock Haul -15% grades: $1.39/cy-mi x 518cy x 2.50 mi= $1,800.05
Rock Haul St& Co Roads: $0.62/cy-mi x 518cy x 14.00 mi= $4,496.24
Basic Water Haul cost: $0.61/cy x 518cy = $315.98
Water Haul -15% grades: $0.13/cy-mi x 518cy x 1.00 mi= $67.34

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: 3+24

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									8cy

Rock Volume = 8cy
Royalty: $9.80/cy x 8cy = $78.40
Processing: $1.40/cy x 8cy = $11.20
Compaction: $0.79/cy x 8cy = $6.32
T11 Testing: $0.06/cy x 8cy = $0.48
T27 Testing: $0.06/cy x 8cy = $0.48
Basic Rock Haul cost: $0.93/cy x 8cy = $7.44
Rock Haul -15% grades: $1.39/cy-mi x 8cy x 2.50 mi= $27.80
Rock Haul St& Co Roads: $0.62/cy-mi x 8cy x 14.00 mi= $69.44
Basic Water Haul cost: $0.61/cy x 8cy = $4.88
Water Haul -15% grades: $0.13/cy-mi x 8cy x 1.00 mi= $1.04

3"-0 Quarry Name: B&B 3" LCYD
Comment: TTA/TTO 5+00, 12+00, 12+70, LZ 14+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									240cy

Rock Volume = 240cy
Royalty: $9.50/cy x 240cy = $2,280.00
Processing: $1.40/cy x 240cy = $336.00
Compaction: $0.79/cy x 240cy = $189.60
T11 Testing: $0.06/cy x 240cy = $14.40
T27 Testing: $0.06/cy x 240cy = $14.40
Basic Rock Haul cost: $0.93/cy x 240cy = $223.20
Rock Haul -15% grades: $1.39/cy-mi x 240cy x 2.50 mi= $834.00
Rock Haul St& Co Roads: $0.62/cy-mi x 240cy x 14.00 mi= $2,083.20
Basic Water Haul cost: $0.61/cy x 240cy = $146.40
Water Haul -15% grades: $0.13/cy-mi x 240cy x 1.00 mi= $31.20

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: 3+24 trench culvert cover

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									17cy

Rock Volume = 17cy
Royalty: $9.80/cy x 17cy = $166.60
Processing: $1.40/cy x 17cy = $23.80
Compaction: $0.79/cy x 17cy = $13.43
T11 Testing: $0.06/cy x 17cy = $1.02
T27 Testing: $0.06/cy x 17cy = $1.02
Basic Rock Haul cost: $0.93/cy x 17cy = $15.81
Rock Haul -15% grades: $1.39/cy-mi x 17cy x 2.50 mi= $59.08
Rock Haul St& Co Roads: $0.62/cy-mi x 17cy x 14.00 mi= $147.56
Basic Water Haul cost: $0.61/cy x 17cy = $10.37
Water Haul -15% grades: $0.13/cy-mi x 17cy x 1.00 mi= $2.21

Subtotal: $28,234.01

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.70 acres = $257.40

Subtotal: $257.40

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
RoadSide Brushing Medium: $556.68/acre x 0.70 acres = $389.68

Subtotal: $389.68

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 5.85% of total Costs = $342.99
Surfacing - 6.45% by rock volume = $0.00

Subtotal: $342.99

Quarry Development:
Based on 6.45% of total rock volume

Subtotal: $0.00

Total: $34,434.12

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.5 Road Name:
Road Renovation: 0.20 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$1,189.75
Blading 0.20 mi	
Surfacing:	$21,876.97
Quarry Name: B&B 1.5 CCYD 172 cy	
Quarry Name: B&B 3.0 CCYD 399 cy	
Quarry Name: B&B 3" LCYD 210 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.5 acres	$183.86
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.5 acres	$556.68
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $239.53 Surf. $0.00	$239.53
Quarry Development:	$0.00
Total:	$24,046.78

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.5 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: $519.72/mi x 0.20 mi = $103.94
  Scarification: $866.20/mi x 0.20 mi = $173.24
  Pull Ditches: $140.38/mi x 0.20 mi = $28.08
  Compaction: $1329.15/mi x 0.20 mi = $265.83
  Clean Culverts: $270.05/mi x 0.20 mi = $54.01
  LZ DEV / TTA / TTO
   Excavator 235B (1.75 CY) 5 hr x $112.93/hr = $564.65

Subtotal: $1,189.75

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 0+00 TO 10+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.20mi	12ft	13.33ft	4in	5%					

  Rock Volume = 172cy
  Royalty: $13.03/cy x 172cy = $2,241.16
  Processing: $1.40/cy x 172cy = $240.80
  Compaction: $0.79/cy x 172cy = $135.88
  T11 Testing: $0.06/cy x 172cy = $10.32
  T27 Testing: $0.06/cy x 172cy = $10.32
  Basic Rock Haul cost: $0.93/cy x 172cy = $159.96
  Rock Haul -15% grades: $1.39/cy-mi x 172cy x 2.50 mi= $597.70
  Rock Haul St& Co Roads: $0.62/cy-mi x 172cy x 14.00 mi= $1,492.96
  Basic Water Haul cost: $0.61/cy x 172cy = $104.92
  Water Haul -15% grades: $0.13/cy-mi x 172cy x 1.00 mi= $22.36

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 TO 10+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.20mi	13.33ft	16ft 8in	5%						

  Rock Volume = 399cy
  Royalty: $12.63/cy x 399cy = $5,039.37
  Processing: $1.40/cy x 399cy = $558.60
  Compaction: $0.79/cy x 399cy = $315.21
  T11 Testing: $0.06/cy x 399cy = $23.94
  T27 Testing: $0.06/cy x 399cy = $23.94
  Basic Rock Haul cost: $0.93/cy x 399cy = $371.07
  Rock Haul -15% grades: $1.39/cy-mi x 399cy x 2.50 mi= $1,386.53
  Rock Haul St& Co Roads: $0.62/cy-mi x 399cy x 14.00 mi= $3,463.32
  Basic Water Haul cost: $0.61/cy x 399cy = $243.39
  Water Haul -15% grades: $0.13/cy-mi x 399cy x 1.00 mi= $51.87

3"-0 Quarry Name: B&B 3" LCYD
 Comment: TTO 1+80, TTA 7+25, LZ 10+50

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

  Rock Volume = 210cy
  Royalty: $9.50/cy x 210cy = $1,995.00
  Processing: $1.40/cy x 210cy = $294.00
  Compaction: $0.79/cy x 210cy = $165.90

T11 Testing: $0.06/cy x 210cy = $12.60
T27 Testing: $0.06/cy x 210cy = $12.60
Basic Rock Haul cost: $0.93/cy x 210cy = $195.30
Rock Haul -15% grades: $1.39/cy-mi x 210cy x 2.50 mi= $729.75
Rock Haul St& Co Roads: $0.62/cy-mi x 210cy x 14.00 mi= $1,822.80
Basic Water Haul cost: $0.61/cy x 210cy = $128.10
Water Haul -15% grades: $0.13/cy-mi x 210cy x 1.00 mi= $27.30

Subtotal: $21,876.97

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.50 acres = $183.86

Subtotal: $183.86

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
RoadSide Brushing Heavy: $1113.36/acre x 0.50 acres = $556.68

Subtotal: $556.68

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 - 4.08% of total Costs = $239.53
Surfacing - 5.00% by rock volume = $0.00

Subtotal: $239.53

Quarry Development:
Based on 5.00% of total rock volume

Subtotal: $0.00

Total: $24,046.78

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.6 Road Name:
Road Construction: 0.19 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$1,892.20
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation: 3,080 cy	$9,500.97
Haul: 57,658 sta-yds	
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$22,671.45
Quarry Name: B&B 1.5 CCYD 170 cy	
Quarry Name: B&B 3.0 CCYD 393 cy	
Quarry Name: B&B 3" LCYD 250 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.5 acres	$183.86
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. $344.58 Surf. $0.00	$344.58
Quarry Development:	$0.00
Total:	$34,593.05

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.6 Road Name:

Section 200 Clearing and Grubbing:
  Clearing and Grubbing
   Excavator 225 (1.5 CY) 20 hr x $94.61/hr = $1,892.20
                                                    Subtotal: $1,892.20

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 3,080 cy = $5,297.60
  Layer Embankment - Common: $0.24/cy x 250 cy = $60.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 9.9 sta = $185.97
  Compaction - Common: $0.76/cy x 250 cy = $190.00
  End Hauling > 500 ft and 10 mph: $3.45/yd-mi x 1,092 yd-mi = $3,767.40
                                                    Subtotal: $9,500.97

Section 400 Drainage:
                                                    Subtotal: $0.00

Section 500 Renovation:
                                                    Subtotal: $0.00

1.5" -0   Quarry Name: B&B 1.5 CCYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.19mi	12ft	13.33ft							
			4in	5%	1	10ft	50ft	25ft	

  Rock Volume = 170cy
  Royalty: $13.03/cy x 170cy = $2,215.10
  Processing: $1.40/cy x 170cy = $238.00
  Compaction: $0.79/cy x 170cy = $134.30
  T11 Testing: $0.06/cy x 170cy = $10.20
  T27 Testing: $0.06/cy x 170cy = $10.20
  Basic Rock Haul cost: $0.93/cy x 170cy = $158.10
  Rock Haul -15% grades: $1.39/cy-mi x 170cy x 2.50 mi= $590.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 170cy x 14.00 mi= $1,475.60
  Basic Water Haul cost: $0.61/cy x 170cy = $103.70
  Water Haul -15% grades: $0.13/cy-mi x 170cy x 1.00 mi= $22.10

3"-0   Quarry Name: B&B 3.0 CCYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.19mi	13.33ft								
		16ft 8in	5%		1	10ft	50ft	25ft	

  Rock Volume = 393cy
  Royalty: $12.63/cy x 393cy = $4,963.59
  Processing: $1.40/cy x 393cy = $550.20
  Compaction: $0.79/cy x 393cy = $310.47
  T11 Testing: $0.06/cy x 393cy = $23.58
  T27 Testing: $0.06/cy x 393cy = $23.58
  Basic Rock Haul cost: $0.93/cy x 393cy = $365.49
  Rock Haul -15% grades: $1.39/cy-mi x 393cy x 2.50 mi= $1,365.68
  Rock Haul St& Co Roads: $0.62/cy-mi x 393cy x 14.00 mi= $3,411.24
  Basic Water Haul cost: $0.61/cy x 393cy = $239.73
  Water Haul -15% grades: $0.13/cy-mi x 393cy x 1.00 mi= $51.09

3"-0   Quarry Name: B&B 3" LCYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									250cy

  Rock Volume = 250cy
  Royalty: $9.50/cy x 250cy = $2,375.00
  Processing: $1.40/cy x 250cy = $350.00
  Compaction: $0.79/cy x 250cy = $197.50
  T11 Testing: $0.06/cy x 250cy = $15.00
  T27 Testing: $0.06/cy x 250cy = $15.00
  Basic Rock Haul cost: $0.93/cy x 250cy = $232.50

Road Number: 28-9-17.6 Continued

Rock Haul -15% grades: $1.39/cy-mi x 250cy x 2.50 mi= $868.75
Rock Haul St& Co Roads: $0.62/cy-mi x 250cy x 14.00 mi= $2,170.00
Basic Water Haul cost: $0.61/cy x 250cy = $152.50
Water Haul -15% grades: $0.13/cy-mi x 250cy x 1.00 mi= $32.50

Subtotal: $22,671.45

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.50 acres = $183.86

Subtotal: $183.86

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 - 5.88% of total Costs = $344.58
Surfacing - 5.21% by rock volume = $0.00

Subtotal: $344.58

Quarry Development:
Based on 5.21% of total rock volume

Subtotal: $0.00

Total: $34,593.05

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.7 Road Name:
Road Construction: 0.13 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$6,359.64
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$15,222.53
Quarry Name: B&B 1.5 CCYD 116 cy	
Quarry Name: B&B 3.0 CCYD 269 cy	
Quarry Name: B&B 3" LCYD 160 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.5 acres	$183.86
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. $218.99 Surf. $0.00	$218.99
Quarry Development:	$0.00
Total:	$21,985.01

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.7 Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Pile and Burn: $1149.48/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 0 cy = $0.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 7.1 sta = $134.05
  Compaction - Common: $0.76/cy x 0 cy = $0.00
  End Hauling - 100 to 500 ft: $0.14/sta-yd x 0 sta-yd = $0.00
  Blading: $11.43/station x 7.10 stations = $81.15
  TTO and LZ DEVELOPMENT
   Tractor: D6 with winch ROAD CONSTRUCTION
43 hr x $124.51/hr = $5,353.93
   Excavator 235B (1.75 CY) Sta. 5+00 adn 7+10
7 hr x $112.93/hr = $790.51
Subtotal: $6,359.64

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

1.5" -0 Quarry Name: B&B 1.5 CCYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.13mi	12ft	13.33ft							
			4in	5%	0	0ft	0ft	0ft	

  Rock Volume = 116cy
  Royalty: $13.03/cy x 116cy = $1,511.48
  Processing: $1.40/cy x 116cy = $162.40
  Compaction: $0.79/cy x 116cy = $91.64
  T11 Testing: $0.06/cy x 116cy = $6.96
  T27 Testing: $0.06/cy x 116cy = $6.96
  Basic Rock Haul cost: $0.93/cy x 116cy = $107.88
  Rock Haul -15% grades: $1.39/cy-mi x 116cy x 2.50 mi= $403.10
  Rock Haul St& Co Roads: $0.62/cy-mi x 116cy x 14.00 mi= $1,006.88
  Basic Water Haul cost: $0.61/cy x 116cy = $70.76
  Water Haul -15% grades: $0.13/cy-mi x 116cy x 1.00 mi= $15.08

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 to 7+10

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.13mi	13.33ft								
		16ft 8in	5%						

  Rock Volume = 269cy
  Royalty: $12.63/cy x 269cy = $3,397.47
  Processing: $1.40/cy x 269cy = $376.60
  Compaction: $0.79/cy x 269cy = $212.51
  T11 Testing: $0.06/cy x 269cy = $16.14
  T27 Testing: $0.06/cy x 269cy = $16.14
  Basic Rock Haul cost: $0.93/cy x 269cy = $250.17
  Rock Haul -15% grades: $1.39/cy-mi x 269cy x 2.50 mi= $934.78
  Rock Haul St& Co Roads: $0.62/cy-mi x 269cy x 14.00 mi= $2,334.92
  Basic Water Haul cost: $0.61/cy x 269cy = $164.09
  Water Haul -15% grades: $0.13/cy-mi x 269cy x 1.00 mi= $34.97

3"-0 Quarry Name: B&B 3" LCYD
 Comment: TTO 5+00 and LZ 7+10

Road Number: 28-9-17.7 Continued

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									160cy

Rock Volume = 160cy
Royalty: $9.50/cy x 160cy = $1,520.00
Processing: $1.40/cy x 160cy = $224.00
Compaction: $0.79/cy x 160cy = $126.40
T11 Testing: $0.06/cy x 160cy = $9.60
T27 Testing: $0.06/cy x 160cy = $9.60
Basic Rock Haul cost: $0.93/cy x 160cy = $148.80
Rock Haul -15% grades: $1.39/cy-mi x 160cy x 2.50 mi= $556.00
Rock Haul St& Co Roads: $0.62/cy-mi x 160cy x 14.00 mi= $1,388.80
Basic Water Haul cost: $0.61/cy x 160cy = $97.60
Water Haul -15% grades: $0.13/cy-mi x 160cy x 1.00 mi= $20.80

Subtotal: $15,222.53

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.50 acres = $183.86

Subtotal: $183.86

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 3.73% of total Costs = $218.99
Surfacing - 3.49% by rock volume = $0.00

Subtotal: $218.99

Quarry Development:
Based on 3.49% of total rock volume

Subtotal: $0.00

Total: $21,985.01

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.8 Road Name:
Road Construction: 0.17 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation: 1,100 cy	$9,798.10
Haul: 1,100 sta-yds	
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$16,741.73
Quarry Name: B&B 1.5 CCYD 147 cy	
Quarry Name: B&B 3.0 CCYD 228 cy	
Quarry Name: B&B 3" LCYD 230 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 1.0 acres	$367.71
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. $270.72 Surf. $0.00	$270.72
Quarry Development:	$0.00
Total:	$27,178.25

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.8 Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Pile and Burn: $1149.48/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 1,100 cy = $1,892.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 9.0 sta = $169.92
  Compaction - Common: $0.76/cy x 0 cy = $0.00
  End Hauling - 100 to 500 ft: $0.14/sta-yd x 1,100 sta-yd = $154.00
  Blading: $11.43/station x 9.00 stations = $102.87
  LZ DEVELOPMENT
   Tractor: D6 with winch ROAD CONSTRUCTION
51 hr x $124.51/hr = $6,350.01
   Excavator 235B (1.75 CY) Sta. 2+50 and 9+00
10 hr x $112.93/hr = $1,129.30
Subtotal: $9,798.10

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 0+00 to 9+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.17mi	12ft	13.33ft	4in	5%					

  Rock Volume = 147cy
  Royalty: $13.03/cy x 147cy = $1,915.41
  Processing: $1.40/cy x 147cy = $205.80
  Compaction: $0.79/cy x 147cy = $116.13
  T11 Testing: $0.06/cy x 147cy = $8.82
  T27 Testing: $0.06/cy x 147cy = $8.82
  Basic Rock Haul cost: $0.93/cy x 147cy = $136.71
  Rock Haul -15% grades: $1.39/cy-mi x 147cy x 2.50 mi= $510.83
  Rock Haul St& Co Roads: $0.62/cy-mi x 147cy x 14.00 mi= $1,275.96
  Basic Water Haul cost: $0.61/cy x 147cy = $89.67
  Water Haul -15% grades: $0.13/cy-mi x 147cy x 1.00 mi= $19.11

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 to 9+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.11mi	13.33ft	16ft 8in	5%						

  Rock Volume = 228cy
  Royalty: $12.63/cy x 228cy = $2,879.64
  Processing: $1.40/cy x 228cy = $319.20
  Compaction: $0.79/cy x 228cy = $180.12
  T11 Testing: $0.06/cy x 228cy = $13.68
  T27 Testing: $0.06/cy x 228cy = $13.68
  Basic Rock Haul cost: $0.93/cy x 228cy = $212.04
  Rock Haul -15% grades: $1.39/cy-mi x 228cy x 2.50 mi= $792.30
  Rock Haul St& Co Roads: $0.62/cy-mi x 228cy x 14.00 mi= $1,979.04
  Basic Water Haul cost: $0.61/cy x 228cy = $139.08
  Water Haul -15% grades: $0.13/cy-mi x 228cy x 1.00 mi= $29.64

3"-0 Quarry Name: B&B 3" LCYD

Road Number: 28-9-17.8 Continued

Comment: LZ 2+50 AND END LZ 9+00 (120' CONTINIOUS LANDING)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									230cy

Rock Volume = 230cy
Royalty: $9.50/cy x 230cy = $2,185.00
Processing: $1.40/cy x 230cy = $322.00
Compaction: $0.79/cy x 230cy = $181.70
T11 Testing: $0.06/cy x 230cy = $13.80
T27 Testing: $0.06/cy x 230cy = $13.80
Basic Rock Haul cost: $0.93/cy x 230cy = $213.90
Rock Haul -15% grades: $1.39/cy-mi x 230cy x 2.50 mi= $799.25
Rock Haul St& Co Roads: $0.62/cy-mi x 230cy x 14.00 mi= $1,996.40
Basic Water Haul cost: $0.61/cy x 230cy = $140.30
Water Haul -15% grades: $0.13/cy-mi x 230cy x 1.00 mi= $29.90

Subtotal: $16,741.73

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 1.00 acres = $367.71

Subtotal: $367.71

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 - 4.62% of total Costs = $270.72
Surfacing - 3.88% by rock volume = $0.00

Subtotal: $270.72

Quarry Development:
Based on 3.88% of total rock volume

Subtotal: $0.00

Total: $27,178.25

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.9 Road Name:
Road Improvement: 0.10 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$297.82
Blading 0.10 mi	
Surfacing:	$3,848.27
Quarry Name: B&B 1.5 CCYD 88 cy	
Quarry Name: B&B 3" LCYD 50 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.2 acres	$55.67
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $42.64 Surf. $0.00	$42.64
Quarry Development:	$0.00
Total:	$4,281.17

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.9 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: $519.72/mi x 0.10 mi = $51.97
  Pull Ditches: $140.38/mi x 0.00 mi = $0.00
  Compaction: $1329.15/mi x 0.10 mi = $132.92
  LZ DEV
   Excavator 235B (1.75 CY) 1 hr x $112.93/hr = $112.93

Subtotal: $297.82

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 0+00 TO 5+40

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.10mi	12ft	13.33ft	4in	5%					

  Rock Volume = 88cy
  Royalty: $13.03/cy x 88cy = $1,146.64
  Processing: $1.40/cy x 88cy = $123.20
  Compaction: $0.79/cy x 88cy = $69.52
  T11 Testing: $0.06/cy x 88cy = $5.28
  T27 Testing: $0.06/cy x 88cy = $5.28
  Basic Rock Haul cost: $0.93/cy x 88cy = $81.84
  Rock Haul -15% grades: $1.39/cy-mi x 88cy x 2.50 mi= $305.80
  Rock Haul St& Co Roads: $0.62/cy-mi x 88cy x 14.00 mi= $763.84
  Basic Water Haul cost: $0.61/cy x 88cy = $53.68
  Water Haul -15% grades: $0.13/cy-mi x 88cy x 1.00 mi= $11.44

3"-0 Quarry Name: B&B 3" LCYD
 Comment: 3+15 LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

  Rock Volume = 50cy
  Royalty: $9.50/cy x 50cy = $475.00
  Processing: $1.40/cy x 50cy = $70.00
  Compaction: $0.79/cy x 50cy = $39.50
  T11 Testing: $0.06/cy x 50cy = $3.00
  T27 Testing: $0.06/cy x 50cy = $3.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.50 mi= $173.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
  Basic Water Haul cost: $0.61/cy x 50cy = $30.50
  Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

Subtotal: $3,848.27

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 0.20 acres = $55.67

Subtotal: $55.67

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 0.73% of total Costs = $42.64
Surfacing - 0.88% by rock volume = $0.00

Subtotal: $42.64

Quarry Development:
Based on 0.88% of total rock volume

Subtotal: $0.00

Total: $4,281.17

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-17.9 ext Road Name:
Road Construction: 0.06 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$2,164.31
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$7,899.96
Quarry Name: B&B 1.5 CCYD 50 cy	
Quarry Name: B&B 3.0 CCYD 117 cy	
Quarry Name: B&B 3" LCYD 120 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
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. $101.63 Surf. $0.00	$101.63
Quarry Development:	$0.00
Total:	$10,202.66

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-17.9 ext Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Pile and Burn: $1149.48/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 0 cy = $0.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 3.1 sta = $58.53
  Compaction - Common: $0.76/cy x 0 cy = $0.00
  End Hauling - 100 to 500 ft: $0.14/sta-yd x 0 sta-yd = $0.00
  Blading: $11.43/station x 3.10 stations = $35.43
  LZ AND LANDING DEV
   Tractor: D6 with winch ROAD CONSTRUCTION
13 hr x $124.51/hr = $1,618.63
   Excavator 235B (1.75 CY) 4 hr x $112.93/hr = $451.72
Subtotal: $2,164.31

Section 400 Drainage:
Subtotal: $0.00

Section 500 Renovation:
Subtotal: $0.00

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: 0+00 TO 3+10

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.06mi	12ft	13.33ft	4in	5%					

  Rock Volume = 50cy
  Royalty: $13.03/cy x 50cy = $651.50
  Processing: $1.40/cy x 50cy = $70.00
  Compaction: $0.79/cy x 50cy = $39.50
  T11 Testing: $0.06/cy x 50cy = $3.00
  T27 Testing: $0.06/cy x 50cy = $3.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.50 mi= $173.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
  Basic Water Haul cost: $0.61/cy x 50cy = $30.50
  Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

3"-0 Quarry Name: B&B 3.0 CCYD
 Comment: 0+00 TO 3+10

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.06mi	13.33ft	16ft 8in	5%						

  Rock Volume = 117cy
  Royalty: $12.63/cy x 117cy = $1,477.71
  Processing: $1.40/cy x 117cy = $163.80
  Compaction: $0.79/cy x 117cy = $92.43
  T11 Testing: $0.06/cy x 117cy = $7.02
  T27 Testing: $0.06/cy x 117cy = $7.02
  Basic Rock Haul cost: $0.93/cy x 117cy = $108.81
  Rock Haul -15% grades: $1.39/cy-mi x 117cy x 2.50 mi= $406.58
  Rock Haul St& Co Roads: $0.62/cy-mi x 117cy x 14.00 mi= $1,015.56
  Basic Water Haul cost: $0.61/cy x 117cy = $71.37
  Water Haul -15% grades: $0.13/cy-mi x 117cy x 1.00 mi= $15.21

3"-0 Quarry Name: B&B 3" LCYD
 Comment: TTA Sta. 2+50, LZ 3+10

Road Number: 28-9-17.9 ext Continued

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									120cy

Rock Volume = 120cy
Royalty: $9.50/cy x 120cy = $1,140.00
Processing: $1.40/cy x 120cy = $168.00
Compaction: $0.79/cy x 120cy = $94.80
T11 Testing: $0.06/cy x 120cy = $7.20
T27 Testing: $0.06/cy x 120cy = $7.20
Basic Rock Haul cost: $0.93/cy x 120cy = $111.60
Rock Haul -15% grades: $1.39/cy-mi x 120cy x 2.50 mi= $417.00
Rock Haul St& Co Roads: $0.62/cy-mi x 120cy x 14.00 mi= $1,041.60
Basic Water Haul cost: $0.61/cy x 120cy = $73.20
Water Haul -15% grades: $0.13/cy-mi x 120cy x 1.00 mi= $15.60

Subtotal: $7,899.96

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
Construction - 1.73% of total Costs = $101.63
Surfacing - 1.84% by rock volume = $0.00

Subtotal: $101.63

Quarry Development:
Based on 1.84% of total rock volume

Subtotal: $0.00

Total: $10,202.66

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-18.2 Road Name:
Road Renovation: 0.22 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$3,720.97
Blading 0.22 mi	
Surfacing:	$4,649.08
Quarry Name: B&B 1.5 CCYD 114 cy	
Quarry Name: B&B 3.0 CCYD 50 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.5 acres	$183.86
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.5 acres	$139.17
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $87.46 Surf. $0.00	$87.46
Quarry Development:	$0.00
Total:	$8,780.54

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-18.2 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $519.72/mi x 0.22 mi = $114.34
Pull Ditches: $140.38/mi x 22.00 mi = $3,088.36
Compaction: $1329.15/mi x 0.22 mi = $292.41
LZ 7+00 DEV
Excavator 235B (1.75 CY) 2 hr x $112.93/hr = $225.86

Subtotal: $3,720.97

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: 0+00 to 7+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.13mi	12ft	13.33ft	4in	5%					

Rock Volume = 114cy
Royalty: $13.03/cy x 114cy = $1,485.42
Processing: $1.40/cy x 114cy = $159.60
Compaction: $0.79/cy x 114cy = $90.06
T11 Testing: $0.06/cy x 114cy = $6.84
T27 Testing: $0.06/cy x 114cy = $6.84
Basic Rock Haul cost: $0.93/cy x 114cy = $106.02
Rock Haul -15% grades: $1.39/cy-mi x 114cy x 2.00 mi= $316.92
Rock Haul St& Co Roads: $0.62/cy-mi x 114cy x 14.00 mi= $989.52
Basic Water Haul cost: $0.61/cy x 114cy = $69.54
Water Haul -15% grades: $0.13/cy-mi x 114cy x 1.00 mi= $14.82

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: LZ 7+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

Rock Volume = 50cy
Royalty: $12.63/cy x 50cy = $631.50
Processing: $1.40/cy x 50cy = $70.00
Compaction: $0.79/cy x 50cy = $39.50
T11 Testing: $0.06/cy x 50cy = $3.00
T27 Testing: $0.06/cy x 50cy = $3.00
Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.00 mi= $139.00
Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
Basic Water Haul cost: $0.61/cy x 50cy = $30.50
Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

Subtotal: $4,649.08

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.50 acres = $183.86

Subtotal: $183.86

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 0.50 acres = $139.17

Subtotal: $139.17

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 - 1.49% of total Costs = $87.46
Surfacing - 1.05% by rock volume = $0.00

Subtotal: $87.46

Quarry Development:
Based on 1.05% of total rock volume

Subtotal: $0.00

Total: $8,780.54

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.1 A Road Name: Old Camas Creek Road
Road Renovation: 0.66 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$6,583.20
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 70 lf	
PolyPipe: 135 lf	
500 Renovation:	$1,491.14
Blading 0.66 mi	
Surfacing:	$20,956.70
Quarry Name: B&B 1.5 CCYD 417 cy	
Quarry Name: B&B 3.0 CCYD 223 cy	
Quarry Name: B&B 1.5" LCYD 40 cy	
Quarry Name: B&BSR 1.5" LCYD 70 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.8 acres	$294.17
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 1.6 acres	$445.34
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$4,500.00
Mobilization: Const. $344.80 Surf. $0.00	$344.80
Quarry Development:	$0.00
Total:	$34,615.35

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.1 A Road Name: Old Camas Creek Road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Full Round 14+50	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 18+50	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 21+75	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 8+70	18 inch 10 ea x $20.65/ea =	$206.50
Poly Pipe 14+50	24 inch 30 ea x $32.93/ea =	$987.90
Poly Pipe 18+50	24 inch 35 ea x $32.93/ea =	$1,152.55
Poly Pipe 21+75	24 inch 35 ea x $32.93/ea =	$1,152.55
Poly Pipe 8+70	18 inch 35 ea x $24.22/ea =	$847.70

MISC PIPE COSTS

6' steel fence posts 11 pair x $10.00/pair = $110.00

4' Fiberglass inlet markers 5 ea x $5.00/ea = $25.00

Disposal fee for old CMP culverts 4 ea x $100.00/ea = $400.00

Subtotal: $6,583.20

Section 500 Renovation:

Blading: $519.72/mi x 0.66 mi = $343.02

Pull Ditches: $140.38/mi x 0.66 mi = $92.65

Compaction: $1329.15/mi x 0.66 mi = $877.24

Clean Culverts: $270.05/mi x 0.66 mi = $178.23

Subtotal: $1,491.14

1.5" -0 Quarry Name: B&B 1.5 CCYD

Comment: 30 cuyd for sta 17+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.47mi	12ft	13.33ft							
			4in	0%					30cy

Rock Volume = 417cy

Royalty: $13.03/cy x 417cy = $5,433.51

Processing: $1.40/cy x 417cy = $583.80

Compaction: $0.79/cy x 417cy = $329.43

T11 Testing: $0.06/cy x 417cy = $25.02

T27 Testing: $0.06/cy x 417cy = $25.02

Basic Rock Haul cost: $0.93/cy x 417cy = $387.81

Rock Haul -15% grades: $1.39/cy-mi x 417cy x 1.00 mi= $579.63

Rock Haul St& Co Roads: $0.62/cy-mi x 417cy x 14.00 mi= $3,619.56

Basic Water Haul cost: $0.61/cy x 417cy = $254.37

Water Haul -15% grades: $0.13/cy-mi x 417cy x 1.00 mi= $54.21

3"-0 Quarry Name: B&B 3.0 CCYD

Comment: Sta. 17+00 curve widening

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

Rock Volume = 50cy

Royalty: $12.63/cy x 50cy = $631.50

Processing: $1.40/cy x 50cy = $70.00

Compaction: $0.79/cy x 50cy = $39.50

T11 Testing: $0.06/cy x 50cy = $3.00

T27 Testing: $0.06/cy x 50cy = $3.00

Basic Rock Haul cost: $0.93/cy x 50cy = $46.50

Rock Haul -15% grades: $1.39/cy-mi x 50cy x 1.00 mi= $69.50

Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00

Basic Water Haul cost: $0.61/cy x 50cy = $30.50

Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: TTO 21+00, 23+00, 29+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									150cy

Rock Volume = 150cy
Royalty: $12.63/cy x 150cy = $1,894.50
Processing: $1.40/cy x 150cy = $210.00
Compaction: $0.79/cy x 150cy = $118.50
T11 Testing: $0.06/cy x 150cy = $9.00
T27 Testing: $0.06/cy x 150cy = $9.00
Basic Rock Haul cost: $0.93/cy x 150cy = $139.50
Rock Haul -15% grades: $1.39/cy-mi x 150cy x 1.00 mi= $208.50
Rock Haul St& Co Roads: $0.62/cy-mi x 150cy x 14.00 mi= $1,302.00
Basic Water Haul cost: $0.61/cy x 150cy = $91.50
Water Haul -15% grades: $0.13/cy-mi x 150cy x 1.00 mi= $19.50

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 4 culverts new base rock cover

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									23cy

Rock Volume = 23cy
Royalty: $12.63/cy x 23cy = $290.49
Processing: $1.40/cy x 23cy = $32.20
Compaction: $0.79/cy x 23cy = $18.17
T11 Testing: $0.06/cy x 23cy = $1.38
T27 Testing: $0.06/cy x 23cy = $1.38
Basic Rock Haul cost: $0.93/cy x 23cy = $21.39
Rock Haul -15% grades: $1.39/cy-mi x 23cy x 1.00 mi= $31.97
Rock Haul St& Co Roads: $0.62/cy-mi x 23cy x 14.00 mi= $199.64
Basic Water Haul cost: $0.61/cy x 23cy = $14.03
Water Haul -15% grades: $0.13/cy-mi x 23cy x 1.00 mi= $2.99

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: 4 culverts bedding

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

Rock Volume = 40cy
Royalty: $9.80/cy x 40cy = $392.00
Processing: $1.40/cy x 40cy = $56.00
Compaction: $0.79/cy x 40cy = $31.60
T11 Testing: $0.06/cy x 40cy = $2.40
T27 Testing: $0.06/cy x 40cy = $2.40
Basic Rock Haul cost: $0.93/cy x 40cy = $37.20
Rock Haul -15% grades: $1.39/cy-mi x 40cy x 1.00 mi= $55.60
Rock Haul St& Co Roads: $0.62/cy-mi x 40cy x 30.00 mi= $744.00
Basic Water Haul cost: $0.61/cy x 40cy = $24.40
Water Haul -15% grades: $0.13/cy-mi x 40cy x 1.00 mi= $5.20

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: Pipe trench rock for 4 pipes +4 cuyd sta 8+70

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									70cy

Rock Volume = 70cy
Royalty: $9.80/cy x 70cy = $686.00
Processing: $1.40/cy x 70cy = $98.00
Compaction: $0.79/cy x 70cy = $55.30
T11 Testing: $0.06/cy x 70cy = $4.20
T27 Testing: $0.06/cy x 70cy = $4.20
Basic Rock Haul cost: $0.93/cy x 70cy = $65.10
Rock Haul -15% grades: $1.39/cy-mi x 70cy x 1.00 mi= $97.30
Rock Haul St& Co Roads: $0.62/cy-mi x 70cy x 30.00 mi= $1,302.00
Basic Water Haul cost: $0.61/cy x 70cy = $42.70

Road Number: 28-9-8.1 A Old Camas Creek Road Continued

Water Haul -15% grades: $0.13/cy-mi x 70cy x 1.00 mi= $9.10

Subtotal: $20,956.70

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method without Mulch: $241.70/acre x 0.00 acres = $0.00
Dry Method with Mulch: $367.71/acre x 0.80 acres = $294.17

Subtotal: $294.17

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 1.60 acres = $445.34

Subtotal: $445.34

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:
Sta. 17+00 Rip Rap production
Excavator hydraulic hammer rental .5 week x $1,500.00/week = $750.00
Project culvert installation
Excav. Hyd. Hammer for culvert install. (Possible need)
2.5 week x $1,500.00/week = $3,750.00

Subtotal: $4,500.00

Mobilization:
Construction - 5.88% of total Costs = $344.80
Surfacing - 4.81% by rock volume = $0.00

Subtotal: $344.80

Quarry Development:
Based on 4.81% of total rock volume

Subtotal: $0.00

Total: $34,615.35

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.1 B Road Name: Old Camas Creek Road
Road Renovation: 0.36 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$2,543.04
400 Drainage:	$5,499.05
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 40 lf	
PolyPipe: 85 lf	
500 Renovation:	$813.35
Blading 0.36 mi	
Surfacing:	$4,589.87
Quarry Name: B&B 1.5 CCYD 66 cy	
Quarry Name: B&B 3.0 CCYD 38 cy	
Quarry Name: B&B 1.5" LCYD 40 cy	
Quarry Name: B&BSR 1.5" LCYD 35 cy	
1300 Geotextiles:	$300.00
1400 Slope Protection:	$135.70
Gradation Class 4: 5 cy	
1800 Soil Stabilization: 1.0 acres	$367.71
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.4 acres	$111.34
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $144.48 Surf. $0.00	$144.48
Quarry Development:	$0.00
Total:	$14,504.53

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.1 B Road Name: Old Camas Creek Road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:
- Excavation - Common: $1.72/cy x 0 cy = $0.00
- Subgrade Compaction: 4 Sta/hr $18.88/sta. x 1.0 sta = $18.88
- Compaction - Common: $0.76/cy x 0 cy = $0.00
- End Hauling - 100 to 500 ft: $0.14/sta-yd x 0 sta-yd = $0.00
- Blading: $11.43/station x 1.00 stations = $11.43
- 49+00
  - Chainsaw 4 hr x $36.76/hr = $147.04
- ROAD CONSTRUCTION
  - Tractor: D6 with winch 19 hr x $124.51/hr = $2,365.69

Subtotal: $2,543.04

Section 400 Drainage:
- Full Round 38+10 24 inch 20 ea x $28.35/ea = $567.00
- Full Round 49+00 /36"dia Dnspt 30 inch 20 ea x $36.05/ea = $721.00
- Poly Pipe 38+10 24 inch 35 ea x $32.93/ea = $1,152.55
- Poly Pipe 49+00 36 inch 50 ea x $52.87/ea = $2,643.50
- Miscallaneous Culvert Costs
  - 6' Steel fence posts 3 pair x $10.00/pair = $30.00
  - 10' Steel Fence posts / Station 49+00
    3 Pair x $20.00/Pair = $60.00
  - 4' Fiberglass inlet marker 5 ea x $5.00/ea = $25.00
  - Disposal of CMP culverts 3 ea x $100.00/ea = $300.00

Subtotal: $5,499.05

Section 500 Renovation:
- Blading: $519.72/mi x 0.36 mi = $187.10
- Pull Ditches: $140.38/mi x 0.36 mi = $50.54
- Compaction: $1329.15/mi x 0.36 mi = $478.49
- Clean Culverts: $270.05/mi x 0.36 mi = $97.22

Subtotal: $813.35

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: Culvert trench cover 2 culverts

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

- Rock Volume = 50cy
- Royalty: $13.03/cy x 50cy = $651.50
- Processing: $1.40/cy x 50cy = $70.00
- Compaction: $0.79/cy x 50cy = $39.50
- T11 Testing: $0.06/cy x 50cy = $3.00
- T27 Testing: $0.06/cy x 50cy = $3.00
- Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
- Rock Haul -15% grades: $1.39/cy-mi x 50cy x 1.00 mi= $69.50
- Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
- Basic Water Haul cost: $0.61/cy x 50cy = $30.50
- Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: 49+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.02mi	12ft	13.333ft	4in	5%					

- Rock Volume = 16cy
- Royalty: $13.03/cy x 16cy = $208.48
- Processing: $1.40/cy x 16cy = $22.40

Compaction: $0.79/cy x 16cy = $12.64
T11 Testing: $0.06/cy x 16cy = $0.96
T27 Testing: $0.06/cy x 16cy = $0.96
Basic Rock Haul cost: $0.93/cy x 16cy = $14.88
Rock Haul -15% grades: $1.39/cy-mi x 16cy x 1.00 mi= $22.24
Rock Haul St& Co Roads: $0.62/cy-mi x 16cy x 14.00 mi= $138.88
Basic Water Haul cost: $0.61/cy x 16cy = $9.76
Water Haul -15% grades: $0.13/cy-mi x 16cy x 1.00 mi= $2.08

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 49+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.02mi	13.333ft								
		16ft 8in	5%						

Rock Volume = 38cy
Royalty: $12.63/cy x 38cy = $479.94
Processing: $1.40/cy x 38cy = $53.20
Compaction: $0.79/cy x 38cy = $30.02
T11 Testing: $0.06/cy x 38cy = $2.28
T27 Testing: $0.06/cy x 38cy = $2.28
Basic Rock Haul cost: $0.93/cy x 38cy = $35.34
Rock Haul -15% grades: $1.39/cy-mi x 38cy x 1.00 mi= $52.82
Rock Haul St& Co Roads: $0.62/cy-mi x 38cy x 14.00 mi= $329.84
Basic Water Haul cost: $0.61/cy x 38cy = $23.18
Water Haul -15% grades: $0.13/cy-mi x 38cy x 1.00 mi= $4.94

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: 2 culvert bedding

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

Rock Volume = 40cy
Royalty: $9.80/cy x 40cy = $392.00
Processing: $1.40/cy x 40cy = $56.00
Compaction: $0.79/cy x 40cy = $31.60
T11 Testing: $0.06/cy x 40cy = $2.40
T27 Testing: $0.06/cy x 40cy = $2.40
Basic Rock Haul cost: $0.93/cy x 40cy = $37.20
Rock Haul -15% grades: $1.39/cy-mi x 40cy x 1.00 mi= $55.60
Rock Haul St& Co Roads: $0.62/cy-mi x 40cy x 14.00 mi= $347.20
Basic Water Haul cost: $0.61/cy x 40cy = $24.40
Water Haul -15% grades: $0.13/cy-mi x 40cy x 1.00 mi= $5.20

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: SPOT ROCK.

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									35cy

Rock Volume = 35cy
Royalty: $9.80/cy x 35cy = $343.00
Processing: $1.40/cy x 35cy = $49.00
Compaction: $0.79/cy x 35cy = $27.65
T11 Testing: $0.06/cy x 35cy = $2.10
T27 Testing: $0.06/cy x 35cy = $2.10
Basic Rock Haul cost: $0.93/cy x 35cy = $32.55
Rock Haul -15% grades: $1.39/cy-mi x 35cy x 1.00 mi= $48.65
Rock Haul St& Co Roads: $0.62/cy-mi x 35cy x 14.00 mi= $303.80
Basic Water Haul cost: $0.61/cy x 35cy = $21.35
Water Haul -15% grades: $0.13/cy-mi x 35cy x 1.00 mi= $4.55

Subtotal: $4,589.87

Section 1300 Geotextiles:
FILL SLOPE STABILIZATION
stabilization heavy (700X) Sta. 49+00 US315 or equilv
150 sy x $2.00/sy = $300.00

Subtotal: $300.00

Road Number: 28-9-8.1 B Old Camas Creek Road Continued

Section 1400 Slope Protection:
 Comment: STA 47+25
  Rock Source: B&B Rip Rap
  Royalty fee: $13.00/cy x 5cy = $65.00
  Furnish Class 4 type rock
  Basic Rock Haul cost: $1.30/cy x 5cy = $6.50
  Rock Haul -15% grades: $1.30/cy-mi x 5cy x 1.00 mi= $6.50
  Rock Haul St& Co Roads: $0.58/cy-mi x 5cy x 14.00 mi= $40.60
  Placement on Fill slopes: 5cy x $3.42/cy = $17.10

Subtotal: $135.70

Section 1800 Soil Stabilization:
 Comment: Includes repair site at sta 49+00
  Dry Method without Mulch: $241.70/acre x 0.00 acres = $0.00
  Dry Method with Mulch: $367.71/acre x 1.00 acres = $367.71

Subtotal: $367.71

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 0.40 acres = $111.34

Subtotal: $111.34

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 2.46% of total Costs = $144.48
  Surfacing - 1.15% by rock volume = $0.00

Subtotal: $144.48

Quarry Development:
  Based on 1.15% of total rock volume

Subtotal: $0.00

Total: $14,504.53

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.1 C1 Road Name: Old Camas Creek road
Road Improvement: 1.20 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$12,629.25
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 140 lf	
PolyPipe: 315 lf	
500 Renovation:	$3,386.80
Blading 1.20 mi	
Surfacing:	$91,261.46
Quarry Name: B&B 1.5 CCYD 1,241 cy	
Quarry Name: B&B 3.0 CCYD 1,681 cy	
Quarry Name: B&B 1.5" LCYD 87 cy	
Quarry Name: B&B 3" LCYD 130 cy	
Quarry Name: B&BSR 1.5" LCYD 131 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$575.80
Gradation Class 4: 20 cy	
1800 Soil Stabilization: 1.5 acres	$551.57
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 2.9 acres	$807.19
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $1,098.79 Surf. $0.00	$1,098.79
Quarry Development:	$0.00
Total:	$110,310.85

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.1 C1 Road Name: Old Camas Creek road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Full Round 105+50	18 inch 20 ea x $20.65/ea =	$413.00
Full Round 114+50	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 73+00	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 76+00	18 inch 20 ea x $20.65/ea =	$413.00
Full Round 86+00	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 91+00	24 inch 20 ea x $28.35/ea =	$567.00
Full Round 95+00	18 inch 20 ea x $20.65/ea =	$413.00
Poly Pipe 103+00	18 inch 20 ea x $24.22/ea =	$484.40
Poly Pipe 105+50	18 inch 30 ea x $24.22/ea =	$726.60
Poly Pipe 110+60	18 inch 35 ea x $24.22/ea =	$847.70
Poly Pipe 114+50	24 inch 25 ea x $32.93/ea =	$823.25
Poly Pipe 73+00	24 inch 30 ea x $32.93/ea =	$987.90
Poly Pipe 76+00	18 inch 35 ea x $24.22/ea =	$847.70
Poly Pipe 81+00	18 inch 25 ea x $24.22/ea =	$605.50
Poly Pipe 86+00	24 inch 30 ea x $32.93/ea =	$987.90
Poly Pipe 91+00	24 inch 60 ea x $32.93/ea =	$1,975.80
Poly Pipe 95+00	18 inch 25 ea x $24.22/ea =	$605.50

Culvert

6' Steel fence posts 18 pair x $10.00/pair = $180.00

4'fiberglass inlet markers 10 ea x $5.00/ea = $50.00

Subtotal: $12,629.25

Section 500 Renovation:

Blading: $519.72/mi x 1.20 mi = $623.66

Scarification: $866.20/mi x 0.78 mi = $675.64

Pull Ditches: $140.38/mi x 1.20 mi = $168.46

Compaction: $1329.15/mi x 1.20 mi = $1,594.98

Clean Culverts: $270.05/mi x 1.20 mi = $324.06

Subtotal: $3,386.80

1.5" -0 Quarry Name: B&B 1.5 CCYD

Comment: 78+65 to 117+25

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.73mi	12ft	13.333ft	4in	5%					

Rock Volume = 633cy

Royalty: $13.03/cy x 633cy = $8,247.99

Processing: $1.40/cy x 633cy = $886.20

Compaction: $0.79/cy x 633cy = $500.07

T11 Testing: $0.06/cy x 633cy = $37.98

T27 Testing: $0.06/cy x 633cy = $37.98

Basic Rock Haul cost: $0.93/cy x 633cy = $588.69

Rock Haul -15% grades: $1.39/cy-mi x 633cy x 2.00 mi= $1,759.74

Rock Haul St& Co Roads: $0.62/cy-mi x 633cy x 14.00 mi= $5,494.44

Basic Water Haul cost: $0.61/cy x 633cy = $386.13

Water Haul -15% grades: $0.13/cy-mi x 633cy x 1.00 mi= $82.29

1.5" -0 Quarry Name: B&B 1.5 CCYD

Comment: Sta 54+00 to 55+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	12ft	13.33ft	4in						

Rock Volume = 23cy

Royalty: $13.03/cy x 23cy = $299.69
Processing: $1.40/cy x 23cy = $32.20
Compaction: $0.79/cy x 23cy = $18.17
T11 Testing: $0.06/cy x 23cy = $1.38
T27 Testing: $0.06/cy x 23cy = $1.38
Basic Rock Haul cost: $0.93/cy x 23cy = $21.39
Rock Haul -15% grades: $1.39/cy-mi x 23cy x 2.00 mi= $63.94
Rock Haul St& Co Roads: $0.62/cy-mi x 23cy x 14.00 mi= $199.64
Basic Water Haul cost: $0.61/cy x 23cy = $14.03
Water Haul -15% grades: $0.13/cy-mi x 23cy x 1.00 mi= $2.99

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: 55+50 to 78+65

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.44mi	12ft	14ft	6in	5%					

Rock Volume = 585cy
Royalty: $13.03/cy x 585cy = $7,622.55
Processing: $1.40/cy x 585cy = $819.00
Compaction: $0.79/cy x 585cy = $462.15
T11 Testing: $0.06/cy x 585cy = $35.10
T27 Testing: $0.06/cy x 585cy = $35.10
Basic Rock Haul cost: $0.93/cy x 585cy = $544.05
Rock Haul -15% grades: $1.39/cy-mi x 585cy x 2.00 mi= $1,626.30
Rock Haul St& Co Roads: $0.62/cy-mi x 585cy x 14.00 mi= $5,077.80
Basic Water Haul cost: $0.61/cy x 585cy = $356.85
Water Haul -15% grades: $0.13/cy-mi x 585cy x 1.00 mi= $76.05

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: TTO56+50,72+00,113+50 & base 2 culverts

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									160cy

Rock Volume = 160cy
Royalty: $12.63/cy x 160cy = $2,020.80
Processing: $1.40/cy x 160cy = $224.00
Compaction: $0.79/cy x 160cy = $126.40
T11 Testing: $0.06/cy x 160cy = $9.60
T27 Testing: $0.06/cy x 160cy = $9.60
Basic Rock Haul cost: $0.93/cy x 160cy = $148.80
Rock Haul -15% grades: $1.39/cy-mi x 160cy x 2.00 mi= $444.80
Rock Haul St& Co Roads: $0.62/cy-mi x 160cy x 14.00 mi= $1,388.80
Basic Water Haul cost: $0.61/cy x 160cy = $97.60
Water Haul -15% grades: $0.13/cy-mi x 160cy x 1.00 mi= $20.80

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 78+65 to 117+25

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.73mi	13.33ft								
		16ft 8in		5%					

Rock Volume = 1,467cy
Royalty: $12.63/cy x 1,467cy = $18,528.21
Processing: $1.40/cy x 1,467cy = $2,053.80
Compaction: $0.79/cy x 1,467cy = $1,158.93
T11 Testing: $0.06/cy x 1,467cy = $88.02
T27 Testing: $0.06/cy x 1,467cy = $88.02
Basic Rock Haul cost: $0.93/cy x 1,467cy = $1,364.31
Rock Haul -15% grades: $1.39/cy-mi x 1,467cy x 2.00 mi= $4,078.26
Rock Haul St& Co Roads: $0.62/cy-mi x 1,467cy x 14.00 mi= $12,733.56
Basic Water Haul cost: $0.61/cy x 1,467cy = $894.87
Water Haul -15% grades: $0.13/cy-mi x 1,467cy x 1.00 mi= $190.71

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 54+00 to 55+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.03mi	13.33ft					16ft 8in			

Rock Volume = 54cy

Royalty: $12.63/cy x 54cy = $682.02
Processing: $1.40/cy x 54cy = $75.60
Compaction: $0.79/cy x 54cy = $42.66
T11 Testing: $0.06/cy x 54cy = $3.24
T27 Testing: $0.06/cy x 54cy = $3.24
Basic Rock Haul cost: $0.93/cy x 54cy = $50.22
Rock Haul -15% grades: $1.39/cy-mi x 54cy x 2.00 mi= $150.12
Rock Haul St& Co Roads: $0.62/cy-mi x 54cy x 14.00 mi= $468.72
Basic Water Haul cost: $0.61/cy x 54cy = $32.94
Water Haul -15% grades: $0.13/cy-mi x 54cy x 1.00 mi= $7.02

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: bedding for 10 culverts

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									87cy

Rock Volume = 87cy
Royalty: $9.80/cy x 87cy = $852.60
Processing: $1.40/cy x 87cy = $121.80
Compaction: $0.79/cy x 87cy = $68.73
T11 Testing: $0.06/cy x 87cy = $5.22
T27 Testing: $0.06/cy x 87cy = $5.22
Basic Rock Haul cost: $0.93/cy x 87cy = $80.91
Rock Haul -15% grades: $1.39/cy-mi x 87cy x 2.00 mi= $241.86
Rock Haul St& Co Roads: $0.62/cy-mi x 87cy x 14.00 mi= $755.16
Basic Water Haul cost: $0.61/cy x 87cy = $53.07
Water Haul -15% grades: $0.13/cy-mi x 87cy x 1.00 mi= $11.31

3"-0 Quarry Name: B&B 3" LCYD
Comment: 69+20 base repair

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									30cy

Rock Volume = 30cy
Royalty: $9.50/cy x 30cy = $285.00
Processing: $1.40/cy x 30cy = $42.00
Compaction: $0.79/cy x 30cy = $23.70
T11 Testing: $0.06/cy x 30cy = $1.80
T27 Testing: $0.06/cy x 30cy = $1.80
Basic Rock Haul cost: $0.93/cy x 30cy = $27.90
Rock Haul -15% grades: $1.39/cy-mi x 30cy x 2.00 mi= $83.40
Rock Haul St& Co Roads: $0.62/cy-mi x 30cy x 14.00 mi= $260.40
Basic Water Haul cost: $0.61/cy x 30cy = $18.30
Water Haul -15% grades: $0.13/cy-mi x 30cy x 1.00 mi= $3.90

3"-0 Quarry Name: B&B 3" LCYD
Comment: 2 LZ Purchaser select 83+30 . (+1)

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100cy

Rock Volume = 100cy
Royalty: $9.50/cy x 100cy = $950.00
Processing: $1.40/cy x 100cy = $140.00
Compaction: $0.79/cy x 100cy = $79.00
T11 Testing: $0.06/cy x 100cy = $6.00
T27 Testing: $0.06/cy x 100cy = $6.00
Basic Rock Haul cost: $0.93/cy x 100cy = $93.00
Rock Haul -15% grades: $1.39/cy-mi x 100cy x 2.00 mi= $278.00
Rock Haul St& Co Roads: $0.62/cy-mi x 100cy x 14.00 mi= $868.00
Basic Water Haul cost: $0.61/cy x 100cy = $61.00
Water Haul -15% grades: $0.13/cy-mi x 100cy x 1.00 mi= $13.00

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: Culvert trench cover

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									131cy

Rock Volume = 131cy

Royalty: $9.80/cy x 131cy = $1,283.80
Processing: $1.40/cy x 131cy = $183.40
Compaction: $0.79/cy x 131cy = $103.49
T11 Testing: $0.06/cy x 131cy = $7.86
T27 Testing: $0.06/cy x 131cy = $7.86
Basic Rock Haul cost: $0.93/cy x 131cy = $121.83
Rock Haul -15% grades: $1.39/cy-mi x 131cy x 2.00 mi= $364.18
Rock Haul St& Co Roads: $0.62/cy-mi x 131cy x 14.00 mi= $1,137.08
Basic Water Haul cost: $0.61/cy x 131cy = $79.91
Water Haul -15% grades: $0.13/cy-mi x 131cy x 1.00 mi= $17.03

Subtotal: $91,261.46

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:
Comment: 47+25, 91+00, 110+60
Rock Source: B&B RipRap
Royalty fee: $14.00/cy x 20cy = $280.00
Furnish Class 4 type rock
Basic Rock Haul cost: $1.30/cy x 20cy = $26.00
Rock Haul -15% grades: $1.30/cy-mi x 20cy x 1.50 mi= $39.00
Rock Haul St& Co Roads: $0.58/cy-mi x 20cy x 14.00 mi= $162.40
Placement on Fill slopes: 20cy x $3.42/cy = $68.40

Subtotal: $575.80

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 1.50 acres = $551.57

Subtotal: $551.57

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 2.90 acres = $807.19

Subtotal: $807.19

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 - 18.74% of total Costs = $1,098.79
Surfacing - 20.95% by rock volume = $0.00

Subtotal: $1,098.79

Quarry Development:
Based on 20.95% of total rock volume

Subtotal: $0.00

Total: $110,310.85

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.1 C2 Road Name: Old Camas Creek road
Road Renovation: 0.33 mi 3 ft Subgrade 1 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$745.57
Blading 0.33 mi	
Surfacing:	$2,130.40
Quarry Name: B&B 3" LCYD 50 cy	
Quarry Name: B&BSR 1.5" LCYD 35 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.8 acres	$222.67
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $31.55 Surf. $0.00	$31.55
Quarry Development:	$0.00
Total:	$3,166.96

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.1 C2 Road Name: Old Camas Creek road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $519.72/mi x 0.33 mi = $171.51
Pull Ditches: $140.38/mi x 0.33 mi = $46.33
Compaction: $1329.15/mi x 0.33 mi = $438.62
Clean Culverts: $270.05/mi x 0.33 mi = $89.12

Subtotal: $745.57

3"-0 Quarry Name: B&B 3" LCYD
Comment: LZ Purchaser select

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

Rock Volume = 50cy
Royalty: $9.50/cy x 50cy = $475.00
Processing: $1.40/cy x 50cy = $70.00
Compaction: $0.79/cy x 50cy = $39.50
T11 Testing: $0.06/cy x 50cy = $3.00
T27 Testing: $0.06/cy x 50cy = $3.00
Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
Rock Haul -15% grades: $1.39/cy-mi x 50cy x 2.00 mi= $139.00
Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
Basic Water Haul cost: $0.61/cy x 50cy = $30.50
Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

1.5"-0 Quarry Name: B&BSR 1.5" LCYD
Comment: SPOT ROCK.

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									35cy

Rock Volume = 35cy
Royalty: $9.80/cy x 35cy = $343.00
Processing: $1.40/cy x 35cy = $49.00
Compaction: $0.79/cy x 35cy = $27.65
T11 Testing: $0.06/cy x 35cy = $2.10
T27 Testing: $0.06/cy x 35cy = $2.10
Basic Rock Haul cost: $0.93/cy x 35cy = $32.55
Rock Haul -15% grades: $1.39/cy-mi x 35cy x 2.00 mi= $97.30
Rock Haul St& Co Roads: $0.62/cy-mi x 35cy x 14.00 mi= $303.80
Basic Water Haul cost: $0.61/cy x 35cy = $21.35
Water Haul -15% grades: $0.13/cy-mi x 35cy x 1.00 mi= $4.55

Subtotal: $2,130.40

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Road Number: 28-9-8.1 C2 Old Camas Creek road Continued

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 0.80 acres = $222.67

Subtotal: $222.67

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.54% of total Costs = $31.55
  Surfacing - 0.54% by rock volume = $0.00

Subtotal: $31.55

Quarry Development:
  Based on 0.54% of total rock volume

Subtotal: $0.00

Total: $3,166.96

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.1 D Road Name: Old Camas Creek Road
Road Renovation: 1.09 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$747.06
400 Drainage:	$1,177.55
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 35 lf	
500 Renovation:	$2,462.64
Blading 1.09 mi	
Surfacing:	$704.14
Quarry Name: B&B 1.5 CCYD 15 cy	
Quarry Name: B&B 1.5" LCYD 11 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 2.7 acres	$992.82
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 2.6 acres	$723.68
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $68.49 Surf. $0.00	$68.49
Quarry Development:	$0.00
Total:	$6,876.38

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.1 D Road Name: Old Camas Creek Road

Section 200 Clearing and Grubbing:
 Comment: 33+00 development of waste area
  Clearing - Light: $15.28/sta x 0.00 sta = $0.00
  Grubbing - Light: $395.63/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00
Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 0.0 sta = $0.00
  EARTHWORK - TTA / WASTE AREA
   Tractor: D6 with winch 6 hr x $124.51/hr = $747.06
Subtotal: $747.06

Section 400 Drainage:
  Poly Pipe 30+15 24 inch 35 ea x $32.93/ea = $1,152.55
  MISC CULVERT COSTS
   4' fiberglass inlet marker 5 ea x $5.00/ea = $25.00
Subtotal: $1,177.55

Section 500 Renovation:
  Blading: $519.72/mi x 1.09 mi = $566.49
  Pull Ditches: $140.38/mi x 1.09 mi = $153.01
  Compaction: $1329.15/mi x 1.09 mi = $1,448.77
  Clean Culverts: $270.05/mi x 1.09 mi = $294.35
Subtotal: $2,462.64

1.5" -0 Quarry Name: B&B 1.5 CCYD
 Comment: trench culvert cover

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									15cy

  Rock Volume = 15cy
  Royalty: $13.03/cy x 15cy = $195.45
  Processing: $1.40/cy x 15cy = $21.00
  Compaction: $0.79/cy x 15cy = $11.85
  T11 Testing: $0.06/cy x 15cy = $0.90
  T27 Testing: $0.06/cy x 15cy = $0.90
  Basic Rock Haul cost: $0.93/cy x 15cy = $13.95
  Rock Haul -15% grades: $1.39/cy-mi x 15cy x 2.00 mi= $41.70
  Rock Haul St& Co Roads: $0.62/cy-mi x 15cy x 14.00 mi= $130.20
  Basic Water Haul cost: $0.61/cy x 15cy = $9.15
  Water Haul -15% grades: $0.13/cy-mi x 15cy x 1.00 mi= $1.95

1.5"-0 Quarry Name: B&B 1.5" LCYD
 Comment: 30+15 bedding

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									11cy

  Rock Volume = 11cy
  Royalty: $9.80/cy x 11cy = $107.80
  Processing: $1.40/cy x 11cy = $15.40
  Compaction: $0.79/cy x 11cy = $8.69
  T11 Testing: $0.06/cy x 11cy = $0.66
  T27 Testing: $0.06/cy x 11cy = $0.66
  Basic Rock Haul cost: $0.93/cy x 11cy = $10.23
  Rock Haul -15% grades: $1.39/cy-mi x 11cy x 2.00 mi= $30.58
  Rock Haul St& Co Roads: $0.62/cy-mi x 11cy x 14.00 mi= $95.48
  Basic Water Haul cost: $0.61/cy x 11cy = $6.71
  Water Haul St&Co Roads: $0.08/cy-mi x 11cy x 1.00 mi= $0.88
Subtotal: $704.14

Road Number: 28-9-8.1 D Old Camas Creek Road Continued

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 2.70 acres = $992.82

Subtotal: $992.82

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 2.60 acres = $723.68

Subtotal: $723.68

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 - 1.17% of total Costs = $68.49
  Surfacing - 0.17% by rock volume = $0.00

Subtotal: $68.49

Quarry Development:
  Based on 0.17% of total rock volume

Subtotal: $0.00

Total: $6,876.38

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.2 A Road Name: Brownstone road
Road Renovation: 0.50 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$1,129.65
Blading 0.50 mi	
Surfacing:	$1,334.00
Quarry Name: B&B 3.0 CCYD 50 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.6 acres	$220.63
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 1.2 acres	$334.01
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $30.37 Surf. $0.00	$30.37
Quarry Development:	$0.00
Total:	$3,048.65

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.2 A Road Name: Brownstone road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
Blading: $519.72/mi x 0.50 mi = $259.86
Pull Ditches: $140.38/mi x 0.50 mi = $70.19
Compaction: $1329.15/mi x 0.50 mi = $664.58
Clean Culverts: $270.05/mi x 0.50 mi = $135.03

Subtotal: $1,129.65

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 26+50 Repair at junction

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

Rock Volume = 50cy
Royalty: $12.63/cy x 50cy = $631.50
Processing: $1.40/cy x 50cy = $70.00
Compaction: $0.79/cy x 50cy = $39.50
T11 Testing: $0.06/cy x 50cy = $3.00
T27 Testing: $0.06/cy x 50cy = $3.00
Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
Rock Haul -15% grades: $1.39/cy-mi x 50cy x 1.00 mi= $69.50
Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
Basic Water Haul cost: $0.61/cy x 50cy = $30.50
Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

Subtotal: $1,334.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 0.60 acres = $220.63

Subtotal: $220.63

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
Brushing width Left: 10ft. Right: 10ft.
RoadSide Brushing Light: $278.34/acre x 1.20 acres = $334.01

Subtotal: $334.01

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Road Number: 28-9-8.2 A Brownstone road Continued

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.52% of total Costs = $30.37
  Surfacing - 0.32% by rock volume = $0.00

Subtotal: $30.37

Quarry Development:
  Based on 0.32% of total rock volume

Subtotal: $0.00

Total: $3,048.65

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.2 B Road Name: Brownstone road
Road Improvement: 1.25 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$8,192.40
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 120 lf	
PolyPipe: 170 lf	
500 Renovation:	$3,378.49
Blading 1.25 mi	
Surfacing:	$59,641.51
Quarry Name: B&B 1.5 CCYD 639 cy	
Quarry Name: B&B 3.0 CCYD 1,273 cy	
Quarry Name: B&B 1.5" LCYD 45 cy	
Quarry Name: B&B 3" LCYD 310 cy	
1300 Geotextiles:	$5,028.60
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 1.8 acres	$661.88
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 3.5 acres	$1,948.38
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $793.33 Surf. $0.00	$793.33
Quarry Development:	$0.00
Total:	$79,644.59

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.2 B Road Name: Brownstone road

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Full Round 24+20	24 inch 10 ea x $28.35/ea = $283.50	
Full Round 64+50	18 inch 20 ea x $20.65/ea = $413.00	
Full Round 71+00	18 inch 20 ea x $20.65/ea = $413.00	
Full Round 80+00	24 inch 20 ea x $28.35/ea = $567.00	
Full Round 81+50	24 inch 50 ea x $28.35/ea = $1,417.50	
Poly Pipe 64+50	18 inch 20 ea x $24.22/ea = $484.40	
Poly Pipe 71+00	18 inch 20 ea x $24.22/ea = $484.40	
Poly Pipe 75+30	24 inch 20 ea x $32.93/ea = $658.60	
Poly Pipe 80+00	24 inch 30 ea x $32.93/ea = $987.90	
Poly Pipe 81+50	24 inch 50 ea x $32.93/ea = $1,646.50	
Poly Pipe 88+00	18 inch 30 ea x $24.22/ea = $726.60	

MISC CULVERT COSTS

6' STEEL FENCE POSTS 71+00,75+30, 80+00 8 PAIR x $10.00/PAIR = $80.00

4' FIBERGLASS INLET MARKER 6 EA x $5.00/EA = $30.00

Subtotal: $8,192.40

Section 500 Renovation:

Blading: $519.72/mi x 1.25 mi = $649.65
Scarification: $866.20/mi x 0.64 mi = $554.37
Pull Ditches: $140.38/mi x 1.25 mi = $175.48
Compaction: $1329.15/mi x 1.25 mi = $1,661.44
Clean Culverts: $270.05/mi x 1.25 mi = $337.56

Subtotal: $3,378.49

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: Sta 59+60 to 69+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.01mi	12ft	14ft	6in						

Rock Volume = 14cy
Royalty: $13.03/cy x 14cy = $182.42
Processing: $1.40/cy x 14cy = $19.60
Compaction: $0.79/cy x 14cy = $11.06
T11 Testing: $0.06/cy x 14cy = $0.84
T27 Testing: $0.06/cy x 14cy = $0.84
Basic Rock Haul cost: $0.93/cy x 14cy = $13.02
Rock Haul -15% grades: $1.39/cy-mi x 14cy x 1.00 mi= $19.46
Rock Haul St& Co Roads: $0.62/cy-mi x 14cy x 14.00 mi= $121.52
Basic Water Haul cost: $0.61/cy x 14cy = $8.54
Water Haul -15% grades: $0.13/cy-mi x 14cy x 1.00 mi= $1.82

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: Sta 69+00 to sta 92+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.63mi	12ft	13.33ft	4in	5%					

Rock Volume = 549cy
Royalty: $13.03/cy x 549cy = $7,153.47
Processing: $1.40/cy x 549cy = $768.60
Compaction: $0.79/cy x 549cy = $433.71
T11 Testing: $0.06/cy x 549cy = $32.94
T27 Testing: $0.06/cy x 549cy = $32.94

Road Number: 28-9-8.2 B Brownstone road Continued

Basic Rock Haul cost: $0.93/cy x 549cy = $510.57
Rock Haul -15% grades: $1.39/cy-mi x 549cy x 1.00 mi= $763.11
Rock Haul St& Co Roads: $0.62/cy-mi x 549cy x 14.00 mi= $4,765.32
Basic Water Haul cost: $0.61/cy x 549cy = $334.89
Water Haul -15% grades: $0.13/cy-mi x 549cy x 1.00 mi= $71.37

1.5" -0 Quarry Name: B&B 1.5 CCYD
Comment: Trench culver cover 64+50,71+00,80+00,81+50,88+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									76cy

Rock Volume = 76cy
Royalty: $13.03/cy x 76cy = $990.28
Processing: $1.40/cy x 76cy = $106.40
Compaction: $0.79/cy x 76cy = $60.04
T11 Testing: $0.06/cy x 76cy = $4.56
T27 Testing: $0.06/cy x 76cy = $4.56
Basic Rock Haul cost: $0.93/cy x 76cy = $70.68
Rock Haul -15% grades: $1.39/cy-mi x 76cy x 1.00 mi= $105.64
Rock Haul St& Co Roads: $0.62/cy-mi x 76cy x 14.00 mi= $659.68
Basic Water Haul cost: $0.61/cy x 76cy = $46.36
Water Haul -15% grades: $0.13/cy-mi x 76cy x 1.00 mi= $9.88

3"-0 Quarry Name: B&B 3.0 CCYD
Comment: 69+00 to 92+50

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
0.63mi	13.333ft								
	16ft 8in		5%						

Rock Volume = 1,273cy
Royalty: $12.63/cy x 1,273cy = $16,077.99
Processing: $1.40/cy x 1,273cy = $1,782.20
Compaction: $0.79/cy x 1,273cy = $1,005.67
T11 Testing: $0.06/cy x 1,273cy = $76.38
T27 Testing: $0.06/cy x 1,273cy = $76.38
Basic Rock Haul cost: $0.93/cy x 1,273cy = $1,183.89
Rock Haul -15% grades: $1.39/cy-mi x 1,273cy x 1.00 mi= $1,769.47
Rock Haul St& Co Roads: $0.62/cy-mi x 1,273cy x 14.00 mi= $11,049.64
Basic Water Haul cost: $0.61/cy x 1,273cy = $776.53
Water Haul -15% grades: $0.13/cy-mi x 1,273cy x 1.00 mi= $165.49

1.5"-0 Quarry Name: B&B 1.5" LCYD
Comment: Culvert bedding 64+50,71+00,75+30, 80+00,81+50,88+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									45cy

Rock Volume = 45cy
Royalty: $9.80/cy x 45cy = $441.00
Processing: $1.40/cy x 45cy = $63.00
Compaction: $0.79/cy x 45cy = $35.55
T11 Testing: $0.06/cy x 45cy = $2.70
T27 Testing: $0.06/cy x 45cy = $2.70
Basic Rock Haul cost: $0.93/cy x 45cy = $41.85
Rock Haul -15% grades: $1.39/cy-mi x 45cy x 1.00 mi= $62.55
Rock Haul St& Co Roads: $0.62/cy-mi x 45cy x 14.00 mi= $390.60
Basic Water Haul cost: $0.61/cy x 45cy = $27.45
Water Haul -15% grades: $0.13/cy-mi x 45cy x 1.00 mi= $5.85

3"-0 Quarry Name: B&B 3" LCYD
Comment: TTO R 61+60 & TTO L 83+00

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									140cy

Rock Volume = 140cy
Royalty: $9.50/cy x 140cy = $1,330.00
Processing: $1.40/cy x 140cy = $196.00
Compaction: $0.79/cy x 140cy = $110.60
T11 Testing: $0.06/cy x 140cy = $8.40
T27 Testing: $0.06/cy x 140cy = $8.40

Road Number: 28-9-8.2 B Brownstone road Continued

Basic Rock Haul cost: $0.93/cy x 140cy = $130.20
Rock Haul -15% grades: $1.39/cy-mi x 140cy x 1.00 mi= $194.60
Rock Haul St& Co Roads: $0.62/cy-mi x 140cy x 14.00 mi= $1,215.20
Basic Water Haul cost: $0.61/cy x 140cy = $85.40
Water Haul -15% grades: $0.13/cy-mi x 140cy x 1.00 mi= $18.20

3"-0 Quarry Name: B&B 3" LCYD
Comment: 87+50 40x60 LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									70cy

Rock Volume = 70cy
Royalty: $9.50/cy x 70cy = $665.00
Processing: $1.40/cy x 70cy = $98.00
Compaction: $0.79/cy x 70cy = $55.30
T11 Testing: $0.06/cy x 70cy = $4.20
T27 Testing: $0.06/cy x 70cy = $4.20
Basic Rock Haul cost: $0.93/cy x 70cy = $65.10
Rock Haul -15% grades: $1.39/cy-mi x 70cy x 1.00 mi= $97.30
Rock Haul St& Co Roads: $0.62/cy-mi x 70cy x 14.00 mi= $607.60
Basic Water Haul cost: $0.61/cy x 70cy = $42.70
Water Haul -15% grades: $0.13/cy-mi x 70cy x 1.00 mi= $9.10

3"-0 Quarry Name: B&B 3" LCYD
Comment: 2 LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									100cy

Rock Volume = 100cy
Royalty: $9.50/cy x 100cy = $950.00
Processing: $1.40/cy x 100cy = $140.00
Compaction: $0.79/cy x 100cy = $79.00
T11 Testing: $0.06/cy x 100cy = $6.00
T27 Testing: $0.06/cy x 100cy = $6.00
Basic Rock Haul cost: $0.93/cy x 100cy = $93.00
Rock Haul -15% grades: $1.39/cy-mi x 100cy x 1.00 mi= $139.00
Rock Haul St& Co Roads: $0.62/cy-mi x 100cy x 14.00 mi= $868.00
Basic Water Haul cost: $0.61/cy x 100cy = $61.00
Water Haul -15% grades: $0.13/cy-mi x 100cy x 1.00 mi= $13.00

Subtotal: $59,641.51

Section 1300 Geotextiles:
Tencate Mirafi RS580i Geo.t
17'wide x 300' roll. from sta 79+80 to 85+00
2 rolls x $2,514.30/rolls = $5,028.60

Subtotal: $5,028.60

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
Dry Method with Mulch: $367.71/acre x 1.80 acres = $661.88

Subtotal: $661.88

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
RoadSide Brushing Medium: $556.68/acre x 3.50 acres = $1,948.38

Subtotal: $1,948.38

Section 2300 Engineering:

Subtotal: $0.00

Road Number: 28-9-8.2 B Brownstone road Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 13.53% of total Costs = $793.33
  Surfacing - 14.52% by rock volume = $0.00

Subtotal: $793.33

Quarry Development:
  Based on 14.52% of total rock volume

Subtotal: $0.00

Total: $79,644.59

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.4 Road Name:
Road Renovation: 0.92 mi 16 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$2,078.56
Blading 0.92 mi	
Surfacing:	$0.00
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 1.1 acres	$404.48
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 2.2 acres	$612.35
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $31.14 Surf. $0.00	$31.14
Quarry Development:	$0.00
Total:	$3,126.53

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.4 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $519.72/mi x 0.92 mi = $478.14
  Pull Ditches: $140.38/mi x 0.92 mi = $129.15
  Compaction: $1329.15/mi x 0.92 mi = $1,222.82
  Clean Culverts: $270.05/mi x 0.92 mi = $248.45

Subtotal: $2,078.56

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: $367.71/acre x 1.10 acres = $404.48

Subtotal: $404.48

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  Brushing width Left: 10ft. Right: 10ft.
  RoadSide Brushing Light: $278.34/acre x 2.20 acres = $612.35

Subtotal: $612.35

Section 2300 Engineering:
Mobilization:
  Construction - 0.53% of total Costs = $31.14
  Surfacing - 0.00% by rock volume = $0.00

Subtotal: $31.14

Quarry Development:
  Based on 0.00% of total rock volume

Subtotal: $0.00

Total: $3,126.53

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.5 Road Name:
Road Construction: 0.15 mi 16 ft Subgrade 3 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$2,425.81
400 Drainage:	$1,153.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 40 lf	
500 Renovation:	$0.00
Surfacing:	$238.50
Quarry Name: B&B 1.5" LCYD 10 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.4 acres	$147.08
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. $39.89 Surf. $0.00	$39.89
Quarry Development:	$0.00
Total:	$4,004.28

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.5 Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 0.6 sta = $10.38
  Blading: $11.43/station x 0.55 stations = $6.29
  LZ DEV 8+00, TTO 6+70
   Excavator 235B (1.75 CY) 7 hr x $112.93/hr = $790.51
  ROAD CONSTRUCTION
   Tractor: D6 with winch 13 hr x $124.51/hr = $1,618.63

Subtotal: $2,425.81

Section 400 Drainage:
  Poly Pipe 3+55 18 inch 20 ea x $24.22/ea = $484.40
  Poly Pipe 5+15 24 inch 20 ea x $32.93/ea = $658.60
  MISC CULVERT COSTS
   4' fiberglass inlet marker 2 ea x $5.00/ea = $10.00

Subtotal: $1,153.00

Section 500 Renovation:

Subtotal: $0.00

1.5"-0 Quarry Name: B&B 1.5" LCYD
 Comment: CULVERT BEDDING 3+55, 5+15

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

  Rock Volume = 10cy
  Royalty: $9.80/cy x 10cy = $98.00
  Processing: $1.40/cy x 10cy = $14.00
  Compaction: $0.79/cy x 10cy = $7.90
  T11 Testing: $0.06/cy x 10cy = $0.60
  T27 Testing: $0.06/cy x 10cy = $0.60
  Basic Rock Haul cost: $0.93/cy x 10cy = $9.30
  Rock Haul -15% grades: $1.39/cy-mi x 10cy x 1.00 mi= $13.90
  Rock Haul St& Co Roads: $0.62/cy-mi x 10cy x 14.00 mi= $86.80
  Basic Water Haul cost: $0.61/cy x 10cy = $6.10
  Water Haul -15% grades: $0.13/cy-mi x 10cy x 1.00 mi= $1.30

Subtotal: $238.50

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.40 acres = $147.08

Subtotal: $147.08

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.68% of total Costs = $39.89
  Surfacing - 0.06% by rock volume = $0.00

Subtotal: $39.89

Quarry Development:
  Based on 0.06% of total rock volume

Subtotal: $0.00

Total: $4,004.28

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: 28-9-8.6 Road Name:
Road Renovation: 0.05 mi 12 ft Subgrade 2 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$0.00
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$130.29
Blading 0.05 mi	
Surfacing:	$216.50
Quarry Name: B&B 6" open 10 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
1900 Cattleguards:	$0.00
2100 RoadSide Brushing: 0.1 acres	$111.34
2300 Engineering: 0.00 sta.	$0.00
2400 Minor Concrete:	$0.00
2500 Gabions:	$0.00
8000 Miscellaneous:	$0.00
Mobilization: Const. $4.98 Surf. $0.00	$4.98
Quarry Development:	$0.00
Total:	$499.88

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: 28-9-8.6 Road Name:

Section 200 Clearing and Grubbing:

Subtotal: $0.00

Section 300 Excavation:

Subtotal: $0.00

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:
  Blading: $519.72/mi x 0.05 mi = $25.99
  Scarification: $866.20/mi x 0.02 mi = $17.32
  Pull Ditches: $140.38/mi x 0.05 mi = $7.02
  Compaction: $1329.15/mi x 0.05 mi = $66.46
  Clean Culverts: $270.05/mi x 0.05 mi = $13.50

Subtotal: $130.29

6" Quarry Name: B&B 6" open
 Comment: Station 2+49

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

  Rock Volume = 10cy
  Royalty: $9.25/cy x 10cy = $92.50
  Processing: $1.40/cy x 10cy = $14.00
  Basic Rock Haul cost: $0.93/cy x 10cy = $9.30
  Rock Haul -15% grades: $1.39/cy-mi x 10cy x 1.00 mi= $13.90
  Rock Haul St& Co Roads: $0.62/cy-mi x 10cy x 14.00 mi= $86.80

Subtotal: $216.50

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:
  RoadSide Brushing Medium: $556.68/acre x 0.00 acres = $0.00
  RoadSide Brushing Heavy: $1113.36/acre x 0.10 acres = $111.34

Subtotal: $111.34

Section 2300 Engineering:

Subtotal: $0.00

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal:	$0.00

Mobilization:
  Construction - 0.08% of total Costs = $4.98
  Surfacing - 0.06% by rock volume = $0.00

Subtotal:	$4.98

Quarry Development:
  Based on 0.06% of total rock volume

Subtotal:	$0.00
Total:	$499.88

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 3A Road Name:
Road Improvement: 0.05 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$1,818.92
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$4,710.00
Quarry Name: B&B 3" LCYD 200 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.3 acres	$117.67
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. $66.87 Surf. $0.00	$66.87
Quarry Development:	$0.00
Total:	$6,713.45

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 3A Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Medium: $30.57/sta x 0.00 sta = $0.00
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Medium: $822.91/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 0 cy = $0.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 2.5 sta = $47.20
  Compaction - Common: $0.76/cy x 0 cy = $0.00
  End Hauling - 100 to 500 ft: $0.14/sta-yd x 0 sta-yd = $0.00
  Blading: $11.43/station x 2.50 stations = $28.58
  ROAD CONSTRUCTION
   Tractor: D6 with winch 14 hr x $124.51/hr = $1,743.14

Subtotal: $1,818.92

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: SURFACING AND LANDING

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									200cy

  Rock Volume = 200cy
  Royalty: $9.50/cy x 200cy = $1,900.00
  Processing: $1.40/cy x 200cy = $280.00
  Compaction: $0.79/cy x 200cy = $158.00
  T11 Testing: $0.06/cy x 200cy = $12.00
  T27 Testing: $0.06/cy x 200cy = $12.00
  Basic Rock Haul cost: $0.93/cy x 200cy = $186.00
  Rock Haul -15% grades: $1.39/cy-mi x 200cy x 1.00 mi= $278.00
  Rock Haul St& Co Roads: $0.62/cy-mi x 200cy x 14.00 mi= $1,736.00
  Basic Water Haul cost: $0.61/cy x 200cy = $122.00
  Water Haul -15% grades: $0.13/cy-mi x 200cy x 1.00 mi= $26.00

Subtotal: $4,710.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.32 acres = $117.67

Subtotal: $117.67

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Road Number: SPUR 3A Continued

Subtotal:	$0.00

Section 2400 Minor Concrete:

Subtotal:	$0.00

Section 2500 Gabions:

Subtotal:	$0.00

Section 8000 Miscellaneous:

Subtotal:	$0.00

Mobilization:
  Construction - 1.14% of total Costs = $66.87
  Surfacing - 1.28% by rock volume = $0.00

Subtotal:	$66.87

Quarry Development:
  Based on 1.28% of total rock volume

Subtotal:	$0.00
Total:	$6,713.45

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: Spur 3B Road Name:
Road Construction: 0.02 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$378.44
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation: 500 cy	$1,109.85
Haul: 3,221 sta-yds	
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$4,849.00
Quarry Name: B&B 3" LCYD 200 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
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. $64.13 Surf. $0.00	$64.13
Quarry Development:	$0.00
Total:	$6,438.19

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: Spur 3B Road Name:

Section 200 Clearing and Grubbing:
  Clearing and Grubbing
   Excavator 225 (1.5 CY) 4 hr x $94.61/hr = $378.44

Subtotal: $378.44

Section 300 Excavation:
  Excavation - Common: $1.72/cy x 500 cy = $860.00
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 1.3 sta = $24.54
  End Hauling > 500 ft and 10 mph: $3.45/yd-mi x 61 yd-mi = $210.45
  Blading: $11.43/station x 1.30 stations = $14.86

Subtotal: $1,109.85

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									200cy

  Rock Volume = 200cy
  Royalty: $9.50/cy x 200cy = $1,900.00
  Processing: $1.40/cy x 200cy = $280.00
  Compaction: $0.79/cy x 200cy = $158.00
  T11 Testing: $0.06/cy x 200cy = $12.00
  T27 Testing: $0.06/cy x 200cy = $12.00
  Basic Rock Haul cost: $0.93/cy x 200cy = $186.00
  Rock Haul -15% grades: $1.39/cy-mi x 200cy x 1.50 mi= $417.00
  Rock Haul St& Co Roads: $0.62/cy-mi x 200cy x 14.00 mi= $1,736.00
  Basic Water Haul cost: $0.61/cy x 200cy = $122.00
  Water Haul -15% grades: $0.13/cy-mi x 200cy x 1.00 mi= $26.00

Subtotal: $4,849.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

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: Spur 3B Continued

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 1.09% of total Costs = $64.13
  Surfacing - 1.28% by rock volume = $0.00

Subtotal: $64.13

Quarry Development:
  Based on 1.28% of total rock volume

Subtotal: $0.00

Total: $6,438.19

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 4A Road Name:
Road Construction: 0.07 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$1,310.93
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$6,123.00
Quarry Name: B&B 3" LCYD 260 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$73.54
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. $75.53 Surf. $0.00	$75.53
Quarry Development:	$0.00
Total:	$7,583.00

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 4A Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 3.7 sta = $69.86
  Blading: $11.43/station x 3.70 stations = $42.29
  LZ DEV
   Excavator 235B (1.75 CY) 4 hr x $112.93/hr = $451.72
  ROAD CONSTRUCTION
   Tractor: D6 with winch 6 hr x $124.51/hr = $747.06

Subtotal: $1,310.93

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: 0+00 TO 3+70 10" LIFT

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

  Rock Volume = 210cy
  Royalty: $9.50/cy x 210cy = $1,995.00
  Processing: $1.40/cy x 210cy = $294.00
  Compaction: $0.79/cy x 210cy = $165.90
  T11 Testing: $0.06/cy x 210cy = $12.60
  T27 Testing: $0.06/cy x 210cy = $12.60
  Basic Rock Haul cost: $0.93/cy x 210cy = $195.30
  Rock Haul -15% grades: $1.39/cy-mi x 210cy x 1.00 mi= $291.90
  Rock Haul St& Co Roads: $0.62/cy-mi x 210cy x 14.00 mi= $1,822.80
  Basic Water Haul cost: $0.61/cy x 210cy = $128.10
  Water Haul -15% grades: $0.13/cy-mi x 210cy x 1.00 mi= $27.30

3"-0 Quarry Name: B&B 3" LCYD
 Comment: LZ 3+70

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									50cy

  Rock Volume = 50cy
  Royalty: $9.50/cy x 50cy = $475.00
  Processing: $1.40/cy x 50cy = $70.00
  Compaction: $0.79/cy x 50cy = $39.50
  T11 Testing: $0.06/cy x 50cy = $3.00
  T27 Testing: $0.06/cy x 50cy = $3.00
  Basic Rock Haul cost: $0.93/cy x 50cy = $46.50
  Rock Haul -15% grades: $1.39/cy-mi x 50cy x 1.00 mi= $69.50
  Rock Haul St& Co Roads: $0.62/cy-mi x 50cy x 14.00 mi= $434.00
  Basic Water Haul cost: $0.61/cy x 50cy = $30.50
  Water Haul -15% grades: $0.13/cy-mi x 50cy x 1.00 mi= $6.50

Subtotal: $6,123.00

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Road Number: SPUR 4A Continued

Subtotal:	$0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.20 acres = $73.54

Subtotal:	$73.54

Section 1900 Cattleguards:

Subtotal:	$0.00

Section 2100 Roadside Brushing:

Subtotal:	$0.00

Section 2300 Engineering:

Subtotal:	$0.00

Section 2400 Minor Concrete:

Subtotal:	$0.00

Section 2500 Gabions:

Subtotal:	$0.00

Section 8000 Miscellaneous:

Subtotal:	$0.00

Mobilization:
  Construction - 1.29% of total Costs = $75.53
  Surfacing - 1.67% by rock volume = $0.00

Subtotal:	$75.53

Quarry Development:
  Based on 1.67% of total rock volume

Subtotal:	$0.00
Total:	$7,583.00

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 4B Road Name:
Road Construction: 0.09 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$1,814.60
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$8,728.20
Quarry Name: B&B 3" LCYD 360 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.2 acres	$73.54
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. $106.81 Surf. $0.00	$106.81
Quarry Development:	$0.00
Total:	$10,723.16

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 4B Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 4.7 sta = $87.79
  Blading: $11.43/station x 4.65 stations = $53.15
  TTO AND LZ
   Excavator 235B (1.75 CY) 6 hr x $112.93/hr = $677.58
  ROAD CONSTRUCTION
   Tractor: D6 with winch 8 hr x $124.51/hr = $996.08

Subtotal: $1,814.60

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: 260 SURFACING, + 50 LZ 3+15, +50 LZ 4+65

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									360cy

  Rock Volume = 360cy
  Royalty: $9.50/cy x 360cy = $3,420.00
  Processing: $1.40/cy x 360cy = $504.00
  Compaction: $0.79/cy x 360cy = $284.40
  T11 Testing: $0.06/cy x 360cy = $21.60
  T27 Testing: $0.06/cy x 360cy = $21.60
  Basic Rock Haul cost: $0.93/cy x 360cy = $334.80
  Rock Haul -15% grades: $1.39/cy-mi x 360cy x 1.50 mi= $750.60
  Rock Haul St& Co Roads: $0.62/cy-mi x 360cy x 14.00 mi= $3,124.80
  Basic Water Haul cost: $0.61/cy x 360cy = $219.60
  Water Haul -15% grades: $0.13/cy-mi x 360cy x 1.00 mi= $46.80

Subtotal: $8,728.20

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.20 acres = $73.54

Subtotal: $73.54

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Road Number: SPUR 4B Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 1.82% of total Costs = $106.81
  Surfacing - 2.31% by rock volume = $0.00

Subtotal: $106.81

Quarry Development:
  Based on 2.31% of total rock volume

Subtotal: $0.00

Total: $10,723.16

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 4C Road Name:
Road Construction: 0.05 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$1,162.17
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$10,743.50
Quarry Name: B&B 6" open 20 cy	
Quarry Name: B&B 3" LCYD 400 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
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. $120.15 Surf. $0.00	$120.15
Quarry Development:	$0.00
Total:	$12,062.59

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 4C Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 2.9 sta = $54.75
  Blading: $11.43/station x 2.90 stations = $33.15
  LZ DEV
   Excavator 235B (1.75 CY) 4 hr x $112.93/hr = $451.72
  ROAD CONSTRUCTION
   Tractor: D6 with winch 5 hr x $124.51/hr = $622.55

Subtotal: $1,162.17

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

6" Quarry Name: B&B 6" open
 Comment: 0+50 DITCHOUT DRAINAGE

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

  Rock Volume = 20cy
  Royalty: $9.25/cy x 20cy = $185.00
  Processing: $1.40/cy x 20cy = $28.00
  Basic Rock Haul cost: $0.93/cy x 20cy = $18.60
  Rock Haul -15% grades: $1.39/cy-mi x 20cy x 2.50 mi= $69.50
  Rock Haul St& Co Roads: $0.62/cy-mi x 20cy x 14.00 mi= $173.60
  Basic Water Haul cost: $0.61/cy x 20cy = $12.20
  Water Haul -15% grades: $0.13/cy-mi x 20cy x 1.00 mi= $2.60

3"-0 Quarry Name: B&B 3" LCYD
 Comment: 0+00 TO 2+90 250 CUYD AND LZ 150 CUYD

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									400cy

  Rock Volume = 400cy
  Royalty: $9.50/cy x 400cy = $3,800.00
  Processing: $1.40/cy x 400cy = $560.00
  Compaction: $0.79/cy x 400cy = $316.00
  T11 Testing: $0.06/cy x 400cy = $24.00
  T27 Testing: $0.06/cy x 400cy = $24.00
  Basic Rock Haul cost: $0.93/cy x 400cy = $372.00
  Rock Haul -15% grades: $1.39/cy-mi x 400cy x 2.50 mi= $1,390.00
  Rock Haul St& Co Roads: $0.62/cy-mi x 400cy x 14.00 mi= $3,472.00
  Basic Water Haul cost: $0.61/cy x 400cy = $244.00
  Water Haul -15% grades: $0.13/cy-mi x 400cy x 1.00 mi= $52.00

Subtotal: $10,743.50

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:

Road Number: SPUR 4C Continued

Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

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 - 2.05% of total Costs = $120.15
Surfacing - 2.69% by rock volume = $0.00

Subtotal: $120.15

Quarry Development:
Based on 2.69% of total rock volume

Subtotal: $0.00

Total: $12,062.59

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 4D Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$898.97
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$4,357.95
Quarry Name: B&B 3" LCYD 170 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
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. $53.26 Surf. $0.00	$53.26
Quarry Development:	$0.00
Total:	$5,346.95

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 4D Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 2.1 sta = $38.70
  Blading: $11.43/station x 2.05 stations = $23.43
  LZ DEV
   Excavator 235B (1.75 CY) 3 hr x $112.93/hr = $338.79
  ROAD CONSTRUCTION
   Tractor: D6 with winch 4 hr x $124.51/hr = $498.04

Subtotal: $898.97

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: SURFACING AND LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									170cy

  Rock Volume = 170cy
  Royalty: $9.50/cy x 170cy = $1,615.00
  Processing: $1.40/cy x 170cy = $238.00
  Compaction: $0.79/cy x 170cy = $134.30
  T11 Testing: $0.06/cy x 170cy = $10.20
  T27 Testing: $0.06/cy x 170cy = $10.20
  Basic Rock Haul cost: $0.93/cy x 170cy = $158.10
  Rock Haul -15% grades: $1.39/cy-mi x 170cy x 2.50 mi= $590.75
  Rock Haul St& Co Roads: $0.62/cy-mi x 170cy x 14.00 mi= $1,475.60
  Basic Water Haul cost: $0.61/cy x 170cy = $103.70
  Water Haul -15% grades: $0.13/cy-mi x 170cy x 1.00 mi= $22.10

Subtotal: $4,357.95

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Road Number: SPUR 4D Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.91% of total Costs = $53.26
  Surfacing - 1.09% by rock volume = $0.00

Subtotal: $53.26

Quarry Development:
  Based on 1.09% of total rock volume

Subtotal: $0.00

Total: $5,346.95

ROAD CONSTRUCTION SUMMARY

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14
Road Number: SPUR 4E Road Name:
Road Construction: 0.04 mi 16 ft Subgrade 0 ft ditch 5/1/2013

200 Clearing and Grubbing: 0.0 acres	$0.00
Clearing:0.0 sta Grubbing:0.0 acres	
Slash Treatment:0.0 acres	
300 Excavation:	$900.48
400 Drainage:	$0.00
Culvert: 0 lf wt = 0 lbs factor = 1.2	
DownSpout: 0 lf	
PolyPipe: 0 lf	
500 Renovation:	$0.00
Surfacing:	$4,101.60
Quarry Name: B&B 3" LCYD 160 cy	
1300 Geotextiles:	$0.00
1400 Slope Protection:	$0.00
1800 Soil Stabilization: 0.1 acres	$36.77
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. $50.70 Surf. $0.00	$50.70
Quarry Development:	$0.00
Total:	$5,089.55

Notes:
Quantities shown are estimates only and not pay items.
Surfacing Quantities shown are COMPACTED in place cubic yards.

Road Construction Worksheet

Road Number: SPUR 4E Road Name:

Section 200 Clearing and Grubbing:
  Clearing - Heavy: $45.05/sta x 0.00 sta = $0.00
  Grubbing - Heavy: $1598.35/acre x 0.00 acres = $0.00
  Scatter: $724.08/acre x 0.00 acres = $0.00

Subtotal: $0.00

Section 300 Excavation:
  Subgrade Compaction: 4 Sta/hr $18.88/sta. x 2.1 sta = $39.65
  Blading: $11.43/station x 2.10 stations = $24.00
  LZ DEV
   Excavator 235B (1.75 CY) 3 hr x $112.93/hr = $338.79
  ROAD CONSTRUCTION
   Tractor: D6 with winch 4 hr x $124.51/hr = $498.04

Subtotal: $900.48

Section 400 Drainage:

Subtotal: $0.00

Section 500 Renovation:

Subtotal: $0.00

3"-0 Quarry Name: B&B 3" LCYD
 Comment: SURFACING AND LZ

Length	TopW	BotW	Depth	CWid	#TOs	Width	F.W.L	Taper	Other
									160cy

  Rock Volume = 160cy
  Royalty: $9.50/cy x 160cy = $1,520.00
  Processing: $1.40/cy x 160cy = $224.00
  Compaction: $0.79/cy x 160cy = $126.40
  T11 Testing: $0.06/cy x 160cy = $9.60
  T27 Testing: $0.06/cy x 160cy = $9.60
  Basic Rock Haul cost: $0.93/cy x 160cy = $148.80
  Rock Haul -15% grades: $1.39/cy-mi x 160cy x 2.50 mi= $556.00
  Rock Haul St& Co Roads: $0.62/cy-mi x 160cy x 14.00 mi= $1,388.80
  Basic Water Haul cost: $0.61/cy x 160cy = $97.60
  Water Haul -15% grades: $0.13/cy-mi x 160cy x 1.00 mi= $20.80

Subtotal: $4,101.60

Section 1300 Geotextiles:

Subtotal: $0.00

Section 1400 Slope Protection:

Subtotal: $0.00

Section 1800 Soil Stabilization:
  Dry Method with Mulch: $367.71/acre x 0.10 acres = $36.77

Subtotal: $36.77

Section 1900 Cattleguards:

Subtotal: $0.00

Section 2100 Roadside Brushing:

Subtotal: $0.00

Section 2300 Engineering:

Subtotal: $0.00

Road Number: SPUR 4E Continued

Section 2400 Minor Concrete:

Subtotal: $0.00

Section 2500 Gabions:

Subtotal: $0.00

Section 8000 Miscellaneous:

Subtotal: $0.00

Mobilization:
  Construction - 0.86% of total Costs = $50.70
  Surfacing - 1.03% by rock volume = $0.00

Subtotal: $50.70

Quarry Development:
  Based on 1.03% of total rock volume

Subtotal: $0.00

Total: $5,089.55

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Mobilization Costs - Construction and Surfacing

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14

Average Mobilization distance = 50 miles Factor = 1.00

Mobilization: Construction
Comment: Equipment washing lump sum = $2340
Fire Equipment: 1 ea x (1.00 x $132.00/ea + 0 mi x $3.51/mi)= $132.00
Graders-all: 1 ea x (1.00 x $356.00/ea + 0 mi x $13.91/mi)= $356.00
Brush Cutter: 1 ea x (1.00 x $356.00/ea) = $356.00
Loaders < 3cy: 1 ea x (1.00 x $356.00/ea + 0 mi x $7.58/mi)= $356.00
Rollers & Comp: 1 ea x (1.00 x $356.00/ea + 0 mi x $15.10/mi)= $356.00
Excavators: 1 ea x (1.00 x $688.00/ea + 0 mi x $22.59/mi)= $688.00
RTBackhoes 24/30: 1 ea x (1.00 x $356.00/ea + 0 mi x $4.93/mi)= $356.00
Tractors <= D7: 1 ea x (1.00 x $522.00/ea + 0 mi x $29.75/mi)= $522.00
Dump Truck<=10cy: 1 ea x (1.00 x $185.00/ea + 0 mi x $3.70/mi)= $185.00
Water Truck: 1 ea x (1.00 x $217.00/ea + 0 mi x $4.33/mi)= $217.00
Lump Sum: $2,340.00

Subtotal: $5,864.00

Mobilization: Surfacing

Subtotal: $0.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Summary of Construction Quantities

T.S. Contract Name: BROWNSTONE CT Sale Date: 25 APRIL14

Road Number	Const	Improv	Renov	Decomm	Temp
28-9-14.0 B			12.67		
28-9-14.0 C			67.58		
28-9-14.0 D			37.49		
28-9-15.0			52.80		
28-9-17.0 A			34.25		
28-9-17.0 B			11.25		
28-9-17.10	6.15				
28-9-17.11	9.00				
28-9-17.12			3.46		
28-9-17.3			16.50		
28-9-17.4		14.40			
28-9-17.5			10.80		
28-9-17.6	9.85				
28-9-17.7	7.10				
28-9-17.8	9.00				
28-9-17.9		5.40			
28-9-17.9 ext	3.10				
28-9-18.2			11.75		
28-9-8.1 A			34.80		
28-9-8.1 B			19.20		
28-9-8.1 C1		63.50			
28-9-8.1 C2			17.60		
28-9-8.1 D			57.50		
28-9-8.2 A			26.60		
28-9-8.2 B		65.90			
28-9-8.4			48.50		

28-9-8.5	8.00				
28-9-8.6			2.80		
SPUR 3A		2.50			
Spur 3B	1.30				
SPUR 4A	3.70				
SPUR 4B	4.65				
SPUR 4C	2.90				
SPUR 4D	2.05				
SPUR 4E	2.10				
Total Sta:	68.90	151.70	465.55		

200 Clearing and Grubbing

	Clearing stations	Grubbing acres	Slash acres
Totals:	0.00	0.0	0.0

Clearing and Grubbing 28-9-17.6
Excavator 225 (1.5 CY) . . . . . 20 hr
Clearing and Grubbing Spur 3B
Excavator 225 (1.5 CY) . . . . . 4 hr

300 Excavation

	Excav C.Y.s	Haul sta-yds
28-9-17.11	1,100	4,620
28-9-17.4	410	1,245
28-9-17.6	3,080	57,658
28-9-17.8	1,100	1,100

Continuation of Construction Quantities

Spur 3B		500	3,221
	Totals:	6,190	67,843

0+00 to 1+30 Plateau develop 28-9-17.11
Tractor: D6 with winch . . . . . 5 hr
49+00 28-9-8.1 B
Chainsaw . . . . . 4 hr
EARTHWORK - TTA / WASTE AREA 28-9-8.1 D
Tractor: D6 with winch . . . . . 6 hr
LZ AND LANDING DEV 28-9-17.9 ext
Tractor: D6 with winch ROAD CONSTRUCTION . . . . . 13 hr
Excavator 235B (1.75 CY) . . . . . 4 hr
LZ DEV SPUR 4D
Excavator 235B (1.75 CY) . . . . . 3 hr
LZ DEV SPUR 4A
Excavator 235B (1.75 CY) . . . . . 4 hr
LZ DEV SPUR 4C
Excavator 235B (1.75 CY) . . . . . 4 hr
LZ DEV SPUR 4E
Excavator 235B (1.75 CY) . . . . . 3 hr
LZ DEV 8+00, TTO 6+70 28-9-8.5
Excavator 235B (1.75 CY) . . . . . 7 hr
LZ DEVELOPMENT 28-9-17.8
Tractor: D6 with winch ROAD CONSTRUCTION . . . . . 51 hr
Excavator 235B (1.75 CY) Sta. 2+50 and 9+00 . . . . . 10 hr
ROAD CONSTRUCTION SPUR 4C
Tractor: D6 with winch . . . . . 5 hr
ROAD CONSTRUCTION SPUR 4B
Tractor: D6 with winch . . . . . 8 hr
ROAD CONSTRUCTION SPUR 4A
Tractor: D6 with winch . . . . . 6 hr
ROAD CONSTRUCTION SPUR 3A
Tractor: D6 with winch . . . . . 14 hr
ROAD CONSTRUCTION 28-9-8.5
Tractor: D6 with winch . . . . . 13 hr
ROAD CONSTRUCTION SPUR 4D
Tractor: D6 with winch . . . . . 4 hr
ROAD CONSTRUCTION SPUR 4E
Tractor: D6 with winch . . . . . 4 hr
ROAD CONSTRUCTION 28-9-8.1 B
Tractor: D6 with winch . . . . . 19 hr
TTA / TTO / LZ DEVELOPMENT 28-9-17.10
Excavator 235B (1.75 CY) Sta. 1+70, 3+60, 6+15 . . . . . 9 hr
Tractor: D6 with winch (0+30 build up) . . . . . 3 hr
Tractor: D6 with winch ROAD CONSTRUCTION . . . . . 12 hr
TTO AND LZ SPUR 4B
Excavator 235B (1.75 CY) . . . . . 6 hr
TTO and LZ DEVELOPMENT 28-9-17.7
Tractor: D6 with winch ROAD CONSTRUCTION . . . . . 43 hr
Excavator 235B (1.75 CY) Sta. 5+00 adn 7+10 . . . . . 7 hr
TTO AND LZ DEVELOPMENT 28-9-17.11
Excavator 235B (1.75 CY) Sta. 5+00 and 9+00 . . . . . 10 hr
Tractor: D6 with winch ROAD CONSTRUCTION . . . . . 36 hr

400 Drainage

28-9-17.4	3+24	Full Round	18 inch	10 lf
28-9-8.1 A	14+50	Full Round	24 inch	20 lf
28-9-8.1 A	18+50	Full Round	24 inch	20 lf
28-9-8.1 A	21+75	Full Round	24 inch	20 lf
28-9-8.1 A	8+70	Full Round	18 inch	10 lf
28-9-8.1 B	38+10	Full Round	24 inch	20 lf
28-9-8.1 B	49+00 /36"dia Dnspt	Full Round	30 inch	20 lf

Continuation of Construction Quantities

28-9-8.1 C1	105+50	Full Round	18 inch	20 lf
28-9-8.1 C1	114+50	Full Round	24 inch	20 lf
28-9-8.1 C1	73+00	Full Round	24 inch	20 lf
28-9-8.1 C1	76+00	Full Round	18 inch	20 lf
28-9-8.1 C1	86+00	Full Round	24 inch	20 lf
28-9-8.1 C1	91+00	Full Round	24 inch	20 lf
28-9-8.1 C1	95+00	Full Round	18 inch	20 lf
28-9-8.2 B	24+20	Full Round	24 inch	10 lf
28-9-8.2 B	64+50	Full Round	18 inch	20 lf
28-9-8.2 B	71+00	Full Round	18 inch	20 lf
28-9-8.2 B	80+00	Full Round	24 inch	20 lf
28-9-8.2 B	81+50	Full Round	24 inch	50 lf
28-9-17.0 A	18+60	Poly Pipe	18 inch	40 lf
28-9-17.0 A	33+75	Poly Pipe	18 inch	35 lf
28-9-17.0 A	6+25	Poly Pipe	24 inch	35 lf
28-9-17.12	1+80	Poly Pipe	24 inch	40 lf
28-9-17.4	3+24	Poly Pipe	18 inch	30 lf
28-9-8.1 A	14+50	Poly Pipe	24 inch	30 lf
28-9-8.1 A	18+50	Poly Pipe	24 inch	35 lf
28-9-8.1 A	21+75	Poly Pipe	24 inch	35 lf
28-9-8.1 A	8+70	Poly Pipe	18 inch	35 lf
28-9-8.1 B	38+10	Poly Pipe	24 inch	35 lf
28-9-8.1 B	49+00	Poly Pipe	36 inch	50 lf
28-9-8.1 C1	103+00	Poly Pipe	18 inch	20 lf
28-9-8.1 C1	105+50	Poly Pipe	18 inch	30 lf
28-9-8.1 C1	110+60	Poly Pipe	18 inch	35 lf
28-9-8.1 C1	114+50	Poly Pipe	24 inch	25 lf
28-9-8.1 C1	73+00	Poly Pipe	24 inch	30 lf
28-9-8.1 C1	76+00	Poly Pipe	18 inch	35 lf
28-9-8.1 C1	81+00	Poly Pipe	18 inch	25 lf
28-9-8.1 C1	86+00	Poly Pipe	24 inch	30 lf
28-9-8.1 C1	91+00	Poly Pipe	24 inch	60 lf
28-9-8.1 C1	95+00	Poly Pipe	18 inch	25 lf
28-9-8.1 D	30+15	Poly Pipe	24 inch	35 lf
28-9-8.2 B	64+50	Poly Pipe	18 inch	20 lf
28-9-8.2 B	71+00	Poly Pipe	18 inch	20 lf
28-9-8.2 B	75+30	Poly Pipe	24 inch	20 lf
28-9-8.2 B	80+00	Poly Pipe	24 inch	30 lf
28-9-8.2 B	81+50	Poly Pipe	24 inch	50 lf
28-9-8.2 B	88+00	Poly Pipe	18 inch	30 lf
28-9-8.5	3+55	Poly Pipe	18 inch	20 lf
28-9-8.5	5+15	Poly Pipe	24 inch	20 lf

Culvert 28-9-8.1 C1

6' Steel fence posts . . . . . 18 pair

4'fiberglass inlet markers . . . . . 10 ea

CULVERT MISC COSTS 28-9-17.0 B

4' fiberglass inlet marker . . . . . 3 ea

MISC CULVERT COSTS 28-9-8.2 B

6' STEEL FENCE POSTS 71+00,75+30, 80+00 . . . . . 8 PAIR

4' FIBERGLASS INLET MARKER . . . . . 6 EA

MISC CULVERT COSTS 28-9-8.5

4' fiberglass inlet marker . . . . . 2 ea

MISC CULVERT COSTS 28-9-17.12

4' fiberglass inlet marker . . . . . 1 ea

MISC CULVERT COSTS 28-9-17.4

4' Fiberglass inlet marker . . . . . 1 ea

6' Steel fence posts . . . . . 2 pair

MISC CULVERT COSTS 28-9-17.0 A

4' fiberglass inlet marker . . . . . 8 ea

Disposal fee for removed CMP culverts . . . . . 2 ea

MISC CULVERT COSTS 28-9-8.1 D

4' fiberglass inlet marker . . . . . 5 ea

MISC PIPE COSTS 28-9-8.1 A

Continuation of Construction Quantities

6' steel fence posts . . . . . 11 pair
4' Fiberglass inlet markers . . . . . 5 ea
Disposal fee for old CMP culverts . . . . . 4 ea

Miscallaneous Culvert Costs 28-9-8.1 B

6' Steel fence posts . . . . . 3 pair
10' Steel Fence posts / Station 49+00 . . . . . 3 Pair
4' Fiberglass inlet marker . . . . . 5 ea
Disposal of CMP culverts . . . . . 3 ea

500 Renovation	Miles	Slide cy
28-9-14.0 B	0.24	0
28-9-14.0 C	1.28	0
28-9-14.0 D	0.71	0
28-9-15.0	1.00	0
28-9-17.0 A	0.65	0
28-9-17.0 B	0.21	0
28-9-17.12	0.07	0
28-9-17.3	0.31	0
28-9-17.4	0.27	0
28-9-17.5	0.20	0
28-9-17.9	0.10	0
28-9-18.2	0.22	0
28-9-8.1 A	0.66	0
28-9-8.1 B	0.36	0
28-9-8.1 C1	1.20	0
28-9-8.1 C2	0.33	0
28-9-8.1 D	1.09	0
28-9-8.2 A	0.50	0
28-9-8.2 B	1.25	0
28-9-8.4	0.92	0
28-9-8.6	0.05	0
Totals:	11.62	0

1+80 CULVERT EXCAVATION 28-9-17.12

Excavator 235B (1.75 CY) . . . . . 5 hr
Chainsaw . . . . . 4 hr

Develop waste area MP 1.96 28-9-14.0 D

Tractor: D6 with winch . . . . . 4 hr

LZ 7+00 DEV 28-9-18.2

Excavator 235B (1.75 CY) . . . . . 2 hr

LZ DEV 28-9-17.9

Excavator 235B (1.75 CY) . . . . . 1 hr

LZ DEV / TTA / TTO 28-9-17.5

Excavator 235B (1.75 CY) . . . . . 5 hr

ROAD WIDTH GRADING 28-9-17.4

Tractor: D6 with winch . . . . . 12 hr

TTO / TTA / LZ 28-9-17.4

Excavator 235B (1.75 CY) 5+00, 12+00, 14+00 . . . . . 10 hr

Surfacing (Cubic Yards)

Quarry Name: B&B 1.5 CCYD

1.5" -0	Roadway	Turnouts	Other	
28-9-8.1 A	387	0	30	417
28-9-8.1 B	0	0	50	50
28-9-8.1 B	16	0	0	16
28-9-8.1 C1	633	0	0	633
28-9-8.1 C1	23	0	0	23
28-9-8.1 C1	585	0	0	585
28-9-8.1 D	0	0	15	15
28-9-8.2 B	14	0	0	14

28-9-8.2 B	549	0	0	549
28-9-8.2 B	0	0	76	76
28-9-17.0 A	32	0	0	32
28-9-17.0 B	131	0	0	131
28-9-17.4	224	0	0	224
28-9-17.5	172	0	0	172
28-9-17.9	88	0	0	88
28-9-18.2	114	0	0	114
28-9-17.6	161	9	0	170
28-9-17.7	116	0	0	116
28-9-17.8	147	0	0	147
28-9-17.9 ext	50	0	0	50
28-9-17.10	100	0	0	100
Totals:	3,542	9	171	3,722

Quarry Name: B&B 3.0 CCYD

3"-0	Roadway	Turnouts	Other	
28-9-8.1 A	0	0	50	50
28-9-8.1 A	0	0	150	150
28-9-8.1 A	0	0	23	23
28-9-8.1 B	38	0	0	38
28-9-8.1 C1	0	0	160	160
28-9-8.1 C1	1,467	0	0	1,467
28-9-8.1 C1	54	0	0	54
28-9-8.2 A	0	0	50	50
28-9-8.2 B	1,273	0	0	1,273
28-9-17.4	518	0	0	518
28-9-17.5	399	0	0	399
28-9-18.2	0	0	50	50
28-9-17.7	269	0	0	269
28-9-17.8	228	0	0	228
28-9-17.9 ext	117	0	0	117
28-9-17.10	233	0	0	233
28-9-17.11	417	0	0	417
28-9-17.6	374	18	0	392
Totals:	5,387	18	483	5,888

Quarry Name: B&B 1.5" LCYD

1.5"-0	Roadway	Turnouts	Other	
28-9-8.1 A	0	0	40	40
28-9-8.1 B	0	0	40	40
28-9-8.1 C1	0	0	87	87
28-9-8.1 D	0	0	11	11
28-9-8.2 B	0	0	45	45
28-9-17.0 A	0	0	30	30
28-9-17.0 B	0	0	31	31
28-9-17.4	0	0	8	8
28-9-17.12	0	0	13	13
28-9-8.5	0	0	10	10
Totals:	0	0	315	315

Quarry Name: B&B 6" open

6"	Roadway	Turnouts	Other	
28-9-8.6	0	0	10	10
28-9-14.0 D	0	0	50	50
28-9-17.0 B	0	0	5	5
SPUR 4C	0	0	20	20
Totals:	0	0	85	85

Continuation of Construction Quantities

Quarry Name: B&B 3" LCYD

3"-0	Roadway	Turnouts	Other	
28-9-8.1 C1	0	0	30	30
28-9-8.2 B	0	0	140	140
28-9-8.2 B	0	0	70	70
28-9-17.0 A	0	0	160	160
28-9-17.0 A	0	0	19	19
28-9-17.12	0	0	50	50
28-9-17.4	0	0	240	240
28-9-17.5	0	0	210	210
28-9-17.7	0	0	160	160
28-9-17.9	0	0	50	50
SPUR 3A	0	0	200	200
SPUR 4A	0	0	210	210
SPUR 4B	0	0	360	360
28-9-17.3	0	0	150	150
SPUR 4A	0	0	50	50
SPUR 4C	0	0	400	400
SPUR 4D	0	0	170	170
SPUR 4E	0	0	160	160
Spur 3B	0	0	200	200
28-9-14.0 D	0	0	3	3
28-9-17.8	0	0	230	230
28-9-17.9 ext	0	0	120	120
28-9-17.10	0	0	180	180
28-9-17.11	0	0	230	230
28-9-17.11	0	0	400	400
28-9-17.3	0	0	50	50
28-9-8.1 C1	0	0	100	100
28-9-17.6	0	0	250	250
28-9-8.1 C2	0	0	50	50
28-9-8.2 B	0	0	100	100
Totals:	0	0	4,742	4,742

Quarry Name: B&BSR 1.5" LCYD

1.5"-0	Roadway	Turnouts	Other	
28-9-8.1 A	0	0	70	70
28-9-8.1 C1	0	0	131	131
28-9-17.0 B	0	0	42	42
28-9-17.12	0	0	25	25
28-9-17.4	0	0	17	17
28-9-17.0 A	0	0	60	60
28-9-14.0 B	0	0	25	25
28-9-14.0 C	0	0	130	130
28-9-15.0	0	0	100	100
28-9-17.0 A	0	0	65	65
28-9-17.0 B	0	0	20	20
28-9-17.3	0	0	30	30
28-9-8.1 C2	0	0	35	35
28-9-8.1 B	0	0	35	35
28-9-14.0 D	0	0	70	70
Totals:	0	0	855	855

1300 Geotextiles

FILL SLOPE STABILIZATION 28-9-8.1 B

stabilization heavy (700X) Sta. 49+00 US315 or equilv . . . . . 150 sy

Tencate Mirafi RS580i Geo.t 28-9-8.2 B

17'wide x 300' roll. from sta 79+80 to 85+00 . . . . . 2 rolls

Continuation of Construction Quantities

1400 Slope Protection

Slope Protection Class 4	C.Y.s
28-9-17.0 A	20
28-9-8.1 B	5
28-9-8.1 C1	20
Totals:	45

1800 Soil stabilization - acres	Dry W/O Mulch	Dry/with Mulch	Hydro Mulch
28-9-14.0 B	0.0	0.3	
28-9-14.0 C	0.0	0.8	
28-9-14.0 D	0.0	0.4	
28-9-15.0	0.0	0.1	
28-9-17.0 A	0.0	0.8	
28-9-17.0 B	0.0	0.3	
28-9-17.10	0.0	0.3	
28-9-17.11	0.0	0.4	
28-9-17.12	0.0	0.2	
28-9-17.3	0.0	0.4	
28-9-17.4	0.0	0.7	
28-9-17.5	0.0	0.5	
28-9-17.6	0.0	0.5	
28-9-17.7	0.0	0.5	
28-9-17.8	0.0	1.0	
28-9-17.9	0.0	0.1	
28-9-17.9 ext	0.0	0.1	
28-9-18.2	0.0	0.5	
28-9-8.1 A	0.0	0.8	
28-9-8.1 B	0.0	1.0	
28-9-8.1 C1	0.0	1.5	
28-9-8.1 C2	0.0	0.1	
28-9-8.1 D	0.0	2.7	
28-9-8.2 A	0.0	0.6	
28-9-8.2 B	0.0	1.8	
28-9-8.4	0.0	1.1	
28-9-8.5	0.0	0.4	
28-9-8.6	0.0	0.1	
SPUR 3A	0.0	0.3	
Spur 3B	0.0	0.1	
SPUR 4A	0.0	0.2	
SPUR 4B	0.0	0.2	
SPUR 4C	0.0	0.1	
SPUR 4D	0.0	0.1	
SPUR 4E	0.0	0.1	
Totals:	0.0	19.1	0.0

1900 Cattleguards

Totals: No Quantities

2100 RoadSide Brushing	acres
28-9-14.0 B	0.6
28-9-14.0 C	3.1
28-9-14.0 D	1.7
28-9-15.0	2.4
28-9-17.0 A	1.6
28-9-17.0 B	0.5
28-9-17.12	0.2

Continuation of Construction Quantities

28-9-17.3	0.8
28-9-17.4	0.7
28-9-17.5	0.5
28-9-17.9	0.2
28-9-18.2	0.5
28-9-8.1 A	1.6
28-9-8.1 B	0.4
28-9-8.1 C1	2.9
28-9-8.1 C2	0.8
28-9-8.1 D	2.6
28-9-8.2 A	1.2
28-9-8.2 B	3.5
28-9-8.4	2.2
28-9-8.6	0.1
Totals:	28.1

2300 Engineering stations

Totals:	0.00

2400 Minor Concrete

Totals: No Quantities

2500 Gabions

Totals: No Quantities

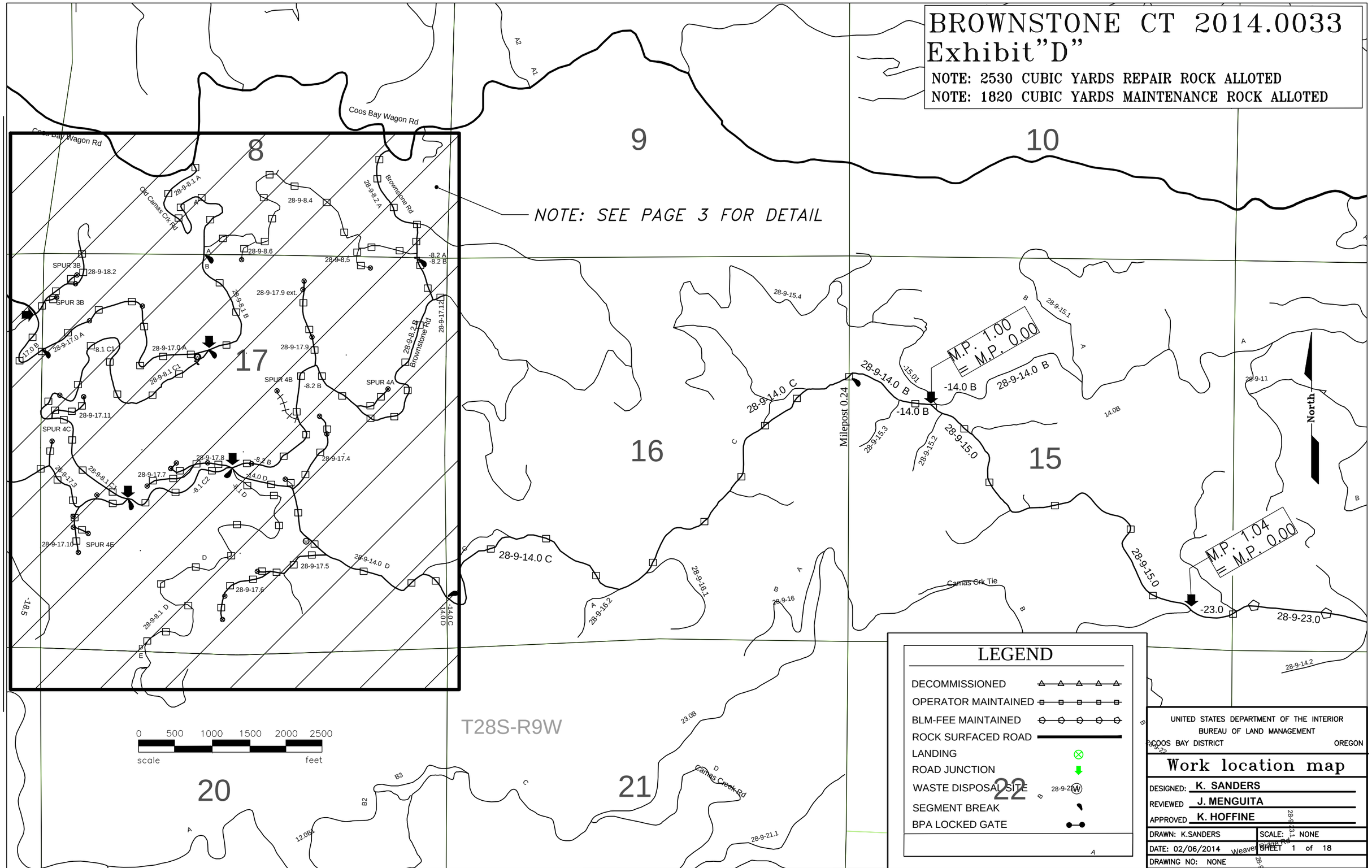
8000 Miscellaneous

Project culvert installation 28-9-8.1 A
Excav. Hyd. Hammer for culvert install. (Possible need) . . . . . 2.5 week

Sta. 17+00 Rip Rap production 28-9-8.1 A
Excavator hydraulic hammer rental . . . . . .5 week

BROWNSTONE CT 2014.0033
Exhibit"D"

NOTE: 2530 CUBIC YARDS REPAIR ROCK ALLOTED
NOTE: 1820 CUBIC YARDS MAINTENANCE ROCK ALLOTED



LEGEND

- DECOMMISSIONED
- OPERATOR MAINTAINED
- BLM-FEE MAINTAINED
- ROCK SURFACED ROAD
- LANDING
- ROAD JUNCTION
- WASTE DISPOSAL SITE 28-9-20W
- SEGMENT BREAK
- BPA LOCKED GATE

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

Work location map

DESIGNED: K. SANDERS	
REVIEWED J. MENGUITA	
APPROVED K. HOFFINE	
DRAWN: K.SANDERS	SCALE: NONE
DATE: 02/06/2014	SHEET 1 of 18
DRAWING NO: NONE	

BROWNSTONE CT 2014.0033
Exhibit"D"

RANGE 9 WEST

TOWNSHIP 28 SOUTH

8

17

North

Coos Bay Wagon Rd

Milepost 29.60 = Sta. 0+00

Milepost 30.30 = Sta. 0+00

Old Camas Crk Rd

28-9-8.1 A

Brownstone Rd

28-9-8.2 A

28-9-8.4

Station 34+00 = Station 0+00

Sta. 8+00 = Sta. 0+00

Sta. 40+00 = Sta. 0+00

Station 26+00 = Station 48+50

Station 1+20 = Station 0+00

Station 45+50= Station 0+00

Sta. 11+75

Sta. 34+80

28-9-8.6

Sta. 2+80

28-9-8.5

Sta. 26+60

-8.2 A

-8.2 B

Sta. 8+00

SPUR 3B

Sta. 2+50

28-9-18.2

Sta. 7+00

Sta. 5+75 =Sta. 0+00

SPUR 3B

Sta. 1+30

28-9-8.1 B

Sta. 3+10

Sta. 2+50

28-9-17.9 ext.

Sta. 5+40 = Sta. 0+00

Sta. 31+00 = Sta. 0+00

Sta. 3+46

28-9-17.12

Sta. 8+65

-17.0 B

28-9-17.0 A

-8.1 C1

28-9-17.0 A

Sta. 3+15

28-9-17.9

Sta. 68+75 =Sta. 0+00

Sta. 60+00 =Sta. 0+00

28-9-8.2 B

Brownstone Rd

Sta. 16+50

28-9-8.1 C1

{-17.0 } 0+00 = {-8.1B/C} 54+00

{-17.8 } 0+00 {-8.1 C}135+10 {-8.1 D} 0+00 {-8.2 B} 92+50 {-14.0D} Mp2.23

Station 99+50= Station 0+00

Sta. 9+00

28-9-17.11

SPUR 4B

Sta. 4+65

-8.2 B

SPUR 4A

Sta. 3+70

Sta. 14+00

Sta. 76+15 = Sta. 0+00

SPUR 4C

Sta. 2+90

{-17.3} 0+00 = {-8.1C} 117+50

Sta. 6+60 = Sta. 0+00

Station 14+70= Station 0+00

Sta. 12+70

28-9-17.4

28-9-17.8

-8.2 B

Sta. 9+00

28-9-17.7

Sta. 7+10

28-9-17.3

28-9-8.1 C1

-8.1 C2

-8.1 D

-14.0 D

Sta. 2+10

Sta. 16+50

Sta. 4+65

M.P. 2.03 =0+00

M.P. 1.96 Waste area

M.P. 1.87 =0+00

Sta. 1+70

Sta. 3+60

Sta. 2+10

SPUR 4E

28-9-17.10

Sta. 6+15

Sta. 7+80 =Sta. 0+00

8+00 =0+00

Sta. 3+60 =Sta. 0+00

D

Sta. 10+50

28-9-17.5

28-9-14.0 D

28-9-17.6

Sta. 6+70

M.P. 1.52

-14.0 C

-14.0 D

-18.5

28-9-8.1 D

Sta. 9+85

D

E

Sta. 57+50

LEGEND

- DECOMMISSIONED
- OPERATOR MAINTAINED
- BLM-FEE MAINTAINED
- ROCK SURFACED ROAD
- LANDING
- ROAD JUNCTION
- WASTE DISPOSAL SITE
- SEGMENT BREAK
- BPA LOCKED GATE
- BOULDER / EARTH BARRIER

0 500 1000 1500 2000 2500

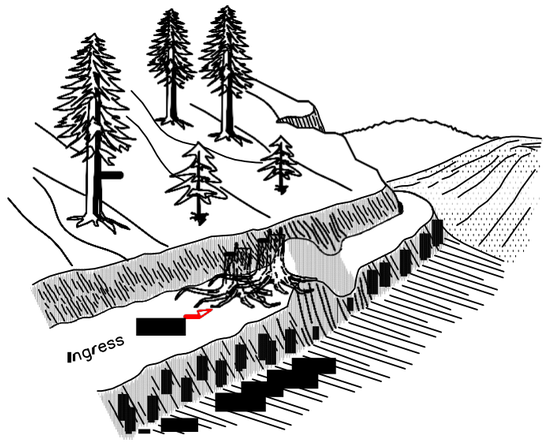
scale feet

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

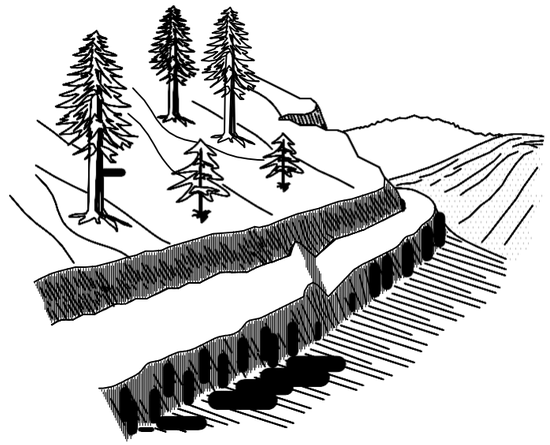
Work location map

DESIGNED: K. SANDERS	
REVIEWED J. MENGUITA	
APPROVED K. HOFFINE	
DRAWN: K.SANDERS	SCALE: NONE
DATE: 02/07/2014	SHEET 2 of 18
DRAWING NO: NONE	

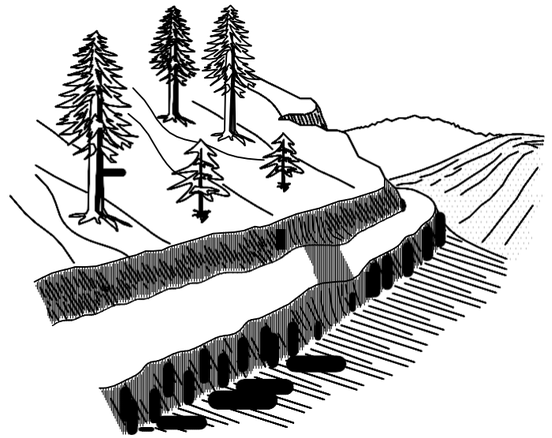
EXHIBIT D



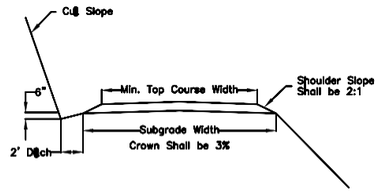
EARTH BERM BARRIER



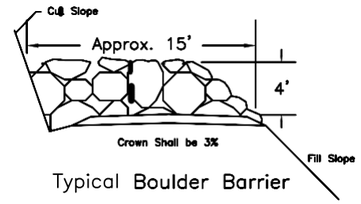
WATER BAR



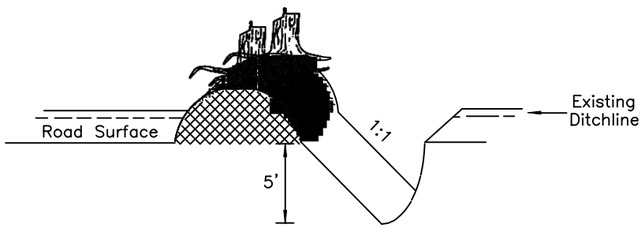
WATER DIP

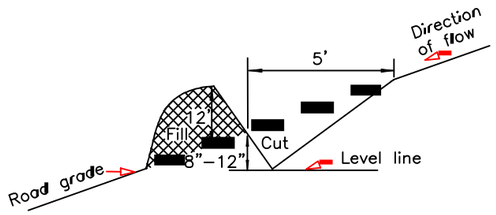


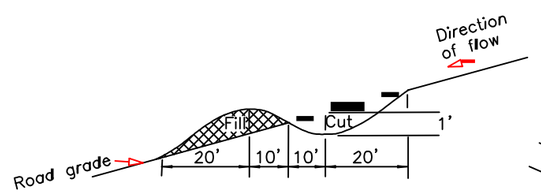
Typical Surfacing Section

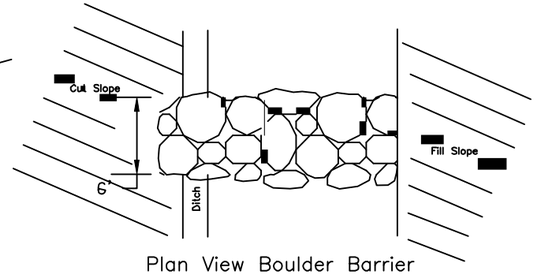


Typical **Boulder Barrier**







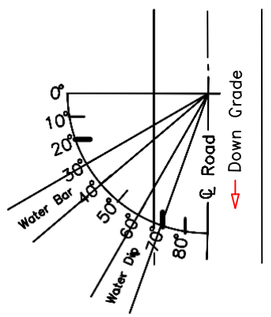


Plan View Boulder Barrier

NOTES

1. All 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 5%, or 2% more than road grade, whichever is greater.
6. All water bars shall be skewed 30°-40° downhill (from perpendicular). All water dips shall be skewed 60°-70° 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 Surface	
	Maximum Spacing (in feet)	
%	Natural	Rocked
3-5	200	300
6-10	150	200
11-15	100	150
16-20	75	100
21-35	50	50

* ON GRADES IN EXCESS OF 14% CONSTRUCT WATER BARS.

ALWAYS THINK SAFETY

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

BARRIER AND EROSION CONTROL DETAIL

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN JB/RCS	SCALE NONE
DATE 11/24/2011	SHEET 3 OF 18

THIS SHEET PROVIDED FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ROAD NUMBER	SURFACING								DRY SEED, FERTILIZER, & MULCH	
	BASE ROCK	MAINT ROCK **	REPAIR ROCK **	MAINT ROCK **		**	RIP RAP BARRIER ROCK **		DRY	HUYDRO MULCH
SPEC. NO.	1000	1000	1200	1200	1200	1200	CLASS IV		1800	1800
UNITS	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	ACRES	ACRES
28–9–14.0 B	(A)	(A)	110 (C)	(C)	(D)	(C)	(B)		0.1	
28–9–14.0 C	(A)	(A)	570 (C)	(C)	(D)	(C)	(B)		1.0	
28–9–14.0 D	(A)	(A)	320 (C)	(C)	(D)	(C)	(B)		0.1	
28–9–15.0	(A)	(A)	460 (C)	(C)	(D)	(C)	(B)		0.1	
28–9–17.0 A	(A)	(A)	60 (C)	(C)	(D)	(C)	(B)		0.2	
28–9–17.0 B	(A)	(A)	30 (C)	(C)	(D)	(C)	(B)		0.3	
28–9–17.10	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.1	
28–9–17.11	(A)	175 (A)	(C)	(C)	(D)	(C)	(B)		0.2	
28–9–17.12	(A)	(A)	(C)	(C)	(D)	(C)	20 (B)		0.1	
28–9–17.3	(A)	(A)	135 (C)	(C)	(D)	(C)	(B)		0.6	
28–9–17.4	(A)	(A)	(C)	(C)	(D)	(C)	20 (B)		0.5	
28–9–17.5	(A)	(A)	(C)	(C)	(D)	(C)	20 (B)		0.2	
28–9–17.6	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.2	
28–9–17.7	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.2	
28–9–17.8	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.3	
28–9–17.9	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.1	
28–9–17.9 ext.	(A)	(A)	(C)	(C)	(D)	(C)	20 (B)		0.1	
28–9–18.2	(A)	(A)	25 (C)	(C)	(D)	(C)	(B)		0.2	
28–9–8.1 A	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.5	
28–9–8.1 B	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.4	
28–9–8.1 C1	(A)	(A)	(C)	(C)	(D)	(C)	40 (B)		1.5	
28–9–8.1 C2	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.1	
28–9–8.1 D	(A)	(A)	(C)	(C)	(D)	(C)	20 (B)		1.5	
28–9–8.2 A	(A)	(A)	100 (C)	(C)	(D)	(C)	(B)		0.3	
28–9–8.2 B	(A)	(A)	(C)	(C)	(D)	(C)	(B)		1.8	
28–9–8.4	(A)	(A)	200 (C)	(C)	(D)	(C)	(B)		0.5	
28–9–8.5	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.4	
28–9–8.6	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.2	
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
PAGE TOTALS	(A)	**175** (A)	**2140** (E)	**1820** (C)	(D)	(C)	**140** (B)		**11.8**	

ITEM	SIZE	GRADE
1000	3”	A
	2”	B
	11/2”	C
	6”	D
700	4”	A
	6”	B
1100	4”	B
1200	1 1/2 ”	C
	1”	D
	3/4 ”	E
RIPRAP	CLASS V	B

GRADE INDICATED IN CIRCLE ◯

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

** PITRUN ROCK, SPOT ROCK, AND RIP RAP ARE TRUCK MEASUREMENT QUANTITIES. QUANTITIES SHOWN IN BASE AND SURFACE ROCK ARE IN COMPACTED CUBIC YARDS.

TTA = TRUCK TURNAROUND

ALWAYS THINK SAFETY

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

EXHIBIT D

ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS | SCALE NONE
DATE 02/08/2014 | SHEET 4 OF 18

THIS SHEET PROVIDED FOR INFORMATIONAL USE ONLY. QUANTITIES SHOWN ARE NOT PAY ITEMS.

ROAD NUMBER	SURFACING								DRY SEED, FERTILIZER, & MULCH	
	BASE ROCK	MAINT ROCK **	SURFACE ROCK	MAINT ROCK **		**	RIP RAP BARRIER ROCK **		DRY	HUYDRO MULCH
SPEC. NO.	1000	1000	1200	1200	1200	1200	700		1800	1800
UNITS	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	*(C.Y.)	ACRES	ACRES
SPUR 3A	(A)	5 (A)	(C)	(C)	(D)	(C)	20 (B)		0.2	
SPUR 3B	(A)	5 (A)	(C)	(C)	(D)	(C)	20 (B)		0.1	
SPUR 4A	(A)	70 (A)	(C)	(C)	(D)	(C)	(B)		0.2	
SPUR 4B	(A)	(A)	(C)	(C)	(D)	(C)	(B)		0.4	
SPUR 4C	(A)	55 (A)	(C)	(C)	(D)	(C)	20 (B)		0.1	
SPUR 4D	(A)	40 (A)	(C)	(C)	(D)	(C)	(B)		0.1	
SPUR 4E	(A)	40 (A)	(C)	(C)	(D)	(C)	(B)		0.1	
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
	(A)	(A)	(C)	(C)	(D)	(C)	(B)			
PAGE TOTALS	(A)	215 (A)	(E)	(C)	(D)	(C)	60 (B)		1.2	

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

** PITRUN ROCK, SPOT ROCK, AND RIP RAP ARE TRUCK MEASUREMENT QUANTITIES. QUANTITIES SHOWN IN BASE AND SURFACE ROCK ARE IN COMPACTED CUBIC YARDS.

ITEM	SIZE	GRADE
1000	3"	A
	2"	B
	11/2"	C
	6"	D
700	4"	A
	6"	B
1100	4"	B
1200	1 1/2"	C
	1"	D
	3/4"	E
RIPRAP	CLASS V	B

GRADE INDICATED IN CIRCLE ◯

ALWAYS THINK SAFETY

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

EXHIBIT D

ESTIMATE OF QUANTITIES

DESIGNED K. SANDERS
REVIEWED J. MENGUITA
APPROVED K. HOFFINE

DRAWN KGS SCALE NONE
DATE 02/08/2014 SHEET 5 OF 18

SPECIAL DETAILS

Timing Restraints

Exhibit D work shall coincide with the Timing Restraints specified in the Special Details of the Exhibit C. In addition, specified roads, spurs, and landings shall be decommissioned after hauling is complete, and prior to the first rains of the wet season, but no later than October 15.

Equipment Washing & Spill Containment

Equipment usage to accomplish the work specified in this Exhibit D shall be in accordance with the Equipment Washing and Spill Containment kit specifications located in the Special Details of the Exhibit C.

Soil Stabilization

All disturbed or exposed soil, within the spur/landing right-of-way, or connected with the road construction, renovation, or decommissioning of this sale, shall have seed, fertilizer, and mulch applied in accordance with the 1800 series of the Exhibit C.

Surface Infiltration Enhancement(SIE)/Recolonization(R)

SIE - The Purchaser shall break up the surfaces of spurs and landings that are designated for treatment to an ***18-inch*** depth, using excavator attachments, log loader tongs, or other approved equipment. The areas to be treated include the entire width of spur and landing surfaces, plus related compacted areas such as turnouts, truck turnarounds, forwarding trails, and log decking areas.

The equipment shall be capable of penetrating to an 18-inch depth, and shall sufficiently loosen the compacted soil so that no more than 50% of the soil particle clusters are greater than 2 inches in size. Treatment shall occur after the completion of harvest activities and during the dry season, when the soil moisture is less than 25%.

R - All spurs to be treated shall be covered with a layer of slash and organic matter following the SIE operation. The intent of the above requirement is to pull back that which is reachable, by an average sized excavator, while staying on the existing roadbed.

Waterbars & Waterdips

Waterbars and waterdips shall be constructed in accordance with the Barrier and Erosion Control Detail, sheet 2.

Road Barriers

Earthen Berm Barriers and Boulder Barriers shall be constructed at specified locations, and in accordance with the Barrier and Erosion Control Details, and shall facilitate drainage. Additional barrier lengths are required when adjacent flat areas exist at barrier locations, to achieve effective road blockage. Single components of the boulder barrier shall be of sufficient size to prevent pickup-assisted movement. Boulders shall have a minimum durability of 35, as determined by AASHTO T210. Seed, fertilizer, and mulch shall be applied to all exposed soil after construction.

Road Maintenance Narratives

The following roads and landings shall be decommissioned in strict accordance with this Exhibit D, and the narratives below. Spurs and landings shall be decommissioned after hauling is complete, and before the first rains of the wet season, but **no later than October 15.**

Road No.	From Station	To Station
28-9-17.10	0+00	6+15
28-9-17.11	0+00	9+00
28-9-17.12	0+00	3+46
28-9-17.4	0+00	14+40
28-9-17.5	0+00	10+80
28-9-17.6	0+00	9+85
28-9-17.7	0+00	7+10
28-9-17.8	0+00	9+00
28-9-17.9	7+70	8+50
28-9-8.1 C	8+65	117+00
28-9-8.1 D	0+00	57+50
28-9-8.2 B	59+40	92+50
28-9-8.5	0+00	8+00
28-9-8.6	0+00	2+80
SPUR 3A	0+00	2+50
SPUR 3B	0+00	1+30
SPUR 4A	0+00	3+70
SPUR 4B	0+00	4+65
SPUR 4C	0+00	2+90
SPUR 4D	0+00	2+05
SPUR 4E	0+00	2+10

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 ***3960 yds^3 of 1 ½ " (-)*** crushed aggregate, conforming to the requirements in Section 1200, and place ***390 yds^3 of 3-0" (-)*** *crushed aggregate*, conforming to the requirements in Section 1000 of Exhibit C of this contract on the roadway at locations and in the amounts designated 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, motor patrol grader, and compactors (See Exhibit C of this contract).

3103 - The Purchaser shall maintain established berms and place additional berms using adjacent material where needed to protect fills as directed by the Authorized Officer.

3104 - The Purchaser shall perform other road cleanup including removal of debris, fallen timber, bank slough, and slides which can practicably be accomplished by a motor 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 waterbars 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 inSection 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:

28-9-14.0 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1000 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ At milepost 1.96 decommission waste area left. Remove placed material from ditch line. Place at the entrance to block road access.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-15.0 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***460 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-17.0 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***90 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-17.10 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1 ½" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked with a Earthen Barrier in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Water bars shall be placed in accordance with Sheet no. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.11 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize the ***175 CY 3" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
No barrier is required (access to the -8.1C1 is blocked).
~ Water bars shall be placed in accordance with Sheet no. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

28-9-17.12 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 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 3+40 before the North / South section line in accordance with Sheet No. 3of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.3 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***135 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-17.4 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1 ½" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked with a Boulder Barrier at the junction of SPUR 4D and the -14.0 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.5 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 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 the junction of the -14.0 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.6 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

28-9-17.7 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.8 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 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 Earthen Barrier at the junction of the -14.0 road and -8.1road in accordance with Sheet No. 3of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-17.9 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1 ½" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked with a Boulder Barrier at the Northern side of the BPA right-of-way at station 7+70 in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-18.2 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***25 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-8.1 A,B Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1 ½" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

28-9-8.1C1 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***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. 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 the Southern side of the BPA right-of-way at station 8+65, and at the junction of road -8.1C2 at station 117+00 in accordance with Sheet No. 3of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-8.1 C2 Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***1 ½" (-)*** maintenance rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-8.1 D 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. 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 the junction of the -14.0 road, and on the North side of the East / West Section line at station 57+50 in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-8.2 A 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 " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-8.2 B Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Station 26+60 to 59+40 utilize ***130 CY 1 ½ " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Station 59+40 to 92+50 utilize ***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. 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 69+00 and at the junction of the -14.0 road at station 92+30 in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

(Road decommissioning continued)

28-9-8.4 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 " (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1200 of the Exhibit C as needed.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

28-9-8.5 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. 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 Earthen Barrier at the South side of the East / West Section line at station 2+25 in accordance with Sheet No. 3 of the Exhibit D
and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

28-9-8.6 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. 3 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 the South side of the East / West Section line at station 2+50 in accordance with Sheet No. 3 of the Exhibit D
and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

SPUR DECOMISSIONING

SPUR 3A Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***5 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked with a Boulder Barrier at the junction of the -18.2 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

SPUR 3B Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***5 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked with a Boulder Barrier at the junction of the -18.2 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

(SPUR decommissioning continued)

SPUR 4A Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***70 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Water bars shall be placed 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 an Earthen Barrier at the junction of the -8.2 B road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

SPUR 4B Upon completion of all logging activities the existing roadway and landing shall be prepared in accordance with detailed section above for full decommissioning :
Surface Infiltration Enhancement(SIE)/Recolonization(R) .
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

SPUR 4C Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***55 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Water bars shall be placed 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 an Boulder Barrier at the junction of the -17.3 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

SPUR 4D Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***40 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Upon completion of all logging activities the road shall be blocked from the Boulder Barrier from the -19.4 road in accordance with Sheet No. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch all scarified and disturbed areas in accordance with Section 1800 of the Exhibit C.

SPUR 4E Upon completion of all logging activities the existing roadway shall be prepared in accordance with Section 500 of the Exhibit C.
~ Utilize ***40 CY 3" (-)*** repair rock allotted for damaged road surfaces, conforming to Section 1000 of the Exhibit C as needed.
~ Water bars shall be placed in accordance with Sheet no. 3 of the Exhibit D and as directed by the Authorized Officer.
~ Seed, fertilize, and mulch the full road prism and all scarified and disturbed areas in Accordance with Section 1800 of the Exhibit C.

			EXHIBIT D			
		ROAD MAINTENANCE APPRAISAL				
Date:	2/12/2014			SALE NAME	BROWNSTONE CT 2014.0033	
		ROAD NUMBERS		MILES		
		28-9-14.0 B,C,D		2.2		
		28-9-15.0		1.0		
		28-9-17.0 A,B		0.9		
		28-9-17.10		0.1		
		28-9-17.11		0.2		
		28-9-17.12		0.1		
		28-9-17.3		0.3		
		28-9-17.4		0.3		
		28-9-17.5		0.2		
		28-9-17.6		0.2		
		28-9-17.7		0.1		
		28-9-17.8		0.2		
		28-9-17.9		0.2		
		28-9-18.2		0.2		
		28-9-8.1 A		0.7		
		28-9-8.1 B		0.4		
		28-9-8.1 C1		1.2		
		28-9-8.1 C2		0.3		
		28-9-8.1 D		1.1		
		28-9-8.2 A		0.5		
		28-9-8.2 B		1.3		
		28-9-8.4		0.9		
		28-9-8.5		0.2		
		28-9-8.6		0.1		
		SPUR 3A		0.1		
		SPUR 3B		0.0		
		SPUR 4A		0.1		
		SPUR 4B		0.1		
		SPUR 4C		0.1		
		SPUR 4D		0.0		
		SPUR 4E		0.0		
			TOTAL MILES =	13.0		

			-APPRAISAL WORKSHEET-			
			-SUMMARY-			
1.		MOVE IN				$4,947.00
2.		CULVERTS, SLOUGH, SLUMPS, & MISC				$5,317.70
3.		GRADING FOR TIMBER HAUL				$10,376.00
4.		GRADING FOR AGGREGATE HAUL				$0.00
5.		MAINTENANCE ROCK				$114,470.25
6.		NOXIOUS WEED EQUIPMENT WASHING				$4,550.00
7.		DECOMMISSIONING				$14,547.80
				MAINTENANCE TOTAL:		$154,208.75
1.		MOVE-IN:				
		EQUIPMENT		MOVE-INS	COST / MOVE	= TOTAL
		GRADER		2.0	$356.00	$712.00
		EXCAVATOR/LOG LOADER		2.0	$680.00	$1,360.00
		TRACTOR/D7 w/rippers + LOWBOY HAUL		1.0	$518.00	$518.00
		ROLLER & COMPACTOR		2.0	$356.00	$712.00
		BACKHOE		2.0	$356.00	$712.00
		DUMP TRUCK		2.0	$185.00	$370.00
		MULCHING EQUIPMENT		1.0	$131.00	$131.00
		Water Truck		2.0	$216.00	$432.00
					TOTAL =	$4,947.00
2.		CULVERT MAINT., SLOUGH REMOVAL, SLUMP REPAIRS, ETC.				
		MAINT. OBLIGATION		AVE. COST		= TOTAL
		13.0	MILES @	410.0	/ MILE =	$5,317.70
3.		GRADING FOR TIMBER HAUL				
		UNIT #	GRADINGS	X MILES	ACC. MILES	
		ALL UNITS	2.0	13.0	25.9	
				TOTAL MILES	25.9	
		25.9	MILES @	400.0	/ MILE =	$10,376.00
4.		GRADING FOR AGGREGATE HAUL:				
			MILES @	520.0	/ MILE =	$0.00

5.		MAINTENANCE ROCK:				
ROYALTY	$9.80	SIZE:	1 1/2" (-)	SOURCE:	B&B	
BASE COSTS		3960	CU. YDS. @	14.9	=	$59,162.40
SLOW HAUL		0	CU. YDS. @	2.8	0.0	-
MED. HAUL		3960	CU. YDS. @	1.4	1.5	8,256.60
FAST HAUL		3960	CU. YDS. @	0.6	14.0	34,372.80
WATER		3960	CU. YDS. @	0.6	1.0	2,415.60
MED. HAUL		0	CU. YDS. @	0.1	0.0	-
						$104,207.40
ROYALTY	$9.50	SIZE:	3-0" (-)	SOURCE:	B&B	
BASE COSTS		390	CU. YDS. @	14.9	=	$5,826.60
SLOW HAUL		0	CU. YDS. @	2.8	0.0	-
MED. HAUL		390	CU. YDS. @	1.4	1.5	813.15
FAST HAUL		390	CU. YDS. @	0.6	14.0	3,385.20
WATER		390	CU. YDS. @	0.6	1.0	237.90
MED. HAUL		0	CU. YDS. @	0.1	0.0	-
						10,262.85
ROYALTY	$12.50	SIZE:	3/4 " (-)	SOURCE:	N/A	
BASE COSTS		0	CU. YDS. @	13.4	=	$0.00
SLOW HAUL		0	CU. YDS. @	2.8	0.0	-
MED. HAUL		0	CU. YDS. @	1.4	6.0	-
FAST HAUL		0	CU. YDS. @	0.6	30.0	-
WATER		0	CU. YDS. @	0.6	5.0	-
MED. HAUL		0	CU. YDS. @	0.1	1.0	-
						-
					TOTAL =	$114,470.25
6.		NOXIOUS WEED EQUIPMENT WASHING				$4,550.00
		(Entrance Only)			$ 2275 x 2	

7.		DECOMMISSIONING:				
		28-9-14.0				
		Boulder Barrier		0.0	$0.00	
		Soil stabilization		1.2	$434.40	
		Waterbar Construction		0.0	$0.00	$434.40
		28-9-15.0				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$36.20
		28-9-17.0				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.5	$181.00	$181.00
		28-9-17.10				
		Earthen Barrier		1.0	$200.00	
		Waterbar Construction		4.0	$92.00	
		Soil stabilization		0.1	$36.20	$328.20
		28-9-17.11				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		4.0	$92.00	
		Soil stabilization		0.2	$72.40	$164.40
		28-9-17.12				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$649.20
		28-9-17.3				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.6	$217.20	$217.20
		28-9-17.4				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.5	$181.00	$794.00
		28-9-17.5				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		8.0	$184.00	
		Soil stabilization		0.2	$72.40	$869.40
		28-9-17.6				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		6.0	$138.00	
		Soil stabilization		0.6	$217.20	$355.20
		28-9-17.7				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		8.0	$184.00	
		Soil stabilization		0.2	$72.40	$256.40
		28-9-17.8				
		Earthen Barrier		1.0	$200.00	
		Waterbar Construction		12.0	$276.00	

		Soil stabilization		0.3	$108.60	$584.60
		28-9-17.9				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$36.20
		28-9-17.9ext				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		1.0	$23.00	
		Soil stabilization		0.1	$36.20	$672.20
		28-9-18.2				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.2	$72.40	$72.40
		28-9-8.1 A, B				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.9	$325.80	$325.80
		28-9-8.1 C1				
		Boulder Barrier		2.0	$1,226.00	
		Waterbar Construction		18.0	$414.00	
		Soil stabilization		1.5	$543.00	$2,183.00
		28-9-8.1 C2				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$36.20
		28-9-8.2 A				
		Earthen Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.3	$108.60	$108.60
		28-9-8.2 B				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		15.0	$345.00	
		Soil stabilization		1.8	$651.60	$1,609.60
		28-9-8.4				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.5	$181.00	$181.00
		28-9-8.5				
		Earthen Barrier		1.0	$200.00	
		Waterbar Construction		5.0	$115.00	
		Soil stabilization		0.4	$144.80	$459.80
		28-9-8.6				
		Earthen Barrier		1.0	$200.00	
		Waterbar Construction		2.0	$46.00	
		Soil stabilization		0.2	$72.40	$318.40
		SPUR 3A				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		0.0	$0.00	

		Soil stabilization		0.2	$72.40	$685.40
		SPUR 3B				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$649.20
		SPUR 4A				
		Earthen Barrier		1.0	$200.00	
		Waterbar Construction		2.0	$46.00	
		Soil stabilization		0.2	$72.40	$318.40
		SPUR 4B				
		Boulder Barrier		0.0	$0.00	
		Waterbar Construction		0.0	$0.00	
		SIE/R Roads		1.0	$450.00	
		Soil stabilization		0.4	$144.80	$594.80
		SPUR 4C				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		3.0	$69.00	
		Soil stabilization		0.1	$36.20	$718.20
		SPUR 4D				
		Boulder Barrier		1.0	$613.00	
		Waterbar Construction		0.0	$0.00	
		Soil stabilization		0.1	$36.20	$649.20
		SPUR 4E				
		Earthen Barrier		0.0	$0.00	
		Waterbar Construction		1.0	$23.00	
		Soil stabilization		0.1	$36.20	$59.20

Subtotal $14,547.80

SALE NAME: Brownstone CT **EXHIBIT E** **SALE NO.: ORC00-TS-2014.0033**

ROAD USE AND MAINTENANCE FEES

SALE VOLUME: 8812 NET MBF

A. ROAD USE FEES - Payable to Private Company:

COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	USE FEE per MBF	TOTAL FEES
Plum Creek	C-344	28-9-14.0 C	4282		$0.00
Plum Creek	C-344	28-9-14.0 D	4282		$0.00
Plum Creek	C-344	28-8-19.0 B	4282	$3.00	$12,846.00
Plum Creek	C-344	28-9-8.1 A	4530	$3.00	$13,590.00
Plum Creek	C-344	28-9-8.1 C	1790		$0.00
Plum Creek	C-344	28-9-8.2 A	399		$0.00
Plum Creek	C-344	28-9-8.4	983		$0.00
Plum Creek	C-344	28-9-8.6	166		$0.00
Plum Creek	C-344	28-9-17.0 B	275		$0.00
Plum Creek	C-344	28-9-17.3	339		$0.00
Plum Creek	C-344	28-9-18.2	275		$0.00
					$0.00
					$0.00
				TOTAL USE FEE:	$26,436.00

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
rock	28-9-23.0	4282	0.93	$0.49	$1,951.31	$0.76	$3,026.52	$4,977.83
rock	28-8-19.0 C1	4282	0.27	$0.49	$566.51	$0.76	$878.67	$1,445.18
rock	28-8-19.0 A	4282	0.30	$0.49	$629.45	$0.76	$976.30	$1,605.75
bst	28-8-18.0	4282	1.20		$0.00	$0.71	$3,648.26	$3,648.26
					$0.00		$0.00	$0.00
					$0.00		$0.00	$0.00
			2.7		$3,147.27		$8,529.75	$11,677.02

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
rock	28-9-17.6	290	0.06	$0.49	$8.53
rock	28-9-17.6	803	0.13	$0.49	$51.15
rock	28-9-17.5	289	0.05	$0.49	$7.08
rock	28-9-17.5	1092	0.15	$0.49	$80.26
rock	28-9-17.4	197	0.02	$0.49	$1.93
rock	28-9-17.4	345	0.08	$0.49	$13.52
rock	28-9-17.4	394	0.17	$0.49	$32.82
rock	Spur 4D	167	0.04	$0.49	$3.27
rock	Spur 4C	167	0.05	$0.49	$4.09
rock	28-9-17.3	167	0.07	$0.49	$5.73
rock	28-9-17.3	339	0.06	$0.49	$9.97

rock	28-9-17.10	901	0.05	$0.49	$22.07
rock	Spur 4E	123	0.04	$0.49	$2.41
rock	28-9-17.10	1179	0.04	$0.49	$23.11
rock	28-9-17.10	1278	0.03	$0.49	$18.79
rock	28-9-17.3	1617	0.06	$0.49	$47.54
rock	28-9-17.3	1716	0.09	$0.49	$75.68
rock	28-9-8.1 C2	1716	0.04	$0.49	$33.63
rock	28-9-8.1 C2	1790	0.29	$0.49	$254.36
rock	28-9-17.7	74	0.08	$0.49	$2.90
rock	28-9-17.7	142	0.05	$0.49	$3.48
rock	28-9-17.8	271	0.05	$0.49	$6.64
rock	28-9-17.8	413	0.04	$0.49	$8.09
rock	28-9-17.8	716	0.08	$0.49	$28.07
rock	28-9-14.0 D	790	0.08	$0.49	$30.97
rock	28-9-14.0 D	839	0.12	$0.49	$49.33
rock	28-9-14.0 D	3190	0.16	$0.49	$250.10
rock	28-9-14.0 D	4282	0.35	$0.49	$734.36
rock	28-9-14.0 B	4282	0.24	$0.49	$503.56
rock	28-9-15.0	4282	1.00	$0.49	$2,098.18
rock	28-9-23.0	4282	0.11	$0.49	$230.80
nat	28-9-8.2 B	123	0.14	$0.00	$0.00
nat	28-9-8.2 B	246	0.08	$0.00	$0.00
rock	Spur 4A	123	0.07	$0.49	$4.22
rock	28-9-8.2 B	369	0.04	$0.49	$7.23
rock	28-9-8.2 B	462	0.13	$0.49	$29.43
rock	28-9-17.9 ext	257	0.01	$0.49	$1.26
rock	28-9-17.9 ext	514	0.05	$0.49	$12.59
rock	28-9-17.9	514	0.05	$0.49	$12.59
rock	28-9-17.9	711	0.05	$0.49	$17.42
rock	28-9-8.2 B	1247	0.03	$0.49	$18.33
rock	28-9-8.2 B	1346	0.11	$0.49	$72.55
rock	Spur 4B	148	0.04	$0.49	$2.90
rock	Spur 4B	241	0.05	$0.49	$5.90
rock	28-9-8.2 B	1587	0.18	$0.49	$139.97
rock	28-9-8.2 B	1636	0.08	$0.49	$64.13
rock	28-9-8.2 C2	1636	0.33	$0.49	$264.54
rock	28-9-8.2 C1	1636	0.04	$0.49	$32.07
rock	28-9-8.2 C1	1685	0.07	$0.49	$57.80
rock	28-9-8.2 C1	1759	0.08	$0.49	$68.95
rock	28-9-8.2 C1	1833	0.08	$0.49	$71.85
rock	28-9-8.2 C1	1882	0.07	$0.49	$64.55
rock	28-9-17.11	197	0.14	$0.49	$13.51
rock	28-9-17.11	300	0.03	$0.49	$4.41
rock	28-9-8.2 C1	2182	0.11	$0.49	$117.61
rock	28-9-8.2 C1	2281	0.18	$0.49	$201.18
rock	28-9-8.2 C1	2306	0.12	$0.49	$135.59
rock	28-9-8.2 C1	2380	0.13	$0.49	$151.61
rock	28-9-8.2 C1	2429	0.11	$0.49	$130.92
rock	28-9-8.2 C1	2577	0.12	$0.49	$151.53
rock	28-9-8.2 C1	2676	0.09	$0.49	$118.01
rock	Spur 3A	120	0.05	$0.49	$2.94
rock	28-9-18.2	96	0.02	$0.49	$0.94
rock	28-9-18.2	216	0.11	$0.49	$11.64
rock	Spur 3B	59	0.02	$0.49	$0.58
rock	28-9-18.2	275	0.02	$0.49	$2.70
rock	28-9-17.0 B	275	0.21	$0.49	$28.30
rock	28-9-17.0 A	275	0.16	$0.49	$21.56
rock	28-9-17.0 A	303	0.06	$0.49	$8.91
rock	28-9-17.0 A	360	0.06	$0.49	$10.58

rock	28-9-17.0 A	474	0.23	$0.49			$53.42
rock	28-9-17.0 A	646	0.09	$0.49			$28.49
rock	28-9-17.0 A	720	0.04	$0.49			$14.11
rock	28-9-8.1 B	3396	0.02	$0.49			$33.28
rock	28-9-8.1 B	3445	0.18	$0.49			$303.85
rock	28-9-8.1 B	3496	0.12	$0.49			$205.56
rock	28-9-8.1 B	3547	0.04	$0.49			$69.52
rock	28-9-8.2 B	246	0.12	$0.49			$14.46
rock	28-9-8.2 B	297	0.04	$0.49			$5.82
rock	28-9-17.12	51	0.03	$0.49			$0.75
nat	28-9-8.2 B	348	0.05	$0.00			$0.00
nat	28-9-8.2 B	399	0.03	$0.00			$0.00
nat	28-9-8.5	206	0.09	$0.00			$0.00
nat	28-9-8.5	418	0.06	$0.00			$0.00
							$0.00
							$0.00
			8.54	$0.00			$7,432.52

3. ROAD MAINTENANCE AND/OR ROCKWEAR FEES - Payable to Private Company:

Surface Type	COMPANY NAME	AGREEMENT NUMBER	ROAD NUMBER	NET MBF	ROAD MILES	ROCKWEAR & MAINT. /MBF/Mile		TOTAL FEES
rock	Plum Creek	C-344	28-9-14.0 C	4282	1.28	$0.49		$2,685.67
rock	Plum Creek	C-344	28-8-19.0 B	4282	1.13	$0.49		$2,370.94
rock	Plum Creek	C-344	28-9-8.1 A	3547	0.01	$0.49		$17.38
rock	Plum Creek	C-344	28-9-8.2 A	399	0.01	$0.49		$1.96
rock	Plum Creek	C-344	28-9-8.4	399	0.16	$0.49		$31.28
rock	Plum Creek	C-344	28-9-8.4	817	0.61	$0.49		$244.20
nat	Plum Creek	C-344	28-9-8.6	166	0.05	$0.00		$0.00
rock	Plum Creek	C-344	28-9-8.4	983	0.15	$0.49		$72.25
rock	Plum Creek	C-344	28-9-8.1 A	4530	0.64	$0.49		$1,420.61
								$0.00
								$0.00
					4.04			$6,844.29

4. OPERATOR MAINTENANCE WILL BE REQUIRED ON APPROX. 13.0 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:	$26,436.00	$3.00	$6,844.29	$0.78		$0.00
2. BLM MAINTAINED ROADS:			$3,147.27	$0.36	$8,529.75	$0.97
3. BLM OPERATOR-MAINTAINED ROADS:			$7,432.52	$0.84		$0.00
	$26,436.00	$3.00	$17,424.08	$1.98	$8,529.75	$0.97

	TOTAL	$/MBF
MAINTENANCE OBLIGATION PAYABLE TO BLM:	$19,109.54	$2.17

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.

Form 5440-9
(November 2011)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEPOSIT AND BID FOR

☑ **TIMBER or TIMBER AND OTHER WOOD PRODUCTS**

☐ **VEGETATIVE RESOURCES (Other Than Timber)**

Name of Bidder	
Tract Number	ORC00-TS-2014.0033
Sale Name	BROWNSTONE CT
Sale Notice *(dated)*	MAR 27, 2014
BLM District	COOS BAY

☐ Sealed Bid for Sealed Bid Sale	☑ Written Bid for Oral Auction Sale
Time for opening sealed bids ☐ a.m. ☐ p.m.	Sale commences 10:00 ☑ a.m. ☐ p.m.
On *(date)* Place	On *(date)* APR 25, 2014 Place COOS BAY DISTRICT OFFICE

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 $95,000.00 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 QUANITY	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
DOUGLAS FIR	MBF	6,440	x	=	x	=
WESTERN HEMLOCK	MBF	1,622	x	=	x	=
RED ALDER	MBF	576	x	=	x	=
PORT ORFORD CEDAR	MBF	129	x	=	x	=
WESTERN RED CEDAR	MBF	45	x	=	x	=
			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)

❑ Signature, if firm is individually owned	Name of firm *(type or print)*
❑ Signatures, if firm is a partnership or L.L.C.	Business address, include zip code *(type or print)*
❑ Corporation organized under the state laws of	*(To be completed following oral bidding)*
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By *(signature)*
Title	Date

Submit bid, in *duplicate*, 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
(November 2011)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

DEPOSIT AND BID FOR

☑ **TIMBER or TIMBER AND OTHER WOOD PRODUCTS**

☐ **VEGETATIVE RESOURCES (Other Than Timber)**

Name of Bidder	
Tract Number	ORC00-TS-2014.0033
Sale Name	BROWNSTONE CT
Sale Notice *(dated)*	MAR 27, 2014
BLM District	COOS BAY

☐ Sealed Bid for Sealed Bid Sale	☑ Written Bid for Oral Auction Sale
Time for opening sealed bids ☐ a.m. ☐ p.m.	Sale commences 10:00 ☑ a.m. ☐ p.m.
On *(date)* Place	On *(date)* APR 25, 2014 Place COOS BAY DISTRICT OFFICE

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 $95,000.00 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 QUANITY	UNIT PRICE	TOTAL VALUE	UNIT PRICE	TOTAL VALUE
DOUGLAS FIR	MBF	6,440	x	=	x	=
WESTERN HEMLOCK	MBF	1,622	x	=	x	=
RED ALDER	MBF	576	x	=	x	=
PORT ORFORD CEDAR	MBF	129	x	=	x	=
WESTERN RED CEDAR	MBF	45	x	=	x	=
			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)

❑ Signature, if firm is individually owned	Name of firm *(type or print)*
❑ Signatures, if firm is a partnership or L.L.C.	Business address, include zip code *(type or print)*
❑ Corporation organized under the state laws of	*(To be completed following oral bidding)*
Signature of Authorized Corporate Signing Officer	I HEREBY confirm the above oral bid By *(signature)*
Title	Date

Submit bid, in *duplicate*, 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)

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.

(Continued on page 4)

(*Applies to Timber Only)

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.

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Timber - Sale - Summary

Coos Bay
Brownstone CT
ORC00-TS-2014.0033

Legal Description

Forest Type	Township	Range	Section	Subdivision
CBWR	28S	9W	17	NE1/4, NW1/4, SW1/4, W1/2 SE1/4

Cutting Volume (16' MBF)

Unit	DF	WH	RA	POC	WRC				Total	Regen	Partial	ROW
1	963	238	84	18	7				1,310	0	51	0
2	150	34	12	2	1				199	0	7	0
3	191	50	18	4	1				264	0	11	0
4	3,810	982	351	76	27				5,246	0	213	0
5	1,061	280	100	22	8				1,471	0	61	0
RW	265	38	11	7	1				322	0	0	5
Totals	**6,440**	**1,622**	**576**	**129**	**45**				**8,812**	**0**	**343**	**5**

Logging Costs per 16' MBF

Stump to Truck	$	219.47
Transportation	$	41.12
Road Construction	$	66.69
Road Amortization	$	3.00
Road Maintenance	$	20.45

Other Allowances :

Habitat Creation	$ 3.31
Landing pullback	$ 1.01
Slash Disposal	$ 0.98
Vehicle Washing	$ 0.44
Total Other Allowances :	**$ 5.74**

Total Logging Costs per 16' MBF $ **356.45**

Utilization Centers

Center #1 : Dillard, OR	27	Miles
Center #2	0	Miles
Weighted distance to Utilization Centers	27	

Length of Contract

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

Profit & Risk

Total Profit & Risk		14 %
Basic Profit & Risk	11 % + Additional Risk	3 %
Back Off		0 %

Tract Features

Avg Log	Douglas-fir : 47 bf	All : 48 bf
Recovery	Douglas-fir : 95 %	All : 94 %
Salvage	Douglas-fir : 0 %	All : 0 %

Avg Volume (16' MBF per Acre)	25	
Avg Yarding Slope	47	%
Avg Yarding Distance (feet)	268	
Avg Age	65	
Volume Cable	76	%
Volume Ground	24	%
Volume Aerial	0	%
Road Construction Stations	44.20	
Road Improvement Stations	83.30	
Road Renovation Stations	387.65	
Road Decomission Stations	299.51	

Cruise

Cruised By	Wooley, Morgan, Furchner
Date	01/21/2014
Type of Cruise	VP, 3P, BLM 100
County, State	Coos, OR

Net Volume

Green (16' MBF)	8,812
Salvage (16' MBF)	0
Douglas-fir Peeler	0
Export Volume	129
Scaling Allowance ($0.75 per 16' MBF)	$6,609.00

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Coos Bay
Brownstone CT
ORC00-TS-2014.0033

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	28,992	6,440	$ 565.93	$ 79.23	$ 356.45			$ 130.20	$ 838,488.00
WH	6,793	1,622	$ 464.13	$ 64.98	$ 356.45			**$ 46.40**	$ 75,260.80
RA	2,964	576	$ 420.03	$ 58.80	$ 356.45			**$ 42.00**	$ 24,192.00
POC	2,676	129	$ 459.39	$ 64.31	$ 356.45			**$ 45.90**	$ 5,921.10
WRC	1,267	45	$ 606.69	$ 84.94	$ 356.45			$ 165.30	$ 7,438.50
Totals	**42,692**	**8,812**							**$ 951,300.40**

Log Code by Percent

Species	Code #1	Code #2	Code #3	Code #4	Code #5	Code #6
Port-Orford-cedar				25.0	44.0	31.0
Douglas-fir				48.0	45.0	7.0
Western red-cedar			57.0	43.0		
Western Hemlock				49.0	44.0	7.0
Red Alder		53.0	31.0	16.0		

Marginal Log Volume

Species	Grade #7	Grade #8
Port-Orford-cedar		
Douglas-fir		
Western red-cedar		
Western Hemlock		
Red Alder		

Appraised By : Sill, Tom **Date :** 03/05/2014

Area Approval By : Wooley, Michael **Date :** 03/06/2014

District Approval By : Morgan, Estella **Date :** 03/19/2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Coos Bay
Brownstone CT
ORC00-TS-2014.0033

Prospectus

Appraisal Method : (16' MBF)

Species	Trees	Net Volume 16' MBF	Net Volume 32' MBF	Net Volume CCF
Douglas-fir	28,992	6,440	5,742	
Western Hemlock	6,793	1,622	1,403	
Red Alder	2,964	576	442	
Port-Orford-cedar	2,676	129	110	
Western red-cedar	1,267	45	39	
Total	**42,692**	**8,812**	**7,736**	

All Species

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
9,389	42,692	219	13.3	9,324	193,191	48

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
193,191	2,081	195,272	4.6	8,812	9,389	94 %

Douglas-fir

Gross Volume	Number Trees	Avg bf Volume Per Tree	DBH	Gross Merch Volume	Merch Logs	Avg bf Gross Merch Log
6,795	28,992	234	13.6	6,762	144,833	47

Merch Logs	Cull Logs	Total Logs	Logs per Tree	Net Volume	Gross Volume	Recovery
144,833	1,017	145,850	5.0	6,440	6,795	95 %

Cutting Areas

Unit	Regen Acres	Partial Cut Acres	Right Of Way Acres	Total Acres
1		51		51
2		7		7
3		11		11
4		213		213
5		61		61
RW			5	5
Totals :		**343**	**5**	**348**