

**TIMBER NOTICE OF SALE**

**SALE NAME: DIAMOND JIM**

**AGREEMENT NO: 30-092609**

**AUCTION:** December 17, 2015 starting at 10:00 a.m., **COUNTY:** Lewis  
Pacific Cascade Region Office, Castle Rock, WA

**SALE LOCATION:** Sale located approximately 12 miles southwest of Mossyrock

**PRODUCTS SOLD  
AND SALE AREA:**

All timber, except leave trees banded with a single ring of blue paint, areas bounded out by yellow Leave Tree Area tags, timber bounded with orange "Right-of-Way Boundary" tags and orange flagging located on Weyerhaeuser land in Township 11 North, Range 02 East, Section 25 labeled as Unit 3, snags, and all down timber existing 5 years prior to the day of sale bounded by: white "Timber Sale Boundary" tags, pink flagging, white carsonite posts and reprod in Unit 1, white "Timber Sale Boundary" tags, pink flagging, white carsonite posts, reprod, and the W-524 road in Unit 2, orange "Right-of-Way Boundary" tags and orange flagging in Units 4. on part(s) of Sections 26 all in Township 11 North, Range 2 East, W.M., containing 135 acres, more or less.

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BV-SFIS-US09000572)

**ESTIMATED SALE VOLUMES AND QUALITY:**

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	22.2	7	4,891				62		3,713	956	136	24
Hemlock	15.8	7	886						459	315	60	52
Red alder	13.3		552					17	32	132	354	17
Maple	14.6		104					12	8	15	60	9
Red cedar	20.1		52							43	6	3
Sale Total			6,485									

**MINIMUM BID:** \$1,782,000.00 **BID METHOD:** Sealed Bids

**PERFORMANCE SECURITY:** \$100,000.00 **SALE TYPE:** Lump Sum

**EXPIRATION DATE:** December 31, 2017 **ALLOCATION:** Export Restricted

**BID DEPOSIT:** \$178,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

**HARVEST METHOD:** Ground based equipment and Cable. Estimated 38% uphill cable, 62% ground-based yarding. Ground-based equipment will not be permitted on slopes greater than 40%. Ground-based yarding shall only operate during dry soil conditions. See contract clauses H-140 and H-141 for further details. Ground Based Yarding will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

**ROADS:** 3.50 stations of required construction. 12.76 stations of required reconstruction. 59.15 stations of optional construction. 5.00 stations of optional reconstruction. 482.91 stations of required pre-haul maintenance. 31.45 stations of optional pre-haul maintenance. 5.00 stations of abandonment. Rock for construction, reconstruction, and pre-haul maintenance under this contract may be obtained at no cost to the Purchaser from the W-520 Pit located in Section 28, Township 11 North, Range 02 East, W.M. rock

## TIMBER NOTICE OF SALE

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for this contract may be obtained from any commercial source as approved in writing by the Contract Administrator. Purchaser shall stockpile 3,000 C.Y of 2 INCH MINUS CRUSHED rock in accordance with clause 6-65 of the road plan. Road construction will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

### **ACREAGE DETERMINATION**

**CRUISE METHOD:** Acreages were determined using GPS. This sale was cruised with a variable plot method.

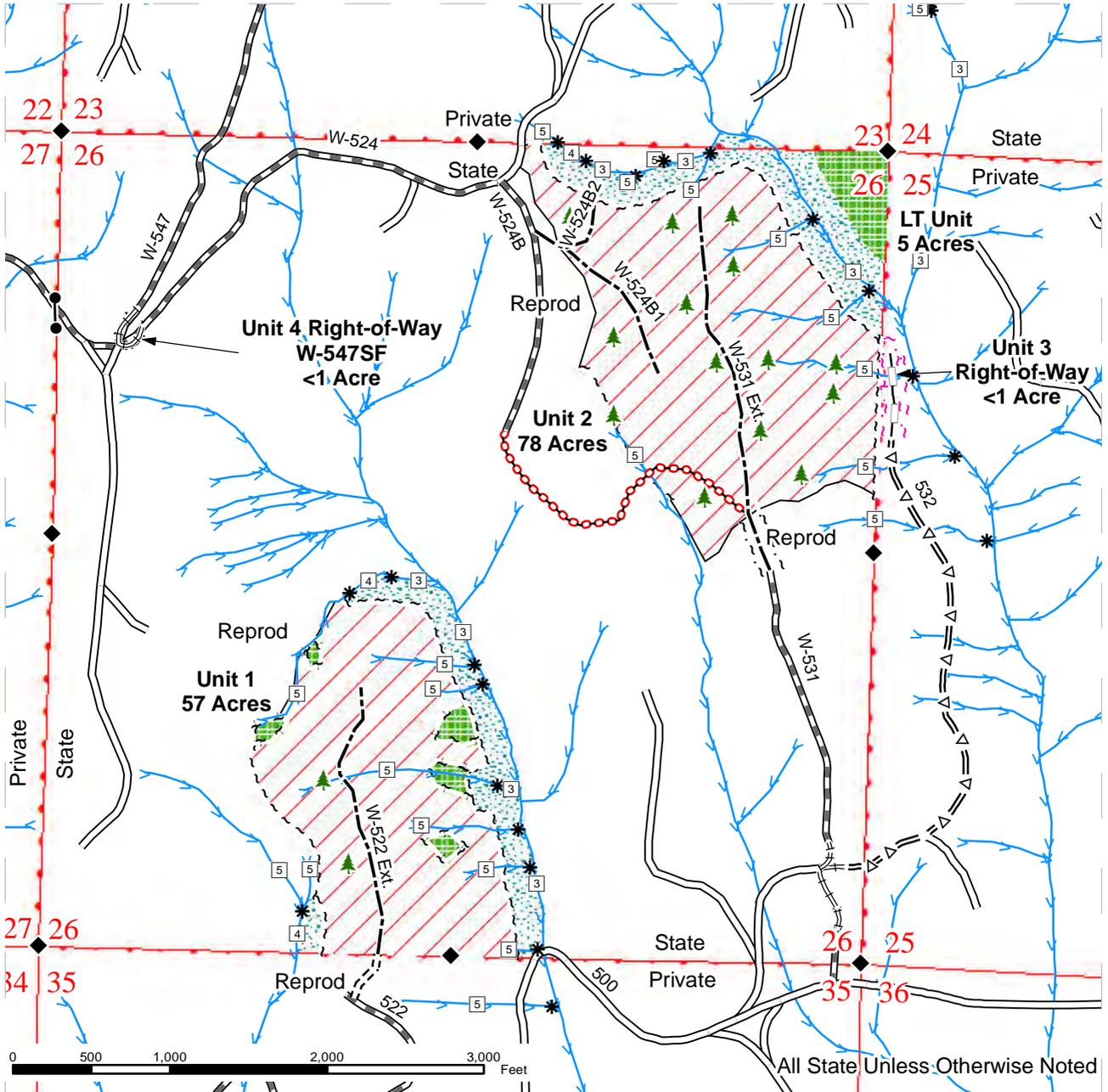
**FEES:** Fee of \$5,137.00 paid to Weyerhaeuser Company for a Road Use Permit between the Purchaser and Weyerhaeuser Company. This fee is due upon execution. \$115,162.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

**SPECIAL REMARKS:** This sale contains an estimated 1,595 MBF of higher quality DF and 224 MBF of higher quality WH, also 30MBF of down DF and 17MBF of down WH; see cruise for further details. All timber located in the Unit 3 Right-of-Way shall be cut, decked and left on site. See driving map for gate locations. Purchasers will need a PCP 1-1 gate key. Gate keys are available at the Pacific Cascade Region office. There is a 10mph speed limit restriction on the 540 Private Rd. from station 0+00 to 7+00 (the bridge). No jake brakes allowed near the residence on the W-540.

# TIMBER SALE MAP

**SALE NAME:** DIAMOND JIM  
**AGREEMENT#:** 30-092609  
**TOWNSHIP(S):** T11R02E  
**TRUST(S):** Capitol Grant(7)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** LEWIS  
**ELEVATION RGE:** 1116-1574

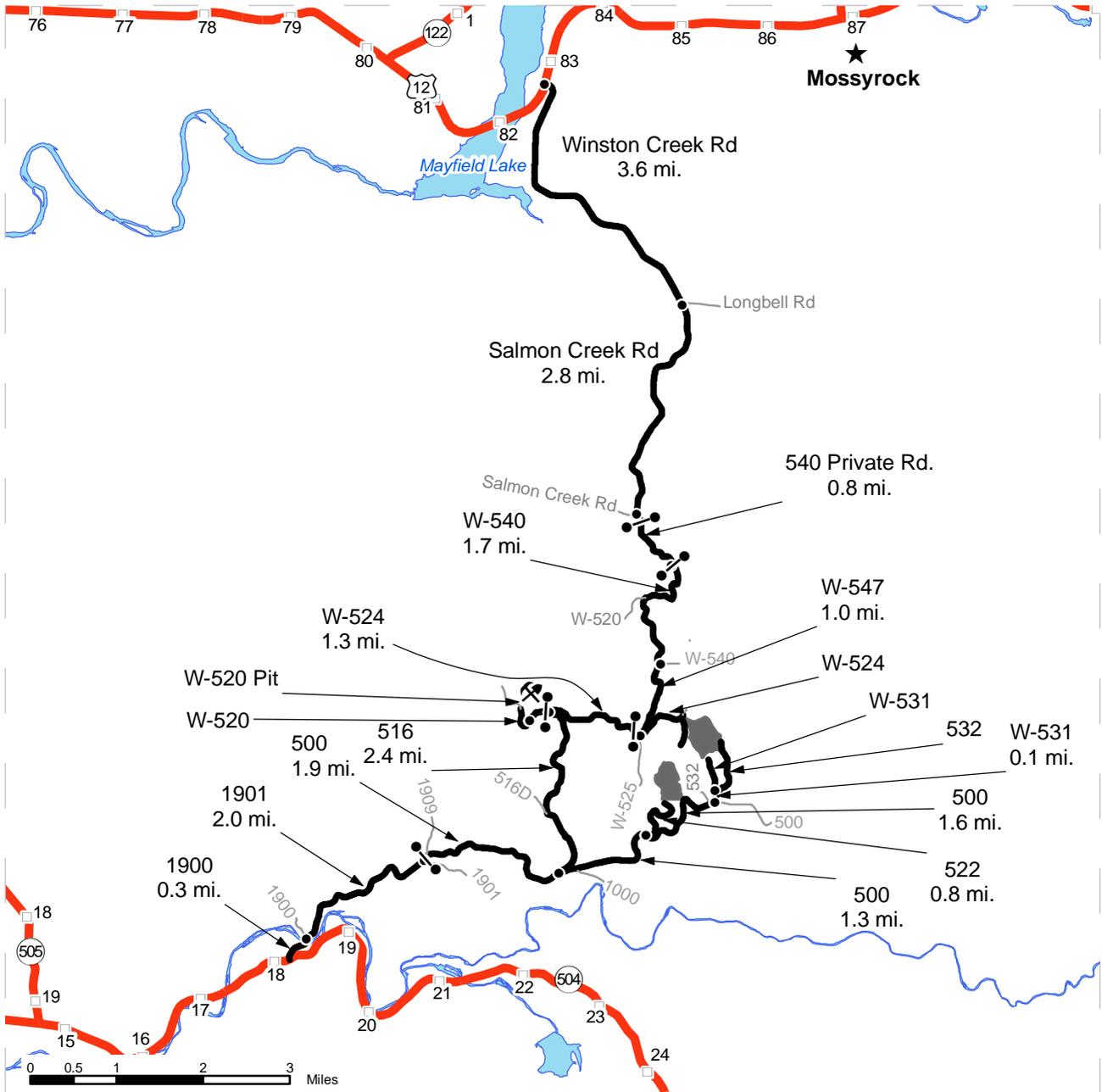


	Variable Retention Harvest		Existing Roads		Streams
	Leave Tree Area		Required Pre-Haul Maintenance		Stream Type
	Riparian Mgt Zone		Required Construction		Stream Type Break
	Right of Way Tags		Required Reconstruction		Monumented Corners
	Sale Boundary Tags		Optional Pre-Haul Maintenance		Leave Trees
	Reprod		Optional Construction		
	Leave Tree Tags		Optional Reconstruction		
	Property Line		Abandoned Road		
	Weyco ROW Unit				

# DRIVING MAP

**SALE NAME:** Diamond Jim  
**AGREEMENT#:** 30-092609  
**TOWNSHIP(S):** T11N R02E  
**TRUST(S):** Capitol Grant (07)

**REGION:** Pacific Cascade  
**COUNTY(S):** Lewis  
**ELEVATION RGE:** 1116-1574



	Timber Sale Unit
	Highways
	Haul Route
	Other Route
	Milepost Markers
	Distance Indicator
	Existing Rock Pit
	Gate

**DRIVING DIRECTIONS:**

See attached page for driving directions



### **Unit 1 and Unit 3 Right-of-Way**

From the Highway 504 (Spirit Lake Highway)/Highway 505 junction, head east on Highway 504 for 3.5 miles.

After milepost 18, turn left (north) onto the 1900 road and continue straight on the 1900 road.

Road name changes to the 1901 road- continue following for 2.0 miles.

Continue through the yellow Weyerhaeuser gate (requires Weyco ABA key), at which point the road name changes to the 500 road.

- Continue on the 500 road for 3.2 miles.
  - Turn left (north) onto the 522 road, and continue for 0.8 miles until the end of the road.
  - Unit 1 is approximately 350 feet north of the end of the 521 road.
- Continue on the 500 road for 4.8 miles.
- Turn left (north) onto the W-531 road (just past the 532 road).
- Keep right at the fork, and continue for 0.8 miles until the end of the 532 road and Unit 3 Right-of-Way begins at the end of the 532 road.

### **Unit 2, Unit 4 Right-of-Way, and W-520 Pit**

From US Highway 12 (milepost 82.8), turn right (south) onto Winston Creek Road and continue for 3.6 miles.

Road name changes to Salmon Creek Road- continue following for 2.8 miles.

Turn left (south) onto the W-540 road and continue for 0.8 miles.

Continue through the DNR yellow gate (requires PCP-1 key) on the W-540 road for another 1.7 miles.

Turn right (south) onto the W-547 road and continue for 1 mile.

- Turn hard left (east) onto the W-524 road. Unit 2 is approximately 0.6 miles on the W-524 road.
- Unit 4 Right-of-Way is at the intersection of the W-547 and the W-524 roads.
- Turn right (west) onto the W-524 road, continue through the yellow Weyerhaeuser gate (requires Weyco ABA key), and follow for 1.2 miles.
  - Turn right (west) onto the W-520, continue for 0.3 miles through the yellow Weyerhaeuser gate (requires Weyco ABA key), and to the W-520 pit.

**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

**BILL OF SALE AND CONTRACT FOR  
FOREST PRODUCTS**

**Export Restricted Lump Sum AGREEMENT NO. 30-092609**

**SALE NAME: DIAMOND JIM**

**THE STATE OF WASHINGTON DEPARTMENT OF NATURAL  
RESOURCES, HEREINAFTER ACTING SOLELY, IN ITS PROPRIETARY  
CAPACITY, STATE, AND PURCHASER, AGREE AS FOLLOWS:**

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

Bill of Sale and Contract for Forest Products: Contract between the Purchaser and the State, which sets forth the procedures and obligations of the Purchaser in exchange for the right to remove forest products from the sale area. The Bill of Sale and Contract for Forest Products may include a Road Plan for any road construction or reconstruction, where applicable.

Contract Administrator: Region Manager's designee responsible for assuring that the contractual obligations of the Purchaser are met.

Forest Product: Any material derived from the forest for commercial use.

Purchaser: The company or individual that has entered a Bill of Sale and Contract for Forest Products with the State for the right to harvest and remove forest products from the timber sale area.

Road Construction: Includes building new and maintaining existing forest roads and associated work that may be optional or required as described in the Road Plan.

State: The Washington State Department of Natural Resources, landowner and seller of Forest Products from the timber sale area. The State is represented by the Region Manager as designated on the contract signature page. Contractual obligations to the State are enforced by the Region Manager or the designated Contract Administrator.

Subcontractor: Individual or company employed by the Purchaser to perform a portion or all of the services required by The Bill of Sale and Contract for Forest Products. The Purchaser is responsible for independently negotiating, procuring and paying for all subcontracted services rendered.

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on December 17, 2015 and the sale was confirmed on \_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees banded with a single ring of blue paint, areas bounded out by yellow Leave Tree Area tags, timber bounded with orange "Right-of-Way Boundary" tags and orange flagging located on Weyerhaeuser land in Township 11 North, Range 02 East, Section 25 labeled as Unit 3, snags, and all down timber existing 5 years prior to the day of sale bounded by: white "Timber Sale Boundary" tags, pink flagging, white carsonite posts and reprod in Unit 1, white "Timber Sale Boundary" tags, pink flagging, white carsonite posts, reprod, and the W-524 road in Unit 2, orange "Right-of-Way Boundary" tags and orange flagging in Unit 4., located on approximately 135 acres on part(s) of Section 26 in Township 11 North, Range 2 East W.M. in Lewis County as designated on the sale area and as shown on the attached timber sale map.

All forest products described above from the bole of the tree that meet or exceed 2 inches diameter inside bark on the small end are eligible for removal. Above ground components of a tree that remain as by-products after the manufacture of logs, including but not limited to tree tops, branches, limbs, needles, leaves, stumps, are not eligible for removal under the terms of this contract.

Forest products purchased under a contract that is designated as export restricted shall not be exported until processed. Forest products purchased under a contract that is designated as exportable may be exported prior to processing.

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage

estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to December 31, 2017.

G-040 Contract Term Adjustment - No Payment

Purchaser may request an adjustment in the contract term. A claim must be submitted in writing and received by the State within 30 days after the start of interruption or delay. The claim must also indicate the actual or anticipated length of interruption or delay. The State may grant an adjustment without charge only if the cause for contract term adjustment is beyond Purchaser's control. The cause must be one of the following and the adjustment may be granted only if operations or planned operations under this contract are actually interrupted or delayed:

- a. Road and bridge failures which deny access.
- b. Access road closures imposed by road owner.
- c. Excessive suspensions as provided in clause G-220.
- d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

Extensions of this contract term may be granted only if, in the judgment of the State, Purchaser is acting in good faith and is endeavoring to remove the forest products conveyed. The term of this contract may be extended for a reasonable time by the State if all of the following conditions are satisfied:

- a. A written request for extension of the contract term must be received prior to the expiration date of the contract.
- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the total contract price.

The payments shall not include the initial deposit which shall be held according to the provisions of RCW 79.15.100.

- d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the total contract price.

All payments, except the initial deposit, will be deducted from the total contract price to determine the unpaid portion of the contract.

- e. Payment of \$873.00 per acre per annum for the acres on which an operating release has not been issued in all units..
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

Whenever the State determines that a survey for sensitive, threatened, or endangered species is prudent, or when Purchaser determines a survey is prudent and the State agrees, Purchaser shall perform such surveys at Purchaser's expense and to the standards required by the State. The survey information shall be supplied to the State.

G-060 Exclusion of Warranties

The PARTIES AGREE that the IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE and ALL OTHER WARRANTIES EXPRESSED OR IMPLIED ARE EXCLUDED from this transaction and shall not apply to the goods sold. For example, THE FOLLOWING SPECIFIC MATTERS ARE NOT WARRANTED, and are EXCLUDED from this transaction:

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for

any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.

- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.

- h. Items contained in any other documents prepared for or by the State.

#### G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. 812521 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both the HCP and ITP. The requirements set forth in this contract are intended to comply with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

Any modifications to the contract shall be proposed in writing by Purchaser, shall continue to meet the terms and conditions of the HCP and ITP, and shall require the prior written approval of the Region Manager before taking effect.

#### G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and

additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

#### G-064 Permits

Purchaser is responsible for obtaining any permits not already obtained by the State that relate to Purchaser's operation. Forest Practice Application / Hydraulic Project Approval permits obtained by the State shall be transferred to Purchaser. Purchaser is responsible for all permits, amendments and renewals.

#### G-065 Regulatory Disclaimer

The State disclaims any responsibility for, or liability relating to, regulatory actions by any government agency, including actions pursuant to the Forest Practices Act, Ch. 76.09 RCW that may affect the operability of the timber sale.

#### G-066 Governmental Regulatory Actions

##### a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability

or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

b. Sale Area

When portions of the sale area become subject to a foreign or domestic governmental regulation or order that will likely prevent timber harvest for a period that will exceed the expiration date of this contract, and Purchaser has complied with this contract, the following shall apply:

i. RCW 79.15.140 shall govern all adjustments to the contract area.

c. Adjustment of Price

The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: The State shall cause the timber sale area subject to governmental regulation or order to be measured. The State shall calculate the percentage of the total sale area subject to the governmental regulation or order. The State shall reduce the total contract price by that calculated percentage. However, variations in species, value, costs, or other items pertaining to the affected sale area will be analyzed and included in the adjustment if deemed appropriate by the State. The State will further reduce the total contract price by the reasonable cost of unamortized roads Purchaser constructed but was unable to fully use for removing timber. A reduction in total contract price terminates all of the Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser. The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

No advice by any agent, employee, or representative of the State regarding the method or manner of performing shall constitute a representation or warranty that said method, manner or result thereof will conform to the contract or be suitable for Purchaser's purposes under the contract. Purchaser's reliance on any State advice regarding the method or manner of performance shall not relieve Purchaser of any risk or obligation under the contract. Purchaser retains the final responsibility for its operations under this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

**G-091 Sale Area Adjustment**

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, the added forest products become a part of this contract. The State shall determine the volume added and shall calculate the increase to the total contract price using the rates set forth in clause G-101, G-102, or G-103. If the sale area is reduced, the State shall determine the volume to be reduced. The State shall calculate the reduction to the total contract price using the rates set forth in clause G-101, G-102, or G-103.

**G-101 Forest Products Not Designated**

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Advisory Group, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scal

The pricing schedule has not been set for the sale.

**G-106 Adding Naturally Damaged Forest Products**

Any forest products not designated for removal that are seriously damaged by disease, insects or wind, or that may contribute seriously to the spread of insect or disease damage may be added to this sale by the State's Contract Administrator. Additions must be in unlogged areas of the sale and added volume shall not exceed an amount equal to 10 percent of the original advertised volume. Added forest products become a part of this contract and shall be paid for at the rate set forth in clause G-101, G-102 or G-103.

**G-111 Title and Risk of Loss**

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

**G-116 Sustainable Forestry Initiative® (SFI) Certification**

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: BV-SFIS-US09000572.

Purchaser shall have at least one person regularly on-site during active operations that have completed training according to the requirements outlined within the SFI® program Standard. Purchaser shall designate in writing the name(s) of the individual(s) who will be on-site and provide proof of their successful completion of an approved training program prior to active operations.

**G-120 Responsibility for Work**

All work, equipment, and materials necessary to perform this contract shall be the responsibility of Purchaser. Any damage to improvements, except as provided in clause G-121 or unless the State issues an operating release pursuant to clause G-280, shall be repaired promptly to the satisfaction of the State and at Purchaser's expense.

**G-121 Exceptions**

Exceptions to Purchaser's responsibility in clause G-120 shall be limited exclusively to the following. These exceptions shall not apply where road damage occurs due to Purchaser's failure to take reasonable precautions or to exercise sound forest engineering and construction practices.

Road is defined as the road bed, including but not limited to its component parts, such as subgrade, ditches, culverts, bridges, and cattle guards.

For the purposes of this clause, damage will be identified by the State and is defined as:

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;
2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and
3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. The State may elect to accomplish repairs by means of State-provided resources. The State will bear the cost to repair damages caused by a third party. In all other cases, the Purchaser shall bear responsibility for the costs as described below.

For each event, Purchaser shall be solely responsible for the initial \$5,000 in repairs. For repairs in excess of \$5,000, the parties shall share equally the portion of costs between \$5,000 and \$15,000. The State shall be solely responsible for the portion of the cost of repairs that exceed \$15,000.

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at Purchaser's expense regardless of cost, to remedy deficiencies at any time.

## G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of the contract. "Claim" as used in this contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Purchasers' obligations to indemnify, defend, and hold harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

## G-150 Insurance

Purchaser shall, at its cost and expense, buy and maintain insurance of the types and amounts listed below. Failure to buy and maintain the required insurance may result in a breach and/or termination of the contract at State's option. State may suspend Purchaser operations until required insurance has been secured.

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

The State of Washington, Department of Natural Resources region office of sale origin shall be provided written notice before cancellation or non-renewal of any insurance referred to therein, in accord with the following specifications:

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.
2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

Before starting work, Purchaser shall furnish State of Washington, Department of Natural Resources with a certificate(s) of insurance, executed by a duly authorized

representative of each insurer, showing compliance with the insurance requirements specified in the contract. Insurance coverage shall be obtained by the Purchaser prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release has been signed by the State.

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

By requiring insurance herein, State does not represent that coverage and limits will be adequate to protect Purchaser and such coverage and limits shall not limit Purchaser's liability under the indemnities and reimbursements granted to State in this contract.

The limits of insurance, which may be increased as deemed necessary by State of Washington, Department of Natural Resources, shall not be less than as follows:

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and, if necessary, commercial umbrella insurance with a limit of not less than \$1,000,000.00 per each occurrence. If such CGL insurance contains aggregate limits, the General Aggregate limit shall be at least twice the "each occurrence" limit. CGL insurance shall have products-completed operations aggregate limit of at least two times the "each occurrence" limit. CGL coverage shall include a Logging and Lumbering Endorsement (i.e. Logger's Broad-Form) to cover the events that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 (or a substitute form providing equivalent coverage). All insurance shall cover liability arising out of premises, operations, independent contractors, products completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another party assumed in a business contract), and contain separation of insured (cross liability) condition.

Employer's Liability "Stop Gap" Insurance. Purchaser shall buy employers liability insurance, and, if necessary, commercial umbrella liability insurance with limits not less than \$1,000,000.00 each accident for bodily injury by accident or \$1,000,000.00 each employee for bodily injury by disease.

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which exists out of or in connection with the performance of this contract. Except as prohibited by law, Purchaser waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers' compensation, employer's liability, commercial general liability, or commercial umbrella liability insurance.

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than \$1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

#### G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Castle Rock, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

Purchaser is required to have a person on site during all operations who is authorized to receive instructions and notices from the State. Purchaser shall inform the State in writing who is authorized to receive instructions and notices from the State, and any limits to this person's authority.

G-170 Assignment and Delegation

No rights or interest in this contract shall be assigned by Purchaser without prior written permission of the State. Any attempted assignment shall be void and ineffective for all purposes unless made in conformity with this paragraph. Purchaser may perform any duty through a delegate, but Purchaser is not thereby relieved of any duty to perform or any liability. Any assignee or delegate shall be bound by the terms of the contract in the same manner as Purchaser.

G-180 Modifications

Waivers, modifications, or amendments of the terms of this contract must be in writing signed by Purchaser and the State.

G-190 Contract Complete

This contract is the final expression of the Parties' agreement. There are no understandings, agreements, or representations, expressed or implied, which are not specified in this contract.

G-200 Notice

Notices required to be given under the following clauses shall be in writing and shall be delivered to Purchaser's authorized agent or sent by certified mail to Purchaser's post office address:

G-210 Violation of Contract

G-220 State Suspends Operations

All other notices required to be given under this contract shall be in writing and delivered to the authorized agent or mailed to the Party's post office address. Purchaser agrees to notify the State of any change of address.

G-210 Violation of Contract

- a. If Purchaser violates any provision of this contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after receipt of a suspension notice to remedy the violation. If the violation cannot be remedied (such as a violation of WAC 240-15-015) or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the State may terminate the rights of Purchaser under this contract and collect damages.
- b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to

remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.

- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

#### G-220 State Suspends Operation

The Contract Administrator may suspend any operation of Purchaser under this contract when the State is suffering, or there is a reasonable expectation the State will suffer environmental, monetary, or other damage if the operation is allowed to continue.

Purchaser shall be in breach of this contract if the operation continues after the suspension notice or if the operation resumes without prior approval and notice from the Contract Administrator.

Purchaser may request a modification of a suspension within 30 days of the start of suspension through the dispute resolution process in clause G-240. If this process results in a finding that the suspension exceeded the time reasonably necessary to stop or prevent damage to the State, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with this contract, the provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental regulation or order.

#### G-230 Unauthorized Activity

Any cutting, removal, or damage of forest products by Purchaser, its employees, agents, or invitees, including independent contractors, in a manner inconsistent with the terms of this contract or State law, is unauthorized. Such activity may subject Purchaser to liability for triple the value of said forest products under RCW 79.02.320 or RCW 79.02.300 and may result in prosecution under RCW 79.02.330 or other applicable statutes.

#### G-240 Dispute Resolution

The following procedures apply in the event of a dispute regarding interpretation or administration of this contract and the parties agree that these procedures must be followed before a lawsuit can be initiated.

- a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.
- b. The Region Manager will issue a written decision on Purchaser's request within ten business days.

- c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.
- d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

Purchaser shall comply with all applicable statutes, regulations and laws, including, but not limited to; chapter 27.53 RCW, chapter 68.50 RCW, WAC 240-15 and WAC 296-54. Failure to comply may result in forfeiture of this contract.

G-260 Venue

This contract shall be governed by the laws of the State of Washington. In the event of a lawsuit involving this contract, venue shall be proper only in Thurston County Superior Court.

G-270 Equipment Left on State Land

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; 500, 516, 522, 532, W-520, W-522 Ext., W-524, W-524B, W-524B1, W-524B2, W-531, W-531 Ext., W-540, W-541, W-541AA, W-547, W-547 SF, W-550, 1900, 1901, and W-3000. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

## G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

## G-340 Preservation of Markers

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, re-establish them through a licensed land surveyor in accordance with U.S. General Land Office standards. Corners and/or witness objects that must be disturbed or destroyed in the process of road construction or logging shall be adequately referenced and/or replaced in accordance with RCW 58.24.040(8). Such references must be approved by the Contract Administrator prior to removal of said corners and/or witness objects.

## G-360 Road Use Reservation

The State shall have the right to use, without charge, all existing roads and any road constructed or reconstructed on State lands by Purchaser under this contract. The State may extend such rights to others. If the State grants such rights to others, the State shall require performance or payment, as directed by the State, for their proportionate share of maintenance based on their use.

## G-380 Road Easement and Road Use Permit Requirements

Purchaser agrees to comply with the terms and conditions of the attached:

Road Use Permit between the State and Weyerhaeuser Company dated 6/8/2015.  
Expires 12/31/2017.

Easement between the State and Weyerhaeuser Co. dated 10/18/1967. Expires:  
Indefinitely.

Easement between the State and Michael and Carol Hurley dated 02/02/1993. Expires  
Indefinitely.

Easement between the State and Champion International Corporation, dated  
09/15/1976. Expires: Indefinitely

## G-396 County Hauling Permit

The hauling of forest products, rock or equipment may require a county road hauling permit. Purchaser is responsible for obtaining a permit and any costs associated with extra maintenance or repair levied by a county. Purchaser must provide the Contract Administrator with a copy of the executed permit.

G-430 Open Fires

Purchaser shall not set, or allow to be set by Purchaser's employees, agents, invitees and independent contractors, any open fire at any time of the year without first obtaining permission, in writing, from the Contract Administrator.

G-450 Encumbrances

This contract and Purchaser's activities are subject to the following:

TO BE ADDED LATER

Section P: Payments and Securities

P-011 Initial Deposit

Purchaser paid DATA MISSING initial deposit, which will be maintained pursuant to RCW 79.15.100(3). If the operating authority on this contract expires without Purchaser's payment of the full amount specified in Clause P-020, the initial deposit will be immediately forfeited to the State, and will be offset against Purchaser's remaining balance due. Any excess initial deposit funds not needed to ensure full payment of the contract price, or not needed to complete any remaining obligations of the Purchaser existing after contract expiration, will be refunded to the Purchaser.

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$173,527.00. The total contract price consists of a \$0.00 contract bid price plus \$173,527.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

P-045 Guarantee of Payment

Purchaser will pay for forest products prior to cutting or will guarantee payment by posting an approved payment security. The amount of cash or payment security shall be determined by the State and shall equal or exceed the value of the cutting proposed by Purchaser.

P-050 Billing Procedure

The State will compute and forward to Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to the State on or before the date shown on the billing statement.

P-080 Payment Account Refund

Advance payments made under P-045 or P-045.2 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report of charges. Refunds not made within the 30 day period will accrue interest at the interest rate, as established by WAC 332-100-030, computed on a daily basis until paid.

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$100,000.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

The State may reduce the performance security after an operating release has been issued if the State determines that adequate security exists for any remaining obligations of Purchaser.

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

Reserve trees are trees required and designated for retention within the sale boundary. Purchaser shall protect reserve trees from being cut, damaged, or removed during operations.

Reserve tree damage exists when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

If the Contract Administrator determines that a reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale area, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

Removal of designated reserve trees from the sale area is unauthorized, and may invoke the use of the G-230 'Trespass and Unauthorized Activity' clause. Purchaser is required to leave all cut or damaged reserve trees on site.

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 6 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

Trees shall be felled into the sale area unless otherwise approved by the Contract Administrator.

H-051 Branding and Painting

Purchaser shall provide a State of Washington registered log brand, acceptable to the State, unless the State agrees to furnish the brand. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

For pulp loads purchased under a contract designated as export restricted, Purchaser shall brand at least 3 logs with legible brands at one end. Also, 10 logs shall be painted at one end with durable red paint.

H-080 Snags Not to be Felled

Snags not required to be felled for safety reasons may be left standing. Snags felled for safety reasons shall not be removed and must remain where felled.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using motorized carriage, slackline or shotgun cable harvesting systems and ground-based equipment which is limited to shovels unless authority to use other equipment is granted in writing by the State.

## H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

## H-127 Tailholds on Private Land

If Purchaser chooses to tailhold on private property, Purchaser shall obtain permit(s) and assumes responsibility for all costs and damages associated with the permit(s). Purchaser must provide the State with a copy of the executed permit(s) or a letter from the landowner indicating that a satisfactory tailhold permit(s) has been consummated between Purchaser and the landowner.

## H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

The use of unmuffled jake brakes will not be permitted on the W-540 road from stations 0+00 to 7+00 (beginning of the bridge), near the private residences.

There is a 10mph speed limit restriction on the 540 Private Rd. from station 0+00 to 7+00 (the bridge), near the private residences.

Only shovels with a low ground pressure (9 psi or less) track mounted machines with hydraulic boom and grapple will be allowed.

Shovel must be large enough to pick up one end of the largest log 35 feet from the machine.

Ground-based yarding equipment will not be permitted on slopes over 40%.

Ground-based yarding equipment shall only operate during dry soil conditions.

Areas of root rot identified by the fallers or the Contract Administrator shall be marked around the perimeter by high stumping or marking the top of the stump with an X in Units 1 and 2.

Permission to do otherwise must be granted in writing by the Contract Administrator.

## H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

If Purchaser chooses to tailhold on private property, Purchaser shall obtain permit(s) and assumes responsibility for all costs associated with permit(s). Purchaser must provide the State with a copy of the executed permit(s) or a letter from the private entity indicating that a satisfactory tailhold permit(s) has been consummated between Purchaser and private entity.

All Right-of-Way and corridor timber located in Unit 3 Right-of-Way shall be cut, decked, and left onsite. No Weyerhaeuser timber shall be removed from this sale.

Permission to do otherwise must be granted in writing by the State.

H-190 Completion of Settings

Operations begun on any setting of the sale area shall be completed before any operation begins on subsequent settings unless authorized in writing by the Contract Administrator.

H-220 Protection of Residual or Adjacent Trees

Unless otherwise specified by this contract, the Contract Administrator shall identify damaged adjacent or leave trees that shall be paid for according to clause G-230.

H-250 Additional Falling Requirements

Within Units 1 and 2, all live stems greater than 2 inches diameter breast height, excluding western redcedar, shall be felled concurrently with felling operations. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 4/24/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the 522, 532, W-522 Ext., W-524, W-524B, W-524B1, W-524B2, W-531, W-531 Ext., and W-547 SF. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the 500, 516, W-520, W-540, W-541, W-541AA, W-547, W-547A, W-550, 1900, 1901, and W-3000. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-130 Dust Abatement

Purchaser shall abate dust on the 540 Private Rd (stations 0+00 to 7+00).

C-140 Water Bars

Purchaser shall, as directed by the Contract Administrator, construct water bars across haul roads, skid trails and fire trails as necessary to control soil erosion and water pollution.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, valid contact numbers and procedures for medical emergencies, fire, hazardous spills, forest practice violations and any unauthorized or unlawful activity on or in the vicinity of the sale area. The Contract Administrator and the State shall be promptly notified whenever an incident occurs requiring an emergency response.

The ERP must be presented for inspection at the prework meeting and kept readily available to all personnel, including subcontractors, on site during active operations.

S-010 Fire Hazardous Conditions

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this agreement following the requirements of WAC 332-24-005 and WAC 332-24-405 and further agrees to use the highest degree of care to prevent uncontrolled fires from starting.

In the event of an uncontrolled fire, Purchaser agrees to provide equipment and personnel working at the site to safely and effectively engage in first response fire suppression activity.

Purchaser's failure to effectively engage in fire-safe operations is considered a breach and may result in suspension of operations

S-030 Landing Debris Clean Up

Landing debris shall be disposed of in a manner approved in writing by the Contract Administrator.

S-035 Logging Debris Clean Up

Slash and debris created from harvest activities shall be treated in a manner approved in writing by the Contract Administrator.

S-050 Cessation of Operations for Low Humidity

During the "closed season", when the humidity is 30 percent or lower on the sale area, all operations must cease unless authority to continue is granted by the State in writing.

S-060 Pump Truck or Pump Trailer

Purchaser shall provide a fully functional pump truck or pump trailer equipped to meet the specifications of WAC 332-24-005 and WAC 332-24-405 during the "closed

season" or as extended by the State and shall provide trained personnel to operate this equipment on the sale area during all operating periods.

S-110 Resource Protection

No No ground-based equipment may operate within the 30 foot area adjacent to Type 5 streams unless authority is granted in writing by the Contract Administrator.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

Purchaser is responsible for understanding and complying with all applicable local, state, and federal hazardous material/waste laws and regulations for operations conducted under this contract. Such regulations pertain to, but may not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

All operations shall be conducted in a manner that avoids the release of hazardous materials, including petroleum products, into the environment (water, air or land).

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 4 to 6 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, the Purchaser is responsible for notifying the following:

Appropriate Department of Ecology regional office (contact information below).

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

ECY - Southwest Region:

1-360-407-6300

(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

ECY - Central Region:

1-509-575-2490

(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

ECY - Eastern Region:

1-509-329-3400

(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

#### S-131 Refuse Disposal

As required by RCW 70.93, All Purchaser generated refuse shall be removed from state lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state forest lands. All refuse shall be transported in a manner such that it is in compliance with RCW 70.93 and all loads or loose materials shall be covered/secured such that these waste materials are properly contained during transport.

#### Section D: Damages

##### D-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State, which will be caused by Purchaser's breach. These liquidated damages provisions are agreed to by the State and Purchaser with the understanding of the difficulty of proving loss and the inconvenience or infeasibility of obtaining an adequate remedy. These liquidated damages provisions provide greater certainty for the Purchaser by allowing the Purchaser to better assess its responsibilities under the contract.

Clause P-020 governs Purchaser's liability in the event Purchaser fails to perform any of the contract requirements other than the below liquidated damage clauses without written approval by the State. Purchaser's failure to pay for all or part of the forest products sold in this contract prior to expiration of the contract term results in substantial injury to the State. Therefore, Purchaser agrees to pay the State the full lump sum contract price in P-020 in the event of failure to perform.

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in all units.

IN WITNESS WHEREOF, the Parties hereto have entered into this contract.

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Eric Wisch  
Pacific Cascade Region Manager

Date: \_\_\_\_\_  
Address: \_\_\_\_\_

Date: \_\_\_\_\_

CORPORATE ACKNOWLEDGEMENT

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_

\_\_\_\_\_ to me known to be the \_\_\_\_\_ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year first above written.

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_  
My appointment expires \_\_\_\_\_

# FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: Diamond Jim

Application Number: 30-092609

## Excise Tax Applicable Activities

Construction: 6,265 linear feet

*Road to be constructed (optional and required) but not abandoned*

Reconstruction: 1,276 linear feet

*Road to be reconstructed (optional and required) but not abandoned*

Abandonment: 0 linear feet

*Abandonment of existing roads not reconstructed under the contract*

Deactivation: 0 linear feet

*Road to be made undriveable but not officially abandoned.*

Pre-Haul Maintenance: 51,436 linear feet

*Existing road to receive maintenance work (specifically required by the contract) prior to haul*

## Excise Tax Exempt Activities

Temporary Optional Construction: 0 linear feet

*Optional roads to be constructed and then abandoned*

Temporary Optional Reconstruction: 500 linear feet

*Optional roads to be reconstructed and then abandoned*

New Abandonment: 0 linear feet

*Abandonment of roads constructed or reconstructed under the contract*

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.

(Revised 7/04)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Diamond Jim</b>	Region: <b>Pacific Cascade</b>
Agreement #: <b>30-092609</b>	District: Lewis
Contact Forester: Dee Dee Korsikas-Fogg Phone / Location: (360) 623-9632	County(s): Lewis, Choose a county
Alternate Contact: Jacob Vaughn Phone / Location: (360) 880-5801	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: Lump Sum	
Harvest System: Ground based <a href="#">Click here to enter text.</a>	62%
Harvest System: Uphill Cable <a href="#">Click here to enter text.</a>	38%

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination  (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	26/T11N/R02E	07	75	15	3	0		57	GPS (Garmin)
2	26/T11N/R02E	07	91	12	0	1		78	GPS (Garmin)
4 R/W	26/T11N/R02E	07	<1	0	0	<1		<1	Laser/compass
<b>TOTAL ACRES</b>			166	27	3	1		135	

**HARVEST PLAN AND SPECIAL CONDITIONS:**

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Unit 1 is a Variable Retention Harvest. The northern, eastern, and western boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. The southern boundary is the property line, which is the reprod edge, and is marked with white carsonite posts. The northwest boundary is the reprod edge.		480 leave trees. Leave tree clumps are bounded with yellow "Leave Tree Area" tags and pink flagging.
2	Unit 2 is a Variable Retention Harvest. The northern, northeastern, and southwestern boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. Property line marked with pink flagging, white "Timber Sale Boundary" tags, and white carsonite posts forms the eastern boundary. The western and southern boundaries are the reprod edge.		624 leave trees. 42 individual leave trees are marked with a single band of blue paint with a butt mark within the harvest area. Remaining leave trees are within the LT Unit outside of harvest area.
4 R/W	Bounded by orange "Right-of-Way Boundary" tags and orange flagging.		

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH/2565	Best access from State Highway 504 to 1901 road to 500 road. Requires Weyco ABA key.	See Logging Plan Map
2	DF, RA/3510	Best access from Salmon Creek Rd to W-540 road to W-524 road. Requires PCP-1 key.	
4 R/W	DF, RA/3	Best access from State Highway 504 to 1901 road to 500 road. Requires Weyco ABA key.	
TOTAL MBF	6078		

**REMARKS:**

Unit 3 R/W is on Weyerhaeuser, and no volume will be removed from it.
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Prepared By: Dee Dee Korsikas-Fogg Date: 10/13/15	Title: Natural Resource Specialist 1	CC: Rich Wallmow
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# Cruise Narrative

<b>Sale Name:</b> Diamond Jim	<b>Region:</b> Pacific Cascade
<b>App. #:</b> 30-092609	<b>District:</b> Lewis
<b>Lead Cruiser:</b> Bryce Frank	<b>Completion date:</b> 5-26-2015
<b>Other Cruisers:</b> Calvin Bailey	

**Unit acreage specifications:**

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	57	Yes	
2	78	Yes	
4 R/W	<1	Yes	
Total	135		

**Unit cruise specifications:**

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	MAJOR: 54.44 MINOR: 40	4.5 ft	190' x 190'	1:2	70
2	VP	MAJOR: 46.94 MINOR: 33.61	4.5 ft	200' x 200'	1:2	87
4 R/W	ITS	DF: 7.85 WH: 4.85 RC: 1	4.5 ft	n/a	n/a	n/a

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	Cruised on appropriate plots.						
<b>Minimum cruise spec:</b>	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.						
<b>Avg. ring count by sp:</b>	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;"><b>DF =</b></td> <td style="width: 35%; text-align: center;">7</td> <td style="width: 15%;"><b>WH =</b></td> <td style="width: 35%; text-align: center;">7</td> <td style="width: 15%;"><b>SS =</b></td> <td style="width: 20%; text-align: center;">n/a</td> </tr> </table>	<b>DF =</b>	7	<b>WH =</b>	7	<b>SS =</b>	n/a
<b>DF =</b>	7	<b>WH =</b>	7	<b>SS =</b>	n/a		
<b>Leave/take tree description:</b>	Leave tree clumps are bounded with yellow "Leave Tree Area" tags and pink flagging in Unit 1. In Unit 2, leave trees are marked with a single band of blue paint with a butt mark within the harvest area. Remaining leave trees in Unit 2 are within the LT Unit outside of the harvest area.						
<b>Sort Description:</b>	<p><b>HA</b> – Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (min dia 8".)</p> <p><b>HB</b> – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (min dia 8".)</p> <p><b>R</b> – Logs meeting the following criteria: Gross diameter of 12 inches or</p>						

	greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.
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**Field observations:**

Diamond Jim consists of 2 VRH units. 62% of this sale will be harvested using ground based methods, the remaining 38% will be cable yarded uphill.

Unit 1 is variable in stand structure, consisting of small hardwood patches at the lower end of the unit and more consistent, larger Douglas-firs and hemlocks at the top western side. Some moderate blowdown is apparent on the western end of the unit but was not consistently present on cruise plots. Defect is common (5.6%) throughout the unit, consisting mainly of large spike knots, sweep and butt rot. Unit 1 is composed mainly of Douglas-fir (DF) at 72% net merchantable volume and Western Hemlock (WH) at 21% net merchantable volume. Minor amounts of Big Maple, Red Cedar and Red Alder are present in Unit 1. Average diameter and bole height for Douglas-fir are 23.1 inches and 105 ft respectively. Average diameter and bole height for Western Hemlock 16.4 inches and 97 ft respectively.

Unit 2 is more variable in structure than Unit 1, due to larger hardwood patches present in the draws on the eastern half. A quarter acre of light blowdown exists at the southern tip, but was not included in the cruise volume. There is a significant amount of defect present at 4.0%. Unit 2 is composed mainly of Douglas-fir (DF) at 79% net merchantable volume. The next most prevalent species is Red Alder (RA) at 13% merchantable volume, followed by minor amounts of Western Hemlock (WH), Big Maple (BM) and Red Cedar (RC). Average diameter and bole height for Douglas-fir are 21.7 inches and 103 ft respectively. Average diameter and bole height for Red Alder is 13.6 inches and 71 ft respectively.

One small Right-of-Way unit, Unit 4, houses approximately 7 MBF of small Douglas-firs (average diameter of 12 inches and average bole height of 60 feet), with minor amounts of small Red Cedar and Western Hemlock.

**Grants: 07**

**Prepared by: Bryce Frank**

**Title: Timber Cruiser**

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T11N R02E S26 Ty00U1 57.00 T11N R02E S26 Ty00U2 78.00 T11N R02E S26 Ty00U4 1.00				<b>Project: DIAMONDJ</b> <b>Acres 136.00</b>										<b>Page 1</b> <b>Date 10/15/2015</b> <b>Time 2:38:37PM</b>							
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									5-7	8-11	12-15	17+	12-20	21-30	31-35	36-99					
BM	CU	CU			100.0	64											13	11		0.00	2.0
BM	D	UT	8	5.4	70	66	9	100				54	46				20	6	22	0.33	3.0
BM	D	1S	12	10.2	100	90	12					37	31		32		30	18	326	2.40	.3
BM	D	2S	7	9.0	64	58	8			100			44		56		32	12	161	1.44	.4
BM	D	3S	15	11.8	124	110	15			100			55	17	27		30	10	104	0.92	1.0
BM	D	4S	35	13.3	317	275	37			100			4	6	3	87	36	9	82	0.86	3.3
BM	D	4S	23	6.6	183	171	23	100					6	25	25	44	31	6	43	0.56	3.9
<b>BM Totals</b>				2	16.5	922	770	105	31	50	8	12	12	27	9	53	27	8	55	0.68	14.0
RC	CU	CU		100.0	17												8	14		0.00	.3
RC	D	3S	83	6.3	336	315	43	5	20	42	33	1	18	10	71		35	11	178	1.89	1.8
RC	D	4S	11		41	41	6	96	4			23	65	1	12		24	5	26	0.36	1.6
RC	D	UT	6		21	21	3		100					100		24	10	90	0.89	.2	
<b>RC Totals</b>				1	9.2	414	376	51	14	22	36	28	3	28	8	61	28	9	97	1.26	3.9
RA	CU	CU		100.0	88												7	8		0.00	9.9
RA	D	UT	3		127	127	17	100				73	27				16	5	16	0.19	7.7
RA	D	1S	3	1.8	130	128	17				100						24	17	293	2.27	.4
RA	D	2S	6	3.5	245	236	32			100				24	76		38	13	201	1.44	1.2
RA	D	3S	23	6.2	1,037	973	132			100		4	13	11	72		35	10	129	1.02	7.6
RA	D	4S	29	9.0	1,283	1,167	159			100		2	8	8	82		36	9	84	0.72	13.9
RA	D	4S	36	3.5	1,487	1,436	195	100				6	20	10	63		32	6	40	0.35	36.2
<b>RA Totals</b>				9	7.5	4,397	4,066	553	38	53	6	3	6	16	10	68	28	7	53	0.52	76.8
WH	CU	CU		100.0	156												10	8		0.00	8.5
WH	HB	2S	11	4.9	764	726	99			60	40				100		40	14	298	1.71	2.4
WH	HB	3S	14	1.8	937	920	125			100					100		40	9	129	0.77	7.2
WH	D	2S	41	9.1	2,865	2,603	354			40	60			7	93		39	15	329	2.15	7.9
WH	D	3S	22	2.8	1,434	1,394	190	42	58				1	9	90		39	8	86	0.59	16.2
WH	D	4S	7	1.8	449	440	60	87	13			23	23	9	45		29	6	32	0.32	13.6
WH	D	UT	5		301	301	41	80	20			18	67	0	15		26	5	29	0.30	10.4
<b>WH Totals</b>				13	7.5	6,906	6,385	868	19	29	23	29	2	5	5	87	31	8	97	0.79	66.2
WH	D	CU	CU		100.0	12											26	8		0.00	.3
WH	D	D	2S	38	30.3	68	48	6		30	70				100		40	15	230	1.84	.2
WH	D	D	UT	62		78	78	11		38	62				100		40	13	235	1.19	.3
<b>WH Totals</b>				0	20.6	158	126	17		24	50	26			100		35	11	155	1.09	.8
DF	CU	CU		100.0	63												3	8		0.00	9.2
DF	HA	2S	1	1.1	380	376	51			100					100		40	14	308	1.58	1.2
DF	HB	2S	27	2.5	10,069	9,815	1,335			35	65				100		40	16	402	2.15	24.4
DF	HB	3S	4	1.1	1,556	1,539	209			100					100		40	10	148	0.88	10.4
DF	D	SM	2	2.9	470	456	62				100				100		40	19	579	3.01	.8
DF	D	2S	47	4.3	17,780	17,009	2,313			39	61	0	1	1	98		40	16	383	2.11	44.4
DF	D	3S	15	1.1	5,487	5,425	738	25	75			1	6	12	81		37	8	96	0.70	56.4
DF	D	4S	3	1.1	993	982	134	87	13			33	36	5	25		24	6	29	0.35	33.9
DF	D	UT	1		143	143	19	70	11		20	61	15	16	8		22	6	30	0.30	4.8
<b>DF Totals</b>				75	3.2	36,942	35,745	4,861	6	16	29	48	1	2	3	94	34	11	193	1.30	185.4

**Species, Sort Grade - Board Foot Volumes (Project)**

T11N R02E S26 Ty00U1      57.00 T11N R02E S26 Ty00U2      78.00 T11N R02E S26 Ty00U4      1.00	<b>Project:      DIAMONDJ</b> <b>Acres          136.00</b>	<b>Page            2</b> <b>Date          10/15/2015</b> <b>Time         2:38:37PM</b>
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Spp	S	So	Gr	T	rt	ad	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre	
							% Net BdFt	Def%	Gross		Net	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf
												5-7	8-11	12-15	17+	12-20	21-30	31-35	36-99					
DF	D	CU	CU				100.0	38									19	7		0.00	1.0			
DF	D	D	2S				46	36.7	158	100							40	14	203	1.88	.5			
DF	D	D	3S				30	20.5	81	65		14	86				40	9	105	0.85	.6			
DF	D	D	4S				7	50.0	30	15							40	6	30	0.43	.5			
DF	D	D	UT				17		35	35					14		26	6	35	0.37	1.0			
<b>DF Totals</b>							0	37.4	342	214	29	27	26	47	2		98	30	8	60	0.70	3.6		
<b>Totals</b>								4.8	50,082	47,682	6,485	11	22	26	41	2	4	4	90	32	9	136	1.03	350.7

TC PSTATS					<b>PROJECT STATISTICS</b>					PAGE	1
					<b>PROJECT DIAMONDJ</b>					DATE	10/15/2015
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
11N	02E	26	DIAMONDJIM	00U1	136.00	158	949	S	W		
11N	02E	26	DIAMONDJIM	00U2							
11N	02E	26	DIAMONDJIM	00U4							
					TREES	ESTIMATED	PERCENT				
					PER PLOT	TOTAL	SAMPLE				
					TREES	TREES	TREES				
TOTAL			158	949	6.0						
CRUISE			77	367	4.8		19,695	1.9			
DBH COUNT											
REFOREST											
COUNT			81	480	5.9						
BLANKS											
100 %											
<b>STAND SUMMARY</b>											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC		
DOUG FIR	189	64.9	22.2	104	37.1	174.9	36,942	35,745	8,128	8,110	
DOUG FIR-D	7	1.7	15.8	85	0.6	2.3	342	214	84	76	
WHEMLOCK	61	30.0	15.8	91	10.3	41.1	6,906	6,385	1,655	1,628	
WHEMLOCK-D	2	.3	21.1	109	0.1	.7	158	126	35	31	
R ALDER	62	37.3	13.3	72	9.9	35.9	4,397	4,066	1,157	1,138	
BL MAPLE	26	8.6	14.6	47	2.6	10.0	922	770	273	256	
WR CEDAR	20	2.2	20.1	60	1.1	4.8	414	376	142	137	
<b>TOTAL</b>	<b>367</b>	<b>144.8</b>	<b>18.5</b>	<b>89</b>	<b>62.7</b>	<b>269.6</b>	<b>50,082</b>	<b>47,682</b>	<b>11,473</b>	<b>11,376</b>	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		57.3	4.2	686	716	746					
DOUG FIR-D		44.6	19.8	179	223	268					
WHEMLOCK		98.9	12.8	341	391	441					
WHEMLOCK-D		1.5	1.4	458	465	472					
R ALDER		62.8	8.0	125	136	147					
BL MAPLE		122.2	24.4	104	137	171					
WR CEDAR		102.1	23.4	243	317	391					
<b>TOTAL</b>		<b>86.9</b>	<b>4.6</b>	<b>467</b>	<b>490</b>	<b>512</b>	<b>301</b>	<b>75</b>			<b>33</b>
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		51.3	3.8	153	159	165					
DOUG FIR-D		34.4	15.3	67	79	91					
WHEMLOCK		92.1	11.9	88	100	111					
WHEMLOCK-D		30.1	28.2	87	121	155					
R ALDER		53.4	6.8	36	38	41					
BL MAPLE		84.1	16.8	35	43	50					
WR CEDAR		99.5	22.8	90	117	143					
<b>TOTAL</b>		<b>77.5</b>	<b>4.1</b>	<b>112</b>	<b>116</b>	<b>121</b>	<b>240</b>	<b>60</b>			<b>27</b>
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		79.3	6.3	61	65	69					
DOUG FIR-D		627.3	49.9	1	2	2					
WHEMLOCK		184.6	14.7	26	30	34					
WHEMLOCK-D		1257.0	99.9	0	0	1					
R ALDER		169.9	13.5	32	37	42					
BL MAPLE		367.8	29.2	6	9	11					
WR CEDAR		438.3	34.8	1	2	3					
<b>TOTAL</b>		<b>44.8</b>	<b>3.6</b>	<b>140</b>	<b>145</b>	<b>150</b>	<b>80</b>	<b>20</b>			<b>9</b>

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
11N	02E	26	DIAMONDJIM	00U1	136.00	158	949	S	W	
11N	02E	26	DIAMONDJIM	00U2						
11N	02E	26	DIAMONDJIM	00U4						
CL	68.1	COEFF	<b>BASAL AREA/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		73.9	5.9	165	175	185				
DOUG FIR-D		641.7	51.0	1	2	3				
WHEMLOCK		178.4	14.2	35	41	47				
WHEMLOCK-D		1257.0	99.9	0	1	1				
R ALDER		159.4	12.7	31	36	40				
BL MAPLE		328.0	26.1	7	10	13				
WR CEDAR		304.5	24.2	4	5	6				
<b>TOTAL</b>		<b>34.8</b>	<b>2.8</b>	<b>262</b>	<b>270</b>	<b>277</b>	<b>48</b>	<b>12</b>	<b>5</b>	
CL	68.1	COEFF	<b>NET BF/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		73.6	5.9	33,653	35,745	37,837				
DOUG FIR-D		760.9	60.5	85	214	344				
WHEMLOCK		189.9	15.1	5,421	6,385	7,349				
WHEMLOCK-D		1257.0	99.9	0	126	251				
R ALDER		159.3	12.7	3,551	4,066	4,581				
BL MAPLE		336.7	26.8	564	770	976				
WR CEDAR		318.7	25.3	281	376	472				
<b>TOTAL</b>		<b>46.2</b>	<b>3.7</b>	<b>45,931</b>	<b>47,682</b>	<b>49,433</b>	<b>85</b>	<b>21</b>	<b>9</b>	
CL	68.1	COEFF	<b>NET CUFT FT/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		73.8	5.9	7,634	8,110	8,585				
DOUG FIR-D		721.2	57.3	32	76	119				
WHEMLOCK		185.6	14.8	1,387	1,628	1,868				
WHEMLOCK-D		1257.0	99.9	0	31	62				
R ALDER		157.6	12.5	996	1,138	1,281				
BL MAPLE		323.1	25.7	190	256	322				
WR CEDAR		301.8	24.0	104	137	170				
<b>TOTAL</b>		<b>42.1</b>	<b>3.3</b>	<b>10,995</b>	<b>11,376</b>	<b>11,757</b>	<b>71</b>	<b>18</b>	<b>8</b>	
CL	68.1	COEFF	<b>TONS/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		73.8	5.9	218	232	245				
DOUG FIR-D		701.5	55.8	1	2	4				
WHEMLOCK		185.3	14.7	45	53	61				
WHEMLOCK-D		1257.0	99.9	0	1	2				
R ALDER		158.1	12.6	28	32	36				
BL MAPLE		326.4	25.9	5	7	9				
WR CEDAR		298.7	23.7	3	3	4				
<b>TOTAL</b>		<b>43.2</b>	<b>3.4</b>	<b>319</b>	<b>330</b>	<b>342</b>	<b>74</b>	<b>19</b>	<b>8</b>	
CL	68.1	COEFF	<b>V_BAR/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				192	204	216				
DOUG FIR-D		760.9	60.5	37	94	151				
WHEMLOCK		81.4	6.5	132	155	179				
WHEMLOCK-D		1257.0	99.9	0	193	385				
R ALDER		62.2	4.9	99	113	128				
BL MAPLE		280.5	22.3	57	77	98				
WR CEDAR		295.6	23.5	59	79	98				
<b>TOTAL</b>		<b>40.4</b>	<b>3.2</b>	<b>170</b>	<b>177</b>	<b>183</b>	<b>65</b>	<b>16</b>	<b>7</b>	

T11N R02E S26 T00U1 T11N R02E S26 T00U1  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdBft  
 11N 02E 26 DIAMONDJIM 00U1 57.00 70 171 S W

S Sp	So T	Gr rt	%	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
								5-7	8-11	12-15	17+	12-20	21-30	31-35	36-99						
DF	CU	CU		100.0	140												7	9		0.00	7.1
DF	HB	2S	21	2.8	9,062	8,810	502			43	57				100		40	16	381	2.10	23.1
DF	HB	3S	5		1,661	1,661	95		100						100		40	10	159	0.93	10.4
DF	DM	SM	2	2.9	1,122	1,089	62				100				100		40	19	579	3.01	1.9
DF	DM	2S	53	4.9	22,293	21,196	1,208			42	58	0		0	99		40	16	379	2.15	56.0
DF	DM	3S	16	1.4	6,342	6,255	357	26	74			1	7	10	82		37	8	96	0.70	65.1
DF	DM	4S	2	2.8	918	892	51	77	23			49	46	5			20	6	28	0.41	31.6
DF	DM	UT	1		233	233	13	90	10			55	21	24			23	5	26	0.24	9.1
<b>DF</b>	<b>Totals</b>		71	3.9	41,769	40,137	2,288	6	16	32	46	2	2	2	94		34	11	196	1.35	204.3
DF	D	CU	CU		100.0	91											19	7		0.00	2.4
DF	D	DM	2S	46	36.7	377	239	14			100				100		40	14	203	1.88	1.2
DF	D	DM	3S	30	20.5	194	154	9	14	86					100		40	9	105	0.85	1.5
DF	D	DM	4S	7	50.0	71	35	2	100						100		40	6	30	0.43	1.2
DF	D	DM	UT	17		82	82	5	100			14			86		26	6	35	0.37	2.4
<b>DF</b>	<b>D</b>	<b>Totals</b>		1	37.4	816	511	29	27	26	47	2			98		30	8	60	0.70	8.5
WH	CU	CU		100.0	263												6	10		0.00	14.7
WH	HB	2S	14	4.9	1,823	1,733	99			60	40				100		40	14	298	1.71	5.8
WH	HB	3S	19	1.8	2,236	2,196	125			100					100		40	9	129	0.77	17.1
WH	DM	2S	35	9.3	4,613	4,181	238			48	52			4	96		39	15	302	1.94	13.9
WH	DM	3S	21	2.4	2,573	2,511	143	41	59				1	7	92		39	8	88	0.59	28.6
WH	DM	4S	7	2.4	816	796	45	91	9			18	27	4	51		30	6	33	0.31	24.0
WH	DM	UT	4		405	405	23	88	12			7	93				24	5	27	0.25	14.8
<b>WH</b>	<b>Totals</b>		21	7.1	12,727	11,822	674	18	32	26	24	1	5	3	90		31	9	100	0.79	118.8
WH	D	CU	CU		100.0	28											26	8		0.00	.6
WH	D	DM	2S	38	30.3	163	114	6			30	70			100		40	15	230	1.84	.5
WH	D	DM	UT	62		186	186	11		38	62				100		40	13	235	1.19	.8
<b>WH</b>	<b>D</b>	<b>Totals</b>		1	20.6	377	300	17		24	50	26			100		35	11	155	1.09	1.9
RA	CU	CU		100.0	15												4	7		0.00	3.1
RA	DM	UT	6		137	137	8	100				77	23				16	5	17	0.18	8.2
RA	DM	2S	6	5.0	120	114	7			100					100		40	12	190	1.38	.6
RA	DM	3S	13	16.7	314	262	15			100					62		37	10	119	1.05	2.2
RA	DM	4S	28	12.9	633	551	31			100					85		38	9	91	0.74	6.0
RA	DM	4S	47	6.2	990	929	53	100					28	19	54		34	6	41	0.34	22.5
<b>RA</b>	<b>Totals</b>		4	9.8	2,209	1,993	114	53	41	6		5	24	9	62		29	6	47	0.46	42.7
BM	CU	CU		100.0	24												2	11		0.00	2.7
BM	DM	UT	5		77	77	4	100				100					18	6	20	0.28	3.8
BM	DM	1S	16	10.2	239	214	12			100		37	31		32		30	18	326	2.40	.7
BM	DM	2S	11	9.0	153	139	8			100					56		32	12	161	1.44	.9

T11N R02E S26 T00U1										T11N R02E S26 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
11N	02E	26	DIAMONDJIM	00U1	57.00	70	171	S	W					

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre						
								Net	BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
														5-7	8-11	12-15	17+	12-20	21-30		31-35					36-99
BM	DM	3S	19	11.8	296	262	15	100					55	17	27	30	10	104	0.92	2.5						
BM	DM	4S	29	13.4	433	375	21	100					8		5	35	9	81	0.85	4.7						
BM	DM	4S	20	3.2	273	265	15	100					9	23		31	6	44	0.53	6.0						
<b>BM Totals</b>			2	11.0	1,495	1,331	76		26	48	10	16	16	25	5	55	26	8	63	0.76	21.2					
RC	CU	CU		100.0	24											8	14		0.00	.5						
RC	DM	3S	85	4.1	297	285	16		8	19	52	21		27	4	69	38	10	152	1.40	1.9					
RC	DM	4S	15		47	47	3	100					9	91		25	5	26	0.31	1.8						
<b>RC Totals</b>			1	9.8	368	332	19		21	16	44	18	1	36	3	59	28	8	79	0.95	4.2					
<b>Type Totals</b>				5.6	59,762	56,425	3,216		11	21	29	38	2	4	3	91	32	10	140	1.06	401.7					

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1										
		Project: DIAMONDJ										Date 10/15/2015										
												Time 2:35:18PM										
T11N R02E S26 T00U2										T11N R02E S26 T00U2												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
11N	02E	26	DIAMONDJIM	00U2	78.00	87	185	S	W													
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
								5-7	8-11	12-15	17+	12-20	21-30	31-35	36-99	Ft	In	Ft				
DF		CU	CU		100.0	6										1	7		0.00		10.0	
DF		HA	2S	2	1.1	663	656	51		100				100		40	14	308	1.58		2.1	
DF		HB	2S	32	2.4	10,934	10,674	833		30	70			100		40	16	416	2.19		25.7	
DF		HB	3S	4	2.0	1,500	1,469	115		100				100		40	10	141	0.84		10.5	
DF		DM	2S	43	3.7	14,711	14,167	1,105		36	64	1	1	2	96	39	16	388	2.07		36.5	
DF		DM	3S	15	.9	4,908	4,863	379	24	76		1	5	15	79	37	8	97	0.70		50.3	
DF		DM	4S	3		1,030	1,030	80	92	8		24	31	5	40	26	6	29	0.32		35.3	
DF		DM	UT	1		59	59	5	17		83	100				13	8	43	0.56		1.4	
<b>DF</b>	<b>Totals</b>			79	2.6	33,810	32,919	2,568	6	16	27	50	1	2	3	93	34	11	192	1.27		171.8
RA		CU	CU		100.0	143										8	8		0.00		14.9	
RA		DM	UT	2		121	121	9	100			71	29			16	5	16	0.20		7.5	
RA		DM	1S	4	1.8	227	223	17			100			100		24	17	293	2.27		.8	
RA		DM	2S	5	3.1	339	328	26		100				30	70	37	13	204	1.46		1.6	
RA		DM	3S	27	4.7	1,579	1,505	117		100		5	10	12	73	34	10	130	1.02		11.6	
RA		DM	4S	29	8.0	1,774	1,632	127		100		3	6	10	81	36	8	82	0.71		19.8	
RA		DM	4S	33	2.4	1,870	1,825	142	100			9	18	6	67	31	5	39	0.35		46.6	
<b>RA</b>	<b>Totals</b>			13	6.9	6,052	5,633	439	35	56	6	4	6	15	10	69	28	7	55	0.54		102.8
WH		CU	CU		100.0	80										20	5		0.00		4.0	
WH		DM	2S	59	8.7	1,624	1,483	116			25	75			12	88	38	16	402	2.74		3.7
WH		DM	3S	24	4.1	620	595	46	44	56				3	14	83	38	8	81	0.58		7.4
WH		DM	4S	7		173	173	13	74	26			42	8	25	25	26	6	30	0.35		5.7
WH		DM	UT	10		228	228	18	68	32			32	33		35	30	5	32	0.35		7.2
<b>WH</b>	<b>Totals</b>			6	9.1	2,726	2,479	193	22	18	15	45	6	4	13	77	31	7	88	0.78		28.1
BM		CU	CU		100.0	93										28	11		0.00		1.6	
BM		DM	UT	16	10.1	66	59	5	100				11	89			22	6	25	0.37		2.4
BM		DM	4S	55	13.1	237	206	16		100				14	86		36	9	85	0.88		2.4
BM		DM	4S	29	12.3	119	105	8	100					30	70		31	6	42	0.61		2.5
<b>BM</b>	<b>Totals</b>			1	28.3	515	370	29	44	56			2	31	20	48	29	8	41	0.55		8.9
RC		CU	CU		100.0	12										8	14		0.00		.2	
RC		DM	3S	82	7.6	369	341	27	2	20	37	41	1	13	13	72	34	12	200	2.34		1.7
RC		DM	4S	9		36	36	3	93	7			37	40		23	24	5	26	0.42		1.4
RC		DM	UT	9		36	36	3		100				100			24	10	90	0.89		.4
<b>RC</b>	<b>Totals</b>			1	8.9	453	413	32	10	26	30	33	4	23	11	62	28	9	112	1.54		3.7
<b>Type Totals</b>					4.0	43,556	41,813	3,261	11	22	23	43	2	4	5	88	31	9	133	1.00		315.2

T11N R02E S26 T00U4										T11N R02E S26 T00U4				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
11N	02E	26	DIAMONDJIM	00U4	1.00	1	23	S	W					

S Twp	So Rge	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
								5-7	8-11	12-15	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	CU	CU		100.0	157												3	6		0.00	62.8
DF	DM	3S	33		1,963	1,963	2	100									40	6	63	0.53	31.4
DF	DM	4S	40		2,355	2,355	2	100				27	73				38	5	43	0.39	54.9
DF	DM	UT	27		1,570	1,570	2	55	45								40	7	67	0.67	23.5
<b>DF</b>	<b>Totals</b>		83	2.6	6,045	5,888	6	88	12				11	89			26	6	34	0.47	172.7
WH	CU	CU																6		0.00	4.8
WH	DM	4S	87		1,019	1,019	1	100				10	29	33	29		30	5	35	0.33	29.1
WH	DM	UT	13		146	146	0	100						100			32	5	30	0.40	4.8
<b>WH</b>	<b>Totals</b>		16		1,164	1,164	1	100				8	25	42	25		26	5	30	0.34	38.8
RC	DM	4S	100		60	60	0	100					50	50			30	5	30	0.43	2.0
<b>RC</b>	<b>Totals</b>		1		60	60	0	100					50	50			30	5	30	0.43	2.0
<b>Type Totals</b>				2.2	7,269	7,112	7	90	10			1	5	16	78		26	6	33	0.45	213.5

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DIAMONDJ			DATE	10/15/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
11N	02E	26	DIAMONDJIM	00U1	57.00	70	426	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		70	426	6.1						
CRUISE		37	167	4.5	9,015		1.9			
DBH COUNT										
REFOREST										
COUNT		33	209	6.3						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	78	70.1	23.1	105	42.4	203.8	41,769	40,137	9,344	9,304
DOUG FIR-D	7	4.0	15.8	85	1.4	5.4	816	511	200	181
WHEMLOCK-D	2	.6	21.1	109	0.3	1.6	377	300	82	74
WHEMLOCK	40	49.2	16.4	97	17.9	72.3	12,727	11,822	3,000	2,956
R ALDER	16	20.9	12.2	78	4.9	17.0	2,209	1,993	574	571
BL MAPLE	17	10.6	15.4	56	3.5	13.7	1,495	1,331	423	416
WR CEDAR	7	2.6	16.8	59	1.0	4.0	368	332	118	113
<b>TOTAL</b>	<b>167</b>	<b>158.2</b>	<b>19.2</b>	<b>95</b>	<b>72.5</b>	<b>317.8</b>	<b>59,762</b>	<b>56,425</b>	<b>13,741</b>	<b>13,615</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	47.4	5.4	711	752	793					
DOUG FIR-D	44.6	19.8	179	223	268					
WHEMLOCK	57.2	9.2	365	401	438					
WHEMLOCK-D	1.5	1.4	458	465	472					
R ALDER	48.6	12.5	103	118	132					
BL MAPLE	109.3	27.3	130	178	227					
WR CEDAR	107.8	43.9	152	271	391					
<b>TOTAL</b>	<b>74.8</b>	<b>5.9</b>	<b>473</b>	<b>502</b>	<b>532</b>	<b>224</b>	<b>56</b>	<b>25</b>		
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	41.4	4.7	163	171	179					
DOUG FIR-D	34.4	15.3	67	79	91					
WHEMLOCK	54.8	8.8	92	101	110					
WHEMLOCK-D	30.1	28.2	87	121	155					
R ALDER	52.3	13.5	30	35	40					
BL MAPLE	75.0	18.7	43	53	63					
WR CEDAR	71.9	29.3	59	84	109					
<b>TOTAL</b>	<b>64.2</b>	<b>5.0</b>	<b>115</b>	<b>121</b>	<b>127</b>	<b>164</b>	<b>41</b>	<b>18</b>		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	75.9	9.1	64	70	76					
DOUG FIR-D	412.4	49.2	2	4	6					
WHEMLOCK	151.8	18.1	40	49	58					
WHEMLOCK-D	836.7	99.9	0	1	1					
R ALDER	215.4	25.7	16	21	26					
BL MAPLE	244.8	29.2	8	11	14					
WR CEDAR	448.4	53.5	1	3	4					
<b>TOTAL</b>	<b>40.4</b>	<b>4.8</b>	<b>151</b>	<b>158</b>	<b>166</b>	<b>65</b>	<b>16</b>	<b>7</b>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	DIAMONDJ			DATE	10/15/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
11N	02E	26	DIAMONDJIM	00U1	57.00	70	426	S	W	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		70.7	8.4	187	204	221				
DOUG FIR-D		422.2	50.4	3	5	8				
WHEMLOCK		139.0	16.6	60	72	84				
WHEMLOCK-D		836.7	99.9	0	2	3				
R ALDER		196.0	23.4	13	17	21				
BL MAPLE		226.9	27.1	10	14	17				
WR CEDAR		302.2	36.1	3	4	5				
<b>TOTAL</b>		<b>31.4</b>	<b>3.8</b>	<b>306</b>	<b>318</b>	<b>330</b>	<b>39</b>	<b>10</b>	<b>4</b>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		69.8	8.3	36,792	40,137	43,481				
DOUG FIR-D		502.9	60.1	204	511	818				
WHEMLOCK		143.6	17.1	9,795	11,822	13,849				
WHEMLOCK-D		836.7	99.9	0	300	599				
R ALDER		198.9	23.7	1,519	1,993	2,466				
BL MAPLE		263.2	31.4	913	1,331	1,750				
WR CEDAR		323.9	38.7	204	332	461				
<b>TOTAL</b>		<b>39.4</b>	<b>4.7</b>	<b>53,770</b>	<b>56,425</b>	<b>59,079</b>	<b>62</b>	<b>15</b>	<b>7</b>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		70.1	8.4	8,526	9,304	10,083				
DOUG FIR-D		476.1	56.9	78	181	284				
WHEMLOCK		142.0	17.0	2,455	2,956	3,458				
WHEMLOCK-D		836.7	99.9	0	74	148				
R ALDER		195.1	23.3	438	571	704				
BL MAPLE		248.3	29.7	292	416	539				
WR CEDAR		315.2	37.6	71	113	156				
<b>TOTAL</b>		<b>36.2</b>	<b>4.3</b>	<b>13,026</b>	<b>13,615</b>	<b>14,204</b>	<b>52</b>	<b>13</b>	<b>6</b>	
CL:	68.1 %	COEFF	TONS/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		70.0	8.4	244	266	289				
DOUG FIR-D		462.7	55.3	3	6	9				
WHEMLOCK		142.0	17.0	80	96	112				
WHEMLOCK-D		836.7	99.9	0	3	5				
R ALDER		194.9	23.3	12	16	19				
BL MAPLE		244.5	29.2	8	11	14				
WR CEDAR		309.9	37.0	2	3	4				
<b>TOTAL</b>		<b>37.1</b>	<b>4.4</b>	<b>383</b>	<b>400</b>	<b>418</b>	<b>55</b>	<b>14</b>	<b>6</b>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				181	197	213				
DOUG FIR-D		502.9	60.1	37	94	150				
WHEMLOCK		55.9	6.7	135	163	191				
WHEMLOCK-D		836.7	99.9	0	193	385				
R ALDER		129.3	15.4	89	117	145				
BL MAPLE		241.2	28.8	67	97	128				
WR CEDAR		323.9	38.7	51	83	115				
<b>TOTAL</b>		<b>275.9</b>	<b>32.9</b>	<b>169</b>	<b>178</b>	<b>186</b>	<b>3,039</b>	<b>760</b>	<b>338</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DIAMONDJ			DATE	10/15/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
11N	02E	26	DIAMONDJIM	00U2	78.00	87	500	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		87	500	5.7						
CRUISE		39	177	4.5	10,534	1.7				
DBH COUNT										
REFOREST										
COUNT		48	271	5.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	97	60.5	21.7	103	33.3	154.8	33,810	32,919	7,316	7,314
R ALDER	46	49.7	13.6	71	13.6	50.2	6,052	5,633	1,598	1,568
WHEMLOCK	14	15.9	14.6	76	4.8	18.5	2,726	2,479	689	673
BL MAPLE	9	7.2	13.7	37	2.0	7.3	515	370	166	143
WR CEDAR	11	1.8	23.2	60	1.1	5.4	453	413	160	156
<b>TOTAL</b>	<i>177</i>	<i>135.0</i>	<i>17.9</i>	<i>84</i>	<i>55.8</i>	<i>236.4</i>	<i>43,556</i>	<i>41,813</i>	<i>9,930</i>	<i>9,854</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	50.6	5.2		744	784	825				
R ALDER	65.3	9.6		129	143	156				
WHEMLOCK	121.3	33.6		359	541	723				
BL MAPLE	71.2	25.1		45	60	75				
WR CEDAR	87.8	27.7		288	398	509				
<b>TOTAL</b>	<i>86.3</i>	<i>6.5</i>		<i>501</i>	<i>536</i>	<i>571</i>	<i>298</i>	<i>74</i>	<i>33</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	45.2	4.6		163	170	178				
R ALDER	53.7	7.9		36	40	43				
WHEMLOCK	108.0	29.9		99	141	183				
BL MAPLE	61.1	21.6		18	23	28				
WR CEDAR	87.7	27.7		113	156	199				
<b>TOTAL</b>	<i>78.9</i>	<i>5.9</i>		<i>118</i>	<i>125</i>	<i>133</i>	<i>248</i>	<i>62</i>	<i>28</i>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	83.3	8.9		55	60	66				
R ALDER	141.8	15.2		42	50	57				
WHEMLOCK	207.5	22.2		12	16	19				
BL MAPLE	486.0	52.1		3	7	11				
WR CEDAR	423.3	45.3		1	2	3				
<b>TOTAL</b>	<i>48.9</i>	<i>5.2</i>		<i>128</i>	<i>135</i>	<i>142</i>	<i>95</i>	<i>24</i>	<i>11</i>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	76.1	8.2		142	155	167				
R ALDER	129.4	13.9		43	50	57				
WHEMLOCK	196.9	21.1		15	19	22				
BL MAPLE	460.2	49.3		4	7	11				
WR CEDAR	297.8	31.9		4	5	7				
<b>TOTAL</b>	<i>34.9</i>	<i>3.7</i>		<i>228</i>	<i>236</i>	<i>245</i>	<i>49</i>	<i>12</i>	<i>5</i>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	76.3	8.2		30,227	32,919	35,611				
R ALDER	129.7	13.9		4,851	5,633	6,416				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	DIAMONDJ			DATE	10/15/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
11N	02E	26	DIAMONDJIM	00U2	78.00		87	500	S	W
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK		204.3	21.9	1,936	2,479	3,021				
BL MAPLE		457.3	49.0	189	370	551				
WR CEDAR		311.1	33.3	275	413	550				
<b>TOTAL</b>		<b>49.8</b>	<b>5.3</b>	<b>39,585</b>	<b>41,813</b>	<b>44,041</b>	<b>99</b>	<b>25</b>	<b>11</b>	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		76.3	8.2	6,716	7,314	7,912				
R ALDER		129.0	13.8	1,351	1,568	1,784				
WHEMLOCK		202.0	21.6	528	673	819				
BL MAPLE		454.6	48.7	73	143	213				
WR CEDAR		288.5	30.9	108	156	204				
<b>TOTAL</b>		<b>44.1</b>	<b>4.7</b>	<b>9,388</b>	<b>9,854</b>	<b>10,320</b>	<b>78</b>	<b>19</b>	<b>9</b>	
CL:	68.1 %	COEFF		TONS/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		76.3	8.2	191	209	226				
R ALDER		129.3	13.8	38	44	50				
WHEMLOCK		201.7	21.6	17	22	27				
BL MAPLE		467.0	50.0	2	4	7				
WR CEDAR		286.6	30.7	3	4	5				
<b>TOTAL</b>		<b>44.8</b>	<b>4.8</b>	<b>269</b>	<b>283</b>	<b>296</b>	<b>80</b>	<b>20</b>	<b>9</b>	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				195	213	230				
R ALDER				97	112	128				
WHEMLOCK		65.6	7.0	104	134	163				
BL MAPLE		286.9	30.7	26	50	75				
WR CEDAR		288.7	30.9	51	76	102				
<b>TOTAL</b>		<b>302.1</b>	<b>32.4</b>	<b>167</b>	<b>177</b>	<b>186</b>	<b>3,645</b>	<b>911</b>	<b>405</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DIAMONDJ			DATE	10/15/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
11N	02E	26	DIAMONDJIM	00U4	1.00	1	23	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		1	23	23.0						
CRUISE		1	23	23.0	146		15.8			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	14	109.9	12.8	60	27.5	98.3	6,045	5,888	2,164	2,117
WHEMLOCK	7	34.0	9.7	49	5.6	17.3	1,164	1,164	343	343
WR CEDAR	2	2.0	11.0	45	0.4	1.3	60	60	26	26
<b>TOTAL</b>	<b>23</b>	<b>145.8</b>	<b>12.1</b>	<b>57</b>	<b>33.6</b>	<b>116.9</b>	<b>7,269</b>	<b>7,112</b>	<b>2,533</b>	<b>2,485</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	29.8	8.3		49	54	58				
WHEMLOCK	37.1	15.1		29	34	39				
WR CEDAR				30	30	30				
<b>TOTAL</b>	<b>37.8</b>	<b>8.1</b>		<b>42</b>	<b>46</b>	<b>49</b>	<b>60</b>	<b>15</b>	<b>7</b>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	35.3	9.8		17	19	21				
WHEMLOCK	49.7	20.2		8	10	12				
WR CEDAR	5.6	5.3		12	13	14				
<b>TOTAL</b>	<b>45.7</b>	<b>9.7</b>		<b>14</b>	<b>16</b>	<b>17</b>	<b>87</b>	<b>22</b>	<b>10</b>	

## Species Summary - Trees, Logs, Tons, CCF, MBF

T11N R02E S26 Ty00U1	57.0
T11N R02E S26 Ty00U2	78.0
T11N R02E S26 Ty00U	1.0

Project **DIAMONDJ**  
Acres **136.00**

Page No **1**  
Date: **10/15/2015**  
Time **2:35:20PM**

Species	s T	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
		Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR		8,824	23,970	31,504	125.00	46.01	1.31	11,054	11,030	5,024	4,861
WHEMLOCK		4,079	7,844	7,202	54.26	28.22	0.82	2,251	2,214	939	868
R ALDER		5,066	9,109	4,327	30.56	17.00	0.54	1,573	1,548	598	553
BL MAPLE		1,168	1,627	983	29.83	21.42	0.71	371	348	125	105
WR CEDAR		294	485	453	63.37	38.45	1.31	193	187	56	51
DOUG FIR	D	227	352	325	45.50	29.25	0.86	114	103	46	29
WHEMLOCK	D	37	73	150	115.24	57.62	1.44	47	42	22	17
<b>Totals</b>		19,695	43,462	44,945	78.56	35.60	1.05	15,603	15,472	6,811	6,485

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	13,460	32,725	39,634	100.85	41.48	1.19	13,658	13,575	6,088	5,827
H	6,234	10,736	5,310	30.42	17.67	0.56	1,944	1,897	723	658
<b>Totals</b>	19,695	43,462	44,945	78.56	35.60	1.05	15,603	15,472	6,811	6,485



WASHINGTON STATE DEPARTMENT OF  
**Natural Resources**  
 Peter Goldmark - Commissioner of Public Lands

FPA/N No: 2930546  
 Effective Date: 08/19/2015  
 Expiration Date: 08/19/2018  
 Shut Down Zone: 655; 660  
 EARR Tax Credit:  Eligible [ ] Non-eligible  
 Reference: 14,25,26,28,35-11-02E  
Diamond Jim

**Forest Practices Application/Notification  
 Notice of Decision**

Decision

- Notification Operations shall not begin before the effective date.
- Approved This Forest Practices Application is subject to the conditions listed below.
- Disapproved This Forest Practices Application is disapproved for the reasons listed below.
- Closed Applicant has withdrawn approved FPA/N

FPA/N Classification

Class II  Class III  Class IVG  Class IVS

Number of Years Granted on Multi-Year Request

3 yrs  4 yrs  5 yrs

Conditions on Approval / Reasons for Disapproval

No additional conditions.

Issued By: Jon Byerly

Region: Pacific Cascade

Title: Forest Practices Forester

Date: 08/19/2015

Copies to:  Landowner, Timber Owner and Operator.

Issued in person:  Landowner  Timber Owner  Operator By: \_\_\_\_\_

**Appeal Information**

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:

**Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501**

**Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903**

Information regarding the Pollution Control Hearings Board can be found at: <http://www.eho.wa.gov/>

At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

Office of the Attorney General  
Natural Resources Division  
1125 Washington Street SE  
PO Box 40100  
Olympia, WA 98504-0100

And

Department Of Natural Resources  
Pacific Cascade Region  
601 Bond Road  
PO Box 280  
Castle Rock, WA 98611

**Other Applicable Laws**

Operating as described in this application/notification does not ensure compliance with the Endangered Species Act, or other federal, state, or local laws.

**Hydraulic Project Approval (HPA) (Chapter 77.55RCW and WAC 222-50-020(2))**

The Department of Fish and Wildlife (WDFW), as the jurisdictional agency issuing HPAs, has final authority for approving water crossing structures in Type S and F waters. WDFW continues to have authority on Type N waters and may exercise that authority on some Type N waters.

Notice: The HPA water crossing requirements supersede what is indicated on the FPA. Landowners are required by law to follow the provisions as directed on the HPA.

**Transfer of Forest Practices Application/Notification (WAC 222-20-010)**

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: <http://www.dnr.wa.gov/businesspermits/forestpractices>. Notify DNR of new Operators within 48 hours.

**Continuing Forest Land Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)**

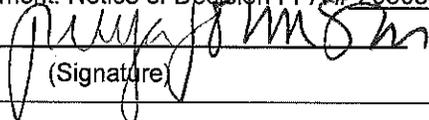
Obligations include reforestation, road maintenance and abandonment plans, conversions of forest land to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

Before the sale or transfer of land or perpetual timber rights subject to continuing forest land obligations, the seller must notify the buyer of such an obligation on a form titled "Notice of Continuing Forest Land Obligation". The seller and buyer must both sign the "Notice of Continuing Forest Land Obligation" form and send it to the DNR Region Office for retention. This form is available at DNR region offices.

If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against the seller.

Failure by the seller to send the required notice to the DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forest land obligation prior to sale.

**DNR affidavit of mailing:**

On this day <u>08/19/2015</u>	I placed in the United States mail at <u>Castle Rock</u> , WA,
(date mm/dd/yyyy)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 2930546	
<u>Tonya Johnston</u>	
(Printed name)	(Signature)

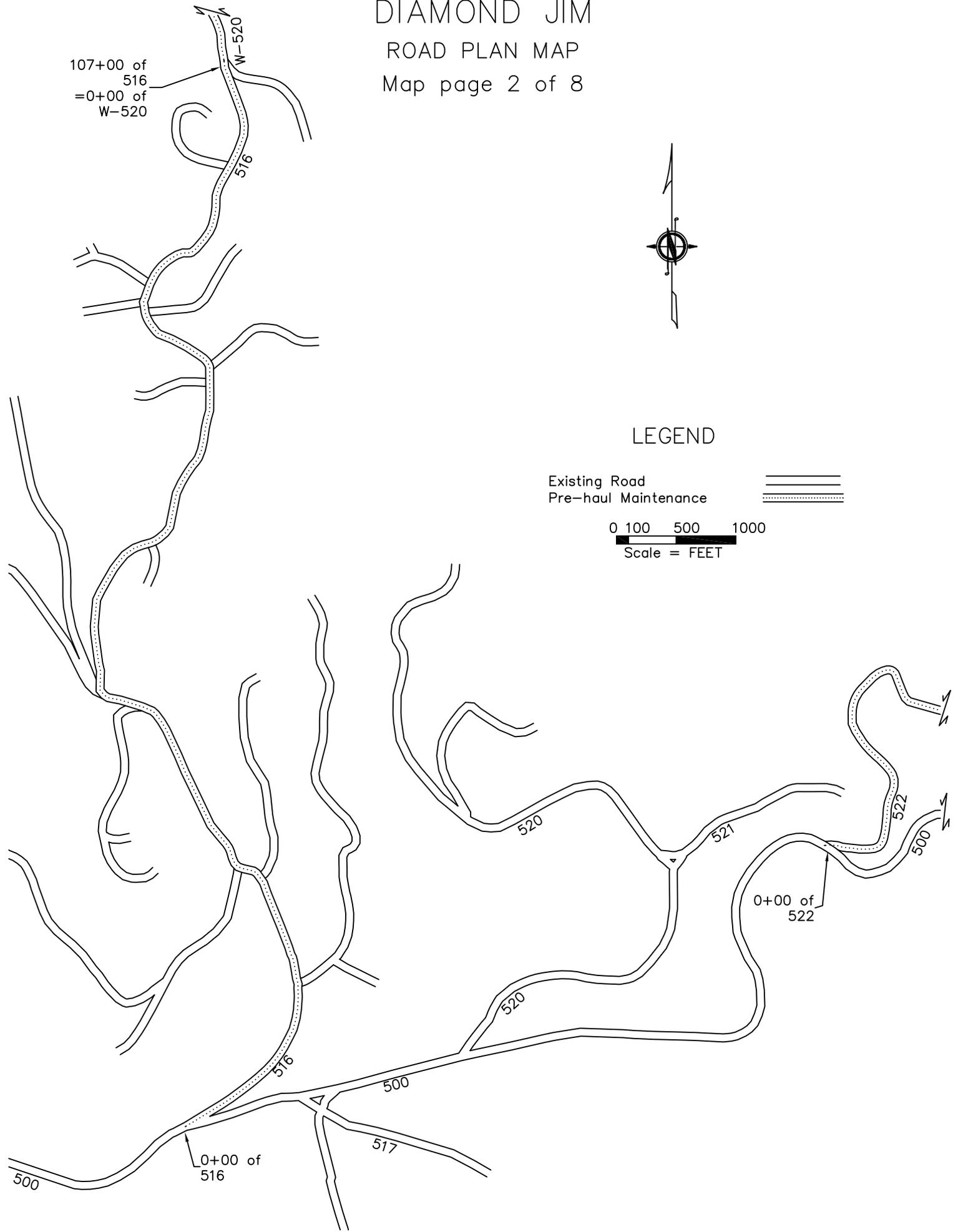


# DIAMOND JIM

## ROAD PLAN MAP

Map page 2 of 8

107+00 of  
516  
= 0+00 of  
W-520



### LEGEND

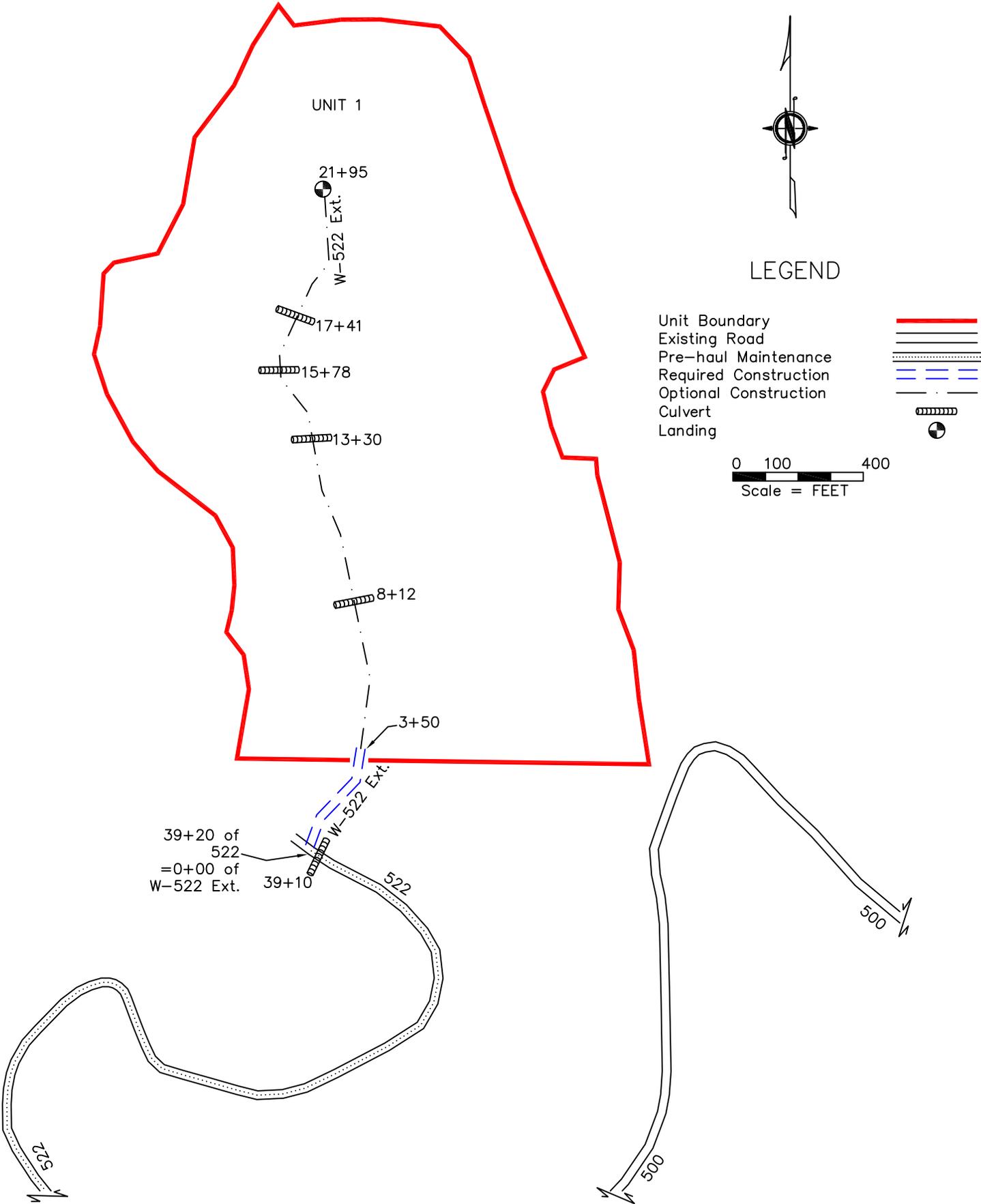
Existing Road   
Pre-haul Maintenance 

0 100 500 1000  
Scale = FEET

# DIAMOND JIM

## ROAD PLAN MAP

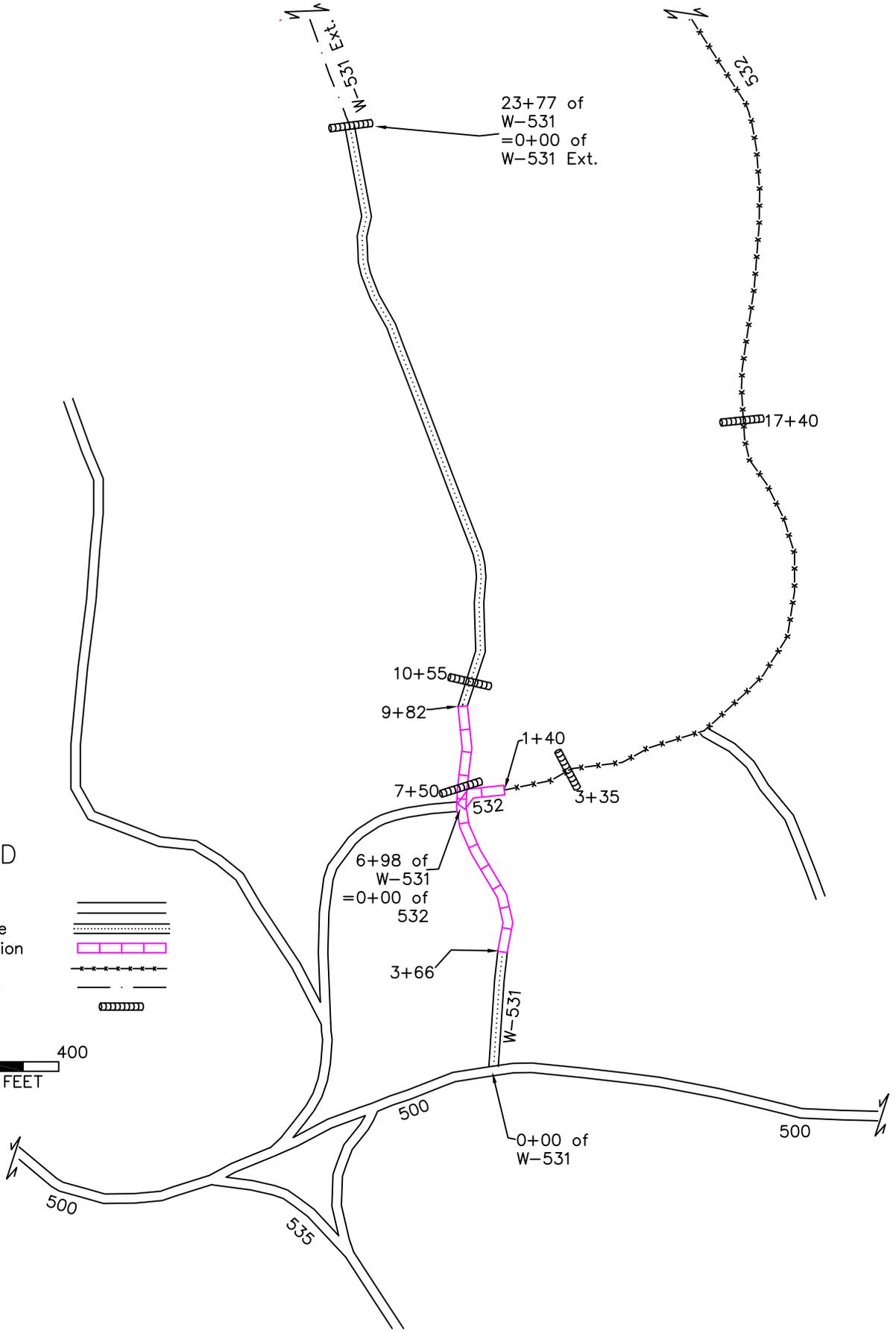
Map page 3 of 8



# DIAMOND JIM

## ROAD PLAN MAP

Map page 4 of 8



23+77 of  
W-531  
=0+00 of  
W-531 Ext.

17+40

10+55

9+82

1+40

3+35

7+50

532

6+98 of  
W-531  
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532

3+66

W-531

0+00 of  
W-531

500

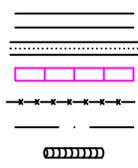
500

500

535

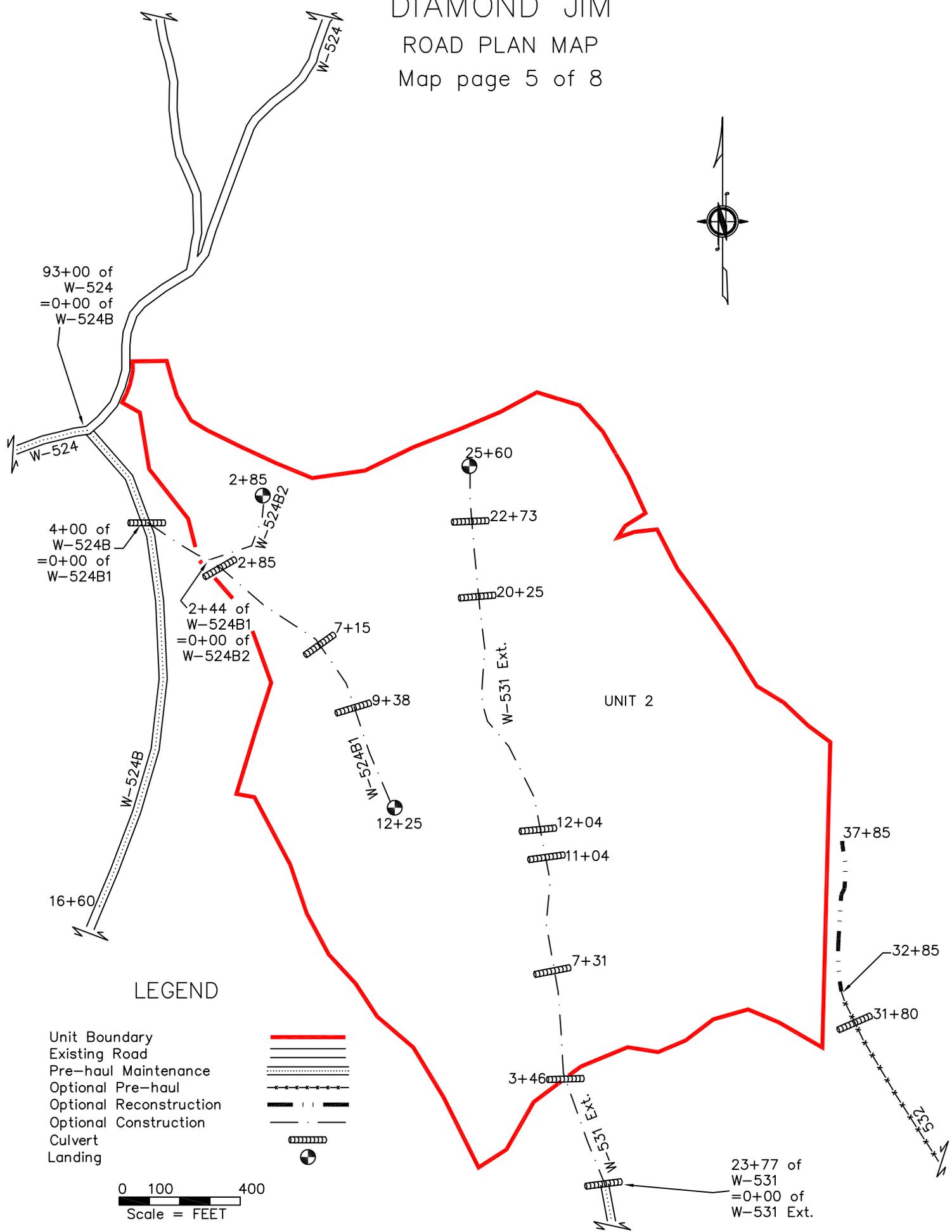
### LEGEND

- Existing Road
- Pre-haul Maintenance
- Required Reconstruction
- Optional Pre-haul
- Optional Construction
- Culvert



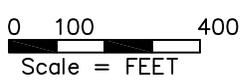
# DIAMOND JIM ROAD PLAN MAP

Map page 5 of 8



## LEGEND

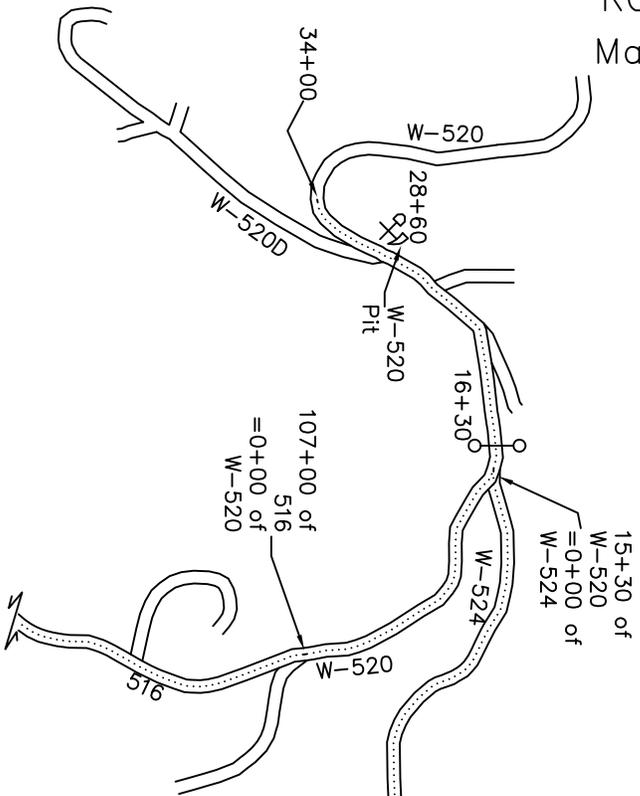
- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Pre-haul
- Optional Reconstruction
- Optional Construction
- Culvert
- Landing



# DIAMOND JIM

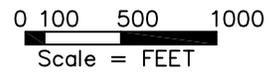
## ROAD PLAN MAP

Map page 6 of 8

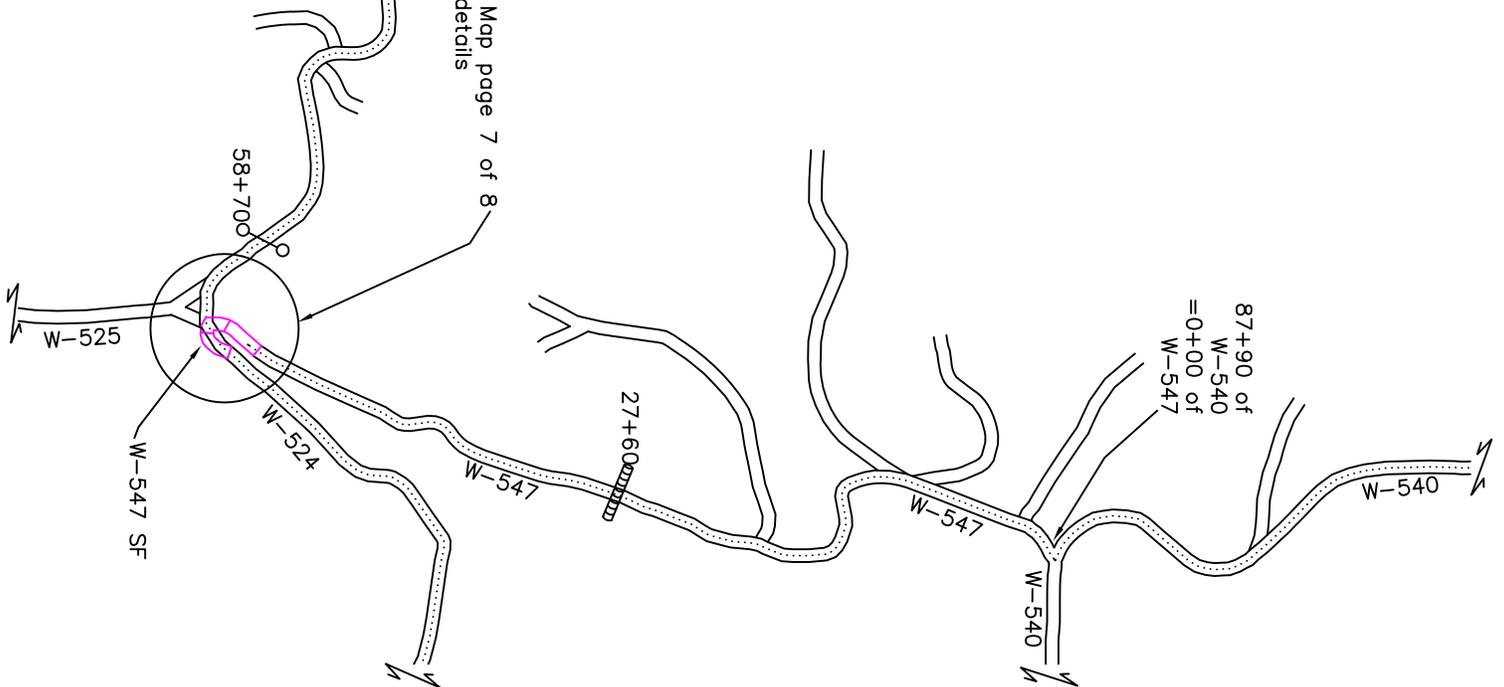


### LEGEND

- Existing Road
- Pre-haul Maintenance
- Required Reconstruction
- Culvert
- Gate Maintenance



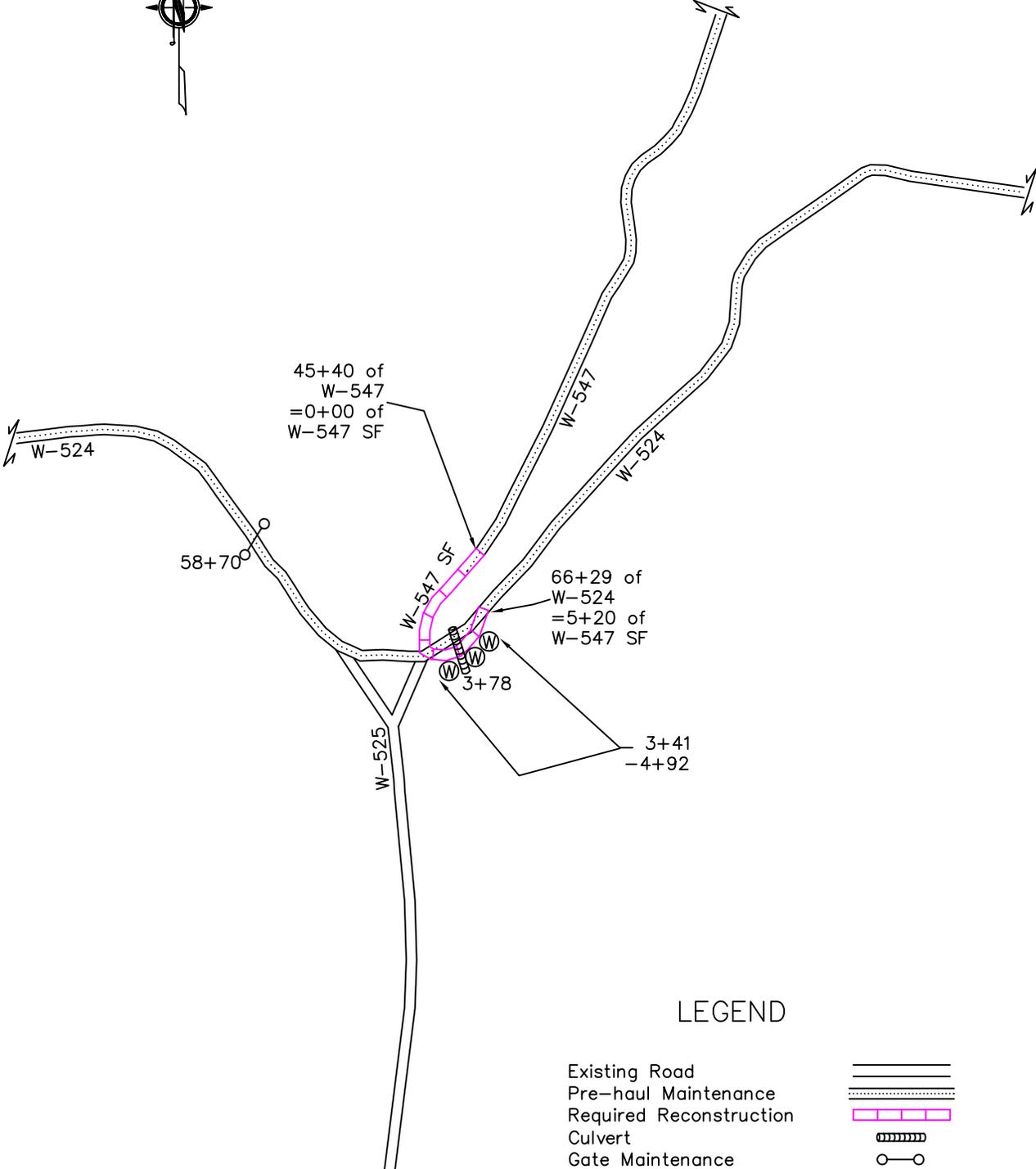
See Map page 7 of 8  
for details



# DIAMOND JIM

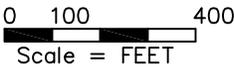
## ROAD PLAN MAP

Map page 7 of 8



### LEGEND

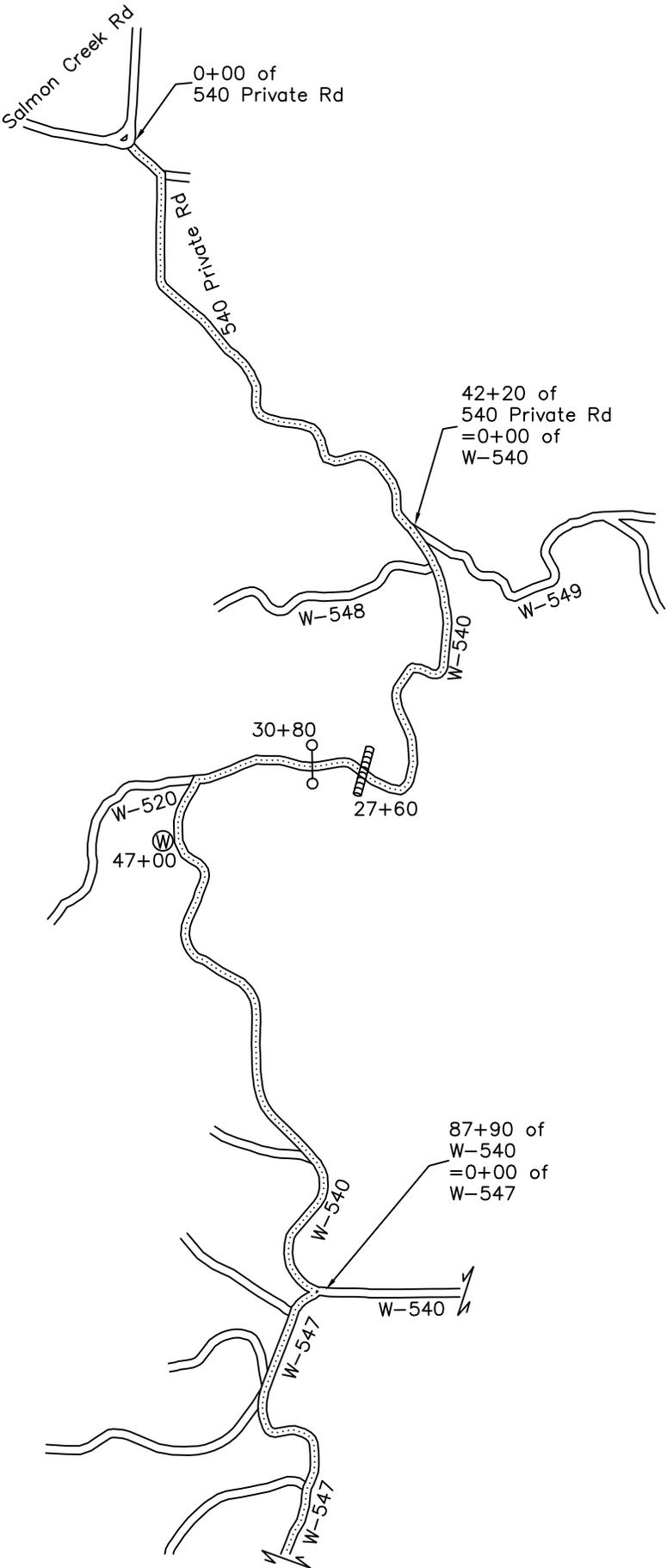
- Existing Road
- Pre-haul Maintenance
- Required Reconstruction
- Culvert
- Gate Maintenance
- Waste Area



# DIAMOND JIM

## ROAD PLAN MAP

Map page 8 of 8



### LEGEND

- Existing Road
- Pre-haul Maintenance
- Culvert
- Gate Maintenance
- Waste Area

0 100 500 1000  
Scale = FEET

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
  
DIAMOND JIM TIMBER SALE ROAD PLAN  
LEWIS COUNTY  
LEWIS DISTRICT

AGREEMENT NO.: 30-092609

STAFF ENGINEER: RICH WALLMOW

DATE: 04/10/2015

DRAWN & COMPILED BY: ALICIA COMPTON

SECTION 0 – SCOPE OF PROJECT

**0-1 ROAD PLAN SCOPE**

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

**0-2 REQUIRED ROADS**

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
540 Private Rd.	0+00 to 42+20	Pre-haul Maintenance
W-540	0+00 to 87+90	Pre-haul Maintenance
W-547	0+00 to 45+40	Pre-haul Maintenance
W-547 SF	0+00 to 5+20	Reconstruct
W-524	0+00 to 93+00	Pre-haul Maintenance
W-524B	0+00 to 16+60	Pre-haul Maintenance
W-520	0+00 to 34+00	Pre-haul Maintenance
516	0+00 to 107+00	Pre-haul Maintenance
522	0+00 to 39+20	Pre-haul Maintenance
W-522 Ext.	0+00 to 3+50	Construct
W-531	0+00 to 3+66	Pre-haul Maintenance
	3+66 to 9+82	Reconstruct
	9+82 to 23+77	Pre-haul Maintenance
532	0+00 to 1+40	Reconstruct

**0-3 OPTIONAL ROADS**

The specified work on the following roads is not required. Any optional roads built by the Purchaser must meet all the specifications in the road plan.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
W-524B1	0+00 to 12+25	Construct
W-524B2	0+00 to 2+85	Construct
W-522 Ext.	3+50 to 21+95	Construct
W-531 Ext.	0+00 to 25+60	Construct
532	1+40 to 32+85	Pre-haul Maintenance
	32+85 to 37+85	Reconstruct

**0-4 CONSTRUCTION**

Construction includes, but is not limited to: clearing; grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; landing construction; acquisition and installation of drainage structures; acquisition, manufacture, and application of rock.

**0-5 RECONSTRUCTION**

This project includes, but is not limited to the following reconstruction requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
W-547 SF	0+00 to 5+20	Widen subgrade to the dimensions shown on the Typical Section Sheet and intersection details. Construct ditches and culvert catch basins. Construct landings. Install culvert(s) as shown on the Culvert List. Grade, shape, and compact existing road surface. Apply rock as shown on the Rock List. Grade, shape and compact the applied rock.
W-531	3+66 to 9+82	
532	0+00 to 1+40; 32+85 to 37+85	

**0-6 PRE-HAUL MAINTENANCE**

This project includes, but is not limited to the following pre-haul maintenance requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
540 Private Rd.	0+00 to 42+20	Grade and shape existing road prior to rock application. Apply rock as shown on the Rock List. Grade and shape the applied rock.
W-540	0+00 to 87+90	Grade and shape existing road prior to applying 200 cy of spot rock.
	11+50 to 13+10	Grade and shape existing road prior to applying 30 cy of spot rock.
	12+80	Construct sediment trap.
	13+10 to 19+50, 50+80 to 54+25 63+85 to 87+90	Clean ditchline and culverts.
	27+60	Install culvert.
	30+80	Install tie back post for existing gate.
W-547	0+00 to 45+40	Grade and shape existing road prior to applying 100 cy of spot rock. Clean ditchline and culverts.
W-524	0+00 to 93+00	Brush; grade, shape and compact existing road prior to rock application. Apply rock in accordance with Rock List.
	58+70	Install tie back post for existing gate.
	81+00	Construct sediment trap.
	80+00 to 81+00	Construct rock berm on right.
W-524B	0+00 to 4+00	Brush, clean ditches, install culvert. Grade and shape existing road.
	4+00 to 16+60	Brush road and clean ditches.
W-520	0+00 to 34+00	Brush, grade and shape road prior to rock application. Apply rock in accordance with Rock List.
	16+30	Install tie back post for existing gate.
516	0+00 to 107+00	Rip pot holes and shape those segments of existing road prior to rock application. Apply rock in accordance with Rock List.
	26+40 to 27+75	Construct rock berm on right.
522	0+00 to 39+20	Brush and install culvert. Rip pot holes as needed prior to rock application. Apply rock in accordance with Rock List.
W-531	0+00 to 3+66 9+82 to 23+77	Brush road. Brush road, clean ditchline, clean culverts, grade and shape existing road prior to rock application, install culvert. Apply, grade, shape and compact rock in accordance with Rock List.
532	1+40 to 32+85	Brush road, clean ditchline, grade and shape existing road prior to rock application, install culverts, and apply rock.

**0-10 ABANDONMENT**

This project includes abandonment listed in Clause 9-21 ROAD ABANDONMENT.

**0-12 DEVELOP ROCK SOURCE**

Purchaser shall develop an existing rock source. Rock source development will involve clearing, stripping, drilling, shooting, manufacturing, and stock piling rock. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

**SECTION 1 – GENERAL**

**1-1 ROAD PLAN CHANGES**

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for the submitted plan.

**1-2 UNFORESEEN CONDITIONS**

Quantities established in this road plan are minimum acceptable values. Additional quantities required by the state due to unforeseen conditions, or Purchaser's choice of construction season or techniques will be at the Purchaser's expense. Unforeseen conditions include, but are not limited to, solid subsurface rock, subsurface springs, saturated ground, and unstable soils.

**1-3 ROAD DIMENSIONS**

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

**1-4 ROAD TOLERANCES**

Purchaser shall perform road work within the tolerances listed below. The tolerance class for each road is listed on the TYPICAL SECTION SHEET.

<u>Tolerance Class</u>	<u>A</u>	<u>B</u>	<u>C</u>
Road and Subgrade Width (feet)	+1.5	+1.5	+2.0
Subgrade Elevation (feet +/-)	0.5	1.0	2.0
Centerline alignment (feet lt./rt.)	1.0	1.5	3.0

**1-6 ORDER OF PRECEDENCE**

Any conflict or inconsistency in the road plan will be resolved by giving the documents precedence in the following order:

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.

In case of any ambiguity or dispute over interpreting the road plan, the Contract Administrator’s or designee’s decision will be final.

**1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS**

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation, and may not begin without written approval from the Contract Administrator.

**1-9 DAMAGED METALLIC COATING**

Any damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint.

**1-15 ROAD MARKING**

Purchaser shall perform road work in accordance with the state’s marked location. All road work is marked as follows:

- Centerline construction stakes, orange paint, orange flagging, and RP tags for new construction.
- Orange painted trees and RP tags along reconstruction.
- Orange painted trees for pre-haul maintenance.

**1-16 CONSTRUCTION STAKES SET BY STATE**

Purchaser shall perform work on the following roads in accordance with the construction stakes and reference points set in the field for grade and alignment.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
W-547 SF	0+00 to 5+20	Reconstruct
W-531	3+66 to 9+82	Reconstruct
532	0+00 to 1+40	Reconstruct

**1-18 REFERENCE POINT DAMAGE**

Purchaser shall reset reference points (RPs) that were moved or damaged at any time during construction to their original locations. Excavation and embankment may not proceed on road segments controlled by said RPs until Purchaser resets all moved or damaged RPs.

**1-21 HAUL APPROVAL**

Purchaser shall not use roads under this road plan for timber hauling, other than timber cut on the right-of-way, without written approval from the Contract Administrator.

**1-22 WORK NOTIFICATIONS**

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before work begins.

**1-23 ROAD WORK PHASE APPROVAL**

Purchaser shall obtain written approval from the Contract Administrator upon completion of each of the following phases of road work:

- Subgrade construction and drainage installation
- Rock application and compaction

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not allowed during the listed closure period unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All Roads	Road Work	September 30 to May 1

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

**1-29 SEDIMENT RESTRICTION**

Purchaser shall not allow silt-bearing runoff to enter any streams.

**1-30 CLOSURE TO PREVENT DAMAGE**

In accordance with Contract Clause G-220 STATE SUSPENDS OPERATION, the Contract Administrator will suspend road work or hauling right-of-way timber, forest products, or rock under the following conditions:

- Wheel track rutting exceeds 6 inches on pit run, jaw run, or native surface roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.

Operations must stop unless authority to continue working or hauling is granted in writing by the Contract Administrator. In the event that surface or base stability problems persist, Purchaser shall cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

**1-31 SPEED LIMITS**

On the following road, speeds are limited to 10 mph.

<u>Road</u>	<u>Stations</u>
540 Private Rd.	0+00 to 7+00 (from junction of Salmon Creek Rd. to bridge).

**1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION**

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired equipment or other methods, approved in writing by Contract Administrator, must be used.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surfaces and have surfaces evaluated, by the State, for any damage caused by transporting equipment. Any damage to the surfaces will be repaired, at the Purchaser’s expense, as directed by the Contract Administrator.

**1-33 SNOW PLOWING RESTRICTION**

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

**1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS**

Purchaser shall immediately remove any mud, dirt, rock, or other material tracked or spilled on to county roads and state highways.

If additional damage to the surface, signs, guardrails, etc. occurs then the damage will be repaired, at the Purchaser’s expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

SECTION 2 – MAINTENANCE

**2-1 GENERAL ROAD MAINTENANCE**

Purchaser shall maintain all roads used under this contract in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS for the entire term of this contract. Maintenance is required even during periods of inactivity.

**2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE**

Purchaser shall perform maintenance on roads listed in Contract Clause C-050 PURCHASER ROAD MAINTENANCE AND REPAIR in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

**2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER**

Purchaser may be required to perform maintenance on roads listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER as directed by the Contract Administrator. Purchaser shall maintain roads in accordance with FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

**2-4 PASSAGE OF LIGHT VEHICLES**

Purchaser shall maintain roads in a condition that will allow the passage of light administrative vehicles.

**2-5 MAINTENANCE GRADING – EXISTING ROAD**

On the following roads, Purchaser shall use a grader to shape the existing surface before timber haul, other than right-of-way timber.

<u>Road</u>	<u>Stations</u>
540 Private Rd.	0+00 to 42+20
W-540	0+00 to 87+90
W-547	0+00 to 45+40
W-524	0+00 to 93+00
W-520	0+00 to 34+00
516	0+00 to 107+00
522	0+00 to 39+20
W-531	9+82 to 23+77
532	1+40 to 32+85

**2-6 CLEANING CULVERTS**

On the following roads, Purchaser shall clean the inlets and outlets of all culverts.

<u>Road</u>	<u>Stations</u>
W-540	13+10 to 19+50, 63+85 to 87+80
W-547	0+00 to 45+40
W-524B	0+00 to 4+00
W-531	9+82 to 23+77
532	1+40 to 32+85

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

On the following roads, Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before timber or rock haul and must be done in accordance with the TYPICAL SECTION SHEET. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
W-540	13+10 to 19+50, 50+80 to 54+25, 63+85 to 87+80
W-547	0+00 to 45+40
W-524B	0+00 to 4+00
W-531	9+80 to 23+77
532	1+40 to 32+85

**2-8 MAINTAINING EROSION CONTROL STRUCTURES**

On the following roads, Contractor shall clean and maintain all erosion control structures. Work must be completed before timber haul and must be done in accordance with the ROAD SURFACE SHOULDER BERM DETAIL and SEDIMENT TRAP DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
516	26+40 to 27+75	Construct rock berm on right
W-524	80+00 to 81+00	Construct rock berm on right
W-524	81+00	Construct sediment trap.

**SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL**

**3-1 BRUSHING**

On the following roads, Purchaser shall cut vegetative material up to 5 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
W-524	0+00 to 93+00
W-524B	0+00 to 16+60
W-520	0+00 to 34+00
522	0+00 to 39+20
W-531	0+00 to 3+66; 9+82 to 23+77
532	1+40 to 32+85

**3-5 CLEARING**

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 4 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

**3-8 PROHIBITED DECKING AREAS**

Purchaser shall not deck right-of-way timber in the following areas:

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 50%.
- Against standing trees unless approved by the Contract Administrator.

**3-10 GRUBBING**

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Grubbing must be completed before starting excavation and embankment.

**3-12 STUMP PLACEMENT**

Purchaser shall place grubbed stumps adjacent to the road shoulder and in compliance with all other clauses in this road plan.

**3-14 STUMPS WITHIN DESIGNATED WASTE AREAS**

Purchaser is not required to remove stumps within waste areas if they are cut flush with the ground.

**3-20 ORGANIC DEBRIS DEFINITION**

Organic debris is defined as all vegetative material not eligible for removal by Contract Clause G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the grubbing limits.

**3-21 DISPOSAL COMPLETION**

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, before subgrade compaction, the application of rock, and timber haul.

**3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS**

Waste areas for organic debris are located as listed below or within the cleared right-of-way or in natural openings.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
W-540	47+00	On right
W-547 SF	3+41 to 4+92	On right.
532	32+85	On right.

**3-23 PROHIBITED DISPOSAL AREAS**

Purchaser shall not place organic debris in the following areas:

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 50%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

**3-24 BURYING ORGANIC DEBRIS RESTRICTED**

Purchaser shall not bury organic debris unless otherwise stated in this plan.

**3-25 SCATTERING ORGANIC DEBRIS**

Purchaser shall scatter organic debris outside of the grubbing limits and in natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

**3-32 END HAULING ORGANIC DEBRIS**

On the following roads, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS or to a waste area located by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
W-540	50+80 to 54+25

**SECTION 4 – EXCAVATION**

**4-2 PIONEERING**

Pioneering may not extend past construction that will be completed during the current construction season. In addition, the following actions must be taken as pioneering progresses:

- Drainage must be provided on all uncompleted construction.
- Road pioneering operations may not undercut the final cut slope or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations, prior to embankment.

**4-3 ROAD GRADE AND ALIGNMENT STANDARDS**

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 15 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

Grade limitations and alignment are modified as follows:

The following road have specific limitations for grade and alignment and are referenced in the field with construction stakes, reference points and in the table below.

<u>Road</u>	<u>Stations</u>	<u>Minimum Curve Radius (ft)</u>	<u>Maximum Grade (%)</u>		<u>Maximum Vertical Grade Change per 100 ft (%)</u>
			<u>Favorable</u>	<u>Adverse</u>	
W-531	3+66 to 9+82	60	18	12	5%

**4-5 CUT SLOPE RATIO**

Purchaser shall construct excavation slopes no steeper than shown on the following table:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

**4-6 EMBANKMENT SLOPE RATIO**

Purchaser shall construct embankment slopes no steeper than shown on the following table:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

**4-7 SHAPING CUT AND FILL SLOPE**

Purchaser shall construct excavation and embankment slopes to a uniform line and left rough for easier revegetation.

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

Purchaser shall apply embankment widening equally to both sides of the road to achieve the required width.

**4-10 WIDEN THE EXISTING SUBGRADE**

On the following roads, Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

<u>Road</u>	<u>Stations</u>
W-547 SF	0+00 to 5+20
W-531	3+66 to 9+80
532	0+00 to 1+40, 32+85 to 37+85

**4-21 TURNOUTS**

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts. Locations may be adjusted to fit the final subgrade alignment and sight distances. Minimum dimensions are shown on the ROCK LIST.

**4-22 TURNAROUNDS**

Purchaser shall construct turnarounds as designated on the ROCK LIST. Turnarounds must be no larger than 30 feet long and 30 feet wide.

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

Purchaser shall construct and reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Ditches must be constructed concurrently with construction of the subgrade.

**4-27 DITCH WORK – MATERIAL USE PROHIBITED**

On the following roads, Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits or end hauled to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Stations</u>	<u>Waste Disposal</u>
W-540	13+10 to 19+50, 50+80 to 54+25, 63+85 to 87+80	Scatter Endhaul Scatter
W-547	0+00 to 45+40	Scatter
W-524B	0+00 to 4+00	Scatter
W-531	9+80 to 23+77	Scatter
532	1+40 to 32+85	Scatter

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

Purchaser shall construct ditchouts as identified, as needed and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

**4-35 WASTE MATERIAL DEFINITION**

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

**4-36 DISPOSAL OF WASTE MATERIAL**

Purchaser may sidecast waste material on side slopes up to 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

**4-37 WASTE AREA LOCATION**

Purchaser shall deposit waste material in the listed designated areas. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
W-540	47+00	On right
W-547 SF	3+41 to 4+92	In road prism, if it meets Clause 4-46.
532	32+85	On right.

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

Purchaser shall not deposit waste material in the following areas, except as otherwise specified in this plan:

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- On side slopes steeper than 50%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

**4-46 COMMON BORROW**

Common borrow consists of soil, and/or aggregate that is non-plastic and contains no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines in the sample cannot be rolled, between the hand and a smooth surface, into a thread at any moisture content.

**4-47 NATIVE MATERIAL**

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 8 inches in any dimension.

**4-49 BORROW SOURCE**

Purchaser shall obtain borrow material from the borrow sources identified or approved by the Contract Administrator. Development of the borrow source must be in accordance with a written BORROW SOURCE DEVELOPMENT PLAN to be submitted by the Purchaser and approved in writing by the Contract Administrator.

<u>Source</u>	<u>Location</u>
W-547 SF	0+00 to 3+07
532	0+00 to 3+40

**4-50 BORROW APPLICATION**

Purchaser shall apply borrow in accordance with quantities shown below. Borrow must be spread, shaped, and compacted full width concurrent with hauling operations.

<u>Road</u>	<u>Stations</u>	<u>Estimated Cubic Yards</u>	<u>Comments</u>
W-547 SF	3+41	950	Road Fill
W-531	3+66 to 6+24	2,900	Road fill
532	0+00 to 1+40	640	Road fill

**4-55 ROAD SHAPING**

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free.

**4-60 FILL COMPACTION**

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

**4-61 SUBGRADE COMPACTION**

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width, except ditch.

**4-63 EXISTING SURFACE COMPACTION**

Purchaser shall compact maintained road surfaces in accordance with the COMPACTION LIST by routing equipment over the entire width.

## SECTION 5 – DRAINAGE

### 5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-17 through 10-22.

### 5-11 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials as directed by the Contract Administrator.

### 5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations.

### 5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 10%.

### 5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

### 5-20 ENERGY DISSIPATERS

The type of energy dissipater and the amount of material and must be consistent with the specifications on the CULVERT LIST, except for temporary culverts. Placement must be by zero-drop-height method only. Energy dissipater installation is subject to approval by the Contract Administrator.

### 5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long.

### 5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify placement of rock, except for temporary culverts. Rock may not restrict the flow of water into culvert inlets or catch basins.

**5-27 ARMORING FOR STREAM CROSSING CULVERTS**

At the following culverts, Purchaser shall place LIGHT LOOSE RIP RAP immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
W-524 Ext.	1+25, 3+75	Light Loose Rip Rap
W-522 Ext.	15+78	Light Loose Rip Rap

**SECTION 6 – ROCK AND SURFACING**

**6-2 ROCK SOURCE ON STATE LAND**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following sources on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock sources, a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>
W-520 Pit	Sec. 28, T11N R2E

**6-5 ROCK FROM COMMERCIAL SOURCE**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use.

**6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE**

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 5 days before starting any operations in the rock source.

<u>Source</u>
W-520 Pit

**6-13 ROCK EXPLORATION**

Purchaser shall provide an excavator and/or rock drill with operator for up to 8 hours of exploration of rock and other related work as directed by the Contract Administrator at the following sites.

<u>Site</u>	<u>Location</u>
W-520 Pit	As directed.

**6-20 ROCK GRADATION TYPES**

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

**6-23 ROCK CRUSHING OPERATIONS**

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- Purchaser is required to produce sieve analysis for crushing operations every 1,000 yards for 2-INCH MINUS CRUSHED ROCK.
- Purchaser shall provide an onsite weatherproof field laboratory equipped with all necessary testing equipment (sieves, sieve shaker, and scales) for conducting sieve testing of the required aggregate that is being produced. This laboratory must be available for use by the Contract Administrator during the entire crushing operation.

**6-30 2-INCH MINUS CRUSHED ROCK**

% Passing 2" square sieve	100%
% Passing 1" square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 45%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

The portion of aggregate retained on the No. 4 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

**6-41 SELECT PIT RUN ROCK**

No more than 50 percent of the rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Select Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

**6-50 LIGHT LOOSE RIP RAP**

Rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects. Light loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

<u>At Least/Not More Than</u>	<u>Size Range</u>
80% / 90%	12"-30"
10% / 20%	3"- 12"

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

Measurement of specified rock depths, are defined as the compacted depth using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

**6-56 ROCK MEASUREMENT BY TRUCK VOLUME**

Measurement of culvert armoring, energy dissipaters, and landing rock is on a cubic yard truck measure basis. The Contract Administrator will measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck and shall give them to the Contract Administrator on a weekly basis during rocking operations.

**6-65 ROCK STOCKPILE LOCATION**

Purchaser shall stockpile rock as listed below and as directed by the Contract Administrator. Rock stockpiles must be in accordance with Clause 6-67.

<u>Rock Source</u>	<u>Rock Type</u>	<u>Quantity (c.y.)</u>	<u>Stockpile Location</u>
W-520 Pit	2" Minus Crushed	3,000	520 Road @ 34+00 on left

**6-67 ROCK STOCKPILE SPECIFICATIONS**

Rock stockpiles listed in Clause 6-65 ROCK STOCKPILE LOCATION must meet the following specifications:

Before placing aggregates upon the stockpile site, the site must be cleared of vegetation, trees, stumps, brush, rocks, or other debris and the ground leveled to a smooth, firm, uniform surface.

When completed, the stockpile must be neat and regular in shape. The stockpile height is limited to a maximum of 25 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 5 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile.

Stockpiles of different types or sizes of aggregate must be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator for subgrade construction and drainage installation before rock application.

**6-71 ROCK APPLICATION**

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator will direct locations for rock that is to be applied as spot patching. Road surfaces must be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width.

**6-73 ROCK FOR WIDENED PORTIONS**

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way, unless otherwise specified in the ROCK LIST.

**6-75 OPTIONAL ROCK EXCEPTION**

On the following roads, if hauling takes place from May 1 to September 30 Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

If less rock is applied, Purchaser shall submit a written plan, for approval, describing how these roads will be constructed, used, maintained, and treated post-haul. Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK and Clause 9-23, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

<u>Road</u>	<u>Stations</u>
W-524B2	0+00 to 2+85

**6-81 CHEMICAL TREATMENT FOR DUST ABATEMENT**

The following road may need to be treated with Magnesium Chloride for dust abatement as directed by Contract Administrator. No other chemical may be used for dust abatement. The Magnesium Chloride shall not be used for any other purposes.

<u>Road</u>	<u>Stations</u>
540 Private Rd.	0+00 to 20+00

**6-82 CHEMICAL RESTRICTION**

Chemicals used for dust abatement shall not be allowed to enter any streams.

**6-84 MAGNESIUM CHLORIDE APPLICATION RATE**

Magnesium Chloride is to be applied to the surface at a rate not less than 77.8 gallons per station (approximately 0.5 gallons per square yard).

**6-85 CHEMICAL DUST ABATEMENT EQUIPMENT**

Application equipment used to spread dust abatement chemicals shall be capable of uniform application. A tanker truck with a “slash pan” or “plate” is not acceptable. Field dilution shall be accomplished within the application vehicle.

**6-86 TIMING FOR CHEMICAL APPLICATION**

The time of application for dust abatement chemicals shall require prior written approval by the Contract Administrator. It is intended that dust abatement chemicals be applied during the summer season.

**SECTION 7 – STRUCTURES**

**7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES**

Bank protection must be designed and constructed to prevent the undermining of the structure.

**7-70 GATE CLOSURE**

On the following roads, Purchaser shall keep gates closed and locked except during periods of haul. All gates must be closed at termination of use.

<u>Road</u>	<u>MP or Station</u>
W-540	30+80
W-524	58+70
W-520	16+30
W-500	0.7, 8.5

**7-75 GATE MAINTENANCE**

On the following roads, Purchaser shall conduct gate maintenance consisting of installation a post and locking devices to allow the gate to be locked in an open position. Posts shall be steel pipe with minimum diameter of 3 inches. Post holes shall be backfilled with a minimum of ½ cubic yard of concrete. All metal surfaces, including welds, shall be painted with a minimum of 2 coats of rust inhibiting yellow paint. Post installation shall be subject to the written approval of the Contract Administrator.

<u>Road</u>	<u>Station</u>
W-540	30+80
W-524	58+70
W-520	16+30

SECTION 8 – EROSION CONTROL

**8-1 SEDIMENT CONTROL**

Sediment control shall be accomplished using sediment traps, silt fences, settling ponds, or other methods as approved, in writing, by the Contract Administrator.

**8-2 PROTECTION FOR EXPOSED SOIL**

Purchaser shall provide and evenly spread a 6-inch layer of straw to all exposed soils within 50 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

**8-15 REVEGETATION**

On the following roads, Purchaser shall spread seed on all exposed soils resulting from road work activities. Cover all exposed soils using manual dispersion. Other methods of covering must be approved in writing by the Contract Administrator. Required seed not spread by the termination of this contract will become the property of the state.

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Type</u>
W-547 SF	0+00 to 5+20	15	Seed
W-524B1	0+00 to 12+25	36	Seed
W-524B2	0+00 to 2+85	8	Seed
W-522 Ext.	0+00 to 21+95	63	Seed
W-531	3+66 to 9+80	20	Seed
W-531 Ext.	0+00 to 25+60	76	Seed
532	0+00 to 1+40	6	Seed
532	32+85 to 37+85	15	Seed
	All Waste Areas	20	Seed

\*Quantities are estimates only. Actual quantities may vary and are the responsibility of the Purchaser.

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the seed.

**8-17 REVEGETATION TIMING**

Purchaser shall revegetate after road work is completed and between March 15 and September 15. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

**8-18 PROTECTION FOR SEED**

Purchaser shall provide a protective cover for seed on all exposed soils within 50 feet of streams or wetlands. The protective cover may consist of straw or hay.

**8-25 GRASS SEED**

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
  - a. Common name of seed
  - b. Net weight
  - c. Percent of purity
  - d. Percentage of germination
  - e. Percentage of weed seed and inert material
5. Seed must conform to the following mixture, unless a comparable mix is approved in writing by the Contract Administrator.

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Perennial Rye	35-45
Red Fescue	30-40
Highland Bent	5-15
White Clover	10-20
Inert and Other Crop	0.5

**SECTION 9 – POST-HAUL ROAD WORK**

**9-3 CULVERT MATERIAL REMOVED FROM STATE LAND**

Culverts removed from roads become the property of the Purchaser and must be removed from state land.

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

**9-11 LANDING EMBANKMENT**

Purchaser shall slope landing embankments to the original construction specifications.

**9-21 ROAD ABANDONMENT**

Purchaser shall abandon the following roads before the termination of this contract. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
532	32+85 to 37+85	Medium

**9-23 MEDIUM DECOMMISSIONING AND ABANDONMENT**

- Fill in ditches.
- Outslope the surface at a minimum of 20 percent.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing which will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Remove road shoulder berms except as directed.
- Block roads with earthen barricades according to the attached SPOILS BERM DETAIL.
- Remove all culverts.
- Remove culverts from State land.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Furnish and evenly spread a 6-inch layer of straw to all exposed soils within 50 feet of stream and/or wetland.
- Scatter woody debris onto abandoned road surfaces.

**SECTION 10 MATERIALS**

**10-17 CORRUGATED PLASTIC CULVERT**

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culverts must be Type S – double walled with a corrugated exterior and smooth interior.

**10-22 PLASTIC BAND**

Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe joint.

SECTION 11 SPECIAL NOTES

**11-1 DRY WEATHER ROCK SHAPING**

On the following roads, the Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

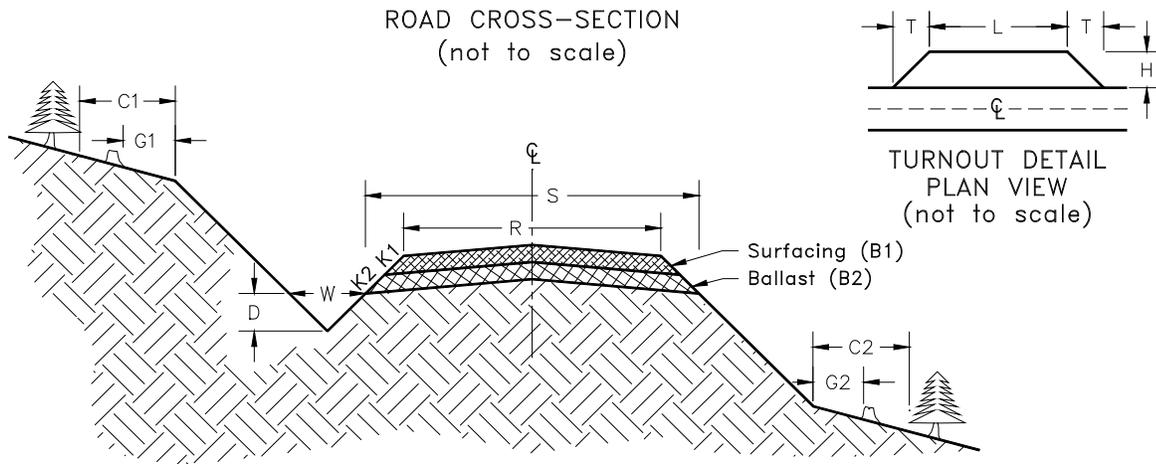
<u>Road</u>	<u>Stations</u>
2700	54+72 to 93+30
4250	0+00 to 26+10

**11-2 DRY WEATHER ROCK COMPACTION**

On the following roads, the Contract Administrator may require the application of water to facilitate compaction activities. The method of water application is subject to written approval by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
2700	54+72 to 93+30
4250	0+00 to 26+10

# TYPICAL SECTION SHEET

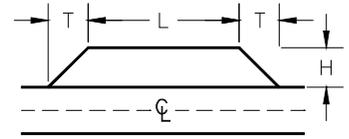
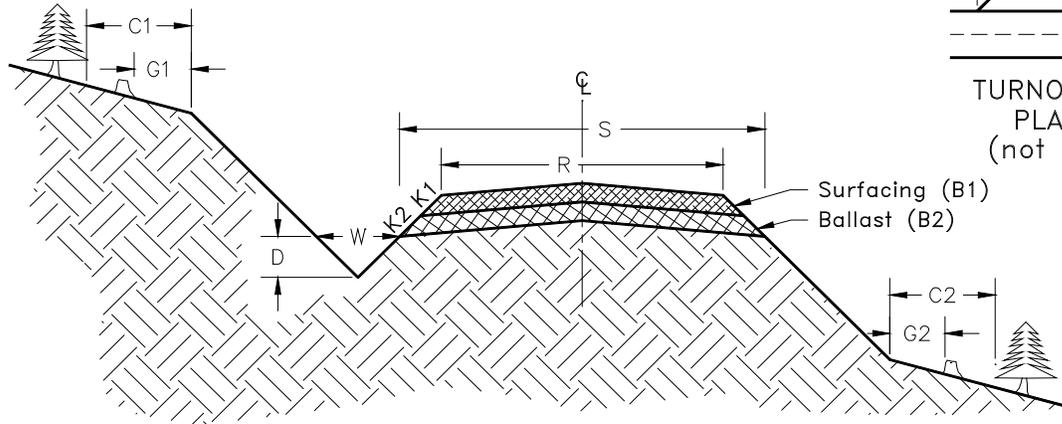


Road Number	From Station	To Station	Tolerance Class	Subgrade Width	Road Width	Ditch		Crown in. @ CL	Grubbing Limits		Clearing Limits		
						Width	Depth		G1	G2	C1	C2	
				S	R	W	D						
540 Private Rd.	0+00	42+70	A	-	12'	-	-	4	-	-	-	-	
W-540	0+00	13+10	A	-	12'	-	-	4	-	-	-	-	
	13+10	19+50	A	-	12'	3'	1'	4	-	-	-	-	
	19+50	63+85	A	-	12'	-	-	4	-	-	-	-	
W-547	63+85	87+90	A	-	12'	2'	1'	4	-	-	-	-	
	0+00	45+40	A	-	14'	3'	1'	4	-	-	-	-	
W-547 SF	0+00	2+25	C	20'	14'	3'	1'	4	-	5'	-	10'	
	2+25	5+20	C	24'	18'	3'	1'	4	5'	5'	10'	10'	
W-524	0+00	93+00	A	-	12'	-	-	4	-	-	-	-	
W-524B	0+00	16+60	A	-	12'	3'	1'	4	-	-	-	-	
W-524B1	0+00	12+25	C	16'	12'	3'	1'	4	5'	5'	10'	10'	
W-524B2	0+00	2+85	C	16'	12'	3'	1'	4	5'	5'	10'	10'	
W-520	0+00	34+00	A	-	12'	-	-	4	-	-	-	-	
516	0+00	107+00	A	-	12'	-	-	4	-	-	-	-	
522	0+00	39+20	A	-	12'	-	-	4	-	-	-	-	
W-522 Ext.	0+00	21+95	C	18'	12'	3'	1'	4	5'	5'	10'	10'	
W-531	0+00	2+40	A	-	12'	-	-	4	-	-	-	-	
	3+66	9+82	B	20'	14'	3'	1'	4	5'	5'	10'	10'	
	9+82	23+77	A	-	12'	3'	1'	4	-	-	-	-	
W-531 Ext.	0+00	25+60	C	18'	12'	3'	1'	4	5'	5'	10'	10'	
	532	0+00	1+40	B	22'	16'	3'	1'	4	5'	5'	10'	10'
	1+40	32+85	A	-	12'	3'	1'	4	-	-	-	-	
	32+85	37+85	B	16'	12'	3'	1'	4	5'	5'	10'	10'	

# ROCK LIST

(Page 1 of 3)

ROAD CROSS-SECTION  
(not to scale)



TURNOUT DETAIL  
PLAN VIEW  
(not to scale)

## SELECT PIT RUN

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2				W-520 Pit	L	H	T
W-547 SF	0+00	2+25	1 ½:1	15"	104	2.25	234				
	Curve Widening						8				
	2+25	5+20	1 ½:1	15"	127	2.95	375				
W-524B1	0+00	12+25	1 ½:1	15"	81	12.25	992				
	Junction (1)						15				
	Turnaround (1)						43				
	Curve Widening						35				
	Landing (1)						50				
*W-524B2	0+00	2+85	1 ½:1	12"	63	2.85	180				
	Junction (1)						12				
	Curve Widening						10				
	Landing (1)						50				
W-522 Ext.	0+00	21+95	1 ½:1	15"	81	21.95	1778				
	Junction						15				
	Curve Widening						62				
	Landing (4)						280				
W-531	3+66	9+82	1 ½:1	15"	104	6.16	641				
	Curve Widening						20				
W-531 Ext.	0+00	25+60	1 ½:1	15"	81	25.60	2,074				
	Turnaround (1)						43				
	Curve Widening						73				
	Landing (3)						170				
532	0+00	1+40	1 ½:1	15"	104	1.40	146				
	Junction						15				
	32+85	37+85	1 ½:1	12"	63	5.00	315				
	Landings (2)						100				

\* Optional Rock - If Purchaser elects to haul on optional rock roads in dry weather, the depth listed above is recommended but not required.

Required SELECT PIT RUN Total: 7,484 Cubic Yards  
Optional SELECT PIT RUN Total: 252 Cubic Yards  
Total SELECT PIT RUN Total: 7,736 Cubic Yards

**ROCK LIST**  
(Page 2 of 3)

**2-INCH MINUS CRUSHED**

Road Number	From Station or Mile Post	To Station or Mile Post	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2				W-520	L	H	T
540 Private Rd							200				
W-540							20				
							30				
							170				
W-547							100				
W-547 SF	0+00	5+20	1 ½:1	6"	34	5.20	179				
							70				
W-524							400				
	22+50	31+40	1 ½:1	4"	20	8.90	178				
							5				
W-524B							20				
W-520							100				
W-520	7+20	14+15	1 ½:1	4"	20	6.95	139				
516							150				
516	23+65	28+30	1 ½:1	6"	30	4.65	140				
							5				
							20				
522							100				
	15+90	24+00	1 ½:1	6"	30	8.10	243				
							20				
			1 ½:1				10				
W-531	3+66	9+82	1 ½:1	4"	23	6.16	142				
W-531	9+82	23+77	1 ½:1	4"	20	13.95	279				
							20				
							10				
							20				
532	29+60	32+85	1 ½:1	6"	30	3.25	98				
							40				
							3,000				

Required 2-Inch Minus Total: 5,908 Cubic Yards

**ROCK LIST**  
(Page 3 of 3)

**Select Pit Run**  
(Energy Dissipator)

Road Number	C.Y. Total	Rock Source
		W-520 Pit
All	22	

TOTAL 22 Cubic Yards

**LIGHT LOOSE RIP RAP**  
(Fill Slope Armor)

Road Number	Station(s)	C.Y. Total	Rock Source
			W-520 Pit
W-522 Ext.	15+78	12	

\* Optional Rock - If Purchaser elects to haul on optional rock roads in dry weather, the depth listed above is recommended but not required.

TOTAL 12 Cubic Yards

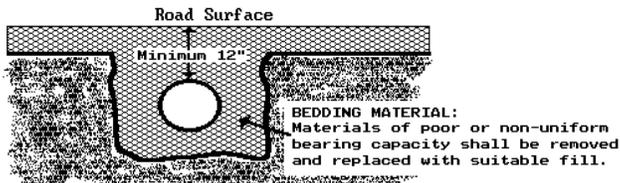
## CULVERT LIST

Road Number	Location	Culvert		Length (ft)			(C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia	Gauge	Culvert	Downspt	Flume	Inlet	Outlet	Type				
			If Steel										
W-540	27+60	18		30			½	½	SP	CR	ZDH		
W-547 SF	3+78	18		50			½	½	SP	NT	ZDH		
W-524B	4+00	18		30			½	½	SP	CR	ZDH		
W-524B1	2+85	18		40			½	½	SP	NT	ZDH		
W-524B1	7+15	18		30			½	½	SP	NT	ZDH		
W-524B1	9+38	18		30			½	½	SP	NT	ZDH		
522	39+10	18		30			½	½	SP	CR	ZDH		
W-522 Ext.	8+12	18		30			½	½	SP	NT	ZDH		
W-522 Ext.	13+30	18		30			½	½	SP	NT	ZDH		
W-522 Ext.	15+78	24		45			4	8	LL	NT	ZDH		Ns/Type 5 Stream
W-522 Ext.	17+41	18		30			½	½	SP	NT	ZDH		
W-531	7+50	18		50			½	½	SP	NT	ZDH		Replace/Extend Existing
W-531	10+55	18		30			½	½	SP	CR	ZDH		
W-531 Ext.	0+00	18		40			½	½	SP	NT	ZDH		
W-531 Ext.	3+46	18		30			½	½	SP	NT	ZDH		
W-531 Ext.	7+31	18		40			½	½	SP	NT	ZDH		
W-531 Ext.	11+04	18		30			½	½	SP	NT	ZDH		
W-531 Ext.	12+04	18		30			½	½	SP	NT	ZDH		
W-531 Ext.	20+25	18		40			½	½	SP	NT	ZDH		
W-531 Ext.	22+73	18		30			½	½	SP	NT	ZDH		
532	3+35	18		40			½	½	SP	CR	ZDH		
532	17+40	18		30			½	½	SP	CR	ZDH		
532	31+80	18		40			½	½	SP	NT	ZDH		

**Key:**

- CR - Crushed Rock
- NT - Native (bank run)
- SP - Select Pit Run
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downspt - Full round pipe
- ZDH - Zero Drop Height

**CULVERT BACKFILL AND BASE PREPARATION**  
(For culverts less than 36")

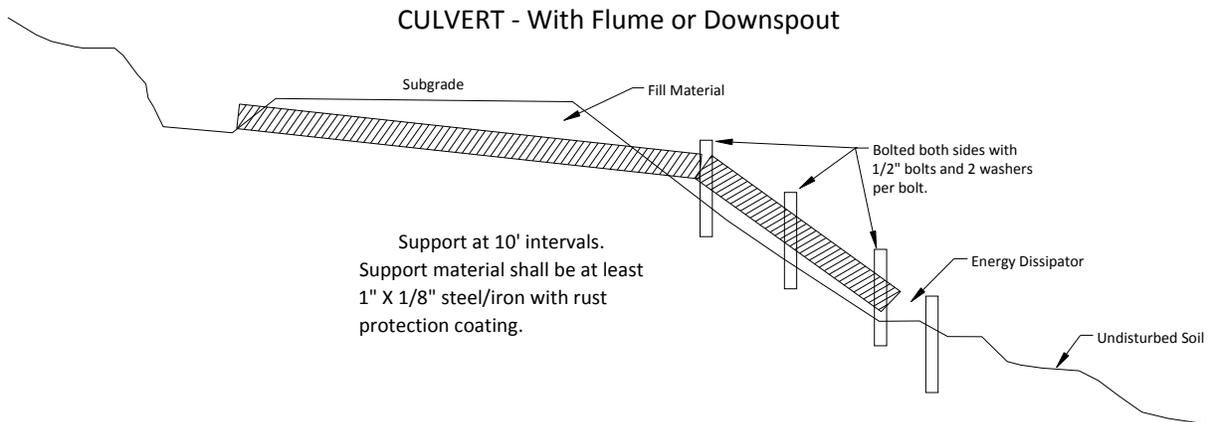
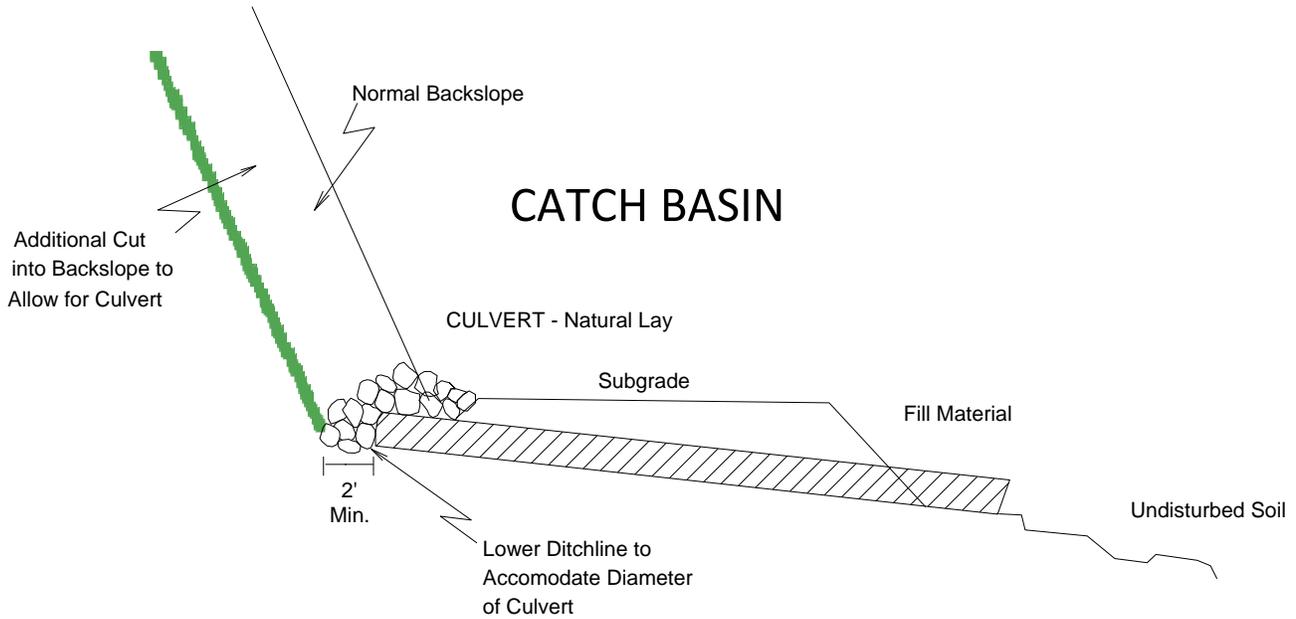


## COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)	Maximum Amount of Deflection (inches)
All Roads			Subgrade	12	Vibratory Smooth Drum	14000	4	3	2
All Roads			Fill	24	Vibratory Smooth Drum	14000	4	3	2
All Roads			Waste Area	24	Excavation	28,000	-	-	4
All Roads			Pre-haul Surface	6	Vibratory Smooth Drum	14000	5	3	1
All Roads			Rock	12	Vibratory Smooth Drum	14000	5	3	1

# CULVERT AND DRAINAGE SPECIFICATION DETAIL

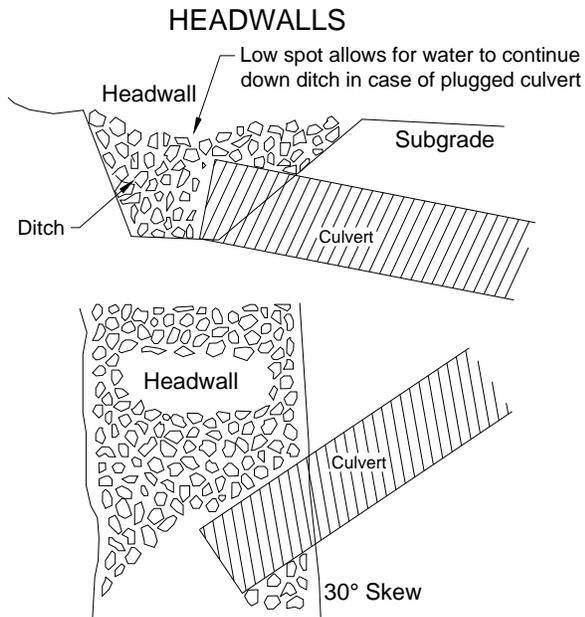
(Page 1 of 3)



# CULVERT AND DRAINAGE SPECIFICATION DETAIL

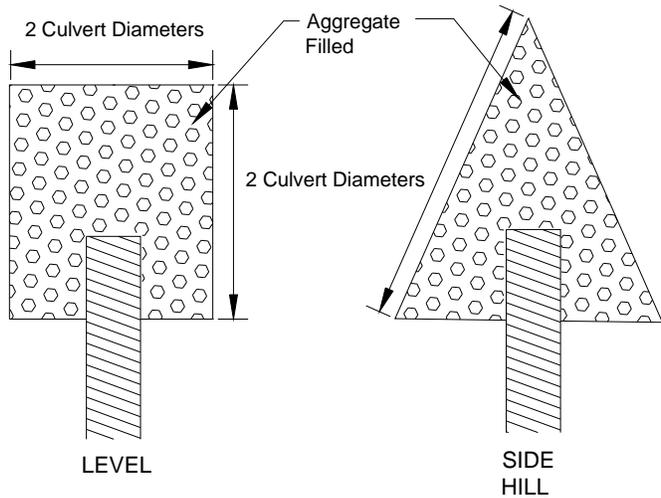
(Page 2 of 3)

Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.



Headwalls to be constructed of material that will resist erosion.

## ENERGY DISSIPATORS



Dissipator Specifications:  
Depth: 1 culvert diameter  
Aggregate: as specified in the CULVERT LIST.

# CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

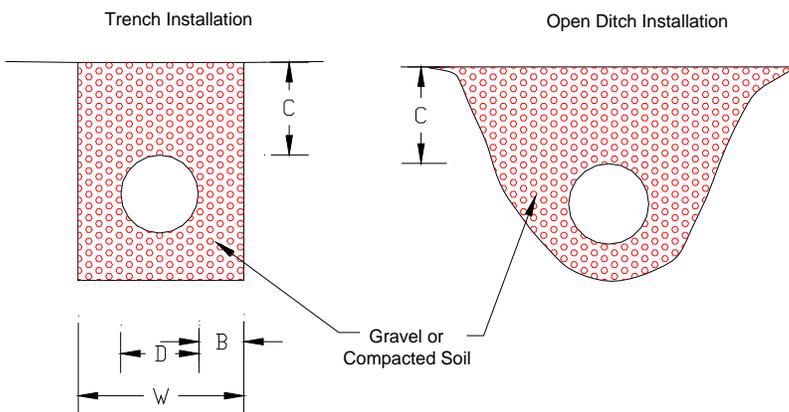
## POLYETHYLENE PIPE INSTALLATION

### INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.
4. Site conditions and availability of bedding materials often dictate the type of installation method used.
5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

### MINIMUM DIMENSIONS

#### Trench or Open Ditch Installation



Nominal Diameter	Minimum Thickness	Minimum Cover	Min. Trench Width
D	B	C	W
18"	6"	12"	36"
24"	6"	12"	42"
30"	6"	12"	48"
36"	6"	12"	54"

# FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

## Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides up to 100 cubic yards in volume from ditches and the roadway. Repair fill-failures, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

## Surface

- Grade the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away, or as directed by the Contract Administrator.
- Remove shoulder berms, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

## Drainage

- Prevent silt bearing road surface and ditch runoff from delivering sediment to any streams or wetlands.
- Maintain rolling dips and drivable waterbars as needed to keep them functioning as intended.
- Maintain headwalls to the road shoulder level with material that will resist erosion.
- Maintain energy dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

# FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

## Preventative Maintenance

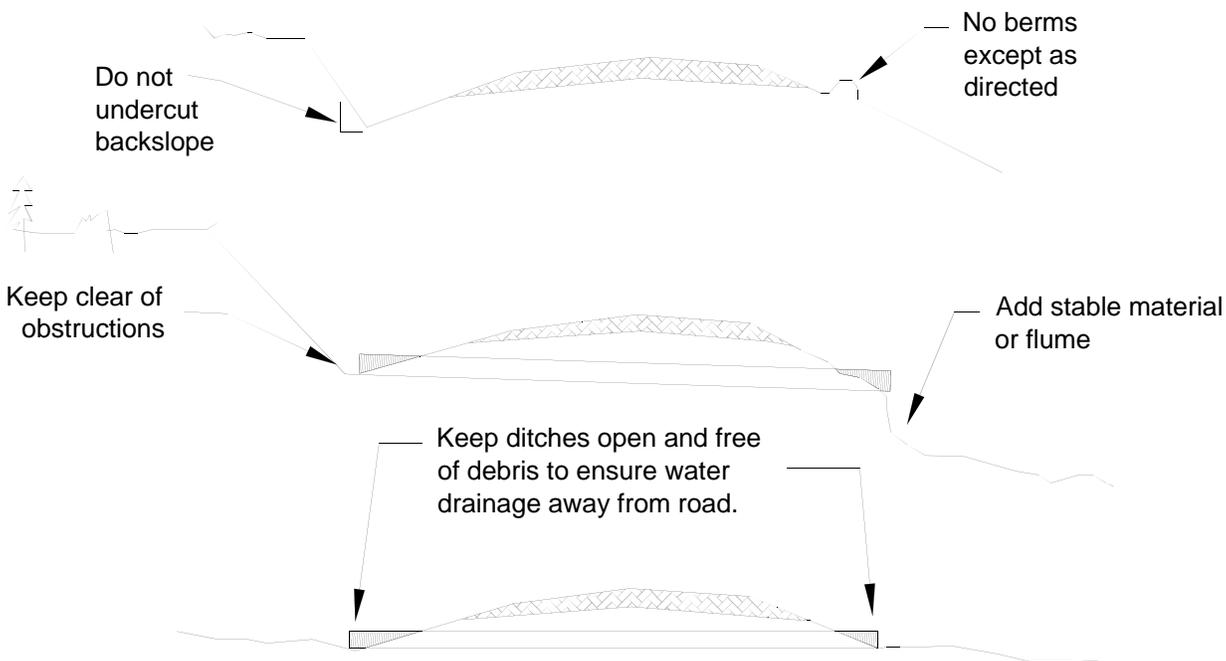
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

## Termination of Use or End of Season

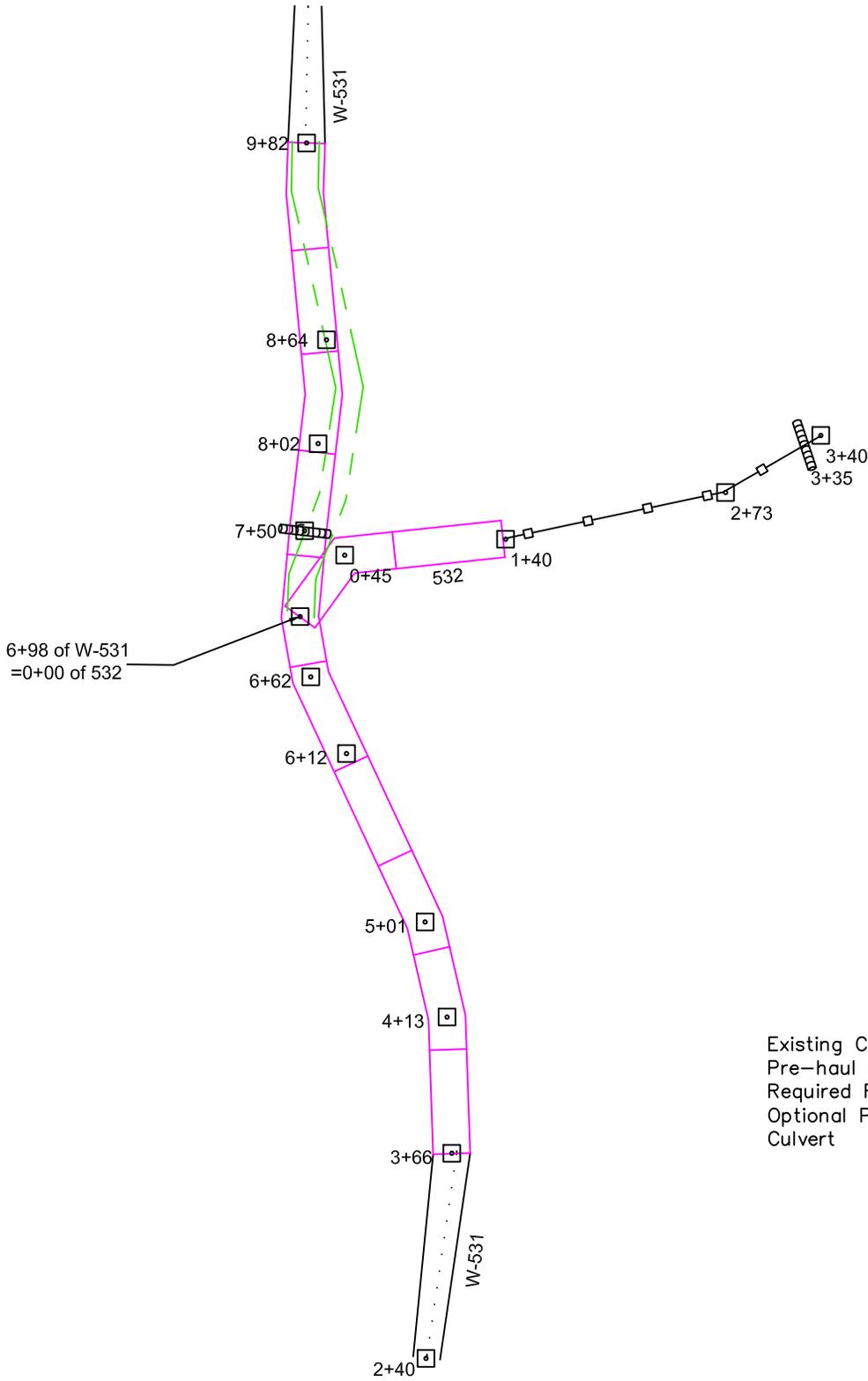
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

## Debris

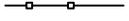
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



# W-531/532 INTERSECTION DETAIL



## LEGEND

- |                         |   |
|-------------------------|---|
| Existing Conditions     |  |
| Pre-haul Maintenance    |  |
| Required Reconstruction |  |
| Optional Prehaul        |  |
| Culvert                 |  |

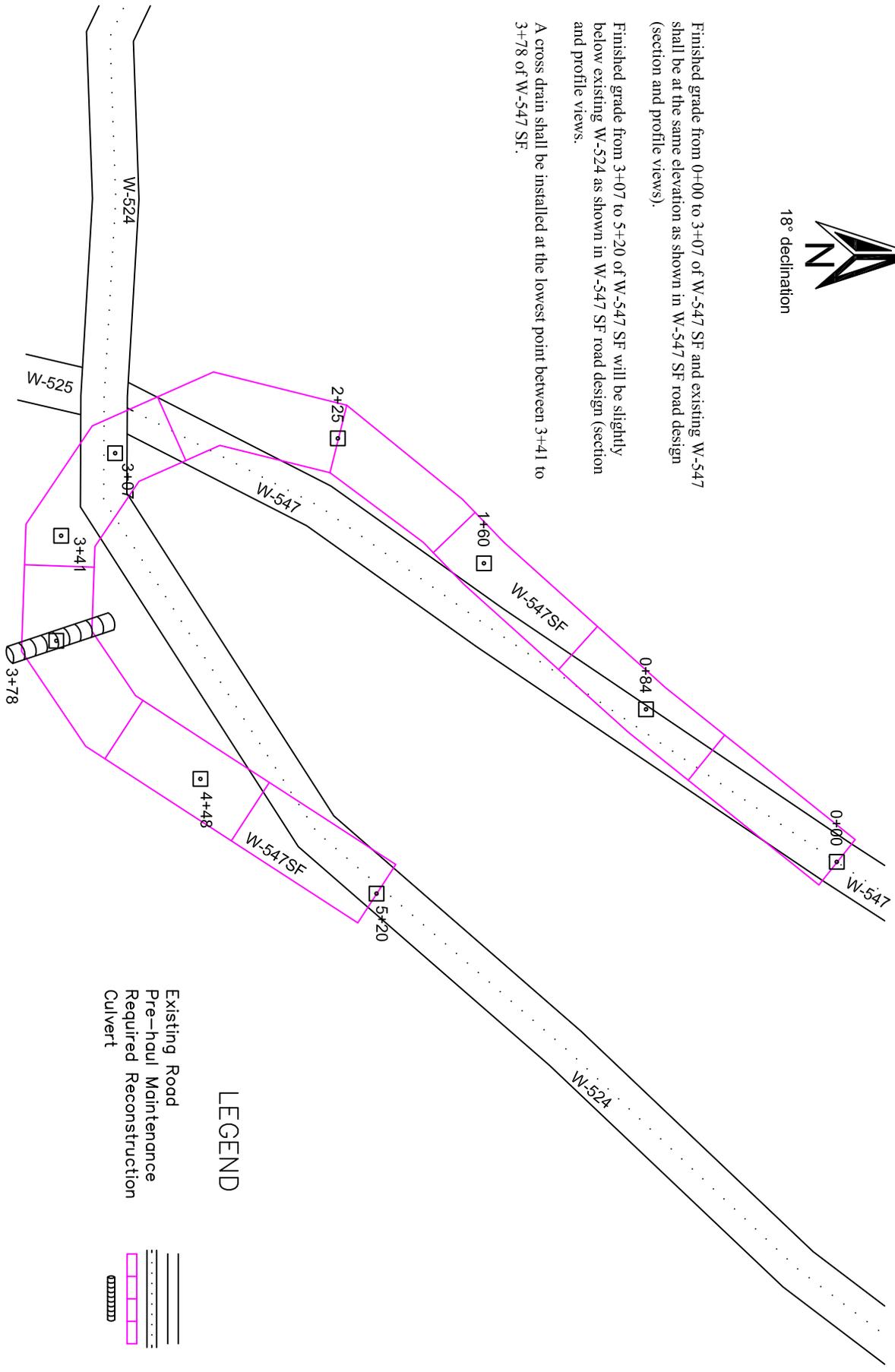
# W-547 SF INTERSECTION DETAIL



Finished grade from 0+00 to 3+07 of W-547 SF and existing W-547 shall be at the same elevation as shown in W-547 SF road design (section and profile views).

Finished grade from 3+07 to 5+20 of W-547 SF will be slightly below existing W-524 as shown in W-547 SF road design (section and profile views).

A cross drain shall be installed at the lowest point between 3+41 to 3+78 of W-547 SF.



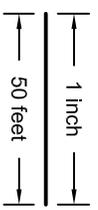
**LEGEND**

Existing Road	
Pre-haul Maintenance	
Required Reconstruction	
Culvert	

**DIAMOND JIM TIMBER SALE**  
W-547SF  
Drawn By: Alicia Compton  
Designed By: Rich Wallmow



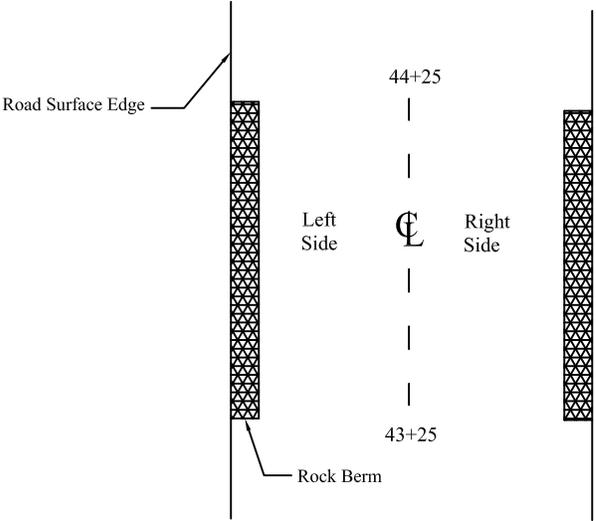
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Sheet 1 of 1



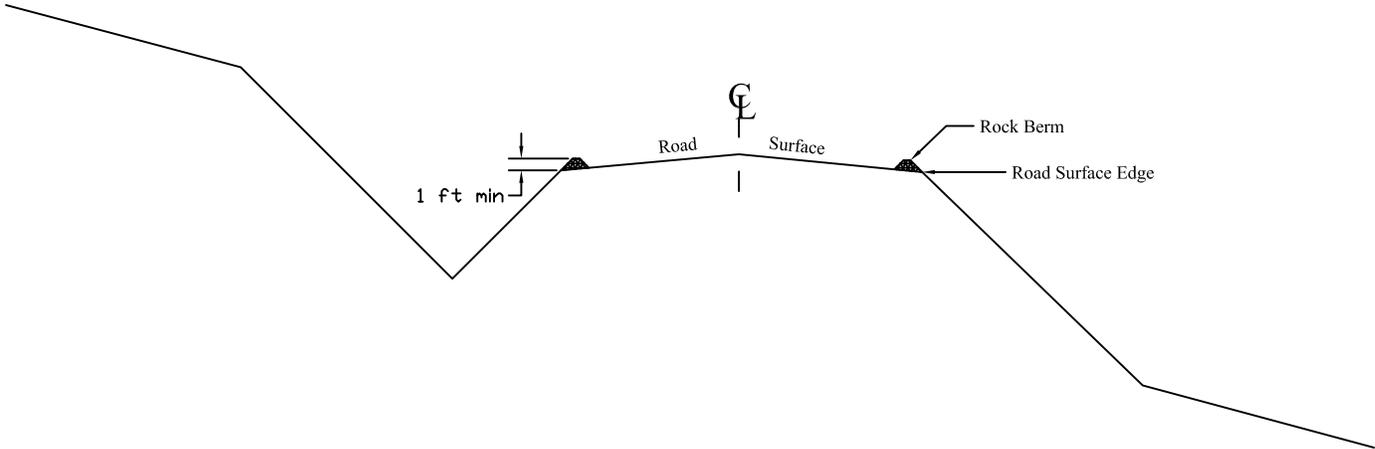
# ROAD SURFACE SHOULDER BERM DETAIL

Not to Scale

## PLAN VIEW



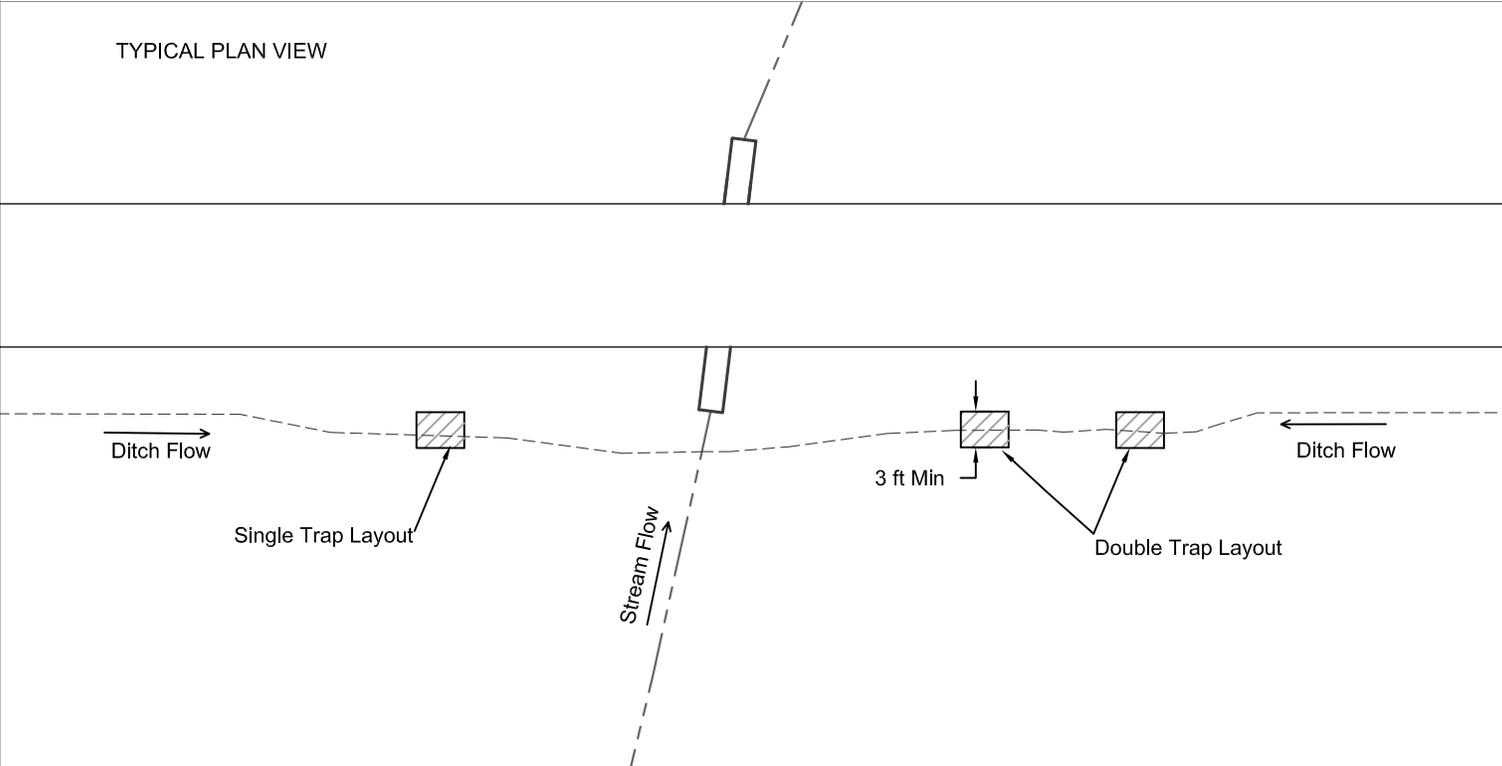
## PROFILE VIEW



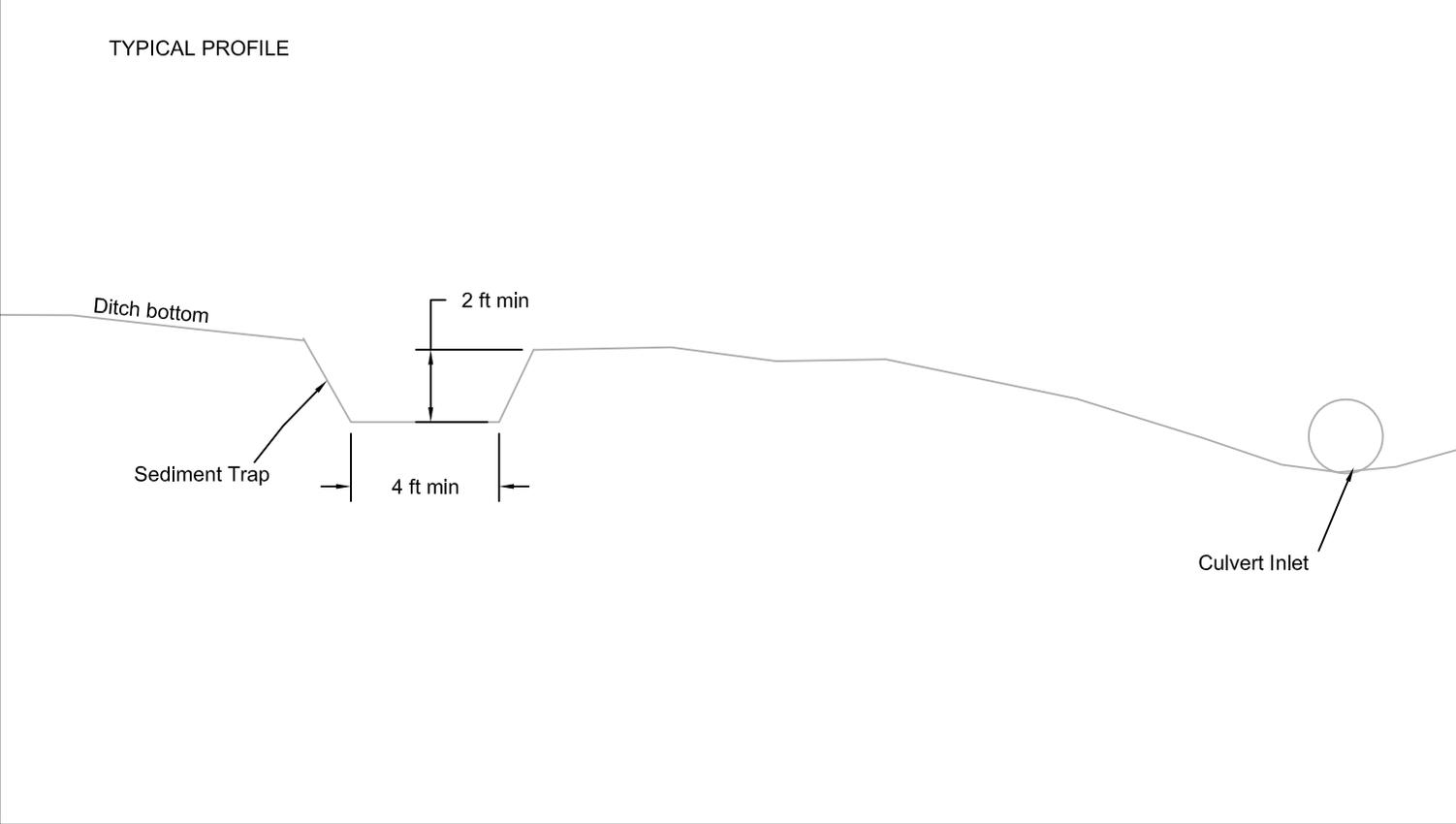
# SEDIMENT TRAP DETAIL

No Scale

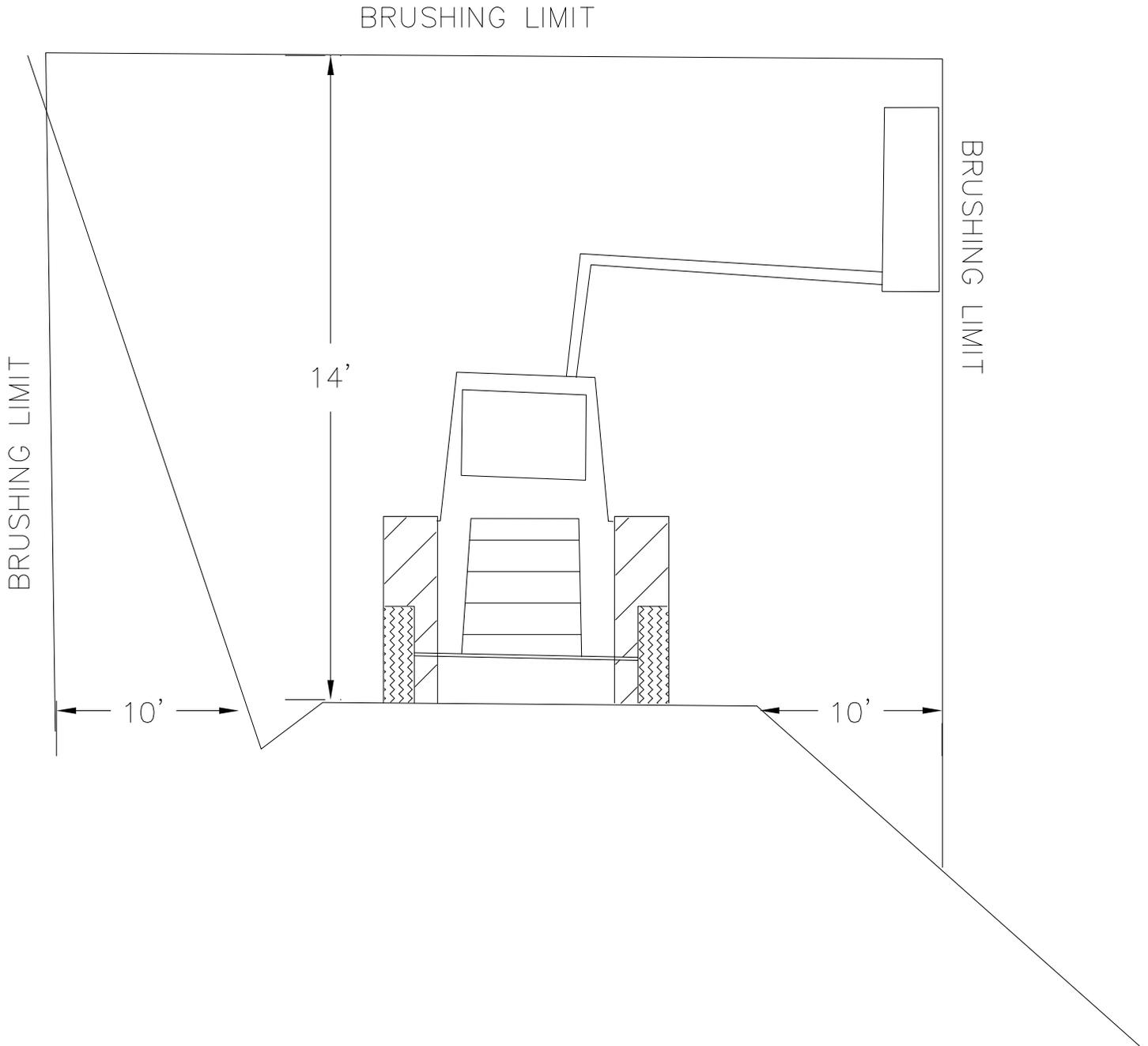
## TYPICAL PLAN VIEW



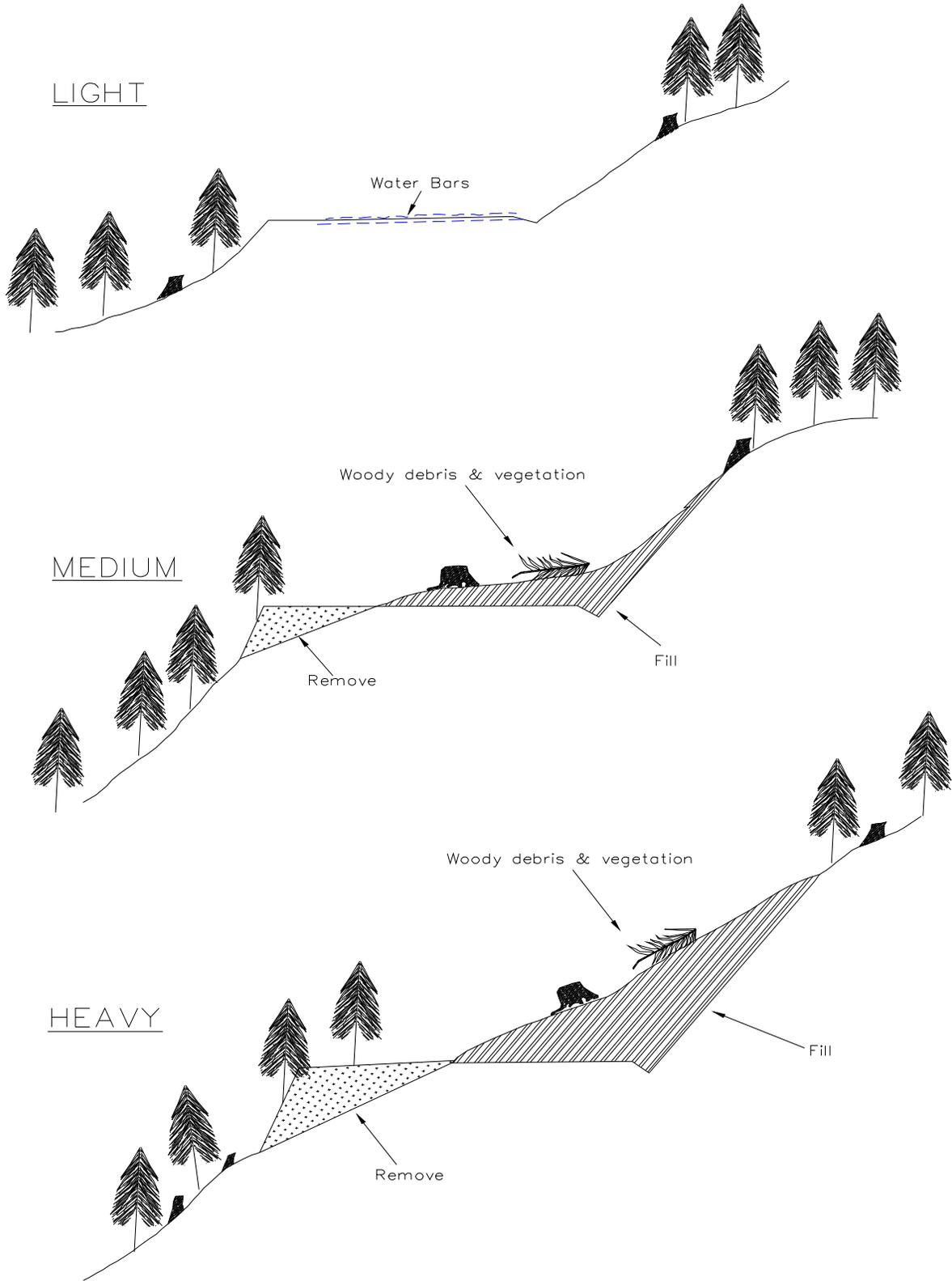
## TYPICAL PROFILE



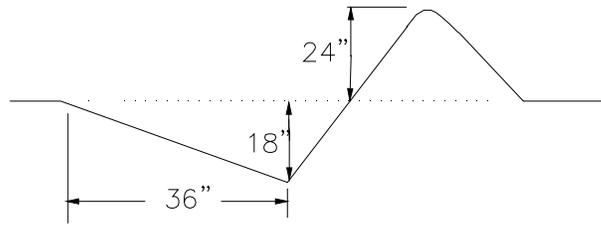
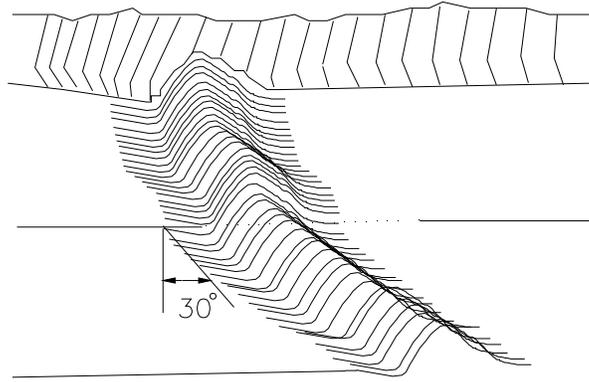
# BRUSHING SECTION DETAIL



# ROAD ABANDONMENT CROSS SECTIONS

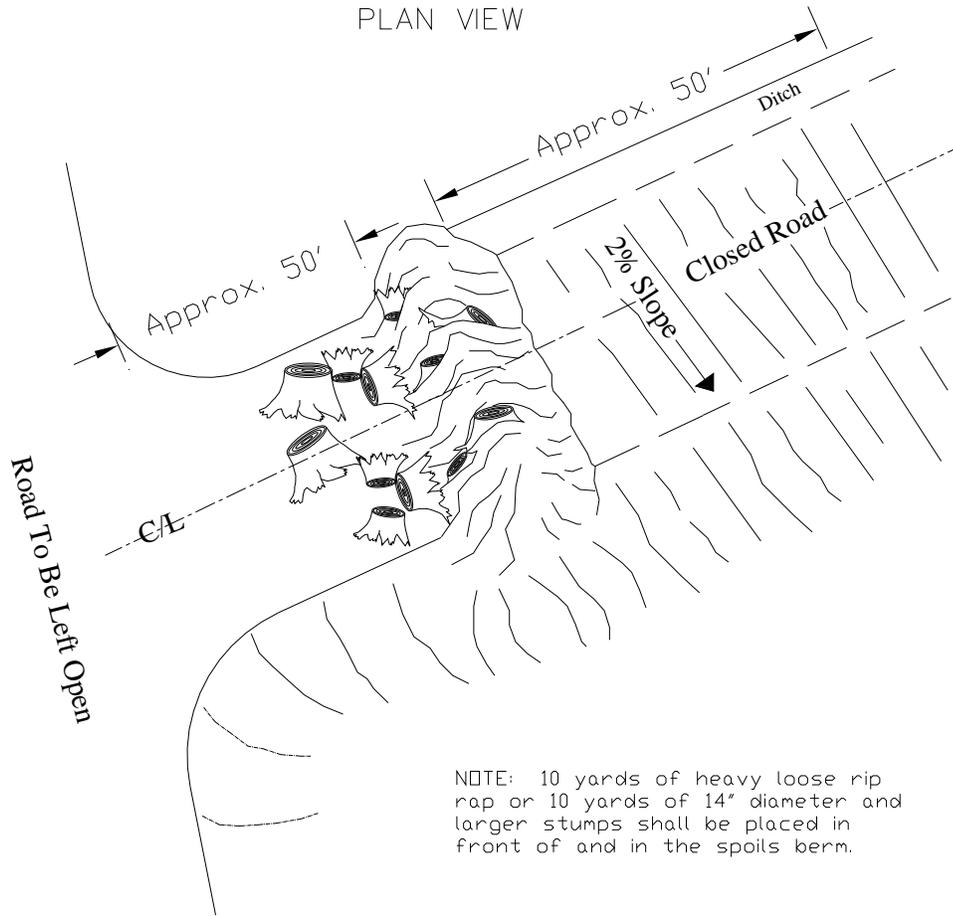


# NON-DRIVABLE WATER BAR DETAIL

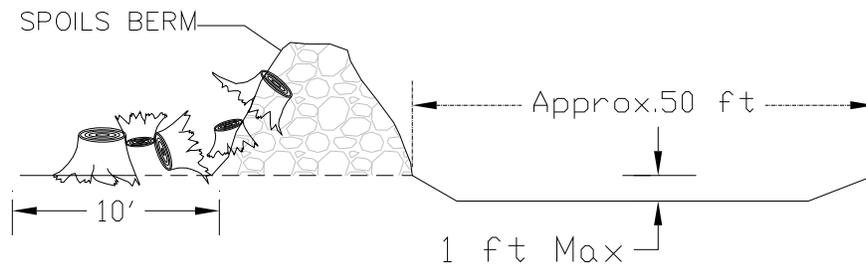


# SPOILS BERM DETAIL

PLAN VIEW



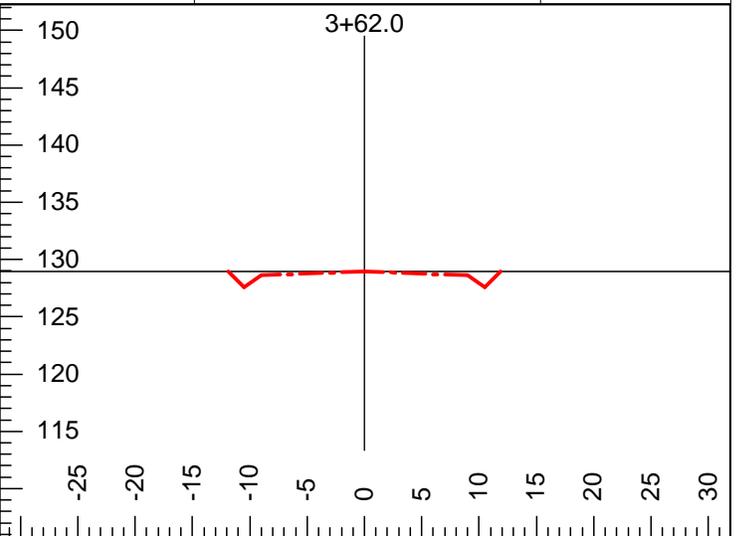
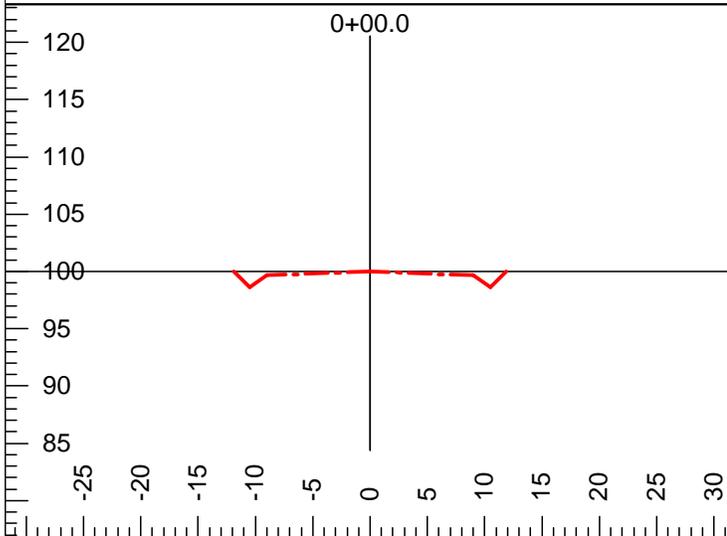
CROSS SECTION AT CENTERLINE



Note:  $\frac{1}{3}$  of stumps or rip rap shall be partially buried in the spoils berm and/or road surface.

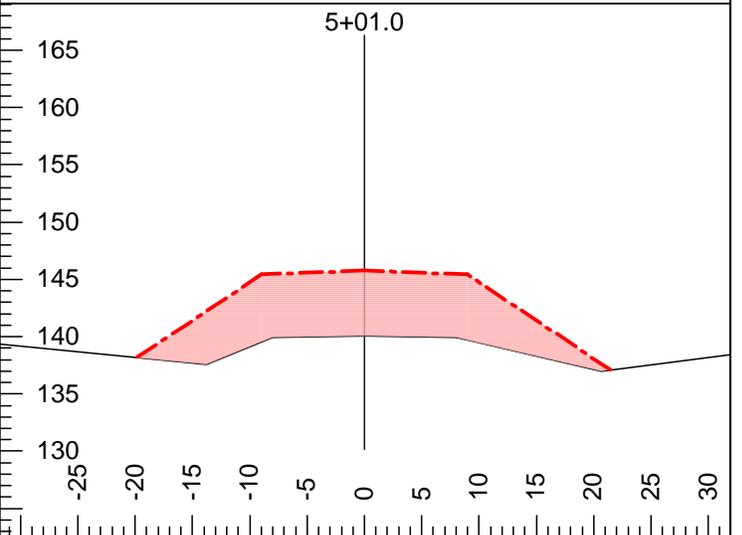
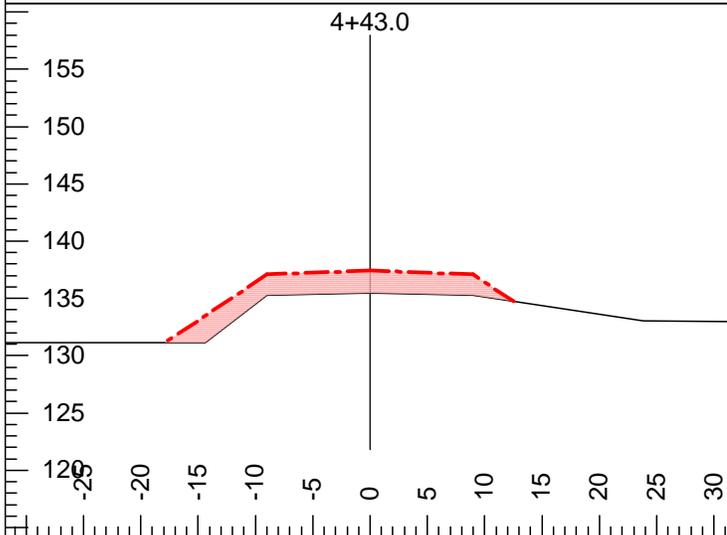
Section View

4/17/15



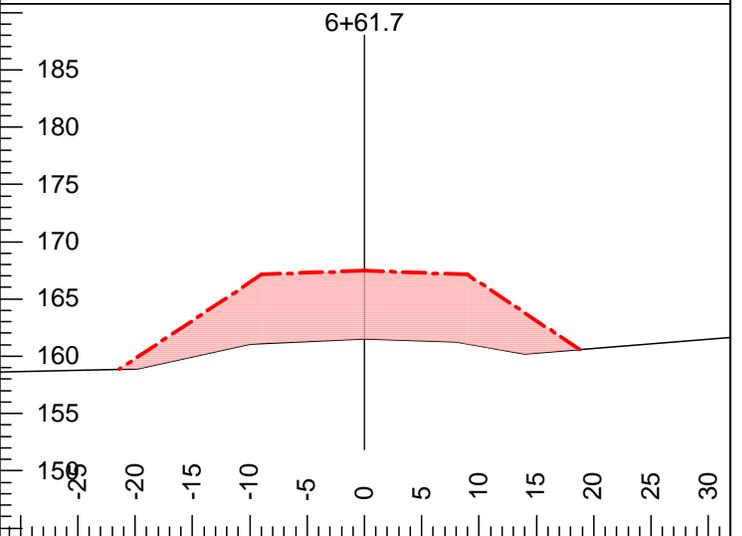
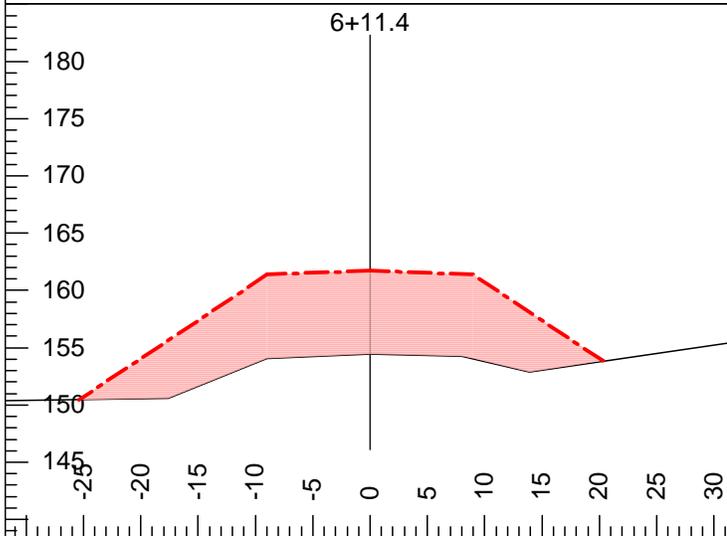
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Index: 3 P-Stn: 4+43.0 Grd.Lst: 10 H. Offset: 0.0  
 L-Stn: 4+43.0 Grd.Nxt.: 14 Cut Dp: -2.0 V.Offset: 2.0

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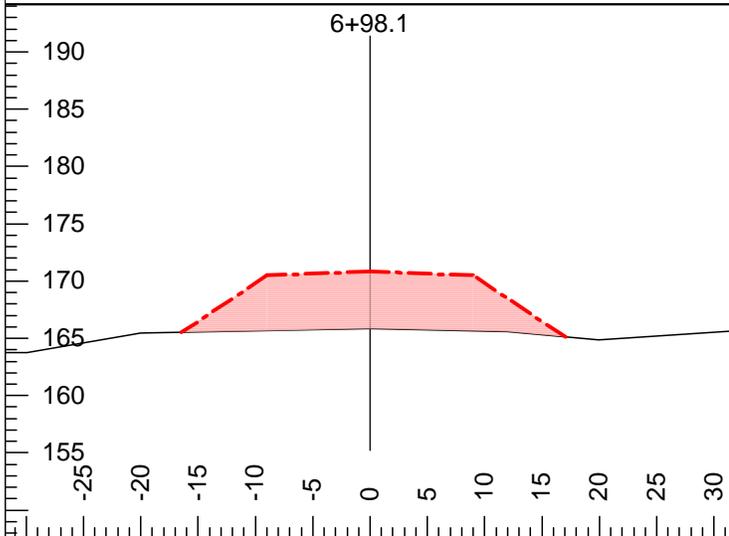


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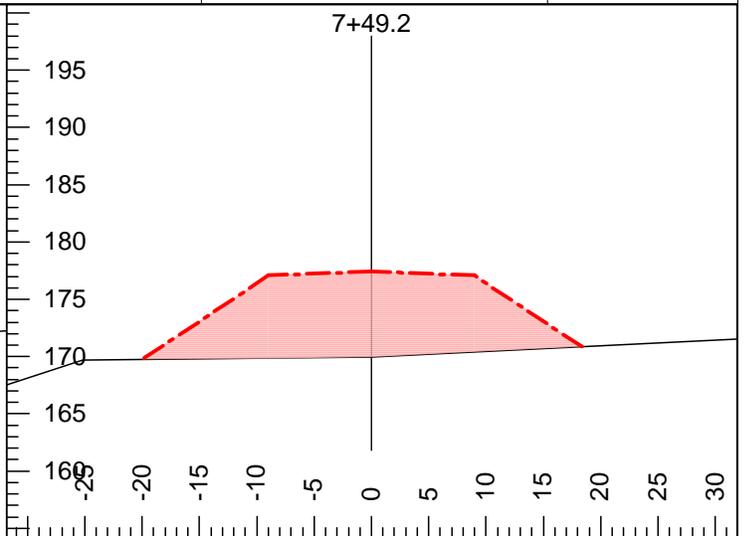
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Section View

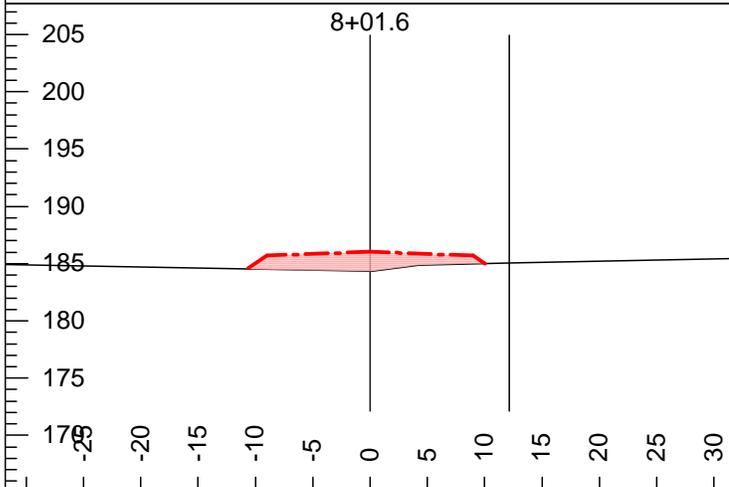
4/17/15



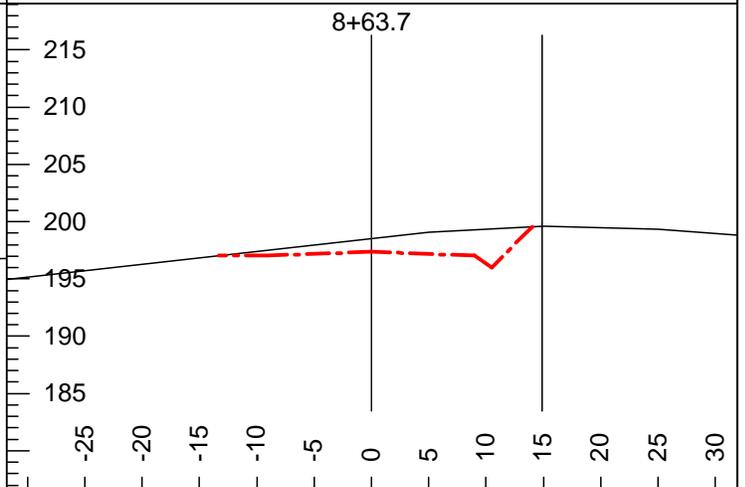
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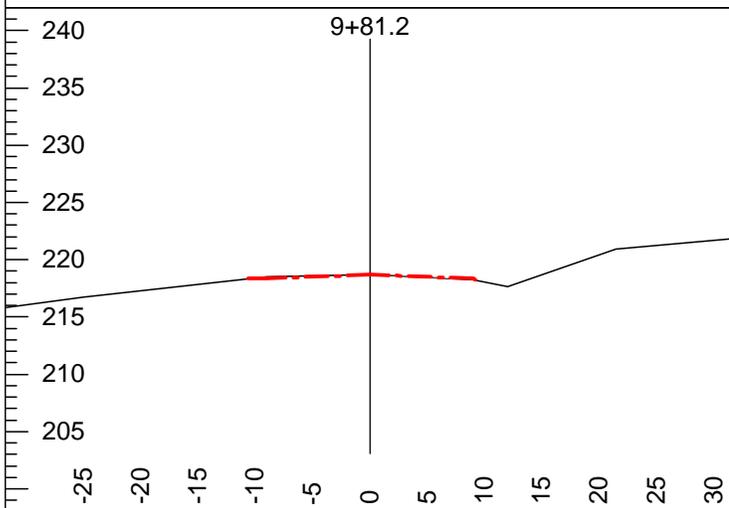
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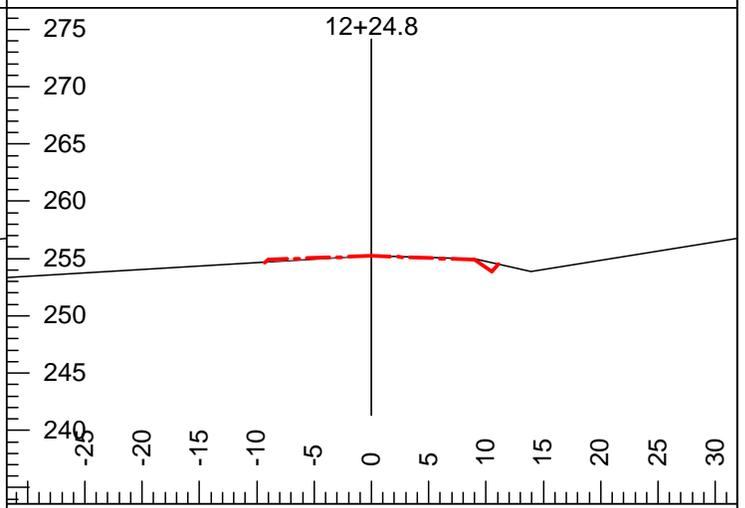
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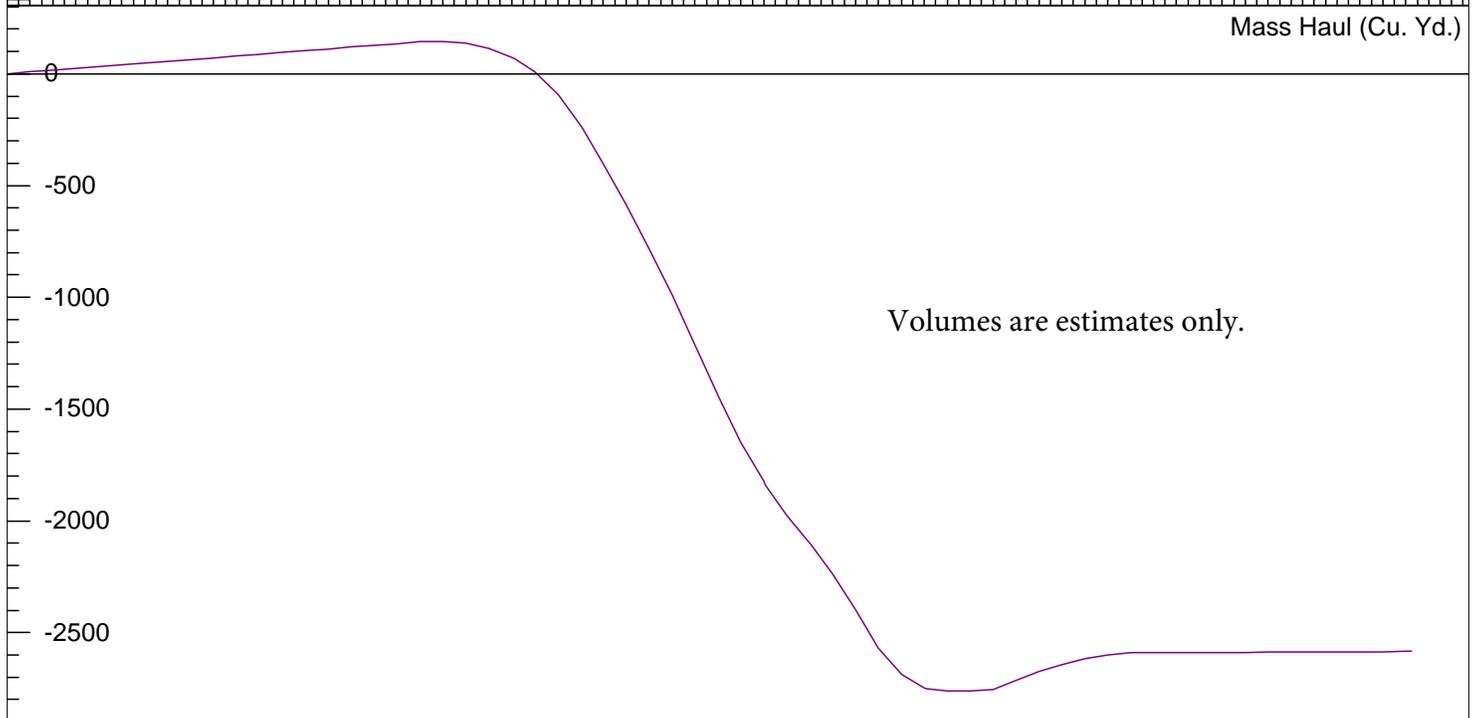
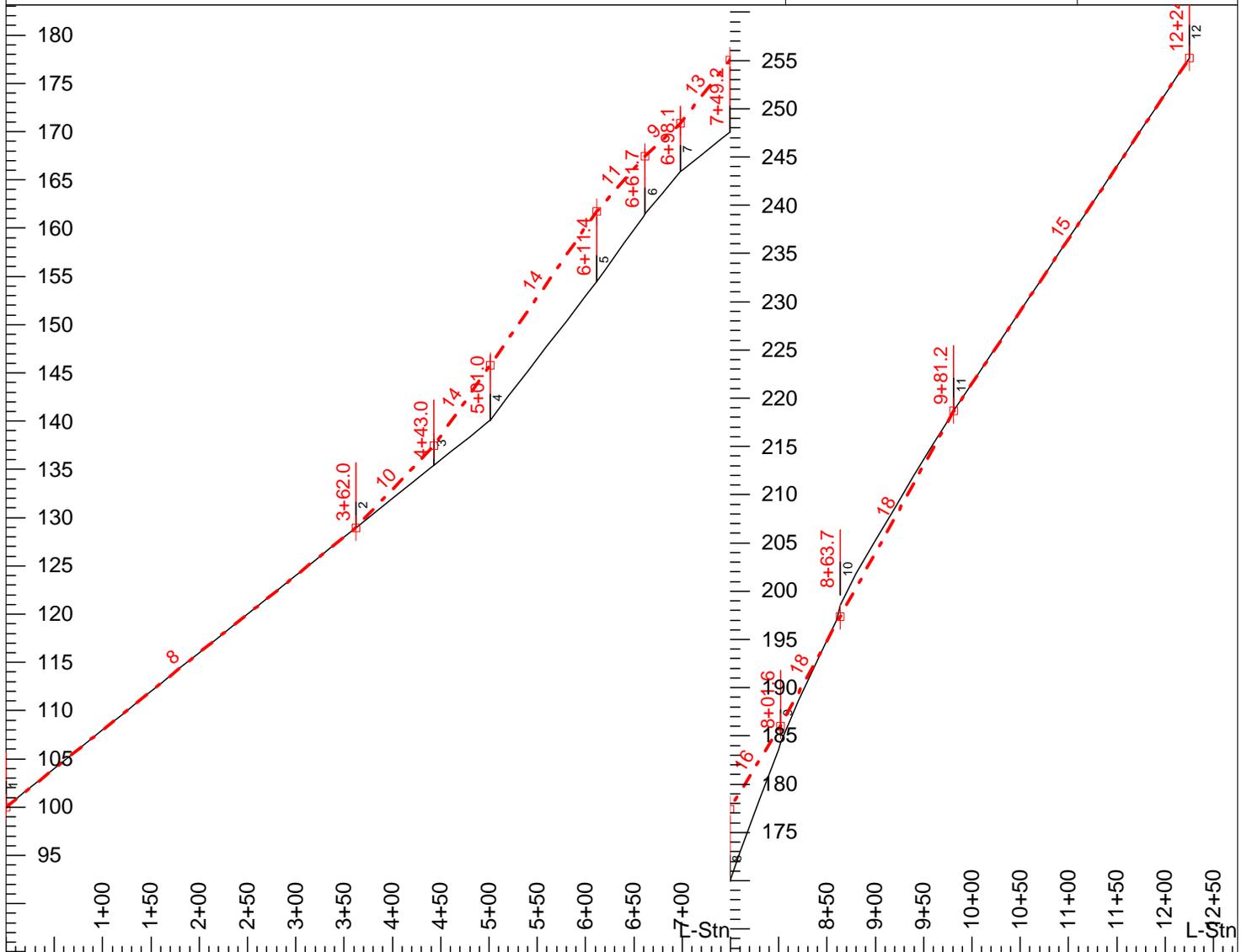
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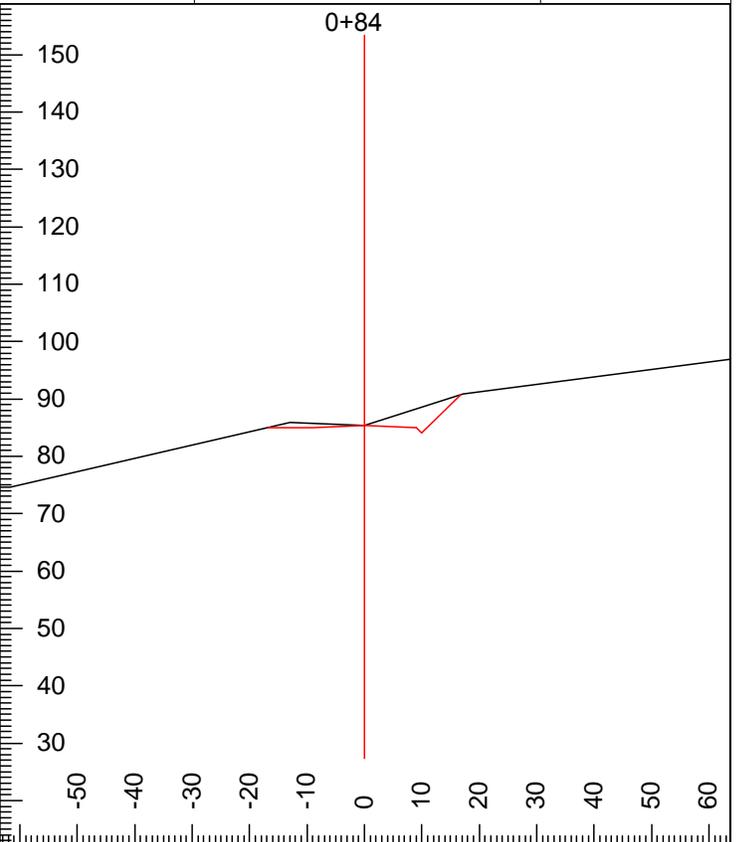
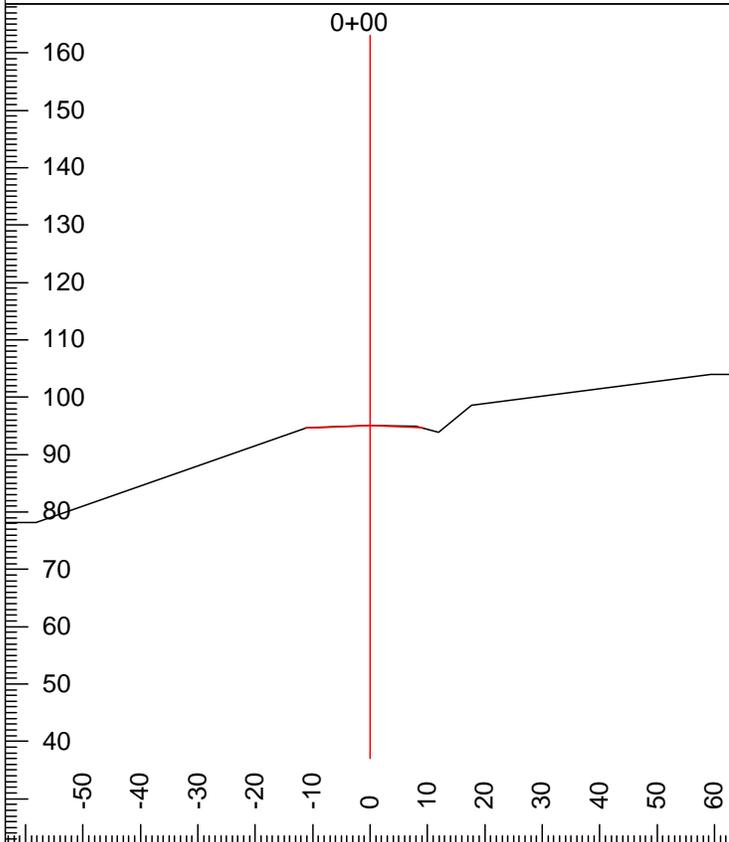


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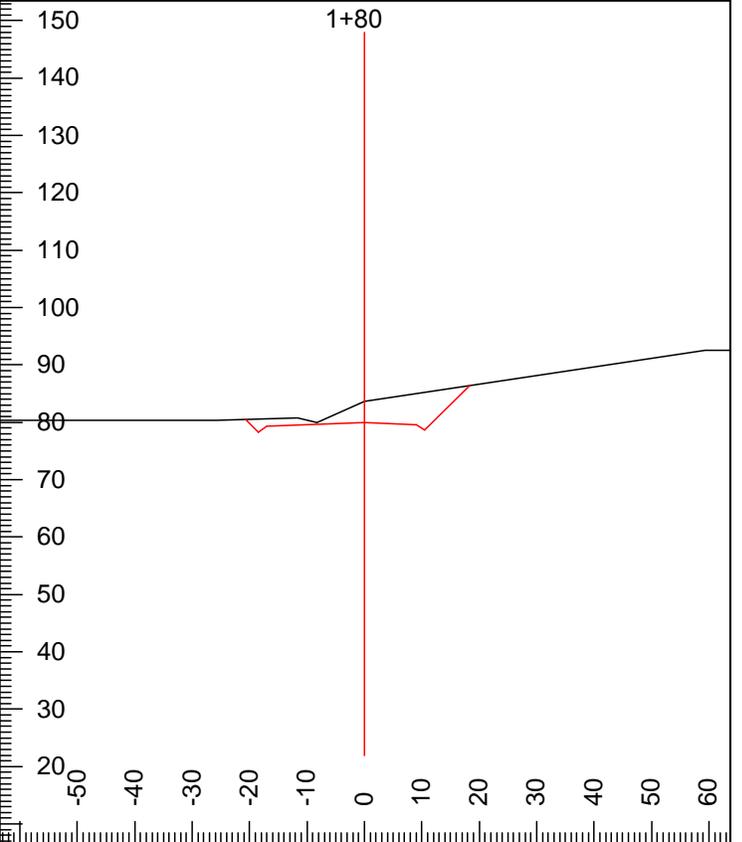
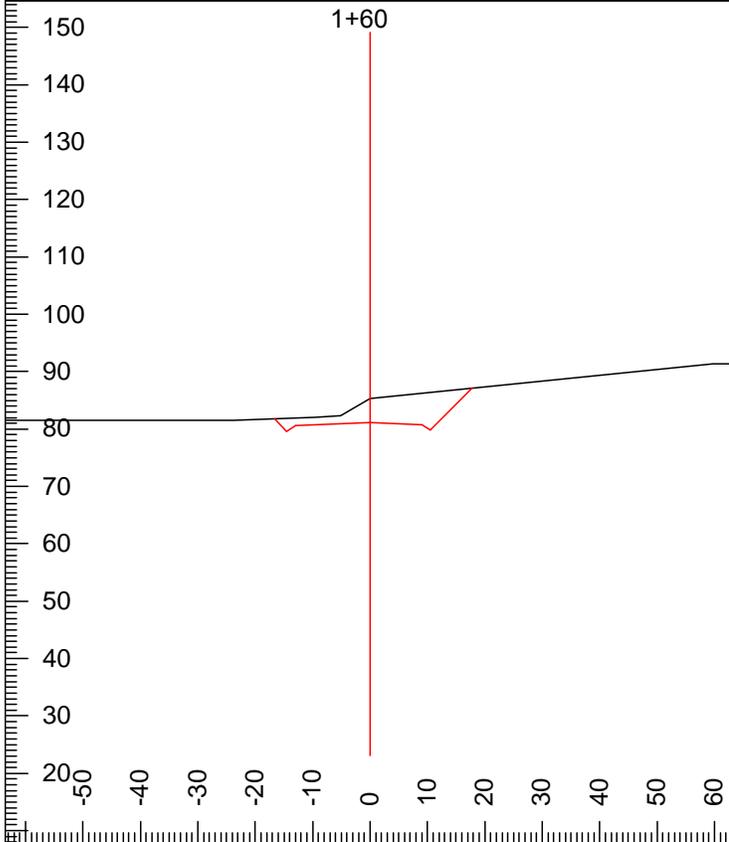
Section View

4/17/15



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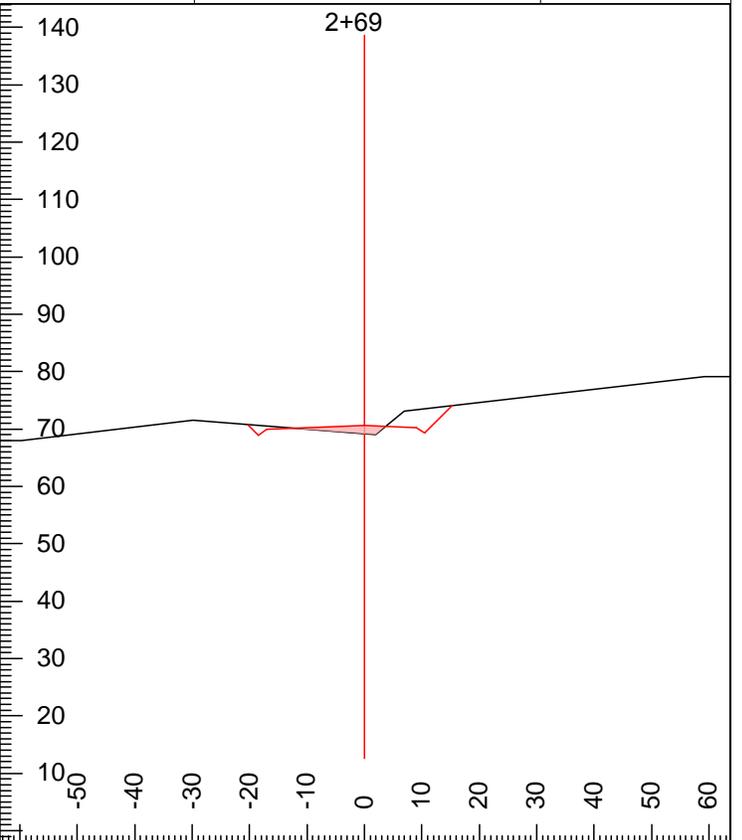
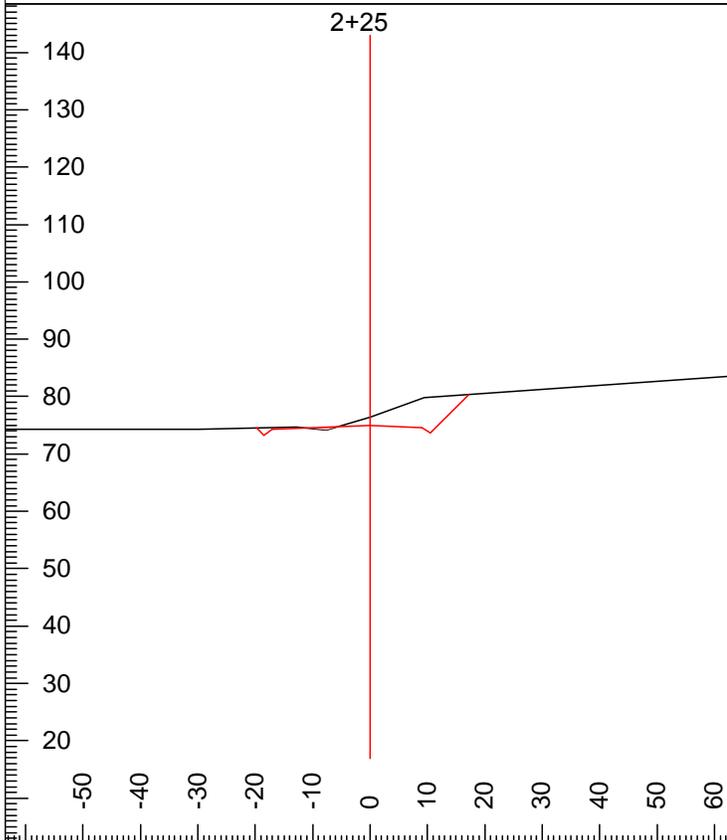


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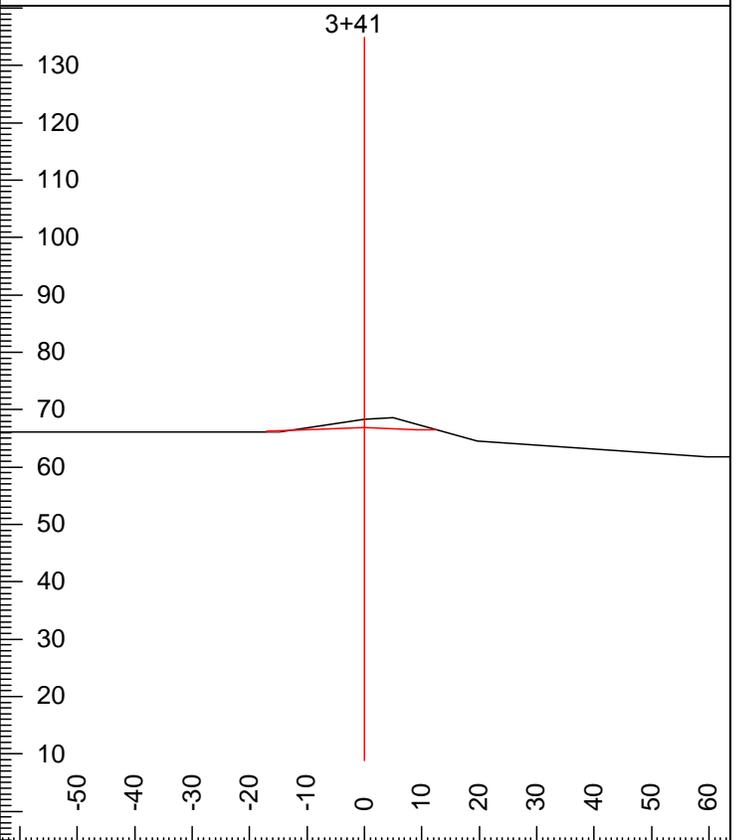
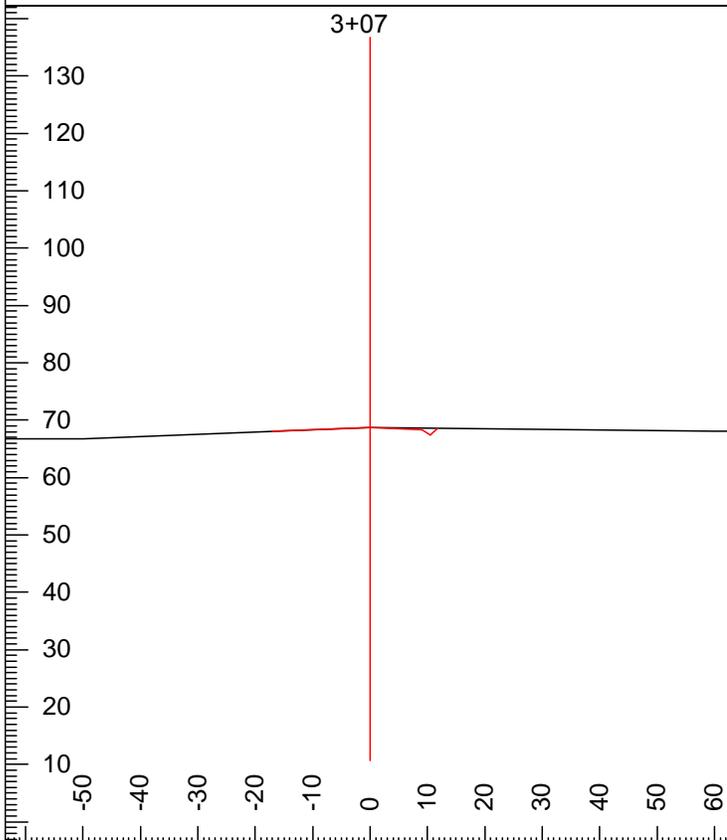
Section View

4/17/15



Index: 6 P-Stn: 2+25 Grd.Lst: -11 H. Offset: 0.0  
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Index: 7 P-Stn: 2+69 Grd.Lst: -10 H. Offset: 0.0  
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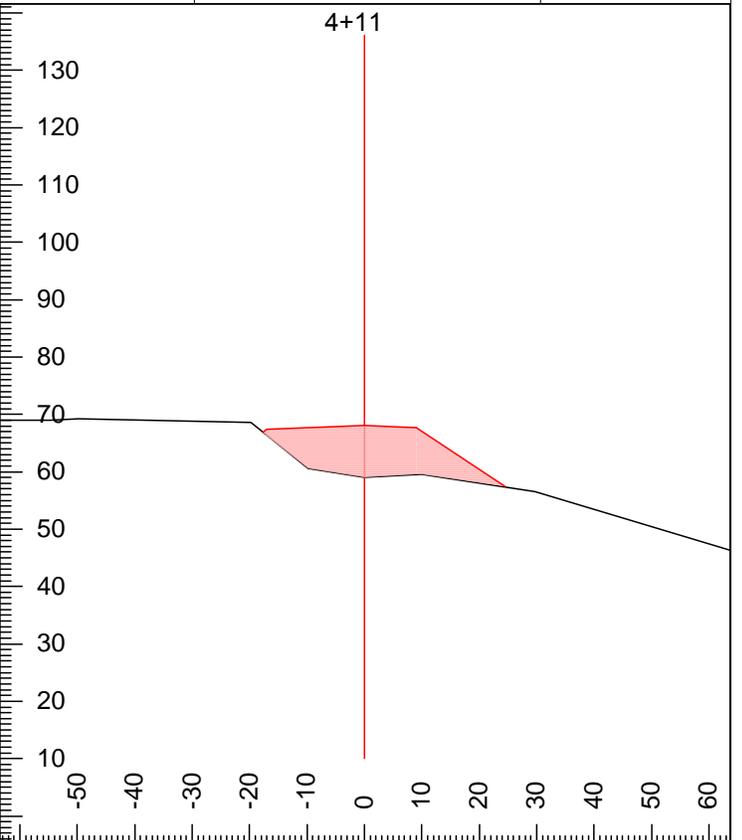
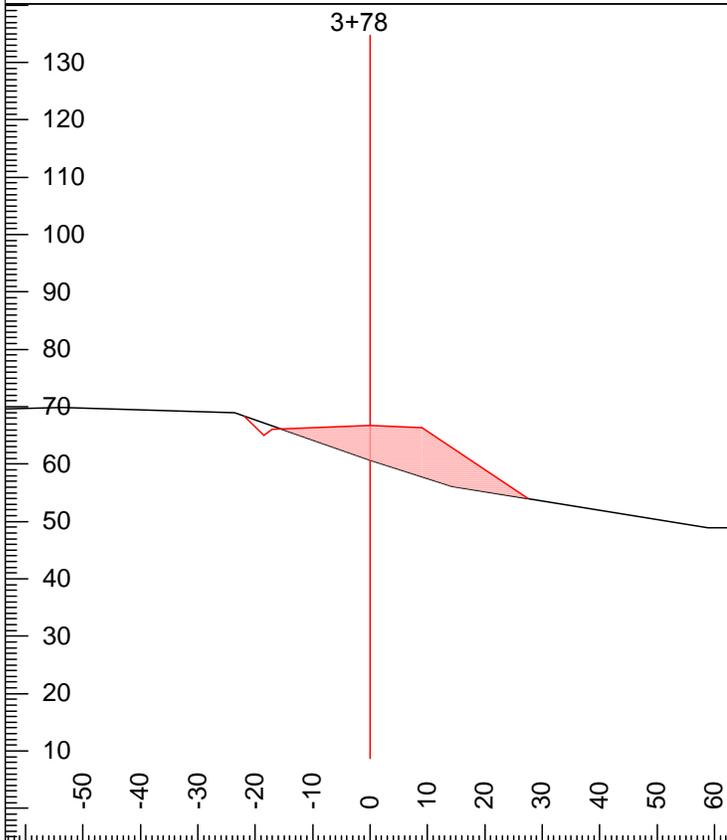


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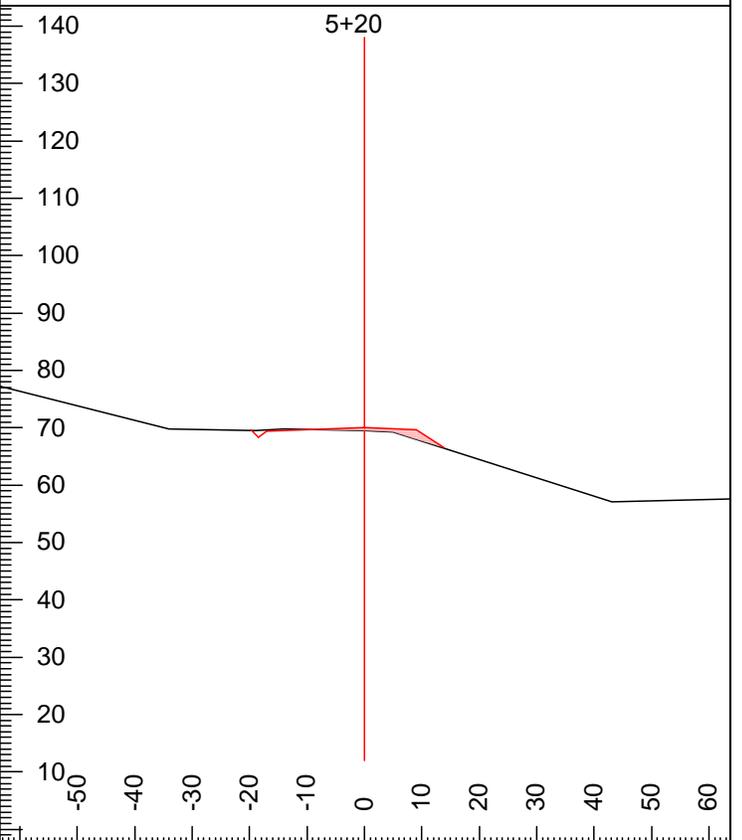
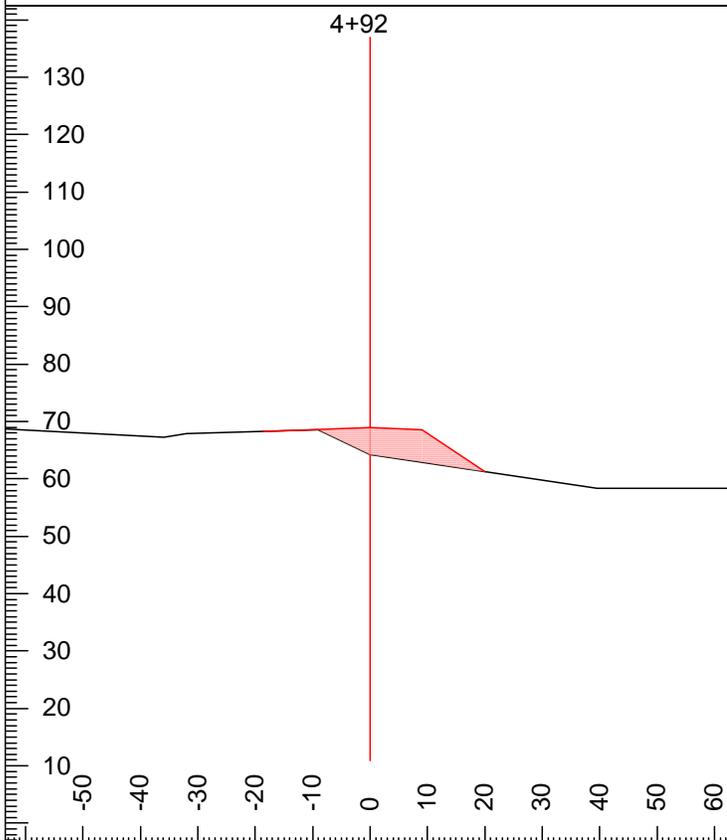
Section View

4/17/15



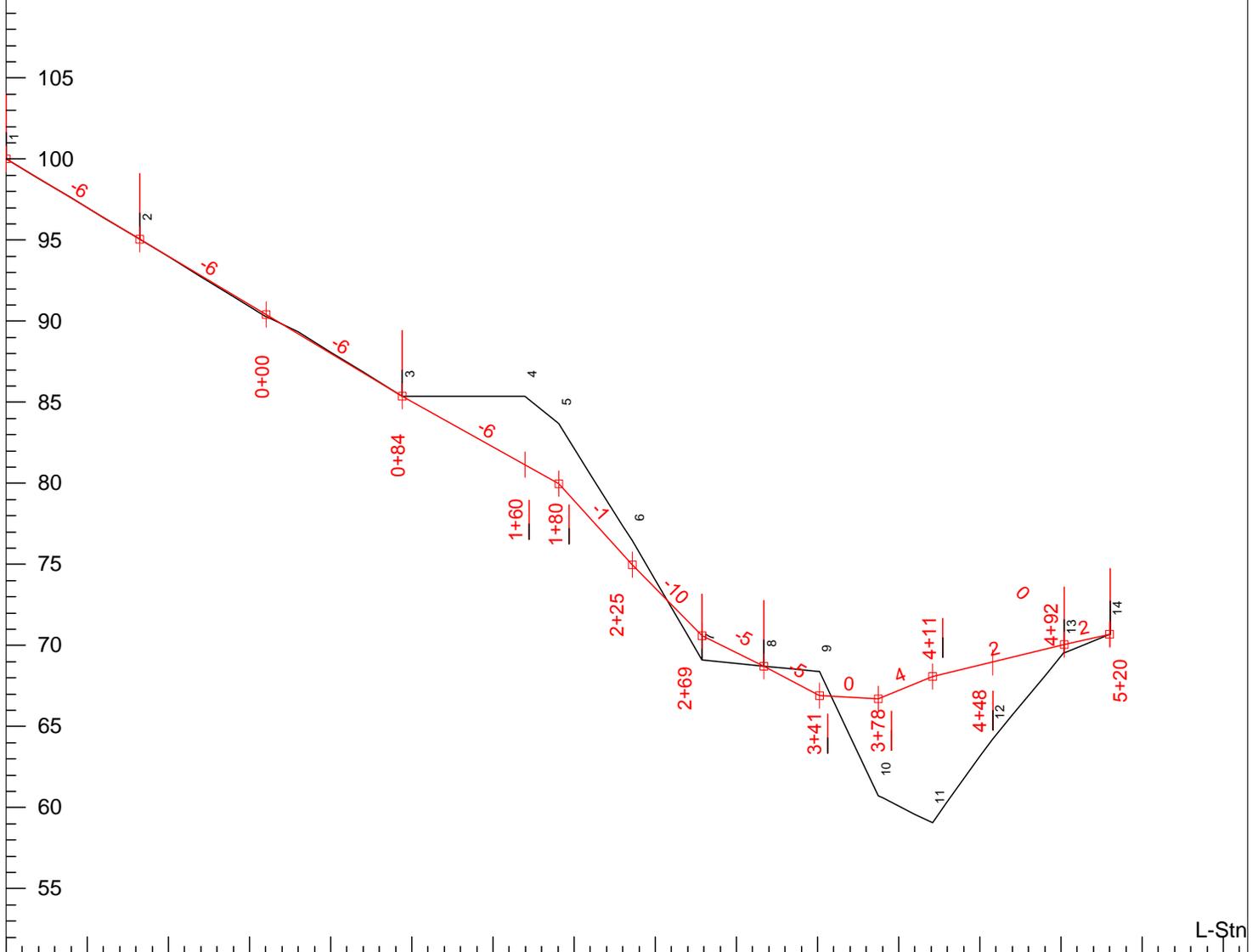
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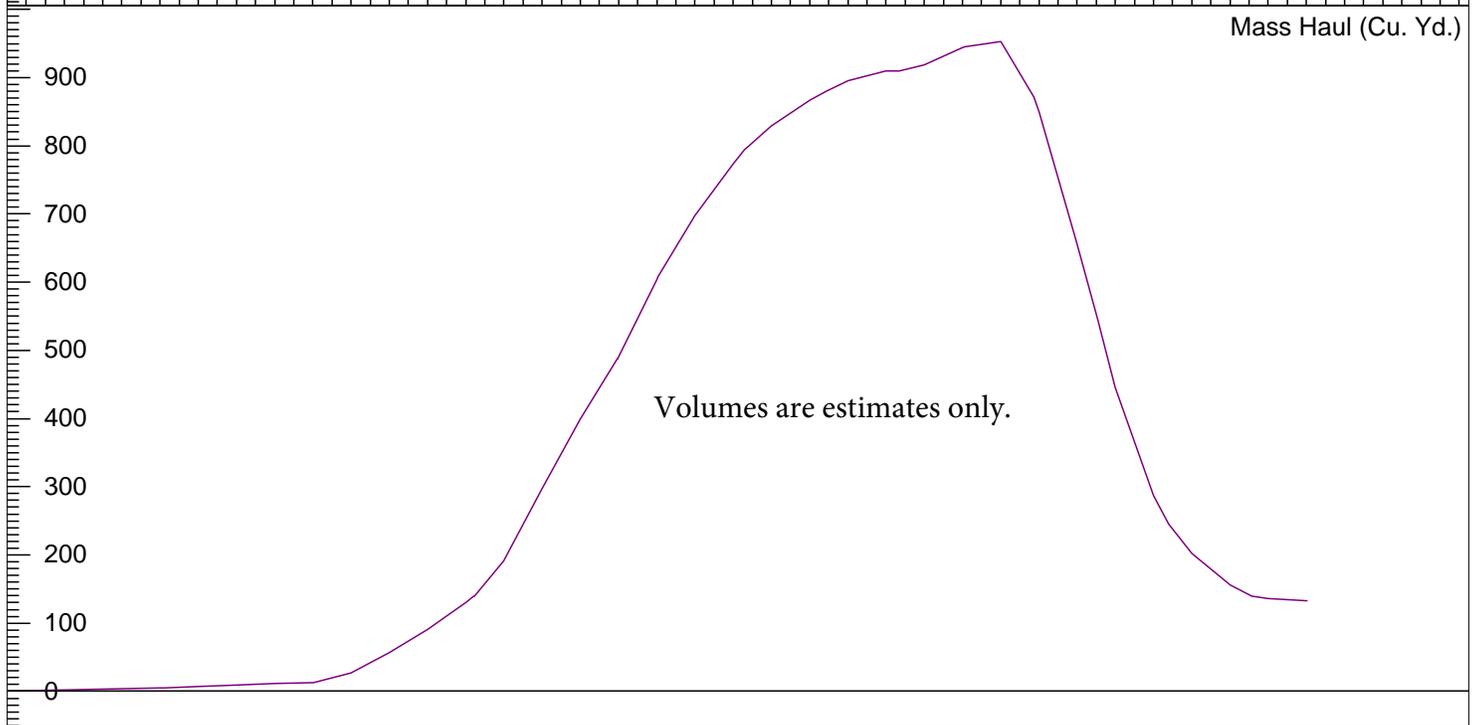
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Index: 13 P-Stn: 5+20 Grd.Lst: 2 H. Offset: 0.0  
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L-Str

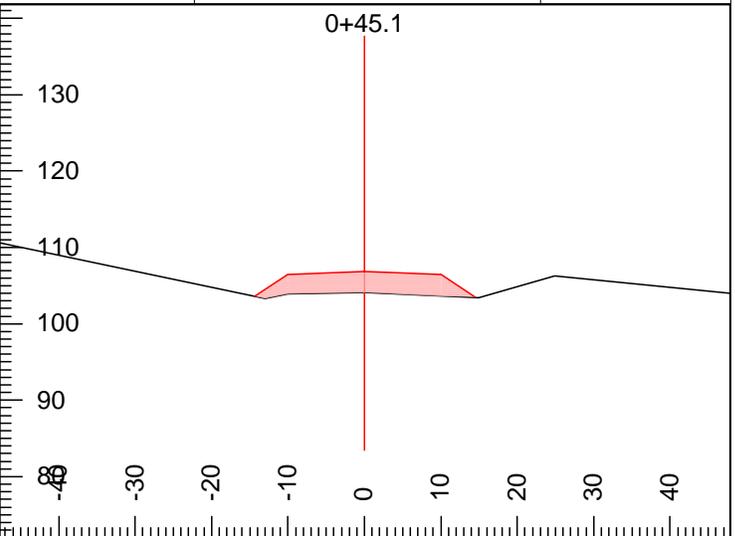
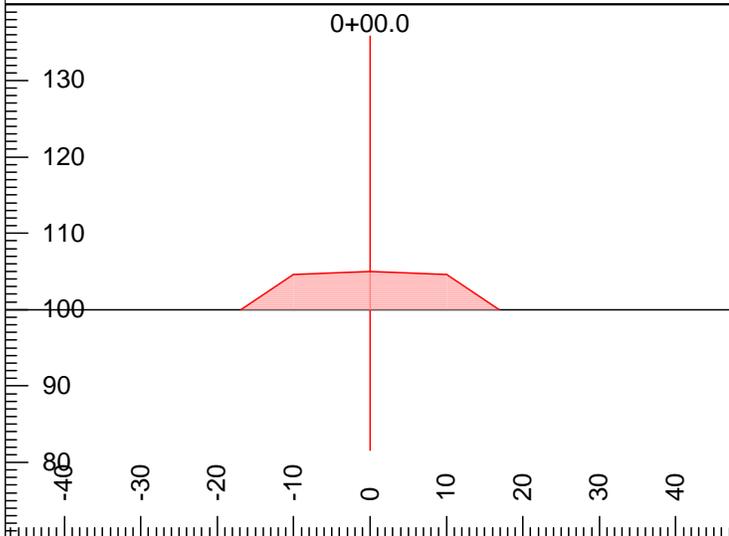
Mass Haul (Cu. Yd.)



Volumes are estimates only.

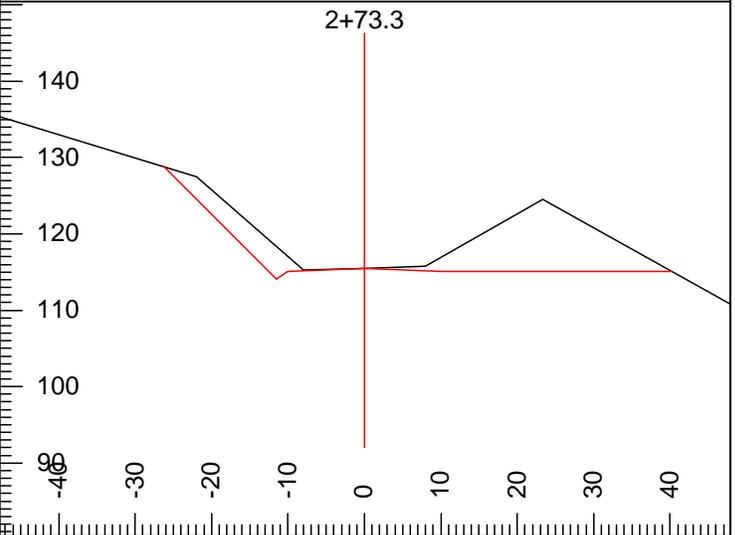
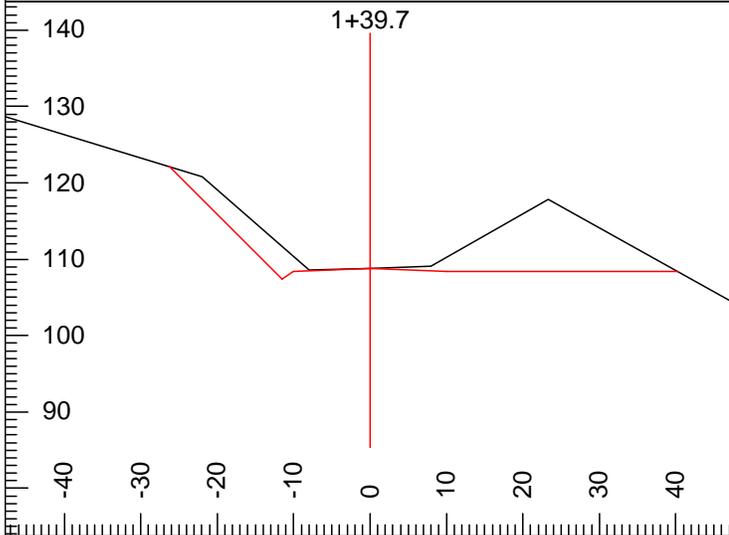
Section View

4/17/15



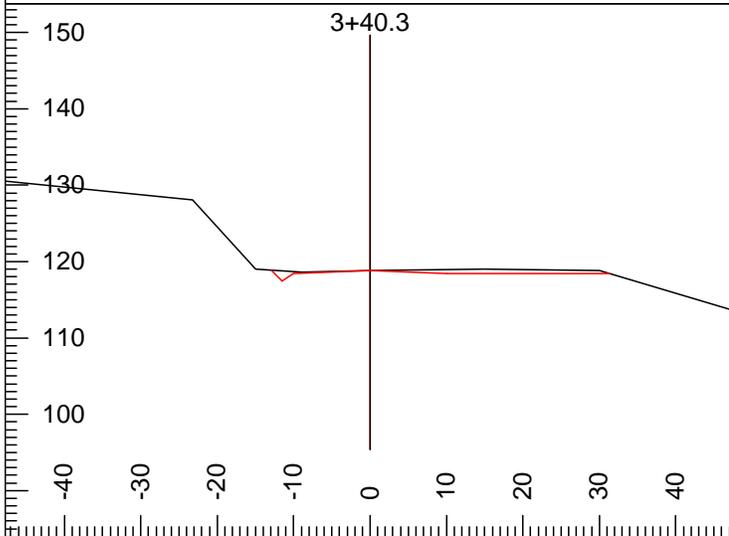
Index: 1 Grd.Nxt.: 4 Cut Dp: -5.0  
 L-Stn: 0+00.0 Grd.Lst: n/a

Index: 2 Grd.Nxt.: 2 Cut Dp: -2.8  
 L-Stn: 0+45.1 Grd.Lst: 4

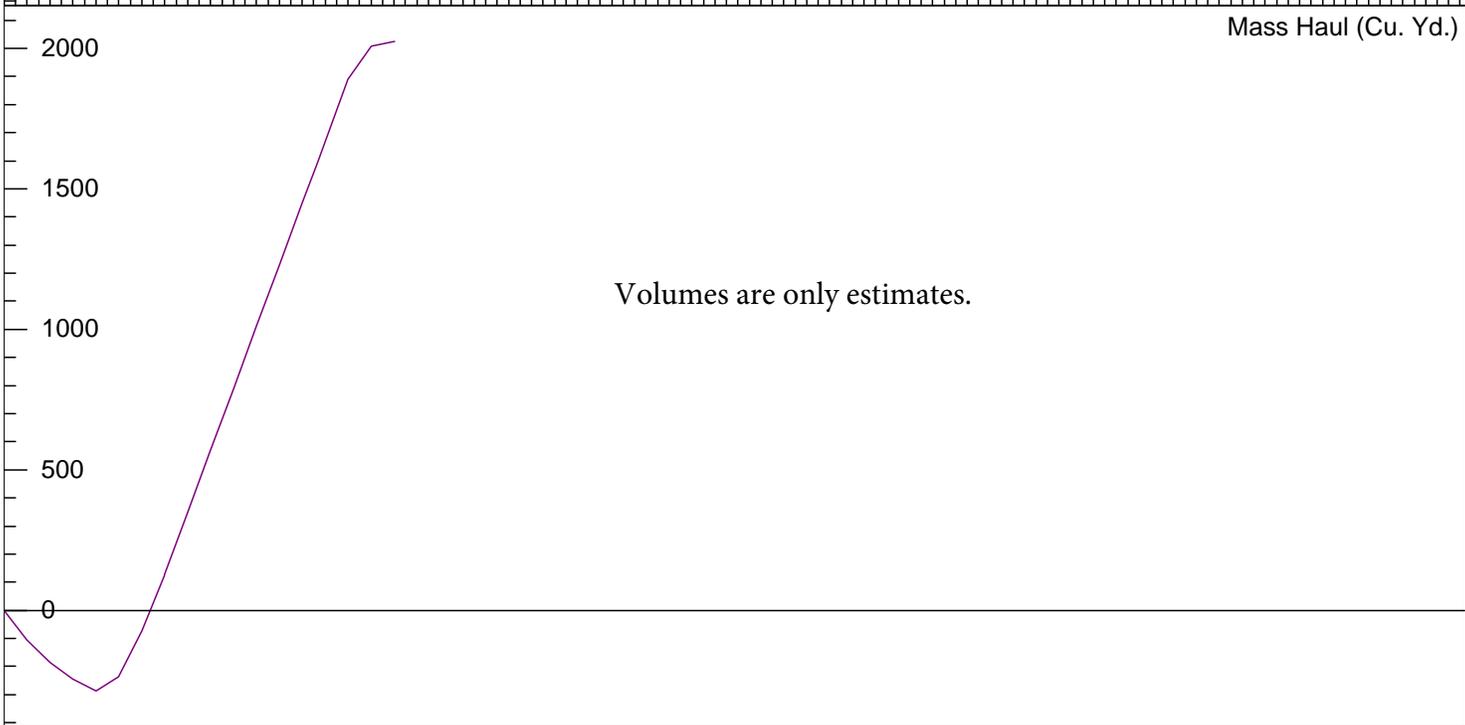
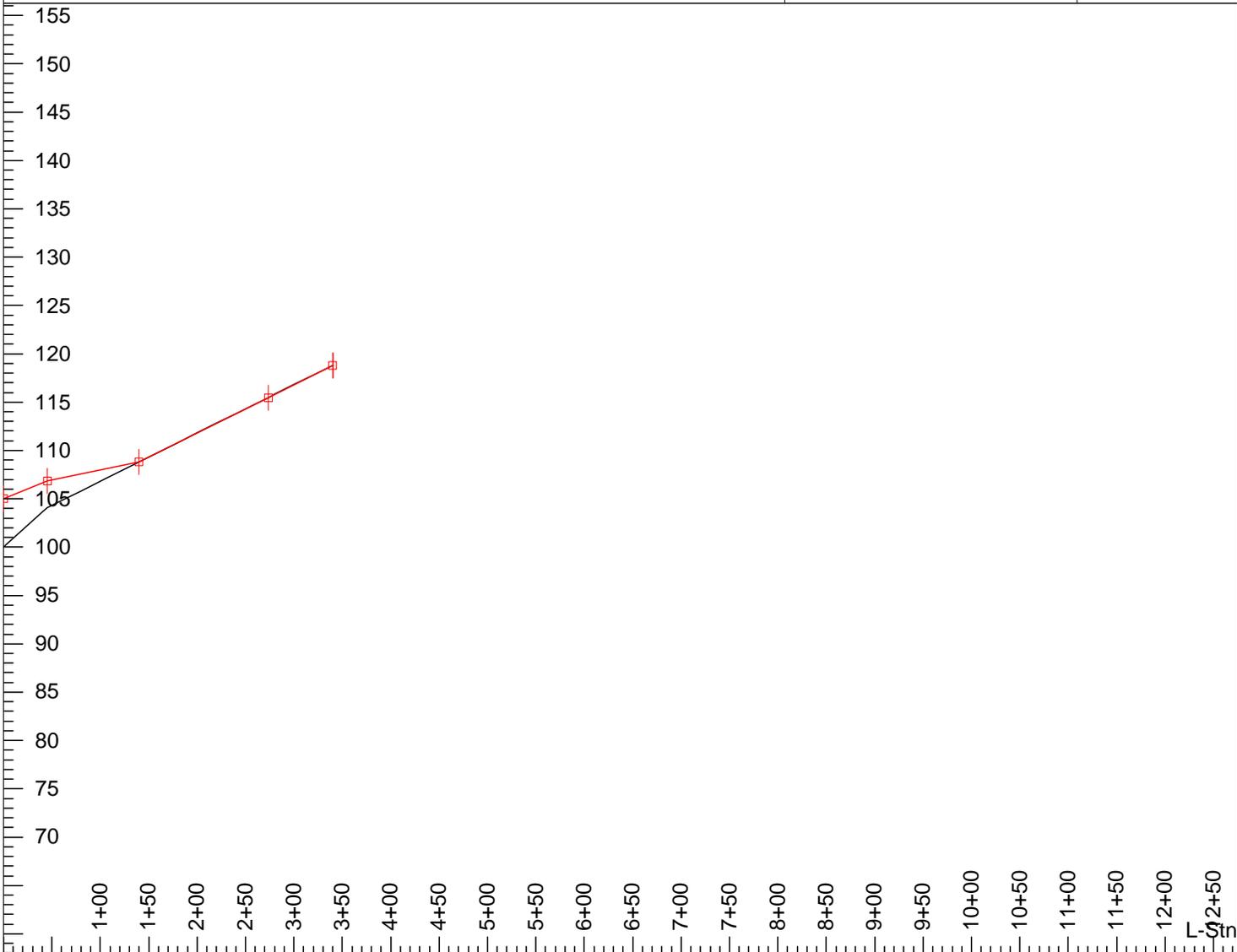


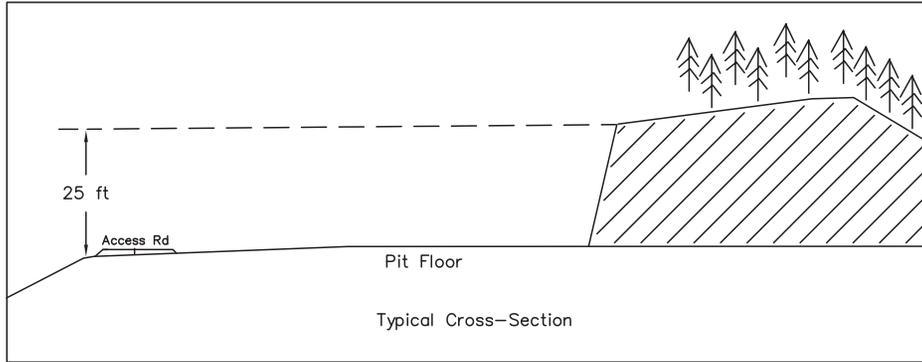
Index: 3 Grd.Nxt.: 5 Cut Dp: 0.0  
 L-Stn: 1+39.7 Grd.Lst: 2

Index: 4 Grd.Nxt.: 5 Cut Dp: 0.0  
 L-Stn: 2+73.3 Grd.Lst: 5



Index: 5 Grd.Nxt.: n/a Cut Dp: 0.0  
 L-Stn: 3+40.3 Grd.Lst: 5





**DEVELOPMENT**

Overburden and debris shall be deposited in waste areas approved by State Representative.

Mining shall begin in Area 1 and proceed to Area 2

Faces shall be 30 feet high at completion of operations, with backslopes no steeper than 1:1. Working bench width shall be a minimum of 20 feet.

Contractor shall maintain a 30 foot wide stripped area from the pit face at all times.

All stock piled material shall be maintained in a neat and usable condition.

All operations shall be carried out in accordance with all Federal and State L & I regulations and State Mining WAC.

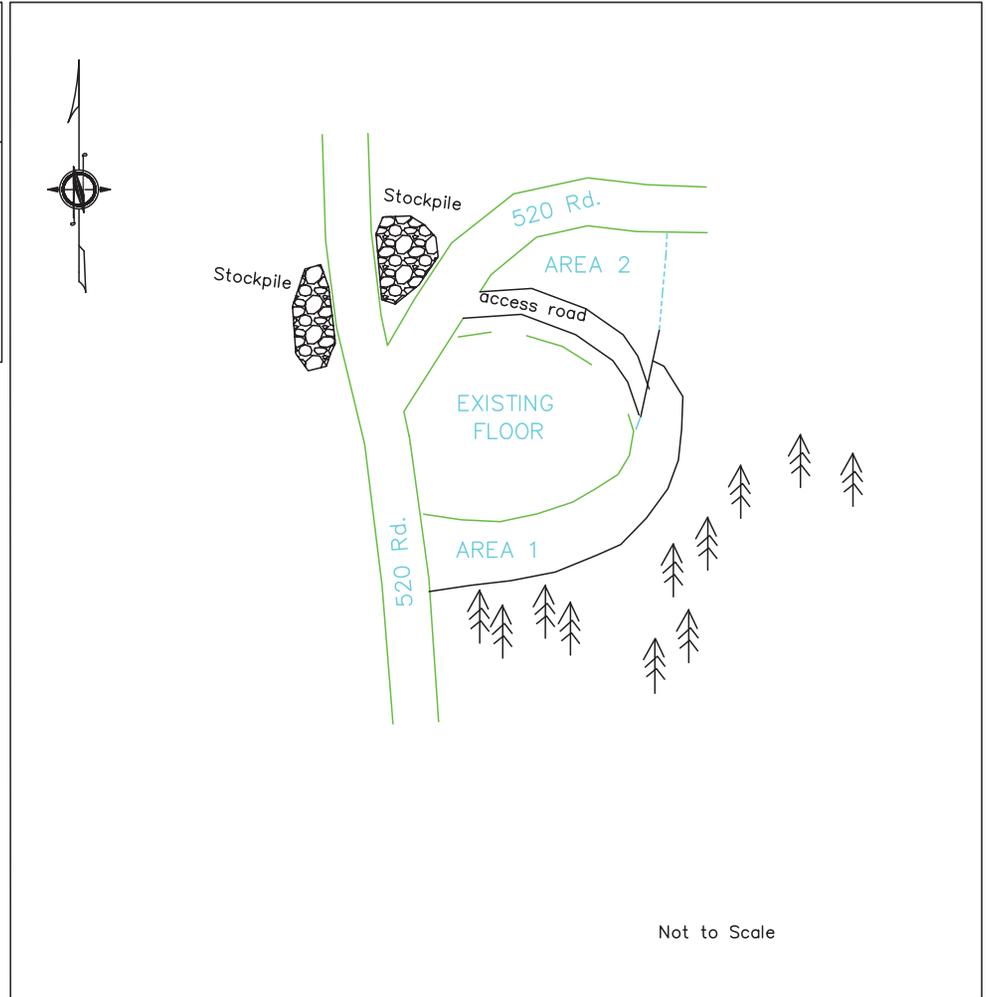
**RECLAMATION**

At the end of operations, quarry faces and walls shall be scaled and cleared of loose and overhanging material. Upon completion of operations in the quarry, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to human life or animals.

The pit area shall be worked and left in condition that future operations may proceed in an orderly manner.

Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, and shall be left in a neat and presentable condition.

W-520 Pit  
Sec. 28, T11N, R02E, W.M.I



## SUMMARY - Road Development Costs

REGION: Pacific Cascade

DISTRICT: Lewis

SALE/PROJECT NAME: Diamond Jim

AGREEMENT #: 30-092609

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ROAD NUMBERS:	Optional: W-524B1, W-524B2, W-522 Ext. (3+50 to 21+95), W-531 Ext.			
	Required: 540 Private Rd., W-540, W-547, W-547 SF, W-524, W-524B, W-520, 516, 522, W-522 Ext. (0+00 to 3+50), W-531, W-532			
ROAD STANDARD:	Construction	Reconstruction	Maintenance	
NUMBER OF STATIONS:	62.65	17.76	517.36	
CLEARING & GRUBBING, EXCAVATION AND FILL, MISC.:	\$16,057.14	\$12,278.43	\$14,365.62	
ROAD ROCK:				
	Optional:	\$1,960.56	\$0.00	\$0.00
	Required:	\$61,104.20	\$25,246.64	\$38,107.17
	Total:	\$63,064.76	\$25,246.64	\$38,107.17
STOCKPILE:	-	-	\$32,520.00	
CULVERTS AND FLUMES:	\$6,696.50	\$676.00	\$3,785.60	
STRUCTURES:	-	-	\$2,700.00	
MOBILIZATION:	\$1,577.36	\$1,206.16	\$1,411.19	
TOTAL COSTS:	\$87,395.76	\$39,407.23	\$92,889.58	
COST PER STATION:	\$1,395	\$2,219	\$180	
ROAD DEACTIVATION & ABANDONMENT COSTS:	\$0.00	\$2,751.10	\$0	
	<b>10% OVERHEAD AND GENERAL EXPENSE =</b>		<b>\$21,969.26</b>	
	<b>TOTAL (All Roads) =</b>		<b>\$244,412.93</b>	
	<b>TOTAL (Minus Optional Rock) =</b>		<b>\$242,452.37</b>	
	<b>SALE VOLUME MBF =</b>		<b>6,488</b>	
	<b>TOTAL \$/MBF =</b>		<b>\$37.67</b>	
	<b>TOTAL \$/MBF (Minus Optional Rock) =</b>		<b>\$37.37</b>	

Profit and Risk costs are accounted on an individual basis.

Compiled by: Rich Wallmow

Date: April 10, 2015

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: 540 Private Rd.

Required  
Pre-Haul Maintenance - 42+20 stations  
0.80 miles

Required  
Reconstruction - 0+00 stations  
0.00 miles

Required  
Construction - 0+00 stations  
0.00 miles

Required Abandonment - 0+00 stations  
0.00 miles

Optional  
Reconstruction - 0+00 stations  
0.00 miles

Optional  
Construction - 0+00 stations  
0.00 miles

### PRE-HAUL MAINTENANCE

#### MISC.

Grade and shape existing road surface - 42.20 stations @ \$15.34 per station \$647.35  
TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$647.35**

### ROCK

Spot Rock See Rock List 200 cy. of Crushed @ \$16.75 per c.y. = \$3,350.00  
TOTAL ROCK **\$3,350.00**

Required  
Pre-Haul Maintenance - \$3,997.35

Required  
Reconstruction - \$0.00

SUBTOTAL **\$3,997.35**

Required Abandonment - \$0.00

Optional  
Reconstruction - \$0.00

Required Construction - \$0.00

Optional  
Construction - \$0.00

Optional Rock? NO

**TOTAL \$3,997.35**  
**COST PER STATION \$94.72**

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-540</b>				
Required Pre-Haul Maintenance-	87+90 1.66	stations miles	Required Reconstruction -	0+00 0.00	stations miles	Required Construction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles	Optional Construction -	0+00 0.00	stations miles

### PRE-HAUL MAINTENANCE

#### EXCAVATION

Construct settling ponds at stations 12+80 -	1.00	@	\$45.00	each	\$45.00
Pull and clean ditch-	9.85	stations @	\$19.88	per station	\$195.82

#### MISC.

Grade and shape existing road surface -	87.90	stations @	\$19.48	per station	\$1,712.29
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#### ENDHAUL

Pull and clean ditch-	120	cy. @	\$1.28	per c.y.	\$153.60
<b>TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.</b>					<b>\$2,106.71</b>

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$405.60		
<b>TOTAL CULVERTS</b>					<b>\$405.60</b>

### ROCK

Culvert Backfill	27+60	20	cy. of	Crushed	@	\$18.04	per c.y.=	\$360.80
Spot Rock	See Rock List	200	cy. of	Crushed	@	\$14.85	per c.y.=	\$2,970.00
Energy Dissipator	27+60	1	cy. of	Pit-Run	@	\$9.24	per c.y.=	\$9.24
<b>TOTAL ROCK</b>								<b>\$3,340.04</b>

### ADDITIONAL REQUIREMENTS

Acquire and install gate tie back posts	1.00	@	\$900.00	each	\$900.00
<b>TOTAL ADDITIONAL REQUIREMENTS</b>					<b>\$900.00</b>

Required Pre-Haul Maintenance-	\$6,752.35	Required Reconstruction -	\$0.00							
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00	<b>SUBTOTAL</b>						<b>\$6,752.35</b>
Required Construction -	\$0.00	Optional Construction -	\$0.00	<b>TOTAL</b>						<b>\$6,752.35</b>
Optional Rock?	NO	<b>COST PER STATION</b>						<b>\$76.82</b>		

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: W-547

Required  
Pre-Haul Maintenance- 48+40 stations  
0.92 miles

Required  
Reconstruction - 0+00 stations  
0.00 miles

Required  
Construction - 0+00 stations  
0.00 miles

Required Abandonment- 0+00 stations  
0.00 miles

Optional  
Reconstruction - 0+00 stations  
0.00 miles

Optional  
Construction - 0+00 stations  
0.00 miles

### PRE-HAUL MAINTENANCE

#### EXCAVATION

Pull and clean ditch- 48.40 stations @ \$10.92 per station \$528.53

#### MISC.

Grade and shape existing road surface - 48.40 stations @ \$19.48 per station \$942.83

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$1,471.36**

### ROCK

Spot Rock See Rock List 100 cy. of Crushed @ \$13.44 per c.y. = \$1,344.00  
TOTAL ROCK

**\$1,344.00**

Required  
Pre-Haul Maintenance- \$2,815.36

Required  
Reconstruction - \$0.00

SUBTOTAL **\$2,815.36**

Required Abandonment- \$0.00

Optional  
Reconstruction - \$0.00

Required Construction - \$0.00

Optional  
Construction - \$0.00

Optional Rock? NO

**TOTAL \$2,815.36**

**COST PER STATION \$58.17**

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-524</b>				
Required Pre-Haul Maintenance-	93+00 1.76	stations miles	Required Reconstruction -	0+00 0.00	stations miles	Required Construction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles	Optional Construction -	0+00 0.00	stations miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>						
Roadside Brushing	1.76	miles @	\$907.00	per mile =	\$1,596.32	
<b>EXCAVATION</b>						
Construct settling ponds at stations 81+00 -	1.00	@	\$45.00	each	\$45.00	
<b>MISC.</b>						
Grade and shape existing road surface -	93.00	stations @	\$19.48	per station	\$1,811.64	
Roll shaped road surface w/ vibratory roller prior to rocking -	93.00	stations @	\$13.50	per station	<u>\$1,255.50</u>	
			<b>TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.</b>		<b>\$4,708.46</b>	

### ROCK

22+50 to	31+40	178	cy. of	Crushed	@	\$12.33	per c.y.=	\$2,194.74
Rock Berm	0+00	5	cy. of	Crushed	@	\$11.71	per c.y.=	\$58.55
Spot Rock	See Rock List	400	cy. of	Crushed	@	\$14.17	per c.y.=	<u>\$5,668.00</u>
							<b>TOTAL ROCK</b>	<b>\$7,921.29</b>

### ADDITIONAL REQUIREMENTS

Acquire and Install Gate Tie Back Post -	1.00	each @	\$900.00	per each	\$900.00	
			<b>TOTAL ADDITIONAL REQUIREMENTS</b>		<b>\$900.00</b>	

Required Pre-Haul Maintenance-	\$13,529.75	Required Reconstruction -	\$0.00		
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00		<b>SUBTOTAL</b>
Required Construction -	\$0.00	Optional Construction -	\$0.00		<b>TOTAL</b>
Optional Rock?	NO				<b>COST PER STATION</b>
					<b>\$145.48</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-520</b>	
Required Pre-Haul Maintenance-	34+00 0.64	stations miles	Required Reconstruction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles
			Required Construction -	0+00 0.00	stations miles
			Optional Construction -	0+00 0.00	stations miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>							
Roadside Brushing	0.64	miles	@	\$907.00	per mile =	\$580.48	
<b>MISC.</b>							
Grade and shape existing road surface -	34.00	stations	@	\$15.34	per station	\$521.56	
				<b>TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.</b>			<b>\$1,102.04</b>
<b>ROCK</b>							
7+20 to 14+15	139	cy. of	Crushed	@	\$11.73	per c.y.=	\$1,630.47
Spot Rock 13+90 to 28+60	100	cy. of	Crushed	@	\$11.57	per c.y.=	\$1,157.00
						<b>TOTAL ROCK</b>	<b>\$2,787.47</b>

### ADDITIONAL REQUIREMENTS

Acquire and Install Gate Tie Back Post -	1.00	each	@	\$900.00	per each	\$900.00	
				<b>TOTAL ADDITIONAL REQUIREMENTS</b>			<b>\$900.00</b>
Required Pre-Haul Maintenance-	\$4,789.51			Required Reconstruction -	\$0.00		
Required Abandonment-	\$0.00			Optional Reconstruction -	\$0.00		<b>SUBTOTAL</b>
Required Construction -	\$0.00			Optional Construction -	\$0.00		<b>\$4,789.51</b>
Optional Rock?	NO						<b>TOTAL</b>
							<b>\$4,789.51</b>
						<b>COST PER STATION</b>	<b>\$140.87</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>				Road:	<b>516</b>		
Required Pre-Haul Maintenance-	107+00 2.03	stations miles	Required Reconstruction -	0+00 0.00	stations miles	Required Construction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles	Optional Construction -	0+00 0.00	stations miles

### PRE-HAUL MAINTENANCE

<b>MISC.</b>						
Rip pot holes in existing road surface -	107.00	stations @	\$4.87	per station	\$521.09	
	TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.					<b>\$521.09</b>

### ROCK

23+65	to	28+30	160	cy. of	Crushed	@	\$13.58	per c.y. =	\$2,172.80
Rock Berm		See Rock List	5	cy. of	Crushed	@	\$14.98	per c.y. =	\$74.90
Spot Rock		See Rock List	150	cy. of	Crushed	@	\$13.00	per c.y. =	\$1,950.00
<b>TOTAL ROCK</b>									<b>\$4,197.70</b>

Required Pre-Haul Maintenance-	\$4,718.79	Required Reconstruction -	\$0.00				
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00				SUBTOTAL
Required Construction -	\$0.00	Optional Construction -	\$0.00				<b>\$4,718.79</b>
Optional Rock?	NO						<b>TOTAL</b>
							<b>\$4,718.79</b>
							<b>COST PER STATION</b>
							<b>\$44.10</b>

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: W-524B

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">16+60</span> stations <span style="border: 1px solid black; padding: 2px;">0.31</span> miles	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Required Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>			
Roadside Brushing	0.31 miles @	\$907.00 per mile =	\$281.17
<b>EXCAVATION</b>			
Clean ditch-	4.00 stations @	\$19.88 per station	\$79.52
TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.			<b>\$360.69</b>

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$405.60	
<u>TOTAL CULVERTS</u>				<b>\$405.60</b>

<b>ROCK</b>			
Culvert Backfill	4+00	20 cy. of	Crushed @ \$15.98 per c.y. = \$319.60
Energy Dissipator	0+00	1 cy. of	Riprap @ \$9.38 per c.y. = \$9.38
<u>TOTAL ROCK</u>			<b>\$328.98</b>

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">\$1,095.27</span>	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	SUBTOTAL <b>\$1,095.27</b>
Required Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	TOTAL <b>\$1,095.27</b>
Optional Rock? <span style="border: 1px solid black; padding: 2px;">NO</span>		COST PER STATION <b>\$65.98</b>

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: W-524B1

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Required Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Construction - <span style="border: 1px solid black; padding: 2px;">12+25</span> stations <span style="border: 1px solid black; padding: 2px;">0.23</span> miles

### CONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris 1.120 acres @ \$918.00 per acre \$1,028.16

#### EXCAVATION

Road Construction Earthwork 12.25 sta. @ \$73.00 per sta. = \$894.25  
 Grade and shape subgrade - 12.25 stations @ \$15.96 per station \$195.51

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking - 12.25 stations @ \$13.50 per station \$165.38  
 Construct turnaround - 1.00 @ \$90.00 each \$90.00  
 Construct landing - 1.00 @ \$285.00 each \$285.00  
 Grass seed and fertilize - 36.00 lbs @ \$2.20 per lbs \$79.20

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$2,737.50**

### CULVERTS - MATERIALS & INSTALLATION

Culverts  
 100 LF of 18" \$1,352.00

TOTAL CULVERTS **\$1,352.00**

### ROCK

0+00 to 12+25 1,135 cy. of PitRun @ \$7.97 per c.y. = \$9,045.95  
 Energy Dissipator See Rock List 3 cy. of Pit-Run @ \$10.65 per c.y. = \$31.95

TOTAL ROCK **\$9,077.90**

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	SUBTOTAL <b>\$13,167.40</b>
Required Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Construction - <span style="border: 1px solid black; padding: 2px;">\$13,167.40</span>	
Optional Rock? <span style="border: 1px solid black; padding: 2px;">NO</span>		TOTAL <b>\$13,167.40</b>
		COST PER STATION <b>\$1,074.89</b>

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: W-524B2

Required  
Pre-Haul Maintenance- 0+00 stations  
0.00 miles

Required  
Reconstruction - 0+00 stations  
0.00 miles

Required  
Construction - 0+00 stations  
0.00 miles

Required Abandonment- 0+00 stations  
0.00 miles

Optional  
Reconstruction - 0+00 stations  
0.00 miles

Optional  
Construction - 2+85 stations  
0.05 miles

### CONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris 0.260 acres @ \$918.00 per acre \$238.68

#### EXCAVATION

Road Construction Earthwork 2.85 sta. @ \$73.00 per sta. = \$208.05  
Grade and shape subgrade - 2.85 stations @ \$15.96 per station \$45.49

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking - 2.85 stations @ \$13.50 per station \$38.48  
Construct landing - 1.00 @ \$285.00 each \$285.00  
Grass seed and fertilize - 8.00 lbs @ \$2.20 per lbs \$17.60

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$833.30**

### ROCK

0+00 to 2+85 252 cy. of PitRun @ \$7.78 per c.y. = \$1,960.56  
TOTAL ROCK **\$1,960.56**

Required  
Pre-Haul Maintenance- \$0.00

Required  
Reconstruction - \$0.00

SUBTOTAL **\$2,793.86**

Required Abandonment- \$0.00

Optional  
Reconstruction - \$0.00

Required Construction - \$0.00

Optional  
Construction - \$2,793.86

TOTAL **\$2,793.86**

Optional Rock? YES

COST PER STATION **\$980.30**

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: 522

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">39+20</span> stations <span style="border: 1px solid black; padding: 2px;">0.74</span> miles	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Required Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>			
Roadside Brushing	0.74 miles @	\$907.00 per mile =	\$671.18
<b>MISC.</b>			
Rip pot holes and desod	39.20 stations @	\$9.74 per station	<u>\$381.81</u>
	TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.		<b>\$1,052.99</b>

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	30	LF of 18"	\$405.60		TOTAL CULVERTS	<b>\$405.60</b>
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<b>ROCK</b>				
15+90 to	24+00	253 cy. of	Crushed @ \$15.95 per c.y. = \$4,035.35	
Culvert Backfill	39+10	20 cy. of	Crushed @ \$18.35 per c.y. = \$367.00	
Spot Rock	See Rock List	100 cy. of	Crushed @ \$15.95 per c.y. = \$1,595.00	
Energy Dissipator	39+10	1 cy. of	Pit-Run @ \$10.55 per c.y. = <u>\$10.55</u>	
			TOTAL ROCK	<b>\$6,007.90</b>

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">\$7,466.49</span>	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	SUBTOTAL
Required Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	TOTAL
Optional Rock? <span style="border: 1px solid black; padding: 2px;">NO</span>		<b>\$7,466.49</b>
		<b>COST PER STATION</b>
		<b>\$190.47</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-522 Ext.</b>	
Required Pre-Haul Maintenance-	0+00 0.00	stations miles	Required Reconstruction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles
			Required Construction -	3+50 0.07	stations miles
			Optional Construction -	18+45 0.35	stations miles

### CONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris 2.020 acres @ \$918.00 per acre \$1,854.36

#### EXCAVATION

Road Construction Earthwork 21.95 sta. @ \$95.00 per sta. = \$2,085.25  
 Construct settling ponds - 2.00 @ \$45.00 each \$90.00  
 Grade and shape subgrade - 21.95 stations @ \$15.96 per station \$350.32

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking - 21.95 stations @ \$13.50 per station \$296.33  
 Construct landing - 4.00 @ \$285.00 each \$1,140.00  
 Grass seed and fertilize - 63.00 lbs @ \$2.20 per lbs \$138.60

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$5,954.86**

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	90	LF of 18"	\$1,216.80	45	LF of 24"	\$882.90	
			\$0.00			<u>TOTAL CULVERTS</u>	<b>\$2,099.70</b>

### ROCK

Fill Armor	15+78	12	cy. of	Riprap	@	\$15.08	per c.y. =	\$180.96
Energy Dissipator	See Culvert List	3	cy. of	Riprap	@	\$10.25	per c.y. =	\$30.75
0+00 to	21+95	2,135	cy. of	PitRun	@	\$10.68	per c.y. =	<u>\$22,801.80</u>
							<u>TOTAL ROCK</u>	<b>\$23,013.51</b>

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$4,970.89				
Required Abandonment-	\$0.00	Optional Reconstruction -	\$26,097.18			<b>SUBTOTAL</b>	<b>\$31,068.07</b>
Required Construction -	\$0.00	Optional Construction -	\$0.00			<b>TOTAL</b>	<b>\$31,068.07</b>
Optional Rock?	NO					<b>COST PER STATION</b>	<b>\$1,415.40</b>

## SUMMARY OF ROAD

Sale: Diamond Jim

Road: W-531

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">17+61</span> stations <span style="border: 1px solid black; padding: 2px;">0.33</span> miles	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">6+16</span> stations <span style="border: 1px solid black; padding: 2px;">0.12</span> miles	Required Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles	Optional Construction - <span style="border: 1px solid black; padding: 2px;">0+00</span> stations <span style="border: 1px solid black; padding: 2px;">0.00</span> miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>				
Roadside Brushing	0.33	miles @	\$907.00 per mile =	\$299.31
<b>EXCAVATION</b>				
Clean ditch-	17.61	stations @	\$19.88 per station	\$350.09
<b>MISC.</b>				
Grade and shape existing road surface -	17.61	stations @	\$38.96 per station	\$686.09
TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				<b>\$1,335.49</b>

### RECONSTRUCTION

<b>CLEARING/GRUBBING</b>				
Scattering Organic Debris	0.420	acres @	\$918.00 per acre	\$385.56
<b>EXCAVATION</b>				
Widening Road Prism	0.500	acres @	\$610.00 per acre	\$305.00
Reconstruct ditch-	6.20	stations @	\$19.88 per station	\$123.26
Grade and shape subgrade -	6.16	stations @	\$15.96 per station	\$98.31
<b>FILL</b>				
Fill roadway @ area of 0+00 -	25.00	hours @	\$170.00 per hour	\$4,250.00
<b>MISC.</b>				
Roll subgrade w/ vibratory roller prior to rocking -	6.16	stations @	\$13.50 per station	\$83.16
Grass seed and fertilize -	20.00	lbs @	\$2.20 per lbs	\$44.00
TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				<b>\$5,289.29</b>

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	80	LF of 18"	\$1,081.60	<u>TOTAL CULVERTS</u>	<b>\$1,081.60</b>
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### ROCK

9+82 to	23+77	309	cy. of	Crushed	@	\$18.58 per c.y.=	\$5,741.22
Culvert Backfill	See Culvert List	20	cy. of	Crushed	@	\$20.98 per c.y.=	\$419.60
Energy Dissipator	See Culvert List	2	cy. of	Riprap	@	\$13.63 per c.y.=	\$27.26
3+66 to	9+82	142	cy. of	Ballast	@	\$17.84 per c.y.=	\$2,533.28
3+66 to	9+82	661	cy. of	PitRun	@	\$12.23 per c.y.=	\$8,084.03
<u>TOTAL ROCK</u>							<b>\$16,805.39</b>

Required Pre-Haul Maintenance- <span style="border: 1px solid black; padding: 2px;">\$24,511.77</span>	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	SUBTOTAL	<b>\$24,511.77</b>
Required Abandonment- <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>		
Required Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Construction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>		
Optional Rock? <span style="border: 1px solid black; padding: 2px;">NO</span>		<b>TOTAL</b>	<b>\$24,511.77</b>
<b>COST PER STATION</b>			<b>\$1,031.21</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-531 Ext.</b>	
Required Pre-Haul Maintenance-	0+00 0.00	stations miles	Required Reconstruction -	0+00 0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles
			Required Construction -	0+00 0.00	stations miles
			Optional Construction -	25+60 0.48	stations miles

### CONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris 2.350 acres @ \$918.00 per acre \$2,157.30

#### EXCAVATION

Road Construction Earthwork 25.60 sta. @ \$73.00 per sta. = \$1,868.80  
 Remove outside berm (0+00 to 3+46) 450 cy. @ \$1.62 per c.y. \$729.00  
 Grade and shape subgrade - 25.60 stations @ \$15.96 per station \$408.58

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking - 25.60 stations @ \$13.50 per station \$345.60  
 Construct landing - 3.00 @ \$285.00 each \$855.00  
 Grass seed and fertilize - 76.00 lbs @ \$2.20 per lbs \$167.20

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$6,531.48**

### CULVERTS - MATERIALS & INSTALLATION

Culverts  
240 LF of 18" \$3,244.80

**TOTAL CULVERTS \$3,244.80**

### ROCK

Energy Dissipator 0+00 7 cy. of Riprap @ \$28.17 per c.y. = \$197.19  
 0+00 to 25+60 2,360 cy. of PitRun @ \$12.21 per c.y. = \$28,815.60  
**TOTAL ROCK \$29,012.79**

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$0.00			
				SUBTOTAL		<b>\$38,789.07</b>
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00			
Required Construction -	\$0.00	Optional Construction -	\$38,789.07			
Optional Rock?	NO			<b>TOTAL</b>		<b>\$38,789.07</b>
				<b>COST PER STATION</b>		<b>\$1,515.20</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>532</b>	
Required Pre-Haul Maintenance-	31+45 0.60	stations miles	Required Reconstruction -	1+40 0.03	stations miles
Required Abandonment-	5+00 0.09	stations miles	Optional Reconstruction -	5+00 0.09	stations miles
			Required Construction -	0+00 0.00	stations miles
			Optional Construction -	0+00 0.00	stations miles

### PRE-HAUL MAINTENANCE

<b>CLEARING</b>				
Roadside Brushing	0.60	miles @	\$907.00 per mile =	\$544.20
<b>EXCAVATION</b>				
Clean ditch-	1.65	stations @	\$19.88 per station	\$32.80
<b>MISC.</b>				
Grade and shape existing road surface -	31.45	stations @	\$15.34 per station	\$482.44
	<b>TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.</b>			<b>\$1,059.44</b>

### RECONSTRUCTION

<b>CLEARING/GRUBBING</b>				
Scattering Organic Debris	0.600	acres @	\$918.00 per acre	\$550.80
<b>EXCAVATION</b>				
Side cast	0.250	acres @	\$610.00 per acre	\$152.50
Widening Road Prism	0.600	acres @	\$610.00 per acre	\$366.00
Reconstruct ditch-	6.40	stations @	\$19.88 per station	\$127.23
Grade and shape subgrade -	6.40	stations @	\$15.96 per station	\$102.14
<b>FILL</b>				
Fill roadway @ area of 0+00 -	8.00	hours @	\$170.00 per hour	\$1,360.00
<b>MISC.</b>				
Roll subgrade w/ vibratory roller prior to rocking -	6.40	stations @	\$40.50 per station	\$259.20
Reconstruct turnaround @ sta. -	1.00	@	\$90.00 each	\$90.00
Reconstruct landing -	2.00	@	\$200.00 each	\$400.00
Grass seed and fertilize -	18.00	lbs @	\$2.20 per lbs	\$39.60
	<b>TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.</b>			<b>\$3,447.47</b>

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>	110	LF of 18"	\$1,487.20	
				<b>TOTAL CULVERTS</b>
				<b>\$1,487.20</b>

### ROCK

29+60 to	32+85	98	cy. of	Crushed	@	\$18.15	per c.y.=	\$1,778.70
Culvert Backfill	3+35, 17+40	40	cy. of	Crushed	@	\$20.55	per c.y.=	\$822.00
Energy Dissipator	See Culvert List	3	cy. of	Pit Run	@	\$13.67	per c.y.=	\$41.01
0+00 to	1+40	161	cy. of	Pit Run	@	\$11.42	per c.y.=	\$1,838.62
32+85 to	37+85	415	cy. of	PitRun	@	\$12.54	per c.y.=	\$5,204.10
								<b>TOTAL ROCK</b>
								<b>\$9,684.43</b>

### ABANDONMENT

Construct waterbar -	4.00	@	\$78.00	each	\$312.00
Construct Spoil Berm -	1.00	@	\$90.00	each	\$90.00
Grass seed and fertilize -	18.00	lbs @	\$2.20	per lbs	\$39.60
Mulching -	0.10	acres @	\$595.00	per acre	\$59.50
Remove culverts	10.00	hours @	\$200.00	total	\$2,000.00
Stream diversion -	1.00	@	\$250.00	each	\$250.00
<b>TOTAL ADDITIONAL REQUIREMENTS</b>					<b>\$2,751.10</b>

Required Pre-Haul Maintenance-	\$2,546.64	Required Reconstruction -	\$3,898.62	
Required Abandonment-	\$2,751.10	Optional Reconstruction -	\$9,233.28	<b>SUBTOTAL</b>
Required Construction -	\$0.00	Optional Construction -	\$0.00	<b>\$18,429.64</b>
Optional Rock?	NO			<b>TOTAL</b>
				<b>\$18,429.64</b>
<b>COST PER STATION</b>				<b>\$486.91</b>

## SUMMARY OF ROAD

Sale:	<b>Diamond Jim</b>		Road:	<b>W-547 SF</b>	
Required Pre-Haul Maintenance-	0+00 0.00	stations miles	Required Reconstruction -	5+20 0.10	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles
			Required Construction -	0+00 0.00	stations miles
			Optional Construction -	0+00 0.00	stations miles

### RECONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris 0.360 acres @ \$918.00 per acre \$330.48

#### EXCAVATION

Side cast 0.500 acres @ \$610.00 per acre \$305.00  
 Grade and shape subgrade - 5.20 stations @ \$15.96 per station \$82.99

#### FILL

Fill roadway @ area of 0+00 - 16.00 hours @ \$170.00 per hour \$2,720.00

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking - 5.20 stations @ \$13.50 per station \$70.20  
 Grass seed and fertilize - 15.00 lbs @ \$2.20 per lbs \$33.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$3,541.67**

### CULVERTS - MATERIALS & INSTALLATION

Culverts  
50 LF of 18" \$676.00

**TOTAL CULVERTS \$676.00**

### ROCK

0+00 to	5+20	247	cy. of	Crushed	@	\$12.97	per c.y.=	\$3,203.59
Energy Dissipator	3+78	1	cy. of	Riprap	@	\$8.49	per c.y.=	\$8.49
2+25 to	5+20	375	cy. of	Ballast	@	\$7.09	per c.y.=	\$2,658.75
0+00 to	2+25	242	cy. of	PitRun	@	\$7.09	per c.y.=	\$1,715.78

**TOTAL ROCK \$7,586.61**

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$11,804.28			
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00		SUBTOTAL	<b>\$11,804.28</b>
Required Construction -	\$0.00	Optional Construction -	\$0.00		TOTAL	<b>\$11,804.28</b>
Optional Rock?	NO				COST PER STATION	<b>\$2,270.05</b>

## ROCK DEVELOPMENT COST SUMMARY

Pit:	W-520	Location:	Sec. 28, T11N R2E
Sale:	<b>Diamond Jim</b>	Road:	2906 c.y.
Swell:	1.40	Stockpile:	3000 c.y.
Shrinkage:	1.16	Total Truck Loads:	5906 c.y.
Drill Pct.:	100%	In Place Total:	4219 c.y.

Pit Development & Cleanup including Clearing and grubbing of  
Waste Area @ adjacent to pit, place overburden

in Waste Area, spread and compact.	\$3.78	/cu.yd.	x	3000 cu.yds.		\$11,340.00
Drill & Shoot:	\$2.80	/cu.yd.	x	4219 cu.yds.		\$11,813.20
Push Rock:	\$0.67	/cu.yd.	x	5906 cu.yds.		\$3,957.02
Load Crusher:	\$0.56	/cu.yd.	x	5906 cu.yds.		\$3,307.36
Crush 3" Rock:	\$3.08	/cu.yd.	x	5906 cu.yds.		\$18,190.48
Load Dump Truck:	\$0.56	/cu.yd.	x	2906 cu.yds.		\$1,627.36
				Subtotal		\$50,235.42

Move In/Set-up 3 Stage Crusher	1	@	\$5,680.47	=	\$5,680.47
Move In and set up Drill and Compressor	1	@	\$467.02	=	\$467.02
Move in D-8	1	@	\$565.03	=	\$565.03
Move in Loader	1	@	\$565.03	=	\$565.03
Move in Excavator	1	@	\$533.41	=	\$533.41
Move in Trucks	3	@	\$132.00	=	\$396.00
				Subtotal	\$8,206.96

TOTAL PRODUCTION COSTS \$58,442.38

Base Cost= \$9.90 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
540 Private Rd. Spot Rock	\$6.25	\$0.60	\$9.90	\$16.75	200	\$3,350.00
W-540 Culvert Backfill	\$5.14	\$3.00	\$9.90	\$18.04	20	\$360.80
W-540 Spot Rock	\$4.35	\$0.60	\$9.90	\$14.85	200	\$2,970.00
W-547 Spot Rock	\$2.94	\$0.60	\$9.90	\$13.44	100	\$1,344.00
W-524	\$1.83	\$0.60	\$9.90	\$12.33	178	\$2,194.74
W-524 Rock Berm	\$1.21	\$0.60	\$9.90	\$11.71	5	\$58.55
W-524 Spot Rock	\$3.67	\$0.60	\$9.90	\$14.17	400	\$5,668.00
W-520	\$1.23	\$0.60	\$9.90	\$11.73	139	\$1,630.47
W-520 Spot Rock	\$1.07	\$0.60	\$9.90	\$11.57	100	\$1,157.00
516	\$3.08	\$0.60	\$9.90	\$13.58	160	\$2,172.80
516 Rock Berm	\$3.08	\$2.00	\$9.90	\$14.98	5	\$74.90
516 Spot Rock	\$2.50	\$0.60	\$9.90	\$13.00	150	\$1,950.00
W-524B Culvert Backfill	\$3.08	\$3.00	\$9.90	\$15.98	20	\$319.60
522	\$5.45	\$0.60	\$9.90	\$15.95	253	\$4,035.35
522 Culvert Backfill	\$5.45	\$3.00	\$9.90	\$18.35	20	\$367.00
522 Spot Rock	\$5.45	\$0.60	\$9.90	\$15.95	100	\$1,595.00
W-531	\$8.08	\$0.60	\$9.90	\$18.58	309	\$5,741.22
W-531 Culvert Backfill	\$8.08	\$3.00	\$9.90	\$20.98	20	\$419.60
W-531	\$7.34	\$0.60	\$9.90	\$17.84	142	\$2,533.28
532	\$7.65	\$0.60	\$9.90	\$18.15	98	\$1,778.70
532 Culvert Backfill	\$7.65	\$3.00	\$9.90	\$20.55	40	\$822.00
W-547 SF	\$2.47	\$0.60	\$9.90	\$12.97	247	\$3,203.59
Stock Pile	\$0.64	\$0.30	\$9.90	\$10.84	3000	\$32,520.00
			Total C.Y.	5906	Sub Total	\$76,266.60

TOTAL ROCKING COSTS \$76,266.60

## ROCK DEVELOPMENT COST SUMMARY

Pit:	W-520	Location:	Sec. 28, T11N R2E
Sale:	<b>Diamond Jim</b>	Road:	7774 c.y.
Swell:	1.40	Stockpile:	c.y.
Shrinkage	1.16	Total Truck Loads:	7774 c.y.
Drill Pct.:	65%	In Place Total:	5553 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden

in Waste Area, spread and compact.	\$4.00	/cu.yd.	x	0 cu.yds.	:	\$0.00
Drill & Shoot:	\$2.80	/cu.yd.	x	3609 cu.yds.	:	\$10,105.20
Rip Rock:	\$1.96	/cu.yd.	x	1944 cu.yds.	:	\$3,810.24
Push Rock:	\$0.67	/cu.yd.	x	7774 cu.yds.	:	\$5,208.58
Load Crusher:	\$0.56	/cu.yd.	x	0 cu.yds.	:	\$0.00
Crush 3" Rock:	\$3.08	/cu.yd.	x	0 cu.yds.	:	\$0.00
Load Dump Truck:	\$0.56	/cu.yd.	x	7774 cu.yds.	:	\$4,353.44
Purchase Pit Run	\$1.00	/yd	x	7774 cu. yds	:	\$7,774.00
Purchase Rip Rap	\$16.50	/ton	x	0 tons =		\$0.00
Purchase 3" Minus Crushed	\$7.50	/ton	x	0 tons =		\$0.00
Purchase 1 1/4" Minus Crushed	\$8.85	/ton	x	0 tons =		\$0.00
Oversize Reduction:	\$5.05	/cu.yd.	x	0 cu.yds.	:	\$0.00
Subtotal						\$31,251.46

		TOTAL PRODUCTION COSTS	\$31,251.46
Base Cost=	\$4.02	Per Cu.Yd. (Pit Run)	

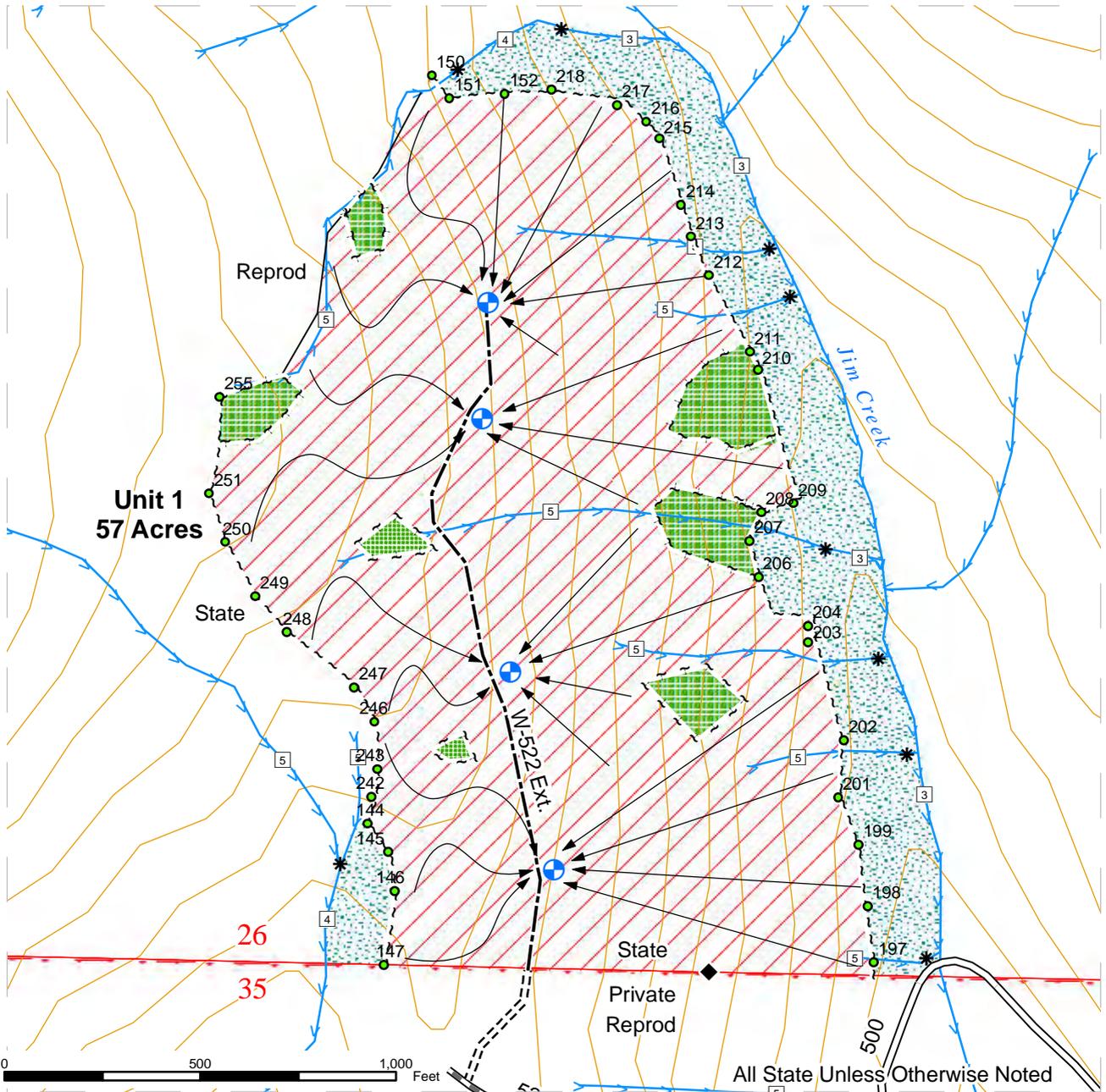
Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	ROCK COST
W-540 Energy Dissipator	\$4.62	\$0.60	\$4.02	\$9.24	1	\$9.24
W-524B Energy Dissipator	\$3.36	\$2.00	\$4.02	\$9.38	1	\$9.38
W-524B1	\$3.35	\$0.60	\$4.02	\$7.97	1135	\$9,045.95
W-524B1 Energy Dissipator	\$3.63	\$3.00	\$4.02	\$10.65	3	\$31.95
W-524B2	\$3.16	\$0.60	\$4.02	\$7.78	252	\$1,960.56
522 Energy Dissipator	\$4.53	\$2.00	\$4.02	\$10.55	1	\$10.55
W-522 Ext. Fill Armor	\$6.06	\$5.00	\$4.02	\$15.08	12	\$180.96
W-522 Ext. Energy Dissipator	\$4.23	\$2.00	\$4.02	\$10.25	3	\$30.75
W-522 Ext.	\$4.53	\$0.60	\$4.02	\$9.15	0	\$0.00
W-522 Ext.	\$6.06	\$0.60	\$4.02	\$10.68	2135	\$22,801.80
W-531 Energy Dissipator	\$7.61	\$2.00	\$4.02	\$13.63	2	\$27.26
W-531	\$7.61	\$0.60	\$4.02	\$12.23	661	\$8,084.03
W-531 Ext.	\$7.86	\$2.00	\$4.02	\$13.88	7	\$97.16
W-531 Ext.	\$7.59	\$0.60	\$4.02	\$12.21	2360	\$28,815.60
532 Energy Dissipator	\$7.65	\$2.00	\$4.02	\$13.67	7	\$95.69
532	\$6.80	\$0.60	\$4.02	\$11.42	161	\$1,838.62
532	\$7.92	\$0.60	\$4.02	\$12.54	415	\$5,204.10
W-547 SF Energy Dissipator	\$2.47	\$2.00	\$4.02	\$8.49	1	\$8.49
W-547 SF	\$2.47	\$0.60	\$4.02	\$7.09	375	\$2,658.75
W-547 SF	\$2.47	\$0.60	\$4.02	\$7.09	242	\$1,715.78
Total C.Y.					7774	Sub Total \$82,626.62

TOTAL ROCKING COSTS \$82,626.62

# LOGGING PLAN MAP

SALE NAME: Diamond Jim  
 AGREEMENT#: 30-092609  
 TOWNSHIP(S): T11N, R02E  
 TRUST(S): Capital Grant (7)

REGION: Pacific Cascade Region  
 COUNTY(S): LEWIS  
 ELEVATION RGE: 1089-1668



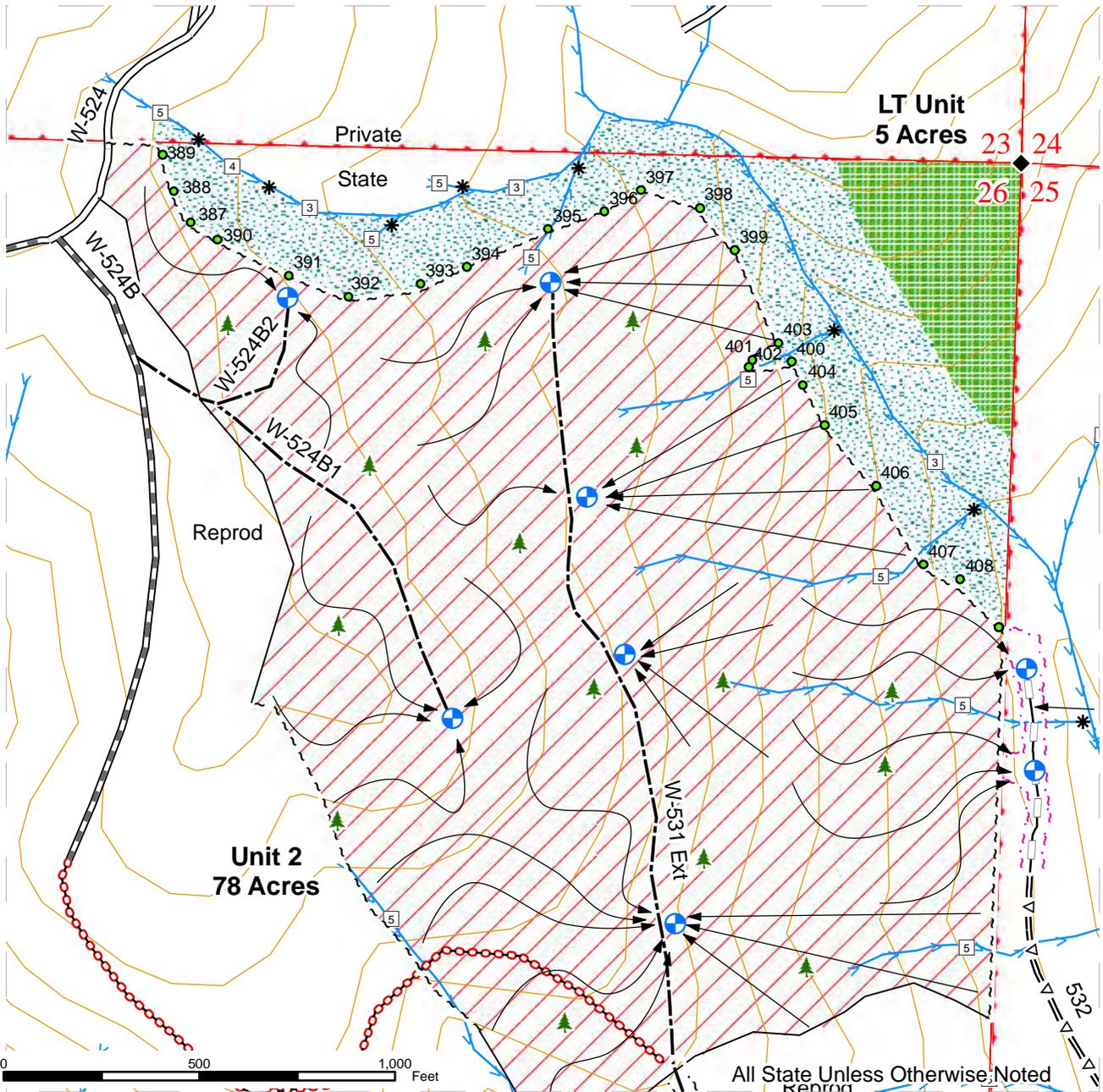
Cable	Existing Road	Streams
Ground	Required Pre-Haul Maintenance	Stream Type
VRH	Required Construction	Stream Type Break
Leave Tree Area	Required Reconstruction	Monumented Corners
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Leave Trees
Right of Way Tags	Optional Construction	Landing - Proposed
Property Lines	Optional Reconstruction	Traverse Points
Sale Boundary Tags	Abandoned	
Leave Tree Tags		
Reprod		
Weyco ROW Unit		



# LOGGING PLAN MAP

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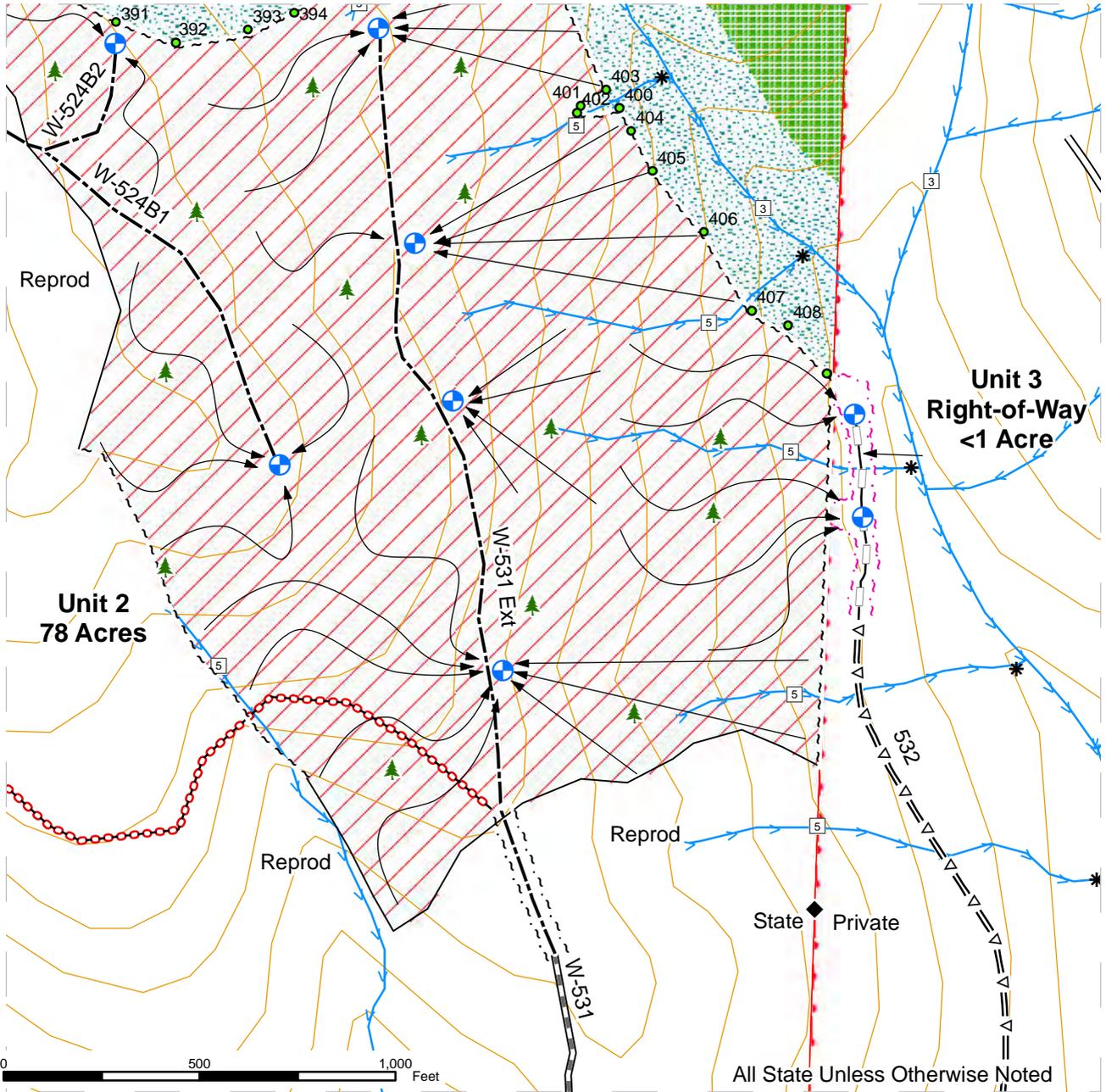


Cable	Existing Road	Streams
Ground	Required Pre-Haul Maintenance	Stream Type
VRH	Required Construction	Stream Type Break
Leave Tree Area	Required Reconstruction	Monumented Corners
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Leave Trees
Right of Way Tags	Optional Construction	Landing - Proposed
Property Lines	Optional Reconstruction	Traverse Points
Sale Boundary Tags	Abandoned	
Leave Tree Tags		
Reprod		
Weyco ROW Unit		

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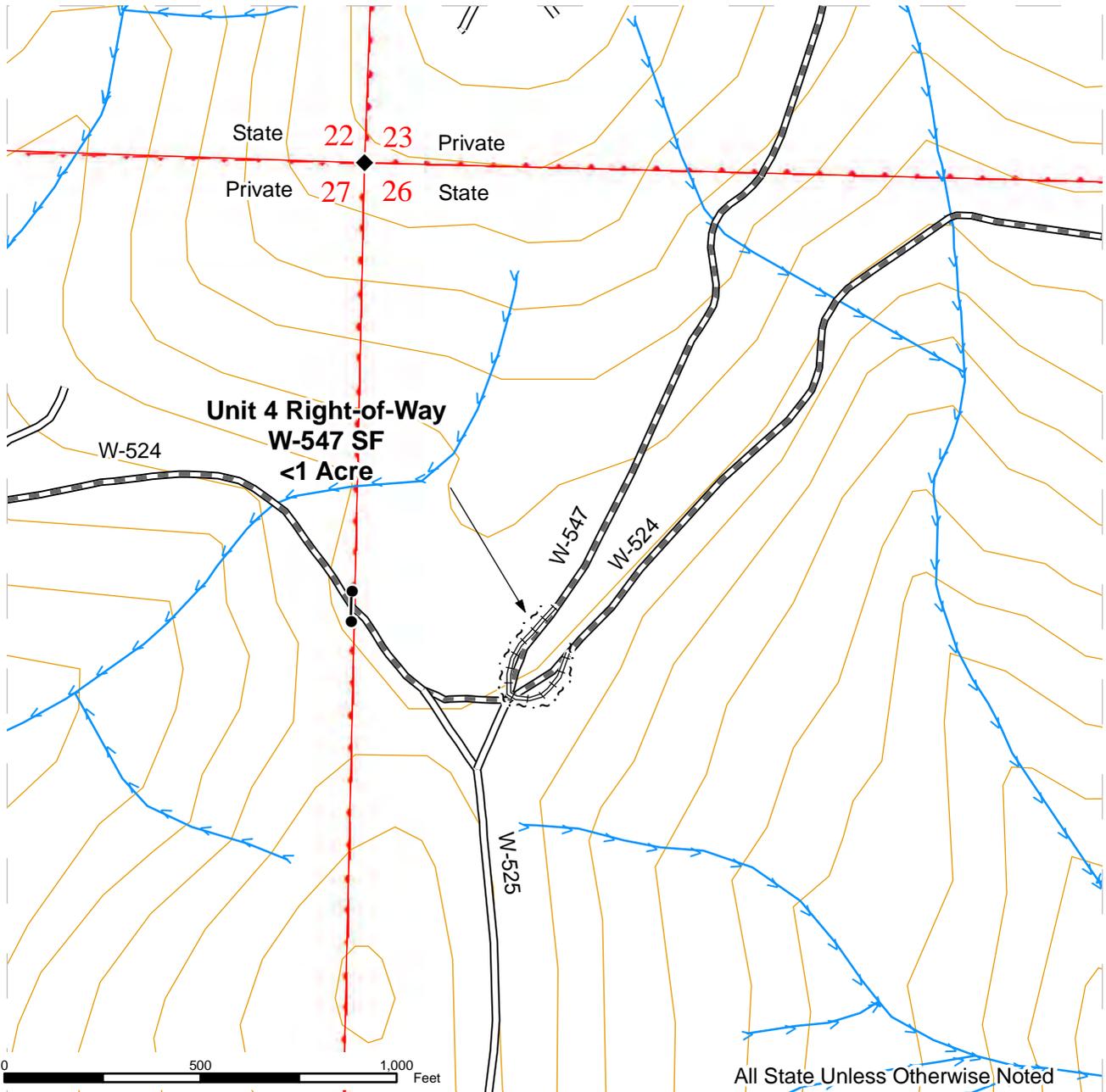
Cable	Existing Road	Streams
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All State Unless Otherwise Noted

Cable	Existing Road	Streams
Ground	Required Pre-Haul Maintenance	Stream Type
VRH	Required Construction	Stream Type Break
Leave Tree Area	Required Reconstruction	Monumented Corners
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Leave Trees
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