



TIMBER NOTICE OF SALE

SALE NAME: INNER LIMITS

AGREEMENT NO: 30-093966

AUCTION: December 15, 2016 starting at 10:00 a.m., COUNTY: Wahkiakum
Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 25 miles west of Longview

PRODUCTS SOLD AND SALE AREA: All timber, except leave trees marked with blue paint, snags, pre-existing stumps, and all down timber existing 5 years prior to the day of sale, bounded by the following: Timber Sale Boundary tags, and pink flagging, the E-1000, and reprod in Units 1 and 2; Timber Sale Boundary tags, and pink flagging, reprod, and the the E-1096 road in Unit 3; Orange Right-of-Way Boundary tags in Units 4 and 5 on part(s) of Sections 19 and 30 all in Township 10 North, Range 4 West, W.M., containing 117 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:

Table with columns: Species, Avg DBH, Ring Count, Total MBF, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Douglas fir, Hemlock, Red alder, Spruce, and Sale Total.

MINIMUM BID: \$1,555,000.00 BID METHOD: Sealed Bids

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

EXPIRATION DATE: October 31, 2018 ALLOCATION: Export Restricted

BID DEPOSIT: \$155,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable and Ground based equipment. This sale is estimated to be 89% cable yarding and 11% ground based yarding. A detailed felling and yarding plan shall be required prior to any harvest activities. Ground based yarding is restricted to slopes of 45% or less. For additional harvest requirements, refer to the H-140 clause in the contract.

ROADS: 16.04 stations of required construction. 21.88 stations of required reconstruction. 4.64 stations of optional construction. 541.14 stations of required pre-haul maintenance. Rock used in accordance with the quantities in the ROCK LIST under this contract may be obtained at no cost to the Purchaser from the Incline Pit, located in Section 30, Township 10 North, Range 04 West, W.M. and the Switchback Pit, , located in Section 30, Township 10 North, Range 04 West, W.M. Additional rock for this sale may be obtained from any commercial pit at the Purchaser's expense. Rock Sources will be subject to written approval by the Contract Administrator before their use. All road work on the E-1096 from 19+21 to 52+63 and the E- 1096B from 0+00 to 1+86; culvert installation and



## TIMBER NOTICE OF SALE

ditch cleaning on the Slide Creek Mainline from 163+02 to 225+70, E- 1000 from 346+34 to 429+99, and the E- 1000 from 502+95 to 720+23; culvert installation on the E- 1000 from 429+99 to 502+95; ditch cleaning on the E- 4000 from 0+00 to 68+58 and the E- 4500 from 0+00 to 35+99 will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator. The hauling of forest products will not be permitted from October 31 to April 15 unless authorized in writing by the Contract Administrator on the E-1096 and the E-1096B

### **ACREAGE DETERMINATION**

**CRUISE METHOD:** The sale acres were determined by GPS. The sale area was cruised using a variable plot cruise method.

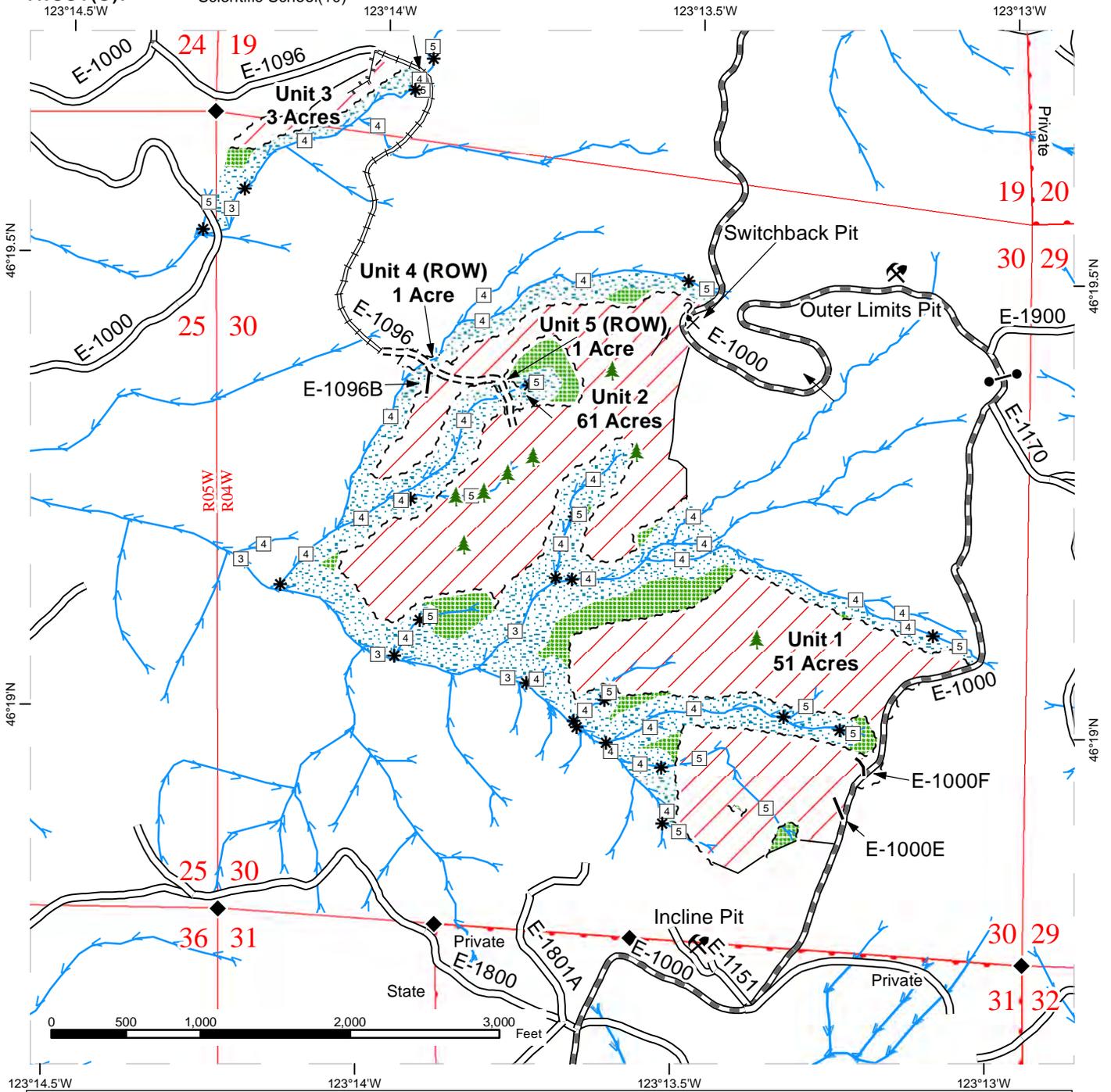
**FEES:** \$104,900.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

**SPECIAL REMARKS:** This sale contains an estimated 1,204 MBF of higher quality DF 2 saw logs, 265 MBF of higher quality DF 3 saw logs, 510 MBF of higher quality WH 2 saw logs, 261 MBF of higher quality WH 3 saw logs, and 10 MBF of higher quality SS 2 saw logs derived from the cruise. See timber sale map for gate locations. PCP1-1 gate keys may be obtained from the Pacific Cascade Region office.

# TIMBER SALE MAP

**SALE NAME:** INNER LIMITS  
**AGREEMENT #:** 30-093966  
**TOWNSHIP(S):** T10R04W  
**TRUST(S):** Scientific School(10)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** WAHKIAKUM  
**ELEVATION RGE:** 1065-2088



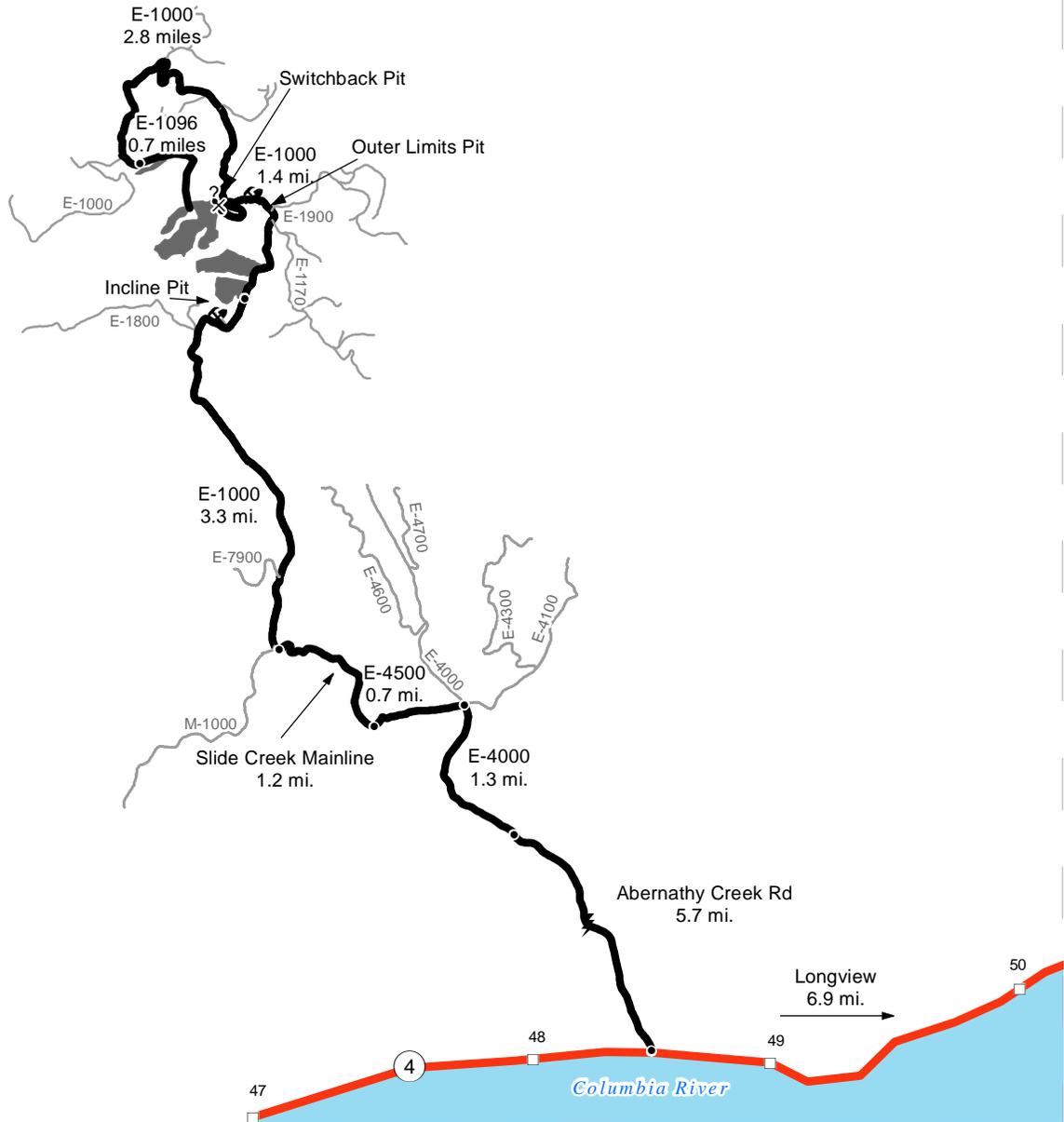
	Variable Retention Harvest		Existing Roads		Stream Type
	Leave Tree Area		Required Pre-Haul Maintenance		Stream Type Break
	Riparian Mgt Zone		Required Construction		Monumented Corners
	Sale Boundary Tags		Required Reconstruction		Leave Trees
	Leave Tree Tags		Optional Construction		Existing Rock Pit
	Right of Way Tags		Designated Skid Trail		Potential Rock Source
	Reprod		Streams		



# DRIVING MAP

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- Timber Sale Unit
- Haul Route
- Highways
- Other Route
- Distance Indicator
- Existing Rock Pit
- Potential Rock Source

**DRIVING DIRECTIONS:**

"From State Route 4 (between milepost 48 and 49) turn North onto Abernathy Creek Rd and follow for 5.7 miles. Turn left onto the E-4000. Follow the E-4000 for an additional 1.3 miles. Turn left onto the E-4500. Follow the E-4500 for 0.7 miles until the road turns into the Slide Creek Mainline. Continue on the mainline for 1.2 miles to the junction with the E-1000. Travel on the E-1000 for 3.3 miles to Unit 1.

For access to Unit 2: continue North on the E-1000 for 1.4 miles to landing stakes.

For access to E-1096 reconstruct and Units 2 and 3: continue on the E-1000 for 2.8 miles. Turn left onto the E-1096 road and follow road construction stakes to Unit 2"



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-093966**

**SALE NAME: INNER LIMITS**

**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 15, 2016 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 marked with blue paint, snags, pre-existing stumps, and all down timber existing 5 years prior to the day of sale, bounded by the following: Timber Sale Boundary tags, and pink flagging, the E-1000, and reprod in Units 1 and 2; Timber Sale Boundary tags, and pink flagging, reprod, and the the E-1096 road in Unit 3; Orange Right-of-Way Boundary tags in Units 4 and 5, located on approximately 117 acres on part(s) of Sections 19, and 30 all in Township 10 North, Range 4 West W.M. in Wahkiakum County(s) 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 October 31, 2018.

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 \$877.00 per acre per annum for the acres on which an operating release has not been issued within sale area.
- 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 scale.

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; E-1096B, E-1096, E-1000 (346+34 to 720+23), E-1000E, E-1000F, E-1151, E-4000 (0+00 to 68+58), E-4500, A Slide Creek Mainline (163+02 to 225+70). 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-370 Blocking Roads

Purchaser shall not block the E-1000 (346+34 to 720+23), E-1151, E-4000 (0+00 to 68+58), E-4500, Slide Creek Mainline (163+02 to 225+70), unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement between the State and Longview Timberlands LLC. dated 07/12/1973.  
Expires: Indefinitely.

Supplement to Easement between the State and Longview Timberlands LLC. dated 12/12/2012. Expires: Indefinitely.

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:

Easement, including the terms and provisions thereof,  
For: Road  
In Favor of: Longview Fibre Company  
Disclosed by Application No.: 50-036874  
Granted: 7/12/1973  
Expires: Indefinite

Easement, including the terms and provisions thereof,  
For: Road  
In Favor of: Weyerhaeuser Company  
Disclosed by Application No.: 50-036943  
Granted: 5/2/1973  
Expires: Indefinite

Easement, including the terms and provisions thereof,  
For: Road Use Permit  
In Favor of: Hancock Forest Management  
Disclosed by Application No.: 50-092888  
Granted: 8/5/2015  
Expires: 10/31/2018

Withdraw, including the terms and provisions thereof,  
For: Lookout & Communications Site  
In Favor of: WA State Dept. of Natural Resources  
Disclosed by Application No.: 54-056053  
Granted: 3/15/1963  
Expires: Indefinite

Region Encumbrances

Lease, including the terms and provisions thereof,  
For: Minor Forest Products  
In Favor of: WA State Dept. of Natural Resources  
Disclosed by Application No.: 35-RP0002  
Granted: 3/1/1993  
Expires: Indefinite

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 \$158,054.00. The total contract price consists of a \$0.00 contract bid price plus \$158,054.00 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-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-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable systems and ground base systems: shovel and tracked skidder 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-126 Tailholds on State Land

If Purchaser tailholds on State land, methods to minimize damage to live trees outside the sale area shall be employed and must be approved in writing by the Contract Administrator.

## H-130 Hauling Schedule

The hauling of forest products will not be permitted on the E-1096 and the E-1096B from October 31 to April 15 in Units 2 and 3 unless authorized in writing by the Contract Administrator .

## H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

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 45%.

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

Designated skid trail for harvesting of Unit 3 shall be marked by the purchaser and approved in writing by the Contract Administrator prior to the felling of timber.

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

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 all units, all live stems of hardwood species greater than 2 inches DBH or over 10 feet tall, 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 5/4/2016 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on E-1096B, E-1096, E-1000E, E-1000F. 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 E-1000 (346+34 to 720+23), E-1151, E-4000 (0+00 to 68+58), E-4500, Slide Creek Mainline (163+02 to 225+70). 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-100 Landing Location Restricted

Landing locations are restricted to those shown on the timber sale map unless otherwise authorized in writing by the Contract Administrator.

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-070 Water Supply

Purchaser shall provide, during the "closed season", a water supply with a minimum capacity of 300 gallons for rapid filling of pump trucks or trailers at a location designated 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 sale area.

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  
(Required for both LLC and Inc. Entities)

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 \_\_\_\_\_



## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:** Pacific Cascade

**Timber Sale Name:** Inner Limits

**Application Number:** 30- 093966

#### EXCISE TAX APPLICABLE ACTIVITIES

**Construction:** 2,068 linear feet  
*Road to be constructed (optional and required) but not abandoned*

**Reconstruction:** 2,188 linear feet  
*Road to be reconstructed (optional and required) but not abandoned*

**Abandonment:** linear feet  
*Abandonment of existing roads not reconstructed under the contract*

**Decommission:** linear feet  
*Road to be made undriveable but not officially abandoned.*

**Pre-Haul Maintenance:** 54,114 linear feet  
*Existing road to receive maintenance work (specifically required by the contract) prior to haul*

#### EXCISE TAX EXEMPT ACTIVITIES

**Temporary Optional Construction:** linear feet  
*Optional roads to be constructed and then abandoned*

**Temporary Optional Reconstruction:** linear feet  
*Optional roads to be reconstructed and then abandoned*

**New Abandonment:** 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 6/13)

## PRE-CRUISE NARRATIVE

Sale Name: <b>INNER LIMITS</b>	Region: <b>Pacific Cascade</b>
Agreement #: <b>30-0093966</b>	District: <b>ST. HELENS</b>
Contact Forester: <b>LUKE WARTHEN</b> Phone / Location: <b>360.355.0347/CR</b>	County(s): Choose a county, <b>Wahkiakum</b>
Alternate Contact: <b>PADRAIC CALLAHAN</b> Phone / Location: <b>360.749.0685/CR</b>	Other information:

Type of Sale: Lump Sum	
Harvest System: Ground based	11%
Harvest System: Uphill Cable	89%

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest RW or RMZ WMZ	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	30 T10R04W	10	90	30	9	0	0	51	Trimble/ Garmin
2	30 T10R04W	10	107	39	6	1	0	61	Trimble/ Garmin
3	19, 30 T10R04W	10	9	5	1	0	0	3	Trimble/ Garmin
4(ROW)	30 T10R04W	10	1	0	0	0	0	1	Trimble/ Garmin
5(ROW)	30 T10R04W	10	1	0	0	0	0	1	Trimble/ Garmin
<b>TOTAL ACRES</b>			<b>208</b>	<b>74</b>	<b>16</b>	<b>1</b>	<b>0</b>	<b>117</b>	

### HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
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1	Harvest all timber bound by White "Timber Sale Boundary" tags with pink flagging, pink flagging along the E-1000 road and reprod, except leave trees bound out of the harvest area by White "Timber Sale Boundary" tags, Yellow "Leave Tree Area" tags and/or trees with blue painted rings at breast height and butt mark.	N/A	1 blue painted, 1,099 clumped. (1100 total)
2	Harvest all timber bound by White "Timber Sale Boundary" tags with pink flagging, pink flagging along the E-1000 road and reprod, except leave trees bound out of the harvest area by White "Timber Sale Boundary" tags, Yellow "Leave Tree Area" tags and/or trees with blue painted rings at breast height and butt mark.	N/A	35 blue painted, 524 clumped. (559 total)
3	Harvest all timber bound by White "Timber Sale Boundary" tags with pink flagging, pink flagging along the E-1096 road and reprod, except leave trees bound out of the harvest area by White "Timber Sale Boundary" tags and/or trees with blue painted rings at breast height and butt mark.	N/A	50 Clumped. (50 total)
4 (ROW)	Harvest all timber bound by reprod and Orange "Right of Way Boundary" tags with pink flagging.	N/A	
5 (ROW)	Harvest all timber bound by Orange "Right of Way Boundary" tags with pink flagging.	N/A	

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	WH/DF 2,244MBF	There is one gate on the E-1000 road near the junction with the E-1900 road. This gate remains open, except under conditions where the contractor asks to lock the gate to secure logging equipment.	1":500' Logging Plan Map/ Driving Map
2	DF/WH 2,542MBF		
3	DF/WH 121MBF		
4 (ROW)	DF/WH 35MBF		
5 (ROW)	DF/WH 35MBF		
TOTAL MBF	4,977	Unit 2 contains approximately 15% alder.	

**REMARKS:**

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Prepared By: L. Warthen Date: 3/31/2016	Title: Forester	CC: Padraic Callahan
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# Cruise Narrative

<b>Sale Name:</b> Inner Limits	<b>Region:</b> Pacific Cascade
<b>App. #:</b> 30-093966	<b>District:</b> St. Helens
<b>Lead Cruiser:</b> Bryce Frank	<b>Completion date:</b> 5-4-2016
<b>Other Cruisers:</b> Kalvin Bailey, Eric Carlson	

**Unit acreage specifications:**

Unit	Acreage	Cruised acres agree with sale acres?	If acres do not agree then explain why.
1	51	Yes	
2	61	Yes	
3	3	Yes	
4 ROW	1	Yes	
5 ROW	1	Yes	
Total	117		

**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	54.44	4.5 ft.	250' x 250'	1:1	36
2	VP	54.44	4.5 ft.	250' x 250'	1:1	42
3	VP	40	4.5 ft.	162' x 162'	Cruise All	5
4 ROW	VP	54.44	4.5 ft.	120' x 120'	Cruise All	3
5 ROW	VP	54.44	4.5 ft.	148' x 148'	Cruise All	2

**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: 25%;">7</td> <td style="width: 15%;"><b>WH =</b></td> <td style="width: 25%;">7</td> <td style="width: 20%;"><b>SS =</b></td> <td style="width: 20%;">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, individual leave trees are marked with a single band of blue paint.						

<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 greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.</p>
<b>Status Description:</b>	<p><b>D</b> – Logs classified as merchantable dead timber.</p>

**Field observations:**

**Inner Limits** consists of 3 VRH units and 2 ROW units. In total, 117 net harvest acres and **5,906 mbf**.

Units 1 and 2 are very similar units with regards to timber. These stands consist of fairly uniform Douglas-fir (DF) and Western Hemlock (WH). Red Alder (RA) is also present, but not a major source of volume. These stands are fairly open, and as a result most of the volume present exists as domestic 2S in both DF and WH. B sort is also notable in both species, mostly as 2S with some 3S. The average diameter and height for DF are 22.6” and 91’, the average diameter and height for WH are 16.3” and 76’. Defect was notable at 4.6% and consisted of large portions of rot in some of the WH, split tops and spike knots. Large merchantable boles were cruised conservatively to anticipate expected breakage on the rugged terrain throughout the area. Both of these units make up the majority of the volume of this sale at 50,309 bdf/acre and 5,635 mbf total.

Unit 3 is a small 3 acre unit and features a heavy presence of WH with some RA. Average diameter and height for WH in this unit are 14.5” and 85’. An estimated 167 mbf exist in this unit.

Units 4 and 5 are two small ROW units that extend the E-1096 in and through unit 2. Timber in these units is very similar to the timber described for unit 2.

Access for these units is adequate along the E-1000 for units 1 and 2 and the E-1096 for unit 3. As the E-1096 heads east of unit 3 it is no longer usable by vehicle, but allows for an easy way to access the northwest finger of unit 2 and 4 ROW by foot if needed.

**Grant: 10**

**Prepared by: Bryce Frank**

**Title: Timber Cruiser**

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
T10N R04W S30 Ty00U1 THRU T10N R04W S30 Ty5ROW				Project: <b>INNERLIM</b>										Page <b>1</b>								
				Acres <b>117.00</b>										Date <b>5/4/2016</b>								
														Time <b>1:29:25PM</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	16+	12-20	21-30	31-35	36-99						
DF	CU	CU			100.0	390											5	13		0.00	16.5	
DF	HA	2S				134	134	16			100						40	13	240	1.34	.6	
DF	HB	2S		31	2.1	10,366	10,153	1,188			45	55		2		98	40	15	353	1.94	28.8	
DF	HB	3S		7	.7	2,279	2,263	265		100					3	97	40	10	135	0.80	16.8	
DF	D	SM		1		397	397	47				100					40	22	800	3.55	.5	
DF	D	2S		46	6.0	15,546	14,620	1,711			24	76		2	2	93	38	17	438	2.56	33.4	
DF	D	3S		10	2.0	3,556	3,484	408		12	88			2	12	72	35	9	103	0.83	33.8	
DF	D	4S		3	.5	1,030	1,025	120		85	15			34	25	25	25	6	31	0.36	33.1	
DF	D	UT		1	13.3	352	305	36		70	3			16	23		61	7	47	0.56	6.4	
DF	RO	3S		1		43	43	5			100						40	13	240	1.66	.2	
<b>DF Totals</b>				64	4.9	34,095	32,425	3,794	5	17	25	53	3	4	3	90	32	11	191	1.39	170.0	
WH	CU	CU			100.0	4											1	10		0.00	12.3	
WH	HA	2S				25	25	3			100						40	13	240	1.45	.1	
WH	HB	2S		29	2.5	4,447	4,334	507			60	40		3	3	94	39	14	294	1.74	14.7	
WH	HB	3S		15	3.2	2,307	2,233	261		100					17	83	38	10	129	0.86	17.3	
WH	D	SM		1		182	182	21				100					40	16	400	2.02	.5	
WH	D	2S		25	4.7	3,874	3,693	432			39	61			10	90	38	15	313	1.97	11.8	
WH	D	3S		15	6.0	2,346	2,206	258		27	73			0		32	37	8	89	0.71	24.7	
WH	D	4S		12	3.0	1,746	1,694	198		91	9			20	16	43	27	6	33	0.37	51.4	
WH	D	UT		3		379	379	44		78		22		33	35	3	29	24	5	30	0.31	12.4
<b>WH Totals</b>				29	3.7	15,311	14,747	1,725	16	27	27	29	3	4	13	80	30	9	102	0.86	145.2	
RA	CU	CU			100.0	43											7	7		0.00	7.2	
RA	D	UT		3	.8	119	119	14		55	33	12	100				16	6	23	0.38	5.2	
RA	D	1S		10	5.0	336	320	37				100					40	16	380	2.44	.8	
RA	D	2S		24	4.4	796	761	89			100			2	61	37	33	13	183	1.43	4.2	
RA	D	3S		25	4.8	832	792	93		100					26	2	73	37	10	140	1.08	5.6
RA	D	4S		18	3.4	599	579	68		100					19	3	78	35	8	74	0.67	7.8
RA	D	4S		20	.6	624	621	73		100				4	36	13	47	31	6	39	0.40	15.9
<b>RA Totals</b>				6	4.8	3,351	3,190	373	21	44	24	10	5	31	3	60	27	8	68	0.71	46.8	
SS	HB	2S		76	2.5	91	89	10				100					40	16	390	2.27	.2	
SS	D	3S		22	8.3	27	25	3		100							40	9	110	0.92	.2	
SS	D	4S		2		2	2	0		100			100				9	7	10	0.35	.2	
<b>SS Totals</b>				0	3.8	121	117	14	2	22		76	2			98	30	11	170	1.47	.7	
<b>Totals</b>					4.5	52,878	50,479	5,906	9	22	26	43	3	6	6	85	30	10	139	1.10	362.7	



**PROJECT STATISTICS**  
**PROJECT            INNERLIM**

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
10N	04	30	INNERLIM	00U1	THR	117.00	88	499	S	W
10N	04W	30	INNERLIM	5ROW						
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
<b>TOTAL</b>			47.0	5.0	47,951	50,479	53,006	88	22	10
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			80.8	8.6	6,827	7,469	8,112			
WHEMLOCK			90.0	9.6	3,377	3,735	4,093			
R ALDER			242.8	25.9	677	913	1,149			
S SPRUCE			938.1	99.9	0	30	60			
<b>TOTAL</b>			44.1	4.7	11,576	12,147	12,718	78	19	9
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					173	189	206			
WHEMLOCK			20.6	2.2	137	151	166			
R ALDER			205.3	21.9	82	111	139			
S SPRUCE			938.1	99.9	0	177	353			
<b>TOTAL</b>			45.8	4.9	161	169	178	84	21	9

T10N R04W S30 T00U1										T10N R04W S30 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
10N	04W	30	INNERLIM	00U1	51.00	36	98	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 Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	142												3	13		0.00	12.7
DF		HA	2S	1		308	308	16			100							40	13	240	1.34	1.3
DF		HB	2S	23	.9	7,290	7,224	368			29	71						40	16	382	2.06	18.9
DF		HB	3S	5	2.4	1,400	1,366	70		100								40	9	129	0.88	10.6
DF		DM	SM	3		912	912	47				100						40	22	800	3.55	1.1
DF		DM	2S	48	5.7	15,390	14,506	740			24	76	3		5	92		38	17	419	2.47	34.6
DF		DM	3S	14	2.7	4,329	4,211	215	5	95			1	8	15	76		36	9	117	0.90	36.1
DF		DM	4S	4	1.1	1,203	1,190	61	74	26			39	19	13	29		25	6	32	0.40	36.8
DF		DM	UT	2		492	492	25	100				13			87		26	6	37	0.46	13.2
<b>DF</b>	<b>Totals</b>			63	4.0	31,465	30,208	1,541	5	19	20	56	3	2	5	90		31	11	183	1.37	165.3
WH		CU	CU		100.0	10												1	8		0.00	13.1
WH		HB	2S	18	2.9	3,161	3,070	157			73	27				100		39	14	275	1.68	11.1
WH		HB	3S	12	2.8	2,238	2,176	111		100					14	86		38	10	145	0.98	15.0
WH		DM	2S	36	5.0	6,374	6,053	309			34	66			10	90		38	15	320	2.00	18.9
WH		DM	3S	18	5.3	3,282	3,107	158	20	80					36	64		37	9	96	0.72	32.3
WH		DM	4S	12		2,020	2,020	103	87	13			18	10	9	63		30	6	38	0.40	53.8
WH		DM	UT	4		629	629	32	100				14	48		38		24	5	24	0.27	26.4
<b>WH</b>	<b>Totals</b>			35	3.7	17,714	17,056	870	18	29	25	28	3	3	13	82		30	8	100	0.85	170.7
RA		DM	2S	77	6.7	576	537	27			100				100			30	12	140	1.18	3.8
RA		DM	4S	23	20.0	192	154	8		100					100			25	8	40	0.57	3.8
<b>RA</b>	<b>Totals</b>			1	10.0	768	691	35		22	78				100			28	10	90	0.90	7.7
SS		HB	2S	76	2.5	210	204	10			100				100			40	16	390	2.27	.5
SS		DM	3S	22	8.3	63	58	3		100					100			40	9	110	0.92	.5
SS		DM	4S	2		5	5	0	100				100					9	7	10	0.35	.5
<b>SS</b>	<b>Totals</b>			1	3.8	278	267	14	2	22		76	2			98		30	11	170	1.47	1.6
<b>Type Totals</b>					4.0	50,225	48,222	2,459	10	22	22	46	3	4	8	86		31	10	140	1.11	345.3

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1										
Project: INNERLIM												Date 5/4/2016										
												Time 1:29:26PM										
T10N R04W S30 T00U2										T10N R04W S30 T00U2												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
10N	04W	30	INNERLIM	00U2	61.00	42	125	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	16+	12-20	21-30	31-35	36-99	Ft	In	Ft				
DF		CU	CU		100.0	630											7	13		0.00	19.6	
DF		HB	2S	36	2.6	13,175	12,832			53	47		2		98	40	15	340	1.89	37.7		
DF		HB	3S	8		3,062	3,062		100					4	96	40	10	137	0.77	22.3		
DF		DM	2S	44	6.1	16,343	15,350			24	76		2	4	94	37	17	455	2.64	33.7		
DF		DM	3S	8	1.1	3,040	3,006		20	80			3	16	13	35	8	92	0.78	32.7		
DF		DM	4S	3		918	918		97	3			30	32	17	25	6	29	0.33	31.2		
DF		DM	UT		37.4	239	150			10	90		10	90		22	13	129	1.54	1.2		
DF		RO	3S	1		83	83				100				100	40	13	240	1.66	.3		
<b>DF</b>	<b>Totals</b>			68	5.6	37,490	35,401		2,159	4	16	30	51	2	5	2	91	32	12	198	1.40	178.7
WH		CU	CU														1	12		0.00	9.6	
WH		HB	2S	44	2.4	5,276	5,150			51	49		4	5	91	38	14	309	1.79	16.7		
WH		HB	3S	14	4.8	1,651	1,571			100					25	75	38	9	118	0.80	13.3	
WH		DM	SM	3		350	350				100				100	40	16	400	2.02	.9		
WH		DM	2S	16	4.1	1,898	1,821			56	44				11	89	38	14	283	1.84	6.4	
WH		DM	3S	10	9.1	1,327	1,206		25	75					24	76	37	8	84	0.76	14.4	
WH		DM	4S	11	7.6	1,336	1,234		75	93	7		23	24	35	25	6	29	0.36	42.5		
WH		DM	UT	2		157	157				100		100			14	21	270	3.34	.6		
<b>WH</b>	<b>Totals</b>			22	4.2	11,994	11,489		701	13	22	32	33	4	5	14	78	29	9	110	0.95	104.4
RA		CU	CU		100.0	83											7	7		0.00	13.5	
RA		DM	UT	3		184	184		11	59	41		100			16	6	21	0.36	8.9		
RA		DM	1S	12	5.0	645	613				100				100	40	16	380	2.44	1.6		
RA		DM	2S	19	3.5	1,018	983				100				45	55	35	13	215	1.58	4.6	
RA		DM	3S	26	4.7	1,398	1,332		81		100				22	78	37	10	142	1.09	9.3	
RA		DM	4S	17		908	908		55		100				6	3	38	8	84	0.67	10.9	
RA		DM	4S	23	.6	1,151	1,144		70	100			3	37	11	32	6	40	0.40	29.0		
<b>RA</b>	<b>Totals</b>			10	4.2	5,388	5,164		315	24	45	19	12	4	24	3	69	28	7	66	0.69	77.8
<b>Type Totals</b>					5.1	54,872	52,054		3,175	8	20	29	43	3	7	5	86	30	10	144	1.14	360.8

**T10N R04W S30 T00U3** **T10N R04W S30 T00U3**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 10N 04W 30 INNERLIM 00U3 3.00 5 45 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	
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
WH		CU	CU														2	11		0.00	55.4	
WH		HA	2S	2		975	975	3			100					100	40	13	240	1.45	4.1	
WH		HB	2S	18	2.5	8,589	8,370	25			87	13			4	96	39	13	255	1.53	32.8	
WH		HB	3S	37	1.0	17,344	17,163	51			100				7	93	39	9	121	0.75	141.4	
WH		DM	2S	9	1.1	4,121	4,078	12				13	87			100	40	18	522	2.67	7.8	
WH		DM	3S	18	.3	8,317	8,295	25	68	32				1		33	36	7	72	0.49	114.7	
WH		DM	4S	14		6,406	6,406	19	99	1				20	17	26	27	5	29	0.30	219.5	
WH		DM	UT	2		586	586	2	100					17		83	29	5	34	0.21	17.2	
<b>WH</b>	<b>Totals</b>			82	1.0	46,339	45,873	138	27	43	19	10		3	2	14	81	30	8	77	0.62	593.0
RA		CU	CU														2	17		0.00	8.6	
RA		DM	UT	1		81	81	0	100					100			17	6	20	0.37	4.1	
RA		DM	2S	9		569	569	2			100			100			16	15	140	1.60	4.1	
RA		DM	3S	64	5.3	4,006	3,796	11			100				52	13	35	34	11	128	1.06	29.7
RA		DM	4S	10	8.3	609	558	2			100					100	40	9	110	1.01	5.1	
RA		DM	4S	16		938	938	3	100					20	31	49	27	5	31	0.37	30.7	
<b>RA</b>	<b>Totals</b>			11	4.2	6,204	5,942	18	17	73	10			14	38	16	32	26	9	72	0.78	82.1
DF		CU	CU														2	14		0.00	11.8	
DF		HB	2S	36	2.5	1,486	1,449	4			100					100	40	13	216	1.18	6.7	
DF		HB	3S	33	3.7	1,354	1,303	4			100					100	40	10	149	0.88	8.7	
DF		DM	3S	8		305	305	1	100							100	32	7	60	0.46	5.1	
DF		DM	4S	10		424	424	1	100					24	26	50	25	6	36	0.37	11.8	
DF		DM	UT	13		485	485	1				100		100			16	16	160	2.02	3.0	
<b>DF</b>	<b>Totals</b>			7	2.2	4,053	3,965	12	18	33	37	12		15	3	8	75	24	10	84	0.79	47.1
<b>Type Totals</b>					1.4	56,595	55,781	167	26	46	19	9		5	6	14	75	29	8	77	0.64	722.2



<b>T10N R04W S30 T5ROW</b>	<b>T10N R04W S30 T5ROW</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>	<b>BdFt</b>
<b>10N 04W 30 INNERLIM 5ROW 1.00 2 10 S</b>	<b>W</b>

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
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF		CU	CU														3	14		0.00	33.2
DF		HB	2S	39		16,864	16,864	17			33	67				100	40	15	361	1.92	46.7
DF		HB	3S	4		1,848	1,848	2		100					100	40	9	120	0.68	15.4	
DF		DM	2S	41	9.8	19,033	17,177	17			18	82	8	8	18	66	30	17	351	2.54	48.9
DF		DM	3S	12	5.9	5,800	5,460	5	18	82				8	17	76	37	8	88	0.78	62.3
DF		DM	4S	4		1,349	1,349	1	100						100	33	5	36	0.29	37.6	
<b>DF</b>	<b>Totals</b>			89	4.9	44,894	42,698	43	5	15	20	59	3	4	13	80	31	12	175	1.30	244.1
RA		DM	UT	45	4.5	2,514	2,401	2	29		71		100				17	8	46	0.61	52.2
RA		DM	4S	55	9.4	3,130	2,835	3		100				52	48		33	8	69	0.73	40.8
<b>RA</b>	<b>Totals</b>			11	7.2	5,644	5,236	5	13	54	32		46	28	26		24	8	56	0.68	93.0
<b>Type Totals</b>					5.2	50,539	47,934	48	6	19	18	56	8	7	11	74	29	11	142	1.16	337.1

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	INNERLIM			DATE	5/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
10N	04W	30	INNERLIM	00U1	51.00	36	195	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL				36	195	5.4				
CRUISE				18	98	5.4	7,393	1.3		
DBH COUNT										
REFOREST										
COUNT				18	97	5.4				
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		60	60.0	22.6	91	35.3	167.9	31,465	30,208	7,117
WHEMLOCK		36	80.6	16.3	76	28.9	116.4	17,714	17,056	4,392
R ALDER		1	3.8	17.0	57	1.5	6.0	768	691	190
S SPRUCE		1	.5	23.0	92	0.3	1.5	278	267	69
<b>TOTAL</b>		98	145.0	19.2	82	66.6	291.9	50,225	48,222	11,768
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		71.5	9.2	668	736	804				
WHEMLOCK		61.2	10.2	309	344	379				
R ALDER										
S SPRUCE										
<b>TOTAL</b>		80.6	8.1	536	584	632	260	65	29	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		60.7	7.8	153	166	179				
WHEMLOCK		56.3	9.4	78	86	94				
R ALDER										
S SPRUCE										
<b>TOTAL</b>		68.5	6.9	126	135	144	187	47	21	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		82.9	13.8	52	60	68				
WHEMLOCK		92.4	15.4	68	81	93				
R ALDER		470.3	78.3	1	4	7				
S SPRUCE		600.0	99.9	0	1	1				
<b>TOTAL</b>		46.1	7.7	134	145	156	85	21	9	
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		73.7	12.3	147	168	188				
WHEMLOCK		79.1	13.2	101	116	132				
R ALDER		470.3	78.3	1	6	11				
S SPRUCE		600.0	99.9	0	2	3				
<b>TOTAL</b>		36.0	6.0	274	292	309	52	13	6	
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		76.0	12.6	26,387	30,208	34,029				
WHEMLOCK		80.8	13.5	14,760	17,056	19,352				
R ALDER		470.3	78.3	150	691	1,232				
S SPRUCE		600.0	99.9	0	267	534				
<b>TOTAL</b>		39.3	6.5	45,069	48,222	51,374	62	15	7	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	INNERLIM			DATE	5/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
<b>10N</b>	<b>04W</b>	<b>30</b>	<b>INNERLIM</b>	<b>00U1</b>	51.00		36	195	S	W
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	
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		75.2	12.5	6,204	7,092	7,979				
WHEMLOCK		80.1	13.3	3,801	4,386	4,971				
R ALDER		470.3	78.3	41	190	339				
S SPRUCE		600.0	99.9	0	69	137				
<b>TOTAL</b>		<b>37.6</b>	<b>6.3</b>	<b>11,002</b>	<b>11,737</b>	<b>12,472</b>	<b>57</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				157	180	203				
WHEMLOCK				127	146	166				
R ALDER		113.4	18.9	25	114	204				
S SPRUCE		600.0	99.9	0	177	353				
<b>TOTAL</b>		<b>186.1</b>	<b>31.0</b>	<b>154</b>	<b>165</b>	<b>176</b>	<b>1,383</b>	<b>346</b>	<b>154</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	INNERLIM		DATE	5/4/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
10N	04W	30	INNERLIM	00U2	61.00	42	232	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		42	232	5.5						
CRUISE		23	125	5.4	8,647	1.4				
DBH COUNT REFOREST COUNT		19	107	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	66	59.5	23.6	102	37.1	180.2	37,490	35,401	8,198	8,045
WHEMLOCK	32	45.2	17.3	72	17.8	73.9	11,994	11,489	2,882	2,882
R ALDER	27	37.0	15.2	65	12.0	46.7	5,388	5,164	1,500	1,483
<b>TOTAL</b>	<b>125</b>	<b>141.7</b>	<b>19.7</b>	<b>83</b>	<b>67.7</b>	<b>300.7</b>	<b>54,872</b>	<b>52,054</b>	<b>12,581</b>	<b>12,410</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	58.0	7.1		761	820	878				
WHEMLOCK	69.7	12.3		363	413	464				
R ALDER	68.9	13.5		171	197	224				
<b>TOTAL</b>	<b>79.4</b>	<b>7.1</b>		<b>540</b>	<b>581</b>	<b>622</b>	<b>252</b>	<b>63</b>	<b>28</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	52.2	6.4		170	182	193				
WHEMLOCK	59.0	10.4		89	99	109				
R ALDER	63.9	12.5		49	56	63				
<b>TOTAL</b>	<b>69.9</b>	<b>6.2</b>		<b>125</b>	<b>133</b>	<b>142</b>	<b>195</b>	<b>49</b>	<b>22</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	77.3	11.9		52	59	67				
WHEMLOCK	93.3	14.4		39	45	52				
R ALDER	196.7	30.3		26	37	48				
<b>TOTAL</b>	<b>48.5</b>	<b>7.5</b>		<b>131</b>	<b>142</b>	<b>152</b>	<b>94</b>	<b>23</b>	<b>10</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	
DOUG FIR	68.5	10.6		161	180	199				
WHEMLOCK	88.9	13.7		64	74	84				
R ALDER	181.4	28.0		34	47	60				
<b>TOTAL</b>	<b>32.8</b>	<b>5.1</b>		<b>286</b>	<b>301</b>	<b>316</b>	<b>43</b>	<b>11</b>	<b>5</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	72.0	11.1		31,473	35,401	39,329				
WHEMLOCK	96.2	14.8		9,784	11,489	13,194				
R ALDER	178.0	27.4		3,747	5,164	6,581				
<b>TOTAL</b>	<b>41.9</b>	<b>6.5</b>		<b>48,687</b>	<b>52,054</b>	<b>55,420</b>	<b>70</b>	<b>18</b>	<b>8</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	71.1	11.0		7,162	8,045	8,927				
WHEMLOCK	93.2	14.4		2,468	2,882	3,297				
R ALDER	179.9	27.7		1,072	1,483	1,894				
<b>TOTAL</b>	<b>37.8</b>	<b>5.8</b>		<b>11,687</b>	<b>12,410</b>	<b>13,133</b>	<b>57</b>	<b>14</b>	<b>6</b>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	INNERLIM			DATE	5/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
<b>10N</b>	<b>04W</b>	<b>30</b>	<b>INNERLIM</b>	<b>00U2</b>	61.00	42	232	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
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				175	196	218				
WHEMLOCK		34.4	5.3	132	156	179				
R ALDER		157.2	24.2	80	111	141				
<b>TOTAL</b>		<b>184.2</b>	<b>28.4</b>	<b>162</b>	<b>173</b>	<b>184</b>	<b>1,355</b>	<b>339</b>	<b>151</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	INNERLIM		DATE	5/4/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
10N	04W	30	INNERLIM	00U3	3.00	5	45	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		5	45	9.0						
CRUISE		5	45	9.0	877		5.1			
DBH COUNT										
REFOREST										
COUNT										
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
WHEMLOCK	35	246.0	14.4	84	73.7	280.0	46,339	45,873	11,053	11,053
R ALDER	7	34.7	17.2	64	13.5	56.0	6,204	5,942	1,695	1,695
DOUG FIR	3	11.8	19.3	101	5.5	24.0	4,053	3,965	906	906
<b>TOTAL</b>	<b>45</b>	<b>292.5</b>	<b>15.0</b>	<b>82</b>	<b>92.9</b>	<b>360.0</b>	<b>56,595</b>	<b>55,781</b>	<b>13,654</b>	<b>13,654</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	<b>SAMPLE TREES - BF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK	87.9	14.8		241	283	325				
R ALDER	27.7	11.3		155	174	194				
DOUG FIR	26.3	18.2		289	353	418				
<b>TOTAL</b>	<b>83.1</b>	<b>12.4</b>		<b>238</b>	<b>271</b>	<b>305</b>	<b>275</b>	<b>69</b>	<b>31</b>	
CL:	68.1 %	COEFF	<b>SAMPLE TREES - CF</b>				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK	77.1	13.0		58	66	75				
R ALDER	12.0	4.9		47	49	52				
DOUG FIR	24.0	16.6		67	80	94				
<b>TOTAL</b>	<b>70.9</b>	<b>10.6</b>		<b>58</b>	<b>65</b>	<b>72</b>	<b>201</b>	<b>50</b>	<b>22</b>	
CL:	68.1 %	COEFF	<b>TREES/ACRE</b>				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WHEMLOCK	66.6	33.1		165	246	327				
R ALDER	142.0	70.6		10	35	59				
DOUG FIR	223.6	111.1			12	25				
<b>TOTAL</b>	<b>43.2</b>	<b>21.5</b>		<b>230</b>	<b>292</b>	<b>355</b>	<b>92</b>	<b>23</b>	<b>10</b>	
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	
WHEMLOCK	56.2	27.9		202	280	358				
R ALDER	139.2	69.2		17	56	95				
DOUG FIR	223.6	111.1			24	51				
<b>TOTAL</b>	<b>29.4</b>	<b>14.6</b>		<b>307</b>	<b>360</b>	<b>413</b>	<b>43</b>	<b>11</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	
WHEMLOCK	55.9	27.8		33,127	45,873	58,619				
R ALDER	139.5	69.3		1,823	5,942	10,062				
DOUG FIR	223.6	111.1			3,965	8,372				
<b>TOTAL</b>	<b>37.3</b>	<b>18.6</b>		<b>45,429</b>	<b>55,781</b>	<b>66,133</b>	<b>69</b>	<b>17</b>	<b>8</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	
WHEMLOCK	58.8	29.2		7,823	11,053	14,284				
R ALDER	139.8	69.5		517	1,695	2,873				
DOUG FIR	223.6	111.1			906	1,912				
<b>TOTAL</b>	<b>36.8</b>	<b>18.3</b>		<b>11,156</b>	<b>13,654</b>	<b>16,152</b>	<b>67</b>	<b>17</b>	<b>7</b>	

TC TSTATS				<b>STATISTICS</b>				PAGE	2	
				PROJECT	INNERLIM			DATE	5/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
<b>10N</b>	<b>04W</b>	<b>30</b>	<b>INNERLIM</b>	<b>00U3</b>	3.00	5	45	S	W	
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	
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	
WHEMLOCK		55.9	27.8	118	164	209				
R ALDER		139.5	69.3	33	106	180				
DOUG FIR		223.6	111.1		165	349				
<b>TOTAL</b>		<b>37.3</b>	<b>18.6</b>	<b>126</b>	<b>155</b>	<b>184</b>	<b>69</b>	<b>17</b>	<b>8</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	INNERLIM		DATE	5/4/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
10N	04W	30	INNERLIM	4ROW	1.00	3	17	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		3	17	5.7						
CRUISE		3	17	5.7	122	13.9				
DBH COUNT										
REFOREST										
COUNT										
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	11	59.8	24.7	96	40.1	199.6	40,492	39,099	8,978	8,977
WHEMLOCK	6	62.4	17.9	75	25.7	108.9	17,259	17,070	4,335	4,335
<b>TOTAL</b>	<i>17</i>	<i>122.3</i>	<i>21.5</i>	<i>85</i>	<i>66.5</i>	<i>308.5</i>	<i>57,751</i>	<i>56,169</i>	<i>13,313</i>	<i>13,311</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	54.9	17.3	707	855	1,004					
WHEMLOCK	56.3	25.0	275	367	459					
<b>TOTAL</b>	<i>66.9</i>	<i>16.7</i>	<i>569</i>	<i>683</i>	<i>797</i>	<i>190</i>	<i>48</i>	<i>21</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	47.4	15.0	160	189	217					
WHEMLOCK	47.7	21.2	71	90	109					
<b>TOTAL</b>	<i>58.0</i>	<i>14.5</i>	<i>131</i>	<i>154</i>	<i>176</i>	<i>143</i>	<i>36</i>	<i>16</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	1.3	.9	59	60	60					
WHEMLOCK	22.1	15.3	53	62	72					
<b>TOTAL</b>	<i>11.9</i>	<i>8.2</i>	<i>112</i>	<i>122</i>	<i>132</i>	<i>8</i>	<i>2</i>	<i>1</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	15.7	10.9	178	200	221					
WHEMLOCK	50.0	34.6	71	109	147					
<b>TOTAL</b>	<i>10.2</i>	<i>7.0</i>	<i>287</i>	<i>308</i>	<i>330</i>	<i>6</i>	<i>1</i>	<i>1</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	24.0	16.6	32,602	39,099	45,595					
WHEMLOCK	80.1	55.4	7,607	17,070	26,533					
<b>TOTAL</b>	<i>11.6</i>	<i>8.0</i>	<i>51,675</i>	<i>56,169</i>	<i>60,663</i>	<i>8</i>	<i>2</i>	<i>1</i>		
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	21.1	14.6	7,667	8,977	10,287					
WHEMLOCK	69.2	47.9	2,260	4,335	6,409					
<b>TOTAL</b>	<i>12.3</i>	<i>8.5</i>	<i>12,179</i>	<i>13,311</i>	<i>14,443</i>	<i>9</i>	<i>2</i>	<i>1</i>		
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	24.0	16.6	163	196	228					
WHEMLOCK	80.1	55.4	70	157	244					
<b>TOTAL</b>	<i>11.6</i>	<i>8.0</i>	<i>168</i>	<i>182</i>	<i>197</i>	<i>8</i>	<i>2</i>	<i>1</i>		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	INNERLIM			DATE	5/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
10N	04W	30	INNERLIM	5ROW	1.00	2	10	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		2	10	5.0						
CRUISE		2	10	5.0	119	8.4				
DBH COUNT										
REFOREST										
COUNT										
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	8	77.7	22.7	101	45.7	217.8	44,894	42,698	9,822	9,817
R ALDER	2	40.8	15.6	57	13.8	54.4	5,644	5,236	1,527	1,527
<b>TOTAL</b>	<i>10</i>	<i>118.5</i>	<i>20.5</i>	<i>86</i>	<i>60.1</i>	<i>272.2</i>	<i>50,539</i>	<i>47,934</i>	<i>11,350</i>	<i>11,344</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	50.9	19.2		596	738	879				
R ALDER	84.9	79.5		36	175	314				
<b>TOTAL</b>	<i>65.7</i>	<i>21.9</i>		<i>488</i>	<i>625</i>	<i>762</i>	<i>191</i>	<i>48</i>	<i>21</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	48.6	18.3		136	166	197				
R ALDER	71.3	66.8		16	48	80				
<b>TOTAL</b>	<i>61.5</i>	<i>20.5</i>		<i>114</i>	<i>143</i>	<i>172</i>	<i>167</i>	<i>42</i>	<i>19</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	56.4	52.8		37	78	119				
R ALDER	141.4	132.4			41	95				
<b>TOTAL</b>	<i>85.7</i>	<i>80.2</i>		<i>23</i>	<i>119</i>	<i>214</i>	<i>515</i>	<i>129</i>	<i>57</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	35.4	33.1		146	218	290				
R ALDER	141.4	132.4			54	127				
<b>TOTAL</b>	<i>56.6</i>	<i>53.0</i>		<i>128</i>	<i>272</i>	<i>416</i>	<i>224</i>	<i>56</i>	<i>25</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	19.9	18.7		34,726	42,698	50,671				
R ALDER	141.4	132.4			5,236	12,169				
<b>TOTAL</b>	<i>33.2</i>	<i>31.1</i>		<i>33,028</i>	<i>47,934</i>	<i>62,840</i>	<i>77</i>	<i>19</i>	<i>9</i>	
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	23.7	22.2		7,634	9,817	12,000				
R ALDER	141.4	132.4			1,527	3,550				
<b>TOTAL</b>	<i>39.6</i>	<i>37.1</i>		<i>7,139</i>	<i>11,344</i>	<i>15,550</i>	<i>110</i>	<i>27</i>	<i>12</i>	
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	19.9	18.7		159	196	233				
R ALDER	141.4	132.4			96	224				
<b>TOTAL</b>	<i>33.2</i>	<i>31.1</i>		<i>121</i>	<i>176</i>	<i>231</i>	<i>77</i>	<i>19</i>	<i>9</i>	

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

T10N R04W S30 Ty00U	51.0
T10N R04W S30 Ty00U	61.0
T10N R04W S30 Ty5RO	1.0

Project **INNERLIM**  
Acres **117.00**

Page No **1**  
Date: **5/4/2016**  
Time **1:29:26PM**

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	6,860	17,959	25,211	127.39	48.66	1.39	8,846	8,739	3,989	3,794
WHEMLOCK	7,671	15,559	13,992	56.97	28.09	0.90	4,373	4,370	1,791	1,725
R ALDER	2,600	4,626	2,966	41.06	23.08	0.76	1,078	1,068	392	373
S SPRUCE	27	80	91	130.71	43.57	1.45	35	35	14	14
<b>Totals</b>	17,158	38,224	42,260	82.83	37.18	1.13	14,332	14,212	6,187	5,906

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	14,558	33,598	39,294	90.29	39.12	1.18	13,253	13,144	5,795	5,533
H	2,600	4,626	2,966	41.06	23.08	0.76	1,078	1,068	392	373
<b>Totals</b>	17,158	38,224	42,260	82.83	37.18	1.13	14,332	14,212	6,187	5,906



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

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

FPA/N No: 2932130  
 Effective Date: 08/12/2016  
 Expiration Date: 08/12/2019  
 Shut Down Zone: 651S  
 EARR Tax Credit:  Eligible     Non-eligible  
 Reference: Inner Limits TBS  
 30-093966

**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 FPA/N.

**FPA/N Classification**

Class II     Class III     Class IVG     Class IVS

**Number of Years Granted on Multi-Year Request**

4 years     5 years

**Conditions on Approval / Reasons for Disapproval**

No additional conditions.

Issued By: Brian Wesemann

Region: Pacific Cascade

Title: Forest Practices Forester

Date: 08/12/2016

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.eluho.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  
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.

**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.

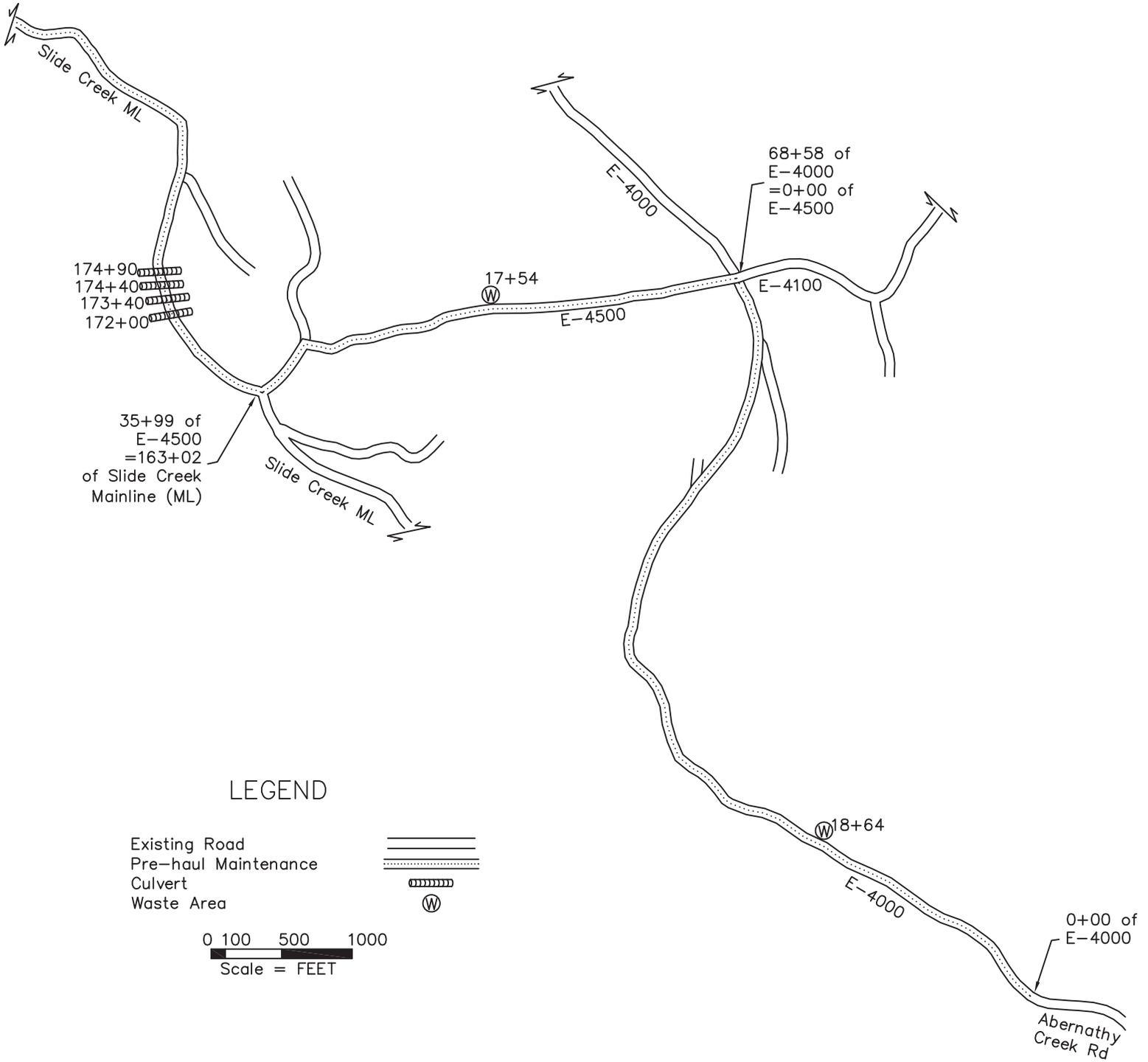
**DNR affidavit of mailing:**

On this day _____,	I placed in the United States mail at _____ Castle Rock _____, WA,
(date)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # _____	
_____ (Printed name)	_____ (Signature)

# INNER LIMITS

## ROAD PLAN MAP

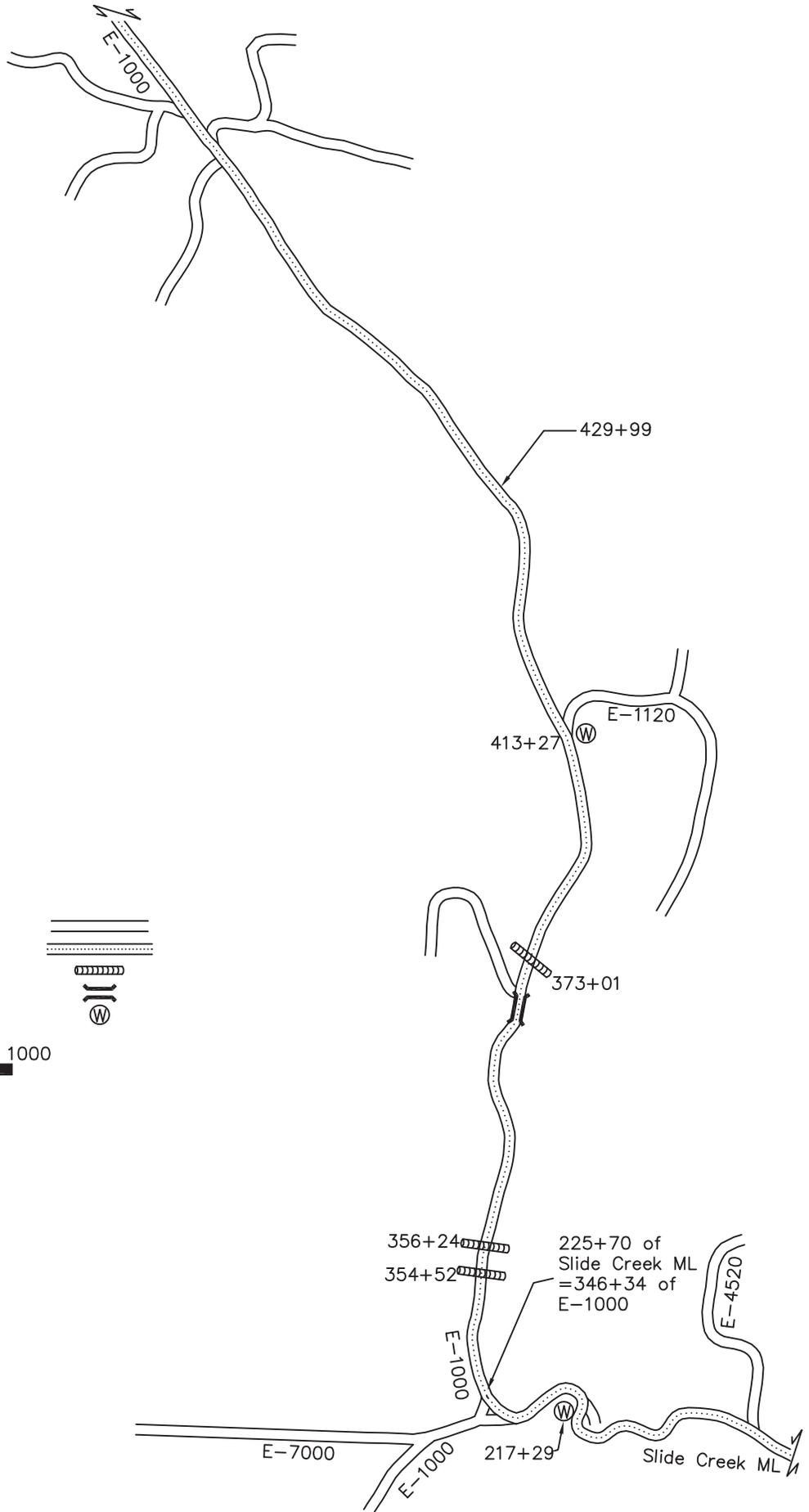
Map page 1 of 5



# INNER LIMITS

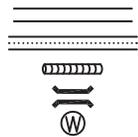
## ROAD PLAN MAP

Map page 2 of 5



### LEGEND

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

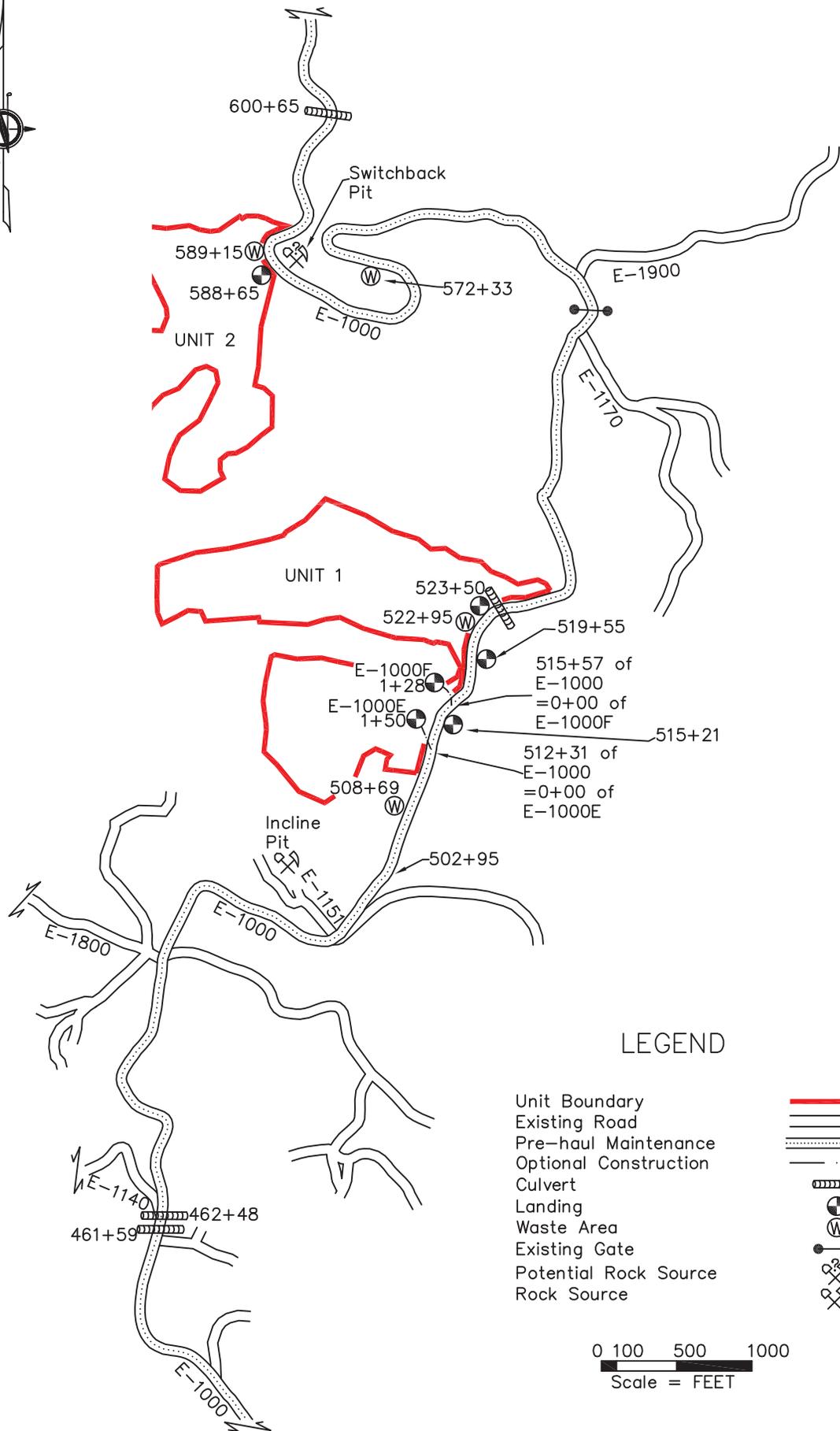


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Scale = FEET

# INNER LIMITS

## ROAD PLAN MAP

Map page 3 of 5



### LEGEND

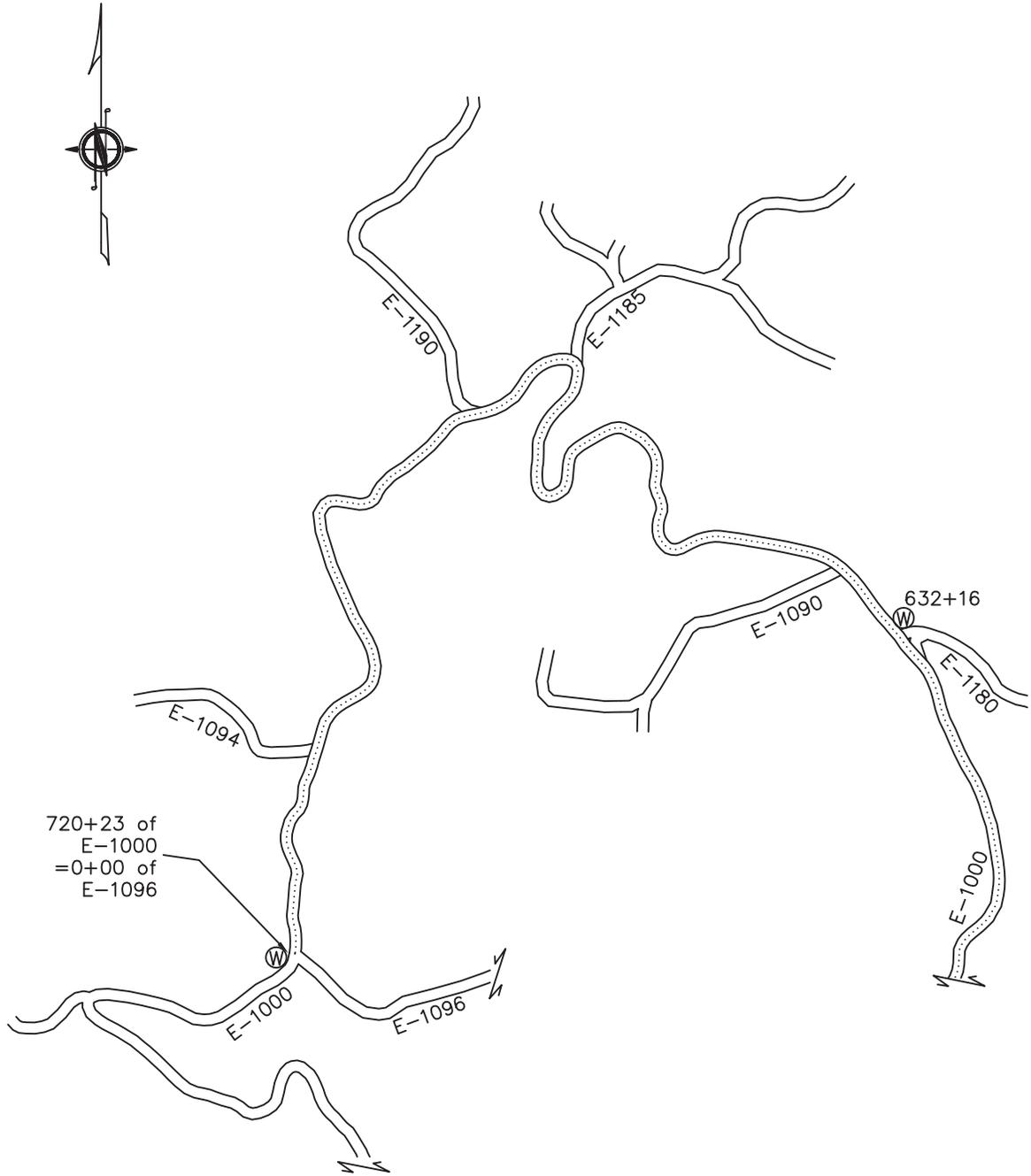
- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Optional Construction
- Culvert
- Landing
- Waste Area
- Existing Gate
- Potential Rock Source
- Rock Source

0 100 500 1000  
Scale = FEET

# INNER LIMITS

## ROAD PLAN MAP

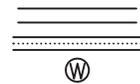
Map page 4 of 5



720+23 of  
E-1000  
=0+00 of  
E-1096

### LEGEND

Existing Road  
Pre-haul Maintenance  
Waste Area

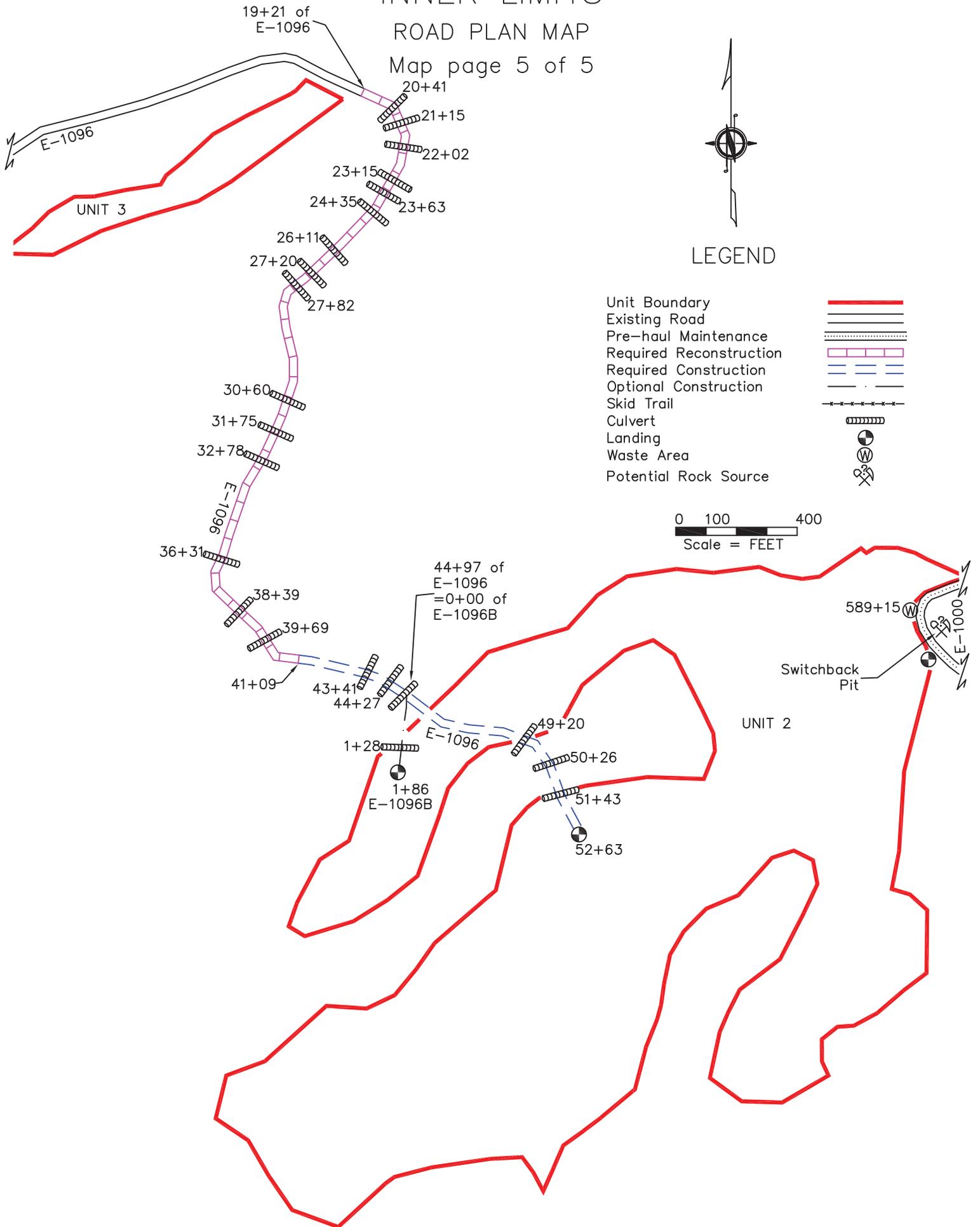


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Scale = FEET

# INNER LIMITS

## ROAD PLAN MAP

Map page 5 of 5



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

INNER LIMITS TIMBER SALE ROAD PLAN  
COWLITZ/WAHKIAKUM COUNTY  
ST HELENS DISTRICT

AGREEMENT NO.: 30-093966

STAFF ENGINEER: BRETT WALLACHY

CREATION DATE: 05/04/2016

DRAWN & COMPILED BY: ALICIA COMPTON

MODIFICATION DATE: 06/22/2016

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>
Slide Creek Mainline	163+02 to 225+70	Pre-haul maintenance
E-1000	346+34 to 720+23	Pre-haul maintenance
E-1000	515+21 to 516+71, 519+55 to 520+55, 522+45 to 523+45, 588+65 to 589+65	Construction
E-1096	19+21 to 41+09	Reconstruction
E-1096	41+09 to 52+63	Construction
E-4000	0+00 to 68+58	Pre-haul maintenance
E-4500	0+00 to 35+99	Pre-haul maintenance

**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>
E-1000E	0+00 to 1+50	Construction
E-1000F	0+00 to 1+28	Construction
E-1096B	0+00 to 1+86	Construction

**0-4 CONSTRUCTION**

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

**0-5 RECONSTRUCTION**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E-1096	19+21 to 41+09	Excavation, embankment, and fill to subgrade; ditch, and ditch-out reconstruction; acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control.

**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>
Slide Creek Mainline	163+02 to 225+70	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; ditch cleaning; maintenance grading.
E-1000	346+34 to 429+99	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; ditch cleaning; maintenance grading.
E-1000	429+99 to 502+95	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; maintenance grading.
E-1000	502+95 to 720+23	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; ditch cleaning; maintenance grading.
E-4000	0+00 to 68+58	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; ditch cleaning; maintenance grading.
E-4500	0+00 to 35+99	Acquisition and installation of drainage structures; acquisition and/or manufacture, and application of rock; acquisition and application of erosion control; ditch cleaning; maintenance grading.

**0-7 POST-HAUL MAINTENANCE**

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE.

**0-12 DEVELOP ROCK SOURCE**

Purchaser may develop an existing rock source. Rock source development will involve stripping overburden. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

**0-13 STRUCTURES**

Purchaser shall provide and install stream crossing culverts. Requirements for these structures are listed in Section 7 STRUCTURES.

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.

**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.

**1-7 TEMPORARY ROAD CLOSURE**

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Construction may not close any road for more than 21 consecutive calendar days. Construction may not close the following roads.

<u>Road</u>
Slide Creek Mainline
E-1000
E-4000
E-4500

**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:

- Pre-haul maintenance: orange paint, stakes
- Reconstruction: orange flagging and paint, stakes, and RP tags marking centerline
- Construction: orange flagging and paint, stakes, and RP tags marking centerline

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

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and reference points set in the field for grade and alignment. Reconstruction of existing road grades must conform to the original location except where construction staked or designed.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E-1000E	0+00 to 1+50	Stakes on centerline and reference points to centerline
E-1000F	0+00 to 1+28	Stakes on centerline and reference points to centerline
E-1096	41+09 to 52+63	Stakes on centerline and reference points to centerline
E-1096B	0+00 to 1+86	Stakes on centerline and reference points to centerline

**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.

**1-20 COMPLETE BY DATE**

Purchaser shall complete pre-haul road work before the start of timber haul.

**1-21 HAUL APPROVAL**

Purchaser shall not use roads under this road plan for timber hauling or rock hauling, 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, drainage installation, and subgrade compaction
- Rock application and compaction

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-130 HAULING SCHEDULE.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
Slide Creek Mainline	163+02 to 225+70	Culvert installation, ditch cleaning	September 30 to May 1
E-1000	346+34 to 429+99	Culvert installation, ditch cleaning	September 30 to May 1
E-1000	429+99 to 502+95	Culvert installation	September 30 to May 1
E-1000	502+95 to 720+23	Culvert installation, ditch cleaning	September 30 to May 1
E-1096	19+21 to 52+63	Road work	September 30 to May 1
E-1096B	0+00 to 1+86	Road work	September 30 to May 1
E-4000	0+00 to 68+58	Ditch cleaning	September 30 to May 1
E-4500	0+00 to 35+99	Ditch cleaning	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 or Contract Clause H-130 HAULING SCHEDULE, 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.

**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 roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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.

**1-32 BRIDGE SURFACE RESTRICTION**

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

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

Purchaser shall have bridges load rated by a Registered Professional Engineer licensed in the State of Washington. All load rating reports, calculations, or drawings must be stamped by the licensed engineer and submitted to the Contract Administrator prior to allowing any work to continue. All damage to the bridge from transporting equipment will be repaired at the Purchaser's expense.

**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 road(s) in a condition that will allow the passage of light administrative vehicles.

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

On the following road(s), Purchaser shall use a grader to shape the existing surface before timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Slide Creek Mainline	163+02 to 225+70	Grade, shape, and compact
E-1000	346+34 to 720+23	Grade, shape, and compact
E-4000	0+00 to 68+58	Grade, shape, and compact
E-4500	0+00 to 35+99	Grade, shape, and compact

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

On the following road(s), Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before culvert installation or maintenance grading 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>
Slide Creek Mainline	163+02 to 225+70
E-1000	346+34 to 429+99
E-1000	502+95 to 720+23
E-4000	0+00 to 68+58
E-4500	0+00 to 35+99

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

**3-5 CLEARING**

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 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 45%.
- 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 outside of the grubbing limits, in compliance with all other clauses in this road plan, and as directed by the Contract Administrator. Stumps must be positioned upright, on stable locations.

**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 clearing and waste area limits as shown on the TYPICAL SECTION SHEET.

**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 timber haul.

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

Waste areas for organic debris are located as listed below and at areas approved in writing by the Contract Administrator.

<u>Road</u>	<u>Disposal Location</u>	<u>Requirements</u>
E-1000	508+69 left of the road	Keep separate from waste material
E-1000	632+16 right of the road	Keep separate from waste material

### **3-23 PROHIBITED DISPOSAL AREAS**

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- 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 on the downhill side of the road unless otherwise detailed in this road plan or as directed by the Contract Administrator.

### **3-30 EXCLUSION OF DOZER BLADES**

Purchaser shall not use dozer blades for the piling of organic debris.

### **3-32 END HAULING ORGANIC DEBRIS**

On slopes greater than 45%, 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.

## **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 18 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.

**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 road(s), 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. Pulling excavation material across the road or mixing in with the existing road surface is not allowed.

<u>Road</u>	<u>Stations</u>
E-1000	515+21 to 516+71
E-1000	519+55 to 520+55
E-1000	522+45 to 523+45
E-1000	588+65 to 589+65

**4-21 TURNOUTS**

Purchaser shall construct turnouts as designated on the ROCK LIST. Locations are subject to written approval by the Contract Administrator. 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. Locations are subject to written approval by the Contract Administrator.

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

Purchaser shall construct 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 road(s), Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be disposed of as specified in Clause 4-36 DISPOSAL OF WASTE MATERIAL.

<u>Road</u>	<u>Stations</u>
Slide Creek Mainline	163+02 to 225+70
E-1000	346+34 to 429+99
E-1000	502+95 to 720+23
E-4000	0+00 to 68+58
E-4500	0+00 to 35+99

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

Purchaser shall construct ditchouts 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 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, 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 or as listed.

<u>Road</u>	<u>Waste Area Location</u>	<u>Volume</u>
Slide Creek Mainline	217+29 left of the road	100cy
E-1000	413+27 right of the road	100cy
E-1000	508+69 left of the road	2000cy
E-1000	522+95 left of the road	1000cy
E-1000	572+33 right of the road	100cy
E-1000	589+15 left of the road	1000cy
E-1000	632+16 right of the road	1000cy
E-1000	720+23 right of the road	100cy
E-1000E	1+50	1000cy
E-1000F	1+28	1000cy
E-4000	18+64 right of the road	100cy
E-4500	17+54 right of the road	100cy

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.
- Outside the clearing limits.

**4-47 NATIVE MATERIAL**

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 3 inches in any dimension.

**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. Purchaser shall accomplish all shaping using a motor grader with a minimum of 175 horsepower.

**4-56 DRY WEATHER SHAPING**

At any time of year, 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.

**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 subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

**4-62 DRY WEATHER COMPACTION**

At any time of year, 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.

**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

**5-1 REMOVAL OF SHOULDER BERMS**

Purchaser shall remove berms from road shoulders. The construction of ditchouts is required where ponding could result from the effects of sidecast debris.

**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 10-15 through 10-23.

**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. Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations.

**5-16 APPROVAL FOR LARGER CULVERT INSTALLATION**

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 24 inches in diameter and over before backfilling.

**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**

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Energy dissipater installation is subject to approval by the Contract Administrator.

Rock used for energy dissipaters must be SELECT PIT RUN ROCK. Placement must be by zero-drop-height method only. SELECT PIT RUN ROCK shall meet the specifications in Clause 6-41 SELECT PIT RUN ROCK.

**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 cross drain culverts. Rock used for headwalls must be SELECT PIT RUN ROCK. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. SELECT PIT RUN ROCK shall meet the specifications in Clause 6-41 SELECT PIT RUN ROCK.

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

At the following culvert(s), Purchaser shall place SELECT PIT RUN ROCK 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. Placement must be by zero-drop-height method only. SELECT PIT RUN ROCK must meet the specifications in Clause 6-41 SELECT PIT RUN ROCK.

<u>Road</u>	<u>Stations</u>
E-1096	21+15, 23+63, 27+20, 30+60, 39+69, 44+27, 49+20, 50+26

**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 source(s) 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 source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Comment</u>
Incline Pit	S30, T10N, R4W	SELECT PIT RUN	Existing pit
Switchback Pit	S30, T10N, R4W	SELECT PIT RUN	Prospective pit

**6-5 ROCK FROM COMMERCIAL SOURCE**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any 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 calendar days before starting any operations in the rock source.

<u>Source</u>	<u>Rock Type</u>
Incline Pit	SELECT PIT RUN ROCK
Switchback Pit	SELECT PIT RUN ROCK

**6-13 ROCK EXPLORATION**

Purchaser shall provide an excavator with operator for up to 10 hours of exploration of rock and other related work as directed by the Contract Administrator at the following site(s).

<u>Site</u>	<u>Location</u>
Switchback Pit	E-1000 at 589+15 right of the road

**6-20 ROCK GRADATION TYPES**

Purchaser shall provide and/or 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. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

**6-28 1 ¼-INCH MINUS CRUSHED ROCK**

- % Passing 1 ¼" square sieve                    100%
- % Passing 5/8" square sieve                 55 - 75%
- % Passing U.S. #4 sieve                        20 - 50%

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.

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

Measurement of specified rock depths, are defined as the compacted depth(s) 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 1¼ INCH MINUS CRUSHED ROCK and SELECT PIT RUN ROCK used for junctions, turnouts, landings, turnarounds, and energy dissipaters is on a cubic yard truck measure basis. Purchaser shall 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 as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator on a weekly basis during rocking operations.

**6-57 ROCK MEASUREMENT BY TRUCK SCALE**

Measurement of the commercial rock is on scaled truck weight. Purchaser shall provide scaled weight using a commercial scale. Purchaser shall provide the Contract Administrator with all scale sheets.

**6-59 WEIGHT PER CUBIC YARD MEASUREMENT**

At the start of operations, a weight per cubic yard will be calculated as follows:

- a) Measure the box of a truck to be used for rock haul.
- b) Weigh the truck for tare weight at a state certified platform scale.
- c) Flatten off a load of rock in the truck and calculate its exact volume in cubic yards.
- d) Weigh the truck for gross weight at a state certified platform scale.
- e) Divide the net weight of the load by the volume calculated in step c.

Calculated conversion factors will be valid for no more than 30 days or until rock density or moisture changes significantly, as determined by the Contract Administrator.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator for subgrade construction, drainage installation, and subgrade compaction 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.

SECTION 7 – STRUCTURES

**7-6 STREAM CROSSING INSTALLATION**

Purchaser shall install stream crossing culverts in accordance with the LIVE STREAM CULVERT INSTALLATION PROCEDURE.

SECTION 8 – EROSION CONTROL

**8-1 SEDIMENT CONTROL STRUCTURES**

Purchaser shall install 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 road(s), Purchaser shall spread grass 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>	<u>Comments</u>
Slide Creek Mainline	163+02 to 225+70	20	Grass seed	Pre-haul maintenance
E-1000	346+34 to 720+23	35	Grass seed	Pre-haul maintenance
E-1000	515+21, 519+55, 522+45, 588+65	50	Grass seed	Construction
E-1000E	0+00 to 1+50	8	Grass seed	Construction
E-1000F	0+00 to 1+28	6	Grass seed	Construction
E-1096	19+21 to 41+09	111	Grass seed	Reconstruction
E-1096	41+09 to 52+63	58	Grass seed	Construction
E-1096B	0+00 to 1+86	9	Grass seed	Construction
E-4000	0+00 to 68+58	8	Grass seed	Pre-haul maintenance
E-4500	0+00 to 35+99	4	Grass seed	Pre-haul maintenance

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

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the grass seed.

**8-17 REVEGETATION TIMING**

Purchaser shall revegetate after road work is completed. 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.

**8-19 ASSURANCE FOR SEEDED AREA**

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no addition cost to the state.

**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**

**9-5 POST-HAUL MAINTENANCE**

Purchaser shall perform post-haul maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS.

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

## SECTION 10 MATERIALS

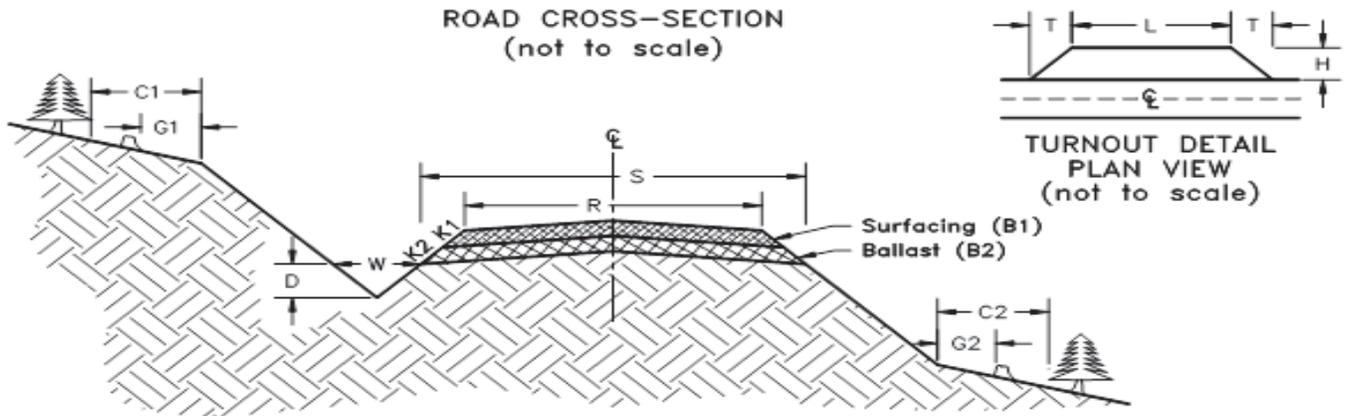
### **10-17 CORRUGATED PLASTIC CULVERT**

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.

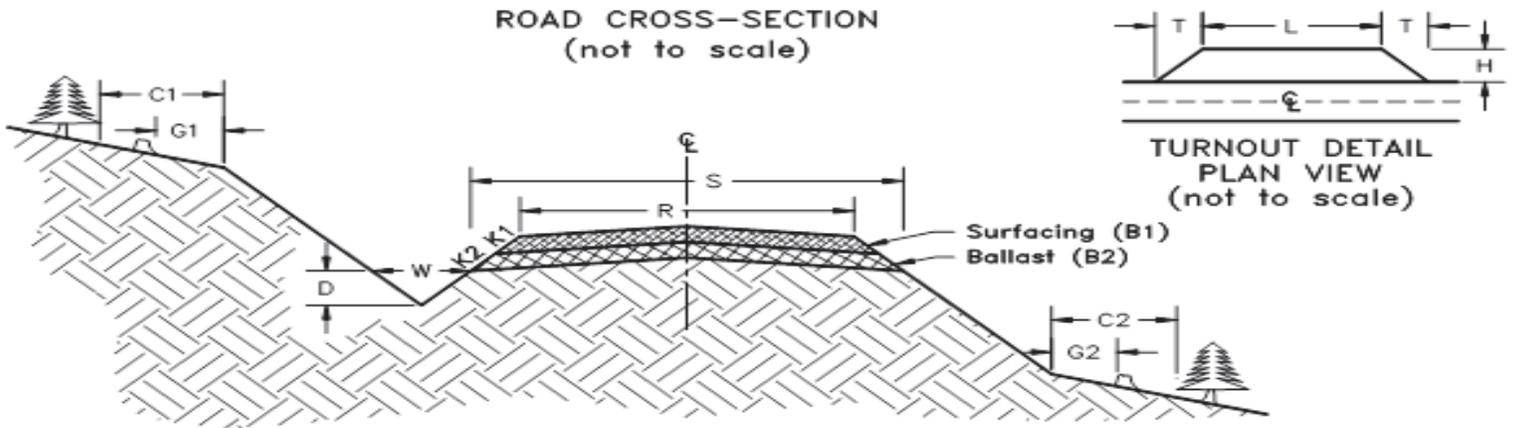
### **10-22 PLASTIC BAND**

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.

TYPICAL SECTION SHEET



Road Number	Station		Tolerance Class	Width (ft)		Ditch (ft)		Crown at CL (in)	Grubbing Limits (ft)		Clearing Limits (ft)	
	From	To		Subgrade S	Road R	Width W	Depth D		G1	G2	C1	C2
Slide Creek Mainline	163+02	225+70	A	-	-	3	1	4	-	-	-	-
E-1000	346+34	429+99	A	-	-	3	1	4	-	-	-	-
E-1000	429+99	502+95	A	-	-	-	-	4	-	-	-	-
E-1000	502+95	515+21	A	-	-	3	1	4	-	-	-	-
E-1000	515+21	516+71	A	28	24	3	1	4	-	5	-	10
E-1000	516+71	519+55	A	-	-	3	1	4	-	-	-	-
E-1000	519+55	520+55	A	28	24	3	1	4	-	5	-	10
E-1000	520+55	522+45	A	-	-	3	1	4	-	-	-	-
E-1000	522+45	523+45	A	28	24	3	1	4	-	5	-	10
E-1000	523+45	588+65	A	-	-	3	1	4	-	-	-	-
E-1000	588+65	589+65	A	28	24	3	1	4	-	5	-	10
E-1000	589+65	720+23	A	-	-	3	1	4	-	-	-	-
E-1000E	0+00	1+50	C	16	12	3	1	4	5	5	10	10
E-1000F	0+00	1+28	C	16	12	3	1	4	5	5	10	10
E-1096	19+21	41+09	A	16	12	3	1	4	5	5	10	10
E-1096	41+09	52+63	C	16	12	3	1	4	5	5	10	10
E-1096B	0+00	1+86	C	16	12	3	1	4	5	5	10	10
E-4000	0+00	68+58	A	-	-	3	1	4	-	-	-	-
E-4500	0+00	35+99	A	-	-	3	1	4	-	-	-	-



1 1/4-INCH MINUS CRUSHED ROCK

Road Number	Station		Rock		CY/Station	No. of Stations	CY Subtotal	Rock Source	Turnout (ft)		
			Slope (H:V)	Depth (in)					Length	Width	Taper
	From	To	K1	B1			Commercial	L	H	I	
Spot Patching	-	-	-	-	-	-	100				
Slide Creek Mainline	Culvert backfill	-	-	-	-	-	120				
E-1000	Culvert backfill	-	-	-	-	-	190				
E-1000	515+21	516+71	1.5:1	3	14	1.50	21				
E-1000	519+55	520+55	1.5:1	3	14	1.00	14				
E-1000	522+45	523+45	1.5:1	3	14	1.00	14				
E-1000	588+65	589+65	1.5:1	3	14	1.00	14				

1 1/4-INCH MINUS CRUSHED ROCK TOTAL 473 Cubic Yards

SELECT PIT RUN ROCK

Road Number	Station		Rock		CY/Station	No. of Stations	CY Subtotal	Rock Source	Turnout (ft)		
			Slope (H:V)	Depth (in)					Length	Width	Taper
	From	To	K1	B1			Incline Pit	L	H	I	
Slide Creek Mainline	Energy Dissipater	-	-	-	-	-	8				
E-1000	Energy Dissipater	-	-	-	-	-	14				
E-1000	515+21	516+71	1.5:1	15	81	1.50	122				
E-1000	Turnaround	516+71	1.5:1	-	61	1	61				
E-1000	519+55	520+55	1.5:1	15	81	1.00	81				
E-1000	522+45	523+45	1.5:1	15	81	1.00	81				
E-1000	Landing	522+95	1.5:1	-	81	1	81				
E-1000	588+65	589+65	1.5:1	15	81	1.00	81				
E-1000	Landing	589+15	1.5:1	-	81	1	81				
E-1000E	Junction	-	1.5:1	-	-	-	10				
E-1000E	0+00	1+50	1.5:1	15	81	1.50	122				
E-1000E	Curve widening	-	1.5:1	15	-	-	4				
E-1000E	Landing	-	1.5:1	-	81	1	81				
E-1000F	Junction	-	1.5:1	-	-	-	10				
E-1000F	0+00	1+28	1.5:1	15	81	1.28	104				
E-1000F	Curve widening	-	1.5:1	15	-	-	3				
E-1000F	Landing	-	1.5:1	-	81	1	81				
E-1096	19+21	20+65	1.5:1	6	30	1.44	43				
E-1096	20+65	21+65	1.5:1	15	81	1.00	81				
E-1096	21+65	23+13	1.5:1	6	30	1.48	44				
E-1096	23+13	24+13	1.5:1	15	81	1.00	81				
E-1096	24+13	26+70	1.5:1	6	30	2.57	77				

ROCK LIST  
(Page 2 of 2)

SELECT PIT RUN ROCK

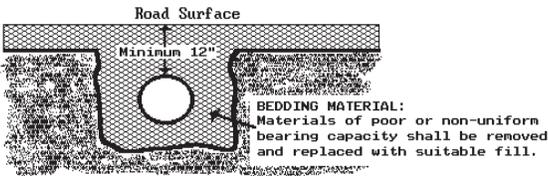
Road	Station		Rock		Compacted			Rock Source	Turnout (ft)		
			Slope (H:V)	Depth (in)	CY/	No. of	CY		Length	Width	Taper
Number	From	To	K1	B1	Station	Stations	Subtotal	Incline Pit	L	H	T
E-1096	26+70	27+70	1.5:1	15	81	1.00	81				
E-1096	27+70	30+10	1.5:1	6	30	2.40	72				
E-1096	30+10	31+10	1.5:1	15	81	1.00	81				
E-1096	31+10	39+19	1.5:1	6	30	8.09	243				
E-1096	39+19	40+19	1.5:1	15	81	1.00	81				
E-1096	40+19	41+09	1.5:1	6	30	0.90	27				
E-1096	Curve widening	-	1.5:1	6	-	-	27				
E-1096	Energy Dissipater	-	-	-	-	-	90				
E-1096	Turnout	-	1.5:1	-	61	1	61		50	10	25
E-1096	Landing	-	1.5:1	-	81	1	81				
E-1096	Turnaround	-	1.5:1	-	61	1	61				
E-1096	Energy Dissipater	-	-	-	-	-	56				
E-1096B	Junction	-	1.5:1	-	-	-	10				
E-1096B	0+00	1+86	1.5:1	15	81	1.86	151				
E-1096B	Curve widening	-	1.5:1	15	-	-	5				
E-1096B	Landing	-	1.5:1	-	81	1	81				
E-1096B	Energy Dissipater	-	-	-	-	-	2				

REQUIRED SELECT PIT RUN ROCK TOTAL 2559 Cubic Yards

CULVERT LIST

Road		Culvert			Length (ft)			Rip Rap			Backfill/ Bedding		Construction		Remarks
Number	Station	Diameter (in)	Gauge	Culvert	Downspout	Flume	Inlet (CY)	Outlet (CY)	Type	(CY)	Type	Staked (Y/N)			
Slide Creek Mainline	172+00	18	-	40	-	-	1	1	SPR	30	CR	N	-		
Slide Creek Mainline	173+40	18	-	40	-	-	1	1	SPR	30	CR	N	-		
Slide Creek Mainline	174+40	18	-	40	-	-	1	1	SPR	30	CR	N	-		
Slide Creek Mainline	174+90	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1000	354+52	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1000	356+24	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1000	373+01	18	-	30	-	-	1	1	SPR	20	CR	N	-		
E-1000	461+59	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1000	462+48	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1000	523+50	18	-	30	-	-	1	1	SPR	20	CR	N	-		
E-1000	600+65	18	-	40	-	-	1	1	SPR	30	CR	N	-		
E-1096	20+41	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	21+15	36	-	50	-	-	10	10	SPR	-	NT	Y	Type 4		
E-1096	22+02	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	23+15	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	23+63	24	-	40	-	-	5	5	SPR	-	NT	N	Type 5		
E-1096	24+35	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	26+11	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	27+20	36	-	50	-	-	10	10	SPR	-	NT	Y	Type 4		
E-1096	27+82	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	30+60	24	-	40	-	-	5	5	SPR	-	NT	N	Type 5		
E-1096	31+75	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	32+78	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	36+31	18	-	40	-	-	1	1	SPR	-	NT	N	-		
E-1096	38+39	18	-	30	-	-	1	1	SPR	-	NT	N	-		
E-1096	39+69	24	-	40	-	-	5	5	SPR	-	NT	N	Type 5		
E-1096	43+41	18	-	30	-	-	1	1	SPR	-	NT	N	-		
E-1096	44+27	36	-	50	-	-	10	10	SPR	-	NT	Y	Type 4		
E-1096	44+97	18	-	30	-	-	1	1	SPR	-	NT	N	-		
E-1096	49+20	24	-	40	-	-	5	5	SPR	-	NT	N	Type 5		
E-1096	50+26	36	-	50	-	-	10	10	SPR	-	NT	Y	Type 4		
E-1096	51+43	18	-	30	-	-	1	1	SPR	-	NT	N	-		
E-1096B	1+28	18	-	40	-	-	1	1	SPR	-	NT	N	-		

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



Key

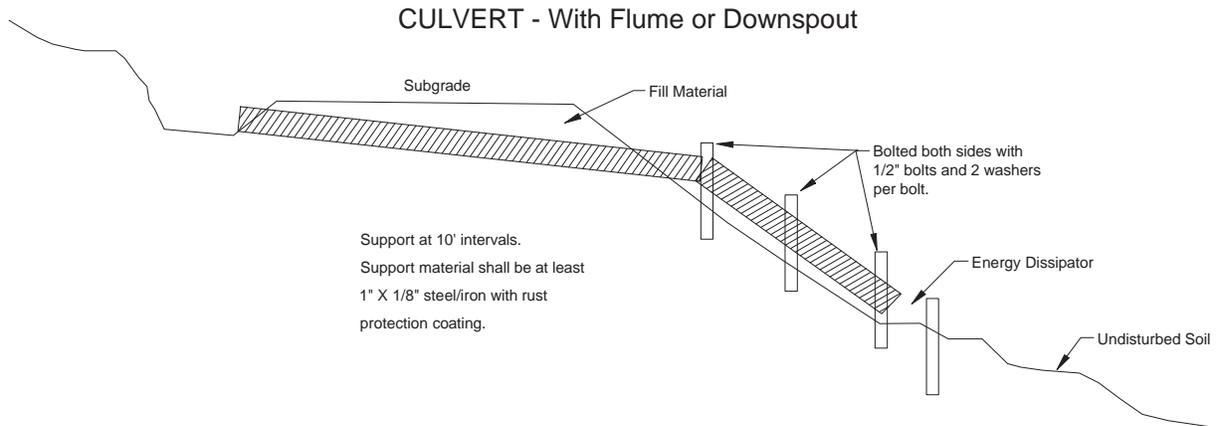
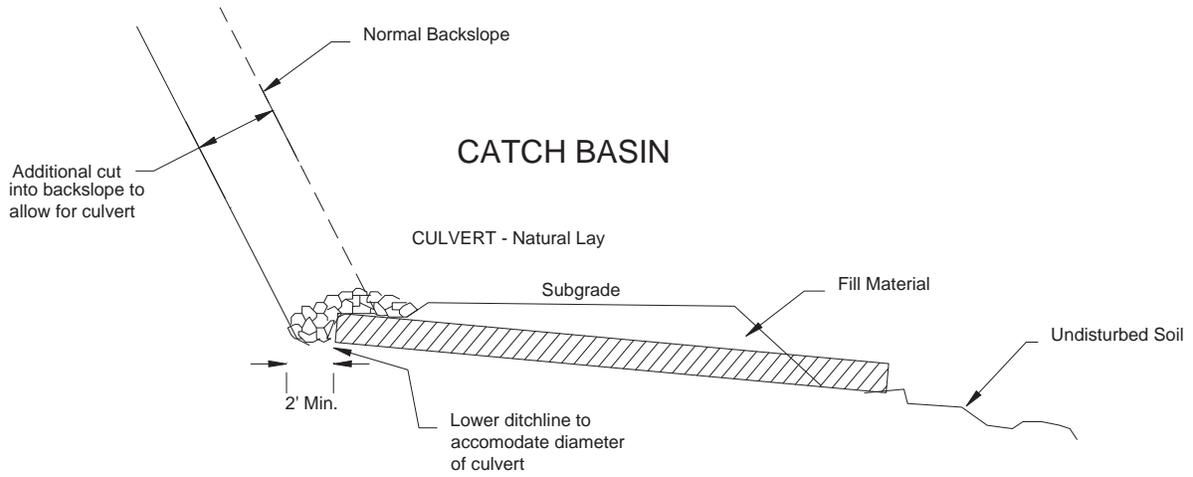
- Downspout- Full round pipe
- Flume- Half round pipe
- SPR- SELECT PIT RUN ROCK
- CR- 1 1/4-INCH MINUS CRUSHED ROCK
- NT- NATIVE MATERIAL

COMPACTION LIST

				<u>Maximum</u>				<u>Maximum</u>	<u>Maximum</u>
				<u>Depth</u>		<u>Equipment</u>	<u>Minimum</u>	<u>Operating</u>	<u>Amount of</u>
	<u>From</u>	<u>To</u>		<u>Per Lift</u>	<u>Equipment</u>	<u>Weight</u>	<u>Number</u>	<u>Speed</u>	<u>Deflection</u>
<u>Road</u>	<u>Station</u>	<u>Station</u>	<u>Type</u>	<u>(inches)</u>	<u>Type</u>	<u>(pounds)</u>	<u>of Passes</u>	<u>(MPH)</u>	<u>(inches)</u>
All	-	-	Subgrade	12	Vibratory Smooth Drum	14000	4	3	3
All	-	-	Fill	24	Vibratory Smooth Drum	14000	4	3	2
All	-	-	Waste Area	24	Excavation	28000	-	-	4
All			Pre-haul Surface	6	Vibratory Smooth Drum	14000	5	3	1
All	-	-	Rock	15	Vibratory Smooth Drum	14000	5	3	1

# CULVERT AND DRAINAGE SPECIFICATION DETAIL

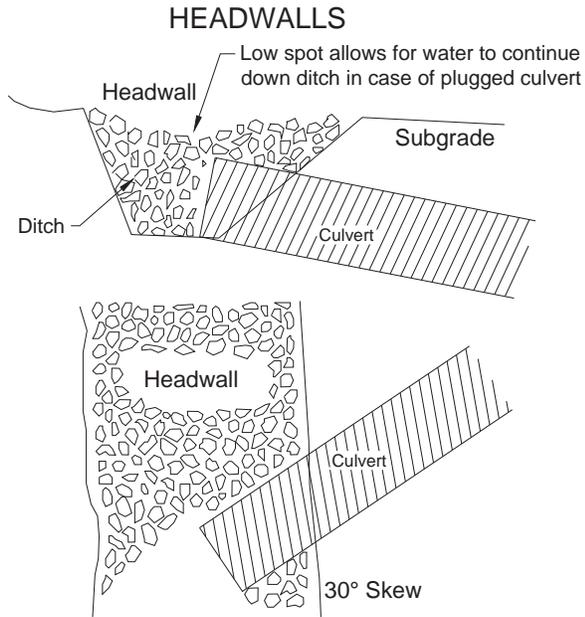
(Page 1 of 3)



# CULVERT AND DRAINAGE SPECIFICATION DETAIL

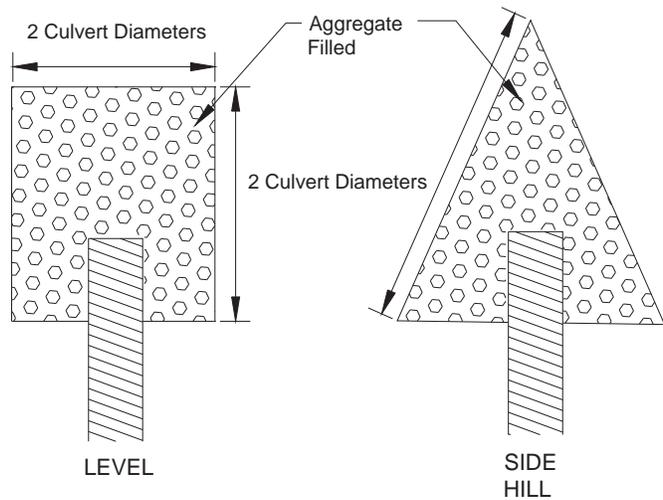
(Page 2 of 3)

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

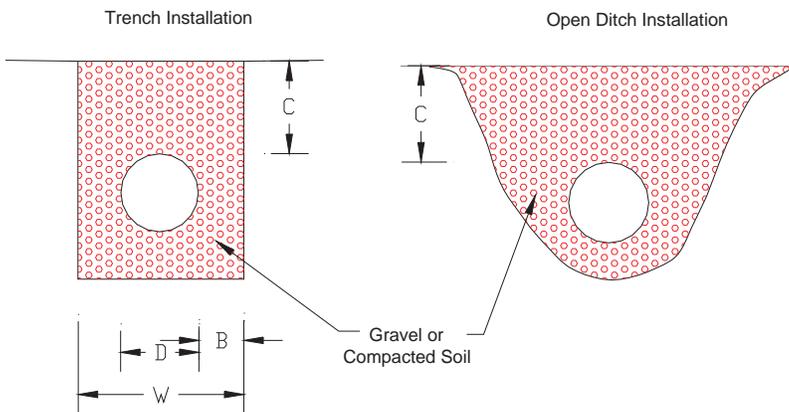
(Page 3 of 3)

## 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 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, shape, and compact 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

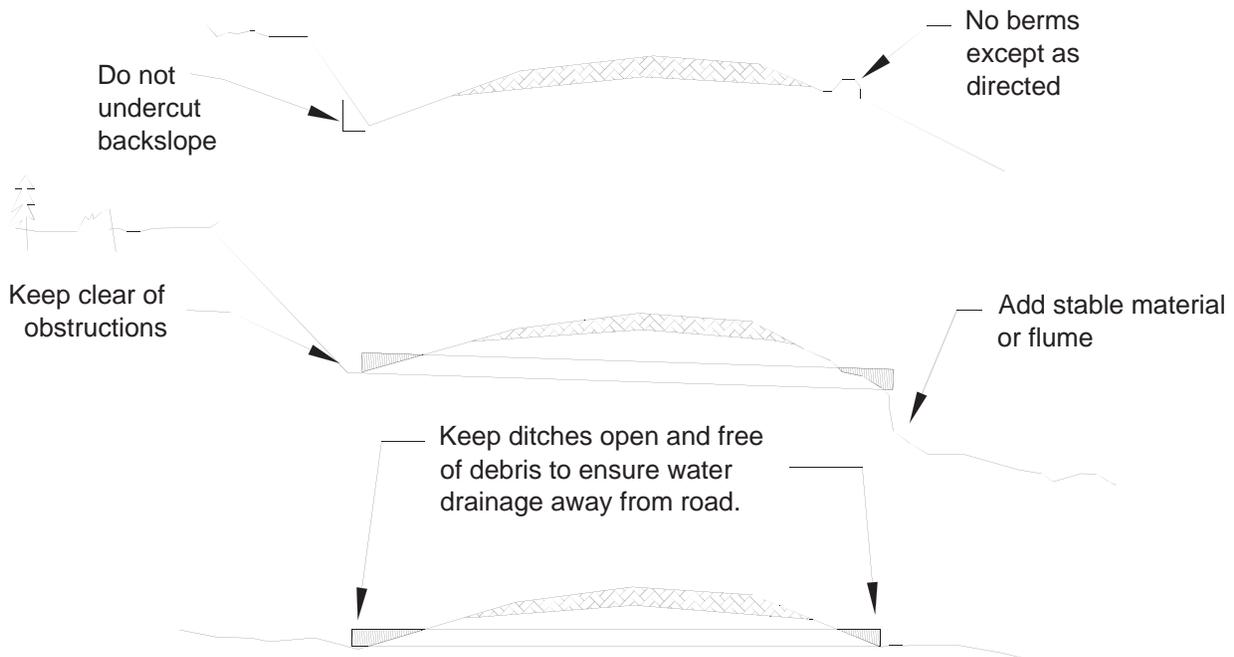
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

### 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.





## LIVE STREAM CULVERT INSTALLATION PROCEDURE

Order of work is as follows, deviations shall be approved, in writing, by the Contract Administrator.

- 1) Purchaser shall notify the State of intent to install each live stream culvert.
- 2) Assemble the items on the Materials List onsite before proceeding.
- 3) Culvert installation should not start during rain or threat of rain.
- 4) Set up pumps.
- 5) Dig a sump upstream to capture and pump clean water around the excavation and back into the stream. Dig a sump downstream to capture and pump dirty water from the excavation out onto the forest floor a minimum of 100 feet from live streams. See DEWATERING DETAIL.
- 6) Install culvert, build road fill, and place fill armor.
- 7) Backfill sumps.
- 8) Grass seed and cover exposed soils within 50 feet of all live streams with straw a minimum of 6 inches deep.

### Materials List:

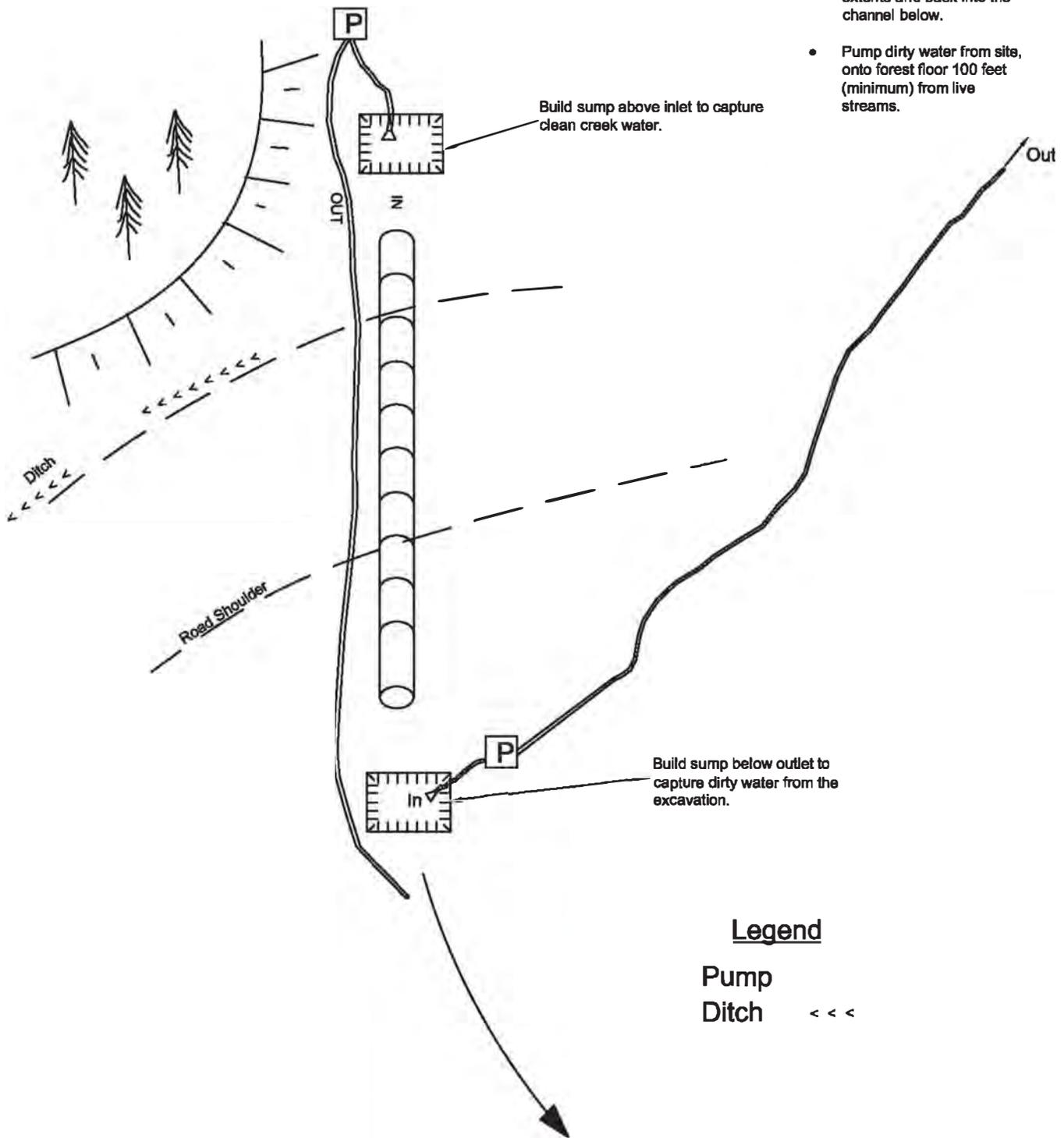
- 2 pumps;
- culvert;
- fill material;
- armor;
- grass seed;
- straw bales.

# DEWATERING DETAIL

NOT TO SCALE

**Notes:**

- Pump clean creek water around the excavation extents and back into the channel below.
- Pump dirty water from site, onto forest floor 100 feet (minimum) from live streams.



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

INNER LIMITS ROCK SOURCE DEVELOPMENT PLAN  
INCLINE PIT/SWITCHBACK PIT  
S30, T10N, R4W  
Page 1 of 2

1. The Purchaser shall submit a ROCK SOURCE DEVELOPMENT PLAN MAP to include:
  - Mining Area (plan, profile, and cross-section)
  - Proposed Access Roads
  - All additional items specified below

The Purchaser shall submit the ROCK SOURCE DEVELOPMENT PLAN MAP for a source prior to operations in that source. The Purchaser shall obtain approval of the ROCK SOURCE DEVELOPMENT PLAN MAP from the Contract Administrator before beginning any operations in that source.

2. Overburden shall be stripped to rock a minimum of 15 feet beyond the top of all working faces. Overburden shall be end hauled to the Waste Area specified in the ROAD PLAN clause 4-37. All waste shall be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift.
3. Stumps shall be grubbed a minimum of 20 feet beyond the top of all working faces. Organic waste shall be end hauled to the Waste Area as shown on the ROCK SOURCE DEVELOPMENT PLAN Map. Organic waste shall be kept separate from overburden at the waste area.
4. Vegetation shall be cleared a minimum of 25 feet beyond the top of all working faces. Organic waste shall be end hauled to the Waste Area specified in the ROAD PLAN clause 3-22. Organic waste shall be kept separate from overburden at the waste area.
5. Pit faces shall not exceed 30 feet in height. Faces with heights over 20 feet shall be sloped at ¼:1. Working bench width shall be a minimum of 20 feet.
6. All operations shall be carried out in compliance with all regulations of:
  - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
  - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

INNER LIMITS ROCK SOURCE DEVELOPMENT PLAN  
INCLINE PIT/SWITCHBACK PIT  
S30, T10N, R4W  
Page 2 of 2

7. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
8. All exposed soil in the waste area shall be grass seeded in accordance with Road Plan clause 8-15 through 8-25.
9. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
10. Upon completion of operations, the site shall be cleared of all temporary structures and left in a neat and presentable condition. Access shall be blocked with rip rap as directed by the Contract Administrator.
11. At the completion of rock source operations, the Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan.

SUMMARY - Road Development Costs  
 REGION Pacific Cascade  
 DISTRICT St Helens

SALE/PROJECT NAME Inner Limits

CONTRACT # 30-093966

ROAD NUMBERS	E-1000, E-1000E, E-1000F, E-1096, E-1096B	E-1096	Slide Creek Mainline, E-1000, E-4000, E-4500
ROAD STANDARD	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS	16.18	21.88	541.14
CLEARING & GRUBBING	\$ 4,149	\$ -	\$ -
EXCAVATION AND FILL	\$ 45,197	\$ 12,643	\$ -
MISC. MAINTENANCE	\$ 2,556	\$ 3,404	\$ 43,283
ROAD ROCK	Optional \$ -	\$ -	\$ -
	Required \$ 46,547	\$ 27,000	\$ 14,687
	Total \$ 46,547	\$ 27,000	\$ 14,687
ROCK STOCKPILE PROD	\$ -	\$ -	\$ -
CULVERTS AND FLUMES	\$ 7,781	\$ 15,037	\$ 8,278
STRUCTURES	\$ -	\$ -	\$ -
MOBILIZATION	\$ 2,600	\$ 2,600	\$ 2,600
TOTAL COSTS	\$ 108,831	\$ 60,684	\$ 68,848
COST PER STATION	\$ 6,726	\$ 2,774	\$ 127
ROAD DEACTIVATION & ABANDONMENT COSTS	\$ -	\$ -	\$ -
			<b>TOTAL (All Roads) \$238,363</b>
			<b>TOTAL (Minus Optional Rock) \$238,363</b>
			<b>SALE VOLUME MBF 5906</b>
			<b>TOTAL \$/MBF \$ 40.36</b>
			<b>TOTAL \$/MBF (Minus Optional Rock) \$ 40.36</b>

Completed by Brett Wallachy

Date 5/4/2016

ROCK SOURCE SUMMARY

SALE/PROJECT NAME Inner Limits  
 CONTRACT # 30-093966

PIT NAME Incline Pit  
 LOCATION T10N, R4W, S30

Distance to E-1000 508+69 waste area (feet) 1429  
 Distance from commercial rock source to transfer pile (feet) 107785  
 Distance to transfer pile (feet) 9867

SHRINK/SWELL FACTOR 1.25

**ROCK**

ROCK PIT PREPARATION

Stripping and loading overburden	\$ 284.00	per hour x	10		\$ 2,840.00
Endhaul overburden to Waste Area	\$ 196.00	per hour x	10		\$ 1,960.00
Spreading overburden at Waste Area	\$ 280.00	per hour x	10		\$ 2,800.00
Rock exploration	\$ 284.00	per hour x	10		\$ 2,840.00

ALL ROAD MISC ROCK

1 1/4-INCH MINUS CRUSHED ROCK	\$ 15.00	per CY x	100		\$ 1,500.00
Rock haul to transfer pile	\$ 115.00	per CY x	18 round trip haul (feet)	215570	\$ 2,069.74
Reload	\$ 136.00	per hour x	1		\$ 113.33
Rock haul	\$ 98.00	per hour x	5 round trip haul (feet)	19734	\$ 529.61
Spread & roll rock	\$ 1.98	per CY x	100		\$ 197.86

ROCK TOTAL \$ 14,850.54

MOBILIZATION

SALE/PROJECT NAME Inner Limits  
CONTRACT # 30-093966

**ROAD BUILDING EQUIPMENT**

MOBILIZATION

Grader	\$ 1,000.00	each x 1	\$ 1,000.00
Loader	\$ 1,000.00	each x 1	\$ 1,000.00
End dump	\$ 100.00	each x 2	\$ 200.00
Dozer	\$ 1,000.00	each x 1	\$ 1,000.00
Excavator (small)	\$ 500.00	each x 1	\$ 500.00
Excavator (large)	\$ 1,000.00	each x 1	\$ 1,000.00
Roller	\$ 500.00	each x 1	\$ 500.00

ROAD BUILDING EQUIPMENT SUBTOTAL \$ 5,200.00

**ROCK SOURCE EQUIPMENT**

MOBILIZATION

End dump	\$ 100.00	each x 6	\$ 600.00
Dozer	\$ 1,000.00	each x 1	\$ 1,000.00
Excavator (large)	\$ 1,000.00	each x 1	\$ 1,000.00

ROCK SOURCE EQUIPMENT SUBTOTAL \$ 2,600.00

MOBILIZATION TOTAL \$ 7,800.00

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits

CONTRACT # 30-093966

ROAD NUMBER Slide Creek Mainline

Required pre-haul maintenance (stations) 62+68  
 Distance from commercial rock source to transfer pile (feet) 107785  
 Distance to transfer pile (feet) 3599  
 Distance to Incline Pit (feet) 15169

**PRE-HAUL MAINTENANCE (REQUIRED)**

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	20		\$ 64.00
Straw mulching	\$ 4,428.60	per acre x	0.4		\$ 1,771.44
Ditch cleaning	\$ 50.00	per station x	62.68		\$ 3,134.00
Maintenance grading	\$ 10.86	per station x	62.68		\$ 680.62
Maintenance rolling	\$ 7.26	per station x	62.68		\$ 455.06
End haul	\$ 98.00	per hour x	10		\$ 980.00

ROAD ROCK

1 1/4-INCH MINUS CRUSHED ROCK	\$ 15.00	per CY x	120		\$ 1,800.00
Rock haul to transfer pile	\$ 115.00	per hour x	22 round trip haul (feet)	215570	\$ 2,483.69
Reload	\$ 136.00	per hour x	1		\$ 136.00
Rock haul from transfer pile	\$ 98.00	per hour x	5.1 round trip haul (feet)	13466	\$ 495.92
SELECT PIT RUN ROCK	\$ 5.29	per CY x	8		\$ 42.30
Rock haul	\$ 98.00	per hour x	0.7 round trip haul (feet)	36606	\$ 67.42
Place energy dissipater	\$ 6.60	per CY x	8		\$ 52.80

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 19.71	per foot x	160		\$ 3,153.36
End haul	\$ 98.00	per hour x	4		\$ 392.00

TOTAL ROAD COST \$ 15,316.61

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
 CONTRACT # 30-093966  
 ROAD NUMBER E-1000

Required pre-haul maintenance (stations) 373+89  
 Required construction (stations) 515+21, 519+55, 522+45, 588+65  
 Distance from commercial rock source to transfer pile (feet) 107785  
 Distance to transfer pile (feet) 9867  
 Distance to Incline Pit (feet) 0

**PRE-HAUL MAINTENANCE (REQUIRED)**

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	35		\$ 112.00
Straw mulching	\$ 4,428.60	per acre x	0.7		\$ 3,100.02
Ditch cleaning	\$ 50.00	per station x	300.93		\$ 15,046.50
Maintenance grading	\$ 10.86	per station x	373.89		\$ 4,059.92
Maintenance rolling	\$ 7.26	per station x	373.89		\$ 2,714.48
End haul	\$ 98.00	per hour x	10		\$ 980.00

ROAD ROCK

1 1/4-INCH MINUS CRUSHED ROCK	\$ 15.00	per CY x	190		\$ 2,850.00
Rock haul to transfer pile	\$ 115.00	per hour x	34 round trip haul (feet)	215570	\$ 3,932.50
Reload	\$ 136.00	per hour x	1.6		\$ 215.33
Rock haul from transfer pile	\$ 98.00	per hour x	24 round trip haul (feet)	57123	\$ 2,324.78
SELECT PIT RUN ROCK	\$ 5.29	per CY x	14		\$ 74.02
Rock haul	\$ 98.00	per hour x	1.2 round trip haul (feet)	37389	\$ 120.02
Place energy dissipater	\$ 6.60	per CY x	14		\$ 92.40

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 19.71	per foot x	260		\$ 5,124.21
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REQUIRED PRE-HAUL MAINTENANCE SUBTOTAL \$ 40,746.19

**CONSTRUCTION (REQUIRED)**

CLEARING & GRUBBING

Clearing & grubbing landing areas	\$ 1,285.02	per acre x	1.0		\$ 1,285.02
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EXCAVATION AND FILL

Road widening/landing construction 515+21 to 516+71	\$ 760.00	per hour x	10.00		\$ 7,600.00
Road widening/landing construction 519+55 to 520+55	\$ 760.00	per hour x	10.00		\$ 7,600.00
Road widening/landing construction 522+45 to 523+45	\$ 760.00	per hour x	10.00		\$ 7,600.00
Road widening/landing construction 588+65 to 589+65	\$ 760.00	per hour x	10.00		\$ 7,600.00
Turnaround 516+71	\$ 197.50	each x	1		\$ 197.50

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	50		\$ 160.00
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ROAD ROCK

1 1/4-INCH MINUS CRUSHED ROCK	\$ 15.00	per CY x	63		\$ 945.00
Rock haul	\$ 98.00	per hour x	31 round trip haul (feet)	252959	\$ 3,060.80
Spread & roll rock	\$ 1.98	per CY x	63		\$ 124.65
SELECT PIT RUN ROCK	\$ 5.29	per CY x	521		\$ 2,752.06
Rock haul	\$ 98.00	per hour x	46 round trip haul (feet)	37389	\$ 4,462.22
Spread & roll rock	\$ 1.98	per CY x	584		\$ 1,154.50

REQUIRED CONSTRUCTION SUBTOTAL \$ 44,541.74

TOTAL ROAD COST \$ 85,287.93

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
CONTRACT # 30-093966  
ROAD NUMBER E-1000E

Optional construction (stations) 1+50  
Distance to Incline Pit (feet) 1429

**CONSTRUCTION (OPTIONAL)**

CLEARING & GRUBBING

Clearing & grubbing \$ 177.00 per station x 1.50 \$ 265.50

EXCAVATION AND FILL

Construction (balanced, light) \$ 560.00 per station x 1.50 \$ 840.00

Landing (large) \$ 395.00 each x 1 \$ 395.00

Grade, shape, roll subgrade \$ 13.85 per station x 1.50 \$ 20.78

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 8 \$ 24.24

ROAD ROCK

SELECT PIT RUN ROCK \$ 5.29 per CY x 216 \$ 1,142.83

Rock haul \$ 98.00 per hour x 4.8 round trip haul (feet) 3008 \$ 473.71

Spread & roll rock \$ 1.98 per CY x 216 \$ 427.66

TOTAL ROAD COST \$ 3,589.72

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
CONTRACT # 30-093966  
ROAD NUMBER E-1000F

Required construction (stations) 1+28  
Distance to Incline Pit (feet) 1429

**CONSTRUCTION (REQUIRED)**

CLEARING & GRUBBING

Clearing & grubbing \$ 177.00 per station x 1.28 \$ 226.56

EXCAVATION AND FILL

Construction (balanced, light) \$ 560.00 per station x 1.28 \$ 716.80

Landing (large) \$ 395.00 each x 1 \$ 395.00

Grade, shape, roll subgrade \$ 13.85 per station x 1.28 \$ 17.73

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 6 \$ 20.69

ROAD ROCK

SELECT PIT RUN ROCK \$ 5.29 per CY x 198 \$ 1,045.78

Rock haul \$ 98.00 per hour x 4.4 round trip haul (feet) 2986 \$ 432.68

Spread & roll rock \$ 1.98 per CY x 198 \$ 391.34

TOTAL ROAD COST \$ 3,246.58

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
 CONTRACT # 30-093966  
 ROAD NUMBER E-1096

Total road length (stations) 33+42  
 Required reconstruction (stations) 21+88  
 Required construction (stations) 11+54  
 Distance to Incline Pit (feet) 23893

**RECONSTRUCTION (REQUIRED)**

EXCAVATION AND FILL  
 Reconstruction (heavy) \$ 564.00 per station x 21.88 \$ 12,340.32  
 Grade, shape, roll subgrade \$ 13.85 per station x 21.88 \$ 303.04

MISC. MAINTENANCE  
 Grass seeding \$ 3.20 per pound x 111 \$ 353.62  
 Straw mulching \$ 4,428.60 per acre x 0.7 \$ 3,050.00

ROAD ROCK  
 SELECT PIT RUN ROCK \$ 5.29 per CY x 1029 \$ 5,439.30  
 Rock haul \$ 98.00 per hour x 115 round trip haul (feet) 49974 \$ 11,222.35  
 Spread & roll rock \$ 1.98 per CY x 939 \$ 1,857.37  
 Place energy dissipater \$ 6.60 per CY x 20 \$ 132.00  
 Place stream armoring \$ 13.20 per CY x 70 \$ 924.00

CULVERTS AND FLUMES  
 18" Polyethylene, double wall \$ 19.71 per foot x 390 \$ 7,686.32  
 24" Polyethylene, double wall \$ 26.65 per foot x 120 \$ 3,198.00  
 36" Polyethylene, double wall \$ 41.53 per foot x 100 \$ 4,152.75

REQUIRED RECONSTRUCTION SUBTOTAL \$ 50,659.06

**CONSTRUCTION (REQUIRED)**

CLEARING & GRUBBING  
 Clearing & grubbing \$ 177.00 per station x 11.54 \$ 2,042.58

EXCAVATION AND FILL  
 Construction (balanced, medium) \$ 824.00 per station x 11.54 \$ 9,508.96  
 Turnout \$ 197.50 each x 1 \$ 197.50  
 Landing (medium) \$ 296.25 each x 1 \$ 296.25  
 Turnaround \$ 197.50 each x 1 \$ 197.50  
 Grade, shape, roll subgrade \$ 13.85 per station x 11.54 \$ 159.83

MISC. MAINTENANCE  
 Grass seeding \$ 3.20 per pound x 58 \$ 186.51  
 Straw mulching \$ 4,428.60 per acre x 0.4 \$ 1,830.00

ROAD ROCK  
 SELECT PIT RUN ROCK \$ 5.29 per CY x 961 \$ 5,081.35  
 Rock haul \$ 98.00 per hour x 105 round trip haul (feet) 48940 \$ 10,299.39  
 Spread & roll rock \$ 1.98 per CY x 905 \$ 1,790.69  
 Place energy dissipater \$ 6.60 per CY x 6 \$ 39.60  
 Place stream armoring \$ 13.20 per CY x 50 \$ 660.00

CULVERTS AND FLUMES  
 18" Polyethylene, double wall \$ 19.71 per foot x 90 \$ 1,773.77  
 24" Polyethylene, double wall \$ 26.65 per foot x 40 \$ 1,066.00  
 36" Polyethylene, double wall \$ 41.53 per foot x 100 \$ 4,152.75

REQUIRED CONSTRUCTION SUBTOTAL \$ 39,282.66

TOTAL ROAD COST \$ 89,941.72

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
 CONTRACT # 30-093966  
 ROAD NUMBER E-1096B

Optional construction (stations) 1+86  
 Distance to Incline Pit (feet) 28343

**CONSTRUCTION (OPTIONAL)**

CLEARING & GRUBBING

Clearing & grubbing	\$ 177.00	per station x	1.86		\$ 329.22
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EXCAVATION AND FILL

Construction (balanced, medium)	\$ 824.00	per station x	1.86		\$ 1,532.64
Landing (medium)	\$ 296.25	each x	1		\$ 296.25
Grade, shape, roll subgrade	\$ 13.85	per station x	1.86		\$ 25.76

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	9		\$ 30.06
Straw mulching	\$ 4,428.60	per acre x	0.1		\$ 305.00

ROAD ROCK

SELECT PIT RUN ROCK	\$ 5.29	per CY x	248		\$ 1,312.21
Rock haul	\$ 98.00	per hour x	31	round trip haul (feet) 56872	\$ 3,025.09
Spread & roll rock	\$ 1.98	per CY x	246		\$ 487.08
Place energy dissipater	\$ 6.60	per CY x	2		\$ 13.20

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 19.71	per foot x	40		\$ 788.34
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TOTAL ROAD COST \$ 8,144.86

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
CONTRACT # 30-093966  
ROAD NUMBER E-4000

Required pre-haul maintenance (stations) 68+58

**PRE-HAUL MAINTENANCE (REQUIRED)**

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	8	\$ 25.19
Straw mulching	\$ 4,428.60	per acre x	0.2	\$ 697.23
Ditch cleaning	\$ 50.00	per station x	68.58	\$ 3,429.00
Maintenance grading	\$ 10.86	per station x	68.58	\$ 744.68
Maintenance rolling	\$ 7.26	per station x	68.58	\$ 497.90
End haul	\$ 98.00	per hour x	10	\$ 980.00

TOTAL ROAD COST \$ 6,374.00

SUMMARY OF ROAD

SALE/PROJECT NAME Inner Limits  
CONTRACT # 30-093966  
ROAD NUMBER E-4500

Required pre-haul maintenance (stations) 35+99

**PRE-HAUL MAINTENANCE (REQUIRED)**

MISC. MAINTENANCE

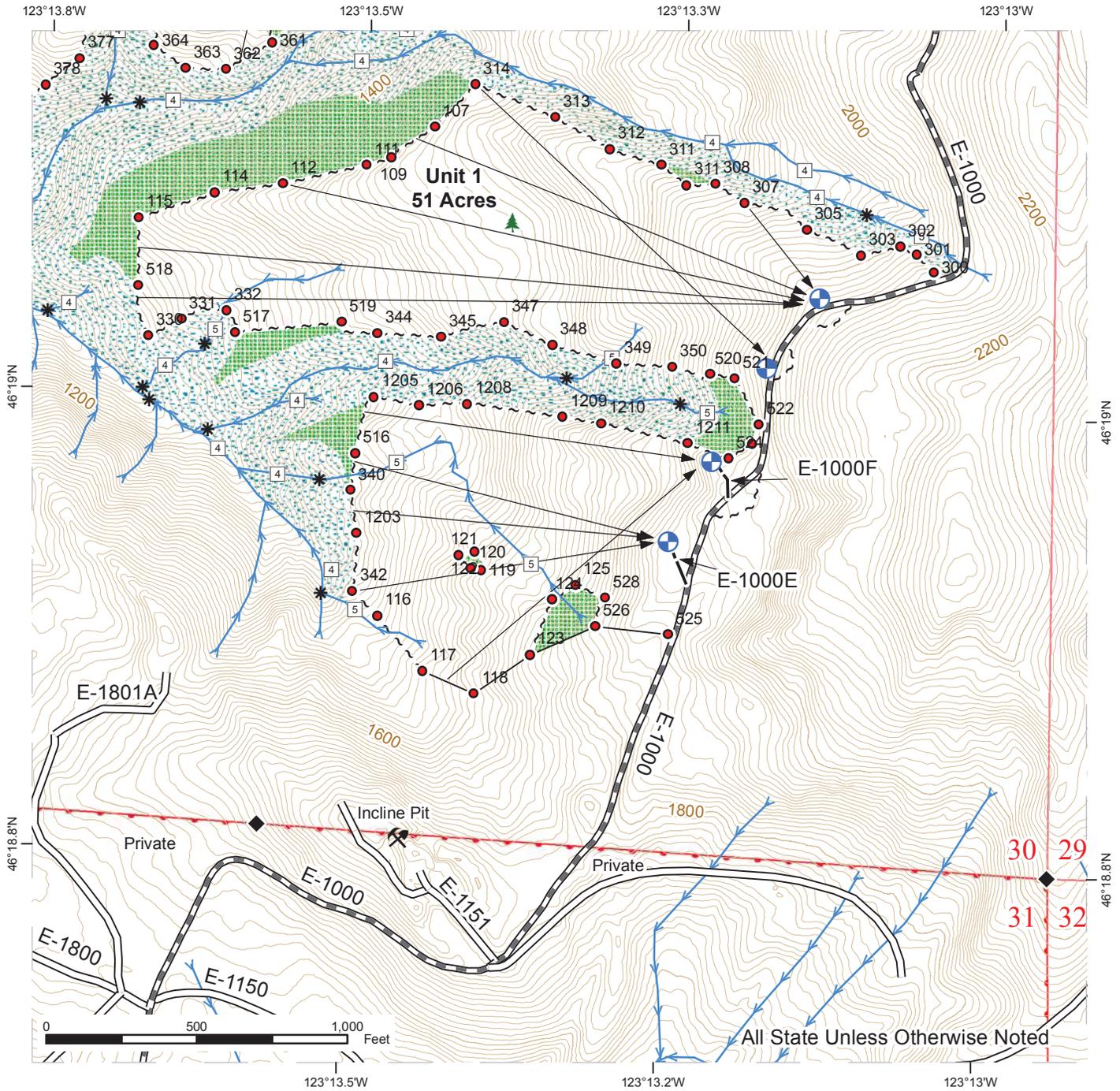
Grass seeding	\$ 3.20	per pound x	4	\$ 13.22
Straw mulching	\$ 4,428.60	per acre x	0.1	\$ 365.90
Ditch cleaning	\$ 50.00	per station x	35.99	\$ 1,799.50
Maintenance grading	\$ 10.86	per station x	35.99	\$ 390.80
Maintenance rolling	\$ 7.26	per station x	35.99	\$ 261.29
End haul	\$ 98.00	per hour x	10	\$ 980.00

TOTAL ROAD COST \$ 3,810.71

# LOGGING PLAN MAP

**SALE NAME:** INNER LIMITS  
**AGREEMENT#:** 30-093966  
**TOWNSHIP(S):** T10R04W  
**TRUST(S):** Scientific School(10)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** WAHIAKIUM  
**ELEVATION RGE:** 1065-2088

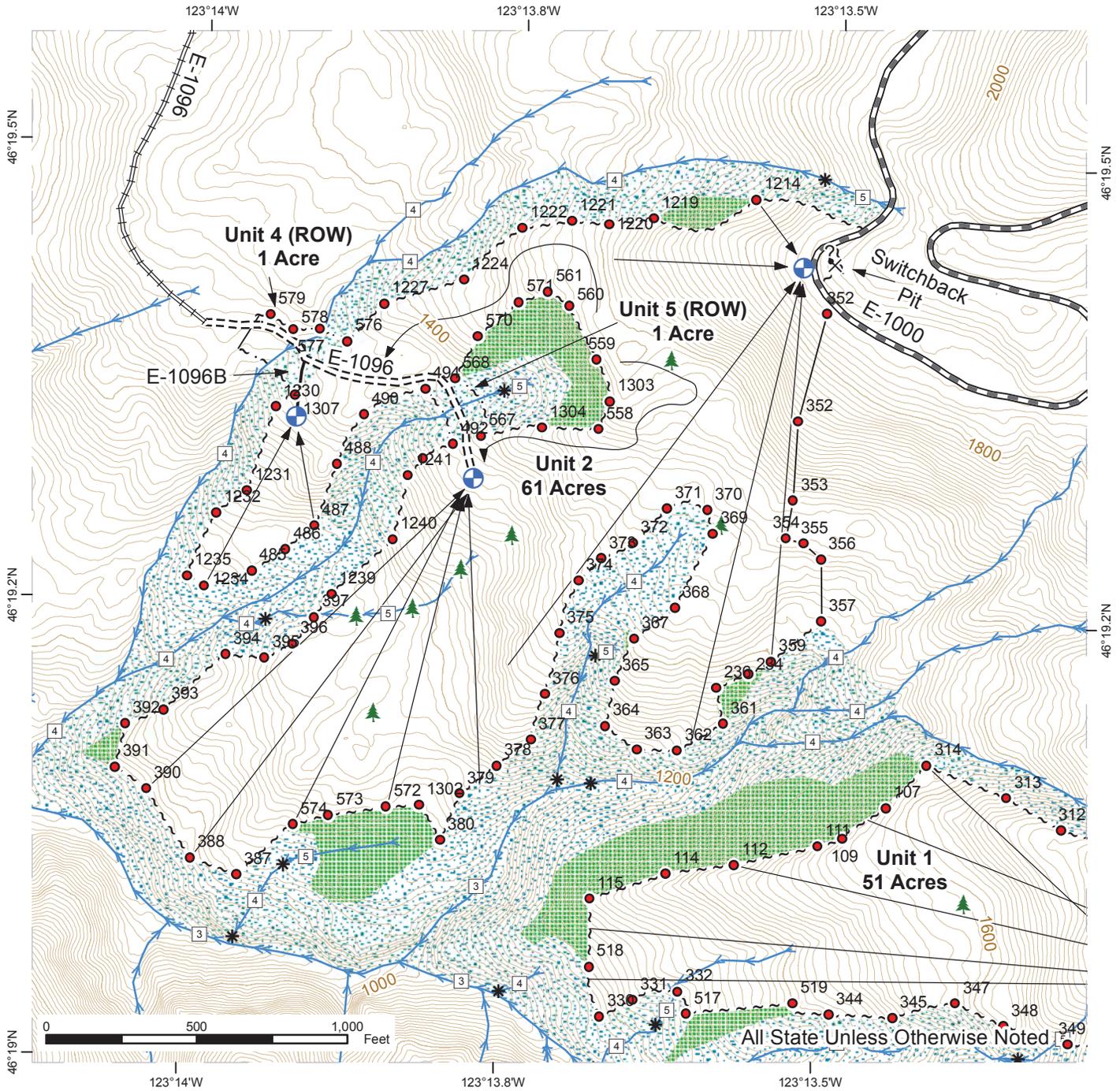


Cable Harvest	Existing Roads	Stream Type
Ground Harvest	Required Pre-Haul Maintenance	Stream Type Break
Leave Tree Area	Required Construction	GPS Waypoint
Riparian Mgt Zone	Required Reconstruction	Leave Trees
Sale Boundary Tags	Optional Construction	Potential Rock Source
Leave Tree Tags	Designated Skid Trail	Landing - Proposed
Reprod	Streams	Existing Rock Pit
	Monumented Corners	

# LOGGING PLAN MAP

SALE NAME: INNER LIMITS  
 AGREEMENT#: 30-093966  
 TOWNSHIP(S): T10R04W  
 TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region  
 COUNTY(S): WAHIAKIUM  
 ELEVATION RGE: 1065-2088



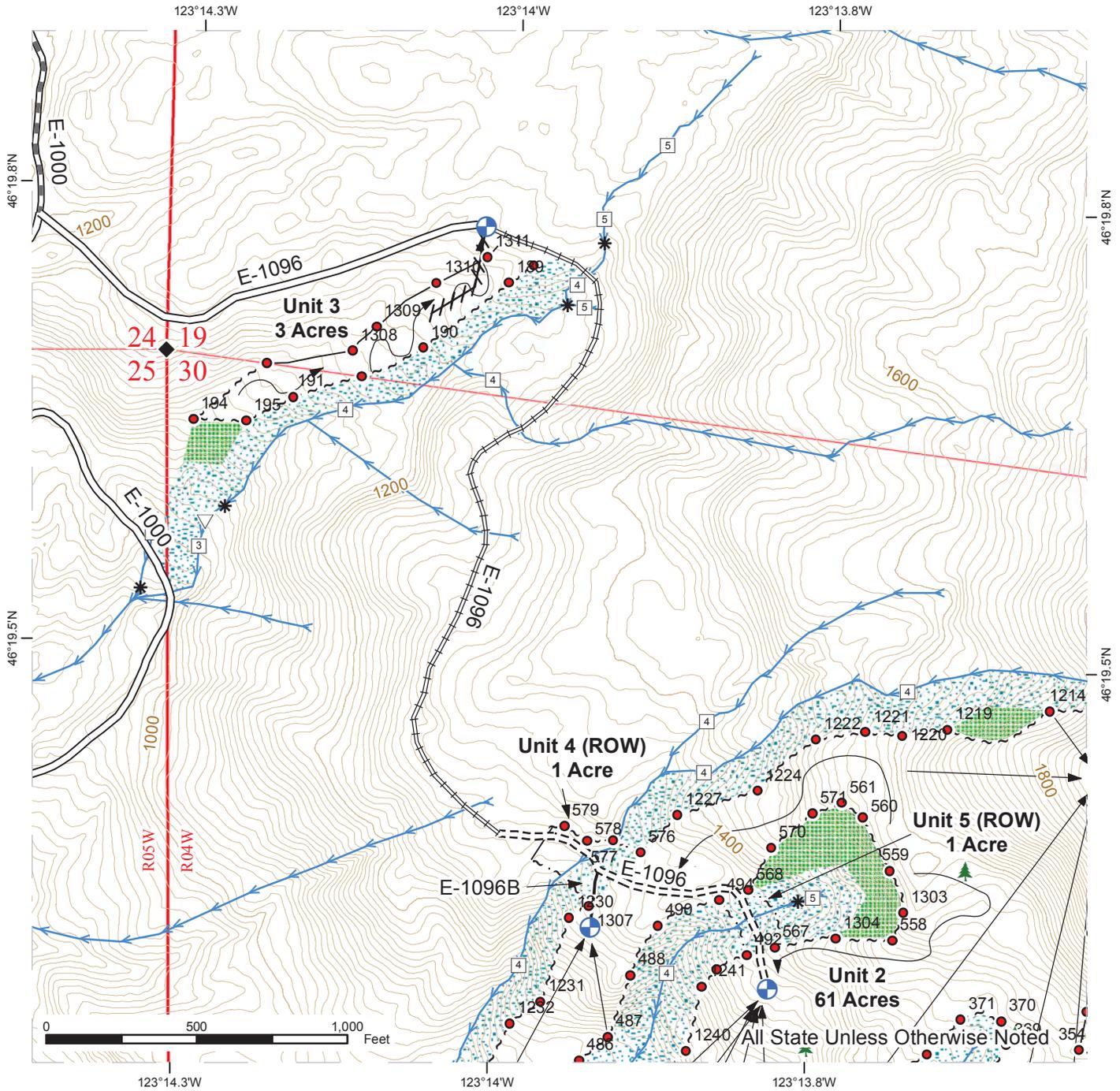
Cable Harvest	Existing Roads	Stream Type
Ground Harvest	Required Pre-Haul Maintenance	Stream Type Break
Leave Tree Area	Required Construction	GPS Waypoint
Riparian Mgt Zone	Required Reconstruction	Leave Trees
Sale Boundary Tags	Optional Construction	Potential Rock Source
Right of Way Tags	Designated Skid Trail	Landing - Proposed
Reprod	Streams	Existing Rock Pit
	Monumented Corners	



# LOGGING PLAN MAP

**SALE NAME:** INNER LIMITS  
**AGREEMENT#:** 30-093966  
**TOWNSHIP(S):** T10R04W  
**TRUST(S):** Scientific School(10)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** WAHIAKUM  
**ELEVATION RGE:** 1065-2088



Cable Harvest	Existing Roads	Stream Type
Ground Harvest	Required Pre-Haul Maintenance	Stream Type Break
Leave Tree Area	Required Construction	GPS Waypoint
Riparian Mgt Zone	Required Reconstruction	Leave Trees
Sale Boundary Tags	Optional Construction	Potential Rock Source
Right of Way Tags	Designated Skid Trail	Landing - Proposed
Reprod	Streams	Existing Rock Pit
	Monumented Corners	

