

Washington DNR Timber Sales Program

The documents for TIMBER TIGER timber sale have been changed as follows:

Documents amended: Contract and Notice of Sale

Brief Description	DATE/	Initials
<p>Road Plan Clause <u>1-25 ACTIVITY TIMING RESTRICTION</u></p> <p>The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator.</p> <p>Ph-1350 PH-1300 Abandonment from station 1+18 to 10+78 is restricted from September 15 through June 30</p> <p>Ph-1350 PH-1300 Rock haul from station 0+00 to 15+00 restricted from October 1st to April 30</p>	<p>10/26/2016</p>	<p>MR</p>



TIMBER NOTICE OF SALE

SALE NAME: TIMBER TIGER

AGREEMENT NO: 30-093559

AUCTION: November 17, 2016 starting at 10:00 a.m., COUNTY: Cowlitz
Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 16 miles northeast of Woodland

PRODUCTS SOLD AND SALE AREA: All timber, except leave trees marked with blue paint, trees marked with a ring of yellow paint, down timber greater than 36 inches dbh and snags, bounded by the following: white "Timber Sale Boundary" with pink flagging, reprod, Property Line marked with pink flagging, and the PH-1300 Road in Unit 1, white "Timber Sale Boundary" tags with pink flagging, reprod, and the PH-1350 and PH-1400 roads in Unit 2, orange Right of Way Boundary tags and the PH-1350 Road in Unit 3 on part(s) of Sections 8, 9, 16, 17 and 18 all in Township 6 North, Range 2 East, W.M., containing 149 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, Total \$/MBF, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Hemlock, Douglas fir, Red alder, and Sale Total.

MINIMUM BID: \$178/MBF (est. value \$986,000.00) BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 SALE TYPE: MBF Scale

EXPIRATION DATE: October 31, 2018 ALLOCATION: Export Restricted

BIDDABLE SPECIES: Hemlock

BID DEPOSIT: \$98,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable and Ground based equipment. Harvesting activities are estimated to be 60% cable harvesting and 40% ground-based harvesting. Ground-based harvesting equipment shall be restricted to slopes of 40% and less, and restricted during saturated soil conditions. See clauses H-140 and H-141 for further harvest requirements. A detailed felling and yarding plan shall be required prior to any harvest activities and approved in writing by the Contract Administrator. Ground Based Yarding will not be permitted from October 1 to May 1 unless authorized in writing by the Contract Administrator.

ROADS: 41.82 stations of required construction. 22.08 stations of optional construction. 369.33 stations of required pre-haul maintenance. 7.64 stations of required LIGHT abandonment and 1.96 stations of required medium abandonment. Rock for construction and pre-haul maintenance under this contract may be obtained at no cost to the Purchaser from the PH-



TIMBER NOTICE OF SALE

1400 Pit located in Section 17, Township 06 North, Range 02 East, W.M. Purchaser may obtain no more than 100 cubic yards of stockpiled rock from the PH-3000 Stockpile located at station 19+00. Rock amounts 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. Purchaser shall treat the PH-1000 road from station 0+00 to 31+19 with Lignin Sulfonate or Magnesium Chloride for dust abatement. No other chemical may be used for dust abatement. The Lignin Sulfonate or Magnesium Chloride may not be used for any other purposes. On the PH-1300 at stations 5+08 and 8+91, Purchaser shall remove existing culverts from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. Rock haul on the PH-1300 from station 0+00 to 15+00 is restricted from October 1 to April 30. Abandonment of the PH-1300 from station 1+18 to 10+78 is restricted from September 15 to June 30. The hauling of forest products will not be permitted from October 1 to May 1 unless authorized in writing by the Contract Administrator on the PH-1300

ACREAGE DETERMINATION

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

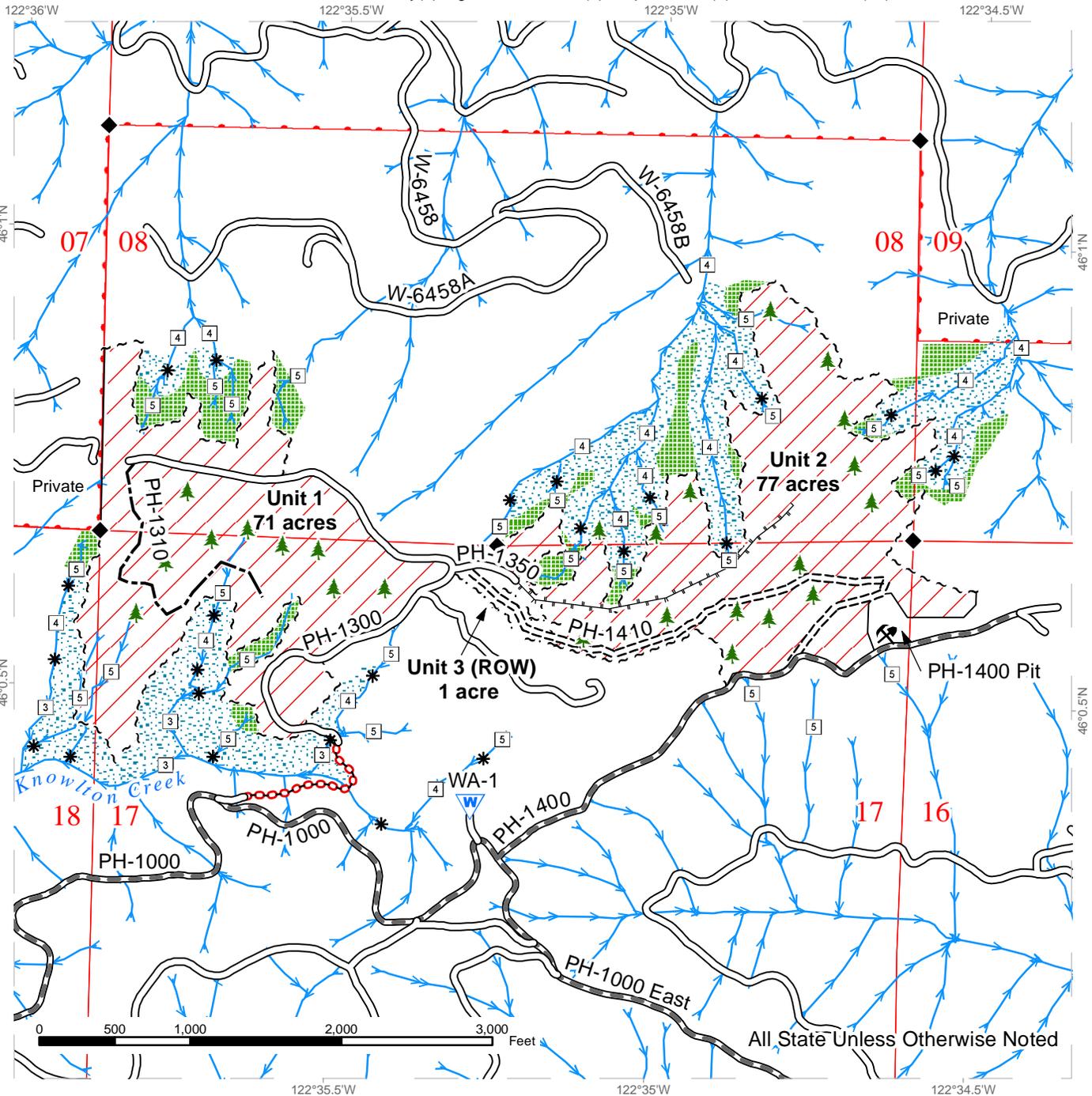
FEES: \$81,384.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale has approximately 285 MBF of high quality DF 2 saw, 105 MBF of high quality DF 3 saw, 160 MBF of high quality WH 2 saw and 361 MBF of high quality WH 3 saw. Intermediate supports may be required to prevent soil rutting in Unit 2. Leave Tree clumps adjacent to the boundary are bound out with white Timber Sale Boundary tags, with yellow flagging delineating the outer boundary.

TIMBER SALE MAP

SALE NAME: TIMBER TIGER
AGREEMENT #: 30-093559
TOWNSHIP(S): T06R02E
TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7), Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 1674-2688



All State Unless Otherwise Noted

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



DRIVING MAP

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

DRIVING DIRECTIONS:

From Woodland turn east on SR-503 (Lewis River RD) and follow for 5.1 miles. Turn left (north) onto Little Kalama River Road and follow for 4.1 miles, turn right (east) onto Aho-Carson Road. After 0.7 miles Aho-Carson Road turns to gravel and becomes the PH-1000. Follow for 5.0 miles.

Unit 1: Veer to the left onto the PH-1300 and follow for 0.2 miles to Unit 1.

Unit 2: From the PH-1000/PH-1300 intersection continue on the PH-1000 for 0.5 miles. Turn left onto the PH-1400 and follow for 0.5 miles to Unit 2.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted MBF Scale AGREEMENT NO. 30-093559

SALE NAME: TIMBER TIGER

**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-010 Products Sold and Sale Area

Purchaser was the successful bidder on November 17, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All timber, except leave trees marked with blue paint, trees marked with a ring of yellow paint, down timber greater than 36 inches dbh and snags, bounded by the following: white "Timber Sale Boundary" with pink flagging, reprod, Property Line marked with pink flagging, and the PH-1300 Road in Unit 1, white "Timber Sale Boundary" tags with pink flagging, reprod, and the PH-1350 and PH-1400 roads in Unit 2, orange Right of Way Boundary tags and the PH-1350 Road in Unit 3, located on approximately 149 acres on part(s) of Sections 8, 9, 16, 17, and 18 all in Township 6 North, Range 2 East W.M. in Cowlitz County(s) as shown on the attached timber sale map and as designated on the sale area.

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-030 Contract Term

Purchaser shall remove the forest products conveyed and 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-050 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 contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

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 timber value of the contract.

To determine the unpaid portion of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

- e. Payment of \$30.00 per acre per annum for the acres on which an operating release has not been issued for all units.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

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

- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet

habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

- a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-090 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, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-100 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 shall be paid for at the same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

Title to the forest products conveyed passes at confirmation of the sale. Purchaser bears the risk of loss of or damage to and has an insurable interest in the forest products in this contract from the time of confirmation of the sale of forest products. In the event of loss of or damage to the forest products after passage of title, whether the cause is foreseeable or unforeseeable, the forest products shall be paid for by Purchaser. Breach of this contract shall have no effect on this provision. Title to the forest products not removed from the sale area within the period specified in this contract shall revert to the State as provided in RCW 79.15.100.

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 Purchasers 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; the PH-1000 from station 0+00 to 325+80, PH-1300, PH-1310, PH-1350, PH-1400, PH-1402, and PH-1410 roads. 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 PH-1000 road, unless authority is granted in writing by the Contract Administrator.

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: Weyerhaeuser Company
Disclosed by Application No.: 50-033674
Granted: 4/15/1969
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Land Use License
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-092156
Granted: 1/1/2015
Expires: 12/31/2016

Land Use License, including the terms and provisions thereof,
For: Research
In Favor of: Central Washington University Geology Department
Disclosed by Application No.: 60-087109
Granted: 1/1/2011

Expires: 12/31/2020

Section P: Payments and Securities

P-010 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 the 'Payment for Forest Products' clause, 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-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus \$81,384.00 on day of sale and \$9.00 per MBF upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of \$20.00 per MBF plus fees.

P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

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-070 Payment for Products: Damage, Theft, Loss or Mismatch

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply.

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 L: Log Definitions and Accountability

L-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the 'Products Sold and Sale Area' (G-010) clause meeting the removal requirements listed in the 'Required Removal of Forest Products' (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler blocks. Such material shall be paid for at the forest products rates specified in this contract.

L-060 Load Tickets

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator. The State may treat load tickets not accounted for as lost forest products. All costs associated with computing the billings for lost loads shall be borne by Purchaser.

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within 1 business day of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

L-080 Scaling Rules

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

L-110 State Approval of Log Scaling and Weighing Locations

Forest Product measurement and weighing facilities required by this contract must be approved by the State. Forest products sold under the contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization. Forest products sold under the contract which require weighing shall be weighed at a location that meets Washington State Department of Agriculture approval.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State

reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

Section H: Harvesting Operations

H-001 Operations Outside the Sale Boundaries

No operations shall occur outside the sale boundaries, as described within the contract, unless approved in writing by the State.

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from October 1 to May 1 in all units unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-016 Skid Trail Requirements

A skid trail is defined as an area that is used for more than three passes by any equipment.

Purchaser shall comply with the following during the yarding operation:

- a. A skid trail will not exceed 14 feet in width, including rub trees.
- b. Skid trails shall not cover more than 10 percent of the total acreage on one unit.
- c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.
- h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- i. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

Purchaser shall not deviate from the requirements set forth in this clause without prior written approval from the Contract Administrator.

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-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all units. The plan shall address the felling and yarding operation clauses, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. 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-110 Stump Height

Trees shall be cut as close to the ground as practicable. Stump height shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable yarding systems and ground based equipment limited to shovel, forwarder, 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. Full suspension is required when yarding over Type 5 streams.

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-127 Tailholds on Private Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted on the PH-1300 road from October 1 to May 1 unless authorized in writing by the Contract Administrator .

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

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

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

Intermediate supports may be required to prevent soil rutting in Unit 2.

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

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in the G-010 clause that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
Conifer	10	12	5
Hardwood	20	16	5

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this contract. At the State's option, forest products that meet the above specifications and are left on the sale area may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-160 Mismanufacture

Mismanufacture is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismanufacture as a breach of this contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

H-180 Removal of Specialized Forest Products or Firewood

Prior to the removal of conveyed specialized forest products or firewood from the sale area, Purchaser and the State shall agree in writing to the method of accounting for/and removal of such products.

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-230 Tops and Limbs Outside the Sale Boundary

Tops and limbs outside the sale boundary as a result of Purchaser's operation shall be removed concurrently with the yarding operation unless otherwise directed 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 1/26/2016 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the PH-1300, PH-1310, PH-1350 (from station 0+00 to 4+47), PH-1400 (from station 0+00 to 43+56), PH-1402, and the PH-1410 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the PH-1000 from station 0+00 to 325+80 roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia

offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-130 Dust Abatement

Purchaser shall abate dust on the PH-1000 road from station 0+00 to 31+19.

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-100 Stream Cleanout

Slash or debris which enters a Type 5 stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

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-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State 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.

D-020 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts the State's management plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

$$LD = .35V-ID-P+C+A$$

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume multiplied by the contract bid rates.

ID = Initial Deposit paid at date of contract that has not been applied to timber payments.

P = Advance payments received but not yet applied to specific contract requirements.

C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.

A = Administrative Fee = \$2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is owed from the date of breach until final payment, calculated using the following formula: Interest = $r \times LD \times N$.

Where:

r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.

LD = Liquidated damage value.

N = Number of days from date of breach to date payment is received.

D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State. Failure to

properly account for loads and scaling and/or weighing information can result in loss to the State. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of \$100 each time a load of logs does not have branding as required in the contract, \$250 each time a load of logs does not have a load ticket as required by the contract, \$250 each time a load ticket has not been filled out as required by the plan of operations, \$250 each time a load is weighed or scaled at a location not approved as required under this contract, \$250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, \$250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service per clause L-071, and \$250 each time a ticket is either lost or otherwise unaccounted for.

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 in all units.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Eric Wisch
Pacific Cascade Region Manager

Date: _____
Address: _____

Date: _____

CORPORATE ACKNOWLEDGEMENT
(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:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

Reconstruction: **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: **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 4/09)

PRE-CRUISE NARRATIVE

Sale Name: Timber Tiger	Region: Pacific Cascade
Agreement #: 30-093559	District: Yacolt
Contact Forester: Matt Binder Phone / Location: 360-577-2025	County(s): Cowlitz
Alternate Contact: Whitney Butler Phone / Location: 360-669-3900	Other information: Click here to enter text.

Type of Sale: MBF Scale	
Harvest System: Uphill Cable Click here to enter text.	60%
Harvest System: Ground based Click here to enter text.	40%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W 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 VRH	08, 17, 18 / T06N / R02E	04, 10	108	25	10	2		71	GPS (Garmin)
2 VRH	08,09,16,17 / T06N / R02E	03, 04, 07	133	40	13	0		77	GPS (Garmin)
3 R/W	17 / T06N / R02E	07, 10	1	0	0	0		1	Choose an item.
TOTAL ACRES			242	65	23	2		149	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Unit 1 is bound by white "Timber Sale Boundary" tags, pink flagging, reprod, private property and the PH-1300 road. Leave trees clumps are adjacent to timber sale boundaries and are bound out by white "Timber Sale Boundary" tags. Scattered leave trees are painted with a ring of blue paint. Trees marked with a	VRH	Leave Tree Total = 650 Painted blue trees = 38

	single ring of yellow paint may be felled for operational safety reasons but may not be utilized.		
2 VRH	Unit 2 is bound by white "Timber Sale Boundary" tags, pink flagging, reprod and the PH-1400 road. Leave trees clumps are adjacent to timber sale boundaries and are bound out by white "Timber Sale Boundary" tags. Scattered leave trees are painted with a ring of blue paint. Trees marked with a single ring of yellow paint may be felled for operational safety reasons but may not be utilized.	VRH	Leave Tree Total = 744 Painted blue trees = 52
3 ROW	Unit 3 ROW is bound by orange "Right-of-Way Boundary" tags with orange flagging and the PH- 1410 road.	Right-of-Way	ROW

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	2,268 mbf	Unit 1 is accessed via the PH-1300 road. Volume is based on estimate. There are no gates.	
2	2,395 mbf	Unit 2 is accessed via the PH-1300 and PH-1400 roads. Volume is based on estimate. There are no gates.	
3	18 mbf	Unit 3 is a Right-of-Way harvest to facilitate the construction of the PH-1350A Road.	
TOTAL MBF	4681 mbf		

REMARKS:

A small portion of Unit 2 that is located south of the ridge was previously marked for a thinning operation with blue paint. An effort was made to find these marked trees and "black" them out. All leave trees in Unit 2 should have a fresh band of blue paint.

Prepared By: Whitney Butler Date:	Title: Natural Resource Specialist 1	CC:
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Cruise Narrative

Sale Name: Timber Tiger	Region: Pacific Cascade
App. #: 30-0	District: Yacolt
Lead Cruiser: Eric Carlson	Completion date: 1-13-2016
Other Cruisers: Bryce Frank, Kalvin Bailey	

Unit acreage specifications:

1 VRH	71	Yes	
2 VRH	80	Yes	
3 ROW	1	Yes	
Total	152	Yes	

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 VRH	VP	54.44	4.5 ft	220' x 220'	1:1	63
2 VRH	VP	46.94	4.5 ft	220' x 220'	1:1	73
3 ROW	VP	40	4.5 ft.	120' x 120'	2:1	3

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.
Minimum cruise spec:	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.
Avg. ring count by sp:	DF = 7 WH = 7 SS = n/a
Leave/take tree description:	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.
Sort Description:	<p>HA– 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>HB – 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>R – 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>
Status Description:	<p>P – Logs classified as pole volume.</p> <p>D – Logs classified as wind thrown downed wood.</p>

Field observations:

Timber Tiger - consists of 2 units and 1 ROW in total. Units 1 and 2 are VRH units and 3 is a 1 acre ROW. Both units consist of heavily defected Western Hemlock, especially in the larger 24+ inch component. Cat face, swollen butts, sap rot, spike knots, sweep, crook, fork, and broken tops all exist substantially in this cohort.

Unit 1 is located off the PH-1300 to the north and southwest. This unit consisted mainly of Douglas-fir at 54% and Western Hemlock at 44% and there were also small amounts of Red Alder throughout the unit. The Western Hemlocks average diameter is 18.8 inches and the average bole ht. is 71 ft. Douglas-fir had an average diameter of 17.5 inches and 73 ft. for average bole ht. Defect for this unit is at 4.6% and was mostly found in the Western Hemlock. The defect was composed of spike knots and hooked butts and sweep. This unit consisted of 71 acres of the total sale area for an average per-acre net volume of 31,949 bdft and a total volume of 2,268 mbf.

Units 2 is located off the PH-1400 to the northwest and northeast. This unit consisted of 81% Western Hemlock and 18% Douglas-fir. The average diameter and average bole ht. was very similar to Unit 1. Defect for this unit is at 4.8% and is composed of spike-knots and hooked butts and sweep. This unit consisted of 80 acres of the total sale area for an average per-acre net volume of 29,939 bdft and a total volume of 2,395 mbf.

Unit 3 ROW is located to the east of the PH-1300. This is a small ROW consisting of 1 acre of the total sale area. The total volume for this was 18,000 bdft.

Access to the units is relatively easy as they are all located off the roads. No gates are present on the access route.

The harvest system is 60% Uphill cable and 40% Ground based.

Grant: 03,04,07,10

Prepared by: Eric Carlson

Title: Timber Cruiser

TC PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																				
T06N R02E S08 Ty00U1		71.00		Project: TIMBERTI										Page 1								
T06N R02E S08 Ty00U2		80.00		Acres 152.00										Date 2/4/2016								
T06N R02E S08 TyROW3		1.00																	Time 12:56:33PM			
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						
WH	CU	CU			100.0	343											3	12		0.00	22.3	
WH	HB	2S	5	.8	1,071	1,063	162				83	17				8	92	39	13	247	1.55	4.3
WH	HB	3S	12	.3	2,416	2,408	366		100						3	97	40	9	125	0.82	19.3	
WH	D	SM	3		582	582	88					100		15	19	66	35	25	1011	5.14	.6	
WH	D	2S	51	6.3	10,509	9,847	1,497			35	65		4	2	5	89	37	16	367	2.32	26.8	
WH	D	3S	17	2.3	3,470	3,390	515	29	71				1	4	14	80	37	8	93	0.77	36.6	
WH	D	4S	9	.9	1,611	1,597	243	94	6				14	36	16	35	28	5	31	0.33	51.7	
WH	D	UT	2	1.8	580	570	87	25	14	31	30		43	20	28	9	20	8	53	0.67	10.7	
WH	RO	3S	1		15	15	2			100					100		31	13	190	1.78	.1	
WH Totals				63	5.5	20,599	19,472	2,960	13	26	23	38	4	6	9	81	29	9	113	0.98	172.3	
DF	CU	CU			100.0	49											2	9		0.00	16.4	
DF	HA	3S				57	57	9		100						100	40	11	180	1.03	.3	
DF	HB	2S	18	1.1	1,932	1,910	290			53	47				3	97	40	15	332	1.92	5.8	
DF	HB	3S	6		647	647	98		100					5	24	71	37	9	115	0.80	5.7	
DF	D	SM	1		186	186	28				100					100	40	17	444	2.47	.4	
DF	D	2S	37	5.0	4,175	3,965	603			47	53		1		2	97	39	15	360	2.22	11.0	
DF	D	3S	26	1.7	2,881	2,831	430	16	84				0	1	14	84	38	9	111	0.82	25.5	
DF	D	4S	8		893	893	136	87	13				30	16	18	36	25	6	32	0.38	28.3	
DF	D	UT	4		353	353	54	67	24	9			23	34		43	30	6	40	0.40	8.8	
DF Totals				35	3.0	11,174	10,843	1,648	13	30	27	30	4	3	8	86	28	9	106	0.97	102.1	
RA	CU	CU			100.0	6											3	8		0.00	2.8	
RA	D	UT	43	3.3	215	208	32	70	30				44	56			21	6	30	0.35	7.0	
RA	D	2S	6	16.7	40	33	5			100						100	40	13	200	2.02	.2	
RA	D	3S	11		49	49	8		100					100			30	11	130	1.21	.4	
RA	D	4S	22	8.7	118	108	16		100					20	31	49	34	9	80	0.87	1.3	
RA	D	4S	18	7.2	92	85	13	100					16	32	8	44	27	6	34	0.45	2.5	
RA Totals				2	7.0	519	483	73	48	46	7		22	44	8	26	21	7	34	0.52	14.2	
Totals					4.6	32,292	30,798	4,681	14	28	24	34	4	5	8	82	28	9	107	0.96	288.6	

TC PSTATS					PROJECT STATISTICS					PAGE	1
					PROJECT TIMBERTI					DATE	2/4/2016
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	02E	08	TIMBERTI	00U1	152.00	139	620	S	W		
06N	02E	08	TIMBERTI	00U2							
06N	02E	08	TIMBERTI	ROW3							
					ESTIMATED		PERCENT				
					TREES	TOTAL	SAMPLE				
					PER PLOT	TREES	TREES				
TOTAL			139	620	4.5						
CRUISE			72	305	4.2	20,409	1.5				
DBH COUNT											
REFOREST											
COUNT			62	307	5.0						
BLANKS			5								
100 %											
STAND SUMMARY											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
WHEMLOCK	186	79.5	17.8	72	32.7	138.1	20,599	19,472	5,015	4,937	
DOUG FIR	106	46.0	17.7	72	18.7	78.7	11,174	10,843	2,801	2,793	
R ALDER	13	8.7	12.2	45	2.0	7.1	519	483	153	151	
TOTAL	305	134.3	17.5	70	53.5	223.9	32,292	30,798	7,969	7,880	
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	7			10
WHEMLOCK		114.0	8.4	465	507	550					
DOUG FIR		69.6	6.8	369	396	423					
R ALDER		77.2	22.3	62	79	97					
TOTAL		108.7	6.2	423	451	479	472	241			118
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7			10
WHEMLOCK		98.3	7.2	112	121	129					
DOUG FIR		64.4	6.3	94	100	106					
R ALDER		90.0	25.9	20	27	34					
TOTAL		93.3	5.4	104	110	116	348	177			87
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7			10
WHEMLOCK		91.1	7.7	73	80	86					
DOUG FIR		140.0	11.9	41	46	51					
R ALDER		370.6	31.4	6	9	11					
TOTAL		56.2	4.8	128	134	141	126	64			31
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7			10
WHEMLOCK		83.7	7.1	128	138	148					
DOUG FIR		135.2	11.5	70	79	88					
R ALDER		351.3	29.8	5	7	9					
TOTAL		48.2	4.1	215	224	233	93	47			23
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7			10
WHEMLOCK		87.1	7.4	18,034	19,472	20,911					
DOUG FIR		140.3	11.9	9,553	10,843	12,132					
R ALDER		349.4	29.6	340	483	626					
TOTAL		53.9	4.6	29,391	30,798	32,205	116	59			29
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7			10
WHEMLOCK		85.7	7.3	4,578	4,937	5,295					

TC PSTATS		PROJECT STATISTICS							PAGE	2	
		PROJECT TIMBERTI							DATE	2/4/2016	
TWP	RGE	SC	TRACT	TYPE	ACRES			PLOTS	TREES	CuFt	BdFt
06N	02E	08	TIMBERTI	00U1	152.00			139	620	S	W
06N	02E	08	TIMBERTI	00U2							
06N	02E	08	TIMBERTI	ROW3							
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR			138.8	11.8	2,464	2,793	3,121				
R ALDER			352.5	29.9	106	151	196				
TOTAL			<i>52.0</i>	<i>4.4</i>	<i>7,533</i>	<i>7,880</i>	<i>8,227</i>	<i>108</i>	<i>55</i>	<i>27</i>	
CL	68.1		COEFF	V BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK					131	141	151				
DOUG FIR			46.5	3.9	121	138	154				
R ALDER			275.0	23.3	48	68	88				
TOTAL			<i>53.7</i>	<i>4.5</i>	<i>131</i>	<i>138</i>	<i>144</i>	<i>115</i>	<i>59</i>	<i>29</i>	

T06N R02E S08 T00U2 **T06N R02E S08 T00U2**
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 06N 02E 08 TIMBERTI 00U2 80.00 73 157 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						
WH		CU	CU		100.0	191												3	12		0.00	29.0
WH		HB	2S	5		1,229	1,229	98			84	16				13	87	39	13	255	1.58	4.8
WH		HB	3S	14		3,433	3,433	275		100						3	97	39	9	125	0.81	27.5
WH		DM	SM	3		877	877	70					100		19	25	57	34	25	963	5.03	.9
WH		DM	2S	48	7.0	12,443	11,572	926			32	68		4	2	2	92	37	16	370	2.34	31.2
WH		DM	3S	18	2.7	4,579	4,454	356	26	74				2	5	11	82	37	8	93	0.78	47.8
WH		DM	4S	9	.1	2,105	2,102	168	94	6				11	37	15	38	29	5	32	0.32	65.9
WH		DM	UT	2	.9	660	655	52	31	19	27	23		62	22	16		20	8	44	0.56	14.8
WH		RO	3S	1		29	29	2			100					100		31	13	190	1.78	.2
WH	Totals			81	4.7	25,546	24,352	1,948	14	29	20	37		5	6	7	82	29	9	110	0.95	222.0
DF		CU	CU		100.0	35												6	11		0.00	6.3
DF		HA	3S	2		109	109	9		100							100	40	11	180	1.03	.6
DF		HB	2S	20	.4	1,055	1,051	84			61	39				10	90	39	14	298	1.78	3.5
DF		HB	3S	5		263	263	21		100					23	17	60	34	10	132	0.81	2.0
DF		DM	SM	2		143	143	11				100					100	40	18	530	2.87	.3
DF		DM	2S	35	6.2	1,961	1,838	147			30	70		3			97	38	16	373	2.33	4.9
DF		DM	3S	24	5.2	1,308	1,240	99	15	85				1	2	18	79	38	9	102	0.89	12.1
DF		DM	4S	5		276	276	22	90	10				48	20	13	20	22	6	25	0.35	11.0
DF		DM	UT	7		330	330	26	34	48	18			46	22		32	25	7	48	0.45	6.9
DF	Totals			18	4.2	5,480	5,251	420	10	31	24	35		7	4	8	82	28	9	110	1.02	47.6
RA		CU	CU		100.0	11												5	9		0.00	3.1
RA		DM	UT	42	8.6	156	143	11	16	84				100				15	9	32	0.67	4.4
RA		DM	2S	19	16.7	75	63	5			100						100	40	13	200	2.02	.3
RA		DM	4S	12		41	41	3		100					100			30	9	70	0.92	.6
RA		DM	4S	27	12.3	102	90	7	100					28	58	14		23	5	26	0.34	3.5
RA	Totals			1	12.7	386	337	27	34	48	19			50	28	4	19	16	8	28	0.59	11.9
Type Totals					4.7	31,411	29,939	2,395	13	29	21	36		6	6	7	81	28	9	106	0.95	281.5

T06N R02E S08 TROW3										T06N R02E S08 TROW3				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
06N	02E	08	TIMBERTI	ROW3	1.00	3	11	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		HB	2S	23		3,695	3,695	4	100				100				40	13	241	1.65	15.3	
WH		HB	3S	45		7,326	7,326	7	100				100				40	10	157	1.07	46.8	
WH		DM	2S	12	14.3	2,161	1,852	2	100				100				40	20	600	4.25	3.1	
WH		DM	3S	1	11.1	278	247	0	100				100				25	10	80	1.36	3.1	
WH		DM	4S	12		1,933	1,933	2	100					86	14			27	5	31	0.41	62.1
WH		DM	UT	7		1,008	1,008	1	100					100				28	5	30	0.29	33.6
WH	Totals			90	2.1	16,401	16,061	16	18	47	23	12	18	2	80	32	8	98	0.87	164.0		
DF		DM	4S	70		1,243	1,243	1	100					100				28	5	30	0.33	41.4
DF		DM	UT	30		509	509	1	100					100				30	5	30	0.40	17.0
DF	Totals			10		1,752	1,752	2	100					100				29	5	30	0.35	58.4
Type Totals					1.9	18,153	17,813	18	26	43	21	10	26	2	72	31	7	80	0.74	222.4		

TC TSTATS				STATISTICS						PAGE	1
				PROJECT		TIMBERTI		DATE	2/4/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	02E	08	TIMBERTI	00U1	71.00	63	270	S	W		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES				
TOTAL		63	270	4.3							
CRUISE		33	138	4.2	9,854		1.4				
DBH COUNT											
REFOREST											
COUNT		28	131	4.7							
BLANKS		2									
100 %											
STAND SUMMARY											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR	67	74.4	17.5	73	29.7	124.4	17,722	17,271	4,455	4,444	
WHEMLOCK	65	51.8	18.8	71	23.1	100.2	15,084	14,023	3,674	3,546	
R ALDER	6	12.6	11.2	47	2.6	8.6	677	655	195	195	
TOTAL	<i>138</i>	<i>138.8</i>	<i>17.6</i>	<i>70</i>	<i>55.7</i>	<i>233.3</i>	<i>33,483</i>	<i>31,949</i>	<i>8,324</i>	<i>8,185</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	7	10		
DOUG FIR	66.8	8.2		364	397	430					
WHEMLOCK	115.2	14.3		457	533	610					
R ALDER	66.8	29.8		54	77	99					
TOTAL	<i>105.3</i>	<i>9.0</i>		<i>407</i>	<i>448</i>	<i>488</i>	<i>443</i>	<i>226</i>	<i>111</i>		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	59.9	7.4		92	99	106					
WHEMLOCK	97.9	12.1		110	126	141					
R ALDER	65.6	29.2		18	25	32					
TOTAL	<i>89.0</i>	<i>7.6</i>		<i>100</i>	<i>108</i>	<i>116</i>	<i>316</i>	<i>161</i>	<i>79</i>		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	103.0	13.0		65	74	84					
WHEMLOCK	121.2	15.3		44	52	60					
R ALDER	316.6	39.8		8	13	18					
TOTAL	<i>54.5</i>	<i>6.9</i>		<i>129</i>	<i>139</i>	<i>148</i>	<i>119</i>	<i>61</i>	<i>30</i>		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	101.7	12.8		109	124	140					
WHEMLOCK	113.8	14.3		86	100	115					
R ALDER	303.8	38.2		5	9	12					
TOTAL	<i>46.6</i>	<i>5.9</i>		<i>220</i>	<i>233</i>	<i>247</i>	<i>87</i>	<i>44</i>	<i>22</i>		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	105.4	13.3		14,980	17,271	19,562					
WHEMLOCK	116.2	14.6		11,971	14,023	16,075					
R ALDER	301.0	37.9		407	655	903					
TOTAL	<i>51.3</i>	<i>6.5</i>		<i>29,888</i>	<i>31,949</i>	<i>34,011</i>	<i>105</i>	<i>54</i>	<i>26</i>		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	104.3	13.1		3,861	4,444	5,028					
WHEMLOCK	114.6	14.4		3,034	3,546	4,058					
R ALDER	306.0	38.5		120	195	271					

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	TIMBERTI			DATE	2/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
06N	02E	08	TIMBERTI	00U1	71.00		63	270	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	7	10	
TOTAL		49.7	6.3	7,674	8,185	8,697	98	50	25	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				120	139	157				
WHEMLOCK		70.7	8.9	119	140	160				
R ALDER		198.5	25.0	47	76	105				
TOTAL		197.6	24.9	128	137	146	1,559	796	390	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	TIMBERTI			DATE	2/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
06N	02E	08	TIMBERTI	00U2	80.00	73	336	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		73	336	4.6						
CRUISE		37	156	4.2	10,397	1.5				
DBH COUNT REFOREST COUNT		33	173	5.2						
BLANKS		3								
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
WHEMLOCK		113	103.9	17.4	72	41.2	171.7	25,546	24,352	6,210
DOUG FIR		36	20.7	18.5	70	9.0	38.6	5,480	5,251	1,361
R ALDER		7	5.3	14.1	42	1.5	5.8	386	337	118
TOTAL		156	130.0	17.5	70	51.7	216.1	31,411	29,939	7,689
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	7	10	
WHEMLOCK		112.5	10.6	457	511	565				
DOUG FIR		67.6	11.4	377	426	474				
R ALDER		89.2	36.3	52	81	111				
TOTAL		109.5	8.8	431	472	514	478	244	120	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		98.4	9.2	110	121	133				
DOUG FIR		64.6	10.9	98	110	122				
R ALDER		106.2	43.2	17	29	42				
TOTAL		95.1	7.6	106	115	123	361	184	90	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		68.7	8.0	96	104	112				
DOUG FIR		157.4	18.4	17	21	25				
R ALDER		419.1	49.0	3	5	8				
TOTAL		55.6	6.5	122	130	138	124	63	31	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		61.2	7.2	159	172	184				
DOUG FIR		143.9	16.8	32	39	45				
R ALDER		404.3	47.3	3	6	9				
TOTAL		46.2	5.4	204	216	228	85	43	21	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		65.1	7.6	22,497	24,352	26,206				
DOUG FIR		150.1	17.6	4,329	5,251	6,172				
R ALDER		402.4	47.1	178	337	495				
TOTAL		52.8	6.2	28,090	29,939	31,788	111	57	28	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		63.8	7.5	5,714	6,175	6,636				
DOUG FIR		146.9	17.2	1,122	1,354	1,587				
R ALDER		404.2	47.3	60	113	167				
TOTAL		50.6	5.9	7,190	7,642	8,095	102	52	26	

TC TSTATS				STATISTICS				PAGE	2		
				PROJECT	TIMBERTI			DATE	2/4/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	02E	08	TIMBERTI	00U2	80.00	73	336	S	W		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK				131	142	153					
DOUG FIR				90.2	10.6	112	136	160			
R ALDER				379.0	44.3	31	58	86			
TOTAL				226.8	26.5	130	139	147	2,054	1,048	513

TC TSTATS				STATISTICS						PAGE	1
				PROJECT	TIMBERTI				DATE	2/4/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
06N	02E	08	TIMBERTI	ROW3	1.00	3	14	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		3	14	4.7							
CRUISE		2	11	5.5	157	7.0					
DBH COUNT											
REFOREST											
COUNT		1	3	3.0							
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	
WHEMLOCK	8	98.8	16.5	58	36.1	146.7	16,401	16,061	4,598	4,599	
DOUG FIR	3	58.4	11.2	41	11.9	40.0	1,752	1,752	590	590	
TOTAL	11	157.2	14.8	51	48.6	186.7	18,153	17,813	5,188	5,189	
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	7	10		
WHEMLOCK	75.8	28.6		180	253	325					
DOUG FIR				30	30	30					
TOTAL	99.5	31.4		132	192	252	435	222	109		
CL:	68.1 %	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	79.0	29.8		52	73	95					
DOUG FIR	19.6	13.5		9	10	12					
TOTAL	100.9	31.9		38	56	74	447	228	112		
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	110.2	76.3		23	99	174					
DOUG FIR	173.2	119.8			58	128					
TOTAL	44.0	30.4		109	157	205	111	57	28		
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	110.2	76.3		35	147	259					
DOUG FIR	173.2	119.8			40	88					
TOTAL	61.9	42.8		107	187	267	220	112	55		
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	110.2	76.3		3,813	16,061	28,309					
DOUG FIR	173.2	119.8			1,752	3,851					
TOTAL	86.6	59.9		7,136	17,813	28,491	431	220	108		
CL:	68.1 %	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	110.2	76.3		1,092	4,599	8,106					
DOUG FIR	173.2	119.8			590	1,297					
TOTAL	83.1	57.5		2,205	5,189	8,172	397	202	99		
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
WHEMLOCK	93.8	64.9		26	110	193					
DOUG FIR	173.2	119.8			44	96					
TOTAL	156.8	108.5		38	95	153	1,412	720	353		

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

T06N R02E S08 Ty00U1	71.0
T06N R02E S08 Ty00U2	80.0
T06N R02E S08 TyROW	1.0

Project **TIMBERTI**
Acres **152.00**

Page No **1**
Date: **2/4/2016**
Time **12:56:35PM**

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
WHEMLOCK	12,089	22,807	24,391	62.07	32.90	0.99	7,622	7,504	3,131	2,960
DOUG FIR	6,997	13,023	12,135	60.66	32.59	1.01	4,258	4,245	1,698	1,648
R ALDER	1,322	1,732	640	17.34	13.23	0.54	233	229	79	73
Totals	20,409	37,562	37,167	58.69	31.89	0.98	12,113	11,977	4,908	4,681

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	19,087	35,830	36,526	61.55	32.79	1.00	11,880	11,748	4,829	4,608
H	1,322	1,732	640	17.34	13.23	0.54	233	229	79	73
Totals	20,409	37,562	37,167	58.69	31.89	0.98	12,113	11,977	4,908	4,681



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

FPA/N No: 2931941
 Effective Date: 08/05/2016
 Expiration Date: 08/05/2019
 Shut Down Zone: 660
 EARR Tax Credit: Eligible Non-eligible
 Reference: Timber Tiger TBS
 30-093559

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

Decision

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

FPA/N Classification

Number of Years Granted on Multi-Year Request

- Class II Class III Class IVG Class IVS 4 years 5 years

Conditions on Approval / Reasons for Disapproval

1. Use erosion control measures in areas of soil disturbances with potential to deliver sediment to any waters. Erosion control measures may include but are not limited to: grass seeding, mulch, fiber mat, hay bales, brush and non-merchantable timber retention etc.

NOTE:

Refer to WAC 222-24-052(1) (d), (e), & (f) for road maintenance during and following harvest activities.

Refer to WAC 222-30-050(1) & (2) for felling and bucking within type Np and Ns waters

Refer to WAC 222-30-021 (2) (a) for equipment limitation zones associated with perennial and seasonal streams.

Refer to WAC 222-24-052(1) (c) for sediment delivery to typed waters.

Issued By: Geoff Crosby Region: Pacific Cascade

Title: Forest Practices Forester Date: 08/05/2016

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: Jaquie Spahr

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)

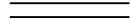
TIMBER TIGER

ROAD PLAN MAP

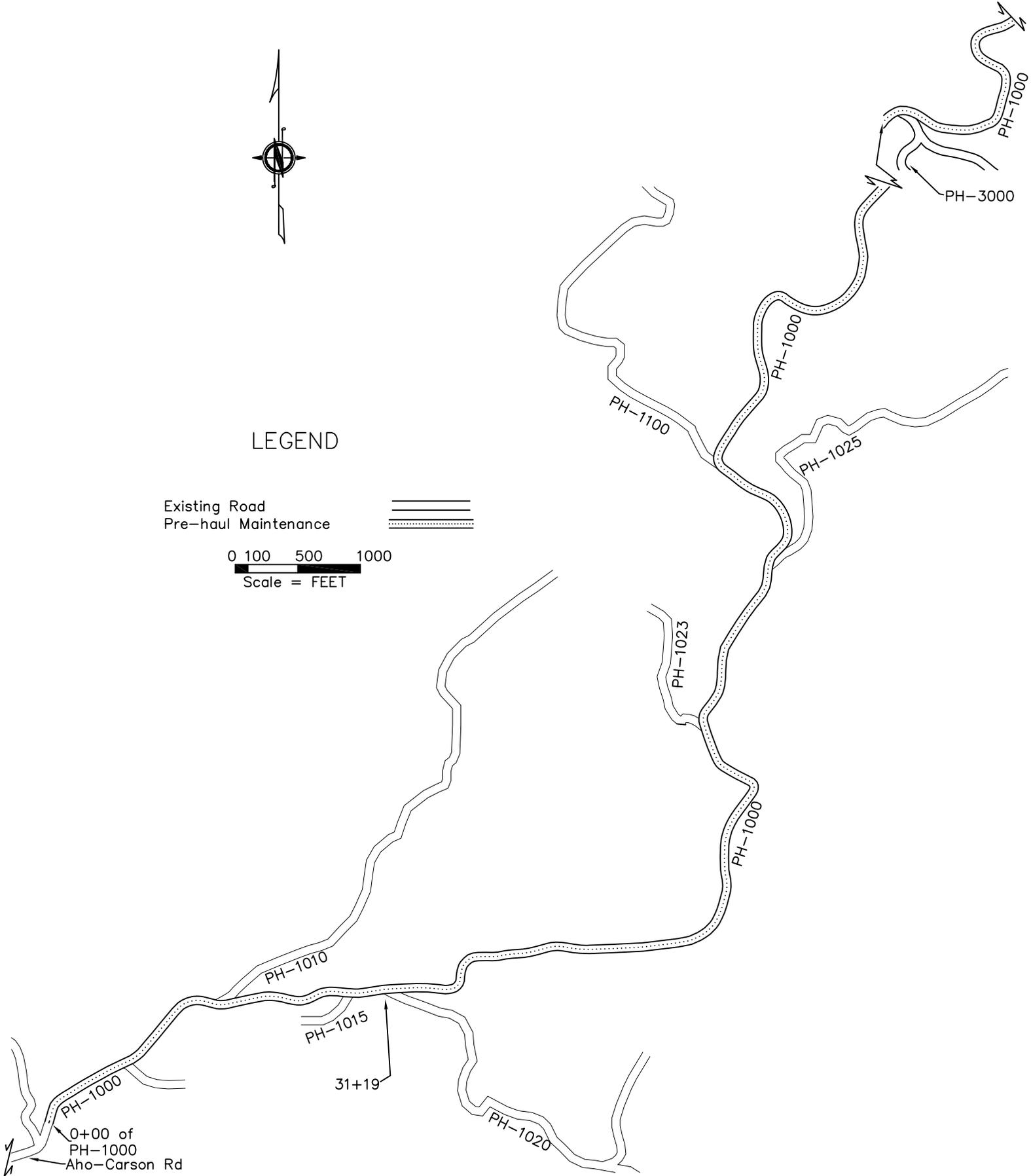
Map page 1 of 4



LEGEND

Existing Road 
Pre-haul Maintenance 

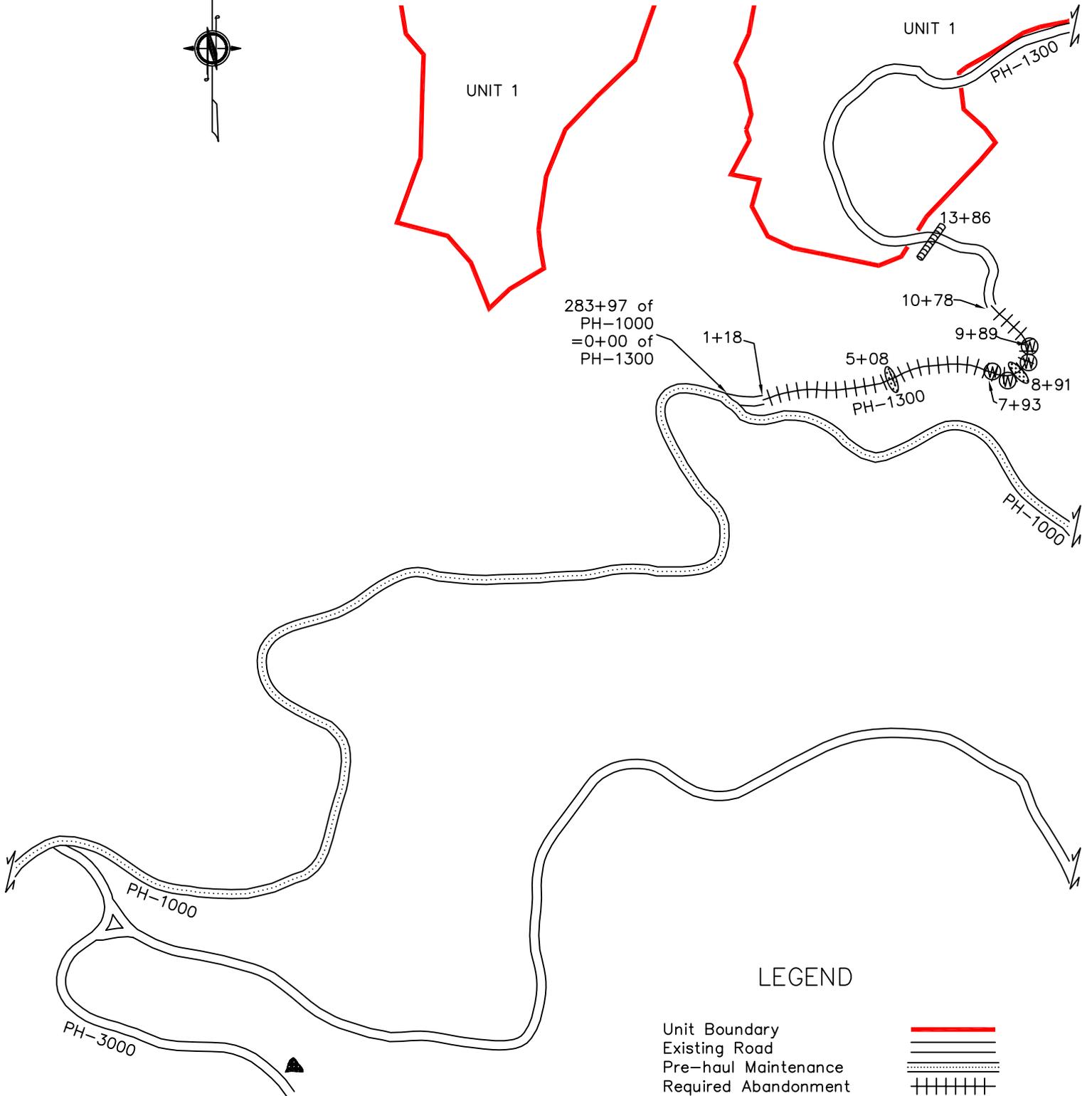
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TIMBER TIGER

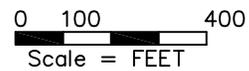
ROAD PLAN MAP

Map page 2 of 4



LEGEND

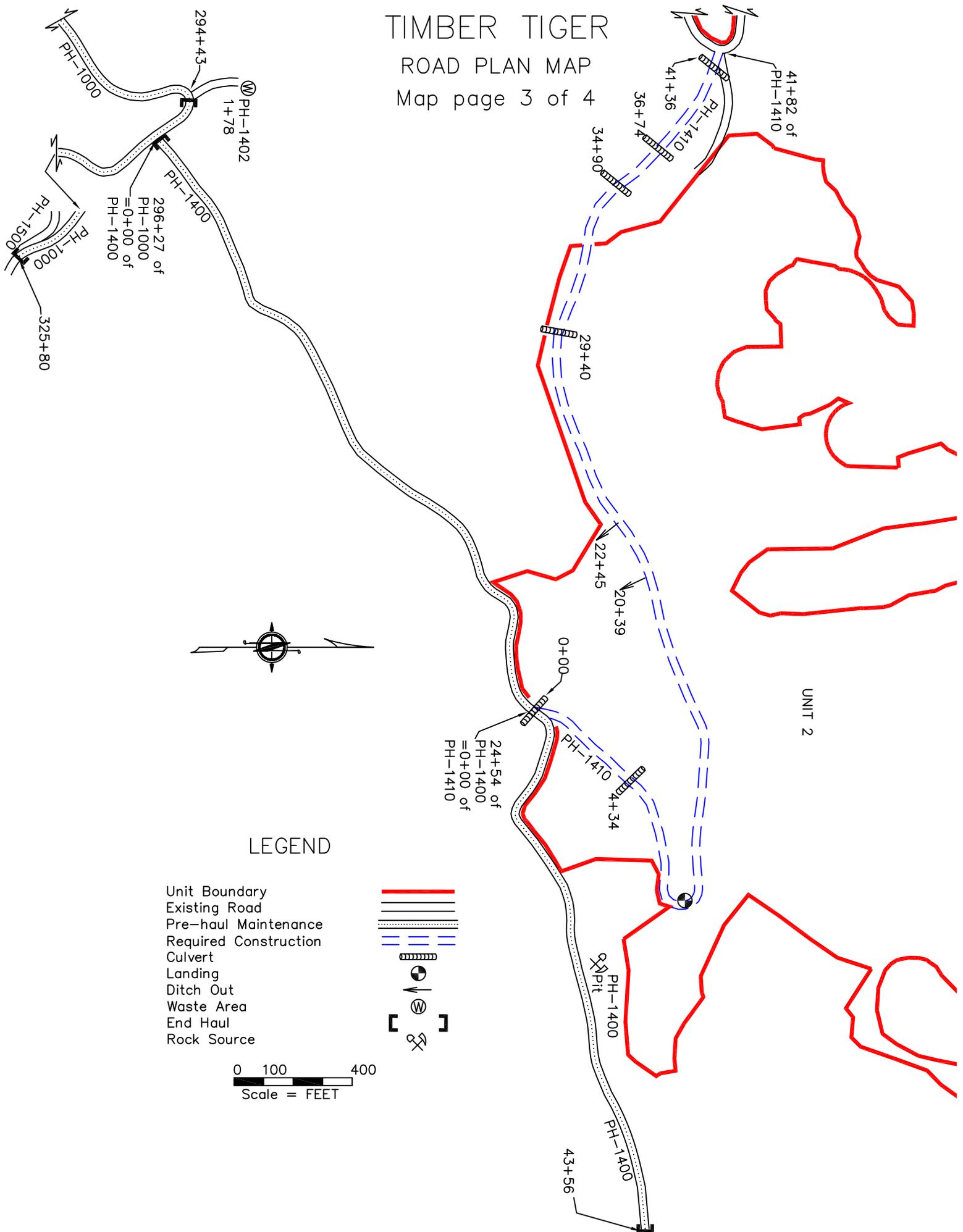
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- Existing Road
- Pre-haul Maintenance
- Required Abandonment
- Culvert
- Culvert Removal
- Waste Area
- Stockpile Site



TIMBER TIGER

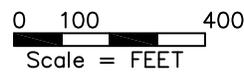
ROAD PLAN MAP

Map page 3 of 4



LEGEND

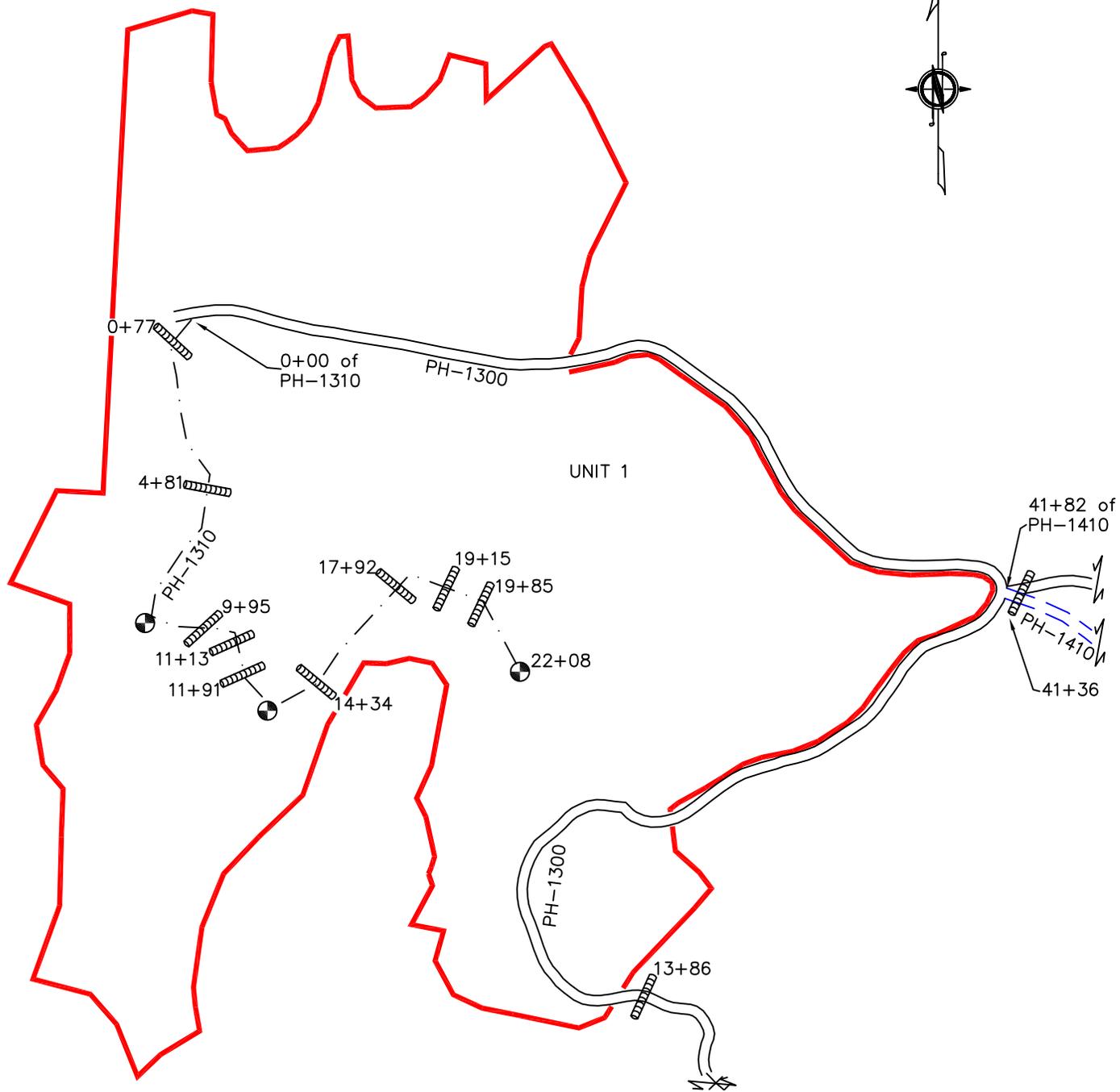
- Unit Boundary
- Existing Road
- Pre-haul Maintenance
- Required Construction
- Culvert
- Landing
- Ditch Out
- Waste Area
- End Haul
- Rock Source



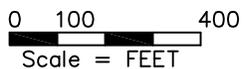
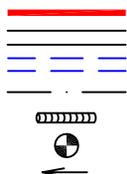
TIMBER TIGER

ROAD PLAN MAP

Map page 4 of 4



- Unit Boundary
- Existing Road
- Required Construction
- Optional Construction
- Culvert
- Landing
- Ditch Out



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

TIMBER TIGER TIMBER SALE ROAD PLAN
COWLITZ COUNTY
YACOLT DISTRICT

AGREEMENT NO.: 30-093559

STAFF ENGINEER: BRETT WALLACHY

CREATION DATE: 01/26/2016

DRAWN & COMPILED BY: ALICIA COMPTON

MODIFICATION DATE: 10/06/2016

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>
PH-1000	0+00 to 325+80	Pre-haul maintenance
PH-1300	1+18 to 10+78	Abandonment
PH-1300	13+86	Pre-haul maintenance
PH-1400	0+00 to 43+56	Pre-haul maintenance
PH-1410	0+00 to 41+82	Construction

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>
PH-1310	0+00 to 22+08	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to clearing, grubbing, excavation, embankment, and fill to subgrade as shown on the TYPICAL SECTION SHEET; acquisition & installation of drainage structures as shown on the CULVERT LIST; landing and turnaround construction, application of rock as shown on the ROCK LIST; any additional requirements specified in this road plan.

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>
PH-1000	0+00 to 31+19	Grade and shape according to the TYPICAL SECTION SHEET; apply chemical dust abatement according to 6-81; compact according to the COMPACTION LIST
PH-1000	31+19 to 294+43	Grade and shape according to the TYPICAL SECTION SHEET; compact according to the COMPACTION LIST
PH-1000	294+43 to 325+80	Ditch (end haul waste), grade, and shape according to the TYPICAL SECTION SHEET; compact according to the COMPACTION LIST
PH-1300	13+86	Provide and install culvert as shown on the CULVERT LIST.
PH-1400	0+00 to 43+56	Brush according to the BRUSHING SECTION DETAIL; ditch (end haul waste) and shape according to the TYPICAL SECTION SHEET; apply rock according to the ROCK LIST; compact according to the COMPACTION LIST

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

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>
PH-1000

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.

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
- Construction: Orange flagging & paint, stakes, RP tags
- Abandonment: Orange paint, stakes, RP tags

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.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
PH-1310	0+00 to 22+08	Stakes on centerline and reference points to centerline
PH-1410	0+00 to 41+82	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 other than timber cut on the right-of-way, without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction, 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>
PH-1300	1+18 to 10+78	Abandonment	September 15 to June 30
PH-1300	0+00 to 15+00	Rock haul	October 1 to April 30

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.
- Wheel track rutting exceeds 8 inches on native surface 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.

1-33 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 rock application. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PH-1000	0+00 to 325+80	Grade and shape according to the TYPICAL SECTION SHEET
PH-1400	0+00 to 43+56	Grade and shape according to the TYPICAL SECTION SHEET

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 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>
PH-1000	294+43 to 325+80
PH-1400	0+00 to 43+56

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING SECTION DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
PH-1400	0+00 to 43+56

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. Stumps over 22 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits and in compliance with all other clauses in this road plan. 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, waste area, and brushing area limits as shown on the TYPICAL SECTION SHEET and BRUSHING DETAIL.

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.

<u>Road</u>	<u>Disposal Location</u>	<u>Requirements</u>
PH-1402	1+78	Keep separate from waste material

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 25 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 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 in natural openings on the downhill side of the road unless otherwise detailed in this road plan. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of 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.

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees.

Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

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
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.

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

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

<u>Road</u>	<u>Stations</u>	<u>Waste Disposal</u>
PH-1000	294+43 to 325+80	End haul to waste area
PH-1400	0+00 to 43+56	End haul to waste area

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts at locations shown on the CULVERT LIST, 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. The amount of material allowed in a waste area is as listed.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>	<u>Volume</u>
PH-1300	Road prism from 7+93 to 9+89	For abandonment waste only, subject to specifications in the ROAD PRISM WASTE DETAIL not 4-38	-
PH-1402	1+78	Place waste in a manner that expands existing waste area at the same elevation	2000 CY

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

- 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.

5-17 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.

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>
PH-1400 Pit	S17, T6N, R2E	3-INCH JAW RUN ROCK, SELECT PIT RUN ROCK

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove more than 100 cubic yards of STOCKPILED ROCK. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator. Other stockpiles may not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
PH-3000 Stockpile	PH-3000 19+50	STOCKPILED ROCK

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>
PH-1400	3-INCH JAW RUN ROCK, SELECT PIT RUN ROCK

6-20 ROCK GRADATION TYPES

Purchaser shall provide 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. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-34 3-INCH JAW RUN ROCK

% Passing 3" square sieve	100%
% Passing 1 1/2" square sieve	45 - 65%

Rock may contain no more than 5 percent organic debris, dirt, 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 STOCKPILED ROCK as well as SELECT PIT RUN ROCK used for junctions, landings, turnarounds, energy dissipaters, and headwalls 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.

6-70 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.

6-75 OPTIONAL ROCK EXCEPTION

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

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

<u>Road</u>	<u>Stations</u>	<u>Options</u>
PH-1310	0+00 to 10+13, 12+13 to 18+15, 20+15 to 22+08	Optional rock

6-81 CHEMICAL TREATMENT FOR DUST ABATEMENT

Purchaser shall treat the following roads with Lignin Sulfonate or Magnesium Chloride for dust abatement. No other chemical may be used for dust abatement. The Lignin Sulfonate or Magnesium Chloride may not be used for any other purposes.

<u>Road</u>	<u>Stations</u>
PH-1000	0+00 to 31+19

6-82 CHEMICAL RESTRICTION

Purchaser shall not allow chemicals used for dust abatement to enter any streams.

6-83 LIGNIN SULFONATE APPLICATION RATE

The “as supplied” liquid Lignin Sulfonate must be diluted with an adequate amount of water to obtain a 25% solids content for application. Purchaser shall apply Lignin Sulfonate to the surface at a rate not less than 0.5 gallons per square yard (approximately 77.8 gallons per station).

6-84 MAGNESIUM CHLORIDE APPLICATION RATE

Purchaser shall apply Magnesium Chloride to the surface at a rate not less than 0.5 gallons per square yard (approximately 77.8 gallons per station).

6-85 CHEMICAL DUST ABATEMENT EQUIPMENT

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

6-86 TIMING FOR CHEMICAL APPLICATION

Purchaser shall obtain prior written approval from the Contract Administrator for the timing of application for dust abatement chemicals. It is intended that dust abatement chemicals be applied during the summer season.

SECTION 8 – EROSION CONTROL

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.

8-15 REVEGETATION

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>
PH-1000	294+43 to 325+80	36	Grass seed	Ditch cleaning
PH-1300	1+18 to 10+78	66	Grass seed	Abandonment
PH-1300	13+86	4	Grass seed	Culvert
PH-1310	0+00 to 22+08	112	Grass seed	Construction
PH-1400	0+00 to 43+56	50	Grass seed	Ditch cleaning
PH-1410	0+00 to 41+82	211	Grass seed	Construction

*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 between March 1 and September 30. 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

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the EARTHEN BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
PH-1300	1+18 and 10+78

9-2 CULVERT REMOVAL FROM LIVE STREAM

On the following road(s), Purchaser shall remove existing culverts from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. Place excavated material in a waste area designated in Clause 4-37 WASTE AREA LOCATION. Culvert removal from live streams must be in accordance with the LIVE STREAM CULVERT REMOVAL DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width</u>	<u>Slope Ratio</u>	<u>Comments</u>
PH-1300	5+08	4	3:1	-
PH-1300	8+91	10	3:1	Must be removed between July 1 and September 15, use waste material to aid in medium abandonment

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 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.

9-21 ROAD ABANDONMENT

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
PH-1300	1+18 to 7+93	Light
PH-1300	7+93 to 9+89	Medium
PH-1300	9+89 to 10+78	Light

9-22 LIGHT ABANDONMENT

- Remove road shoulder berms except as directed.
- Rip the surface to a minimum depth of 12 inches.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 50 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- Remove stream crossing fill in accordance with the FILL REMOVAL TABLE & DETAIL and Clause 9-2 CULVERT REMOVAL FROM LIVE STREAM at station 5+08.
- Remove ditch cross drain culverts according to the SMALL STREAM CROSSING AND CROSSDRAIN REMOVAL DETAIL at stations 3+54, 6+44, 7+93, and 9+89.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 50 feet of any live stream, with a 6-inch deep layer of straw.
- Scatter woody debris onto abandoned road surfaces.

9-23 MEDIUM ABANDONMENT

- Fill in ditches.
- Rip the surface to a minimum depth of 12 inches.
- Outslope the surface at a minimum of 10 percent.
- Remove culverts.
- Remove stream crossing fill in accordance with the FILL REMOVAL TABLE & DETAIL and Clause 9-2 CULVERT REMOVAL FROM LIVE STREAM at station 8+91.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 50 feet of any live stream, with a 6-inch deep layer of straw.
- Scatter woody debris onto abandoned road surfaces.

SECTION 10 MATERIALS

10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

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

10-30 LIGNIN SULFONATE MATERIALS

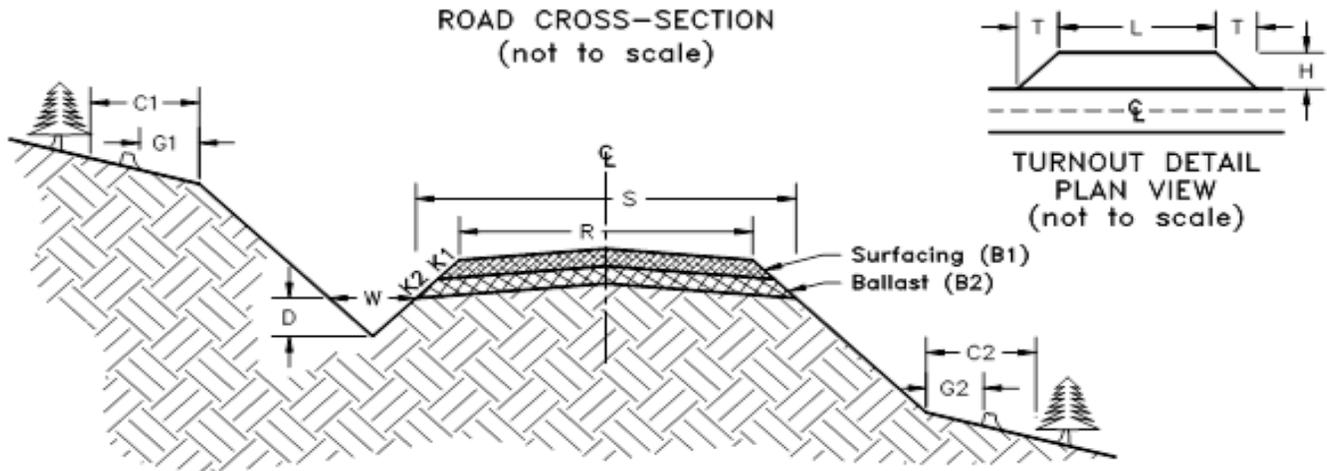
Lignin Sulfonate is the chemical residue produced as a by-product of the acid sulfite pulping process, and supplied as a water solution. The base solution may be ammonia, calcium, or sodium and must be water soluble to allow field dilution. Percent solids must be 50% as supplied. When requested by the Contract Administrator, certification must be provided that shows:

- Solids determination has been made in accordance with the modified Technical Association of the Pulp and Paper Industry Standard T629-M53 or by a specific gravity/percent solids verses temperature graph that correlates with the standard.
- The P_h of the delivered material is a 4.5 minimum as determined by AASHTO-T200.

10-31 MAGNESIUM CHLORIDE MATERIALS

Magnesium Chloride is the chemical residue produced as a by-product of the potash production or natural salt brine, and supplied as a water solution. Percent solids must be 28% magnesium by mass, as supplied.

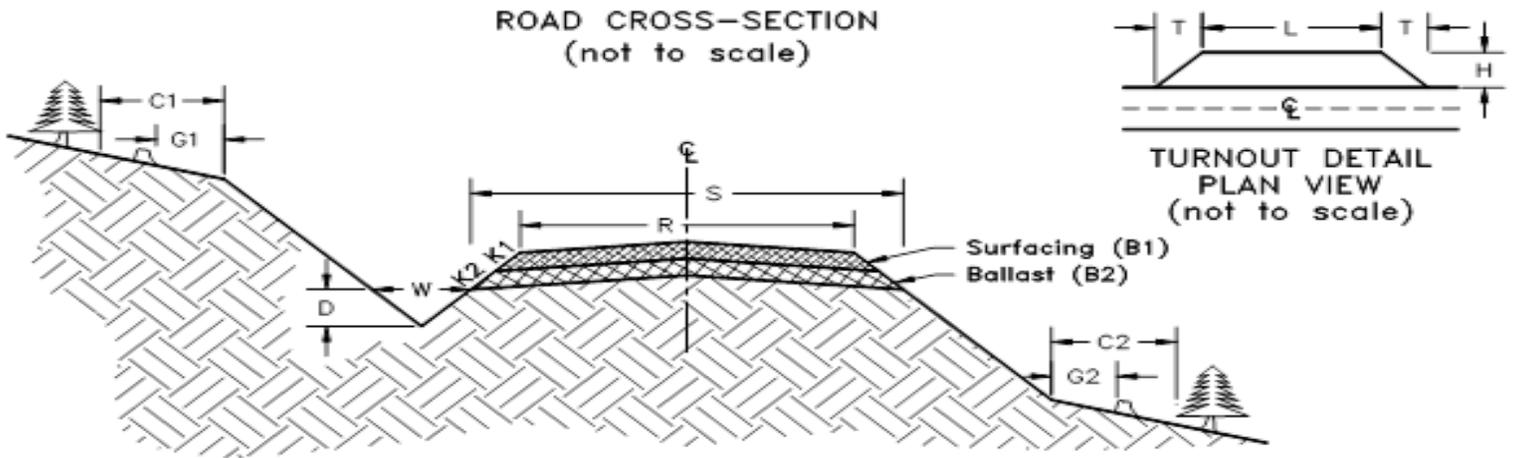
TYPICAL SECTION SHEET



Road Number	Station		Tolerance Class	Width (ft) Subgrade		Ditch (ft)		Crown at CL (in)	Grubbing Limits (ft)		Clearing Limits (ft)	
	From	To		S	R	W	D		G1	G2	C1	C2
PH-1000	0+00	325+80	A	-	-	-	-	4	-	-	-	-
PH-1300	1+18	10+78	-	-	-	-	-	-	-	-	-	-
PH-1310	0+00	22+08	C	16	12	3	1	4	5	5	10	10
PH-1400	0+00	43+56	A	-	12	3	1	4	-	-	BSD	BSD
PH-1410	0+00	41+82	C	16	12	3	1	4	5	5	10	10

Key

BSD- BRUSHING SECTION DETAIL



STOCKPILED ROCK

				Compacted						Turnout (ft)		
Road	Station		Slope (H:V)	Rock	Rock	CY/	No. of	CY	Rock	Length	Width	Taper
Number	From	To	K1	B1	Station	Stations	Subtotal	Source	L	H	I	
PH-1000	Spot patching	-	-	-	-	-	100	PH-3000 Stockpile				
PH-1300	Culvert backfill	13+86	-	-	-	-	20	"				
PH-1410	Culvert backfill	0+00	-	-	-	-	30	"				
STOCKPILED ROCK TOTAL							<u>150</u>	Cubic Yards				

3-INCH JAW RUN ROCK

				Compacted						Turnout (ft)		
Road	Station		Slope (H:V)	Rock	Rock	CY/	No. of	CY	Rock	Length	Width	Taper
Number	From	To	K1	B1	Station	Stations	Subtotal	Source	L	H	I	
PH-1400	0+00	43+56	1.5:1	6	30	43.56	1307	PH-1400 Pit				
"	Curve widening	-	1.5:1	6	-	-	39	"				
3-INCH JAW RUN ROCK TOTAL							<u>1346</u>	Cubic Yards				

SELECT PIT RUN ROCK

				Compacted						Turnout (ft)		
Road	Station		Slope (H:V)	Rock	Rock	CY/	No. of	CY	Rock	Length	Width	Taper
Number	From	To	K1	B1	Station	Stations	Subtotal	Source	L	H	I	
PH-1300	Energy Dissipater	-	-	-	-	-	2	PH-1400 Pit				
PH-1310	Junction	-	1.5:1	-	-	-	10	"				
"	* 0+00	10+13	1.5:1	12	63	10.13	638	"				
"	10+13	12+13	1.5:2	12	63	2.00	126	"				
"	* 12+13	18+15	1.5:3	12	63	6.02	379	"				
"	18+15	20+15	1.5:4	12	63	2.00	126	"				
"	* 20+15	22+08	1.5:5	12	63	1.93	122	"				
"	* Curve widening	-	1.5:1	12	-	-	34	"				
"	Curve widening	-	1.5:1	12	-	-	8	"				
"	* Landing	-	1.5:1	-	50	3	150	"				
"	* Turnaround	-	1.5:1	-	40	1	40	"				
"	Energy Dissipater	-	-	-	-	-	20	"				

ROCK LIST
(Page 2 of 2)

SELECT PIT RUN ROCK

				<u>Compacted</u>							
				<u>Rock</u>	<u>Rock</u>			<u>Turnout (ft)</u>			
<u>Road</u>	<u>Station</u>		<u>Slope (H:V)</u>	<u>Depth (in)</u>	<u>CY/</u>	<u>No. of</u>	<u>CY</u>	<u>Rock</u>	<u>Length</u>	<u>Width</u>	<u>Taper</u>
<u>Number</u>	<u>From</u>	<u>To</u>	<u>K1</u>	<u>B1</u>	<u>Station</u>	<u>Stations</u>	<u>Subtotal</u>	<u>Source</u>	<u>L</u>	<u>H</u>	<u>I</u>
PH-1410	Junction	-	1.5:1	-	-	-	10	PH-1400 Pit			
"	0+00	41+82	1.5:1	15	81	41.82	3387	"			
"	Curve widening	-	1.5:1	15	-	-	102	"			
"	Landing	-	1.5:1	-	60	1	60	"			
"	Turnaround	-	1.5:1	-	50	1	50	"			
"	Energy Dissipater	-	-	-	-	-	12	"			

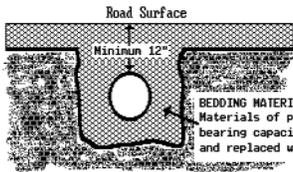
OPTIONAL SELECT PIT RUN ROCK TOTAL 1363 Cubic Yards
REQUIRED SELECT PIT RUN ROCK TOTAL 3911 Cubic Yards

* Optional rock, see Road Plan Clause 6-75

CULVERT LIST

Road Number	Station	Culvert		Length (ft)			Rip Rap			Backfill/Bedding		Construction	Remarks
		Diameter (in)	Gauge	Culvert	Downspout	Flume	Inlet (CY)	Outlet (CY)	Type	(CY)	Type	Staked (Y/N)	
PH-1300	3+54	-	-	-	-	-	-	-	-	-	-	-	Remove cross drain
"	5+08	-	-	-	-	-	-	-	-	-	-	-	Remove stream culvert
"	6+44	-	-	-	-	-	-	-	-	-	-	-	Remove cross drain
"	7+93	-	-	-	-	-	-	-	-	-	-	-	Remove cross drain
"	8+91	-	-	-	-	-	-	-	-	-	-	-	Remove stream culvert
"	9+89	-	-	-	-	-	-	-	-	-	-	-	Remove cross drain
"	13+86	18	-	30	-	-	1	1	SPR	-	SR	N	-
PH-1310	0+77	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	4+81	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	9+95	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	11+13	24	-	30	-	-	1	1	SPR	-	NT	N	-
"	11+91	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	14+34	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	17+92	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	19+15	24	-	30	-	-	2	2	SPR	-	NT	N	Type 5
"	19+85	18	-	30	-	-	1	1	SPR	-	NT	N	-
PH-1410	0+00	18	-	40	-	-	1	1	SPR	-	SR	N	-
"	4+34	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	20+39	-	-	-	-	-	-	-	-	-	-	N	DOL
"	22+45	-	-	-	-	-	-	-	-	-	-	N	DOL
"	29+40	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	34+90	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	36+74	18	-	30	-	-	1	1	SPR	-	NT	N	-
"	41+36	18	-	40	-	-	1	1	SPR	-	NT	N	-

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



BEDDING MATERIAL:
Materials of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill.

Key

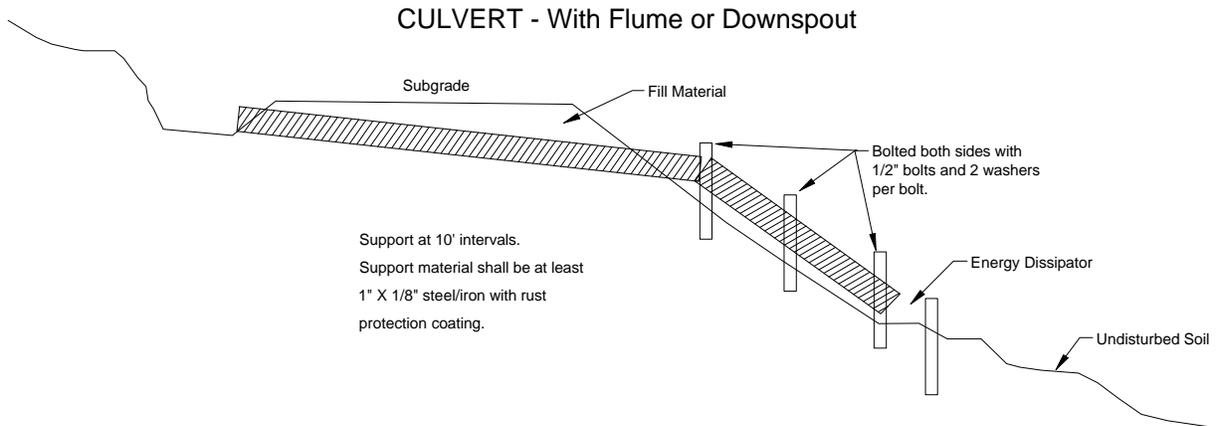
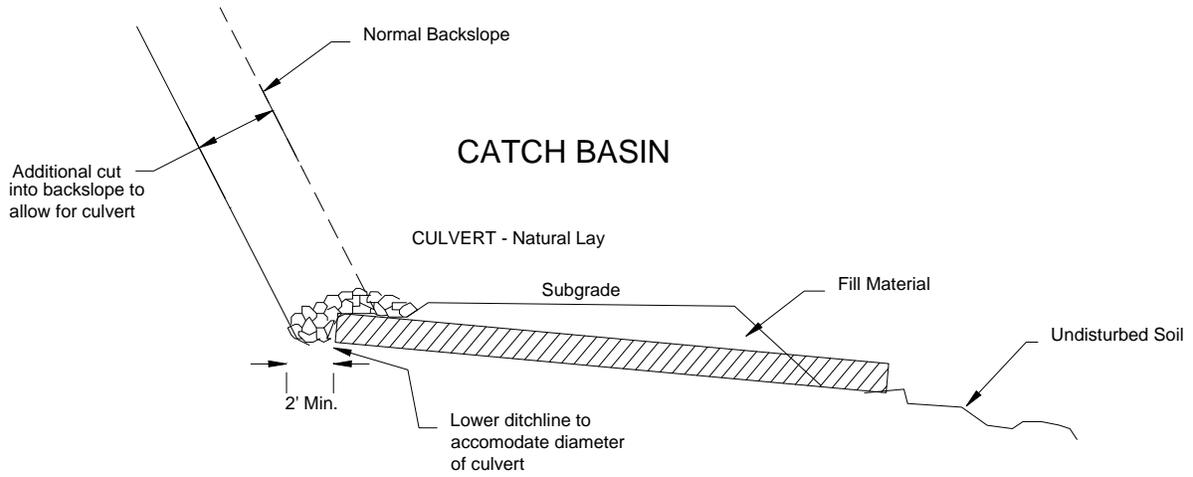
- Downspout- Full round pipe
- Flume- Half round pipe
- SPR- SELECT PIT RUN ROCK
- SR- STOCKPILED ROCK
- NT- Native
- DOL- Ditchout left

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	12	Vibratory Smooth Drum	14000	5	3	1

CULVERT AND DRAINAGE SPECIFICATION DETAIL

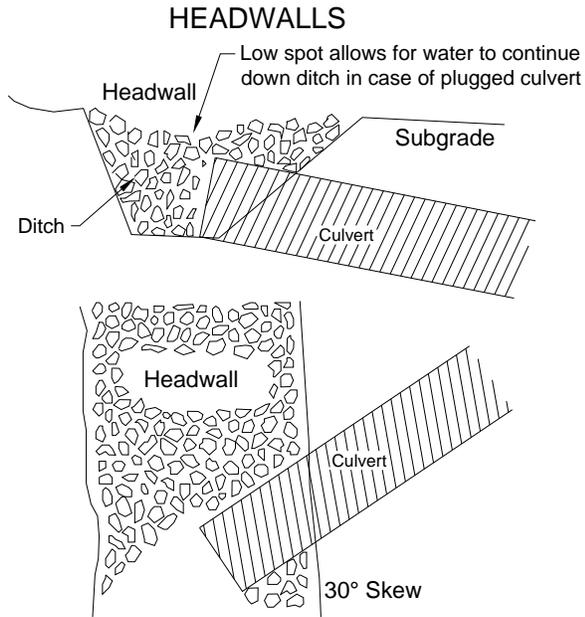
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CULVERT AND DRAINAGE SPECIFICATION DETAIL

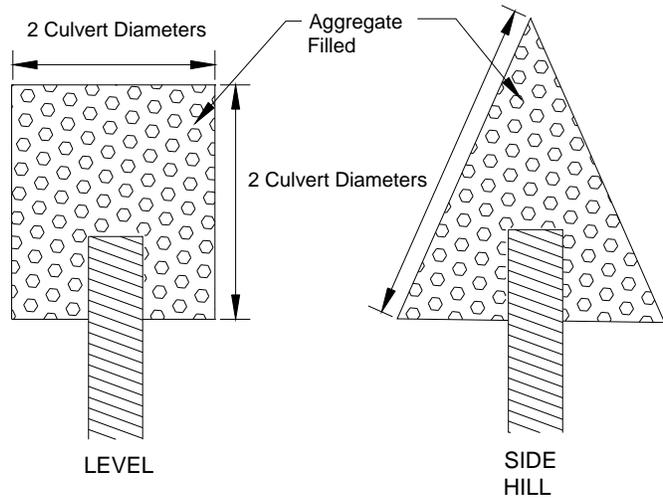
(Page 2 of 3)

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

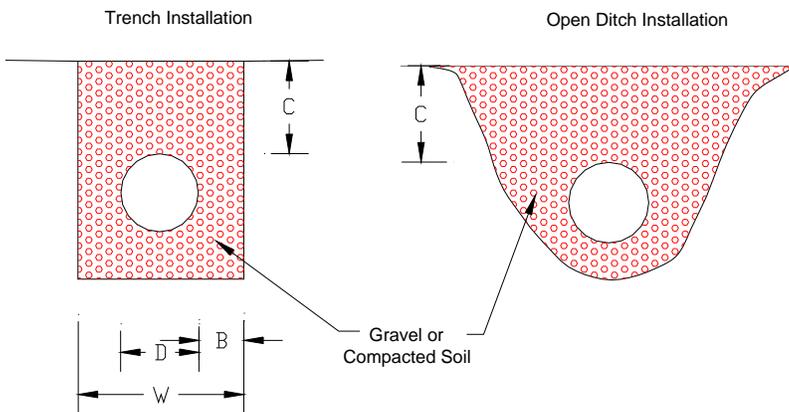
(Page 3 of 3)

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, inslope or outslope as directed, 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

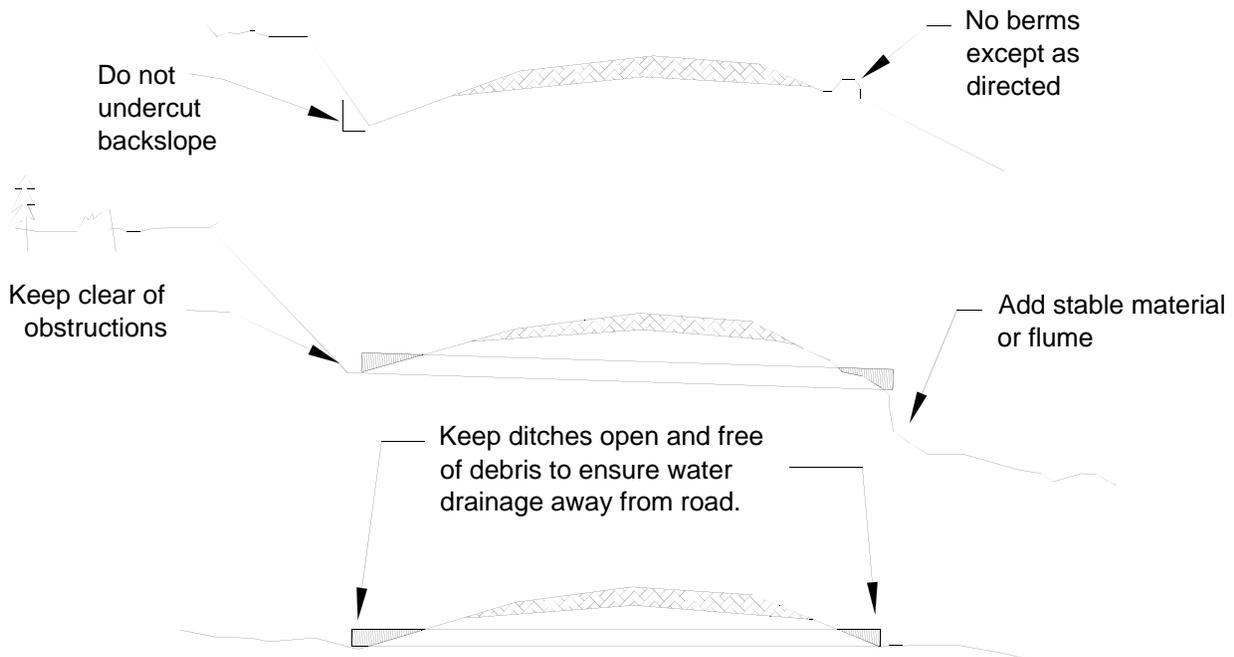
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

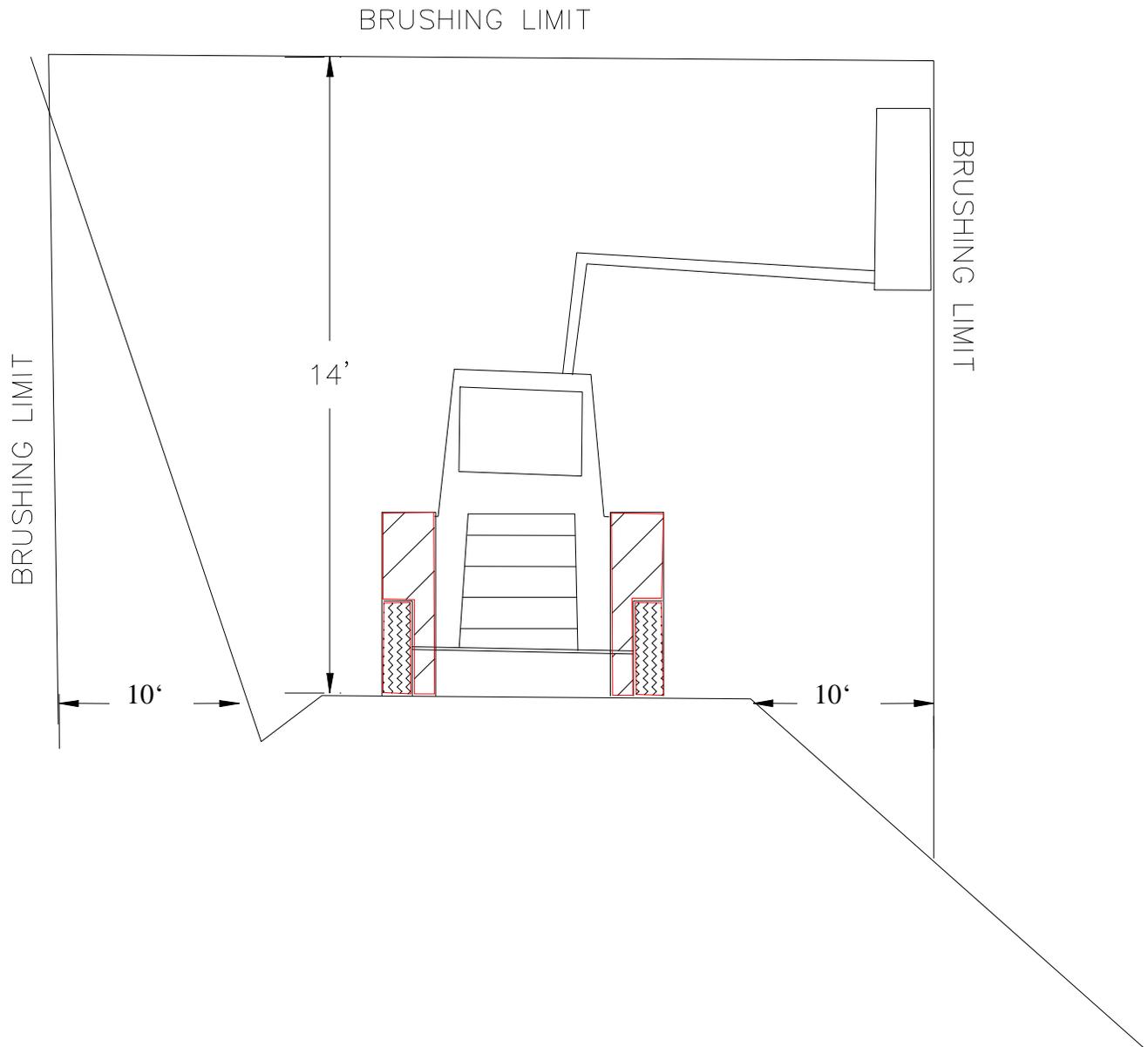
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

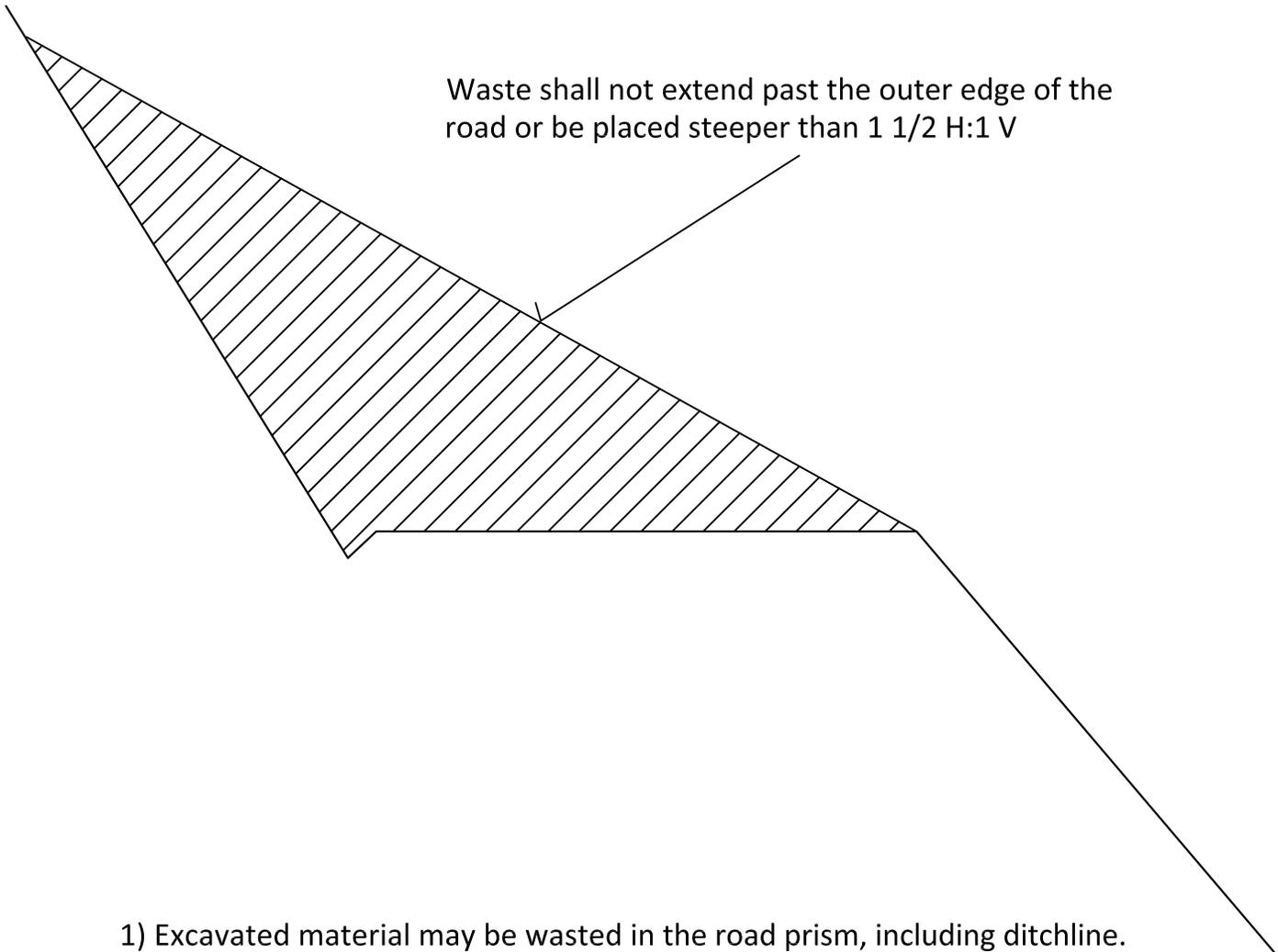
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



BRUSHING SECTION DETAIL

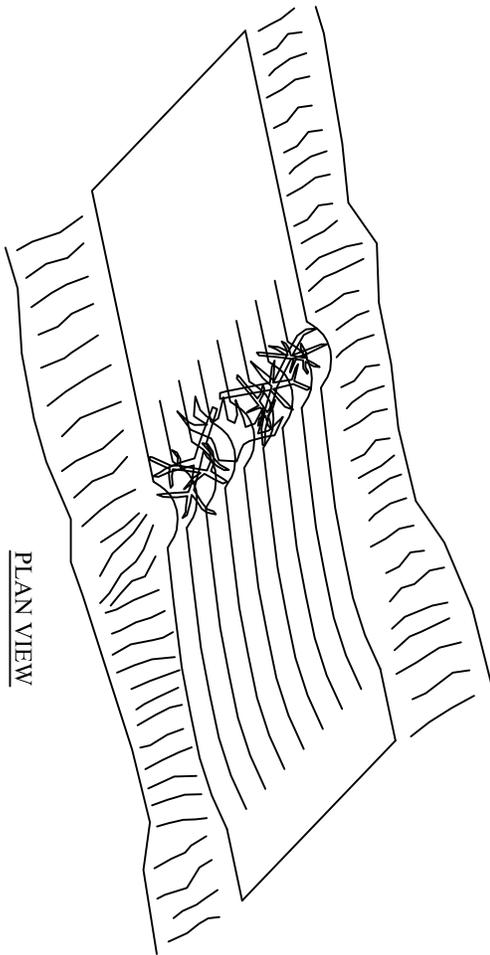


ROAD PRISM WASTE DETAIL

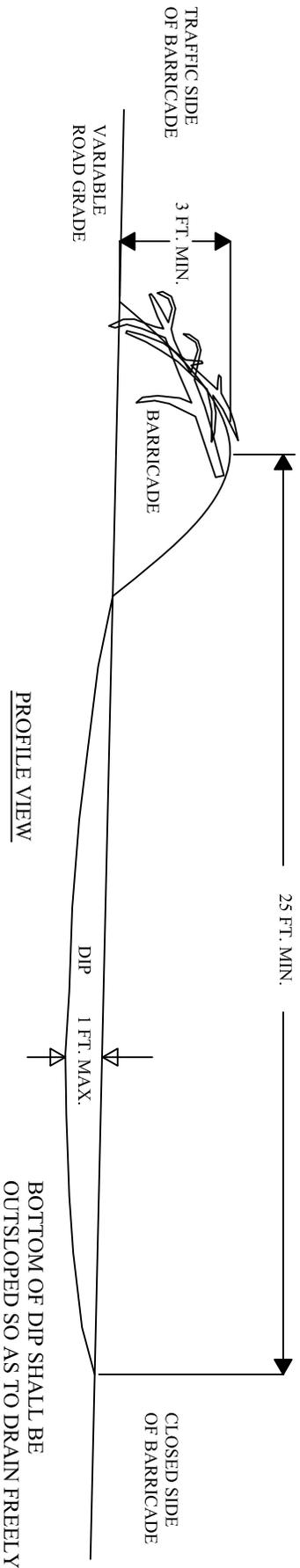


- 1) Excavated material may be wasted in the road prism, including ditchline.
- 2) Waste shall be sloped no steeper than 1 1/2 H : 1 V and placed a minimum of 10 feet from the edge of excavation limits.
- 3) Waste material shall not impede the natural drainage of water.
- 4) Waste shall be placed in 2 foot lifts and compacted by routing tracked excavation equipment over it.
- 5) A water bar shall be constructed immediately above the waste area.
- 6) Woody debris shall not be buried in waste areas. Available woody debris shall be scattered across the top of the waste area.

EARTHEN BARRICADE DETAIL



SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.



LIVE STREAM CULVERT REMOVAL PROCEDURE

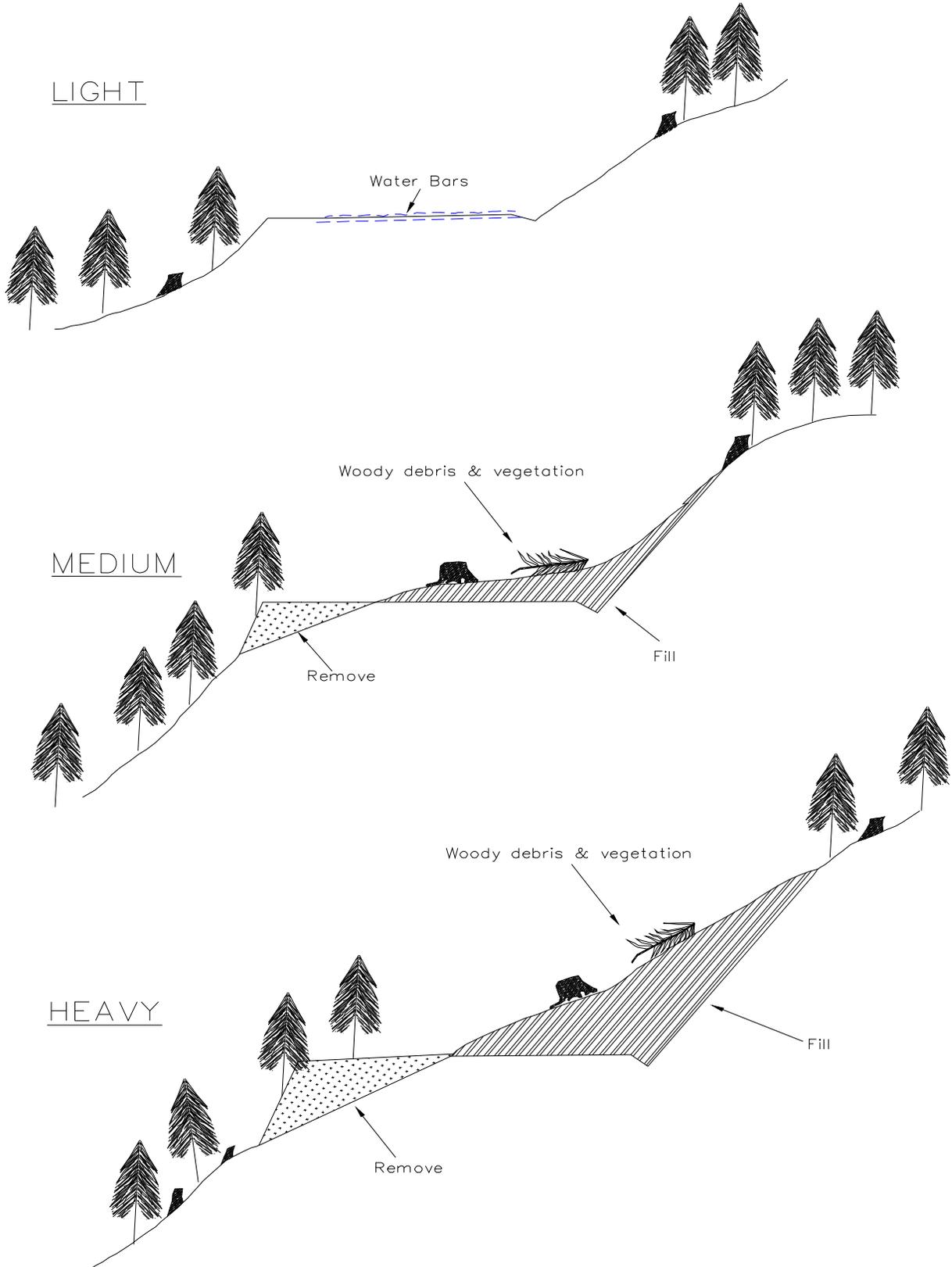
Order of work is as follows, deviations shall be approved, in writing, by the Contract Administrator.

- 1) Purchaser shall notify the State of intent to start project, and a pre-work conference shall be held before move in of equipment. State will designate a representative that will remain on site at all times when work is being performed in creek channel.
- 2) Assemble the items on the Materials List onsite before proceeding.
- 3) Remove 95% of fill (see FILL REMOVAL TABLE & DETAIL) and waste according to the ROAD PRISM WASTE DETAIL.
- 4) Set up pumps (3 required, with one as backup).
- 5) Dam up stream with sandbags and line floor of dam with plastic (to prevent sub-surface water flow), place clean rock on plastic to hold in place, and key leading edge of plastic into channel bottom - see SETTLING POND AND PUMP DETAIL. Build a settling pond at culvert outlet. Fill may need to be removed before the settling pond installation due to space limitations. Pump clean water at catch basin around work site and back into stream. Dirty water shall be pumped away from site and onto forest floor a minimum of 200 feet from live streams.
- 6) Remove remainder of fill and culvert.
- 7) Backfill settling pond with like material.
- 8) Cover exposed soils within 50 feet of all live streams with straw (minimum depth of 6 inches) and grass seed.

Materials List:

- 3 pumps, (one as a backup). Culvert removal should not start during rain or threat of rain;
- plastic sheeting;
- straw bales.

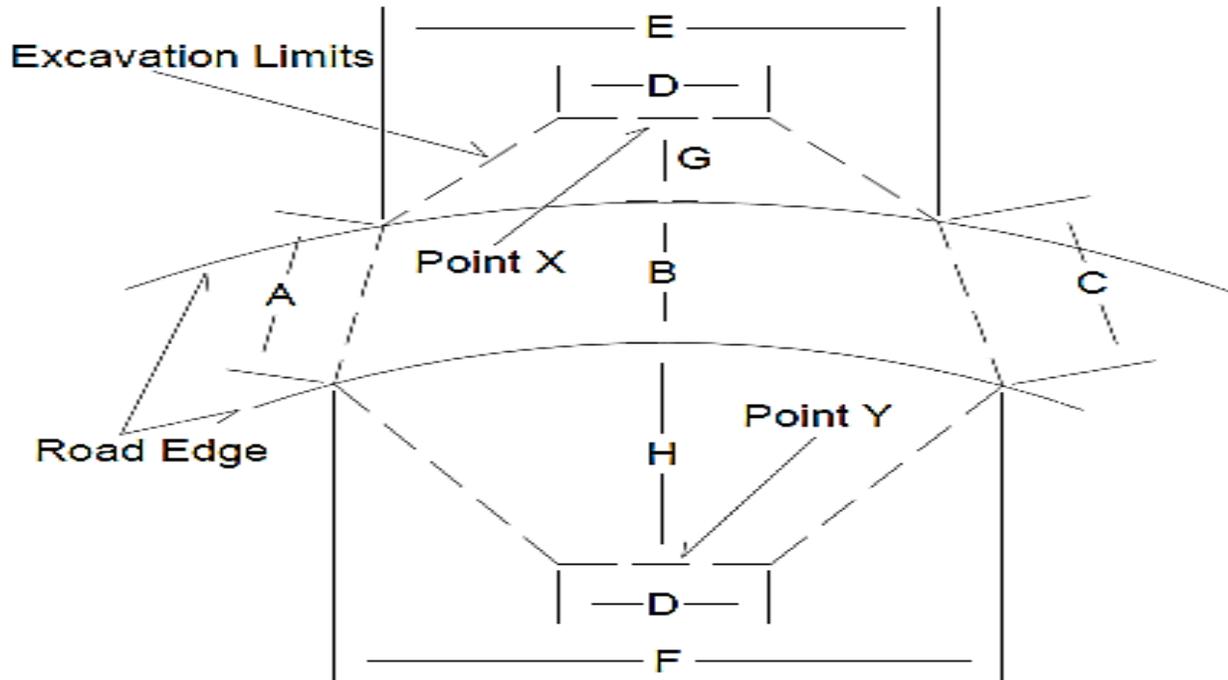
ROAD ABANDONMENT CROSS SECTIONS



FILL REMOVAL TABLE

Road	Station	A	B	C	D	E	F	G	H
PH-1300	5+08	17.5	14.5	19.0	4.0	25.0	49.0	3.5	7.5
PH-1300	8+91	25.0	22.0	42.0	10.0	34.0	61.0	4.0	8.5

FILL REMOVAL DETAIL



A,B,C=Road widths, ft

D=Excavated stream width, ft

E=Horizontal distance of upstream road edge excavation, ft

F=Horizontal distance of downstream road edge excavation, ft

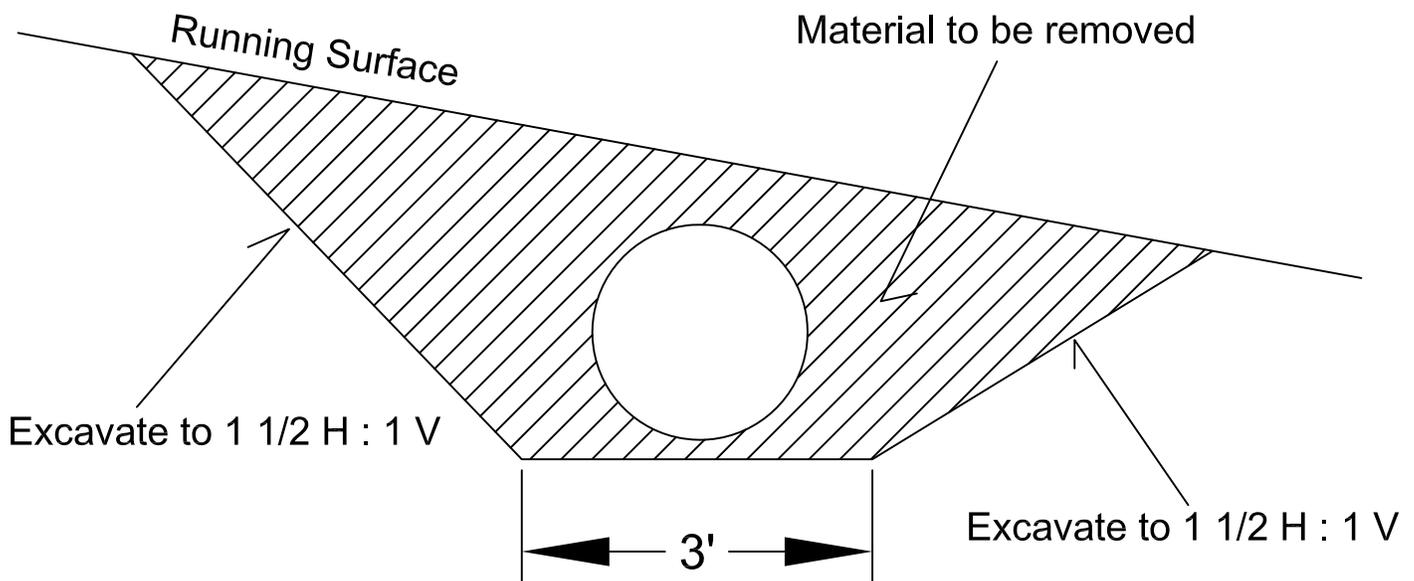
G=Approximate vertical distance from road edge to bottom of excavation at inlet, ft

H=Approximate vertical distance from road edge to bottom of excavation at outlet, ft

Horizontal and vertical locations of Points X and Y are controlled by RPs marked in the field.

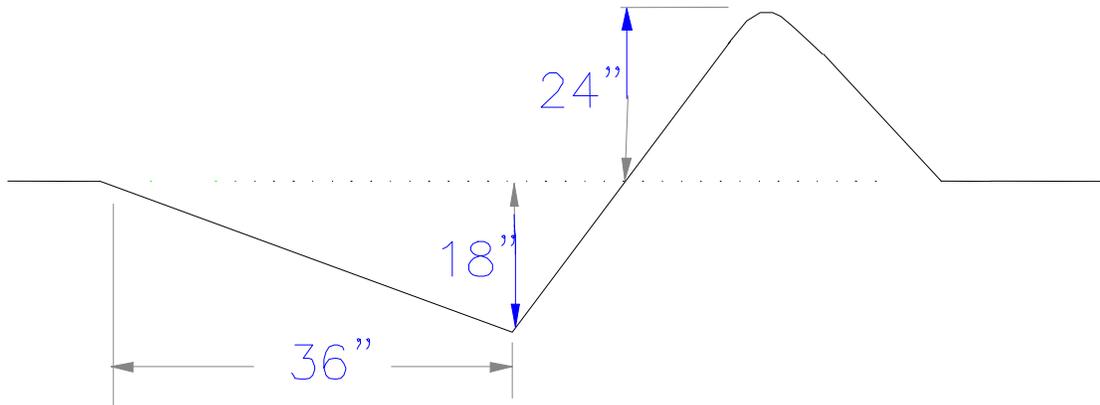
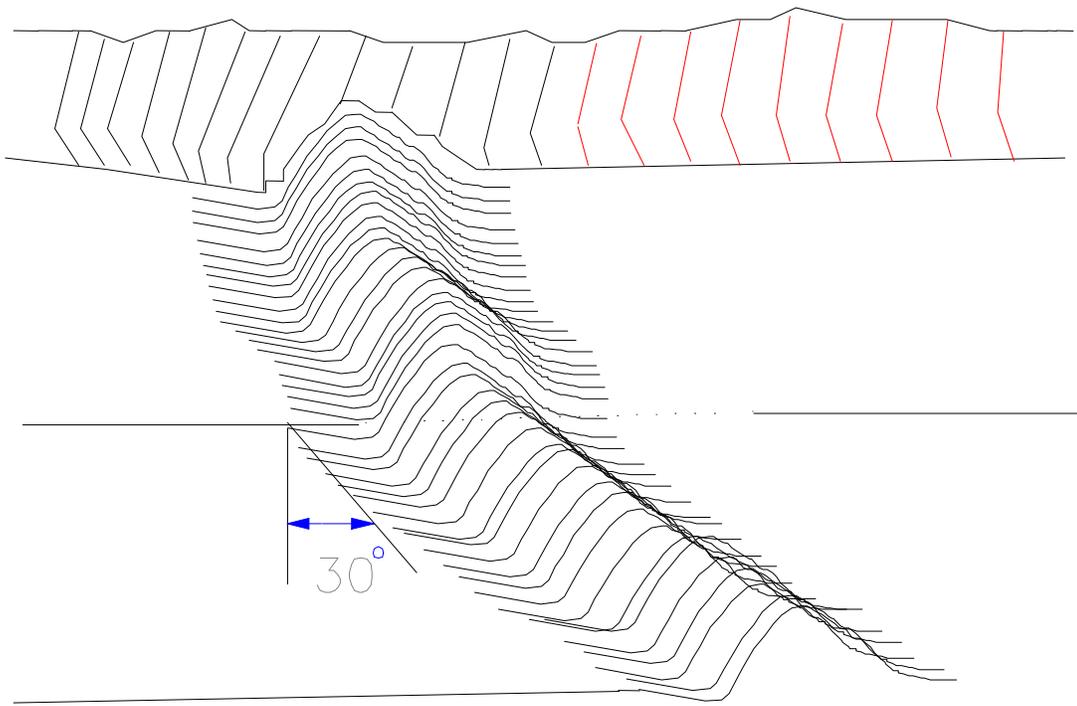
- 1) The stream channel shall be excavated to the width D and shall be a consistent grade between Points X and Y.
- 2) All excavated slopes shall be constructed to a consistent grade between the excavated stream channel and the excavation limits shown on the drawing.

SMALL STREAM CROSSING AND CROSSDRAIN REMOVAL DETAIL

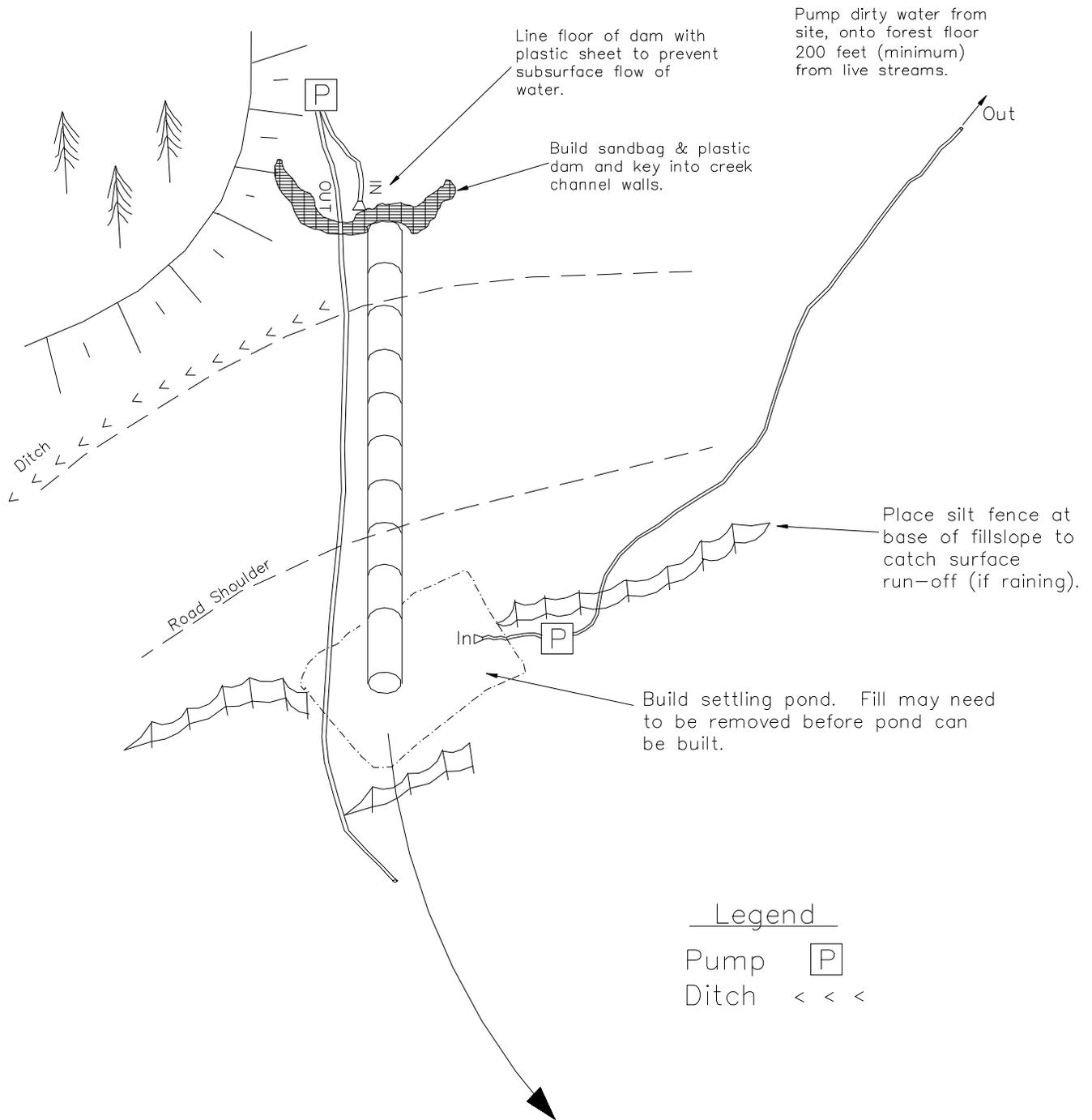


- 1) Excavated material may be wasted in the road prism in accordance with the Road Prism Waste Detail.
- 2) Resulting trench shall be keyed into the ditchline and slope towards the outside edge of the road with a drop of at least 1 foot in 10 feet.

NON-DRIVABLE WATER BAR DETAIL



SETTLING POND AND PUMP DETAIL



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

TIMBER TIGER ROCK SOURCE DEVELOPMENT PLAN

PH-1400 Pit T6N, R2E, S17

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 in Number 2 through 16 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 at station 1+78 of the PH-1402 as shown in the road plan. 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 as shown on the ROCK SOURCE DEVELOPMENT PLAN Map. Organic waste shall be kept separate from overburden at the waste area.
5. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator a minimum of 5 calendar days prior to any drilling. (Form #M-126PAC)
6. Drilling and rock extraction may begin when the Contract Administrator has approved the overburden removal, and informational drilling and shooting plan.
7. 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.
8. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques. No sediment shall enter live water.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

TIMBER TIGER ROCK SOURCE DEVELOPMENT PLAN

PH-1400 Pit T6N, R2E, S17

Page 2 of 2

9. The Operator shall submit an informational drilling and shooting report to the Contract Administrator a maximum of 5 calendar days after blasting has occurred. (Form #M-126PAC)
10. Oversize material shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed in the Oversized Area as shown on the ROCK SOURCE DEVELOPMENT PLAN MAP.
11. 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.
12. 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.
13. All exposed soil in the waste area shall be grass seeded in accordance with Road Plan clause 8-15 through 8-25.
14. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
15. 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.
16. 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 Yacolt

SALE/PROJECT NAME Timber Tiger

CONTRACT # 30-093559

ROAD NUMBERS	PH-1310, PH-1410		PH-1000, PH-1300, PH-1400	
ROAD STANDARD	Construction	Reconstruction	Maintenance	
NUMBER OF STATIONS	63.90	0.00	369.36	
CLEARING & GRUBBING	\$ 11,310	\$ -	\$ -	
EXCAVATION AND FILL	\$ 61,436	\$ -	\$ -	
MISC. MAINTENANCE	\$ 2,253	\$ -	\$ 19,758	
ROAD ROCK	Optional	\$ 18,853	\$ -	\$ -
	Required	\$ 44,113	\$ -	\$ 23,499
	Total	\$ 62,967	\$ -	\$ 23,499
ROCK STOCKPILE PROD	\$ -	\$ -	\$ -	
CULVERTS AND FLUMES	\$ 10,471	\$ -	\$ 591	
STRUCTURES	\$ -	\$ -	\$ -	
MOBILIZATION	\$ 4,950	\$ -	\$ 4,950	
TOTAL COSTS	\$ 153,386	\$ -	\$ 48,798	
COST PER STATION	\$ 2,400	\$ -	\$ 132	
ROAD DEACTIVATION & ABANDONMENT COSTS		\$ 5,994		
				TOTAL (All Roads) \$208,178
				TOTAL (Minus Optional Rock) \$189,325
				SALE VOLUME MBF 4691
				TOTAL \$/MBF \$ 44.38
				TOTAL \$/MBF (Minus Optional Rock) \$ 40.36

Completed by Brett Wallachy

Date 1/26/2016

ROCK SOURCE SUMMARY

SALE/PROJECT NAME Timber Tiger
CONTRACT # 30-093559

PIT NAME PH-1400 Pit
LOCATION T6N, R2E, S17

Distance to 1+78 PH-1402 waste area (feet) 3685

SHRINK/SWELL FACTOR 1.25

ROCK PIT PREPARATION

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 PIT PREPARATION TOTAL				\$ 7,600.00

MOBILIZATION

SALE/PROJECT NAME Timber Tiger
CONTRACT # 30-093559

ROAD BUILDING EQUIPMENT

MOBILIZATION

Grader	1000 each x 1	\$ 1,000.00
Dozer	1000 each x 1	\$ 1,000.00
Brusher	500 each x 1	\$ 500.00
Excavator (small)	500 each x 1	\$ 500.00
Excavator (large)	1000 each x 1	\$ 1,000.00
Roller	500 each x 1	\$ 500.00

ROAD BUILDING EQUIPMENT SUBTOTAL \$ 4,500.00

ROCK SOURCE EQUIPMENT

MOBILIZATION

Loader	\$ 1,000.00 each x 1	\$ 1,000.00
End dump	\$ 100.00 each x 4	\$ 400.00
Excavator (large)	\$ 1,000.00 each x 1	\$ 1,000.00
Jaw (mobile, includes set up)	\$ 1,500.00 each x 1	\$ 1,500.00

ROCK SOURCE EQUIPMENT SUBTOTAL \$ 3,900.00

ROAD ABANDONMENT EQUIPMENT

MOBILIZATION

Dozer	\$ 1,000.00 each x 1	\$ 1,000.00
Excavator (small)	\$ 500.00 each x 1	\$ 500.00

ROAD BUILDING EQUIPMENT SUBTOTAL \$ 1,500.00

MOBILIZATION TOTAL \$ 9,900.00

SUMMARY OF ROAD

SALE/PROJECT NAME Timber Tiger
CONTRACT # 30-093559
ROAD NUMBER PH-1000

Required pre-haul maintenance (stations) 325+80

PRE-HAUL MAINTENANCE (REQUIRED)

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	36	ditch	\$ 115.22
Ditch cleaning (one side)	\$ 50.00	per station x	29.53	296+27 to 325+80	\$ 1,476.50
Ditch cleaning (both sides)	100	per station x	1.84	294+43 to 296+27	\$ 184.00
Maintenance grading	\$ 10.86	per station x	325.80		\$ 3,537.73
Maintenance rolling	\$ 7.26	per station x	325.80		\$ 2,365.34
End haul	\$ 98.00	per hour x	13	ditch	\$ 1,232.80
Chemical dust abatement (applied)	\$ 100.00	per station x	31.19	0+00 to 31+19	\$ 3,119.00

TOTAL ROAD COST \$ 12,030.59

SUMMARY OF ROAD

SALE/PROJECT NAME Timber Tiger

CONTRACT # 30-093559

ROAD NUMBER PH-1300

Required pre-haul maintenance (stations) Culvert

Required abandonment (stations) 9+60

Distance to PH-3000 Stockpile (feet) 5605

PRE-HAUL MAINTENANCE (REQUIRED)

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	4 culvert	\$ 12.80
Straw mulching	\$ 4,428.60	per acre x	0.1 culvert	\$ 442.86

ROAD ROCK

STOCKPILED ROCK	\$ 2.78	per CY x	20 culvert backfill	\$ 55.64
SELECT PIT RUN ROCK	\$ 7.27	per CY x	2 energy dissipater	\$ 14.53
Rock haul	\$ 98.00	per hour x	0.9 round trip haul (feet)	12596 \$ 87.37

CULVERTS AND FLUMES

18" Polyethylene, double wall	\$ 19.71	per foot x	30 13+86	\$ 591.26
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REQUIRED PRE-HAUL MAINTENANCE SUBTOTAL \$ 1,204.46

ABANDONMENT (REQUIRED)

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	66 1+18 to 10+78	\$ 211.57
Straw mulching	\$ 4,428.60	per acre x	0.4 5+08, 8+91	\$ 1,805.60

ROAD DEACTIVATION & ABANDONMENT

Remove stream crossing culvert & fill	\$ 132.00	per hour x	3.26 8+91	\$ 430.32
Rip road surface 12" deep	\$ 300.00	per station x	9.60	\$ 2,880.00
Remove cross drain pipes	\$ 66.00	each x	5.00 3+54, 5+08, 6+44, 7+93, 9+89	\$ 330.00
Install non-driveable water bars	\$ 22.00	each x	15 every 50'	\$ 336.16

REQUIRED ABANDONMENT SUBTOTAL \$ 5,993.65

TOTAL ROAD COST \$ 7,198.11

SUMMARY OF ROAD

SALE/PROJECT NAME Timber Tiger
 CONTRACT # 30-093559
 ROAD NUMBER PH-1310

Optional construction (stations) 22+08
 Distance to PH-1400 Pit (feet) 12179

CONSTRUCTION (OPTIONAL)

CLEARING & GRUBBING

Clearing & grubbing \$ 177.00 per station x 22.08 \$ 3,908.16

EXCAVATION AND FILL

Construction (balanced, heavy) \$ 1,128.00 per station x 22.08 \$ 24,906.24
 Landing (small) \$ 197.50 each x 3 \$ 592.50
 Turnaround \$ 197.50 each x 1 \$ 197.50
 Grade, shape, roll subgrade \$ 13.85 per station x 22.08 \$ 305.81

MISC. MAINTENANCE

Grass seeding \$ 3.20 per pound x 112 \$ 356.85
 Straw mulching \$ 4,428.60 per acre x 0.3 \$ 1,220.00

ROAD ROCK

OPTIONAL

SELECT PIT RUN ROCK \$ 7.27 per CY x 1363 \$ 9,904.96
 Rock haul \$ 98.00 per hour x 91 round trip haul (feet) 26566 \$ 8,948.31

REQUIRED

SELECT PIT RUN ROCK \$ 7.27 per CY x 280 \$ 2,031.26
 Rock haul \$ 98.00 per hour x 19 round trip haul (feet) 26566 \$ 1,835.07

CULVERTS AND FLUMES

18" Polyethylene, double wall \$ 19.71 per foot x 240 \$ 4,730.04
 24" Polyethylene, double wall \$ 26.65 per foot x 60 \$ 1,599.00

TOTAL ROAD COST \$ 60,535.70

SUMMARY OF ROAD

SALE/PROJECT NAME Timber Tiger
CONTRACT # 30-093559
ROAD NUMBER PH-1400

Required pre-haul maintenance (stations) 43+56
Distance to PH-1400 Pit (feet) 0

PRE-HAUL MAINTENANCE (REQUIRED)

MISC. MAINTENANCE

Grass seeding	\$ 3.20	per pound x	50	\$ 160.00
Straw mulching	\$ 4,428.60	per acre x	0.1	\$ 442.86
Brushing (light)	\$ 17.99	per station x	43.56	\$ 783.75
Ditch cleaning (one side)	\$ 50.00	per station x	43.56	\$ 2,178.00
Reshape surface	\$ 10.86	per station x	43.56	\$ 473.00
End haul	\$ 196.00	per hour x	17	\$ 3,234.00

ROAD ROCK

3-INCH JAW RUN ROCK	\$ 12.19	per CY x	1346	\$ 16,412.06
Rock haul	\$ 98.00	per hour x	34 round trip haul (feet)	4356 \$ 3,286.72

TOTAL ROAD COST \$ 26,970.39

SUMMARY OF ROAD

SALE/PROJECT NAME Timber Tiger
 CONTRACT # 30-093559
 ROAD NUMBER PH-1410

Required construction (stations) 41+82
 Distance to PH-1400 Pit (feet) 871

CONSTRUCTION (REQUIRED)

CLEARING & GRUBBING					
Clearing & grubbing	\$	177.00	per station x	41.82	\$ 7,402.14
EXCAVATION AND FILL					
Construction (balanced, medium)	\$	824.00	per station x	41.82	\$ 34,459.68
Landing (small)	\$	197.50	each x	1	\$ 197.50
Turnaround	\$	197.50	each x	1	\$ 197.50
Grade, shape, roll subgrade	\$	13.85	per station x	41.82	\$ 579.21
MISC. MAINTENANCE					
Grass seeding	\$	3.20	per pound x	211	\$ 675.88
ROAD ROCK					
STOCKPILED ROCK	\$	2.78	per CY x	30 0+00 culvert backfill	\$ 83.47
SELECT PIT RUN ROCK	\$	7.27	per CY x	3621	\$ 26,310.15
Rock haul	\$	98.00	per hour x	101 round trip haul (feet)	5924 \$ 9,895.82
CULVERTS AND FLUMES					
18" Polyethylene, double wall	\$	19.71	per foot x	200	\$ 3,941.70
Ditchout	\$	100.00	each x	2	\$ 200.00

TOTAL ROAD COST \$ 83,943.03



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

Reconstruction: **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: **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

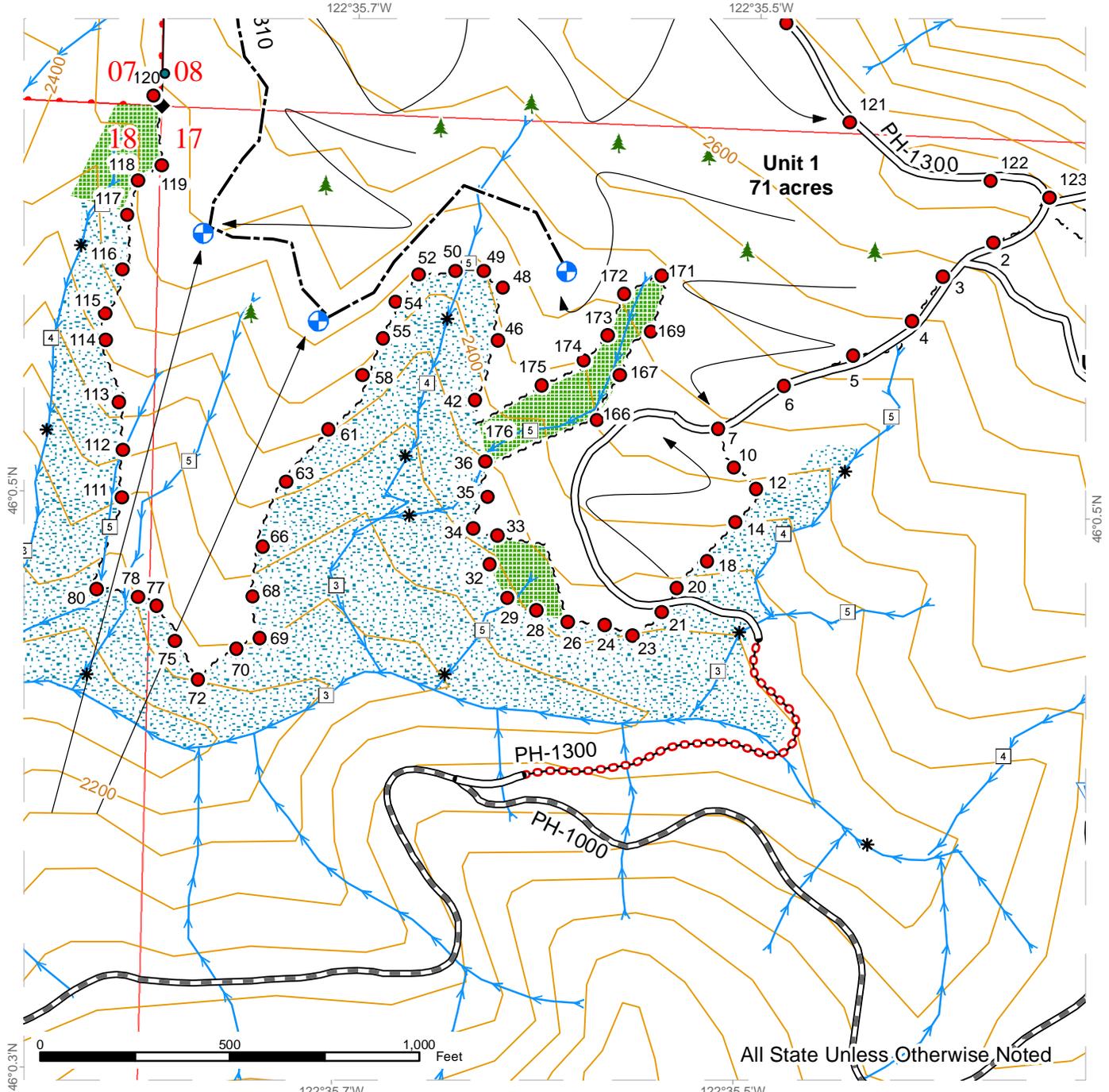
All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact 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 4/09)

LOGGING PLAN MAP

SALE NAME: TIMBER TIGER
 AGREEMENT#: 30-093559
 TOWNSHIP(S): T06R02E
 TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7), Scientific School(10)

REGION: Pacific Cascade Region
 COUNTY(S): COWLITZ
 ELEVATION RGE: 1674-2688



All State Unless Otherwise Noted

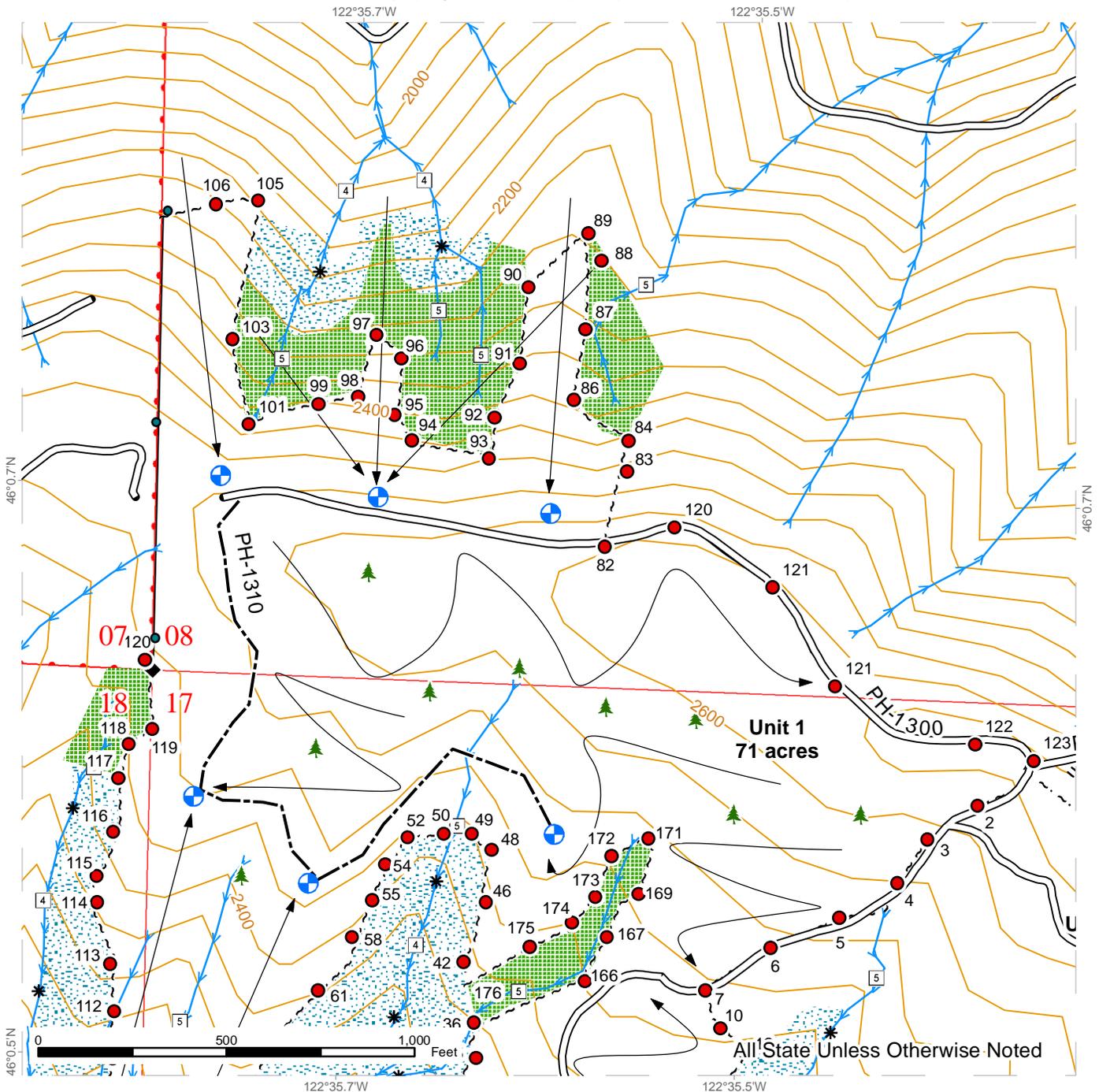
Ground Harvest	Leave Tree Area	Streams
Cable Harvest	Riparian Mgt Zone	Stream Type
Existing Roads	Sale Boundary Tags	Stream Type Break
Required Pre-Haul Maintenance	Right of Way Tags	Monumented Corners
Optional Construction	Pink Flagging	Leave Trees
Required Abandonment	Property Line	Waste Area
		Landing - Proposed



LOGGING PLAN MAP

SALE NAME: TIMBER TIGER
AGREEMENT#: 30-093559
TOWNSHIP(S): T06R02E
TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7), Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 1674-2688



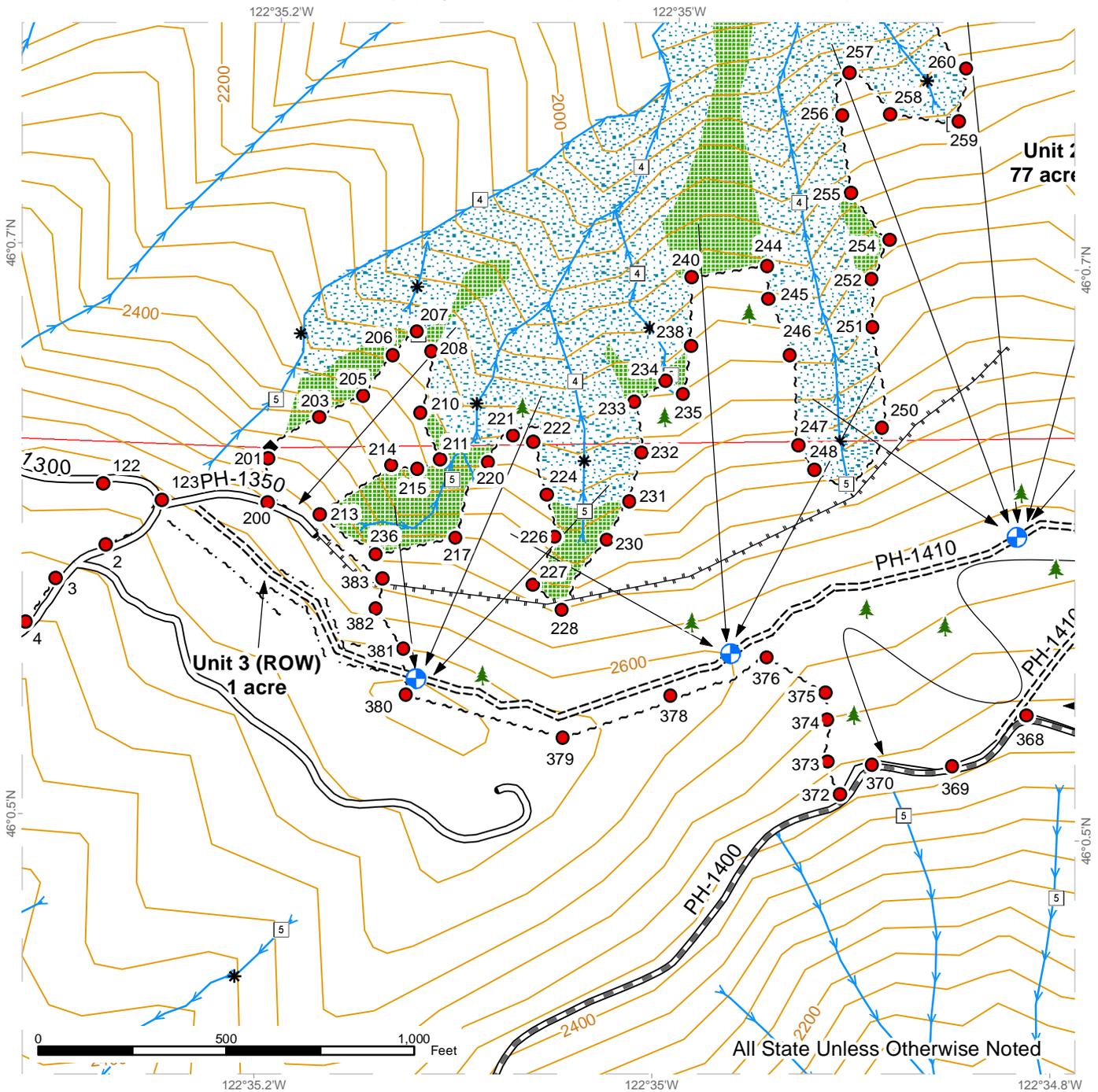
Ground Harvest	Leave Tree Area	Streams
Cable Harvest	Riparian Mgt Zone	Stream Type
Existing Roads	Sale Boundary Tags	Stream Type Break
Required Construction	Right of Way Tags	Monumented Corners
Optional Construction	Pink Flagging	Leave Trees
	Property Line	Landing - Proposed



LOGGING PLAN MAP

SALE NAME: TIMBER TIGER
AGREEMENT#: 30-093559
TOWNSHIP(S): T06R02E
TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7), Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 1674-2688



All State Unless Otherwise Noted

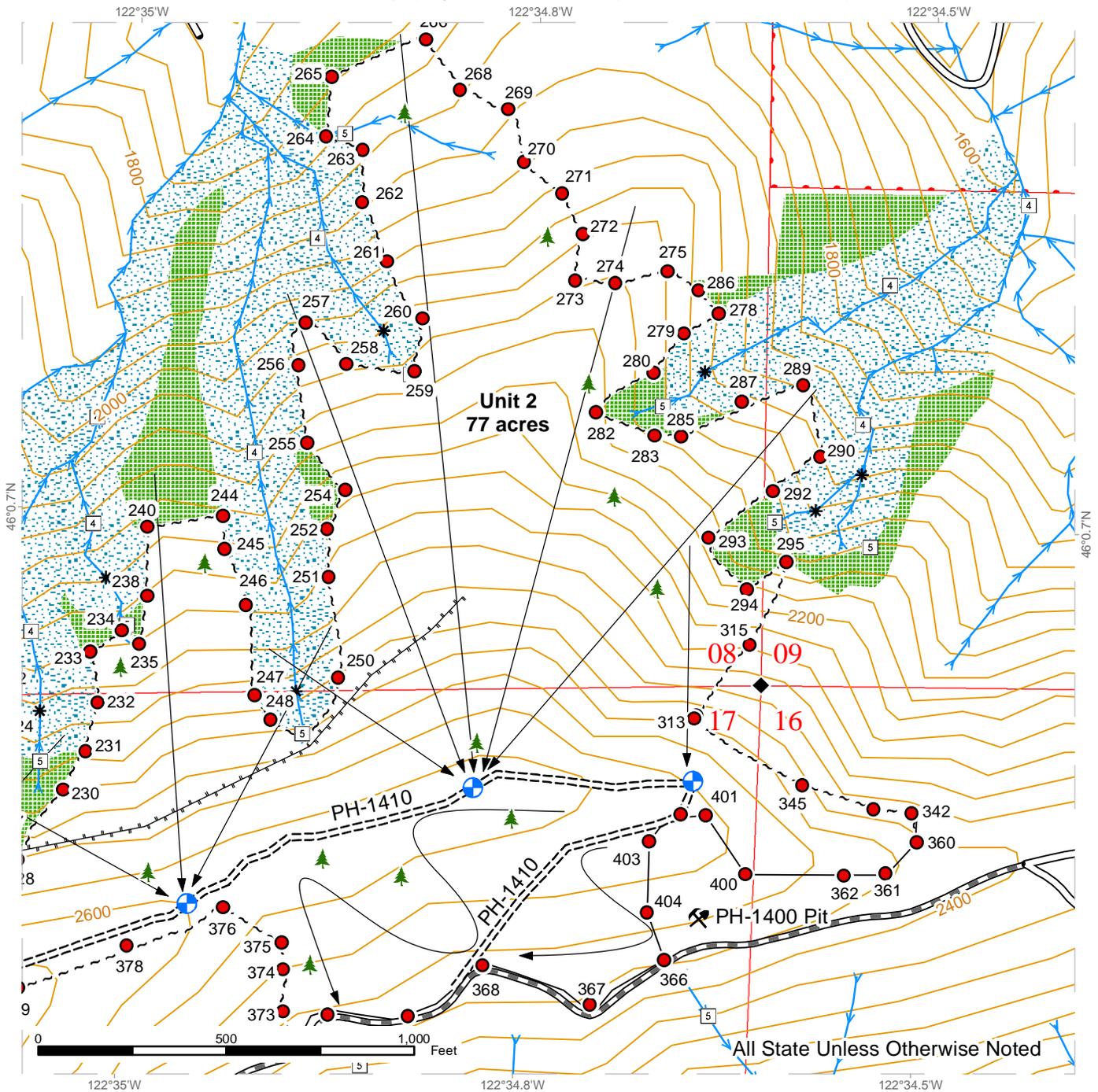
Ground Harvest	Leave Tree Area	Streams
Cable Harvest	Riparian Mgt Zone	Stream Type
Existing Roads	Sale Boundary Tags	Stream Type Break
Required Pre-Haul Maintenance	Right of Way Tags	Monumented Corners
Required Construction	Pink Flagging	Leave Trees
Designated Skid Trail	Property Line	Landing - Proposed



LOGGING PLAN MAP

SALE NAME: TIMBER TIGER
 AGREEMENT#: 30-093559
 TOWNSHIP(S): T06R02E
 TRUST(S): Common School and Indemnity(3), Agricultural School(4), Capitol Grant(7), Scientific School(10)

REGION: Pacific Cascade Region
 COUNTY(S): COWLITZ
 ELEVATION RGE: 1674-2688



Ground Harvest	Leave Tree Area	Streams
Cable Harvest	Riparian Mgt Zone	Stream Type
Existing Roads	Sale Boundary Tags	Stream Type Break
Required Pre-Haul Maintenance	Right of Way Tags	Monumented Corners
Required Construction	Pink Flagging	Leave Trees
Designated Skid Trail	Property Line	Landing - Proposed
		Existing Rock Pit

