WASHINGTON STATE DEPARTMENT OF Natural Resources

TIMBER NOTICE OF SALE

***SALE NAME**: REMIX* ***AGREEMENT NO**: 30-092762*

AUCTION: March 31, 2016 starting at 10:00 a.m., Pacific Cascade Region Office, Castle Rock, WA **COUNTY:** Cowlitz

SALE LOCATION: Sale located approximately 10 miles east of Woodland, WA

PRODUCTS SOLD AND SALE AREA: All timber, except leave trees bounded by yellow Leave Tree Area tags, leave trees marked with blue paint, snags, and pre-existing stumps, bounded by the following: Timber Sale Boundary tags, pink flagging, reprod, and PH-4000 and PH-4400 roads in Unit 1; Timber Sale Boundary tags, pink flagging, reprod, and PH-4005 road in Unit 2; Timber Sale Boundary tags, pink flagging, and reprod in Unit 3; Timber Sale Boundary tags, pink flagging, private property and the PH-4500 road in Unit 4; Timber Sale Boundary tags, pink flagging, and private property in Unit 5; Timber Sale Boundary tags, pink flagging, reprod and private property in Unit 6. All timber, except conifers marked with blue paint, bounded by Timber Sale Boundary tags, pink flagging, orange butt marks, all conifers have been marked for retention with a single band of blue paint in Units 7 and 8 on part(s) of Sections 29, 31 and 32 all in Township 6 North, Range 2 East, W.M., containing 75 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	21.7	7	2,850				111		2,066	534	97	42
Red alder	13.2		171						16	44	89	22
Maple	20.3		13					8			4	1
Red cedar	32.8		7							7		
Hemlock	15.3	7	6							5	1	
Sale Total			3,047									

MINIMUM BID: $952,000.00 **BID METHOD:** Sealed Bids

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

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

BID DEPOSIT: $95,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground based equipment and Cable. This sale is estimated to be 94% ground-based yarding and 6% cable-based yarding. A detailed felling and yarding plan shall be required prior to any harvest activities. Ground-based yarding is restricted to slopes of 45% or less. For additional harvest requirements, refer to the H-140 and H-141 clauses in the contract. Ground Based Yarding will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

ROADS: 5.73 stations of optional construction. 15.28 stations of optional reconstruction. 185.73 stations of required pre-haul maintenance, and 11.03 stations of required light

abandonment if built. Rock used in accordance with the quantities in the ROCK LIST under this contract may be obtained at no cost to the Purchaser from the Fredrickson pit, located in Section 29, Township 06 North, Range 02 East, W.M. Additional rock for this sale may be obtained from any commercial pit at the Purchaser's expense. Rock Sources will be subject to written approval by the Contract Administrator before their use. Purchaser shall be required to stockpile 2000 cubic yards of 1 1/2 Inch Minus rock at station 0+00 on the PH-4000A road. Road construction will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

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

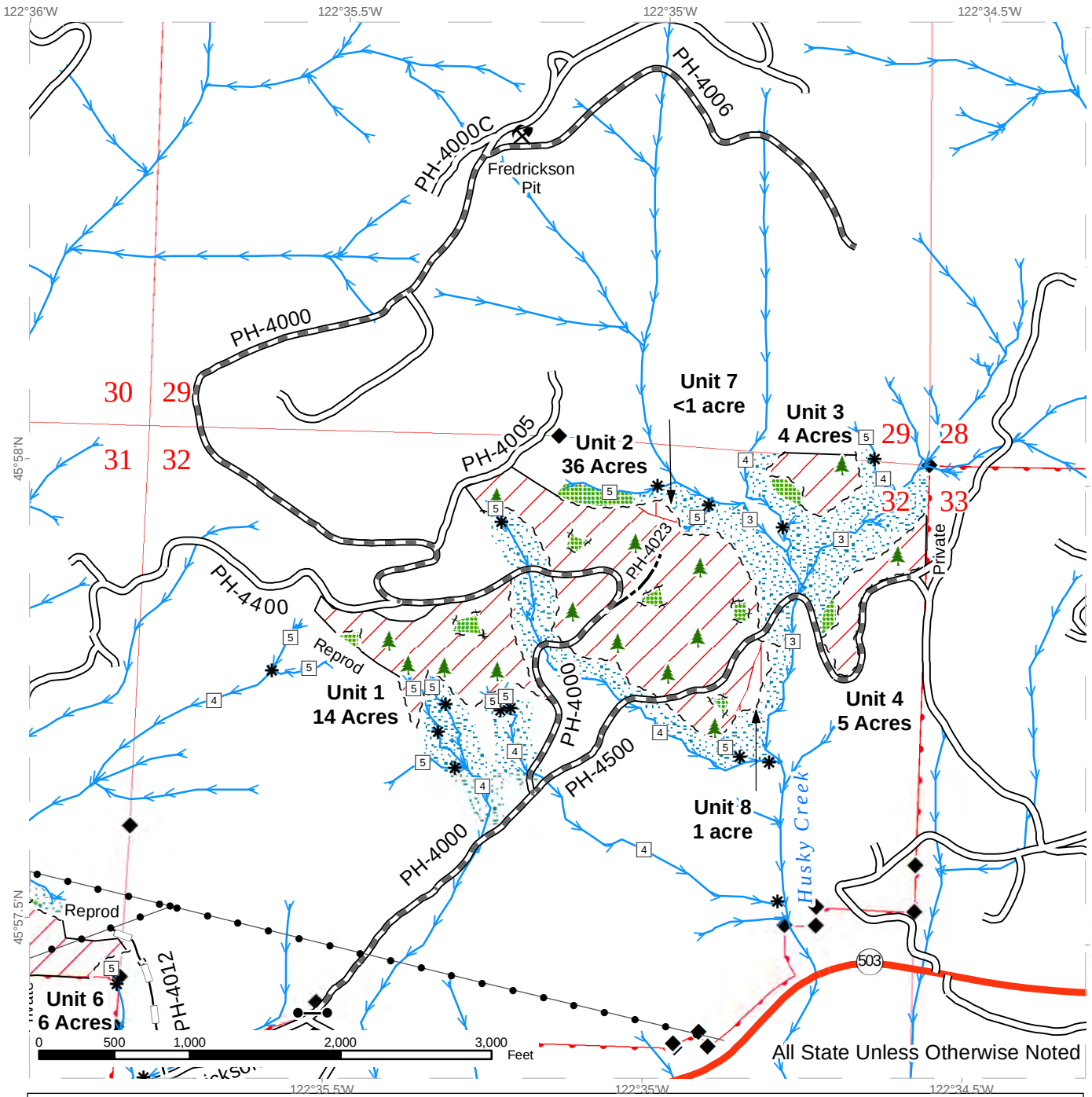
FEES: Fee of $500.00 paid to Quentin Robbins for a Road Use Permit between the Purchaser and Quentin Robbins. This fee is due thirty days after Purchaser enters into the timber sale contract. $54,084.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains an estimated 981 MBF of high quality DF 2 saw and 258 MBF of high quality DF 3 saw logs, derived from the cruise. Unit 3 will require cable logging through a young-plantation. Cable logging will be restricted to two corridors of 10-ft width. Timber hauling operations on the private road accessing Unit 5 are restricted to dry weather conditions from June 1 to October 1.

TIMBER SALE MAP

SALE NAME: REMIX
AGREEMENT#: 30-092762
TOWNSHIP(S): T06R02E
TRUST(S): State Forest Transfer(1)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 759-1214



- Variable Retention Harvest
- Hardwood Conversion Area
- Leave Tree Area
- Riparian Mgt Zone
- Sale Boundary Tags
- Leave Tree Tags
- Reprod
- Existing Roads
- Highway
- Required Pre-Haul Maintenance
- Optional Construction
- Optional Reconstruction
- Powerlines
- Streams
- Stream Type
- Stream Type Break
- Leave Trees
- Gate (PCP 1-1)
- Existing Rock Pit
- Monumented Corners

N

Prepared By: wbut490

Creation Date: 12/15/2014

Modification Date: 10/20/2015

TIMBER SALE MAP

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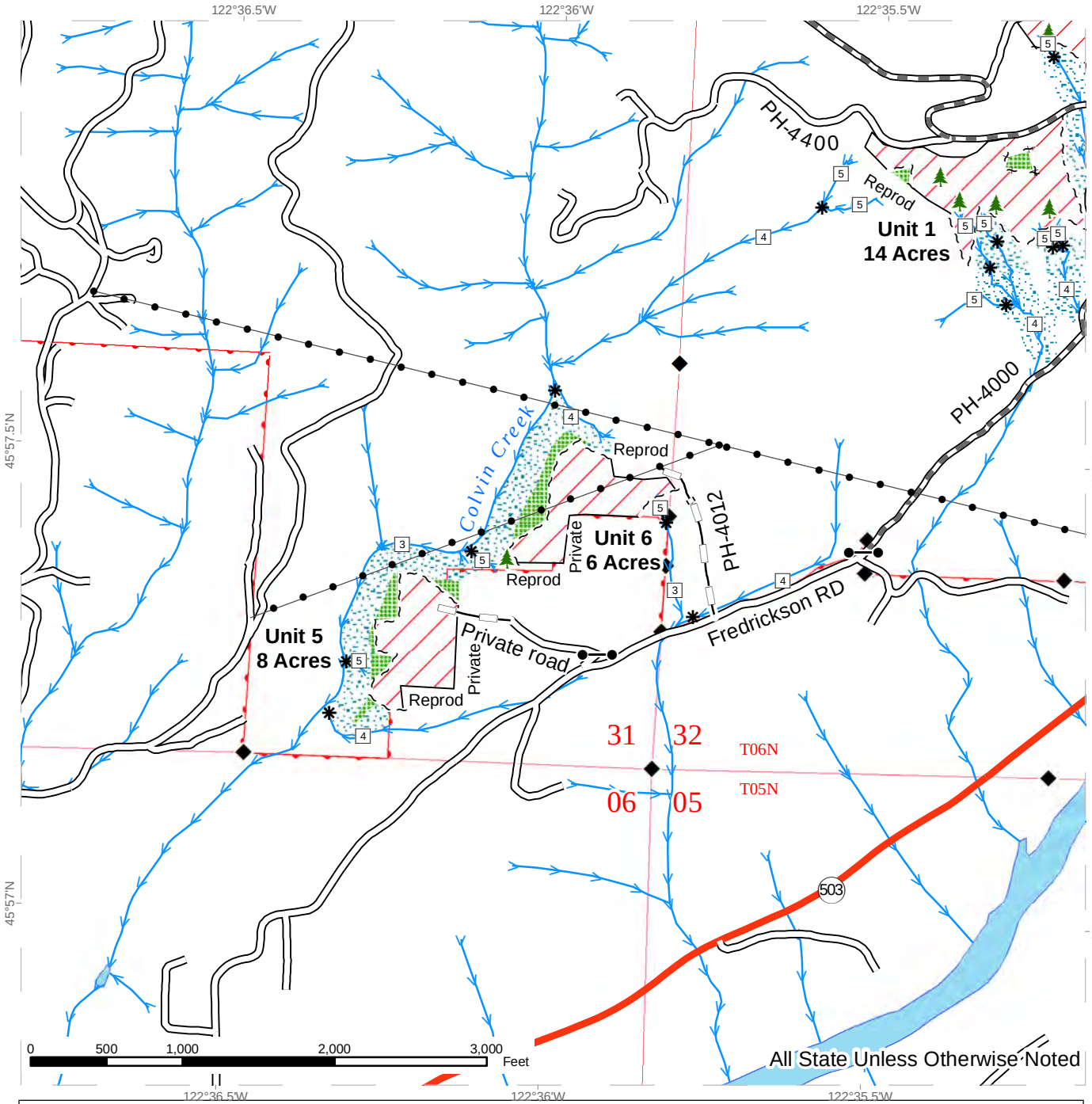

- Variable Retention Harvest
- Hardwood Conversion Area
- Leave Tree Area
- Riparian Mgt Zone
- Sale Boundary Tags
- Leave Tree Tags
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DRIVING MAP

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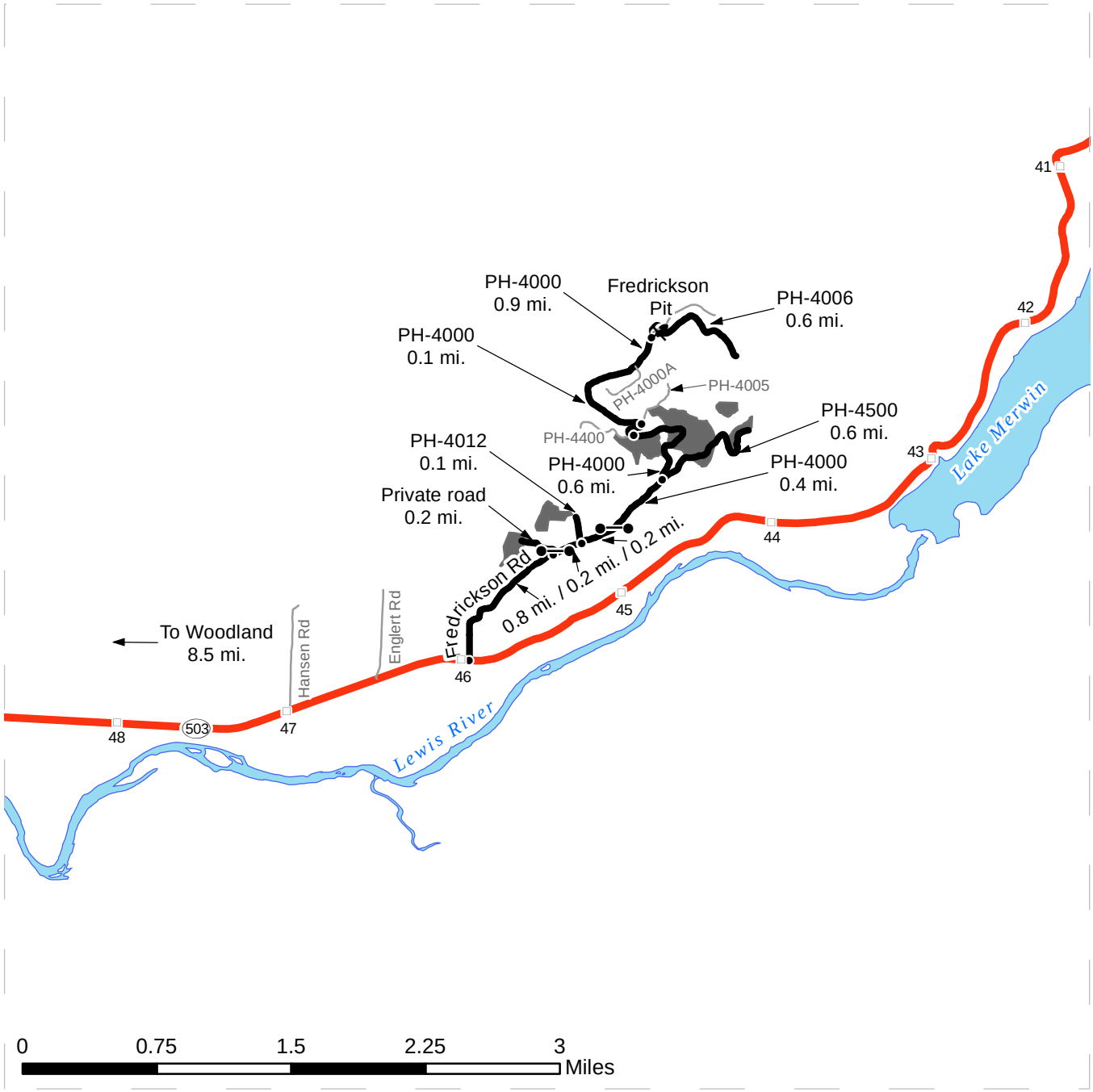
AGREEMENT#: 30-92762
TOWNSHIP(S): T06R02E
TRUST(S): State Forest Transfer(1)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 399-1228



- Timber Sale Unit
- Highways
- Haul Route
- Other Route
- Milepost Markers
- Distance Indicator
- Gate (PCP 1-1)
- Existing Rock Pit

DRIVING DIRECTIONS:

From Woodland turn east on SR-503 (Lewis River RD) and follow for 8.5 miles.
Turn left onto Fredrickson RD. Follow Fredrickson RD for 0.8 miles.

Unit 5: Turn left onto a private road and follow 0.2 miles to Unit 5.
Unit 6: Continue on Fredrickson RD for 0.2 miles. Turn left onto PH-4023 and continue for 0.1 miles to Unit 6.
Unit 1: Continue on Fredrickson RD for 0.2 miles. Road turns to gravel and becomes the PH-4000. Follow PH-4000 for 0.4 miles.
Veer to the left to stay on the PH-4000 and follow for 0.6 miles to Unit 1.
Unit 2: Follow PH-4000 for 0.4 miles.
Veer to the left to stay on the PH-4000 and follow for 0.2 miles to Unit 2.
Unit 3 and 4: Follow PH-4000 0.4 miles.
Go straight to enter on the PH-4500. Follow for 0.6 miles to Unit 3 and 4.

N

Prepared By: wbut490 01/12/2016

Modification Date: 1/12/2016

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-092762

SALE NAME: REMIX

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on March 31, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bounded by yellow Leave Tree Area tags, leave trees marked with blue paint, snags, and pre-existing stumps, bounded by the following: Timber Sale Boundary tags, pink flagging, reprod, and PH-4000 and PH-4400 roads in Unit 1; Timber Sale Boundary tags, pink flagging, reprod, and PH-4005 road in Unit 2; Timber Sale Boundary tags, pink flagging, and reprod in Unit 3; Timber Sale Boundary tags, pink flagging, private property and the PH-4500 road in Unit 4; Timber Sale Boundary tags, pink flagging, and private property in Unit 5; Timber Sale Boundary tags, pink flagging, reprod and private property in Unit 6. All timber, except conifers marked with blue paint, bounded by Timber Sale Boundary tags, pink flagging, orange butt marks, all conifers have been marked for retention with a single band of blue paint in Units 7 and 8, located on approximately 75 acres on part(s) of Sections 29, 31, and 32 all in Township 6 North, Range 2 East W.M. in Cowlitz County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the

timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

c. Excessive suspensions as provided in clause G-220.

d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

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

a. A written request for extension of the contract term must be received prior to the expiration date of the contract.

b. Completion of all required roads and compliance with all contract and regulatory requirements.

c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

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

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

e. Payment of $856.00 per acre per annum for the acres on which an operating release has not been issued in all units.

f. In no event will the extension charge be less than $200.00.

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.

b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.

d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.

f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.

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

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

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts,

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

b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.

c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

Purchaser shall be responsible for any increased operational costs arising from any applicable foreign or domestic governmental regulation or order that does

not cause contract performance to become commercially impracticable or that does not substantially frustrate the purpose of the contract. If impracticability or frustration results from Purchaser's failure to comply with this contract, Purchaser shall remain responsible for payment of the total contract price notwithstanding the impracticability or frustration.

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;

2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and

3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

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

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

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at 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; PH-4000, PH-4000C, PH-4005, PH-4006, PH-4012, PH-4023, PH-4400, PH-4500, and Private road accessing Unit 5. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before

beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-380 Road Easement and Road Use Permit Requirements

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

Road Use Permit between the State and Quentin Robbins dated 10/4/2015 and terminating on 06/30/2019.

G-390 Road Approach Permit Requirements

Purchaser agrees to comply with the attached terms and conditions of the road approach permit entered into between the State and Cowlitz County 5/20/2015.

G-396 County Hauling Permit

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

G-430 Open Fires

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

G-450 Encumbrances

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

TO BE ADDED ON SALE DAY

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of $81,507.00. The total contract price consists of a $0.00 contract bid price plus $81,507.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of $100,000.00. The Security provided shall

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from September 30 to May 1 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-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 requirements in the H-140 and H-141 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-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable and ground based systems: 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.

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 45%.

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

No logging operations or hauling of forest products shall take place on any weekends, State recognized holidays, or from 7 p.m. to 7 a.m. on weekdays in Unit 5

Timber hauling operations on the private road accessing Unit 5 are restricted to dry weather conditions from June 1 to October 1

Logging operations on Unit 3 will require cable yarding through a young-plantation. Cable logging will be limited to two cable corridors no greater than 10 feet in width. Location of cable corridors will be pre-approved by the Contract Administrator

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Any timber harvest within two tree lengths of the PPL right-of-way will require at least one week advance notice to the local PPL Operations and Maintenance District: Longview District; contact person is Ed Tompkins, 360-418-2863 office, or 360-600-8667 cell.

Purchaser shall comply with terms and conditions of Cutting Line Agreement entered into between the State and RSG Forest Products, dated 01/15/2016

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-250 Additional Falling Requirements

Within all units, all live stems hardwood species greater than 2 inches DBH or over 10 feet tall, shall be felled concurrently with felling operations, unless authorized by the Contract Administrator. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 6/11/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on PH-4005, PH-4006, PH-4012, PH-4023, PH-4400, PH-4500, Private Road accessing Unit 5. 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 PH-4000. 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-090 Landing Location

Landings shall be built 50 feet off the PH-4000 road(s).

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

Purchaser shall provide a fully functional pump truck or pump trailer equipped to meet the specifications of WAC 332-24-005 and WAC 332-24-405 during the "closed season" or as extended by the State and shall provide trained personnel to operate this equipment on the sale area during all operating periods.

S-070 Water Supply

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

S-100 Stream Cleanout

Slash or debris which enters any typed streams 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-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

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

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Eric Wisch Pacific Cascade Region Manager
Date: _____	Date: _____
Address:	

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)
)
COUNTY OF _____)

On this _____ day of _____, 20___, before me personally appeared _____
_____ to me known to be the _____ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

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

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: Remix

Application Number: 30- 092762

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 573 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 425 **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: 18,573 **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: 1,103 **linear feet**
Optional roads to be reconstructed and then abandoned

New Abandonment: 1,103 **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 contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 6/13)

PRE-CRUISE NARRATIVE

Sale Name: Remix	Region: **Pacific Cascade**
Agreement #: 30-092762	District: Yacolt
Contact Forester: Matt Binder Phone / Location: 360-749-6374	County(s): Cowlitz, Choose a county
Alternate Contact: Whitney Butler Phone / Location: 360-669-3900	Other information: Click here to enter text.

Type of Sale: Lump Sum	
Harvest System: Ground based Click here to enter text.	94%
Harvest System: Uphill Cable Click here to enter text. Enter % of sale acres	6%
Harvest System: Select harvest system Click here to enter text.	Click here to enter percent sale acres.

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	S32/T6N/R02E	01	19	4	1			14	GPS (Garmin)
2	S32/T6N/R02E	01	58	18	2	2		36	GPS (Garmin)
3	S32/T6N/R02E	01	15	10	1			4	GPS (Garmin)
4	S32/T6N/R02E	01	11	5	<1			5	GPS (Garmin)
5	S31/T6N/R02E	01	18	8	2			8	GPS (Garmin)
6	S31/T6N/R02E	01	15	6	2		1 (PPL ROW)	6	GPS (Garmin)
7 RMZ	S32/T6N/R02E	01	<1	0	0		0	<1	GPS (Garmin)
8 RMZ	S32/T6N/R02E	01	1	0	0		0	1	GPS (Garmin)
	Enter Sec / Twp / Rng								Choose an item.

TOTAL ACRES			135	51	8	3	1	75	

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, the PH-4000 and PH-4400 roads. Clumpled leave tree areas are bound with yellow "Leave Tree Area" tags and pink flagging. Clumps adjacent to unit boundaries are bound with white “Timber Sale Boundary” tags and pink flagging. Individual leave trees are marked with a ring of blue paint.	VRH	Leave Tree Total = 114. Painted blue trees = 60.
2 VRH	Unit 2 is bound by white "Timber Sale Boundary" tags, pink flagging, reprod, and PH-4005 road. Clumped leave trees areas are bound with yellow "Leave Tree Area" tags and pink flagging. Clumps adjacent to unit boundaries are bound with white “Timber Sale Boundary” tags and pink flagging. Individual leave trees are marked with a ring of blue paint.	VRH	Leave tree total = 314. Painted blue trees = 84.
3 VRH	Unit 3 is bound by white "Timber Sale Boundary" tags, pink flagging, and reproduction. A leave tree clump adjacent to the unit boundary is bound with white “Timber Sale Boundary” tags and pink flagging. Individual leave trees are marked with a ring of blue paint.	VRH	Leave tree total = 40. Painted blue trees = 4.
4 VRH	Unit 4 is bound by white "Timber Sale Boundary" tags, pink flagging, private property and PH-4500 road. Property line between state and private is marked with pink flagging at timber type change. Individual leave trees are marked with a ring of blue paint.	VRH	Leave tree total = 45. Painted blue trees = 17.
5 VRH	Unit 5 is bound by white "Timber Sale Boundary" tags, pink flagging, private property. Property line	VRH	Leave tree total = 81. None are painted blue.

	between state and private is marked with pink flagging at timber type change. Leave tree clumps adjacent to unit boundaries are bound with white “Timber Sale Boundary” tags and pink flagging.		
6 VRH	Unit 5 is bound by white "Timber Sale Boundary" tags, pink flagging and reproduction. Leave tree clumps adjacent to unit boundaries are bound with white “Timber Sale Boundary” tags and pink flagging.	VRH	Leave tree total = 67. None are painted blue.
7 RFRS	Riparian Management entry area is defined by orange paint sprayed on the butt ends of trees along shared boundary of VRH area of Unit 2. White “Timber Sale Boundary” tags with pink flagging delineate the RMZ no-entry zone.	RFRS Hardwood Conversion area adjacent to Unit 2.	All conifers have been marked for retention with a single band of blue paint.
8 RFRS	Riparian Management entry area is defined by orange paint sprayed on the butt ends of trees along shared boundary of VRH area of Unit 2. White “Timber Sale Boundary” tags with pink flagging delineate the RMZ no-entry zone.	RFRS Hardwood Conversion area adjacent to Unit 2.	All conifers have been marked for retention with a single band of blue paint.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	500 mbf	Unit 1 is accessed via the PH-4000 road. Volume is based on estimate. The gate at the PH-4000/Fredrickson RD junction is to remain unlocked.	
2	1560 mbf	Unit 2 is accessed via the PH-4000 road. The unit is located off the PH-4000 and PH-4500. Volume is based on estimate.	
3	190 mbf	Unit 3 is accessed via the PH-45000 road. The unit is located off the PH-4500. Volume is based on estimate.	
4	170 mbf	Unit 4 is accessed via the PH-4500 road. The unit is located off the PH-4500. Volume is based on estimate.	
5	300 mbf	Unit 5 is accessed via Fredrickson road. Volume is based on estimate.	

6	215 mbf	Unit 6 is accessed via Fredrickson road. Volume is based on estimate.	
7	4 mbf	Unit 7 is accessed via Fredrickson Road. Volume is based on estimate.	
8	15 mbf	Unit 8 is accessed via Fredrickson Road. Volume is based on estimate.	
TOTAL MBF	2,954 mbf		

REMARKS:

Units 5 & 6 may be accessed via private land or by abandoned road grade along eastern boundary of Unit 6. Prior to cruising Units 5 and 6 please contact Matt Binder or Whitney Butler with proposed cruise dates so they may inform adjacent landowner.

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

Cruise Narrative

Sale Name: Remix	**Region:** Pacific Cascade
App. #: 30-092762	**District:** Yacolt
Lead Cruiser: Bryce Frank	**Completion date:** 8-4-2015
Other Cruisers: Kalvin Bailey	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	14	Yes	
2	36	Yes	
3	4	Yes	
4	5	Yes	
5	8	Yes	
6	6	Yes	
7 RMZ	1	No	Cruising software requires an acreage value.
8 RMZ	1	Yes	
Total	75		

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/ half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	46.94	4.5 ft	180' x 180'	1:1	18
2	VP	54.44	4.5 ft	200' x 200'	1:1	41
3	VP	40	4.5 ft	160' x 160'	Cruise All	6
4	VP	46.94	4.5 ft	160' x 160'	Cruise All	9
5	VP	46.94	4.5 ft	160' x 160'	1:1	8
6	VP	46.94	4.5 ft	160' x 160'	1:1	10
7 RMZ	VP	33.61	4.5 ft	150' x 150'	Cruise All	2
8 RMZ	VP	33.61	4.5 ft	150' x 150'	Cruise All	2

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.					
Minimum cruise spec:	40% 0f 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:	**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".) **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".) **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.

Field observations:

Remix consists of 8 units in total. Units 1 through 6 are VRH units and units 7 and 8 are RFRS Hardwood Conversion areas, both of which are adjacent to Unit 2.

Unit 1 is 13 acres in size and is the second largest unit. It consists mainly of large Douglas-fir (DF) (92% net volume) in the northern half, with Red Alder (RA) coming in near the riparian zones in the southern half (8% net volume). The DF in this stand exhibits a fair amount of high quality A sort (7% net DF volume) and B sort (28% net DF volume) as well as some Special Mill (11% net DF volume). Defect was low in DF at 1.7% and was mainly attributed to sweep, crook and anticipated breakage. Average diameter and bole height for DF are 26 inches and 105 ft respectively. In total, 45,259 net bdft/ac exist on Unit 1, with a total net volume of 588 mbf.

Unit 2 makes up the bulk of this sale at 37 acres and approximately 46% of the total sale volume, 98% of which is DF with small amounts of RA and Bigleaf Maple (BM). Of note in this unit is the presence of DF poles (marked with a status 'P' in the cruise report), making up 6% of the total unit volume*. Sawlog DF exhibits a large amount of high quality B sort (48% DF volume) and a small amount of A sort (4% DF volume). Defect in this unit was higher than in unit 1 and can be attributed to butt rot, crook and sweep. Average diameter and bole height for DF are 20.1 inches and 99 ft respectively. In total, 37,469 net bdft/ac exist on unit 2, with a total net volume of 1,393 mbf.

Adjacent to unit 2 are two small hardwood conversion units (7 & 8). Within these units are small RA ranging from 2S to 4S with a defect rate of 5.3%. Together, both units provide 22 mbf to the sale volume.

Units 3 and 4 flank unit 2 on the eastern side. Together these units compose 9 acres of the sale. Again, DF dominates the volume in both of these units at 93% net volume, with some RA and Western Hemlock (WH). A trace amount of pole volume also exists in unit 3, but less so than unit 2 at 2%. These units are a significant source of B sort at 26% net DF volume. Defect was very similar to unit 2. Average diameter and bole height for DF are 22.9 inches and 109 ft respectively. In total, 47,201 net bdft/ac exist on units 3 & 4, with a total net volume of 412 mbf. This higher per-acreage volume seen in these units is mainly due to the stand consistency, with neither of the two units containing very much in the way of hardwood areas or patches.

Units 5 and 6 lay relatively far to the southwest of the units mentioned above. Together, these units compose 14 acres of the total sale area. Unit 5 has an impressive stand of DF on the southeastern side, but breaks off into inconsistent, gappy hardwood areas over the western half. A similar phenomenon occurs in unit 6 in the northeastern sector past the power line gap. DF also dominates the volume in these two units at 90% net volume, with very small amounts of RA and Western Redcedar (RC). B sort exists in relatively the same levels as Units 3 & 4, and defect is very similar to unit 1. Some Special Mill also exists in Unit 5 at 8% net DF volume. Average diameter and bole height for DF are 22.7 inches and 106 ft respectively. In total, 45,215 net bdft/ac exist on units 5 & 6, with a total net volume of 632 mbf.

For the entire sale, the average volume per acre is 40,361 bdft for a total volume of 3,047 mbf.

Access to unit 1 is adequate along the PH-4000 and PH-4400. Unit 2 can be accessed via the PH-4000 or 4500. The PH-4500 also leads to Unit 4. Unit 3 is inaccessible via vehicle. Units 5 and 6 are currently accessible only by a private road off of Fredrickson road.

* Please note that a pole cruise was not performed on this sale. Instead, cruisers classified pole-quality timber on their normal cruise plots.

Grants: 01 **Prepared by: Bryce Frank** **Title: Timber Cruiser**

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T06N R02E S32 Ty00U1
THRU
T06N R02E S32 Ty00U8

Project: **REMIX**

Acres **75.00**

Page **1**
Date **11/2/2015**
Time **11:55:49AM**

Spp	S T	So Grt	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	172											5	10		0.00	15.4
DF		HA	2S	3	.2	1,474	1,470	110			100					100	40	14	286	1.63	5.1
DF		HA	3S	1		51	51	4		100						100	40	9	120	0.76	.4
DF		HB	2S	28	1.7	10,747	10,568	793			40	60			1	99	40	15	374	2.09	28.2
DF		HB	3S	9	.9	3,364	3,332	250		100					3	97	39	10	134	0.84	24.9
DF		D	SM	4	.2	1,486	1,483	111				100			9	91	40	20	705	3.36	2.1
DF		D	2S	40	3.3	15,081	14,586	1,094			34	66	1	0	1	98	39	16	401	2.21	36.4
DF		D	3S	9	1.5	3,625	3,569	268	29	71			2	8	9	82	37	8	91	0.66	39.4
DF		D	4S	4		1,278	1,278	96	84	16			36	33	6	25	23	6	30	0.36	42.8
DF		D	UT	1		557	557	42	60	17	7	17	15	16	3	66	27	6	47	0.44	11.8
DF		RO	3S	1		26	26	2			100			56		44	32	12	171	1.55	.2
DF	**Totals**			91	2.5	37,860	36,922	2,769	7	17	29	48	2	2	2	93	32	11	179	1.26	206.7
DF	P	CU	CU														4	23		0.00	.9
DF	P	HA	2S	2		27	27	2			100					100	40	13	240	1.25	.1
DF	P	HB	2S	88		1,003	1,003	75			60	40				100	40	15	354	1.86	2.8
DF	P	D	SM	4		52	52	4				100				100	40	17	460	2.23	.1
DF	P	D	3S	6		60	60	4	13	87				87		13	31	8	61	0.63	1.0
DF	**Totals**			3		1,142	1,142	86	1	5	55	39		5		95	32	15	233	1.58	4.9
RA		CU	CU		100.0	67											5	8		0.00	7.8
RA		D	UT	12		297	297	22	74		26		80	3	17		18	6	25	0.29	11.9
RA		D	2S	10	5.3	233	220	17			100		10		27	63	33	12	162	1.34	1.4
RA		D	3S	26	5.8	638	601	45		100				14	4	82	38	11	147	1.11	4.1
RA		D	4S	20	8.2	519	476	36		100				9	30	61	36	9	92	0.77	5.2
RA		D	4S	32	1.2	732	724	54	100				7	10	16	67	33	6	44	0.45	16.6
RA	**Totals**			6	6.7	2,485	2,318	174	41	46	13		13	9	17	61	25	7	49	0.58	46.9
BM		CU	CU														5	18		0.00	.3
BM		D	UT	7		13	13	1		100					100		35	8	80	0.96	.2
BM		D	1S	68	26.7	165	121	9				100	17	55		28	28	18	287	3.04	.4
BM		D	4S	4	14.3	9	8	1		100					100		31	9	60	1.00	.1
BM		D	4S	21		36	36	3	100					24		76	35	6	48	0.73	.7
BM	**Totals**			0	20.4	222	177	13	20	12		68	12	42	12	34	28	11	102	1.31	1.7
WH		D	3S	84		69	69	5		100						100	40	9	126	0.87	.5
WH		D	4S	16		13	13	1	100					50	50		25	5	24	0.32	.5
WH	**Totals**			0		82	82	6	16	84				8	8	84	33	7	75	0.66	1.1
RC		D	3S	98	4.8	94	90	7		7	13	80		13	7	80	34	14	263	3.04	.3
RC		D	4S	2		1	1	0		100			100				15	8	20	0.57	.1
RC	**Totals**			0	4.7	96	91	7		9	12	79	2	12	7	79	30	13	219	2.82	.4
Totals					2.8	41,887	40,732	3,055	8	18	29	45	3	3	3	91	31	10	156	1.16	261.8

TC PSTATS

PROJECT STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U1	THR	75.00	94	432	S	W
06N	02E	32	FREDDYMERC	00U8						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	94	432	4.6		
CRUISE	65	276	4.2	7,782	3.5
DBH COUNT					
REFOREST					
COUNT	27	130	4.8		
BLANKS	2				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	214	73.0	21.8	102	40.4	188.6	37,860	36,922	8,394	8,368
DOUG FIR-P	3	2.1	24.3	108	1.4	6.7	1,142	1,142	246	246
R ALDER	51	26.9	13.2	56	7.0	25.6	2,485	2,318	699	684
WHEMLOCK	2	.5	15.3	86	0.2	.7	82	82	24	24
BL MAPLE	4	1.0	20.1	58	0.5	2.3	222	177	64	64
WR CEDAR	2	.2	32.8	76	0.2	1.0	96	91	35	35
TOTAL	*276*	*103.8*	*19.9*	*90*	*50.4*	*224.9*	*41,887*	*40,732*	*9,462*	*9,421*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0

SAMPLE TREES - BF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	69.8	4.8	784	824	864			
DOUG FIR-P	37.1	25.7	468	630	792			
R ALDER	58.3	8.2	108	118	127			
WHEMLOCK	44.2	41.4	94	160	226			
BL MAPLE	116.5	66.6	93	278	462			
WR CEDAR	13.1	12.3	474	540	606			
TOTAL	*86.3*	*5.3*	*637*	*673*	*708*	*297*	*74*	*33*

CL 68.1 SD: 1.0

SAMPLE TREES - CF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	57.2	4.0	171	178	185			
DOUG FIR-P	33.4	23.1	103	134	165			
R ALDER	51.1	7.1	33	36	39			
WHEMLOCK	37.3	35.0	30	45	61			
BL MAPLE	84.9	48.5	47	91	136			
WR CEDAR	21.5	20.1	169	212	254			
TOTAL	*71.7*	*4.4*	*142*	*149*	*155*	*206*	*51*	*23*

CL 68.1 SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	92.6	9.5	66	73	80			
DOUG FIR-P	334.5	34.5	1	2	3			
R ALDER	201.7	20.8	21	27	33			
WHEMLOCK	694.6	71.6	0	1	1			
BL MAPLE	568.9	58.6	0	1	2			
WR CEDAR	969.5	99.9	0	0	0			
TOTAL	*61.8*	*6.4*	*97*	*104*	*110*	*152*	*38*	*17*

CL 68.1 SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	68.3	7.0	175	189	202			
DOUG FIR-P	334.5	34.5	4	7	9			
R ALDER	193.0	19.9	20	26	31			
WHEMLOCK	681.9	70.3	0	1	1			

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U1	THR	75.00	94	432	S	W
06N	02E	32	FREDDYMERC	00U8						

CL 68.1 SD: 1.00

BASAL AREA/ACRE

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
BL MAPLE	618.1	63.7	1	2	4			
WR CEDAR	969.5	99.9	0	1	2			
TOTAL	*49.1*	*5.1*	*214*	*225*	*236*	*96*	*24*	*11*

CL 68.1 SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	69.9	7.2	34,262	36,922	39,582			
DOUG FIR-P	331.5	34.2	752	1,142	1,532			
R ALDER	191.0	19.7	1,862	2,318	2,774			
WHEMLOCK	687.6	70.9	24	82	140			
BL MAPLE	787.0	81.1	33	177	321			
WR CEDAR	969.5	99.9	0	91	182			
TOTAL	*58.4*	*6.0*	*38,279*	*40,732*	*43,185*	*136*	*34*	*15*

CL 68.1 SD: 1.0

NET CUFT FT/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	68.7	7.1	7,776	8,368	8,960			
DOUG FIR-P	331.4	34.1	162	246	330			
R ALDER	195.4	20.1	546	684	822			
WHEMLOCK	683.9	70.5	7	24	40			
BL MAPLE	711.5	73.3	17	64	111			
WR CEDAR	969.5	99.9	0	35	71			
TOTAL	*54.8*	*5.6*	*8,889*	*9,421*	*9,953*	*120*	*30*	*13*

CL 68.1 SD: 1.0

TONS/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	68.6	7.1	222	239	256			
DOUG FIR-P	331.4	34.1	5	7	9			
R ALDER	195.6	20.2	15	19	23			
WHEMLOCK	683.9	70.5	0	1	1			
BL MAPLE	711.7	73.3	0	2	3			
WR CEDAR	969.5	99.9	0	1	2			
TOTAL	*55.0*	*5.7*	*254*	*269*	*284*	*121*	*30*	*13*

CL 68.1 SD: 1.0

V_BAR/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR			182	196	210			
DOUG FIR-P	126.0	13.0	112	170	228			
R ALDER	159.2	16.4	73	91	109			
WHEMLOCK	687.6	70.9	34	118	202			
BL MAPLE	767.2	79.1	15	78	142			
WR CEDAR	969.5	99.9	0	91	182			
TOTAL	*59.4*	*6.1*	*170*	*181*	*192*	*141*	*35*	*16*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

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T06N R02E S32 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U1	14.00	18	48	S	W

T06N R02E S32 T00U1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	64											3	13		0.00	4.9
DF		HA	2S	6	.7	2,665	2,646	37			100					100	40	14	319	1.71	8.3
DF		HA	3S	1		272	272	4		100						100	40	9	120	0.76	2.3
DF		HB	2S	25	.4	10,744	10,700	150			46	54			4	96	39	16	418	2.22	25.6
DF		HB	3S	3		1,259	1,259	18		100						100	40	10	164	0.93	7.7
DF		DM	SM	11	.3	4,303	4,290	60				100			16	84	39	19	610	3.02	7.0
DF		DM	2S	42	3.0	18,079	17,530	245			23	77			1	99	40	17	501	2.63	35.0
DF		DM	3S	9	.7	3,852	3,824	54	9	91			5	7	12	76	35	9	101	0.80	37.7
DF		DM	4S	2		617	617	9	84	16			42	43	15		20	7	29	0.42	21.5
DF		DM	UT			197	197	3	70	30			36	64			21	6	30	0.41	6.6
DF		RO	3S	1		79	79	1			100			100			29	12	140	1.48	.6
DF Totals				92	1.7	42,131	41,415	580	2	12	28	57	1	2	5	92	34	12	263	1.68	157.3
RA		CU	CU														4	16		0.00	2.5
RA		DM	UT	7		294	294	4	100				8		92		28	5	32	0.28	9.2
RA		DM	2S	13	5.0	496	472	7			100					100	40	12	190	1.18	2.5
RA		DM	3S	29	6.5	1,142	1,067	15		100				28		72	37	11	143	1.10	7.4
RA		DM	4S	31	6.3	1,239	1,162	16		100					33	67	37	9	97	0.77	12.0
RA		DM	4S	20		703	703	10	100				15	21	64		28	5	33	0.29	21.5
RA Totals				8	4.6	3,874	3,697	52	27	60	13		4	12	30	55	31	7	67	0.60	55.1
BM		DM	4S	100		146	146	2	100							100	40	6	60	0.63	2.4
BM Totals				0		146	146	2	100							100	40	6	60	0.63	2.4
Type Totals					1.9	46,151	45,259	634	5	16	27	52	1	3	7	89	33	11	211	1.41	214.8

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Species, Sort Grade - Board Foot Volumes (Type)

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T06N R02E S32 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U2	36.00	41	81	S	W

T06N R02E S32 T00U2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	138											6	9		0.00	26.6
DF		HA	2S	4		1,678	1,678	60			100					100	40	13	268	1.58	6.3
DF		HB	2S	33	2.3	11,468	11,208	403			37	63				100	40	15	362	2.07	30.9
DF		HB	3S	15	1.2	5,247	5,185	187		100					4	96	39	10	131	0.84	39.4
DF		DM	2S	32	4.8	11,625	11,069	398			45	55	1			99	38	15	330	1.99	33.5
DF		DM	3S	9	2.3	3,281	3,206	115	43	57			1	11	5	83	37	8	82	0.60	39.3
DF		DM	4S	5		1,648	1,648	59	90	10			33	33	6	29	24	6	30	0.34	55.8
DF		DM	UT	2		528	528	19	81	19			25			75	26	6	38	0.38	13.8
DF Totals				92	3.1	35,614	34,521	1,243	10	21	31	38	2	3	1	94	31	10	141	1.08	245.6
DF	P	CU	CU														4	23		0.00	1.8
DF	P	HB	2S	95		2,089	2,089	75			60	40				100	40	15	354	1.86	5.9
DF	P	DM	3S	5		108	108	4		100				100			30	8	60	0.64	1.8
DF P Totals				6		2,197	2,197	79		5	57	38		5		95	31	15	231	1.59	9.5
RA		CU	CU														1	11		0.00	1.7
RA		DM	UT	53		343	343	12	78		22		100				18	6	24	0.25	14.4
RA		DM	3S	20	5.6	135	128	5		100						100	40	11	170	1.12	.8
RA		DM	4S	27		166	166	6	100				13		14	73	33	6	43	0.64	3.9
RA Totals				2	1.2	644	637	23	68	20	12		57		4	39	20	6	31	0.43	20.8
BM		CU	CU														5	18		0.00	.6
BM		DM	UT	9		27	27	1		100					100		35	8	80	0.96	.3
BM		DM	1S	85	26.7	343	251	9				100	17	55		28	28	18	287	3.04	.9
BM		DM	4S	6	14.3	19	16	1		100					100		31	9	60	1.00	.3
BM Totals				1	24.3	389	294	11		15		85	15	47	15	24	23	15	141	1.98	2.1
Type Totals					3.1	38,844	37,649	1,355	10	20	32	38	3	3	1	92	30	10	135	1.07	277.9

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Species, Sort Grade - Board Foot Volumes (Type)

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T06N R02E S32 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U3	4.00	6	36	S	W

T06N R02E S32 T00U3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	679											5	11		0.00	17.6
DF		HA	2S	5		2,467	2,467	10			100					100	40	15	334	1.89	7.4
DF		HB	2S	28	2.1	13,886	13,600	54			32	68				100	40	16	416	2.24	32.7
DF		HB	3S	6	1.0	2,757	2,729	11		100						100	40	9	132	0.85	20.6
DF		DM	2S	41	3.2	20,501	19,853	79			36	64			2	98	40	16	390	2.04	51.0
DF		DM	3S	11	.5	5,447	5,419	22	20	80				6	18	76	37	8	96	0.66	56.3
DF		DM	4S	3		1,260	1,260	5	78	22			39	41		20	24	6	31	0.37	40.5
DF		DM	UT	5		2,526	2,526	10	3		28	69		3		97	32	11	252	1.78	10.0
DF		RO	3S	1		214	214	1			100					100	40	13	240	1.66	.9
DF Totals				95	3.4	49,738	48,070	192	4	15	31	49	1	2	3	94	33	11	203	1.35	237.0
DF	P	HA	2S	31		509	509	2			100					100	40	13	240	1.25	2.1
DF	P	DM	SM	59		976	976	4				100				100	40	17	460	2.23	2.1
DF	P	DM	3S	10		149	149	1	100							100	37	7	70	0.59	2.1
DF P Totals				3		1,634	1,634	7	9		31	60				100	39	12	257	1.38	6.4
RA		DM	3S	81		761	761	3		100						100	40	11	180	1.12	4.2
RA		DM	4S	19		169	169	1	100							100	36	5	40	0.40	4.2
RA Totals				2		930	930	4	18	82						100	38	8	110	0.78	8.5
Type Totals					3.2	52,303	50,635	203	5	16	31	49	1	2	3	95	34	11	201	1.33	251.8

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Species, Sort Grade - Board Foot Volumes (Type)

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T06N R02E S32 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U4	5.00	9	46	S	W

T06N R02E S32 T00U4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	174											4	15		0.00	2.0
DF		HA	2S	1		590	590	3			100					100	40	12	200	1.28	3.0
DF		HB	2S	11	1.2	4,028	3,979	20			80	20				100	40	14	302	1.73	13.2
DF		HB	3S	6		1,957	1,957	10		100						100	40	9	119	0.75	16.5
DF		DM	SM	2		732	732	4				100				100	40	19	600	3.12	1.2
DF		DM	2S	66	2.5	24,374	23,755	119			28	72			3	97	40	16	422	2.26	56.3
DF		DM	3S	9	4.8	3,411	3,248	16	24	76				10	27	63	36	8	83	0.68	39.0
DF		DM	4S	2		847	847	4	73	27			33	41		27	22	6	27	0.34	31.0
DF		DM	UT	3		810	810	4	37	63			9			91	33	6	54	0.42	15.1
DF	**Totals**			86	2.7	36,922	35,917	180	5	14	29	52	1	2	4	93	35	11	203	1.32	177.2
RA		CU	CU		100.0	296											5	8		0.00	28.3
RA		DM	UT	10		453	453	2	42		58		67	33			15	8	39	0.55	11.7
RA		DM	2S	17	3.0	809	785	4			100		42			58	26	13	138	1.40	5.7
RA		DM	3S	10	7.7	486	448	2		100				100			30	11	120	1.03	3.7
RA		DM	4S	28	6.6	1,374	1,283	6		100						100	40	9	103	0.73	12.4
RA		DM	4S	35		1,546	1,546	8	100					10		90	37	6	51	0.54	30.5
RA	**Totals**			11	9.0	4,965	4,516	23	38	38	23		14	17		69	24	8	49	0.63	92.5
WH		DM	3S	84		1,035	1,035	5		100						100	40	9	126	0.87	8.2
WH		DM	4S	16		197	197	1	100					50	50		25	5	24	0.32	8.2
WH	**Totals**			3		1,232	1,232	6	16	84				8	8	84	33	7	75	0.66	16.4
Type Totals					3.4	43,119	41,665	208	9	19	27	45	2	4	4	90	31	10	146	1.11	286.0

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Species, Sort Grade - Board Foot Volumes (Type)

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T06N R02E S32 T00U5

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U5	8.00	10	33	S	W

T06N R02E S32 T00U5

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	428											4	22		0.00	6.2
DF		HB	2S	23	1.7	11,474	11,285	90			20	80				100	40	16	430	2.31	26.3
DF		HB	3S	1		466	466	4		100						100	40	10	150	0.89	3.1
DF		DM	SM	13		5,942	5,942	48				100				100	40	22	895	4.00	6.6
DF		DM	2S	53	1.0	25,669	25,422	203			29	71	1	1	3	96	39	16	475	2.36	53.5
DF		DM	3S	6	.7	3,059	3,036	24		100			3	5		92	38	10	136	0.91	22.4
DF		DM	4S	3		1,258	1,258	10	54	46			39	32	12	17	23	7	40	0.53	31.2
DF		DM	UT	1		313	313	3	100					54	46		28	6	37	0.41	8.5
DF		**Totals**		90	1.8	48,609	47,721	382	2	9	20	69	2	2	2	95	34	13	302	1.82	157.9
RA		CU	CU		100.0	224											3	11		0.00	8.5
RA		DM	UT	3		166	166	1	100				100				11	5	10	0.18	16.6
RA		DM	2S	13	6.7	598	558	4			100				100		31	12	140	1.38	4.0
RA		DM	3S	41	6.3	1,985	1,861	15		100						100	40	10	150	1.14	12.4
RA		DM	4S	9		402	402	3		100				100			30	9	70	0.83	5.7
RA		DM	4S	34	3.7	1,531	1,473	12	100				10	8		82	32	6	45	0.51	33.0
RA		**Totals**		8	9.1	4,905	4,459	36	37	51	13		7	12	13	69	26	7	56	0.71	80.3
RC		DM	3S	98	4.8	881	839	7		7	13	80		13	7	80	34	14	263	3.04	3.2
RC		DM	4S	2		14	14	0		100			100				15	8	20	0.57	.7
RC		**Totals**		2	4.7	895	853	7		9	12	79	2	12	7	79	30	13	219	2.82	3.9
BM		DM	4S	100		80	80	1	100					100			27	5	30	0.95	2.7
BM		**Totals**		0		80	80	1	100					100			27	5	30	0.95	2.7
Type Totals					2.5	54,489	53,114	425	5	12	19	64	2	3	3	92	31	11	217	1.53	244.7

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T06N R02E S32 T00U6

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U6	6.00	6	18	S	W

T06N R02E S32 T00U6

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		HB	2S	39	.7	12,545	12,459	75			59	41				100	40	14	313	1.78	39.8
DF		HB	3S	11		3,537	3,537	21		100						100	40	10	142	0.85	24.8
DF		DM	2S	25	3.4	8,369	8,082	48			37	63				100	40	16	410	2.19	19.7
DF		DM	3S	18		5,690	5,690	34	42	58				3	9	88	39	8	87	0.58	65.1
DF		DM	4S	5		1,414	1,414	8	80	20			55	13		33	21	6	26	0.34	54.3
DF		DM	UT	2		559	559	3	100					100			29	5	30	0.20	18.6
DF	**Totals**			92	1.2	32,114	31,742	190	13	22	33	32	2	3	2	93	34	9	143	0.97	222.4
RA		CU	CU		100.0	287											9	5		0.00	28.7
RA		DM	3S	21	6.7	664	620	4		100						100	40	10	140	1.16	4.4
RA		DM	4S	17	22.2	659	512	3		100					100		32	9	70	0.76	7.3
RA		DM	4S	62		1,810	1,810	11	100					5		95	38	6	55	0.37	33.1
RA	**Totals**			8	14.0	3,419	2,942	18	62	38				3	17	80	26	6	40	0.44	73.5
Type Totals					2.4	35,534	34,684	208	17	24	30	29	2	3	3	92	32	8	117	0.86	295.9

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T06N R02E S32 T00U7

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U7	1.00	2	4	S	W

T06N R02E S32 T00U7

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RA		CU	CU														5	14		0.00	24.4
RA		DM	2S	26	8.3	1,677	1,537	2			100					100	40	13	220	1.78	7.0
RA		DM	4S	52	4.2	3,242	3,106	3		100						100	40	9	128	0.81	24.4
RA		DM	4S	22		1,256	1,256	1	100					33	34	33	33	5	40	0.38	31.3
RA		**Totals**		70	4.5	6,176	5,899	6	21	53	26			7	7	86	28	10	68	0.69	87.0
DF		DM	3S	96		2,377	2,377	2	28	72						100	40	9	125	0.84	19.0
DF		DM	4S	4		95	95	0	100				100				12	5	10	0.20	9.5
DF		**Totals**		30		2,473	2,473	2	31	69			4			96	31	8	87	0.76	28.5
Type Totals					3.2	8,648	8,372	8	24	58	18		1	5	5	89	28	9	72	0.71	115.6

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T06N R02E S32 T00U8

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U8	1.00	2	10	S	W

T06N R02E S32 T00U8

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RA		CU	CU														0	7		0.00	81.9
RA		DM	UT	16		2,239	2,239	2	19		81		100				15	8	42	0.64	53.0
RA		DM	3S	12		1,643	1,643	2		100					100		32	10	120	0.89	13.7
RA		DM	4S	27	14.7	4,274	3,645	4		100					60	40	34	9	84	0.81	43.5
RA		DM	4S	45	2.9	6,314	6,132	6	100				5	10	17	69	33	6	43	0.49	143.9
RA	**Totals**			100	5.6	14,470	13,659	14	48	39	13		19	4	36	41	22	7	41	0.59	336.0
Type Totals					5.6	14,470	13,659	14	48	39	13		19	4	36	41	22	7	41	0.59	336.0

STATISTICS

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U1	14.00	18	87	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	18	87	4.8		
CRUISE	11	48	4.4	1,197	4.0
DBH COUNT					
REFOREST					
COUNT	6	29	4.8		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	39	52.4	26.0	105	37.9	193.0	42,131	41,415	8,976	8,964
R ALDER	8	30.7	13.7	73	8.5	31.3	3,874	3,697	1,008	1,008
BL MAPLE	1	2.4	14.0	61	0.7	2.6	146	146	62	62
TOTAL	*48*	*85.5*	*22.1*	*92*	*48.3*	*226.9*	*46,151*	*45,259*	*10,047*	*10,034*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	51.1	8.4	963	1,052	1,140			
R ALDER	57.2	21.6	122	155	188			
BL MAPLE								
TOTAL	*69.1*	*10.2*	*785*	*874*	*963*	*191*	*48*	*21*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	41.3	6.8	207	222	237			
R ALDER	47.4	17.9	36	44	51			
BL MAPLE								
TOTAL	*58.8*	*8.7*	*170*	*187*	*203*	*138*	*34*	*15*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	71.3	17.3	43	52	61			
R ALDER	194.7	47.2	16	31	45			
BL MAPLE	424.3	102.8		2	5			
TOTAL	*52.6*	*12.8*	*75*	*86*	*96*	*117*	*29*	*13*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	63.5	15.4	163	193	223			
R ALDER	185.5	45.0	17	31	45			
BL MAPLE	424.3	102.8		3	5			
TOTAL	*39.0*	*9.5*	*205*	*227*	*248*	*64*	*16*	*7*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	65.5	15.9	34,844	41,415	47,987			
R ALDER	179.2	43.4	2,092	3,697	5,302			
BL MAPLE	424.3	102.8		146	297			
TOTAL	*50.2*	*12.2*	*39,756*	*45,259*	*50,762*	*106*	*27*	*12*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	65.0	15.8	7,551	8,964	10,376			
R ALDER	181.4	44.0	565	1,008	1,452			
BL MAPLE	424.3	102.8		62	125			

STATISTICS

PROJECT **REMIX**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	**02E**	**32**	**FREDDYMERC**	**00U1**	14.00	18	87	S	W

CL: 68.1 % COEFF **NET CUFT FT/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL	*46.3*	*11.2*	*8,908*	*10,034*	*11,160*	*91*	*23*	*10*

CL: 68.1 % COEFF **TONS/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	65.0	15.7	216	256	296			
R ALDER	181.4	44.0	16	28	40			
BL MAPLE	424.3	102.8		2	3			
TOTAL	*46.9*	*11.4*	*253*	*285*	*318*	*93*	*23*	*10*

CL: 68.1 % COEFF **V-BAR/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR			181	215	249			
R ALDER	104.6	25.3	67	118	169			
BL MAPLE	424.3	102.8		56	114			
TOTAL	*185.4*	*44.9*	*175*	*199*	*224*	*1,453*	*363*	*161*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U2	36.00	41	166	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	41	166	4.0		
CRUISE	23	81	3.5	3,968	2.0
DBH COUNT					
REFOREST					
COUNT	17	78	4.6		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	70	88.3	20.1	99	43.5	195.2	35,614	34,521	8,234	8,215
DOUG FIR-P	2	4.1	24.4	107	2.7	13.3	2,197	2,197	474	474
R ALDER	7	17.2	9.9	31	2.9	9.3	644	637	180	180
BL MAPLE	2	.6	28.4	81	0.5	2.7	389	294	94	94
TOTAL	*81*	*110.2*	*19.1*	*88*	*50.4*	*220.4*	*38,844*	*37,649*	*8,982*	*8,963*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	56.7	6.9	538	578	618			
DOUG FIR-P	50.5	47.3	295	560	825			
R ALDER	96.0	39.1	41	67	93			
BL MAPLE	61.0	57.1	219	510	801			
TOTAL	*64.2*	*7.2*	*492*	*531*	*569*	*165*	*41*	*18*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	52.4	6.3	126	135	143			
DOUG FIR-P	44.7	41.8	70	120	171			
R ALDER	91.2	37.1	14	22	30			
BL MAPLE	16.8	15.7	133	157	182			
TOTAL	*58.9*	*6.6*	*117*	*125*	*133*	*139*	*35*	*15*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	69.9	10.9	79	88	98			
DOUG FIR-P	220.7	34.4	3	4	6			
R ALDER	297.8	46.5	9	17	25			
BL MAPLE	640.3	99.9	0	1	1			
TOTAL	*55.4*	*8.6*	*101*	*110*	*120*	*122*	*31*	*14*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	55.4	8.6	178	195	212			
DOUG FIR-P	220.4	34.4	9	13	18			
R ALDER	318.2	49.7	5	9	14			
BL MAPLE	640.3	99.9	0	3	5			
TOTAL	*47.5*	*7.4*	*204*	*220*	*237*	*90*	*23*	*10*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	54.7	8.5	31,574	34,521	37,469			
DOUG FIR-P	221.6	34.6	1,437	2,197	2,956			
R ALDER	296.2	46.2	342	637	931			
BL MAPLE	640.3	99.9	0	294	588			
TOTAL	*49.4*	*7.7*	*34,749*	*37,649*	*40,549*	*97*	*24*	*11*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U2	36.00	41	166	S	W

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

DOUG FIR	55.3	8.6	7,506	8,215	8,924			
DOUG FIR-P	221.2	34.5	311	474	638			
R ALDER	350.2	54.7	82	180	278			
BL MAPLE	640.3	99.9	0	94	188			
TOTAL	*50.1*	*7.8*	*8,263*	*8,963*	*9,664*	*100*	*25*	*11*

CL: 68.1 % COEFF — **TONS/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

DOUG FIR	55.4	8.6	214	235	255			
DOUG FIR-P	221.2	34.5	9	14	18			
R ALDER	350.2	54.7	2	5	8			
BL MAPLE	640.3	99.9	0	2	5			
TOTAL	*50.3*	*7.8*	*236*	*256*	*276*	*101*	*25*	*11*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

DOUG FIR			162	177	192			
DOUG FIR-P			108	165	223			
R ALDER	296.2	46.2	37	68	100			
BL MAPLE	640.3	99.9	0	111	222			
TOTAL	*215.5*	*33.6*	*158*	*171*	*184*	*1,855*	*464*	*206*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U3	4.00	6	36	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	6	36	6.0		
CRUISE	6	36	6.0	338	10.7
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	34	78.1	23.1	110	47.2	226.7	49,738	48,070	10,813	10,689
DOUG FIR-P	1	2.1	24.0	120	1.4	6.7	1,634	1,634	342	342
R ALDER	1	4.2	17.0	78	1.6	6.7	930	930	250	250
TOTAL	*36*	*84.5*	*22.8*	*109*	*50.2*	*240.0*	*52,303*	*50,635*	*11,405*	*11,281*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

SAMPLE TREES - BF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	39.3	7.1	819	881	943			
DOUG FIR-P								
R ALDER								
TOTAL	*41.4*	*7.2*	*796*	*857*	*919*	*68*	*17*	*8*

SAMPLE TREES - CF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	31.1	5.6	181	192	202			
DOUG FIR-P								
R ALDER								
TOTAL	*33.4*	*5.8*	*176*	*187*	*198*	*44*	*11*	*5*

TREES/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	74.5	33.2	52	78	104			
DOUG FIR-P	244.9	109.1		2	4			
R ALDER	244.9	109.1		4	9			
TOTAL	*69.1*	*30.8*	*58*	*84*	*110*	*227*	*57*	*25*

BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	52.0	23.1	174	227	279			
DOUG FIR-P	244.9	109.1		7	14			
R ALDER	244.9	109.1		7	14			
TOTAL	*49.4*	*22.0*	*187*	*240*	*293*	*116*	*29*	*13*

NET BF/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	46.7	20.8	38,077	48,070	58,063			
DOUG FIR-P	244.9	109.1		1,634	3,416			
R ALDER	244.9	109.1		930	1,945			
TOTAL	*45.3*	*20.2*	*40,411*	*50,635*	*60,858*	*98*	*24*	*11*

NET CUFT FT/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	48.1	21.4	8,399	10,689	12,980			
DOUG FIR-P	244.9	109.1		342	715			
R ALDER	244.9	109.1		250	522			
TOTAL	*46.2*	*20.6*	*8,960*	*11,281*	*13,603*	*102*	*25*	*11*

STATISTICS

PROJECT REMIX

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U3	4.00	6	36	S	W

CL: 68.1 % COEFF **TONS/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

CL: 68.1 % COEFF **TONS/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

DOUG FIR	48.0	21.4	242	308	374			
DOUG FIR-P	244.9	109.1		10	20			
R ALDER	244.9	109.1		7	14			
TOTAL	*46.1*	*20.5*	*258*	*325*	*392*	*101*	*25*	*11*

CL: 68.1 % COEFF **V-BAR/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

DOUG FIR	46.7	20.8	168	212	256			
DOUG FIR-P	244.9	109.1		245	512			
R ALDER	244.9	109.1		140	292			
TOTAL	*45.3*	*20.2*	*168*	*211*	*254*	*98*	*24*	*11*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U4	5.00	9	46	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	9	46	5.1		
CRUISE	9	46	5.1	549	8.4
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	34	62.4	22.8	109	37.1	177.3	36,922	35,917	8,195	8,171
R ALDER	10	39.1	15.6	68	13.2	52.2	4,965	4,516	1,474	1,405
WHEMLOCK	2	8.2	15.3	86	2.7	10.4	1,232	1,232	353	353
TOTAL	*46*	*109.8*	*20.0*	*93*	*53.6*	*239.9*	*43,119*	*41,665*	*10,023*	*9,930*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	46.8	8.0	701	762	824			
R ALDER	51.5	17.1	104	125	146			
WHEMLOCK	44.2	41.4	94	160	226			
TOTAL	*69.6*	*10.3*	*536*	*598*	*659*	*193*	*48*	*21*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	41.9	7.2	157	170	182			
R ALDER	40.3	13.4	34	39	44			
WHEMLOCK	37.3	35.0	30	45	61			
TOTAL	*62.0*	*9.1*	*123*	*136*	*148*	*153*	*38*	*17*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	85.3	30.1	44	62	81			
R ALDER	170.2	60.1	16	39	63			
WHEMLOCK	203.1	71.7	2	8	14			
TOTAL	*55.6*	*19.6*	*88*	*110*	*131*	*139*	*35*	*15*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	61.8	21.8	139	177	216			
R ALDER	158.7	56.0	23	52	81			
WHEMLOCK	198.4	70.0	3	10	18			
TOTAL	*39.7*	*14.0*	*206*	*240*	*274*	*71*	*18*	*8*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	62.2	21.9	28,039	35,917	43,796			
R ALDER	140.7	49.7	2,273	4,516	6,759			
WHEMLOCK	200.5	70.8	360	1,232	2,103			
TOTAL	*45.9*	*16.2*	*34,911*	*41,665*	*48,419*	*95*	*24*	*11*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	62.7	22.1	6,362	8,171	9,981			
R ALDER	150.5	53.1	659	1,405	2,152			
WHEMLOCK	199.2	70.3	105	353	602			
TOTAL	*42.3*	*14.9*	*8,449*	*9,930*	*11,412*	*80*	*20*	*9*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	**02E**	**32**	**FREDDYMERC**	**00U4**	5.00	9	46	S	W

CL: 68.1 % COEFF **TONS/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

CL: 68.1 % COEFF **TONS/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	62.3	22.0	182	234	285			
R ALDER	146.1	51.6	20	41	61			
WHEMLOCK	199.2	70.3	3	11	19			
TOTAL	*42.4*	*14.9*	*243*	*285*	*328*	*80*	*20*	*9*

CL: 68.1 % COEFF **V-BAR/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	62.2	21.9	158	203	247			
R ALDER	140.7	49.7	44	87	130			
WHEMLOCK	200.5	70.8	35	118	202			
TOTAL	*45.9*	*16.2*	*146*	*174*	*202*	*95*	*24*	*11*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U5	8.00	10	57	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	10	57	5.7		
CRUISE	7	33	4.7	760	4.3
DBH COUNT					
REFOREST					
COUNT	3	16	5.3		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	22	49.7	27.0	110	38.0	197.1	48,609	47,721	9,787	9,725
R ALDER	8	41.0	15.9	60	14.1	56.3	4,905	4,459	1,510	1,446
WR CEDAR	2	1.6	32.8	76	1.6	9.4	895	853	332	332
BL MAPLE	1	2.7	18.0	28	1.1	4.7	80	80	68	68
TOTAL	*33*	*95.0*	*22.7*	*86*	*56.1*	*267.6*	*54,489*	*53,114*	*11,697*	*11,572*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	76.9	16.8	1,189	1,429	1,668			
R ALDER	43.6	16.4	97	116	135			
WR CEDAR	13.1	12.3	474	540	606			
BL MAPLE								
TOTAL	*106.1*	*18.4*	*827*	*1,014*	*1,201*	*449*	*112*	*50*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	66.1	14.4	236	275	315			
R ALDER	34.5	13.0	33	38	43			
WR CEDAR	21.5	20.1	169	212	254			
BL MAPLE								
TOTAL	*88.3*	*15.4*	*175*	*207*	*238*	*311*	*78*	*35*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	66.9	22.3	39	50	61			
R ALDER	140.6	46.8	22	41	60			
WR CEDAR	316.2	105.2		2	3			
BL MAPLE	316.2	105.2		3	5			
TOTAL	*31.8*	*10.6*	*85*	*95*	*105*	*45*	*11*	*5*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	69.0	23.0	152	197	242			
R ALDER	134.9	44.9	31	56	82			
WR CEDAR	316.2	105.2		9	19			
BL MAPLE	316.2	105.2		5	10			
TOTAL	*23.5*	*7.8*	*247*	*268*	*288*	*24*	*6*	*3*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	78.1	26.0	35,313	47,721	60,129			
R ALDER	139.1	46.3	2,396	4,459	6,523			
WR CEDAR	316.2	105.2		853	1,751			
BL MAPLE	316.2	105.2		80	164			
TOTAL	*61.2*	*20.4*	*42,288*	*53,114*	*63,939*	*166*	*42*	*18*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U5	8.00	10	57	S	W

CL: 68.1 % COEFF

SD: 1.0 VAR.

NET CUFT FT/ACRE

S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15

CL: 68.1 % COEFF

SD: 1.0 VAR.%

NET CUFT FT/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	73.1	24.3	7,360	9,725	12,090			
R ALDER	137.0	45.6	787	1,446	2,106			
WR CEDAR	316.2	105.2		332	681			
BL MAPLE	316.2	105.2		68	140			
TOTAL	*45.7*	*15.2*	*9,810*	*11,572*	*13,333*	*93*	*23*	*10*

CL: 68.1 % COEFF

SD: 1.0 VAR.%

TONS/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	72.4	24.1	212	279	346			
R ALDER	139.4	46.4	22	42	61			
WR CEDAR	316.2	105.2		8	16			
BL MAPLE	316.2	105.2		2	4			
TOTAL	*46.3*	*15.4*	*279*	*330*	*381*	*95*	*24*	*11*

CL: 68.1 % COEFF

SD: 1.0 VAR.%

V-BAR/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR			179	242	305			
R ALDER	114.8	38.2	43	79	116			
WR CEDAR	316.2	105.2		91	187			
BL MAPLE	316.2	105.2		17	35			
TOTAL	*197.7*	*65.8*	*158*	*199*	*239*	*1,731*	*433*	*192*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	**02E**	**32**	**FREDDYMERC**	**00U6**	6.00	6	26	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	6	26	4.3		
CRUISE	5	18	3.6	774	2.3
DBH COUNT					
REFOREST					
COUNT	1	7	7.0		
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
DOUG FIR	14	88.5	18.9	103	39.6	172.1	32,114	31,742	7,384	7,384
R ALDER	4	40.4	11.9	69	9.1	31.3	3,419	2,942	883	840
TOTAL	*18*	*129.0*	*17.0*	*93*	*49.3*	*203.4*	*35,534*	*34,684*	*8,267*	*8,224*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	63.5	17.6	437	530	623			
R ALDER	55.5	31.7	60	88	115			
TOTAL	*81.2*	*19.7*	*347*	*432*	*517*	*279*	*70*	*31*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	56.1	15.5	101	119	138			
R ALDER	68.5	39.2	16	27	37			
TOTAL	*72.0*	*17.4*	*82*	*99*	*116*	*219*	*55*	*24*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	134.0	59.7	36	89	141			
R ALDER	122.2	54.4	18	40	62			
TOTAL	*71.9*	*32.0*	*88*	*129*	*170*	*246*	*61*	*27*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	107.3	47.8	90	172	254			
R ALDER	122.5	54.5	14	31	48			
TOTAL	*76.8*	*34.2*	*134*	*203*	*273*	*280*	*70*	*31*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	103.2	45.9	17,160	31,742	46,325			
R ALDER	129.7	57.8	1,243	2,942	4,641			
TOTAL	*86.8*	*38.7*	*21,277*	*34,684*	*48,091*	*359*	*90*	*40*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	107.3	47.8	3,857	7,384	10,910			
R ALDER	128.5	57.2	360	840	1,321			
TOTAL	*87.0*	*38.7*	*5,038*	*8,224*	*11,410*	*360*	*90*	*40*

CL: 68.1 % COEFF — **TONS/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	107.3	47.8	110	210	311			
R ALDER	128.5	57.2	10	24	38			
TOTAL	*86.8*	*38.7*	*144*	*235*	*325*	*359*	*90*	*40*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U6	6.00	6	26	S	W

CL: 68.1 %
SD: 1.0

	COEFF VAR.	S.E.%	V-BAR/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	56.6	25.2	100	184	269			
R ALDER	129.7	57.8	40	94	148			
TOTAL	*178.6*	*79.5*	*105*	*171*	*236*	*1,517*	*379*	*169*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U7	1.00	2	4	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	4	2.0		
CRUISE	2	4	2.0	41	9.8
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER	3	31.3	17.2	80	12.2	50.4	6,176	5,899	1,676	1,676
DOUG FIR	1	9.5	18.0	95	4.0	16.8	2,473	2,473	661	661
TOTAL	*4*	*40.9*	*17.4*	*83*	*16.1*	*67.2*	*8,648*	*8,372*	*2,337*	*2,337*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	34.9	24.1	154	203	252			
DOUG FIR								
TOTAL	*29.6*	*16.9*	*181*	*218*	*254*	*46*	*11*	*5*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	49.3	34.1	39	60	80			
DOUG FIR								
TOTAL	*39.4*	*22.5*	*48*	*62*	*76*	*81*	*20*	*9*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	78.4	73.4	8	31	54			
DOUG FIR	141.4	132.4		10	22			
TOTAL	*27.2*	*25.5*	*30*	*41*	*51*	*52*	*13*	*6*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	47.1	44.1	28	50	73			
DOUG FIR	141.4	132.4		17	39			
TOTAL			*67*	*67*	*67*			

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	47.6	44.6	3,268	5,899	8,530			
DOUG FIR	141.4	132.4		2,473	5,747			
TOTAL	*8.2*	*7.7*	*7,728*	*8,372*	*9,015*	*5*	*1*	*1*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	32.4	30.3	1,168	1,676	2,184			
DOUG FIR	141.4	132.4		661	1,536			
TOTAL	*16.8*	*15.7*	*1,970*	*2,337*	*2,704*	*20*	*5*	*2*

CL: 68.1 % COEFF — **TONS/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
R ALDER	32.4	30.3	32	46	60			
DOUG FIR	141.4	132.4		19	44			
TOTAL	*18.1*	*16.9*	*54*	*65*	*76*	*23*	*6*	*3*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15

STATISTICS

PROJECT REMIX

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U7	1.00	2	4	S	W

CL: 68.1 %
SD: 1.0

	COEFF VAR.	S.E.%	V-BAR/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	47.6	44.6	65	117	169			
DOUG FIR	141.4	132.4		147	342			
TOTAL	*8.2*	*7.7*	*115*	*125*	*134*	*5*	*1*	*1*

STATISTICS

PROJECT REMIX

DATE 11/2/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
06N	02E	32	FREDDYMERC	00U8	1.00	2	10	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	10	5.0		
CRUISE	2	10	5.0	156	6.4
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
R ALDER	10	156.0	14.1	54	44.8	168.1	14,470	13,659	4,411	4,400
TOTAL	*10*	*156.0*	*14.1*	*54*	*44.8*	*168.1*	*14,470*	*13,659*	*4,411*	*4,400*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

SAMPLE TREES - BF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
R ALDER	39.6	13.2	82	94	106			
TOTAL	*39.6*	*13.2*	*82*	*94*	*106*	*69*	*17*	*8*

SAMPLE TREES - CF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
R ALDER	24.5	8.1	27	30	32			
TOTAL	*24.5*	*8.1*	*27*	*30*	*32*	*27*	*7*	*3*

TREES/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	26.5	24.8	117	156	195			
TOTAL	*26.5*	*24.8*	*117*	*156*	*195*	*49*	*12*	*5*

BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	28.3	26.5	124	168	213			
TOTAL	*28.3*	*26.5*	*124*	*168*	*213*	*56*	*14*	*6*

NET BF/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	24.3	22.7	10,557	13,659	16,761			
TOTAL	*24.3*	*22.7*	*10,557*	*13,659*	*16,761*	*41*	*10*	*5*

NET CUFT FT/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	23.8	22.2	3,422	4,400	5,379			
TOTAL	*23.8*	*22.2*	*3,422*	*4,400*	*5,379*	*40*	*10*	*4*

TONS/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	23.1	21.7	95	121	148			
TOTAL	*23.1*	*21.7*	*95*	*121*	*148*	*38*	*9*	*4*

V-BAR/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER	24.3	22.7	63	81	100			
TOTAL	*24.3*	*22.7*	*63*	*81*	*100*	*41*	*10*	*5*

TC PSPCTLTCM

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

T06N R02E S32 Ty00U1	14.0
T06N R02E S32 Ty00U2	36.0
T06N R02E S32 Ty00U	1.0

Project **REMIX**
Acres **75.00**

Page No **1**
Date: **11/2/2015**
Time **11:55:53AM**

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		5,475	14,348	17,943	114.62	43.74	1.27	6,296	6,276	2,840	2,769
R ALDER		2,020	3,025	1,442	25.41	16.96	0.60	524	513	186	174
DOUG FIR	P	156	303	526	118.09	60.90	1.60	184	184	86	86
BL MAPLE		77	109	127	62.11	44.10	1.35	48	48	17	13
WR CEDAR		13	31	62	207.66	85.12	2.84	27	27	7	7
WHEMLOCK		41	82	57	43.16	21.58	0.65	18	18	6	6
Totals		7,782	17,898	20,156	90.80	39.48	1.18	7,097	7,066	3,142	3,055

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	5,685	14,764	18,587	114.41	44.06	1.28	6,524	6,505	2,938	2,868
H	2,097	3,134	1,569	26.76	17.90	0.63	572	561	203	187
Totals	7,782	17,898	20,156	90.80	39.48	1.18	7,097	7,066	3,142	3,055

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

FPA/N No: 2931023
Effective Date: 11/16/2015
Expiration Date: 11/16/2018
Shut Down Zone: 660
EARR Tax Credit: ⋈ Eligible [ ] Non-eligible
Reference: Remix TBS
30-092762

Forest Practices Application/Notification
Notice of Decision

Decision

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

FPA/N Classification

[ ] Class II ⋈ Class III [ ] Class IVG [ ] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 3 yrs [ ] 4 yrs [ ] 5 yrs

Conditions on Approval / Reasons for Disapproval

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.

2. Divert or isolate water for culvert installations and/or removals in flowing type N waters.

NOTE:

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

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:** 11/16/2015

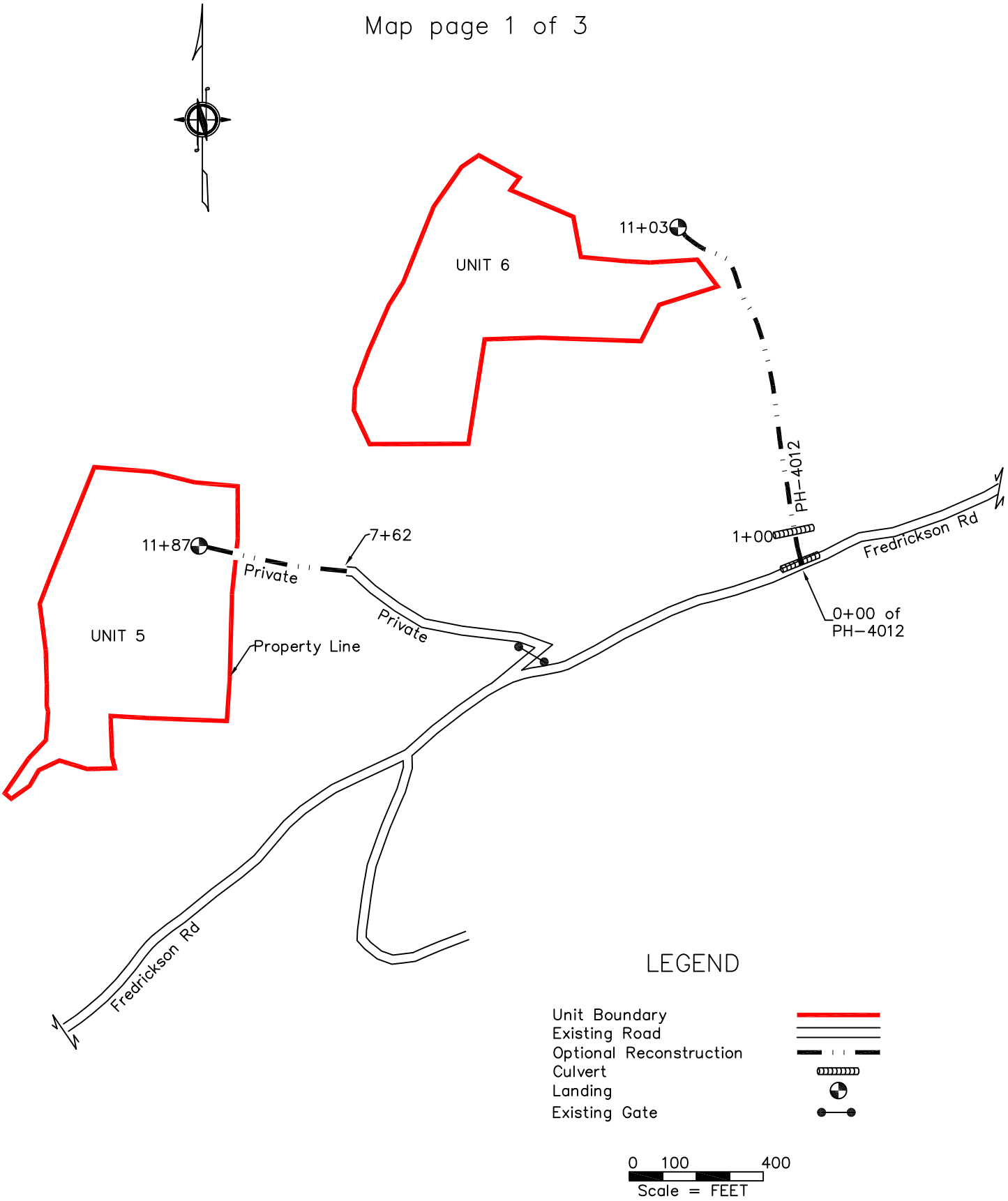
Copies to: **[ ] Landowner, Timber Owner and Operator.**

Issued in person: **⋈ Landowner ⋈ Timber Owner ⋈ Operator By:**

REMIX

ROAD PLAN MAP

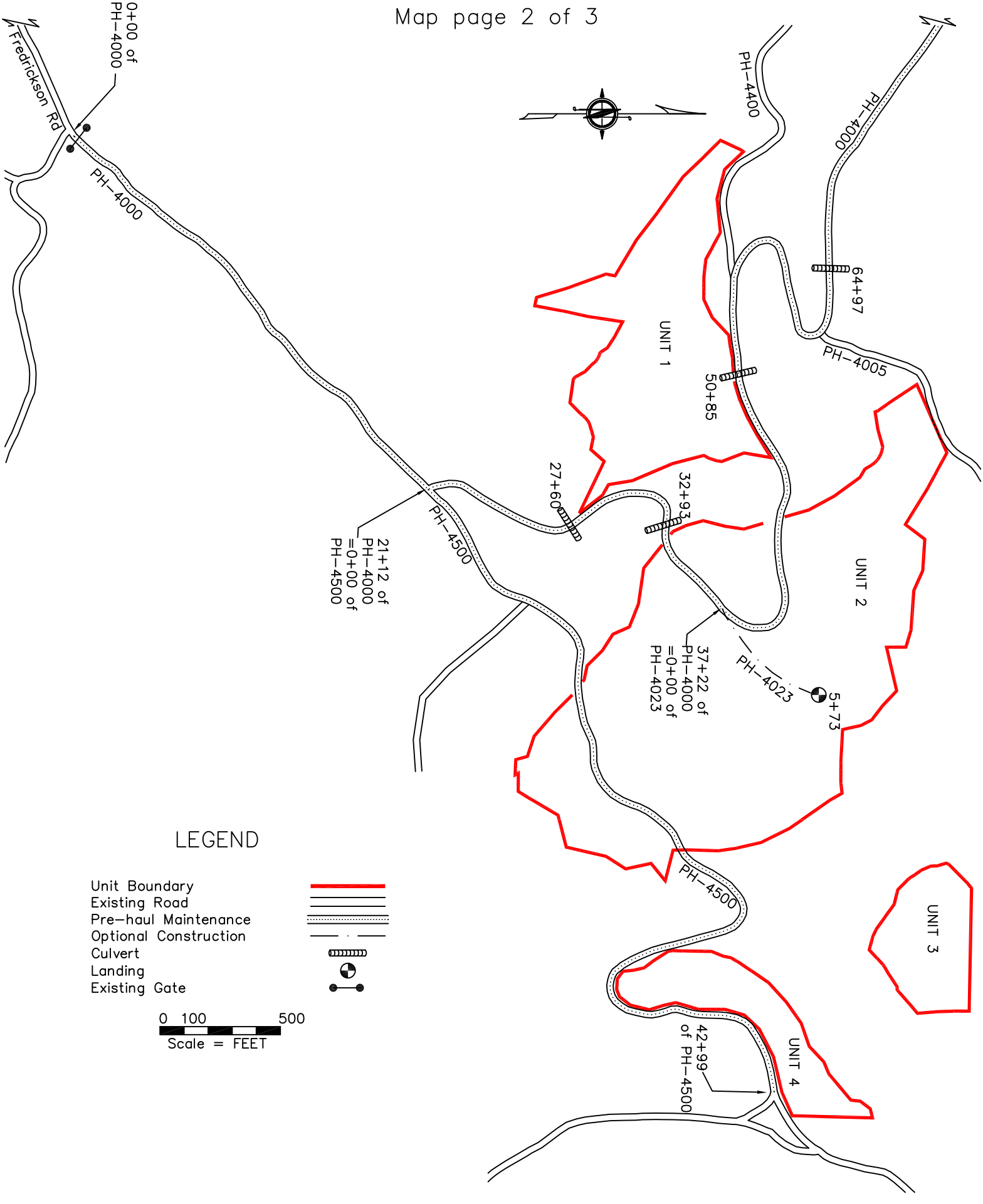
Map page 1 of 3



REMIX

ROAD PLAN MAP

Map page 2 of 3



REMIX

ROAD PLAN MAP

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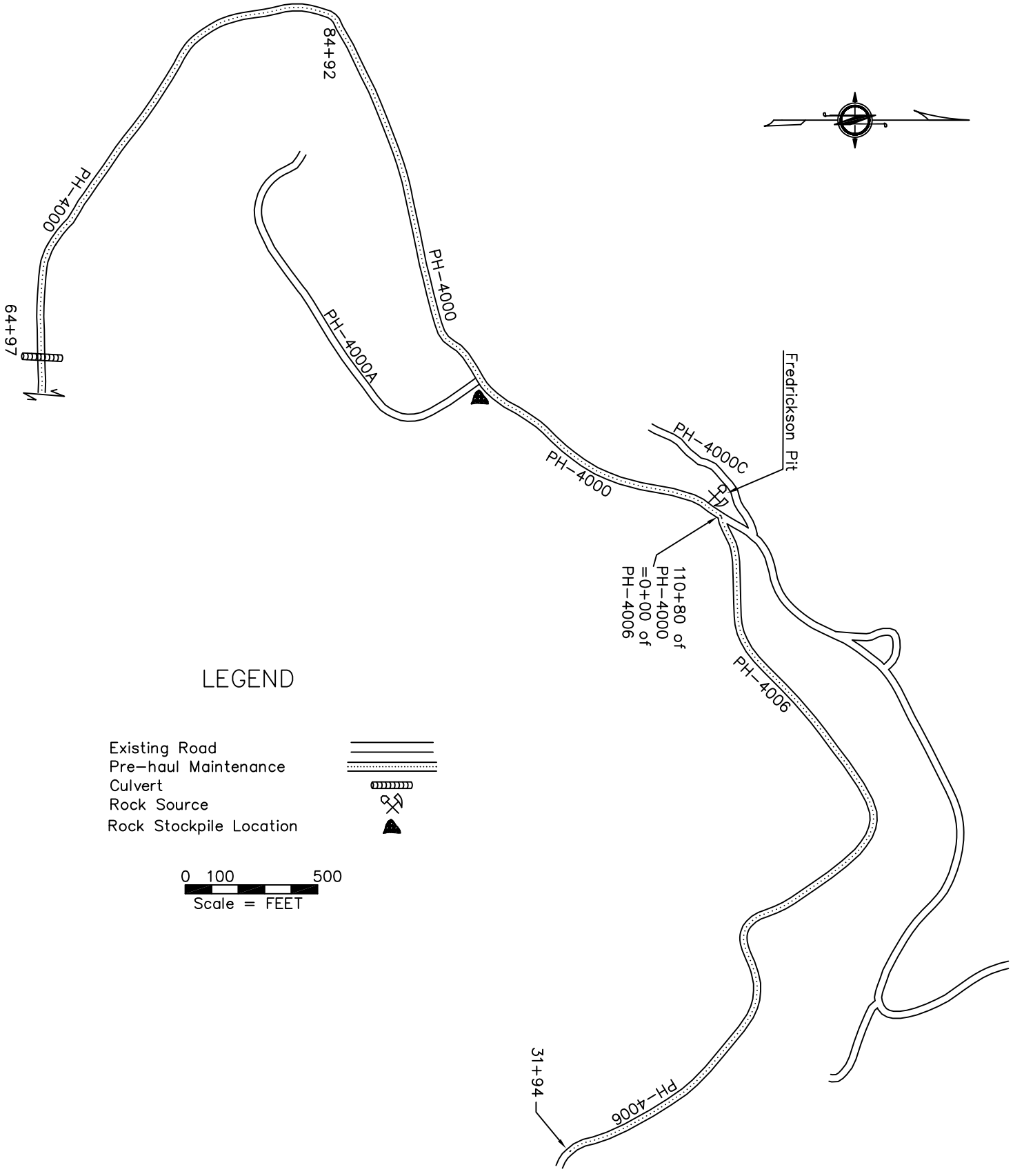


STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

REMIX TIMBER SALE ROAD PLAN
CLARK COUNTY
YACOLT DISTRICT

AGREEMENT NO.: 30-092762 STAFF ENGINEER: SCOTT HANNA

DATE: JUNE 11, 2015 DRAWN & COMPILED BY: ALICIA COMPTON

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
PH-4000	0+00 to 110+80	pre-haul maintenance
PH-4006	0+00 to 31+94	pre-haul maintenance
PH-4500	0+00 to 42+99	pre-haul maintenance

0-3 OPTIONAL ROADS

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

Road	Stations	Type
PH-4012	0+00 to 11+03	reconstruction
PH-4023	0+00 to 5+73	construction
Private	7+62 to 11+87	reconstruction

0-4 CONSTRUCTION

Construction includes, but is not limited to the following: clearing; grubbing; right-of-way debris disposal; excavation and embankment to sub-grade; compaction of subgrade and embankment; landing construction; manufacture, application and compaction of rock.

0-5 RECONSTRUCTION

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

Road	Stations	Requirements
PH-4012	0+00 to 11+03	Clearing; ditch construction; acquisition and installation of drainage structures; shaping and compaction of existing surface; manufacture, application and compaction of rock.
Private	7+62 to 11+87	Shaping and compaction of existing surface; manufacture, application and compaction of rock.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
PH-4000	0+00 to 110+80	Clean ditches; clean culvert inlets and outlets; install drainage structures; grade, shape, and compact existing surface; manufacture, apply and compact rock.
	64+97 to 84+92	Breakup any oversize rock embedded in subgrade.
PH-4006	0+00 to 31+94	Clean ditches; clean culvert inlets and outlets; desod, grade, shape, and compact existing surface.
PH-4500	0+00 to 42+99	Clean ditches; clean culvert inlets and outlets; grade, shape, and compact existing surface; manufacture, apply and compact rock.

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, stripping, waste disposal, drilling, shooting, and processing rock. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

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.

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

All road work is marked as follows:

- Four-foot stakes with orange ribbon for pre-haul maintenance.
- Four-foot stakes with orange ribbon, orange paint and reference points for construction.

1-16 CONSTRUCTION STAKES SET BY STATE

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

Road	Stations	Type
PH-4023	0+00 to 5+73	construction

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

On the following road(s), Purchaser shall notify the Contract Administrator a minimum of 14 calendar days before work begins.

Road	Stations
Private	0+00 to 11+87

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
- Rock 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.

Activity	Closure Period
Construction	September 30 to May 1
Reconstruction	September 30 to May 1
Pre-haul Maintenance	September 30 to May 1
Abandonment	September 30 to May 1

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-130 HAULING SCHEDULE, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-32 BRIDGE SURFACE RESTRICTION

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

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

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. Purchaser shall request a SNOW PLOWING AGREEMENT each time plowing occurs. 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.

1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES

Requirements for the Fredrickson Road approaches:
Purchaser shall build up approaches to allow a smooth grade transition between the PH-4012 road and Fredrickson Road. The top of the PH-4012 road surfacing must be kept level with the surface of the Fredrickson Road at all times.

Purchaser shall construct the approach in accordance with the specifications stated herein and the Cowlitz County approach permit, unless otherwise directed by the Contract Administrator.

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

Road	Stations
Private	0+00 to 11+87

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before haul.

Road	Stations	Requirements
PH-4000	0+00 to 110+80	Grade and shape surface in accordance with TYPICAL SECTION SHEET.
PH-4006	0+00 to 31+94	
PH-4500	0+00 to 42+99	

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before haul.

Road	Stations
PH-4000	0+00 to 110+80
PH-4006	0+00 to 31+94
PH-4500	0+00 to 42+99

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean ditches, headwalls, and catch basins. Work must be completed before haul and must be done in accordance with the TYPICAL SECTION DETAIL and CULVERT AND DRAINAGE SPECIFICATION DETAIL. Pulling ditch material across the road or mixing in with the road surface is not allowed.

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 40%.
- Against standing trees unless approved by the Contract Administrator.

3-10 GRUBBING

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

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- 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 or in natural openings on the downhill side of the road as directed by the Contract Administrator. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-5 CUT SLOPE RATIO

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

Material Type	Excavation Slope Ratio	Excavation Slope Percent
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:

Material Type	Embankment Slope Ratio	Embankment Slope Percent
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.

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

4-22 TURNAROUNDS

Turnarounds must be no larger than 30 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall construct 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

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified 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 areas identified or approved by the Contract Administrator. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

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

4-47 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 6 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.

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 by routing equipment over the entire width of each lift. A plate compactor must be used for segments too narrow to accommodate equipment. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades by routing equipment over the entire width except ditch. 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.

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 may be new or used material and must meet the specifications in Clauses 10-15 through 10-23. Purchaser shall obtain approval from the Contract Administrator for the quality of used culverts before installation.

5-6 USED CULVERT MATERIAL

Purchaser may install used culverts on the following roads. All other roads must have new culverts installed.

Road	Stations
PH-4012	0+00 to 11+03

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

5-20 ENERGY DISSIPATERS

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

Energy dissipaters must extend a minimum of 1 foot to each side of the culvert at the outlet and a minimum of 4 feet beyond the outlet. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

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, except for temporary culverts. 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. No placement by end dumping or dropping of rock is allowed.

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.

Source	Location	Rock Type
Fredrickson Pit	Sec 29, T06N, R02E, W.M.	1½” Minus, 3” Jaw, Select Pit Run

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 FREDRICKSON PIT DEVELOPMENT PLAN prepared by the state included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the FREDRICKSON PIT 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.

Source	Rock Type
Fredrickson Pit	1½" Minus, 3" Jaw, Select Pit Run

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications, unless otherwise specified in the FREDRICKSON PIT DEVELOPMENT PLAN:

- Pit walls may not be undermined or over steepened. The maximum slope of the walls must be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz. :Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The surface of benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All vehicle access to the top of the pit faces must be blocked.

6-20 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- All testing and operations must be performed in accordance with the attached ROCK CRUSHING COMPLIANCE PROCEDURE.

6-29 1 ½-INCH MINUS CRUSHED ROCK

% Passing 1 ½" square sieve	100%
% Passing 1" square sieve	70 - 90%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	7.5% maximum

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

6-34 3-INCH JAW RUN ROCK

% Passing 3" square sieve	100%
% Passing 1 ½" 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 MEASURMENT BY TRUCK VOLUME

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

6-65 ROCK STOCKPILE LOCATION

Purchaser shall stockpile rock as listed below.

Rock Source	Rock Type	Quantity (c.y.)	Stockpile Location
Fredrickson Pit	1½" Minus	2000	PH-4000A at 0+00

6-67 ROCK STOCKPILE SPECIFICATIONS

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

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

When completed, the stockpile must be neat and regular in shape. The stockpile height is limited to a maximum of 24 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 4 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile. The method of dropping from a bucket or spout in one location to form a cone shaped pile is not allowed.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade approval 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.

Road	Stations
PH-4012	0+00 to 11+03
PH-4023	0+00 to 5+73
Private	7+62 to 11+87

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Purchaser shall install sediment traps, silt fences, settling ponds or other methods as approved, in writing, by the Contract Administrator.

8-15 REVEGETATION

Purchaser shall spread grass seed on all exposed soils within the grubbing limits resulting from road work activities. Cover all exposed soils using manual dispersal methods. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity after road work is completed. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed on all exposed soils within 50 feet of streams or wetlands if revegetation occurs between July 1 and March 31. The protective cover may consist of straw. Seed must be covered before the first anticipated storm event. Seed may not be allowed to sit exposed during any rain event. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

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 inside the grubbing limits 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.

Kind and Variety of Seed in Mixture	% by Weight	Minimum % germination
Perennial Rye	35-45	90
Red Fescue	30-40	90
Highland Bent	5-15	85
White Clover	10-20	90
Inert and Other Crop	0.5	

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract.

Road	Stations	Type
PH-4012	0+00 to 11+03	light

9-22 LIGHT ABANDONMENT

- Remove road shoulder berms except as directed.
- 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 100 feet.
- 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.
- Scatter woody debris onto abandoned road surfaces.
- Remove all culverts in natural drainages. The resulting slopes must be 1½:1 or flatter. Strive to match the existing stream gradient. The natural streambed width must be re-established. Place and compact the removed fill material in a location that will not erode into any type waters or wetlands.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Provide and evenly spread a 3-inch layer of straw to all exposed soils associated with stream culvert removals, as well as all waste material generated by fill removal that is within 30 feet of excavation limits.

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be galvanized (zinc coated meeting AASHTO M-218) aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-16 CORRUGATED ALUMINUM CULVERT

Aluminum culverts must meet AASHTO M-196 (ASTM A-745) specifications.

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.

10-21 METAL BAND

Metal coupling and end bands must meet the AASHTO specification designated for the culvert and must have matching corrugations. Culverts 24 inches and smaller must have bands with a minimum width of 12 inches. Culverts over 24 inches must have bands with a minimum width of 24 inches.

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.

10-23 RUBBER CULVERT GASKETS

Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

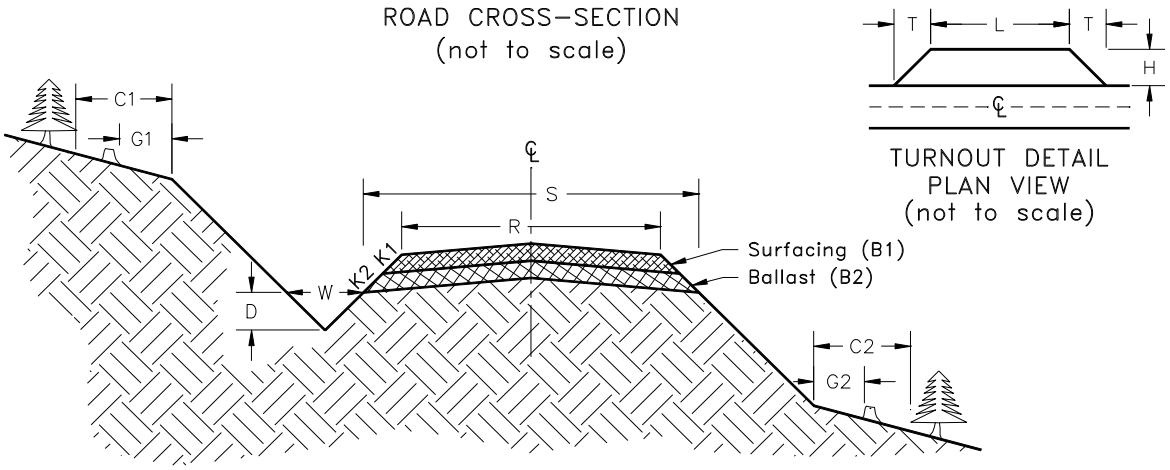
10-24 GAGE AND CORRUGATION

Metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

Diameter	Gage	Corrugation
18"	16 (0.064”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
24" to 48"	14 (0.079”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
54" to 96"	14 (0.079”)	3" X 1"

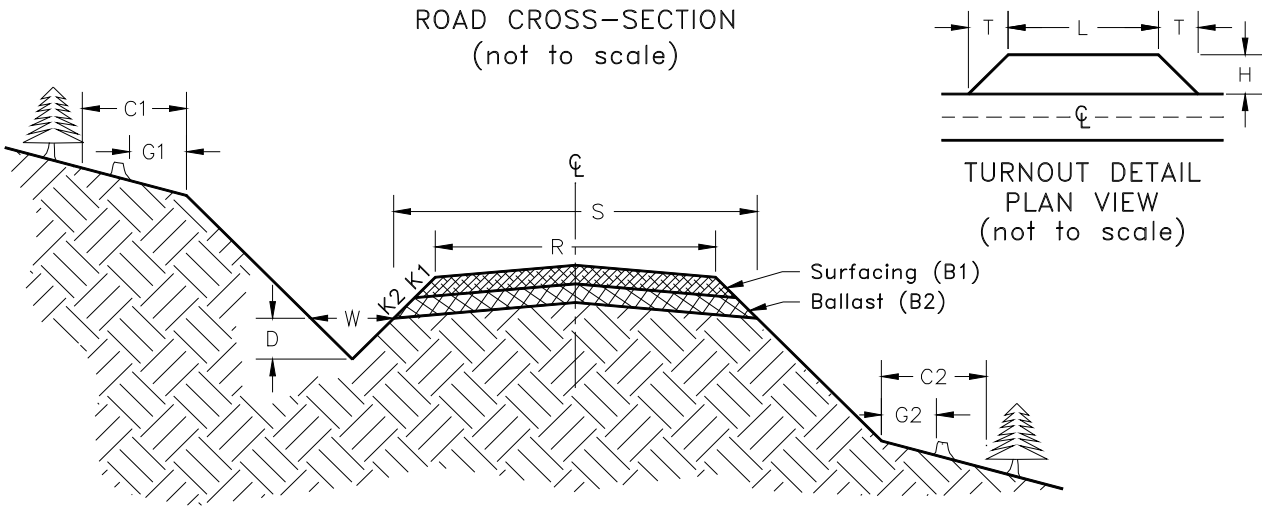
TYPICAL SECTION SHEET

(Page 1 of 1)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL (inches)	Grubbing Limits (feet)		Clearing Limits (feet)	
						Width (feet)	Depth (feet)					
				S	R	W	D		G1	G2	C1	C2
PH-4000	0+00	64+97	A	--	12	3	1	4	--	--	--	--
	64+97	110+80	A	--	12	3	1	4	--	--	--	--
PH-4006	0+00	31+94	C	--	12	3	1	4	--	--	--	--
PH-4012	0+00	11+03	C	14	12	3	1	4	5	5	5	5
PH-4023	0+00	5+73	C	15	12	3	1	4	5	5	5	5
PH-4500	0+00	42+99	C	--	12	3	1	4	--	--	--	--
PRIVATE	0+00	7+62	C	--	12	--	--	--	--	--	--	--
	7+62	11+87	C	15	12	2	1	4	--	--	--	--

ROCK LIST
(Page 1 of 2)



1½-INCH MINUS CRUSHED

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K1	B1					L	H	T
								FREDRICKSON PIT			
PH-4000	0+00	20+53	1½:1	5	24	20.53	493				
	Turnouts		1½:1	5	16	1	16		50	10	25
	27+60		1½:1	--	30	1	30				
	32+93		1½:1	--	30	1	30				
	50+85		1½:1	--	30	1	30				
	64+97	92+09	1½:1	5	24	27.12	651				
	Turnouts		1½:1	5	16	1	16		50	10	25
	Stockpile						2000				
Spot Patching	As directed by Contract Administrator		1½:1	--	--	--	300				

REQUIRED 1½-INCH MINUS CRUSHED TOTAL **3,566** Cubic Yards

ROCK LIST
(Page 2 of 2)

3-INCH JAW RUN

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
								FREDRICKSON PIT			
PH-4012	0+00	11+03	1½:1	6	30	11.03	331				
PH-4023	0+00	5+73	1½:1	12	63	5.73	361				
PRIVATE	7+62	11+87	1½:1	12	63	4.25	268				
ALL ROADS	LANDINGS		--	--	50	3	150				

OPTIONAL 3-INCH JAW RUN TOTAL **1,110** Cubic Yards

Note: Estimated quantities in the ROCK LIST are based on loose yards. A twenty-five percent compaction factor was used to estimate the minimum quantity. Additional quantities may be required to achieve the specify rock depth and shall be at the Purchaser's expense in accordance with Road Plan Clause 1-2 Unforeseen Conditions.

CULVERT ARMORING

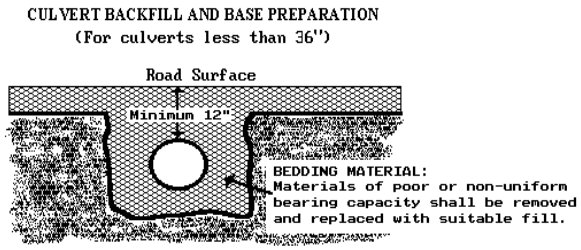
Road Number	Station	Description	Rock Type	C.Y. Total	Rock Source
ALL ROADS	See CULVERT LIST	Culvert headwall and energy dissipators	SELECT PIT RUN	6	**FREDRICKSON PIT**

SELECT PIT RUN TOTAL **6** Cubic Yards

CULVERT LIST

Road Number	Location	Culvert Dia. (inches)	Culvert Gauge	Length (ft) Culvert	Downspt	Flume	Riprap (C.Y.) Inlet	Outlet	Type	Backfill Material	Placement Method	Const. Staked	Remarks
			If Steel										
PH-4000	27+60	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain replacement
	32+93	18		40	--	--	½	½	SPR	NT	Machine	--	Cross-drain installation
	50+85	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain replacement
	64+97	18		30	--	--	½	½	SPR	NT	Machine	--	Cross-drain replacement
PH-4012	0+00	24		50	--	--	½	½	--	NT	Machine	--	Type 4 stream x-ing
	1+00	18		30	--	--	½	½	--	NT	Machine	--	Cross-drain installation
As directed by C/A*		18		30	--	--	--	--	--	NT	Machine	--	Additional culverts as needed.
		18		30	--	--	--	--	--	NT	Machine	--	

***Purchaser shall provide the additional culverts to be installed as directed by Contract Administrator. Any required culverts or additional culverts not installed as part of this contract shall be stockpiled in a location as approved by the Contract Administrator.**



Key:

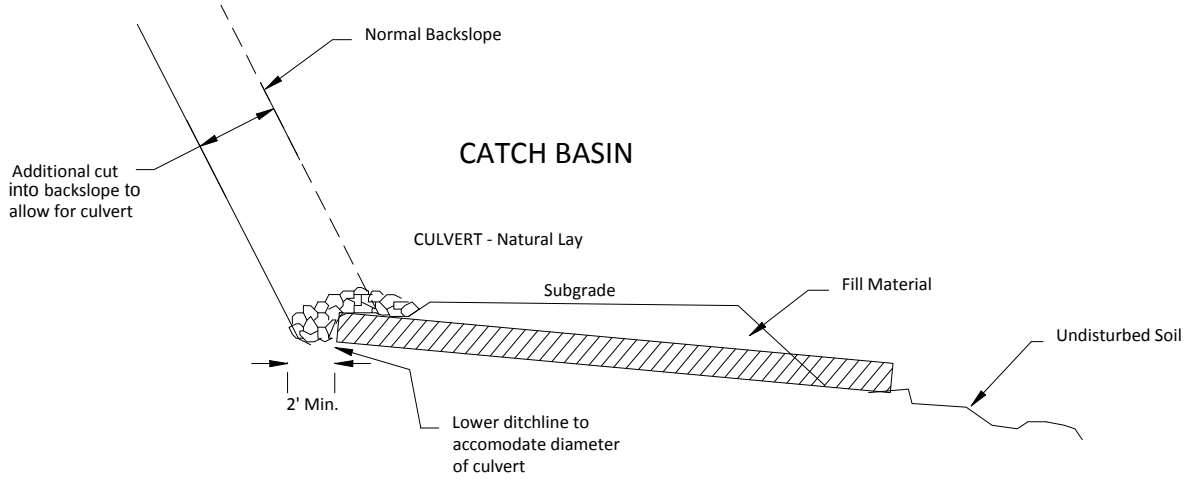
SPR - Select Pit Run
NT - Native (bank run)
SR - 4-inch Jaw Run
HL - Heavy Loose Riprap
LL - Light Loose Riprap
Flume - Half round pipe
Downspout - Full round pipe

COMPACTION LIST

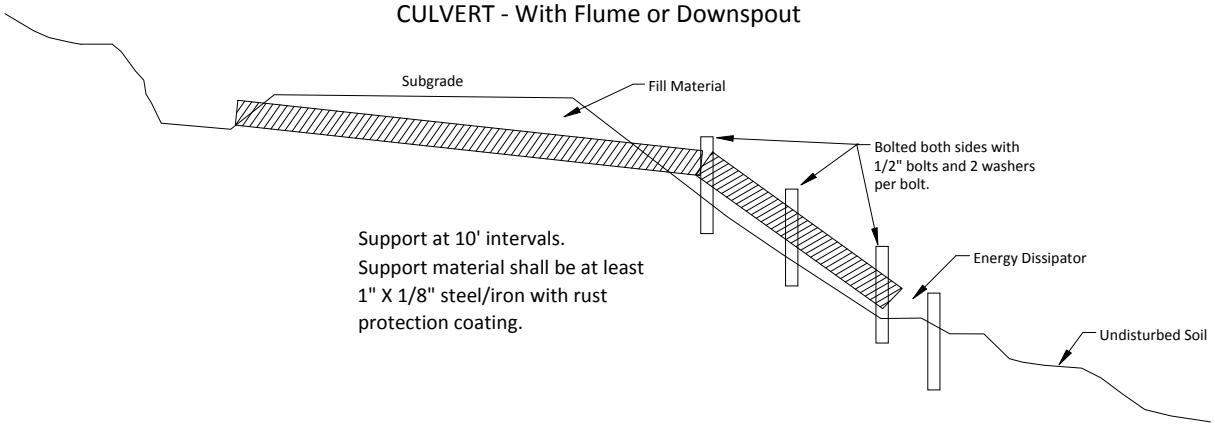
Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
PH-4000	0+00	110+80	Pre-haul Surface/Spot Patch	5	Vibratory Smooth Drum	14000	4	3
PH-4006	0+00	31+94	Existing surface	N/A	Vibratory Smooth Drum	14000	4	3
PH-4500	0+00	42+99	Pre-haul Surface/Spot Patch	5	Vibratory Smooth Drum	14000	4	3
PH-4012	0+00	11+03	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
PH-4023	0+00	5+73	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3
Private	7+62	11+87	Subgrade/Rock	6	Vibratory Smooth Drum	14000	4	3

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



CULVERT - With Flume or Downspout

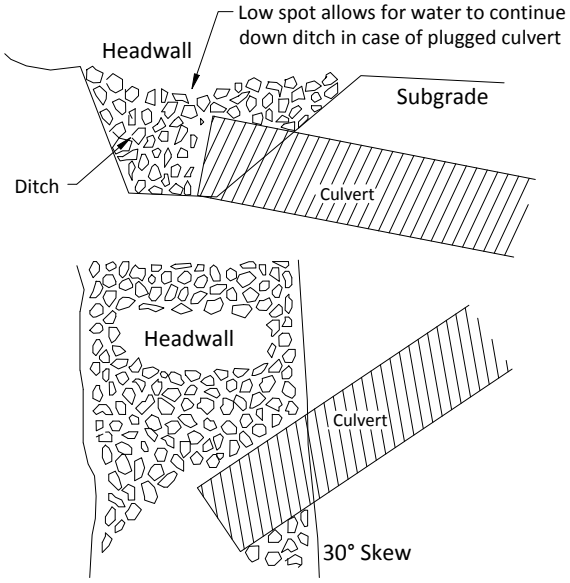


CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

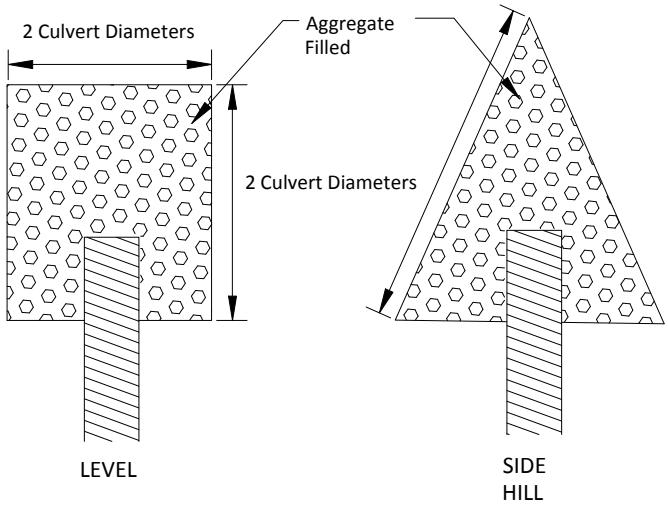
Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed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

HEADWALLS



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:

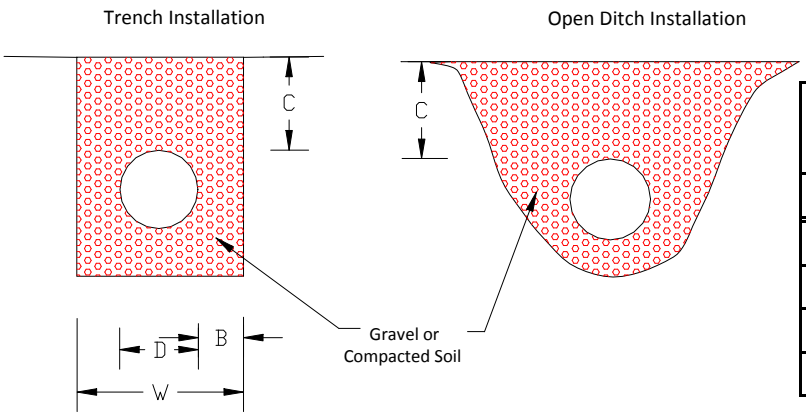
1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.

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

Cuts and Fills

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

Surface

- Grade, shape, and compact the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, un-concentrated manner.
- Blading shall not undercut the backslope.
- 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.

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.

Preventative Maintenance

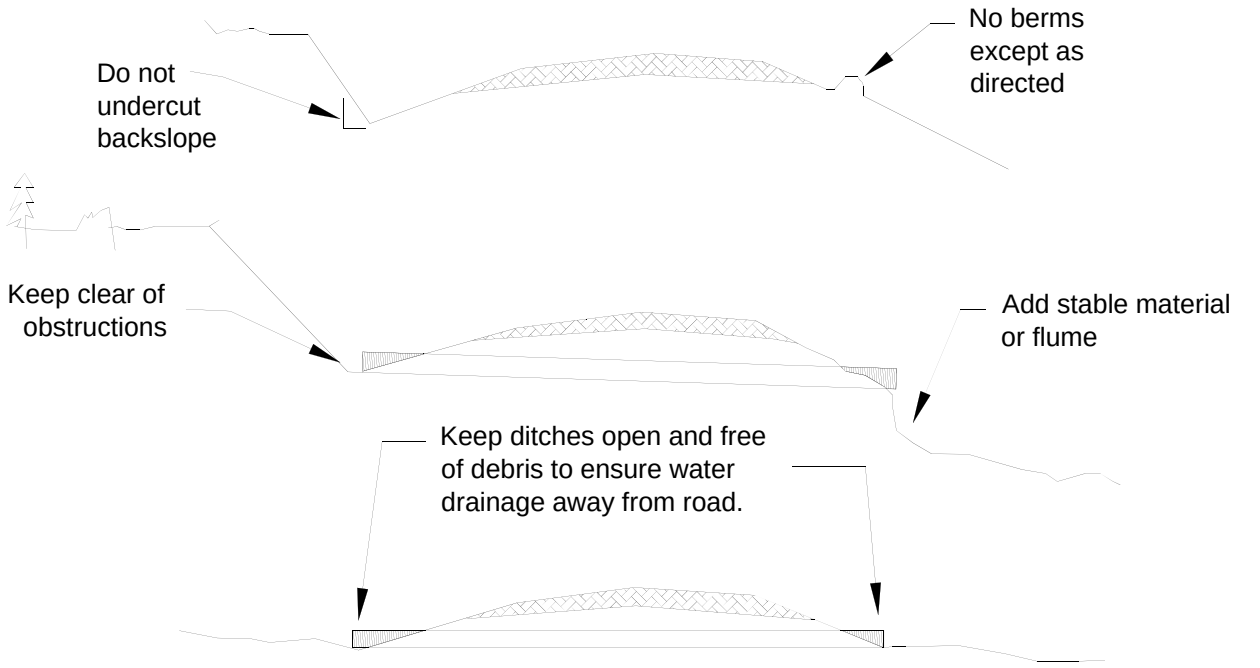
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

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.



ROCK CRUSHING COMPLIANCE PROCEDURE

Phase I. Equipment Adjustment

Step 1: At start up of crushing operations, the contractor will notify the contract administrator when the rock meets the gradation specifications in the contract. None of the rock crushed during this calibration period will be counted toward the amount required to be crushed, and this rock must be kept separate from accepted rock crushed later.

Step 2: The contract administrator will test the rock. Two samples will be taken. If the rock meets specifications, crushing may begin. If the rock does not meet specifications, return to Step 1.

Phase II. Production

Step 3: The contract administrator will continue periodic testing to ensure that rock stays in spec. Testing will take place according to the following schedule:

- After the first 2,000 yards

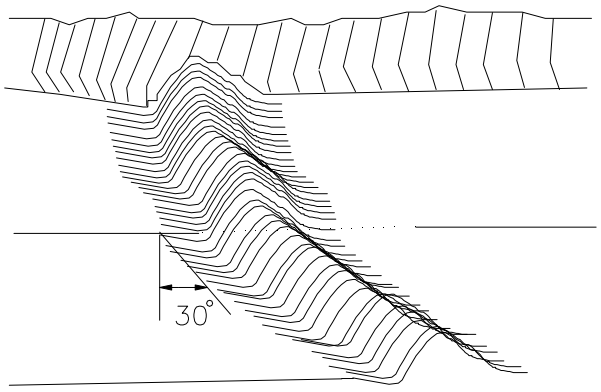
a) Any time a sample is out of spec, but is within 5%*, the contractor will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.

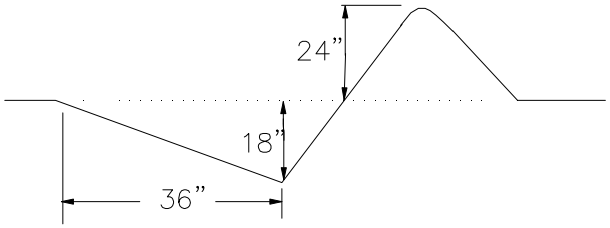
b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.

c) Contractors are strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.

* The 5% will be applied only to sieve specs for 2” to ¼”; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.

NON-DRIVABLE WATER BAR DETAIL





STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

FREDRICKSON PIT DEVELOPMENT PLAN
Section 29, Township 06 North, Range 02 East, W.M.

1. Oversize material shall be utilized for crushing prior to development in any other area.

2. Pit development shall proceed in Area B until the elevation is even with the PH-4000 roadway, as shown on the Typical Profile B diagram.

3. Development will continue in Area A and proceed in a southwesterly direction as shown on the attached Fredrickson Pit Plan map.

4. All vegetation, including stumps, shall be cleared a minimum of 25 feet beyond the top of all working faces. Trees shall be cleared to a minimum of ¾ of the height of the tallest tree adjacent to the pit. The Purchaser shall maintain a minimum of 15 foot wide area stripped to rock from the pit face at all times.

5. All overburden shall be end hauled, placed, and compacted in a waste area as identified by the Contract Administrator. Minimal acceptable compaction is achieved by placing waste material in 1 foot or shallower lifts and routing excavation equipment over entire width of the lifts.

6. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the waste area as identified by the Contract Administrator.

7. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator 5 working days prior to any drilling.(Form #M-126PAC)

8. Drilling and rock extraction may begin when the Contract Administrator has approved, in writing, all of the Clearing, Grubbing and Overburden removal.

9. Pit faces shall not exceed 20 feet in height.

10. Working bench width shall be a minimum of 20 feet.

11. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.

12. Oversize material remaining in the rock source at the conclusion of use 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 as directed by the Contract Administrator.

13. Reclamation will not be required under this contract.

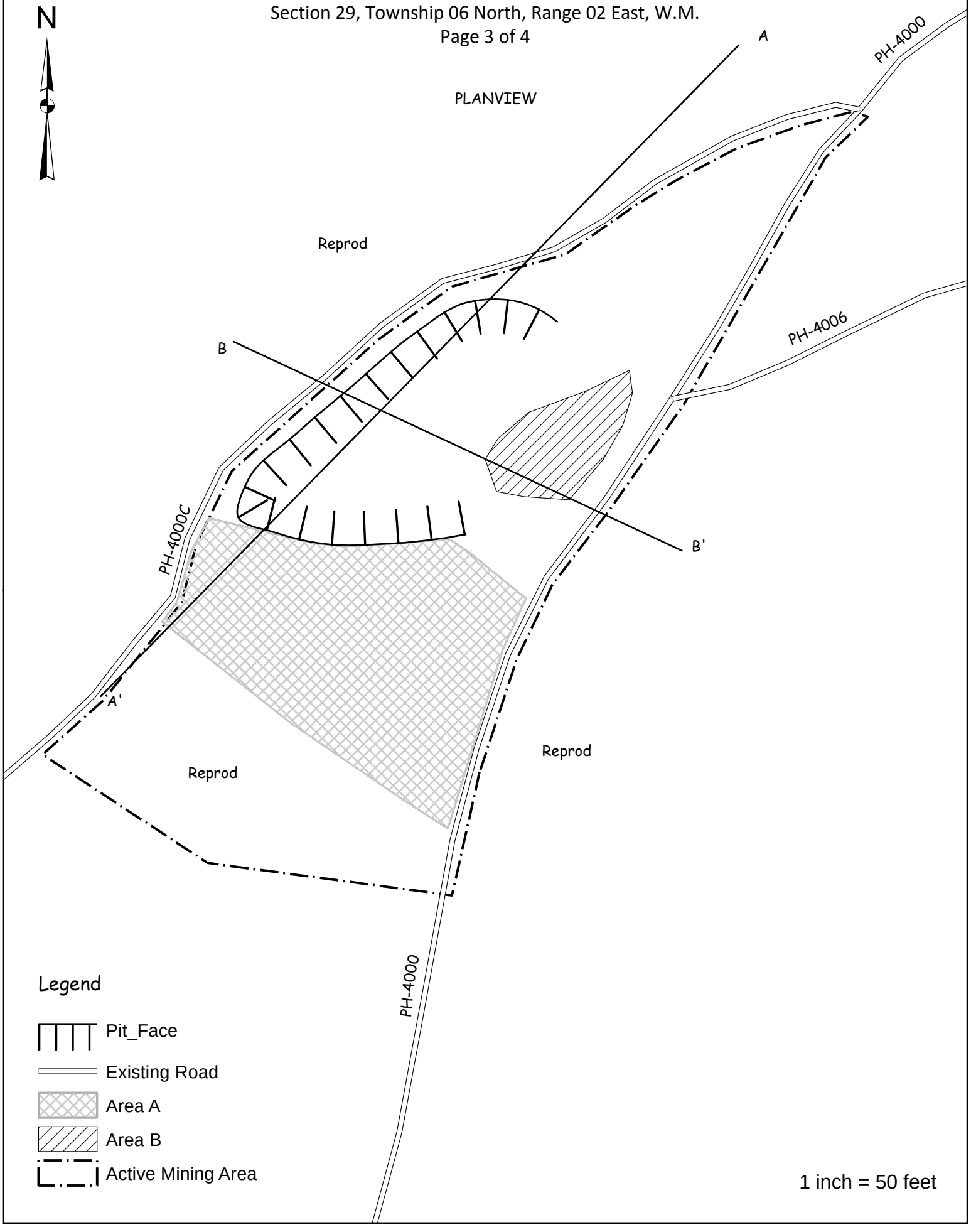
14. All exposed soil in the waste area shall be grass seeded in accordance with Road Plan Clause 8-15 through 8-25.

15. 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.

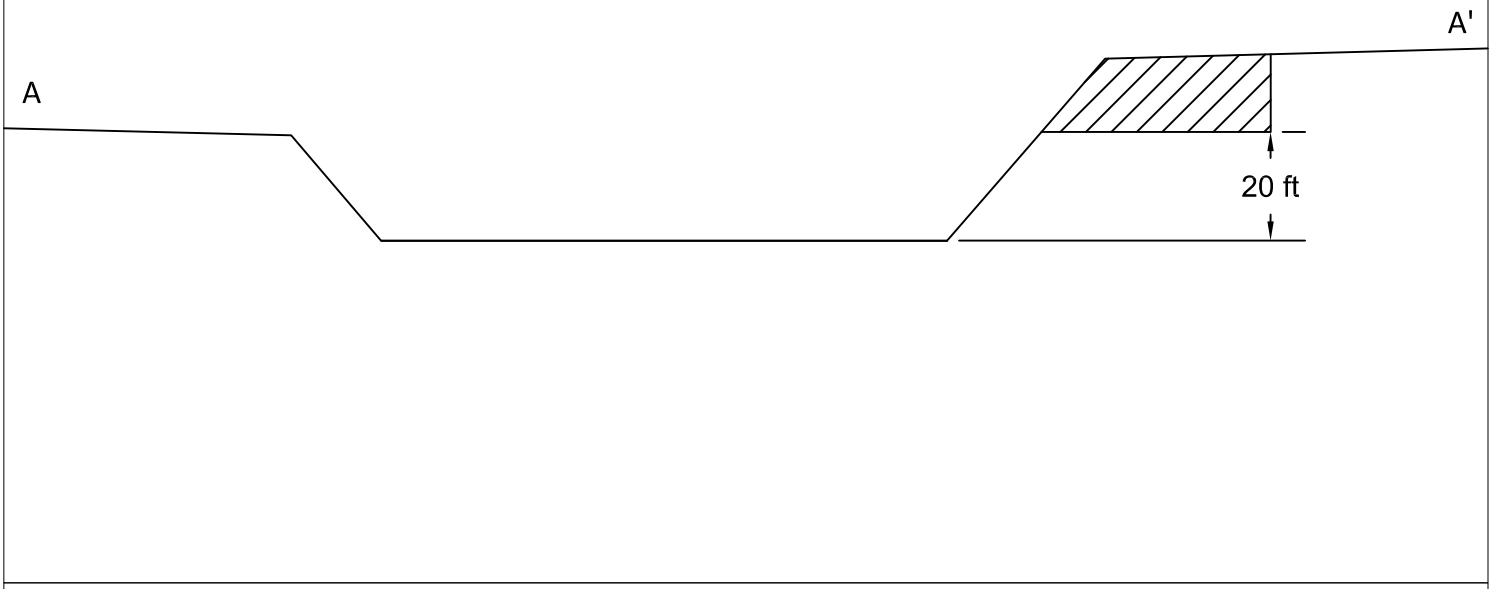
16. The Operator shall submit an informational drilling and shooting report to the Contract Administrator after blasting has occurred. (Form #M-126PAC)

17. Upon completion of operations, the following shall occur:
    a. 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.
    b. The site shall be cleared of all temporary structures, equipment and rubbish, block access road with existing on site riprap as directed by the Contract Administrator, and shall be left in a neat and presentable condition.
    c. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
    d. Purchaser shall receive written approval of final rock source condition and compliance with the terms of this plan from the Contract Administrator.

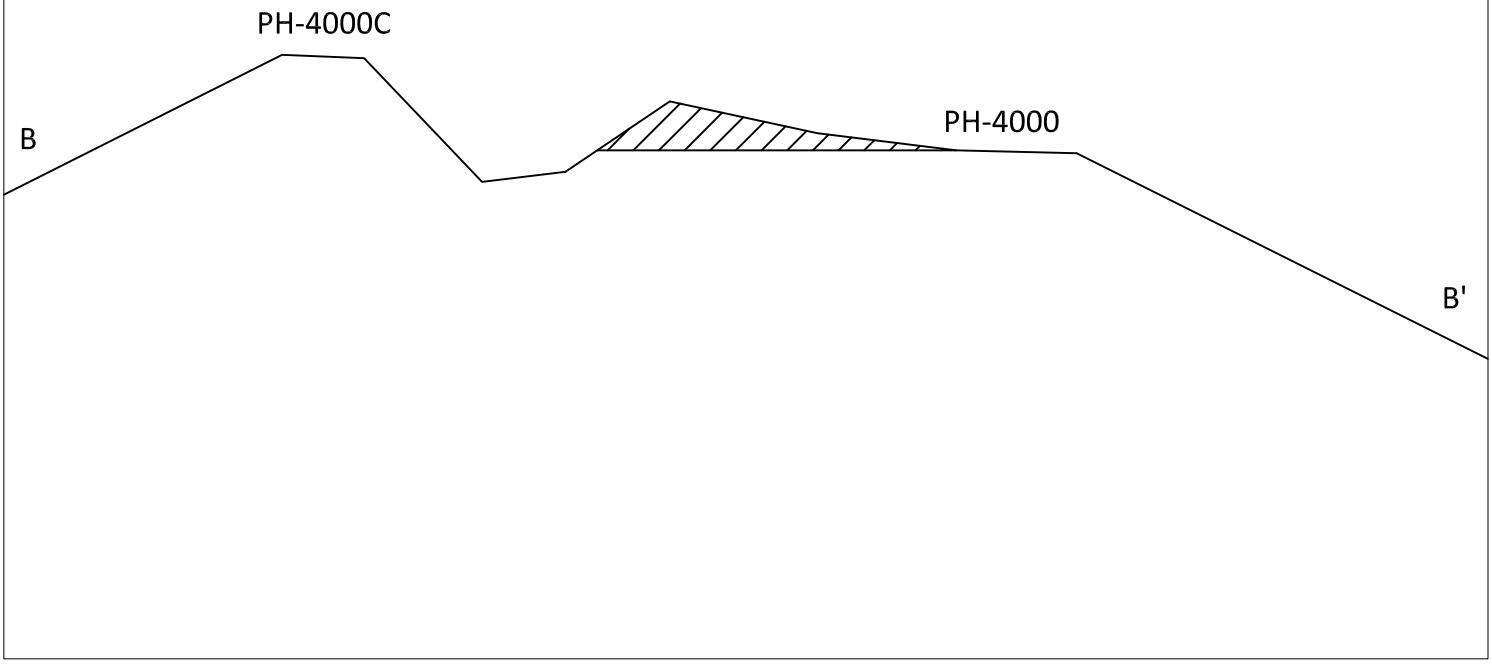
FREDRICKSON PIT DEVELOPMENT PLAN
Section 29, Township 06 North, Range 02 East, W.M.



TYPICAL PROFILE A
NOT TO SCALE



TYPICAL PROFILE B
NOT TO SCALE



DEPARTMENT OF NATURAL RESOURCES
ROAD DEVELOPMENT COST SUMMARY

REGION: PACIFIC CASCADE
DISTRICT: YACOLT

SALE/PROJECT NAME: REMIX

CONTRACT NUMBER: 30-092762

LEGAL DESCRIPTION: Sec 29, 31,32, T06N, R02E, W.M.

ROAD NUMBER:		PH-4023	PH-4012, Pvt.	PH-4000, PH-4500, PH-4006	
ROAD STANDARD:		Construction	Reconstruction	Pre-haul maintenance	Stockpile
NUMBER OF STATIONS:		5.73	15.28	185.73	
CLEARING AND GRUBBING:		$1,160	$688		
EXCAVATION AND FILL:		$1,747	$1,987		
MISC. MAINTENANCE:				$9,543	
ROCK TOTALS (Cu. Yds.):					
Surfacing (1½"-):	3566		$0	$19,043	$21,420
Ballast (3"-):	1110	$4,562	$9,122	$0	
Select Pit Run:	6	$0	$36	$64	
CULVERTS AND FLUMES:			$1,513	$2,924	
GENERAL EXPENSES:		$2,600	$1,335	$2,842	
MOBILIZATION:		$2,505	$2,505	$2,505	
TOTAL COSTS:		$12,574	$17,185	$36,919	$21,420
COST PER STATION:		$2,194	$1,125	$199	

ROAD DECOMMISSION COSTS: $1,634

TOTAL (All Roads) = $89,732

SALE VOLUME MBF = 3,047

TOTAL COST PER MBF (All Roads) = $29.45

Compiled by: S. Hanna
Date: 06/15/15

CONSTRUCTION COSTS

(Page 2 of 5)

SALE NAME: REMIX CONTRACT NUMBER: 30-092762

CLEARING AND GRUBBING:

Road	% Sideslope	MBF/ac	Disposal Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Subtotal
L-4023	35	35	1.00	4.50	$45	1.00	5.73	$1,160.33

CLEAR AND GRUB TOTAL = $1,160.33

EXCAVATION:

Road	% Sideslope	Exc. Type Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
L-4023	35	1.0	3.00	$97	1.00	5.73	$1,667.43

SOIL EROSION CONTROL

Seed Quantity (lbs)	Cost ($/lb)	Application Cost	Stations	Sub-Total
23	$2.20	$5.00	5.73	$79.25

EXCAVATION TOTAL = $1,746.68

BALLAST AND SURFACING :

Description	Rock Source	Landowner
Ballast (1½"-)	Fredrickson Pit	DNR
Ballast (3"-)	Fredrickson Pit	DNR

		Stockpile
R.T. Miles =	2.81	0.37
Ave. Speed =	14.42	15.00
Delay (Hrs.)=	0.05	0.05
Cost / Hour =	$90.00	$90.00
CY / Load =	11	11

Unit Costs	Ballast (3"-)	Stockpile (1½"-)
Drill & Shoot	$3.00	$3.00
Dig and load	$1.00	$1.00
Crushing	$3.50	$4.50
Haul *	$2.00	$0.61
Spread	$1.10	$1.10
Compact	$0.50	$0.50
Total Unit Costs ($/cy)	**$11.10**	**$10.71**
Cubic Yards	411	2,000
Sub-Total	$4,562.10	$21,420.00

* Haul Formula: (R.T.Miles/MPH+Delay)($/hr / Cy/load)

ROCK TOTAL = $25,982.10

SUB-TOTAL = $28,889.11

MOBILIZATION:

Description	$ per Move	# of Moves	Sub-total
Dump Trucks	110	3	$330
Grader	440	1	$440
Compactor	440	1	$440
Excavator	495	1	$495
Dozer D8)	440	1	$440
Front end loader	440	1	$440
Rock crusher	$4,000	1	$4,000
Drill	$440	1	$440
Dozer (D5)	$264	1	$264
Brusher	$225	1	$225

Total Mobilization = $7,514

Average Mobilization Costs = $2,504.67

GENERAL EXPENSES:

Overhead & General Exp. Add 9% **$2,600.02**

MOBILIZATION SUBTOTAL = $2,504.67

SHEET TOTAL = $33,993.79

RECONSTRUCTION COSTS

(Page 3 of 5)

SALE NAME: REMIX

CONTRACT NUMBER: 30-092762

CLEARING AND GRUBBING:

Road	% Side Slope	MBF/Acre	Disposal Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
PH-4012	0	0	1.00	1.00	$45	1	11.03	$496.35
Pvt.	0	0	1.00	1.00	$45	1	4.25	$191.25

CLEAR AND GRUB TOTAL = $687.60

EXCAVATION:

Road	% Side Slope	Exc. Type Fact.	Production Factor	Cost/Station	Width Factor	Total Stations	Sub-Total
PH-4012	0	1.0	1.00	$97	1.00	11.03	$1,069.91
Pvt.	0	1.0	1.00	$97	1.00	4.25	$412.25

SOIL EROSION CONTROL

Seed Quantity (lbs)	Cost ($/lb)	Application Cost ($/station)	Stations	Sub-Total
56	$2.20	$25.00	15.28	$505.20

EXCAVATION TOTAL = $1,987.36

BALLAST AND SURFACING :

Description	Rock Source	Landowner
Ballast (3"-)	Fredrickson Pit	DNR
Select Pit Run	Fredrickson Pit	DNR

R.T. Miles =	4.98
Ave. Speed =	14.45
Delay (Hrs.)=	0.05
Cost / Hour =	$90.00
CY / Load =	9

UNIT COSTS	Ballast (3" -)	Select Pit Run
Drill & Shoot	$3.00	$3.00
Dig and load	$1.00	$1.00
Crushing	$3.50	
Haul *	$3.95	$3.95
Spread	$1.10	$10.00
Compact	$0.50	
Total Unit Costs ($/cy)	$13.05	$17.95
Cubic Yards	699	2
Sub-Total	$9,121.95	$35.90

* Haul Formula: (R.T.Miles/MPH+Delay)($/hr / Cy/load)

ROCK TOTAL = $9,157.85

CULVERTS:

Description	Qty.	Dia (inches)	Length (feet)	Cost/ft*	Sub-total
X-Drain	1	18"	30	$15.17	$455.00
Type 4 X-ing	1	24"	50	$21.16	$1,057.90

CULVERT TOTAL = $1,513

* Cost accounts for all culvert materials and the estimated times to install. Material costs are based on prices for double wall corrugated plastic pipes.

Sub-TOTAL = **$13,345.71**

GENERAL EXPENSES:

Overhead & General Exp. Add 10% **$1,334.57**

MOBILIZATION SUB-TOTAL = $2,504.67

SHEET TOTAL = $17,184.95

PRE-HAUL MAINTENANCE COSTS

SALE NAME: REMIX

CONTRACT NUMBER: 30-092762

Total stations Pre-Haul Maintenan: 185.73

MISC. MAINTENANCE ITEMS:

Description	Cost/Station	Total Stations	Sub-Total
ditch cleaning =	$30.00	185.73	$5,571.90
grading & compact =	$12.38	185.73	$2,299.34
culvert cleanout =	$5.20	185.73	$965.80
seeding =	$3.80	185.73	$705.77
		MISC TOTAL =	**$9,542.81**

BALLAST AND SURFACING :

Description	Rock Source	Landowner
Surfacing (1½"-)	Fredrickson Pit	DNR
Select Pit Run:	Fredrickson Pit	DNR

R.T. Miles =	3.00
Ave. Speed =	14.85
Delay (Hrs.)=	0.05
Cost / Hour =	$90.00
CY / Load =	11

UNIT COSTS	Surfacing (1½" -)	Select Pit Run
Drill & Shoot	$3.00	$3.00
Dig and load	$1.00	$1.00
Crushing	$4.50	
Haul *	$2.06	$2.06
Spread	$1.10	$10.00
Compact	$0.50	
Total Unit Costs ($/cy)	$12.16	$16.06
Cubic Yards	1,566	4
Sub-Total	$19,042.56	$64.24

* Haul Formula: (R.T.Miles/MPH+Delay)($/hr / Cy/load)

ROCK TOTAL = $19,106.80

CULVERTS AND FLUMES:

Description	Qty.	Dia (inches)	Length (feet)	Cost/ft*	Sub-total
X-Drain	5	18"	30	$15.17	$2,275.00
X-Drain	1	18"	40	$16.21	$648.50

* Cost accounts for all culvert materials and the estimated times to install. Material costs are based on prices for double wall corrugated plastic pipes.

CULVERT TOTAL = $2,924

SUB-TOTAL = $31,573.11

GENERAL EXPENSES:

Overhead & General Exp. Add 9% **$2,841.58**

MOBILIZATION SUB-TOTAL = $2,504.67

SHEET TOTAL = $36,919.35

ROAD CLOSURE COSTS

SALE NAME: REMIX

CONTRACT NUMBER: 30-092762

Total Stations Road Closure = 11.03

MISC. ROAD CLOSURE COSTS:

Description	Cost/Station	Total Stations	Sub-Total
water barring =	32.36	11.03	$356.93
ripping =	50.00	11.03	$551.50
culvert removal =	6.17	11.03	$68.06
grass seeding =	3.67	11.03	$40.48
spoils berm =	85		$0.00
		Misc TOTAL =	**$1,016.97**

GENERAL EXPENSES: Overhead & General Exp. Add 12% **$122.04**

MOBILIZATION:

*These move in costs are separate since they will occur after logging is done.

Description	$ per Move	# of Moves	Sub-total
Dump Trucks	110		$0
Grader	440		$0
Compactor	440		$0
Excavator	495	1	$495
Dozer D8)	440		$0
Front end loader	440		$0
		Total Mobilization =	**$495**

Road No. PH-4012

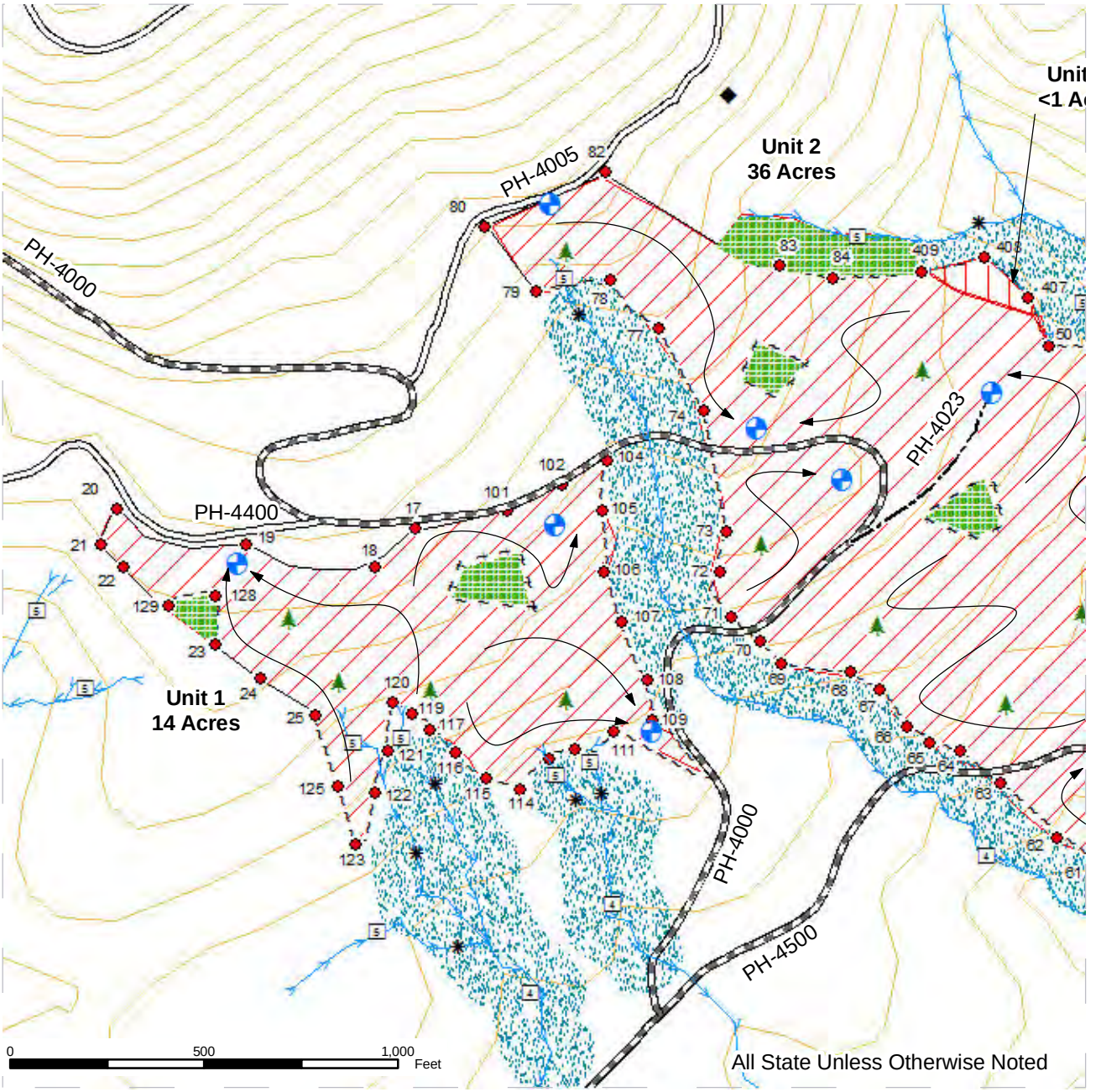
Standard: Light Abandonment

SHEET TOTAL = $1,634.00

LOGGING PLAN MAP

SALE NAME: REMIX
AGREEMENT#: 30-092762
TOWNSHIP(S): T06R02E
TRUST(S): State Forest Transfer(1)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 759-1214



- Variable Retention Harvest
- Hardwood Conversion Area
- Leave Tree Area
- Riparian Mgt Zone
- Sale Boundary Tags
- Leave Tree Tags
- Reprod
- Powerlines
- Existing Road
- Highway
- Required Pre-Haul Maintenance
- Optional Construction
- Optional Reconstruction
- Streams
- Cable-Based Harvesting
- Ground-Based Harvesting
- Stream Type
- Stream Type Break
- Monumented Corners
- Existing Rock Pit
- Gate
- Proposed Landing
- Leave Trees
- Waste Area

N

Prepared By: wbut490

Creation Date: 12/15/2014

Modification Date: 10/20/2015

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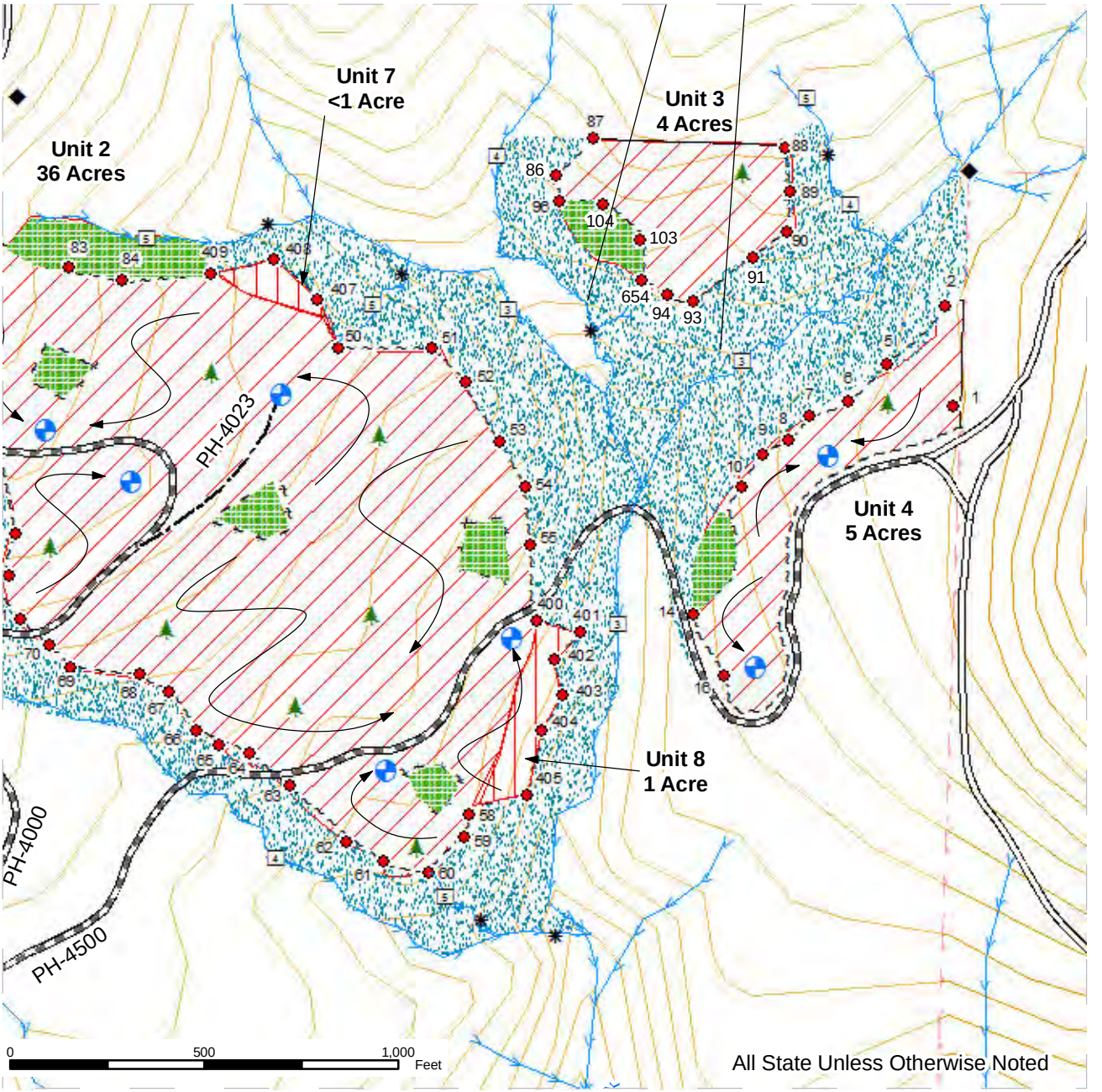

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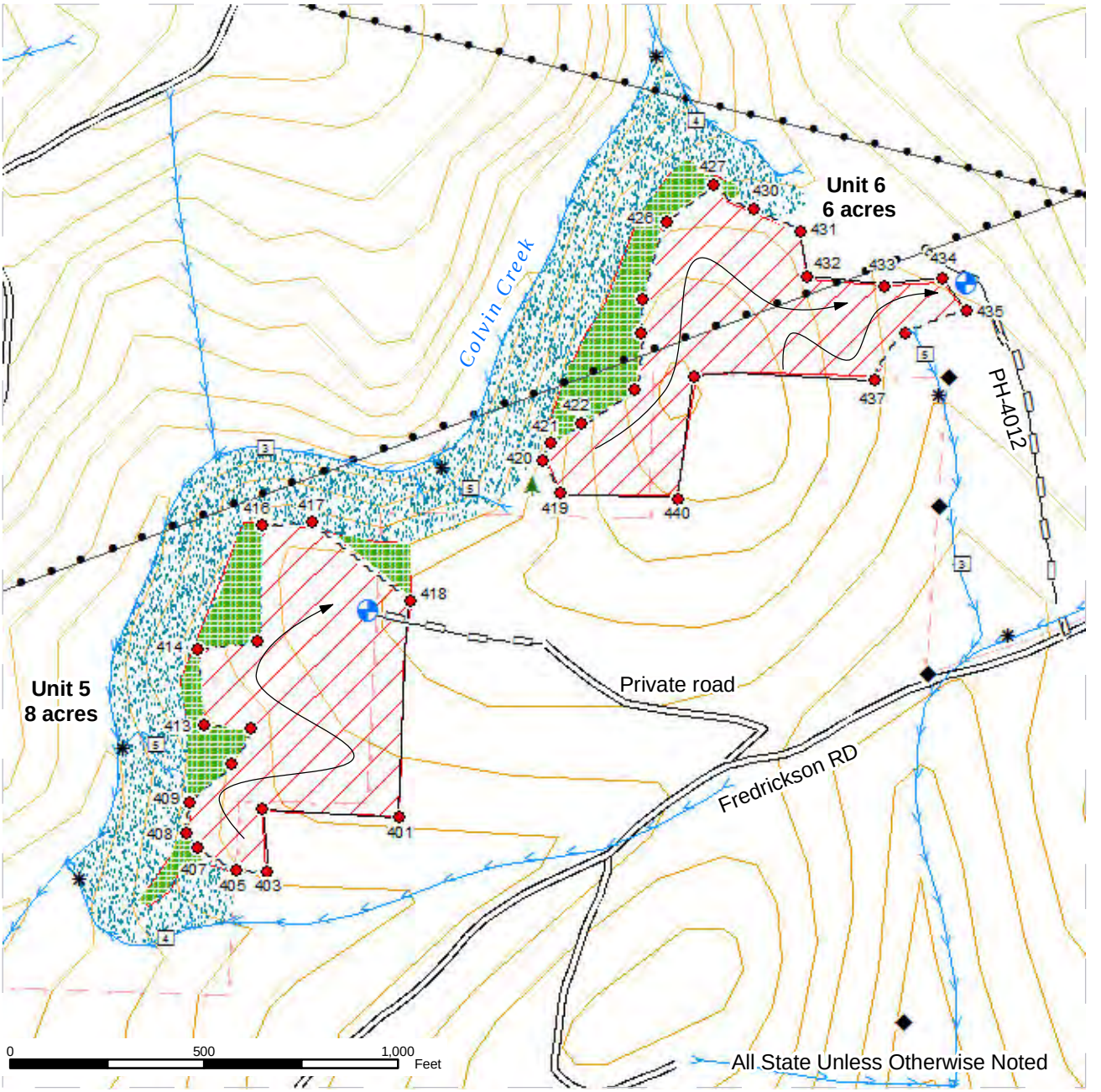

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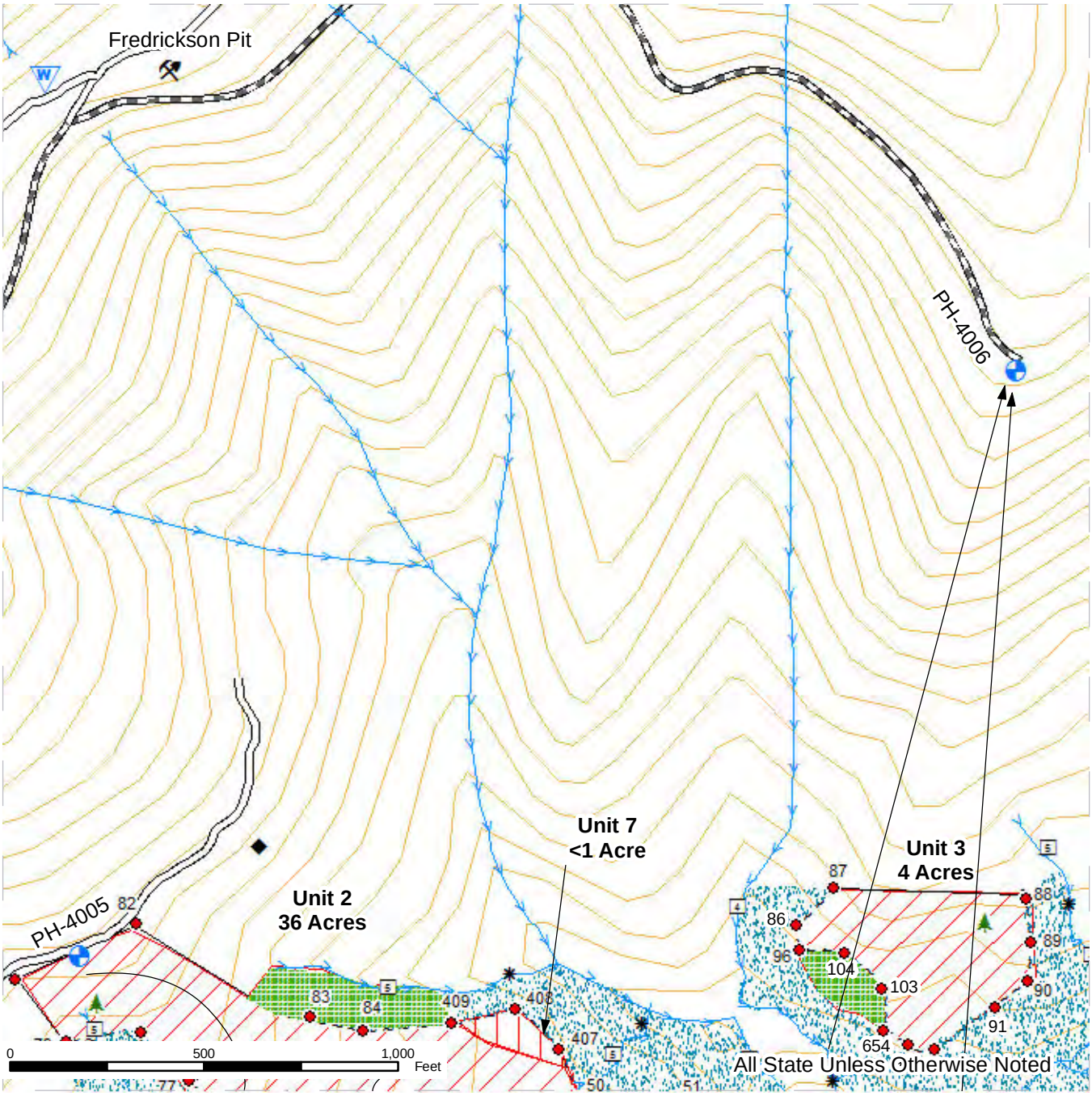

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