

Washington DNR Timber Sales Program

The documents for University Funds timber sale have been changed as follows:

Documents amended:

Brief Description	DATE	Initials
Driving Map: "Mileposts" label has been added to the legend.	11/07/19	kw



TIMBER NOTICE OF SALE

SALE NAME: UNIVERSITY FUNDS

AGREEMENT NO: 30-96855

AUCTION: December 19, 2019 starting at 10:00 a.m., COUNTY: Pacific Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 26 miles east of Raymond

PRODUCTS SOLD AND SALE AREA: All timber, except trees marked with blue paint, trees bound out by yellow "Leave Tree Area" tags with pink flagging and all down timber existing 10 years prior to the day of sale, bound by the following: White "Timber Sale Boundary" tags with pink flagging, reprod, and the P&E Mainline in Unit 1; White "Timber Sale Boundary" tags with pink flagging in Unit 2; White "Timber Sale Boundary" tags with pink flagging and reprod in Unit 3 on part(s) of Sections 20 all in Township 13 North, Range 6 West, W.M., containing 64 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513)

ESTIMATED SALE VOLUMES AND QUALITY:

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

MINIMUM BID: \$725,000.00 BID METHOD: Sealed Bids

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

EXPIRATION DATE: October 31, 2021 ALLOCATION: Export Restricted

BID DEPOSIT: \$72,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable, and Shovel. Harvesting activities are estimated to be 70% cable/cable assist and 30% ground-based harvesting. Ground-based harvesting equipment shall be restricted to slopes of 40% and less, and restricted during saturated soil conditions. See clauses H-140 and H-141 for further harvest requirements. A detailed felling and yarding plan shall be required prior to any harvest activities and approved in writing by the Contract Administrator. Intermediate supports will be required to prevent soil rutting in Unit 2 off the 5000 road.



TIMBER NOTICE OF SALE

ROADS: 32.90 stations of optional construction. 48,500 stations of required pre-haul maintenance. Rock for construction, reconstruction, and pre-haul maintenance under this contract may be obtained at no cost to the Purchaser from the following rock sources; the P&E Ridge Quarry located in Section 24, Township 13 North, Range 07 West, WM. and the existing Browns Quarry stockpile located in Section 19, Township 13 North, Range 06 West W.M. 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. All road work Road construction will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator. The hauling of forest products will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: The sale acres were determined by GPS delineation. Cruise was completed using variable plot cruise methods.

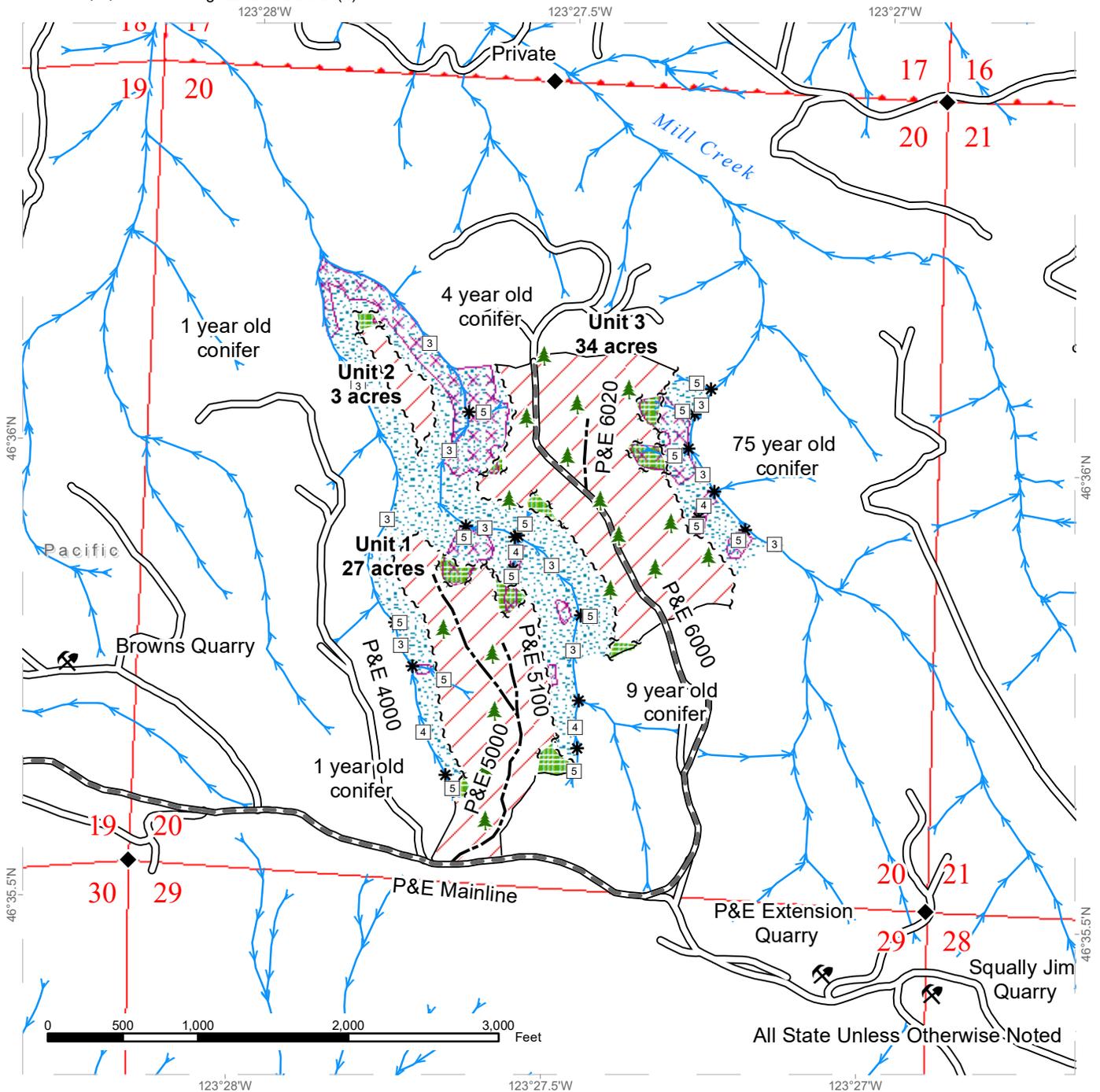
FEES: \$47,668.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale has approximately 14 MBF of high quality DF poles, 14 MBF of SM DF, 897 MBF of high quality 2 saw DF, 73 MBF of high quality 3 saw DF, 279 MBF of high quality 2 saw WH, and 163 MBF of high quality 3 saw WH, see cruise for details. Intermediate supports will be required in Unit 2 off of the P&E 5000. PCP 1-1 gate keys may be obtained from the Pacific Cascade Region office.

TIMBER SALE MAP

SALE NAME: UNIVERSITY FUNDS
AGREEMENT #: 30-96855
TOWNSHIP(S): T13R6W
TRUST(S): Agricultural School (4)

REGION: Pacific Cascade Region
COUNTY(S): Pacific
ELEVATION RGE: 1120-1735



Variable Retention Harvest	Existing Roads	Streams
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type
Riparian Mgt Zone	Optional Construction	Stream Type Break
Potentially Unstable Slopes		Survey Monument
Sale Boundary Tags		Leave Tree Area <1/4-acre
Leave Tree Tags		Rock Pit
Timber Type Change		

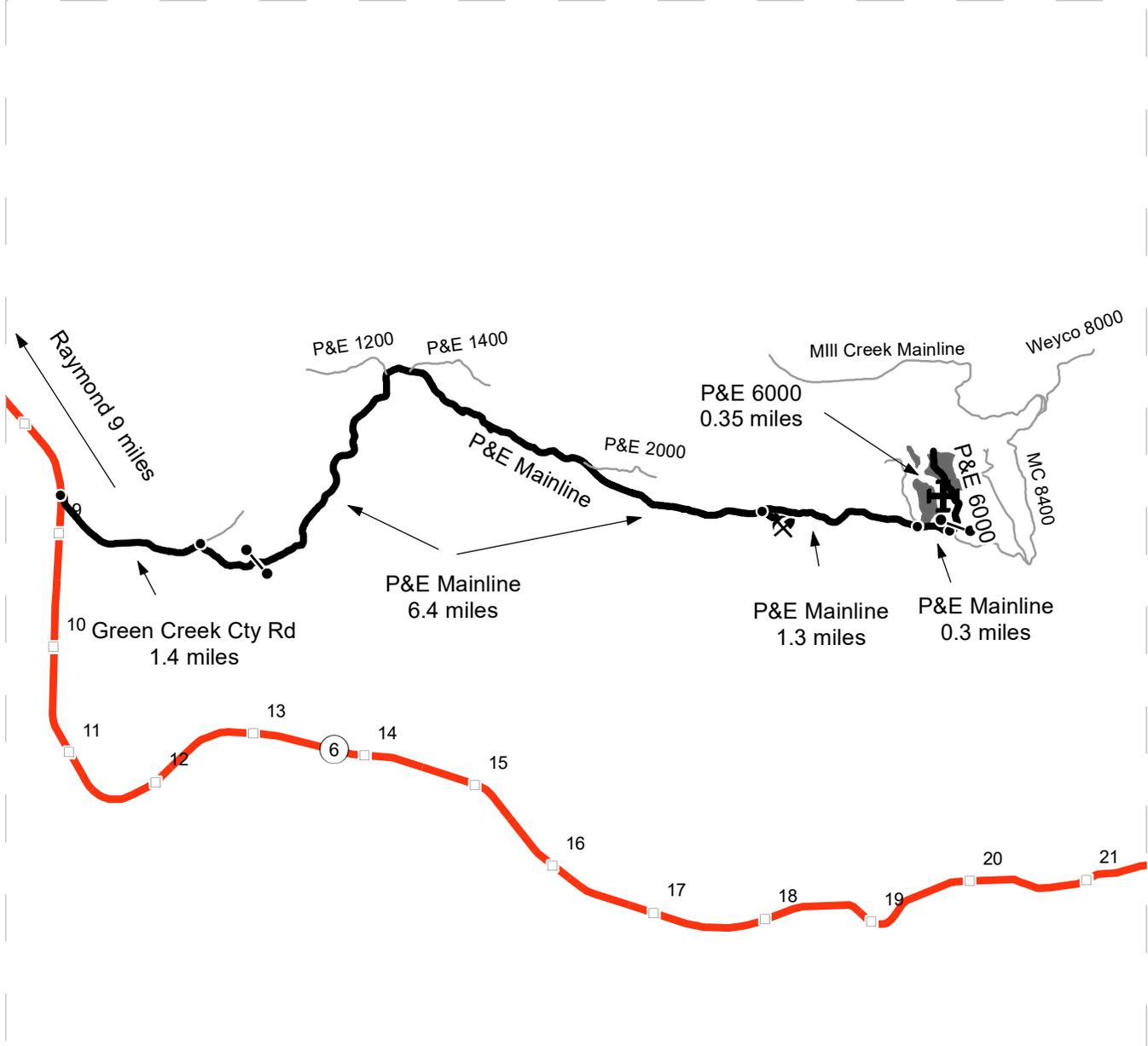


All State Unless Otherwise Noted

DRIVING MAP

SALE NAME: UNIVERSITY FUNDS
AGREEMENT#: 30-96855
TOWNSHIP(S): T13R6W
TRUST(S): Agricultural School (4)

REGION: Pacific Cascade Region
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Map may not be to scale

- Timber Sale Unit
- Haul Route
- Other Road
- Distance Indicator
- Gate (PCP 1-1)
- Other Feature 1
- Rock Pit
- Mileposts

DRIVING DIRECTIONS:

From SR 6 between the 8 and 9 mile markers turn onto Green Creek Cty Rd. After 1.4 miles on the Green Creek Cty Rd turn right onto the P&E Mainline. After driving 6.4 miles on the P&E Mainline the P&E Ridge Quarry will be on your right. Continue on the P&E Mainline for 1.3 miles to Units 1 and 2. Continue for another 0.3 miles on the P&E mainline to the P&E 6000 on your left. Continue on the P&E 6000 for another 0.35 miles to Unit 3.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-096855

SALE NAME: UNIVERSITY FUNDS

**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 into a Bill of Sale and Contract for Forest Products with the State for the right to harvest and remove forest products from the timber sale area.

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on December 19, 2019 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 trees marked with blue paint, trees bound out by yellow "Leave Tree Area" tags with pink flagging and all down timber existing 10 years prior to the day of sale, bound by the following: White "Timber Sale Boundary" tags with pink flagging, reprod, and the P&E Mainline in Unit 1; White "Timber Sale Boundary" tags with pink flagging in Unit 2; White "Timber Sale Boundary" tags with pink flagging and reprod in Unit 3, located on approximately 64 acres on part(s) of Section 20 in Township 13 North, Range 6 West W.M. in Pacific 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, 2021.

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 \$983.00 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 via endorsement 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 address of record:

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; on the P&E Mainline, P&E 2400, P&E 3000, P&E 5000, P&E 5100, P&E 6000, and P&E 6020 roads. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the P&E Mainline, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement Between the State and Roy Kotula. Dated: 10/14/1975 Expires: Indefinitely

G-396 Public Hauling Permit

The hauling of forest products, rock or equipment may require a state, county, or city hauling permit. Purchaser is responsible for obtaining any necessary permit and any costs associated with extra maintenance or repair levied by the permitting agency. 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:

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Washington Department of Fish & Wildlife

Disclosed by Application No.: 60-095576
Granted: 5/2/2017
Expires: 6/30/2022

Lease, including the terms and provisions thereof,
For: Land Use License
In Favor of: Washington Department of Fish & Wildlife
Disclosed by Application No.: 60-096820
Granted: 4/23/2018
Expires: 6/30/2020

Lease, including the terms and provisions thereof,
For: Minor Forest Products
In Favor of: DNR – Pacific Cascade Region
Disclosed by Application No.: 35-CP0002
Granted: 1/1/1993
Expires: Indefinite

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$72,904.00. The total contract price consists of a \$0.00 contract bid price plus \$72,904.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-013 Reserve Tree Damage Definition

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

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

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

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

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 10 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

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

H-051 Branding and Painting

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

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable, cable assist systems and shovel. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted on all roads from November 1 to April 30 in all Units unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Only shovels with a low ground pressure, track mounted machines with hydraulic boom and grapple will be allowed.

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

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

Intermediate supports will be required to prevent soil rutting in Unit 2 off the 5000 road.

All corridors required to yard Unit 2 will be marked by the Purchaser and approved by the Contract Administrator prior to felling.

Sediment delivery from roads will not be allowed. Hauling operations will be shut down as needed until conditions improve or work can be completed that eliminates the delivery of sediment.

Cable-assist will only be allowed in areas where a written harvest plan has been provided to the CA and the CA has provided written approval for cable-assist logging to occur.

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:

No yarding will be permitted through or over areas identified to be potentially unstable slopes on the FPA Slope Stability Form and maps.

The Purchaser is responsible for marking all the take trees within each yarding corridor(s) between Units 1 and Unit 2 through Type 3 RMZ. All take trees will be marked with orange paint by the Purchaser. Each corridor shall be marked and approved in writing by the Contract Administrator prior to any felling and yarding operations. If the completed marking is found to be out of compliance, the Contract Administrator will require any unapproved areas to be corrected before operations begin.

Method of marking:

A 1 to 2 inch wide band of orange paint will be applied around each tree at DBH.

Two marks will be applied opposite each other on the base of the tree at the ground line (butt mark).

Yarding corridor design:

1. Yarding Corridors shall be minimized, in quantities and width.
2. Lead end shall be required in the RMZ.
3. Trees within the inner zone are not to be felled or damaged.
4. Yarding corridors should be on average 12 feet in width or less (10 feet where possible).
5. Yarding corridors should be on average at least 100 feet apart (120 feet where possible).
6. Yarding corridors should be located in natural voids, where possible, while avoiding wetlands and concentrations of snags.
7. Trees that are damaged during these operations area outside of the corridor will not be removed and are to remain on site as live trees, snags, or down woody debris.
8. If rutting occurs within the RMZ, water bars will be built and the corridor will be grass seeded upon completion of the operations within the corridor.

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-230 Tops and Limbs Outside the Sale Boundary

Tops and limbs outside the sale boundary as a result of Purchaser's operation shall be removed concurrently with the yarding operation unless otherwise directed by the Contract Administrator.

H-240 Lop and Scatter

The tops of all felled trees shall be lopped and slash scattered away from leave trees .

Section C: Construction and Maintenance**C-040** Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 3/8/2018 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on P&E 5000, P&E 5100, P&E 6000 and the P&E 6020. 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 all other roads used not covered by the C-050 clause. 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 equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

Landings shall be marked by Purchaser and approved by the Contract Administrator prior to construction.

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

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

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 10 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.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Eric Wisch

Print Name

Pacific Cascade Region Manager

Date: _____

Date: _____

Address: _____

CORPORATE ACKNOWLEDGEMENT
(Required for both LLC and Inc. Entities)

STATE OF _____)

COUNTY OF _____)

On this _____ day of _____, 20____, before me personally
appeared _____

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

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

Notary Public in and for the State of

My appointment expires _____

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: University Funds

Application Number: 30- 096855

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 3,290 linear feet
Road to be constructed (optional and required) but not abandoned

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

Abandonment: 0 linear feet
Abandonment of existing roads not reconstructed under the contract

Decommission: 0 linear feet
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 48,500 linear feet
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Optional Construction: 0 linear feet
Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 linear feet
Optional roads to be reconstructed and then abandoned

New Abandonment: 0 linear feet
Abandonment of roads constructed or reconstructed under the contract

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

(Revised 6/13)

PRE-CRUISE NARRATIVE

Sale Name: University Funds VRH	Region: Pacific Cascade
Agreement #: 30-96855	District: Lewis
Contact Forester: Roy Franklin Phone / Location: 360 520 1971	County(s): Pacific
Alternate Contact: Phone / Location:	Other information:

Type of Sale: Lump Sum	
Harvest System: Ground based	30
Harvest System: Uphill Cable	70

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	Sec. 20 T13N R 06W	4	60	20	3	0		27	GPS (Garmin)
2	Sec. 20 T13N R 06W	4	18	14	1	0		3	GPS (Garmin)
3	Sec. 20 T13N R 06W	4	62	22	3	3		34	GPS (Garmin)
TOTAL ACRES			140	56	7	3		64	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Variable retention harvest; Boundaries are marked with white "Timber Sale Boundary" tags and pink "Harvest Boundary" flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags, pink "Harvest Boundary" flagging, and blue paint. Individual trees are marked with blue paint.	N/A	Leave trees marked mainly in clumps

2	Variable retention harvest; Boundaries are marked with white "Timber Sale Boundary" tags and pink "Harvest Boundary" flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags, pink "Harvest Boundary" flagging, and blue paint. Individual trees are marked with blue paint.	N/A	Leave trees marked mainly in clumps
3	Variable retention harvest; Boundaries are marked with white "Timber Sale Boundary" tags and pink "Harvest Boundary" flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags, pink "Harvest Boundary" flagging, and blue paint. Individual trees are marked with blue paint.	N/A	Leave trees marked mainly in clumps

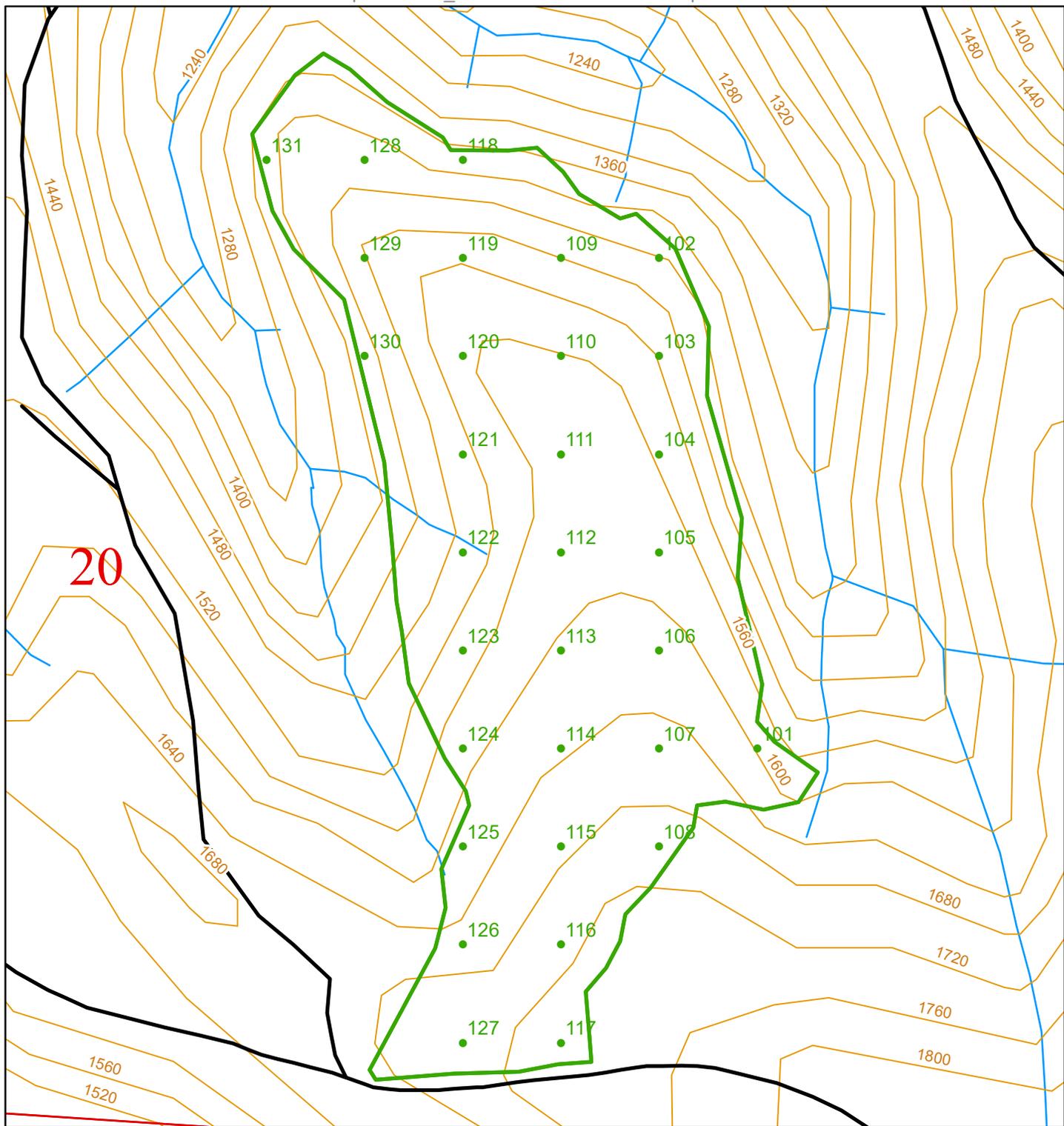
OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH,WRC,RA,SS, BM 950 MBF	See driving map	Maps on TSDC
2	DF, WH,WRC,RA,SS, BM 100 MBF	See driving map	Maps on TSDC
3	DF, WH,WRC,RA,SS, BM 1,200 MBF	See driving map	Maps on TSDC
TOTAL MBF	2,250 MBF		

REMARKS:

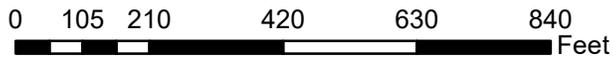
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Prepared By: Roy Franklin Date: 1/2/2018	Title: Forester	CC:
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FMA POLYGON AND SAMPLE POINT INFORMATION

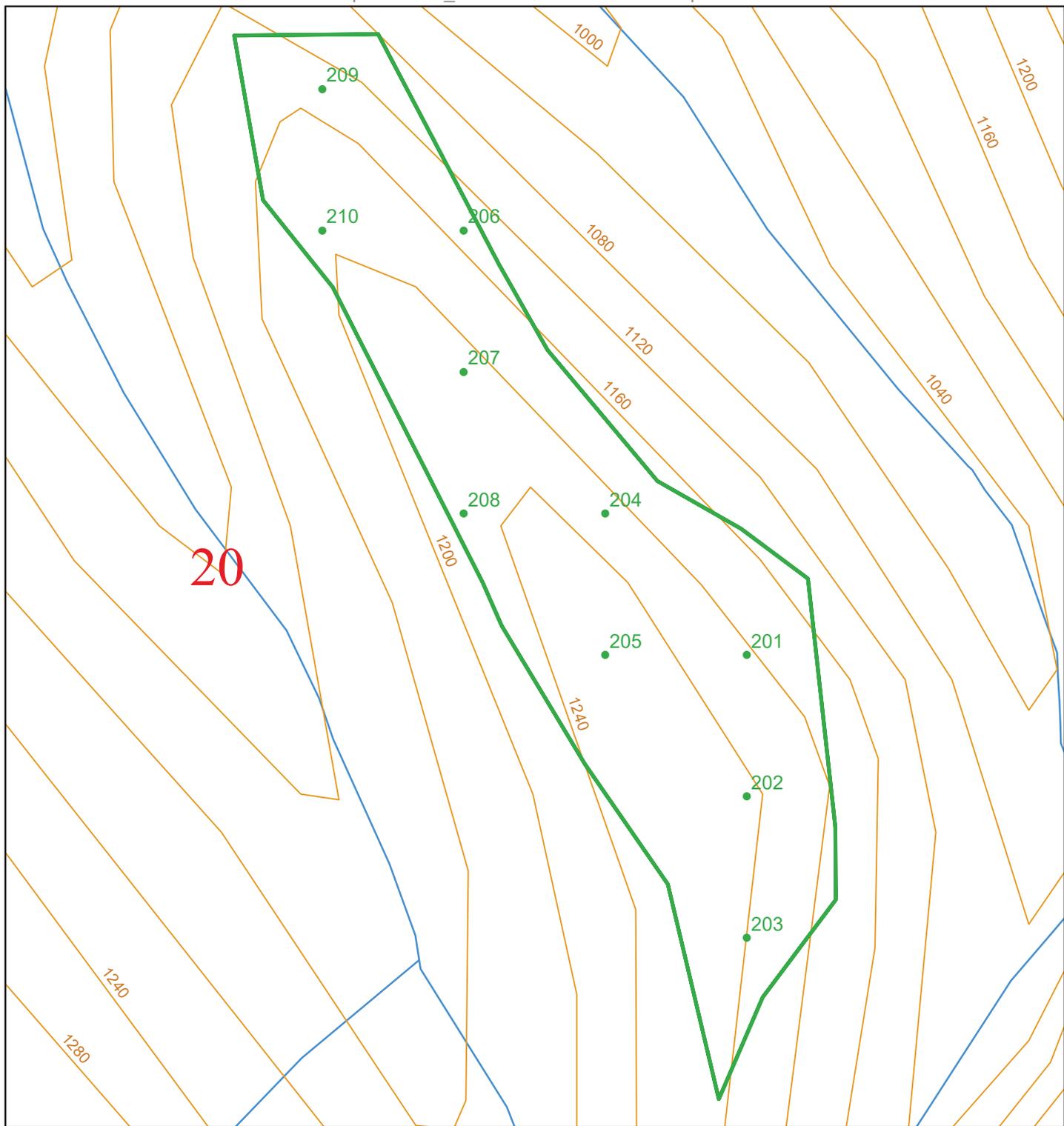
FMA_NM:	UNIVERSITY FUNDS U1	Township:	T13R06W
FMA_ID:	156599	DNR Region:	PACIFIC CASC
Acres:	30	Total Sample Points:	31
County:	PACIFIC	Spacing Between Points:	Width: 208 Height: 208
		Point Rotation Degrees:	0



Scale 1:3,600

Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

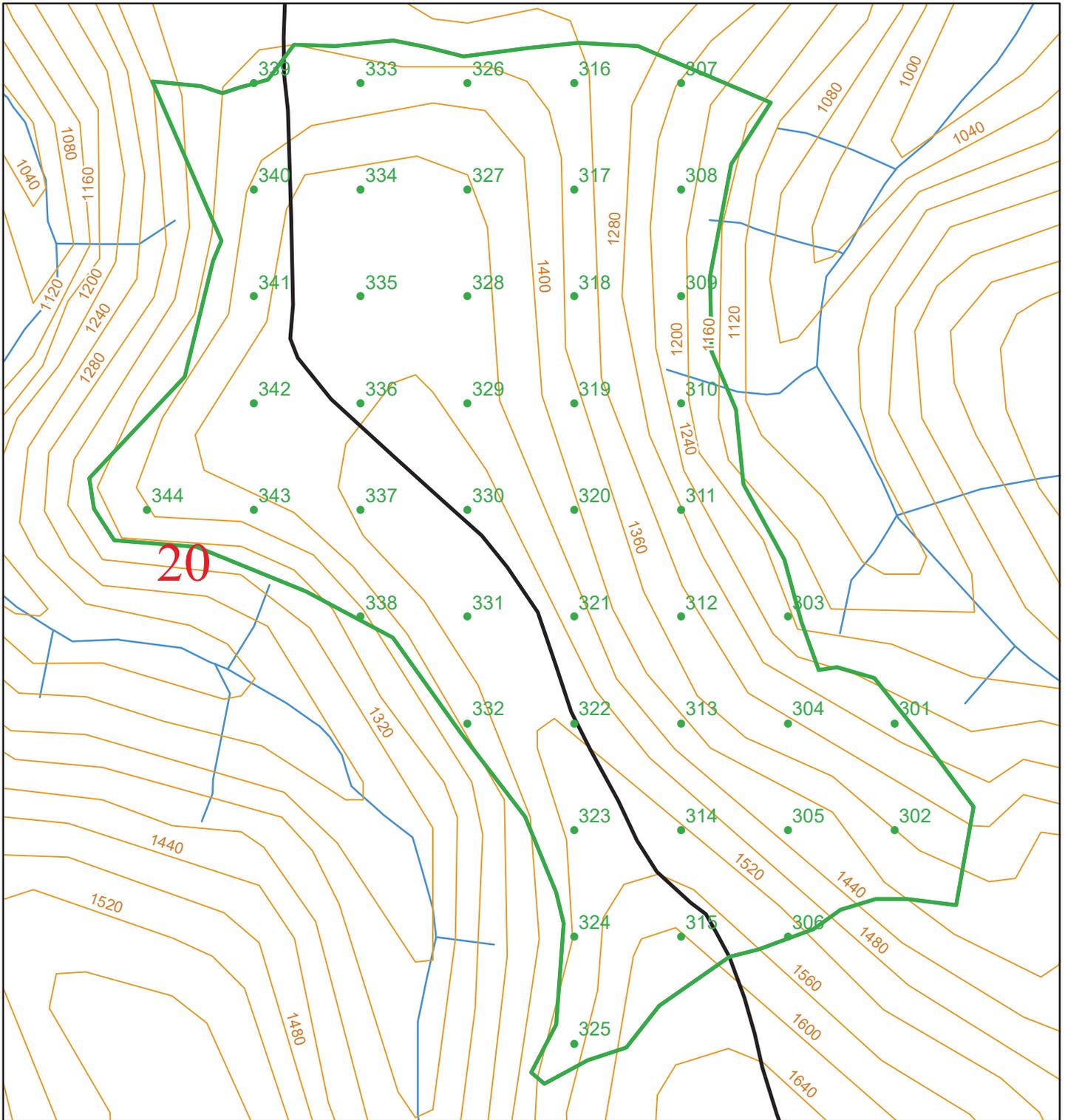
FMA_NM:	UNIVERSITY FUNDS U2	Township:	T13R06W
FMA_ID:	268535	DNR Region:	PACIFIC CASC
Acres:	4	Total Sample Points:	10
County:	PACIFIC	Spacing Between Points:	125
		Point Rotation Degrees:	0



Scale 1:1,500

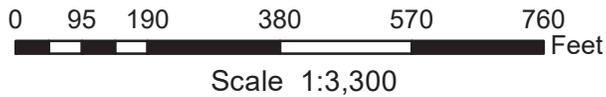
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

FMA_NM:	UNIVERSITY FUNDS U3	Township:	T13R06W
FMA_ID:	156598	DNR Region:	PACIFIC CASC
Acres:	40	Total Sample Points:	44
County:	PACIFIC	Spacing Between Points:	Width: 208 Height: 208
		Point Rotation Degrees:	0



Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot

Cruise Narrative

Sale Name: University Funds	Region: Pacific Cascade
App. #: 30-96855	District: Lewis
Lead Cruiser: DPClark	Completion date: 4-29-2019
Other Cruisers: KJBailey	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	27	YES	
2	3	YES	
3	34	YES	
Total	64	YES	

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	40	16'	208	1:1	27
2	VP	33.61	16'	125	2:1	9
2	VP	40	16'	208	1:1	34

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.						
Minimum cruise spec:	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.						
Avg. ring count by sp:	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">DF =</td> <td style="width: 25%; text-align: center;">6</td> <td style="width: 15%;">WH =</td> <td style="width: 25%; text-align: center;">7</td> <td style="width: 15%;">SS =</td> <td style="width: 20%; text-align: center;">NA</td> </tr> </table>	DF =	6	WH =	7	SS =	NA
DF =	6	WH =	7	SS =	NA		
Leave/take tree description:							
Sort Description:	<p>HA– Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (min dia 8".)</p> <p>HB – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (min dia 8".)</p> <p>R – Logs meeting the following criteria: Gross diameter of 12 inches or greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.</p> <p>D - Domestic</p>						

Field observations:

University Funds is a north slope sale consisting of three sub units of like timber. Units 1 and 2 are mostly tractor ground with some cable harvest areas. Unit 3 is an island between two creeks in steep ground and is cable only. Timber type is dominated by DF and WH with mostly continuous canopy closure and very little mortality. RA is a minor species. SS and RC are present in trace amounts. DF Log quality is mostly high B and domestic. There are a few scattered remnant trees with clean stems that qualify as SM. WH logs are mostly straight and clean. RA is also relatively straight and clean. Some fresh storm damage along ridge top on units 1 and 3. Some spike knots from old storm damage, otherwise limited defect. No conks observed.

Grants: 04**Prepared by:** DPClark**Title:** Timber Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																					
<table border="1"> <tr> <td>T13N R06W S20 Ty00U1</td> <td>27.00</td> </tr> <tr> <td>T13N R06W S20 Ty00U2</td> <td>3.00</td> </tr> <tr> <td>T13N R06W S20 Ty00U3</td> <td>34.00</td> </tr> </table>				T13N R06W S20 Ty00U1	27.00	T13N R06W S20 Ty00U2	3.00	T13N R06W S20 Ty00U3	34.00	Project: UNIVERSI Acres 64.00											Page 1 Date 4/29/2019 Time 12:50:34PM				
T13N R06W S20 Ty00U1	27.00																								
T13N R06W S20 Ty00U2	3.00																								
T13N R06W S20 Ty00U3	34.00																								
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre				
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf					
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-40									
DF	CU	CU			100.0	212												5	11		0.00	16.4			
DF	HA	3P				224	224	14										40	29	1520	7.10	.1			
DF	HA	SM		1		223	223	14										40	23	940	4.06	.2			
DF	HB	2S		52	1.7	14,256	14,009	897			42	58		9	5	86		38	15	359	1.95	39.0			
DF	HB	3S		4	2.2	1,165	1,139	73		100						12	88	39	9	123	0.78	9.3			
DF	D	2S		23	2.4	6,329	6,175	395			52	48		8	2	15	75	36	15	283	1.75	21.8			
DF	D	3S		14	2.3	3,807	3,720	238	20	80				1	6	38	54	36	8	92	0.70	40.5			
DF	D	4S		5		1,393	1,393	89	77	23				34	49	3	14	23	6	30	0.37	46.5			
DF	D	UT				47	47	3			44	56		100				14	15	133	1.80	.4			
DF	RO	3S		1		112	112	7								100		40	21	760	3.50	.1			
DF Totals					62	2.6	27,767	27,042	1,731	7	16	34	43	4	8	12	76	30	10	155	1.15	174.3			
WH	CU	CU			100.0	148												4	6		0.00	34.1			
WH	HB	2S		32	3.0	4,500	4,364	279			55	45		3	4	93		38	14	305	1.59	14.3			
WH	HB	3S		19	4.5	2,660	2,541	163		100						4	96	40	10	135	0.79	18.8			
WH	D	2S		8	.7	1,092	1,084	69			73	27		2		53	45	35	14	236	1.52	4.6			
WH	D	3S		24	2.9	3,274	3,178	203	43	57					1	23	77	38	7	79	0.53	40.0			
WH	D	4S		15	.8	2,061	2,045	131	96	4				18	15	13	54	30	5	33	0.30	62.7			
WH	RO	3S		2		155	155	10				100					100	40	20	700	3.55	.2			
WH Totals					31	3.8	13,889	13,367	855	25	33	24	18	3	3	14	80	29	7	76	0.62	174.7			
SS	D	2S		86	5.0	58	55	4			100						100	40	12	190	1.60	.3			
SS	D	4S		14		9	9	1	100								100	21	6	30	0.49	.3			
SS Totals					0	4.3	66	64	4	14	86				14	86		31	9	110	1.22	.6			
RA	CU	CU			100.0	37												3	8		0.00	10.5			
RA	D	UT		7		234	234	15	38	62						88	12	25	7	43	0.48	5.4			
RA	D	1S		3		74	74	5				100		100				16	16	160	1.79	.5			
RA	D	2S		14	4.9	459	436	28			100				50	50		33	12	164	1.22	2.7			
RA	D	3S		28	5.8	882	831	53		100					31	69		34	10	129	0.96	6.5			
RA	D	4S		26	7.1	838	779	50		100					8	92		38	9	94	0.71	8.2			
RA	D	4S		22		634	634	41	100					4	46	12	38	29	5	35	0.35	18.1			
RA Totals					7	5.4	3,157	2,988	191	24	59	15	2	3	35	4	58	25	8	58	0.61	51.9			
RC	CU	CU			100.0	46												4	10		0.00	4.7			
RC	D	3S		60		218	218	14	32	23	45				50	18	32	34	9	102	0.98	2.1			
RC	D	4S		40		140	140	9	100					34	66			22	5	26	0.40	5.5			
RC Totals					1	11.5	405	358	23	59	14	28		13	57	11	19	17	8	29	0.57	12.3			
Totals						3.2	45,285	43,818	2,804	14	24	29	32	4	9	12	75	29	9	106	0.85	413.8			

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT		UNIVERSI			DATE		4/29/2019		
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
13N	06	20	TY FUNDS	00U1	64.00	70	362	S	W		
13N	06W	20	TY FUNDS	00U2							
13N	06W	20	TY FUNDS	00U3							
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		70	362	5.2							
CRUISE		37	182	4.9	10,713	1.7					
DBH COUNT REFOREST COUNT		31	173	5.6							
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		96	61.8	20.9	90	32.2	147.4	27,767	27,042	6,107	6,057
WHEMLOCK		51	76.7	14.0	76	21.9	82.0	13,889	13,367	3,147	3,113
R ALDER		23	21.6	14.5	67	6.5	24.8	3,157	2,988	811	805
WR CEDAR		11	7.0	13.5	37	1.9	7.0	405	358	131	121
S SPRUCE		1	.3	20.0	63	0.1	.6	66	64	21	21
TOTAL		182	167.4	16.9	78	63.6	261.9	45,285	43,818	10,218	10,117
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		65.9	6.9	523	562	601					
WHEMLOCK		117.0	16.4	272	325	378					
R ALDER		15.9	3.5	163	169	175					
WR CEDAR		96.7	30.5	64	92	120					
S SPRUCE											
TOTAL		90.6	6.8	386	414	443	328	167	82		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		55.0	5.8	117	124	132					
WHEMLOCK		96.1	13.4	62	72	82					
R ALDER		9.0	2.0	44	45	46					
WR CEDAR		82.8	26.2	22	30	38					
S SPRUCE											
TOTAL		75.8	5.7	88	93	99	229	117	57		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		86.4	10.3	55	62	68					
WHEMLOCK		155.3	18.5	63	77	91					
R ALDER		197.7	23.6	16	22	27					
WR CEDAR		370.5	44.2	4	7	10					
S SPRUCE		836.7	99.9	0	0	1					
TOTAL		73.3	8.8	153	167	182	214	109	54		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		81.7	9.8	133	147	162					
WHEMLOCK		136.5	16.3	69	82	95					
R ALDER		190.0	22.7	19	25	30					
WR CEDAR		383.8	45.8	4	7	10					
S SPRUCE		836.7	99.9	0	1	1					
TOTAL		53.4	6.4	245	262	279	114	58	28		

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
13N	06	20	TY FUNDS	00U1	64.00	70	362	S	W	
13N	06W	20	TY FUNDS	00U2						
13N	06W	20	TY FUNDS	00U3						
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			84.6	10.1	24,310	27,042	29,774			
WHEMLOCK			138.5	16.5	11,156	13,367	15,577			
R ALDER			191.8	22.9	2,303	2,988	3,672			
WR CEDAR			390.8	46.7	191	358	526			
S SPRUCE			836.7	99.9	0	64	127			
TOTAL			57.9	6.9	40,786	43,818	46,850	134	68	34
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			83.3	9.9	5,455	6,057	6,659			
WHEMLOCK			135.9	16.2	2,608	3,113	3,618			
R ALDER			190.2	22.7	622	805	988			
WR CEDAR			432.8	51.7	58	121	183			
S SPRUCE			836.7	99.9	0	21	43			
TOTAL			55.7	6.7	9,443	10,117	10,790	124	63	31
CL	68.1		COEFF		V_BAR/ACRE			# OF PLOTS REQ.	INF. POP.	
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR					165	183	202			
WHEMLOCK			74.0	8.8	136	163	190			
R ALDER			127.4	15.2	93	120	148			
WR CEDAR			396.0	47.3	27	51	75			
S SPRUCE			836.7	99.9	0	101	202			
TOTAL			55.9	6.7	156	167	179	125	64	31

T13N R06W S20 T00U1 T13N R06W S20 T00U1
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 13N 06W 20 TY FUNDS 00U1 27.00 27 72 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-40						
DF		CU	CU															1	10		0.00	6.1
DF		HA	3P	2		531	531	14										40	29	1520	7.10	.3
DF		HA	SM	3		528	528	14										40	23	940	4.06	.6
DF		HB	2S	45	2.0	9,151	8,968	242			57	43			4	4	92	39	15	324	1.79	27.7
DF		HB	3S	8	3.6	1,686	1,626	44		100						20	80	39	9	107	0.69	15.2
DF		DM	2S	16	7.9	3,340	3,077	83			48	52		8	2		90	36	15	275	1.79	11.2
DF		DM	3S	17	1.3	3,527	3,481	94	23	77					3	65	32	36	8	91	0.67	38.2
DF		DM	4S	7		1,367	1,367	37	83	17				56	15	8	21	22	6	27	0.31	51.6
DF		RO	3S	2		265	265	7				100					100	40	21	760	3.50	.3
DF	Totals			48	2.7	20,395	19,843	536	10	23	33	34		5	4	15	76	31	9	131	0.99	151.2
WH		CU	CU		100.0	101												2	6		0.00	64.1
WH		HB	2S	29	1.8	5,321	5,224	141			70	30					100	38	14	303	1.54	17.2
WH		HB	3S	23	2.4	4,073	3,977	107		100						6	94	40	10	134	0.70	29.7
WH		DM	2S	2		347	347	9			100		15		85		29	13	180	1.38	1.9	
WH		DM	3S	24	1.1	4,341	4,291	116	54	46						31	69	38	7	75	0.45	57.6
WH		DM	4S	19		3,439	3,439	93	98	2				14	14	4	68	31	5	33	0.28	103.8
WH		RO	3S	3		367	367	10				100					100	40	20	700	3.55	.5
WH	Totals			43	1.9	17,989	17,645	476	32	34	23	11		3	3	11	83	27	7	64	0.52	274.8
RA		CU	CU		100.0	87												4	9		0.00	14.5
RA		DM	UT	12		451	451	12	24	76							100	23	7	48	0.50	9.4
RA		DM	1S	5		174	174	5				100	100				16	16	160	1.79	1.1	
RA		DM	2S	15	9.4	571	517	14			100						100	40	12	181	1.23	2.9
RA		DM	3S	33	4.0	1,187	1,139	31		100					34	66		33	11	132	1.02	8.6
RA		DM	4S	14	12.9	580	505	14		100					30	70		35	9	80	0.69	6.3
RA		DM	4S	21		713	713	19	100						38	17	45	31	5	38	0.37	18.9
RA	Totals			8	7.0	3,763	3,500	94	23	57	15	5		5	36	3	56	24	8	57	0.63	61.7
RC		DM	4S	100		177	177	5	100						35	65		21	5	26	0.31	6.9
RC	Totals			0		177	177	5	100					35	65			21	5	26	0.31	6.9
SS		DM	2S	86	5.0	137	130	4		100							100	40	12	190	1.60	.7
SS		DM	4S	14		21	21	1	100								100	21	6	30	0.49	.7
SS	Totals			0	4.3	157	151	4	14		86			14		86		31	9	110	1.22	1.4
Type Totals					2.7	42,481	41,315	1,116	21	30	27	21		4	6	13	77	28	8	83	0.69	496.0

T13N R06W S20 T00U3										T13N R06W S20 T00U3				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
13N	06W	20	TY FUNDS	00U3	34.00	34	85	S	W					

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-40						
DF		CU	CU		100.0	289												5	12		0.00	23.6
DF		HB	2S	55	1.7	18,839	18,518	630			33	67			11	6	84	37	16	382	2.04	48.5
DF		HB	3S	2		565	565	19		100						100	40	11	165	0.91	3.4	
DF		DM	2S	27	.9	9,013	8,931	304			53	47		8	2	19	71	36	15	288	1.73	31.0
DF		DM	3S	12	3.2	3,971	3,845	131	15	85				2	10	22	66	36	9	95	0.73	40.6
DF		DM	4S	4		1,303	1,303	44	71	29				18	72		10	23	7	34	0.44	38.6
DF	Totals			70	2.4	33,980	33,162	1,128	4	13	33	50		3	10	11	76	30	11	179	1.30	185.7
WH		CU	CU		100.0	197												13	6		0.00	13.3
WH		HB	2S	36	4.2	4,244	4,066	138			39	61		6	8	85	38	15	307	1.65	13.2	
WH		HB	3S	15	8.4	1,773	1,625	55		100						100	40	10	138	0.96	11.8	
WH		DM	2S	16	.8	1,780	1,766	60			69	31				48	52	36	14	247	1.54	7.1
WH		DM	3S	23	5.2	2,681	2,543	86	29	71				2	11	87	39	8	87	0.65	29.2	
WH		DM	4S	10	2.7	1,098	1,069	36	93	7				25	16	36	23	28	5	32	0.35	33.9
WH	Totals			23	6.0	11,774	11,068	376	16	32	25	27		2	4	17	76	32	8	102	0.79	108.5
RA		CU	CU															2	8		0.00	8.4
RA		DM	UT	2		82	82	3	100					33	67			28	5	30	0.44	2.7
RA		DM	2S	15		411	411	14			100			100				27	13	150	1.21	2.7
RA		DM	3S	23	8.1	718	660	22		100				28		72		36	10	124	0.89	5.3
RA		DM	4S	37	4.7	1,117	1,065	36		100						100		40	9	102	0.71	10.5
RA		DM	4S	23		627	627	21	100					7	53	8	31	28	5	33	0.33	19.1
RA	Totals			6	3.7	2,955	2,845	97	25	61	14			2	33	4	61	27	7	58	0.59	48.7
RC		CU	CU		100.0	87												4	10		0.00	8.8
RC		DM	3S	79		379	379	13	35	25	41				46	19	35	35	9	100	0.95	3.8
RC		DM	4S	21		95	95	3	100					43	57			22	6	25	0.51	3.8
RC	Totals			1	15.6	561	474	16	48	20	32			9	48	15	28	15	9	29	0.68	16.4
Type Totals					3.5	49,270	47,549	1,617	9	20	30	41		3	11	12	74	29	10	132	1.03	359.3

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	UNIVERSI		DATE	4/29/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
13N	06W	20	TY FUNDS	00U1	27.00	27	136	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		27	136	5.0						
CRUISE		15	71	4.7	5,598		1.3			
DBH COUNT										
REFOREST										
COUNT		12	58	4.8						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	34	56.1	19.2	88	25.7	112.5	20,395	19,843	4,575	4,575
WHEMLOCK	22	120.0	12.6	76	29.2	103.8	17,989	17,645	3,893	3,882
R ALDER	12	23.6	15.0	68	7.5	29.0	3,763	3,500	956	942
WR CEDAR	2	6.9	9.5	28	1.1	3.4	177	177	46	46
S SPRUCE	1	.7	20.0	63	0.3	1.5	157	151	51	51
TOTAL	71	207.3	14.9	76	64.9	250.1	42,481	41,315	9,521	9,495
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	83.4	14.3		480	560	640				
WHEMLOCK	155.0	33.8		216	327	437				
R ALDER				202	202	202				
WR CEDAR	28.3	26.5		18	25	32				
S SPRUCE										
TOTAL	110.7	13.3		358	413	469	490	250	122	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	72.0	12.3		108	124	139				
WHEMLOCK	135.0	29.4		47	67	86				
R ALDER				54	54	54				
WR CEDAR	15.5	14.6		6	7	7				
S SPRUCE										
TOTAL	94.7	11.4		81	91	102	358	183	89	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	107.3	21.0		44	56	68				
WHEMLOCK	114.2	22.4		93	120	147				
R ALDER	160.2	31.4		16	24	31				
WR CEDAR	362.4	71.0		2	7	12				
S SPRUCE	519.6	101.9			1	1				
TOTAL	63.1	12.4		182	207	233	165	84	41	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	91.4	17.9		92	113	133				
WHEMLOCK	102.9	20.2		83	104	125				
R ALDER	163.6	32.1		20	29	38				
WR CEDAR	360.3	70.6		1	3	6				
S SPRUCE	519.6	101.9			1	3				
TOTAL	39.8	7.8		231	250	270	66	34	16	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	UNIVERSI			DATE	4/29/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
13N	06W	20	TY FUNDS	00U1	27.00		27	136	S	W
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		89.6	17.6	16,357	19,843	23,330				
WHEMLOCK		107.3	21.0	13,933	17,645	21,357				
R ALDER		165.9	32.5	2,361	3,500	4,638				
WR CEDAR		377.2	74.0	46	177	308				
S SPRUCE		519.6	101.9		151	304				
TOTAL		44.8	8.8	37,686	41,315	44,944	83	43	21	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		90.4	17.7	3,764	4,575	5,386				
WHEMLOCK		103.7	20.3	3,093	3,882	4,672				
R ALDER		164.7	32.3	638	942	1,246				
WR CEDAR		369.0	72.3	13	46	79				
S SPRUCE		519.6	101.9		51	102				
TOTAL		41.4	8.1	8,726	9,495	10,265	71	36	18	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		45.5	8.9	145	176	207				
WHEMLOCK				134	170	206				
R ALDER		103.4	20.3	81	121	160				
WR CEDAR		377.2	74.0	14	52	91				
S SPRUCE		519.6	101.9		101	204				
TOTAL		189.4	37.1	151	165	180	1,488	759	372	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	UNIVERSI	DATE		4/29/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
13N	06W	20	TY FUNDS	00U2	3.00	9	40	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		9	40	4.4						
CRUISE		6	26	4.3	448	5.8				
DBH COUNT										
REFOREST										
COUNT		3	14	4.7						
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	126.6	16.7	67	46.9	191.6	23,718	22,471	6,331	6,012
WR CEDAR	2	10.6	14.6	40	3.2	12.3	685	685	256	256
WHEMLOCK	2	12.2	12.6	54	3.0	10.6	956	912	275	275
TOTAL	26	149.5	16.2	64	53.3	214.5	25,359	24,067	6,862	6,543
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	47.5	11.2		261	294	327				
WR CEDAR	96.8	90.6		9	95	181				
WHEMLOCK	35.4	33.1		54	80	106				
TOTAL	58.5	12.5		226	258	290	143	73	36	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	41.6	9.8		70	78	85				
WR CEDAR	82.5	77.2		8	33	59				
WHEMLOCK	56.5	52.9		12	25	39				
TOTAL	51.1	10.9		62	69	77	109	56	27	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	55.6	19.6		102	127	151				
WR CEDAR	224.9	79.4		2	11	19				
WHEMLOCK	208.1	73.4		3	12	21				
TOTAL	56.3	19.9		120	149	179	142	72	35	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	38.4	13.5		166	192	218				
WR CEDAR	198.4	70.0		4	12	21				
WHEMLOCK	198.5	70.1		3	11	18				
TOTAL	34.1	12.1		189	214	240	52	27	13	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	41.1	14.5		19,215	22,471	25,727				
WR CEDAR	210.7	74.4		175	685	1,194				
WHEMLOCK	198.6	70.1		273	912	1,550				
TOTAL	35.7	12.6		21,036	24,067	27,099	57	29	14	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	41.5	14.6		5,132	6,012	6,892				
WR CEDAR	201.5	71.1		74	256	438				
WHEMLOCK	200.8	70.9		80	275	470				
TOTAL	35.4	12.5		5,725	6,543	7,361	56	29	14	

TC TSTATS				STATISTICS				PAGE	2		
				PROJECT	UNIVERSI			DATE	4/29/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
13N	06W	20	TY FUNDS	00U2	3.00	9	40	S	W		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR				100	117	134					
WR CEDAR				210.7	74.4	14	56	97			
WHEMLOCK				198.8	70.2	26	86	146			
TOTAL				<i>142.1</i>	<i>50.2</i>	<i>98</i>	<i>112</i>	<i>126</i>	<i>905</i>	<i>462</i>	<i>226</i>

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	UNIVERSI			DATE	4/29/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
13N	06W	20	TY FUNDS	00U3	34.00	34	186	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		34	186	5.5							
CRUISE		16	85	5.3	4,667	1.8					
DBH COUNT											
REFOREST											
COUNT		16	101	6.3							
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	40	60.6	22.8	95	35.9	171.3	33,980	33,162	7,304	7,238	
WHEMLOCK	27	48.1	16.5	77	17.5	71.0	11,774	11,068	2,807	2,752	
R ALDER	11	21.8	14.1	66	6.3	23.7	2,955	2,845	768	767	
WR CEDAR	7	6.8	15.9	43	2.4	9.4	561	474	188	168	
TOTAL	85	137.3	19.2	82	62.9	275.4	49,270	47,549	11,068	10,926	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	38.9	6.3		654	698	742					
WHEMLOCK	75.2	14.7		291	342	392					
R ALDER	27.4	8.6		127	139	151					
WR CEDAR	90.1	36.7		70	110	150					
TOTAL	72.4	7.9		422	458	495	209	107	52		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	31.0	5.0		141	149	156					
WHEMLOCK	61.2	12.0		70	80	89					
R ALDER	24.7	7.8		34	37	40					
WR CEDAR	72.8	29.6		25	36	46					
TOTAL	61.1	6.7		95	102	109	149	76	37		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	72.4	12.4		53	61	68					
WHEMLOCK	164.9	28.3		34	48	62					
R ALDER	201.0	34.4		14	22	29					
WR CEDAR	381.4	65.3		2	7	11					
TOTAL	61.2	10.5		123	137	152	150	76	37		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	68.4	11.7		151	171	191					
WHEMLOCK	146.5	25.1		53	71	89					
R ALDER	185.9	31.9		16	24	31					
WR CEDAR	354.3	60.7		4	9	15					
TOTAL	47.5	8.1		253	275	298	90	46	23		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	66.7	11.4		29,372	33,162	36,953					
WHEMLOCK	143.5	24.6		8,346	11,068	13,790					
R ALDER	186.9	32.0		1,933	2,845	3,756					
WR CEDAR	364.2	62.4		178	474	769					
TOTAL	47.8	8.2		43,657	47,549	51,440	91	46	23		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	UNIVERSI			DATE	4/29/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
13N	06W	20	TY FUNDS	00U3	34.00		34	186	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		67.2	11.5	6,405	7,238	8,071				
WHEMLOCK		143.2	24.5	2,077	2,752	3,428				
R ALDER		185.3	31.7	524	767	1,011				
WR CEDAR		394.2	67.5	55	168	282				
TOTAL		47.3	8.1	10,040	10,926	11,812	89	46	22	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				171	194	216				
WHEMLOCK		104.7	17.9	118	156	194				
R ALDER		124.1	21.3	81	120	158				
WR CEDAR		364.2	62.4	19	50	82				
TOTAL		237.9	40.8	159	173	187	2,261	1,153	565	

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

T13N R06W S20 Ty00U	27.0
T13N R06W S20 Ty00U	3.0
T13N R06W S20 Ty00U	34.0

Project UNIVERSI
Acres 64.00

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Date: 4/29/2019
Time 12:50:35PM

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	3,955	10,116	11,139	98.03	38.32	1.21	3,908	3,877	1,777	1,731
WHEMLOCK	4,911	9,001	6,445	40.57	22.13	0.64	2,014	1,992	889	855
R ALDER	1,379	2,647	1,428	37.36	19.46	0.63	519	515	202	191
WR CEDAR	450	487	198	17.17	15.85	0.63	84	77	26	23
S SPRUCE	18	37	36	74.12	37.06	1.20	14	14	4	4
Totals	10,713	22,287	19,245	60.44	29.05	0.89	6,539	6,475	2,898	2,804

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	9,334	19,640	17,817	63.85	30.34	0.93	6,020	5,960	2,696	2,613
H	1,379	2,647	1,428	37.36	19.46	0.63	519	515	202	191
Totals	10,713	22,287	19,245	60.44	29.05	0.89	6,539	6,475	2,898	2,804



Forest Practices Application/Notification Notice of Decision

FPA/N No: 2936811
 Effective Date: 09/03/2019
 Expiration Date: 09/03/2022
 Shut Down Zone: 651N
 EARR Tax Credit: Eligible Non-eligible
 Reference: University Funds TBS
 30-096855

Decision

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

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval / Reasons for Disapproval

No additional conditions.

Issued By: Alex Lilla

Region: Pacific Cascade

Title: Forest Practices Forester

Date: 09/03/2019

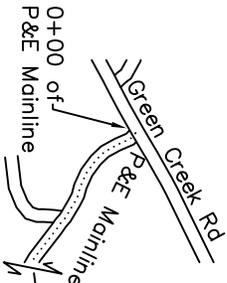
Copies to: Landowner, Timber Owner and Operator.

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

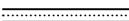
UNIVERSITY FUNDS

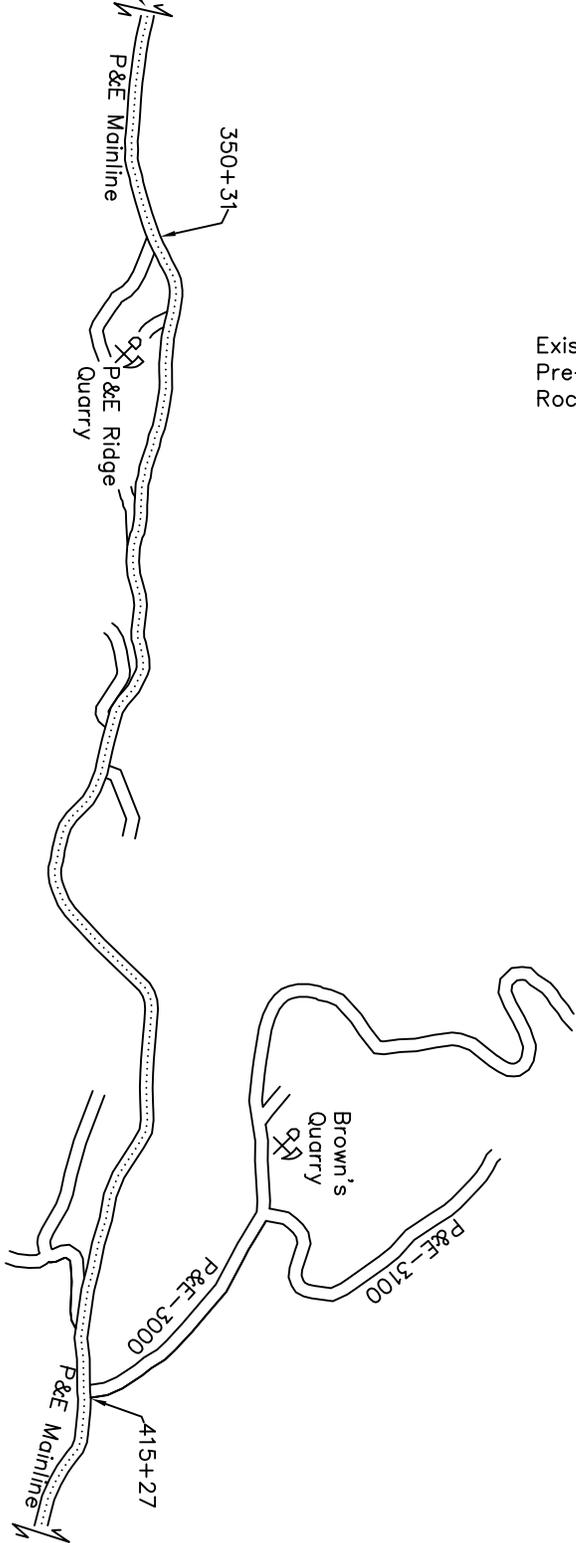
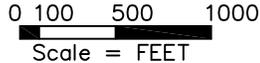
ROAD PLAN MAP

Map page 1 of 2



LEGEND

- Existing Road 
- Pre-haul Maintenance 
- Rock Source 



UNIVERSITY FUNDS

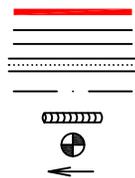
ROAD PLAN MAP

Map page 2 of 2

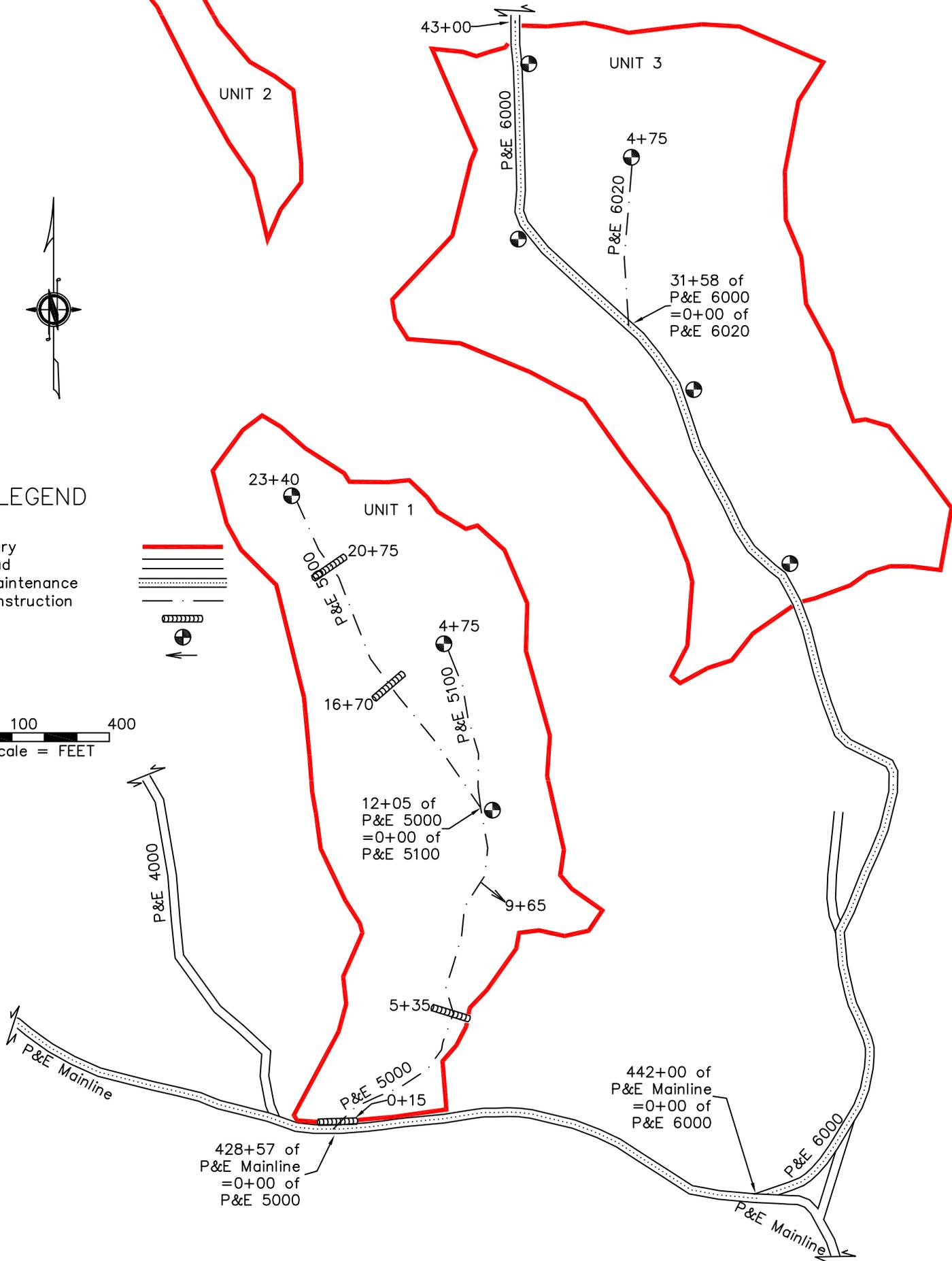


LEGEND

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



0 100 400
Scale = FEET



428+57 of
P&E Mainline
=0+00 of
P&E 5000

442+00 of
P&E Mainline
=0+00 of
P&E 6000

12+05 of
P&E 5000
=0+00 of
P&E 5100

31+58 of
P&E 6000
=0+00 of
P&E 6020

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

UNIVERSITY FUNDS TIMBER SALE ROAD PLAN
PACIFIC COUNTY
LEWIS DISTRICT

AGREEMENT NO.: 30-096855

STAFF ENGINEER: CHRIS WERNER

DATE: 02/22/2018

DRAWN & COMPILED BY: ALICIA COMPTON

MODIFIED DATE: 02/14/2019

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
P&E Mainline	0+00 to 442+00	Pre-haul Maintenance
P&E 6000	0+00 to 43+00	Pre-haul Maintenance

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
P&E 5000	0+00 to 23+40	Construction
P&E 5100	0+00 to 4+75	Construction
P&E 6020	0+00 to 4+75	Construction

0-4 CONSTRUCTION

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

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
P&E Mainline	0+00 to 442+00	Grade, Shape and Compact per COMPACTION LIST.
P&E 6000	0+00 to 43+00	Grade, Shape and Compact per COMPACTION LIST.

0-7 POST-HAUL MAINTENANCE

This project includes post-haul road maintenance listed in Clause 9-5 POST-HAUL MAINTENANCE9-5 .

0-12 DEVELOP ROCK SOURCE

Purchaser shall develop an existing rock source. Rock source development will involve stripping and removing overburden, drilling and shooting rock per quantities and sizes specified in the ROCK LIST. 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 any submitted plan that changes the scope of work or environmental condition from the original road plan.

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 7 days before the closure of any road. Construction may not close any road for more than 14 consecutive days.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Road centerline marked with wooden stakes, orange flagging, orange paint and RP's for Construction.
- Pre-haul maintenance marked with wooden stakes, orange flagging and orange paint.

1-18 REFERENCE POINT DAMAGE

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

1-20 COMPLETE BY DATE

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

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

Purchaser shall notify the Contract Administrator a minimum of 7 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction
- Rock application
- 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.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
ALL ROADS	ALL STATIONS	ALL ROAD WORK	November 1 to April 30

1-26 OPERATING DURING CLOSURE PERIOD

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

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on pit run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 4 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt 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 Contract 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.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

Purchaser shall use a grader to shape the existing surface before timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries 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.

3-7 RIGHT-OF-WAY DECKING

Purchaser shall deck all right-of-way timber. Decks must be parallel to the road centerline and placed within the cleared right-of-way. Decks must be free of dirt, limbs, and other right-of-way debris, and removable by standard log loading equipment from the roadbed.

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees unless approved by the Contract Administrator.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Stumps over 24 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits or as directed by the Contract Administrator and in compliance with all other clauses in this road plan. Stumps must be positioned upright, with root wads in contact with the forest floor on stable locations.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located within the cleared right-of-way or in natural openings as designated or 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 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris in natural openings and 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.

3-30 EXCLUSION OF DOZER BLADES

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

3-31 PILING

Purchaser shall pile organic debris no closer than 20 feet from standing timber and no higher than 20 feet in areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS. Piles must be free of rock and soil.

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 15 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 5% in 100 feet.

4-5 CUT SLOPE RATIO

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

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth	1:1	100
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-21 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

Purchaser shall construct turnarounds as designated on the ROCK LIST. Turnarounds must be no larger than 30 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

4-25 DITCH CONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

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 at locations shown on the CULVERT LIST 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. Locations may not be changed without written approval from the Contract Administrator.

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.
- Outside the clearing limits.

4-47 NATIVE MATERIAL

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 4 inches in any dimension.

4-55 ROAD SHAPING

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free. Purchaser shall accomplish all shaping using a motor grader with a minimum of 175 horsepower.

4-56 DRY WEATHER SHAPING

At any time of year, the Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed subgrades in accordance with the COMPACTION LIST 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.

SECTION 5 – DRAINAGE

5-5 CULVERTS

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

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. 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.

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the ROCK LIST. Energy dissipaters must extend a minimum of 1 foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet. 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 culverts on the CULVERT LIST that specify the placement of rock. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. 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 7 days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
P&E Ridge Quarry	Sec. 24 T13R07W	See ROCK LIST

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove more than 200 cubic yards of 2 ½ INCH MINUS CRUSHED ROCK. Purchaser shall not remove additional yardage without written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>
Brown's Quarry	Sec. 19 T13R06W

6-5 ROCK FROM COMMERCIAL SOURCE

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

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 7 days before starting any operations in the rock source.

<u>Source</u>	<u>Rock Type</u>
P&E Ridge Quarry	See ROCK LIST

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications, unless otherwise specified in the ROCK SOURCE 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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 7 working days before any drilling.
- Purchaser shall block access roads and trails before blasting operations.

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.

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 50% by visual inspection of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-41 SELECT PIT RUN ROCK

No more than 50 percent of the rock may be larger than 6 inches in any dimension and no rock may be larger than 10 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.

6-43 QUARRY SPALLS

% Passing 8" square sieve	100%
% Passing 3" square sieve	40% maximum
% Passing 3/4" square sieve	10% maximum

Rock may not contain more than 5 percent vegetative debris or trash. All percentages are by weight.

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 loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

6-71 ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way.

SECTION 7 – STRUCTURES

7-5 STRUCTURE DEBRIS

Purchaser shall not allow debris from the installation or removal of structures to enter any stream.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils at culvert installations. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

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

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Type</u>
All Roads	All Stations	120	Grass Seed

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

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the 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. 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 at a rate of 40 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

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

SECTION 9 – POST-HAUL ROAD WORK

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

SECTION 10 MATERIALS

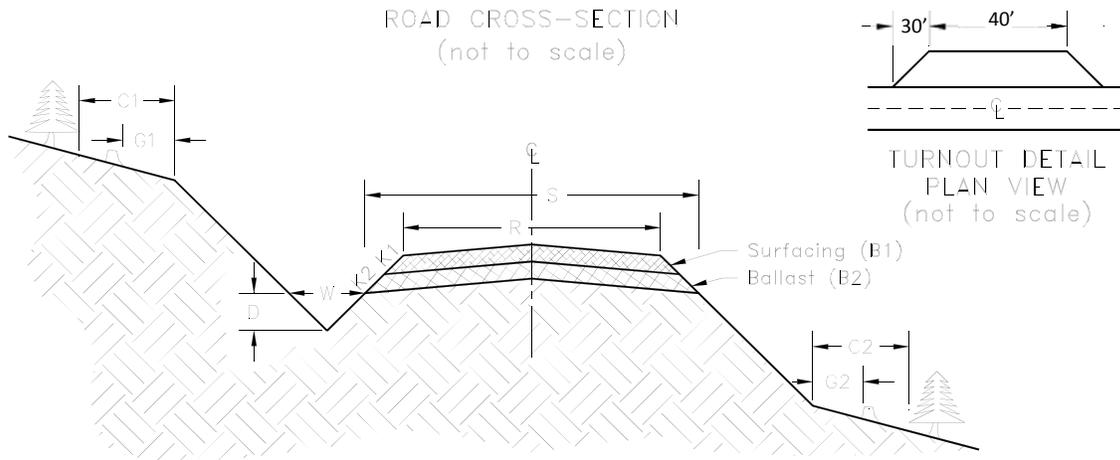
10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

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

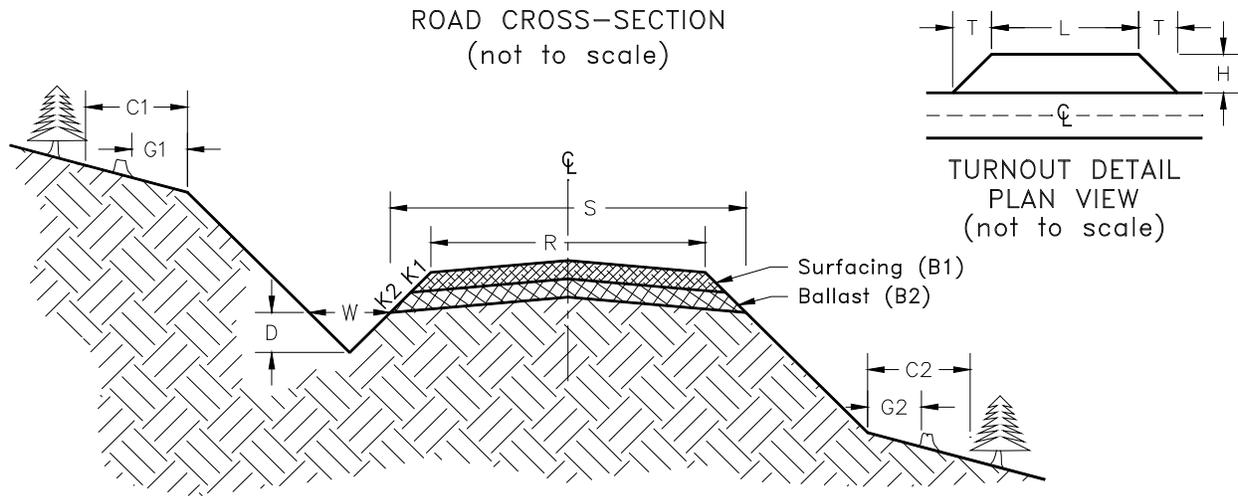
TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width	Road Width	Ditch		Crown in. @ CL	Grubbing Limits		Clearing Limits	
						Width	Depth		G1	G2	C1	C2
				S	R	W	D					
P&E Mainline	0+00	442+00	A	17'	14'	3'	1'	4"				
P&E 6000	0+00	43+00	C	16'	12'	3'	1'	4"				
*P&E 5000	0+00	23+40	C	16'	12'	3'	1'	4"	5'	5'	10'	10'
*P&E 5100	0+00	4+75	C	16'	12'	3'	1'	4"	5'	5'	10'	10'
*P&E 6020	0+00	4+75	C	16'	12'	3'	1'	4"	5'	5'	10'	10'

* Optional Construction – If roads are built then Rock is REQUIRED per the ROCK LIST.

ROCK LIST
(Page 1 of 2)

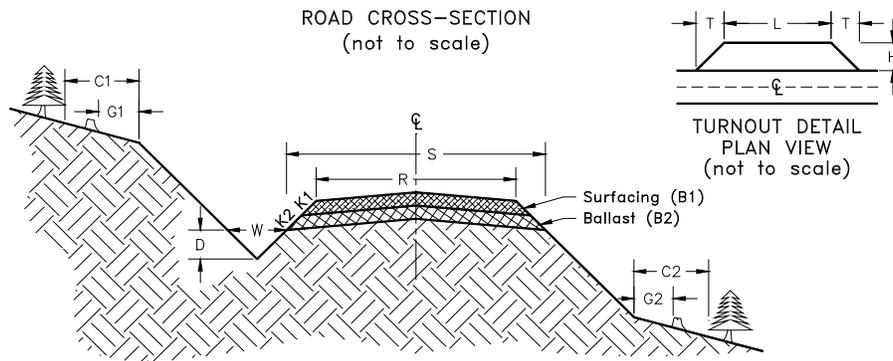


BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source
			K2	B2	SELECT PIT RUN (SPR)			
P&E 5000	0+00	23+40	1 ½ : 1	15"	81	23.40	1895	P&E Ridge Quarry
P&E 5100	0+00	4+75	1 ½ : 1	15"	81	4.75	385	P&E Ridge Quarry
P&E 6020	0+00	4+75	1 ½ : 1	15"	81	4.75	385	P&E Ridge Quarry
LANDINGS					50	8	400	P&E Ridge Quarry
TURNOUTS					50	2	100	P&E Ridge Quarry
TURNAROUNDS					50	4	200	P&E Ridge Quarry
INTERSECTIONS					50	3	150	P&E Ridge Quarry
CURVE WIDENING							150	P&E Ridge Quarry

SPR BALLAST TOTAL 3,665 Cubic Yards

ROCK LIST (Page 2 of 2)



SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1	2 ½ INCH MINUS			
P&E 5000	0+00	23+40	200 yds ³ SPOT ROCK				Browns Quarry Stockpile	

2 ½ INCH MINUS SURFACE TOTAL 200 Cubic Yards

QUARRY SPALLS

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				
CULVERTS					1	4	4	P&E Ridge Quarry

TOTAL 4 Cubic Yards

CULVERT LIST

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method
		Dia.	Gauge	Culvert	Downspt	Flume	Inlet	Outlet	Type		
P&E 5000	0+15	18"		40'			.5	.5	QS	NT	ZDH
P&E 5000	5+35	18"		30'			.5	.5	QS	NT	ZDH
P&E 5000	9+65	DOR									
P&E 5000	16+70	18"		40'			.5	.5	QS	NT	ZDH
P&E 5000	20+75	18"		40'			.5	.5	QS	NT	ZDH

Key:

- QS - Quarry Spalls
- NT - Native (bank run)
- SL - Select Fill
- ZDH - Zero Drop Height
- DOR - Ditchout Right
- 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)
P&E Mainline	0+00	442+00	Pre-haul Surface		Vibratory Smooth Drum	20000	4	5
P&E 6000	0+00	43+00	Pre-haul Surface		Vibratory Smooth Drum	20000	4	5
P&E 5000	0+00	23+40	Subgrade/Rock	8"	Vibratory Smooth Drum	20000	4	5
P&E 5100	0+00	4+75	Subgrade/Rock	8"	Vibratory Smooth Drum	20000	4	5
P&E 6020	0+00	4+75	Subgrade/Rock	8"	Vibratory Smooth Drum	20000	4	5
Waste Areas and Embankments				24"	Vibratory Smooth Drum	20000	4	5

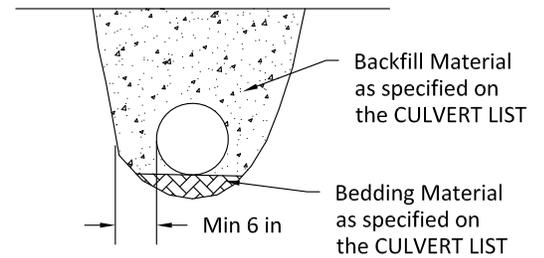
CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 1 OF 2

INSTALLATION REQUIREMENTS:

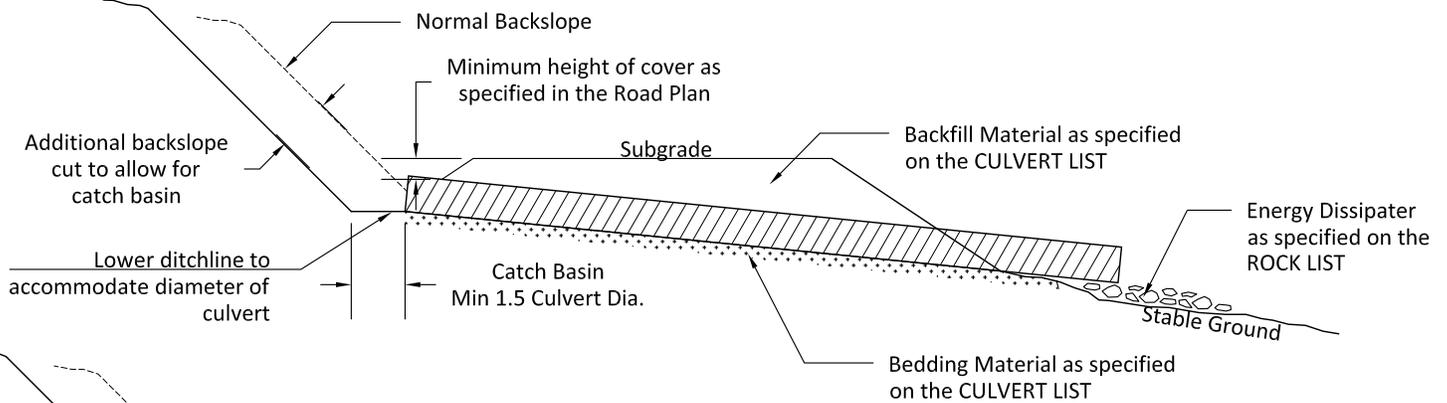
1. Proper preparation of foundation and placement of any required bedding material shall precede the installation of all culverts. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform, dense, unyielding base. The pipe must be uniformly supported along the barrel.
2. Backfill material shall be compacted under the culvert haunches, around the sides, and above the culvert in accordance with the COMPACTION LIST.

ALL DRAWINGS ARE NOT TO SCALE

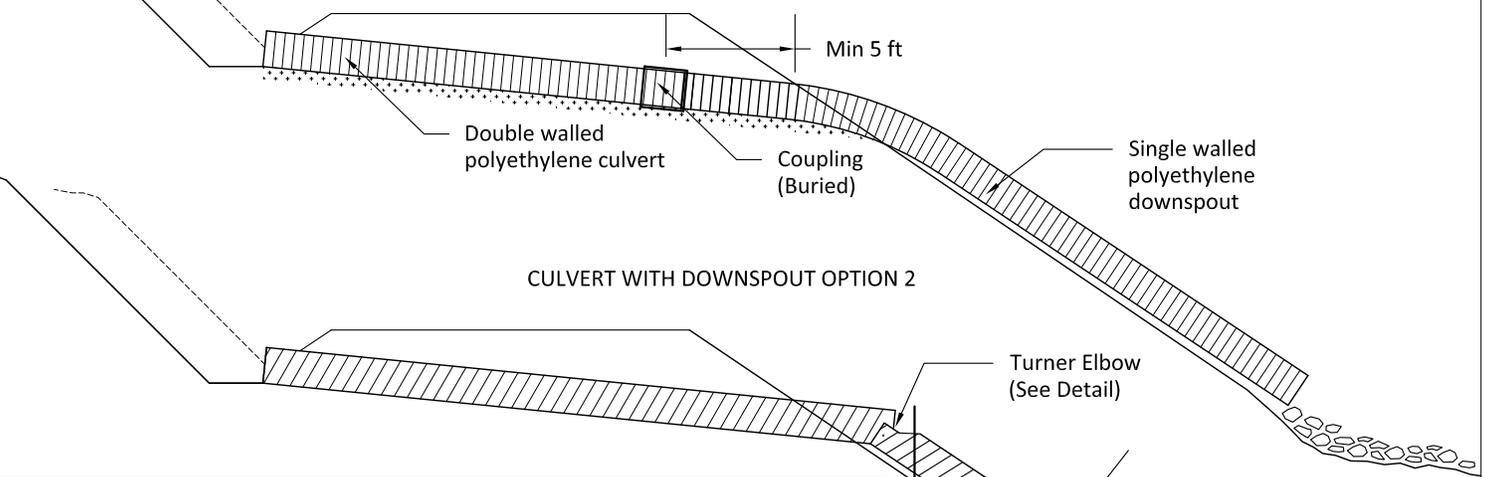
CROSS SECTION



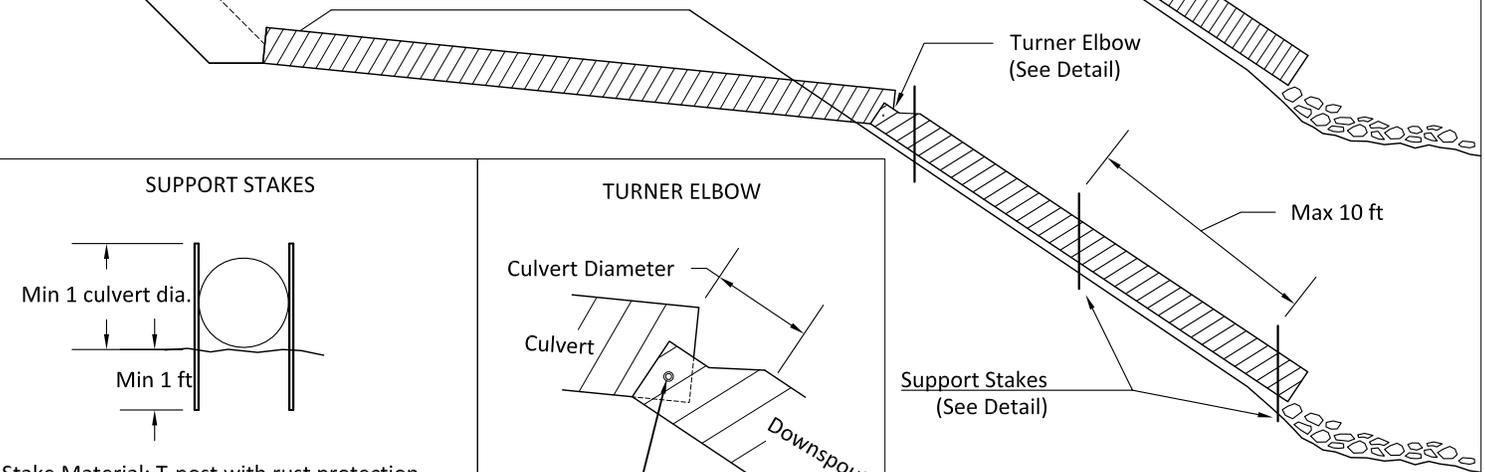
CULVERT PROFILE (TYPICAL)



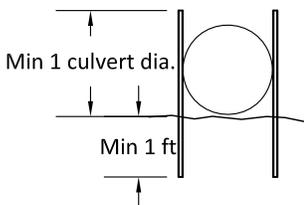
CULVERT WITH DOWNSPOUT OPTION 1



CULVERT WITH DOWNSPOUT OPTION 2

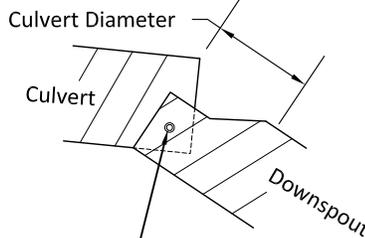


SUPPORT STAKES



Stake Material: T-post with rust protection coating.
Connections: Bolt support stakes to the culvert with $\frac{5}{8}$ " u-bolts, with washers on both the inside and outside of the culvert.
Alternative staking methods may be approved, in writing, by the Contract Administrator.

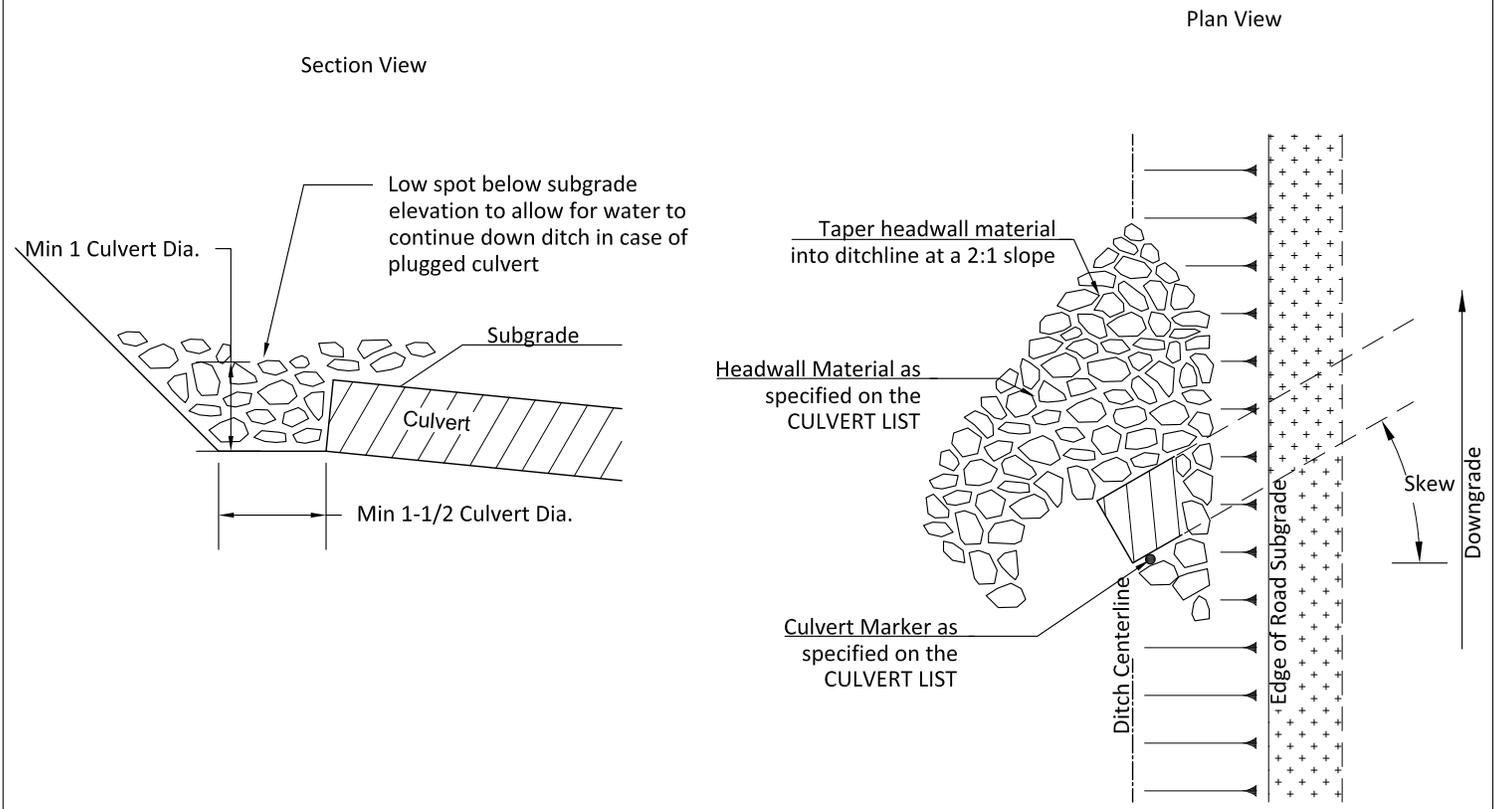
TURNER ELBOW



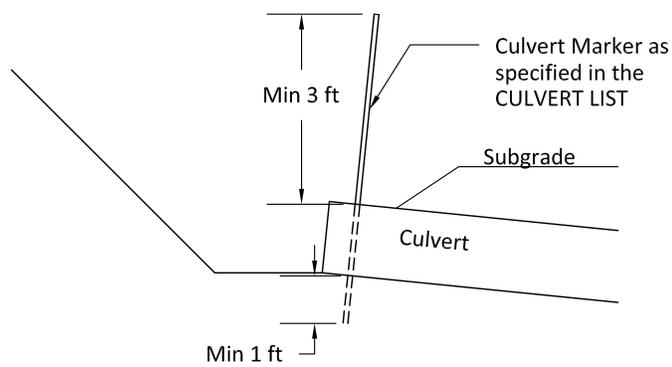
Bolted with $\frac{5}{8}$ " galvanized bolts and washers (both sides)
Downspout must be 6 inches larger in diameter than the culvert.

CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 2 OF 2

HEADWALLS

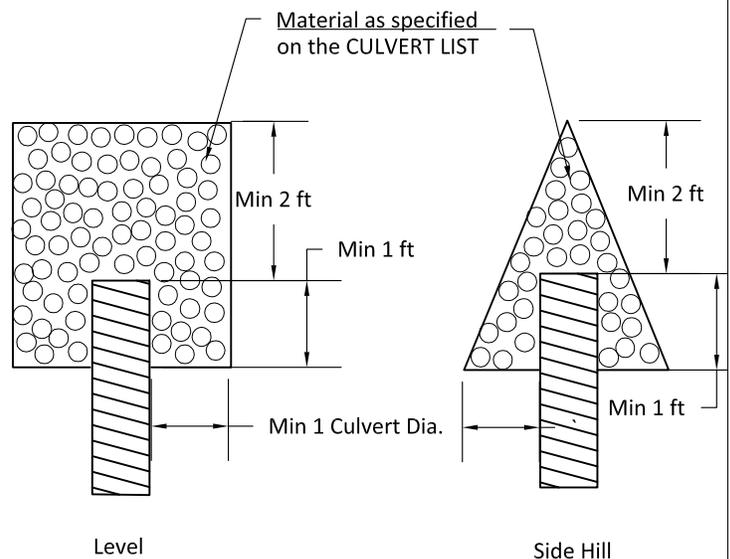


CULVERT MARKERS



Culvert Marker Material: 1 Inch I.D., Schedule 40 PVC Pipe, White. Marker must be capped on the top.
 Culvert Marker Placement: Place on uphill side of culvert, between corrugations if possible.
 Alternative culvert marker types may be approved, in writing, by the Contract Administrator.

ENERGY DISSIPATERS



Min Energy Dissipater Depth: 1 Culvert Dia.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

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

Surface

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

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

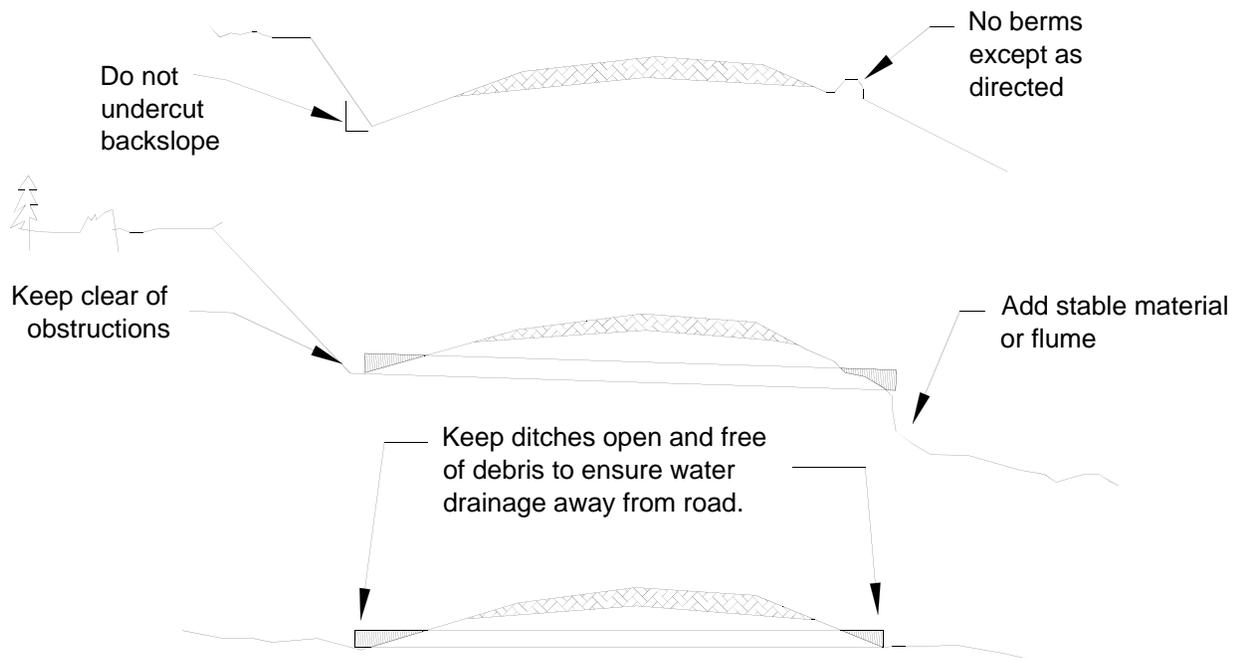
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

P&E RIDGE QUARRY DEVELOPMENT PLAN

SE ¼, SE ¼, Section 24, Township 13 North, Range 07 West, W.M.
(Page 1 of 2)

1. Mining shall take place in Area A.
2. All vegetation including stumps shall be cleared a minimum of 20 feet beyond the edges of all working faces. Trees shall be cleared to a minimum of $\frac{3}{4}$ of the height of the tallest tree adjacent to the pit. The Contractor shall maintain a minimum of 15 foot wide stripped area from the pit face at all times.
3. Overburden shall be end hauled or pushed to the designated waste area and compacted. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts.
4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated waste area.
5. Quarry faces shall not exceed 20 feet in height.
6. Working bench width shall be a minimum of 20 feet.
7. The quarry floor shall have continuity of slope, be left in a smooth and neat condition, providing drainage to the southwest at a minimum of 2 percent.
8. Oversize material remaining in the rock source at the conclusion of use shall not exceed 2 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, oversize material shall be placed as directed by the Contract Administrator.
9. At the end of operations, quarry faces and walls shall be scaled and cleared of loose and overhanging material, benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
10. 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.

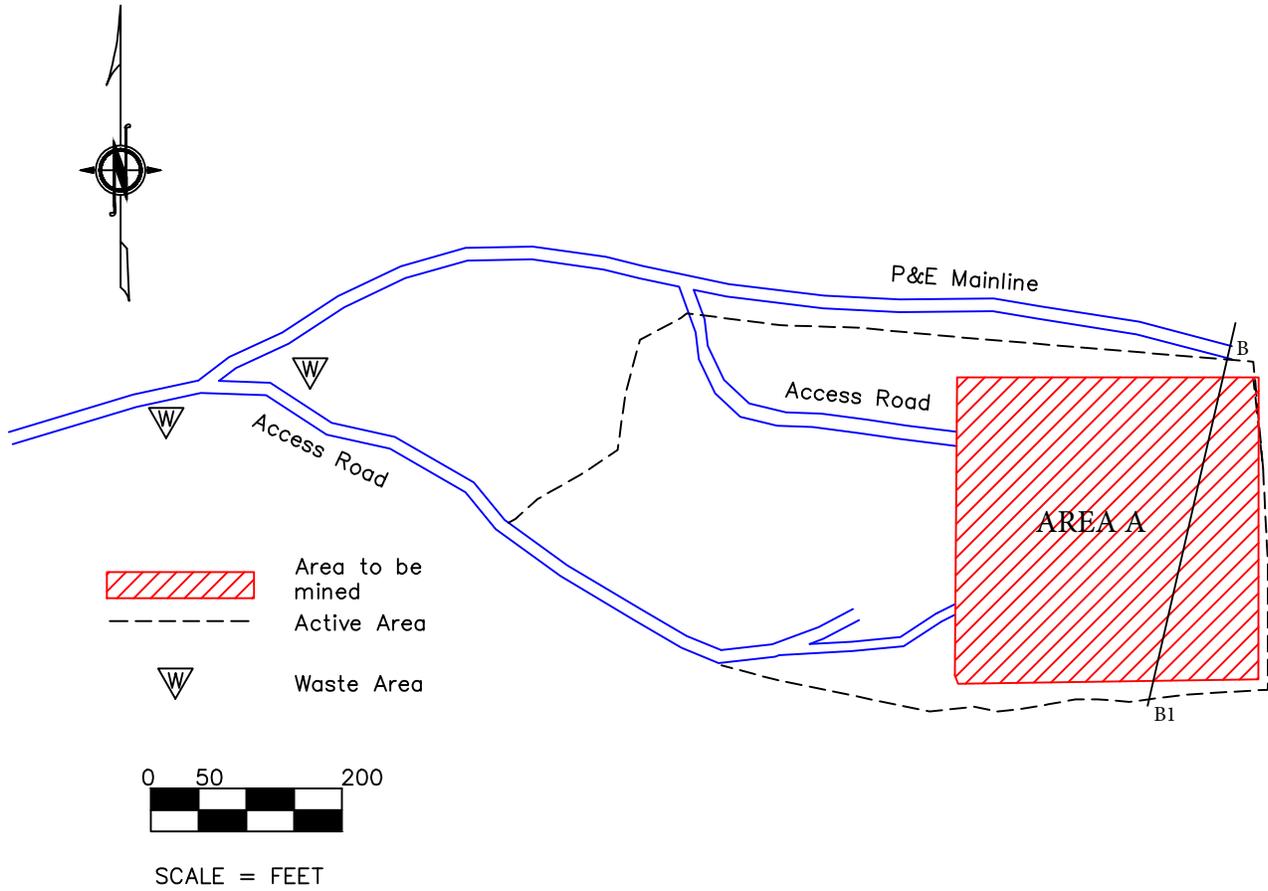
P&E RIDGE QUARRY DEVELOPMENT PLAN

SE ¼, SE ¼, Section 24, Township 13 North, Range 07 West, W.M.
(Page 2 of 2)

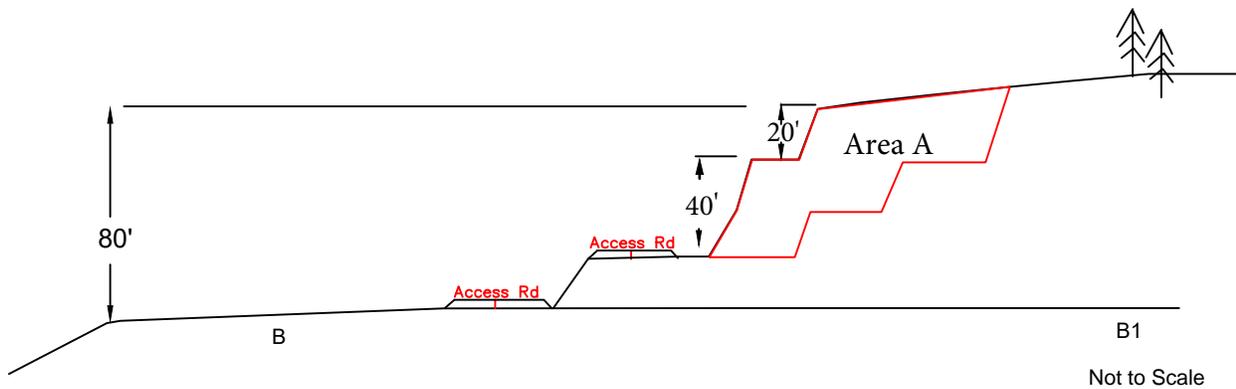
11. At the completion of rock source operations, Purchaser shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.
12. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
13. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, and shall be left in a neat and presentable condition.

Date of update 2/20/2018: CW

P & E RIDGE QUARRY
 SE 1/4 SEC. 24, T13N, R07W, W.M.



CROSS SECTION PROFILE



DEPARTMENT OF NATURAL RESOURCES

SUMMARY - Road Development Costs

REGION: PACIFIC CASCADE

DISTRICT: LEWIS

SALE/PROJECT NAME: University Funds

CONTRACT NUMBER: 30-096855

LEGAL DESCRIPTION: Sec.20 T13R06W

ROAD NUMBER:

Required: P&E Mainline, P&E 6000

Optional: P&E 5000, P&E 5100, P&E 6020

ROAD STANDARD:	Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:	<u>32.90</u>	<u>0.00</u>	<u>485.00</u>
SIDESLOPE:	<u>25%</u>	<u>0%</u>	<u>20%</u>
CLEARING AND GRUBBING:	<u>\$4,335</u>	<u>\$0</u>	
EXCAVATION AND FILL:	<u>\$8,039</u>	<u>\$0</u>	
MISC. MAINTENANCE:	<u>\$360</u>	<u>\$0</u>	<u>\$3,880</u>
ROCK TOTALS:			
Required:	<u>\$52,570</u>	<u>\$0</u>	<u>\$0</u>
Optional:	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Total:	<u>\$52,570</u>	<u>\$0</u>	<u>\$0</u>
CULVERTS AND FLUMES:	<u>\$3,840</u>	<u>\$0</u>	<u>\$0</u>
	<u>\$0</u>	<u>\$0</u>	<u>\$ -</u>
GENERAL EXPENSES:	<u>\$6,223</u>	<u>\$0</u>	<u>\$349</u>
MOBILIZATION:	<u>\$1,993</u>	<u>\$0</u>	<u>\$1,993</u>
TOTAL COSTS:	<u><u>\$77,359</u></u>	<u><u>\$0</u></u>	<u><u>\$6,222</u></u>
COST PER STATION:	<u>\$2,351</u>		<u>\$13</u>

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$0

NOTE: Profit and risk are included
in equipment rates used for this appraisal.

TOTAL (All Roads) =	<u>\$83,580</u>
TOTAL w/o Optional Rock (All Roads) =	<u>\$83,580</u>
SALE VOLUME MBF =	<u>2,200</u>
TOTAL COST PER MBF =	<u>\$37.99</u>
TOTAL COST PER MBF w/o Optional Rock =	<u>\$37.99</u>

Compiled by: Chris Werner

Date: 02/22/18

PACIFIC CASCADE REGION - ROAD COST ESTIMATE - CONSTRUCTION

SALE NAME: University Funds

CONTRACT NUMBER: 30-096855

Road No. 0

Stations: 32.9

Date: 02/22/18

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
P&E 5000	20	30.0	1.20	2.44	\$45	1.00	23.40	\$3,083
P&E 5100	20	30.0	1.20	2.44	\$45	1.00	4.75	\$626
P&E 6020	25	30.0	1.20	2.44	\$45	1.00	4.75	\$626

II * Required Construction

Required Stations= 0.00
 Optional Stations= 32.90
 Total Stations = 32.90

Required Clear and Grub Sub-total= \$ -
 Optional Clear and Grub Sub-total= \$ 4,334.90
 Clear and Grub TOTAL = \$ 4,334.90

Flat Rate -	% Side Slope	Exc. Type	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
P&E 5000	20	1.2	2.00	\$100	1.00	23.40	\$5,616
P&E 5100	20	1.2	2.00	\$100	1.00	4.75	\$1,140
P&E 6020	25	1.2	2.25	\$100	1.00	4.75	\$1,283

IV. CULVERTS AND FLUMES:

*End Haul, Over Haul, Large Fills/Cuts

End Haul/ Over Haul Large Fills/ Cuts	Estimated Vol. (cy)	No. of Equip. Days	Sub Total
			\$0
			\$0

Required Stations= Required Excavation Sub-total= \$ -
 Optional Stations= Optional Excavation Sub-total= \$ 8,038.50
 Excavation TOTAL = \$ 8,038.50

Required							
Description	Qty.	Gauge	Diameter	No/Length	Installed Cost/ft	Sub-total	
CPP	1		18	30	\$25.00	\$750	
	3		18	40	\$25.00	\$3,000	
						\$0	
						\$0	
						\$0	
						\$0	
Bands & Gaskets	3				\$30.00	\$90	
Required Culvert Subtotal =							\$3,840

Optional							
Description	Qty.	Gauge	Diameter	No/Length	Installed Cost/ft	Sub-total	
CPP			18	30	\$18.00	\$0	
						\$0	
						\$0	
						\$0	
						\$0	
						\$0	
Bands & Gaskets						\$0	
Optional Culvert Subtotal =							\$0

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0
					\$0
					\$0

Structure Total = \$0

Required		
Pounds	\$/lb	Sub-total
120	\$3.00	\$360

Optional		
Pounds	\$/lb	Sub-total
	\$3.00	\$0

III. BALLAST AND SURFACING :

Required Rock					
UNIT COSTS	Ballast	Surfacing	Landing	Culvert	Riprap
Drill & Shoot	\$2.25		\$2.25	\$2.25	
Dig and load	\$2.00	\$2.00	\$2.00	\$2.00	
Crushing					
Purchase					
Haul *	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50
Spread	\$1.00	\$1.50	\$1.00	\$1.00	
Compact	\$1.00	\$1.50	\$1.00	\$1.00	
Strip	\$2.00		\$2.00	\$2.00	
Reclamation					
Use tax	\$0.08	\$0.08	\$0.08	\$0.08	\$0.08
TOTAL (\$/cy)	\$13.77	\$10.26	\$13.77	\$12.69	\$4.86

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

Item	Description	Cubic Yards	Ballast	Surfacing	Landing	Culvert	Riprap
Ballast	SPR	2,665	2665 Cu. yds @		\$13.77 /cu. yd =		\$36,697
Surfacing	2" minus	200	200 Cu. yds @		\$10.26 /cu. yd =		\$2,052
Landings	SPR	400	400 Cu. yds @		\$13.77 /cu. yd =		\$5,508
Culverts	Quarry Spalls	4	4 Cu. yds @		\$12.69 /cu. yd =		\$51
TO/TA/INTER/CW	SPR	600	600 Cu. yds @		\$13.77 /cu. yd =		\$8,262
Stockpile		0	0 Cu. yds @		\$10.26 /cu. yd =		\$0
Total Rock=			3,869	Required Rock total =			\$52,570

Optional Rock					
UNIT COSTS	Ballast	Surfacing	Landing	Culvert	Riprap
Drill & Shoot					
Dig and load	\$2.50		\$2.50	\$3.00	
Crushing					
Purchase					
Haul *					
Spread	\$2.00		\$2.00	\$2.00	
Compact	\$1.50		\$1.50	\$1.00	
Strip	\$1.00				
Reclamation					
Use tax					
TOTAL (\$/cy)					

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

Item	Description	Cubic Yards	Ballast	Surfacing	Landing	Culvert	Riprap
Ballast		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0
Surfacing		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0
Landings		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0
Culverts		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0.00
Turn Arounds		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0
Stockpile		0	0 Cu. yds @		\$0.00 /cu. yd =		\$0
Total Rock=			0	Optional Rock total =			\$0

Rock Total= \$52,570

Required Construction= \$ 3,840.00
 Optional Construction= \$ 12,733.40
 Required Rock= \$52,570
 Optional Rock= \$0

Required Sub-total= \$ 56,409.81
 Optiona Sub-total= \$ 12,733.40
 Sub-TOTAL = \$69,143

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$6,223

VII. MOBILIZATION:

Total Mobilization = \$3,985 Mobilization sub-total = \$1,992.50

SHEET TOTAL = \$77,359

SALE NAME: University Funds

CONTRACT NUMBER: 30-096855

Total stations Pre-Haul Maintenance = 485.00

I. MISC. MAINTENANCE ITEMS:

	Cost/ Station	Total Stations	Sub Total
mechanical brushing (\$/sta) =	25.00		\$0
hand brushing =			\$0
ditch cleaning (\$/sta) =	55.00		\$0
Sediment Traps (ea.) =	60.00		\$0
grading (\$/sta) =	6.00	485.00	\$2,910
compacting (\$/sta) =	2.00	485.00	\$970

Misc TOTAL = \$3,880

III. BALLAST AND SURFACING :

Ballast source:
 Surface source:
 Riprap source :

Description	cu.yds/sta x stations =	cubic yards
Ballast (4" Jaw Run)	0	0
Surfacing (2 1/2"-)	0	0
Stockpile (2 1/2"-)		

UNIT COSTS	Ballast	Surfacing	Quarry Spalls
Drill & Shoot		\$2.25	\$2.25
Dig and load		\$1.50	\$1.50
Crushing		\$4.50	\$4.50
Purchase			
Haul *		\$5.68	
Spread		\$1.50	\$1.50
Compact		\$1.00	
Strip			
Reclamation			
Use tax	\$0.08	\$0.08	\$0.08
TOTAL (\$/cy)	\$0.00	\$17.74	\$10.53

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

R.T. Miles =	7.0
Ave. Speed =	19
Delay (Hrs.)=	0.2
Cost / Hour =	\$100.00
CY / Load =	10

Ballast (4" Jaw Run)	Cu. yds @	\$0.00 /cu. yd =	\$0
Surfacing (2 1/2"-)	Cu. yds @	\$17.74 /cu. yd =	\$0
Quarry Spalls	Cu. yds @	\$10.53 /cu. yd =	\$0

Rock total = \$0

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter (in.)	No/Length (ft)	Installed Cost/ft	Sub-total
CPP			18	30	\$20.00	\$0
						\$0
						\$0
						\$0
						\$0
Bands & Gaskets						\$0

Culvert total = \$0

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0
					\$0
					\$0

Sub-TOTAL = \$3,880

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$349

VII. MOBILIZATION:

Total Mobilization = \$3,985 Mobilization sub-total = \$1,992.50

Road No. 0
 Standard: Pre-haul maintenance
 Stations: 485.00
 By: Chris Werner

SHEET TOTAL = \$6,222

VII. MOBILIZATION:	Description	\$ per Move	# of Moves	Sub-total
	Dump Trucks	100	3	\$300
* Move in costs are averaged over all three sheets.	Grader	160	1	\$160
	Compactor	450	1	\$450
	Excavator	450	2	\$900
	Dozer (D8)	450	1	\$450
	Front end loader	450	1	\$450
	Rock crusher	\$4,000		\$0
	Drill	\$1,000	1	\$1,000
	Dozer (D5)	\$275	1	\$275
	Construction Mobilization sub-total =		\$1,992.50	
	Reconstruction Mobilization sub-total =			
	Pre-haul Mobilization sub-total =		\$1,992.50	
	Total Mobilization =			<u>\$3,985</u>

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

New Abandonment: **linear feet**
Abandonment of roads constructed or reconstructed under the contract

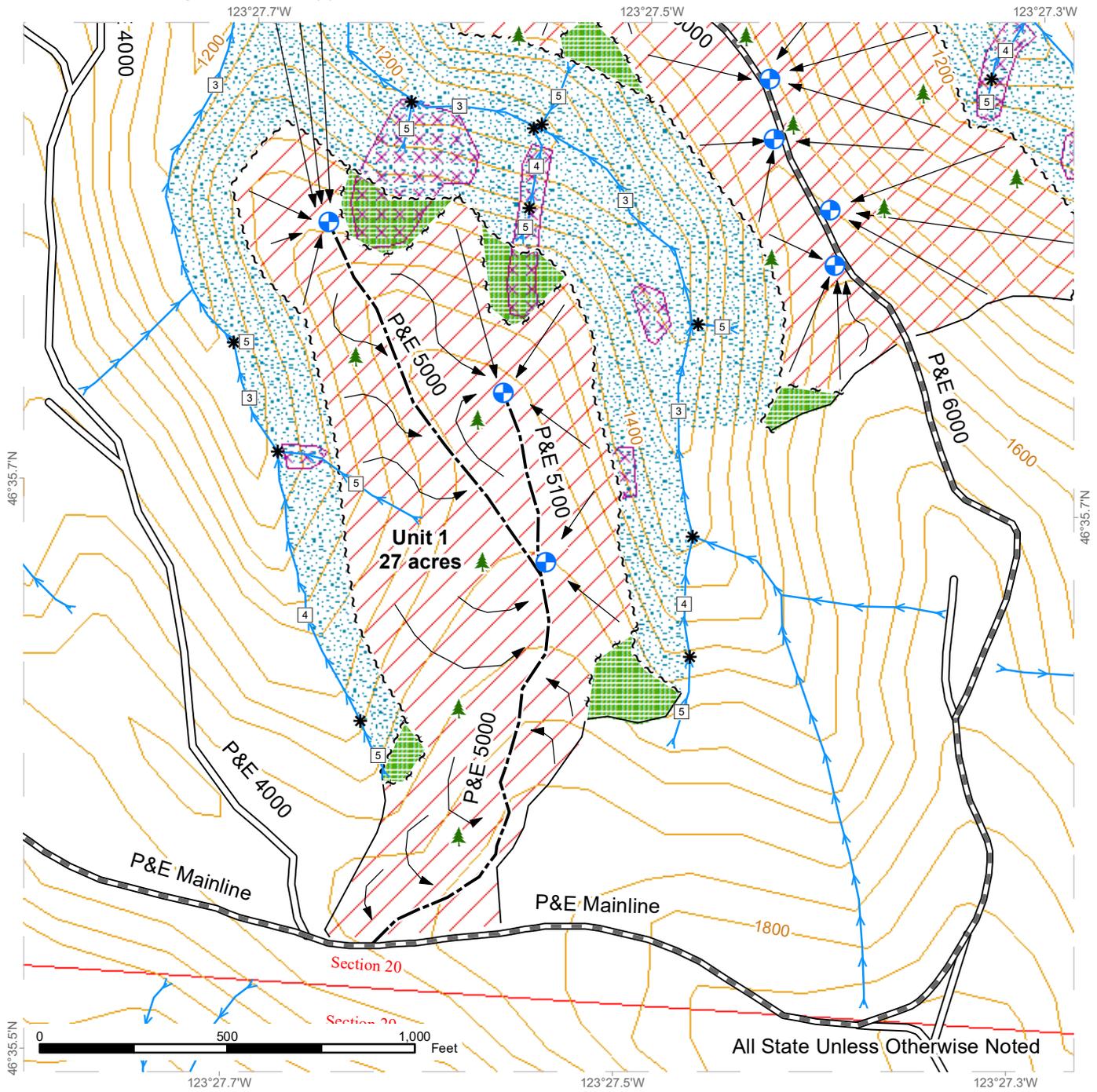
All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact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

(Revised 6/13)

LOGGING PLAN MAP

SALE NAME: UNIVERSITY FUNDS
 AGREEMENT#: None
 TOWNSHIP(S): T13R6W
 TRUST(S): Agricultural School (4)

REGION: Pacific Cascade Region
 COUNTY(S): Pacific
 ELEVATION RGE: 1120-1735



All State Unless Otherwise Noted

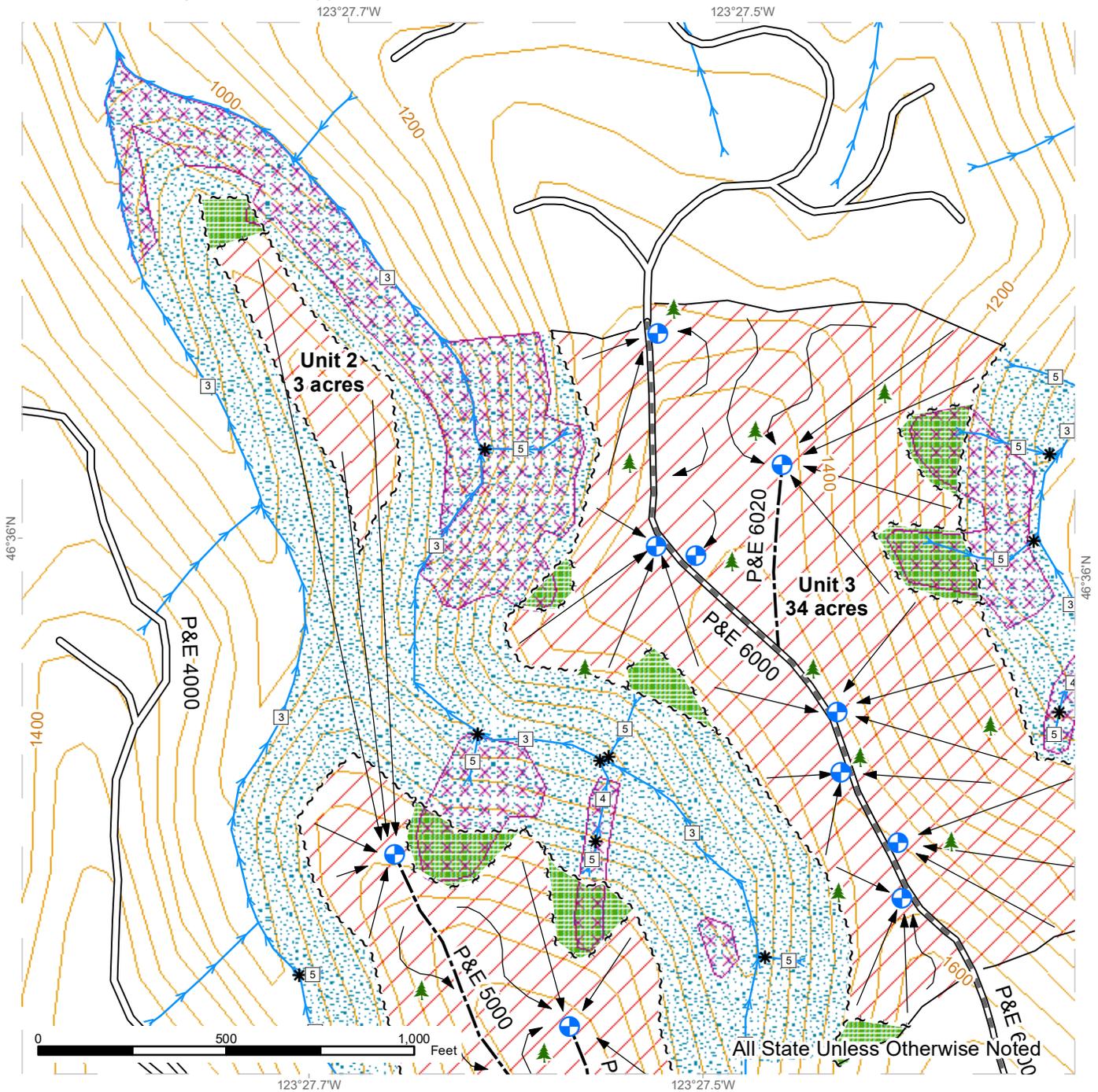
Potentially Unstable Slopes	Sale Boundary Tags	Streams
Leave Tree Area	Timber Type Change	Stream Type
Riparian Mgt Zone	Leave Tree Tags	Stream Type Break
Ground Harvest	Existing Roads	
Cable Harvest	Required Pre-Haul Maintenance	
	Optional Construction	



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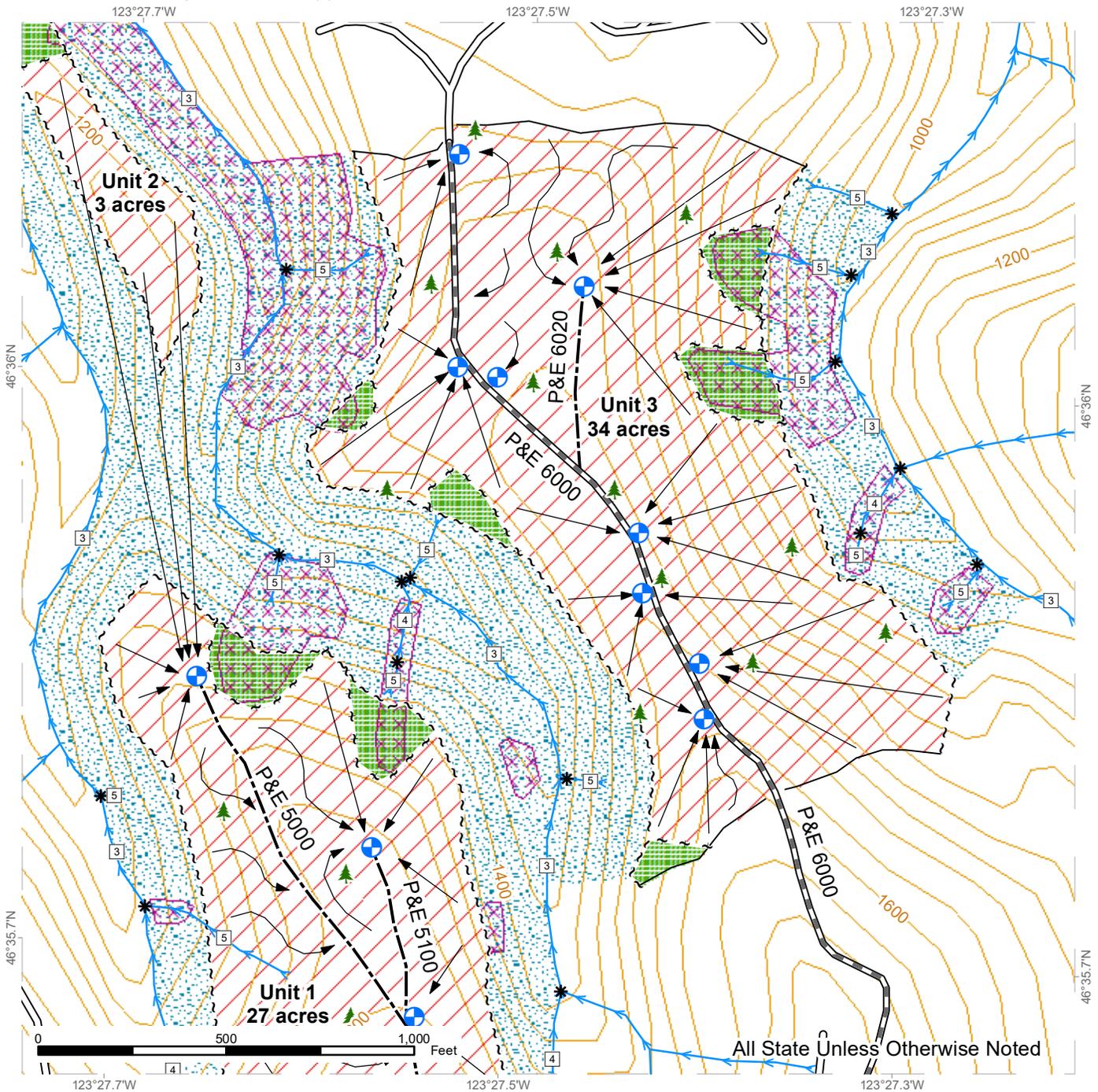
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All State Unless Otherwise Noted

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