

Washington DNR Timber Sales Program

Updated information is being provided for **Dean Creek Divide** timber sale documents as follows:

Documents amended:

Brief Description	DATE	Initials
Road cost sheets in Road Plan updated with correct amounts	3/3/2020	KP



TIMBER NOTICE OF SALE

SALE NAME: DEAN CREEK DIVIDE VRH

AGREEMENT NO: 30-99250

AUCTION: March 25, 2020 starting at 10:00 a.m., Olympic Region Office, Forks, WA

COUNTY: Clallam

SALE LOCATION: Sale located approximately 9 miles south of Sequim

PRODUCTS SOLD AND SALE AREA:

All timber except trees marked with a ring of blue paint, bounded out by Leave Tree Area tags, downed red cedar, or timber that has been on the ground for five years or more (five years is defined by more than 1.5 inches of sap rot); bounded by Timber Sale Boundary tags, the PT-J-1600 road, and a distinct timber type change in Units 1 and 2; bounded by Timber Sale Boundary tags and the PT-J-1800 road in Unit 3. Located on part(s) of Sections 15 and 21 all in Township 29 North, Range 3 West, W.M., containing 100 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 cedar, Grand fir, Red alder, and Sale Total.

MINIMUM BID: \$894,000.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY:

\$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2022

ALLOCATION: Export Restricted

BID DEPOSIT: \$89,400.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: 52% ground based with seasonal skidder restrictions, 24% seasonal shovel, 20% cable with hand-felling/feller buncher, 4% shovel swing yarding to cable corridors.

Falling and Yarding are prohibited between 8:00 p.m. and 6:00 a.m., and on weekends and State recognized holidays in Units 1 and 2.

Yarding is prohibited from December 1st to March 31st in Seasonal Shovel and Shovel Swing Yarding areas of all units as shown on the Logging Plan Maps. Only shovel logging is allowed in these areas from April 1st to November 30th.



TIMBER NOTICE OF SALE

The use of tracked skidders and rubber-tired skidders is restricted from November 1st to May 31st in the Shovel/Seasonal Skidder areas of all units, as shown on the Logging Plan Maps. Only shovel yarding is allowed in these areas during this period.

The use of feller bunchers is not allowed in areas with slopes exceeding 40 percent in all units.

For more information, see Logging Plan Maps and Clauses H-010 and H-120.

ROADS:

38.70 stations of optional construction. 67.00 stations of required prehaul maintenance. 54.00 stations of optional prehaul maintenance.

Road construction is prohibited from November 1st to April 30th and on weekends and State recognized holidays in all units.

Timber hauling is prohibited between 8:00 p.m. and 6:00 a.m., and on weekends and State recognized holidays in Units 1 and 2.

Rock hauling is prohibited between November 1st and April 30th and on weekends and State recognized holidays, and between 8:00 p.m. and 6:00 a.m in all units.

ACREAGE DETERMINATION

CRUISE METHOD: Sale acreage was 100% GPS'd. Sale units were cruised using a variable plot sample.

FEES: \$48,008.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: There are locked gates on the PT-J-1600 and the PT-J-1800 roads. The PT-J-1600 gate is private, contact the Timber Sales office at 360-374-2800 for information. To obtain an AA-1 key for the PT-J-1800 road, please contact the Olympic Region Dispatch Center at 360-374-2811.

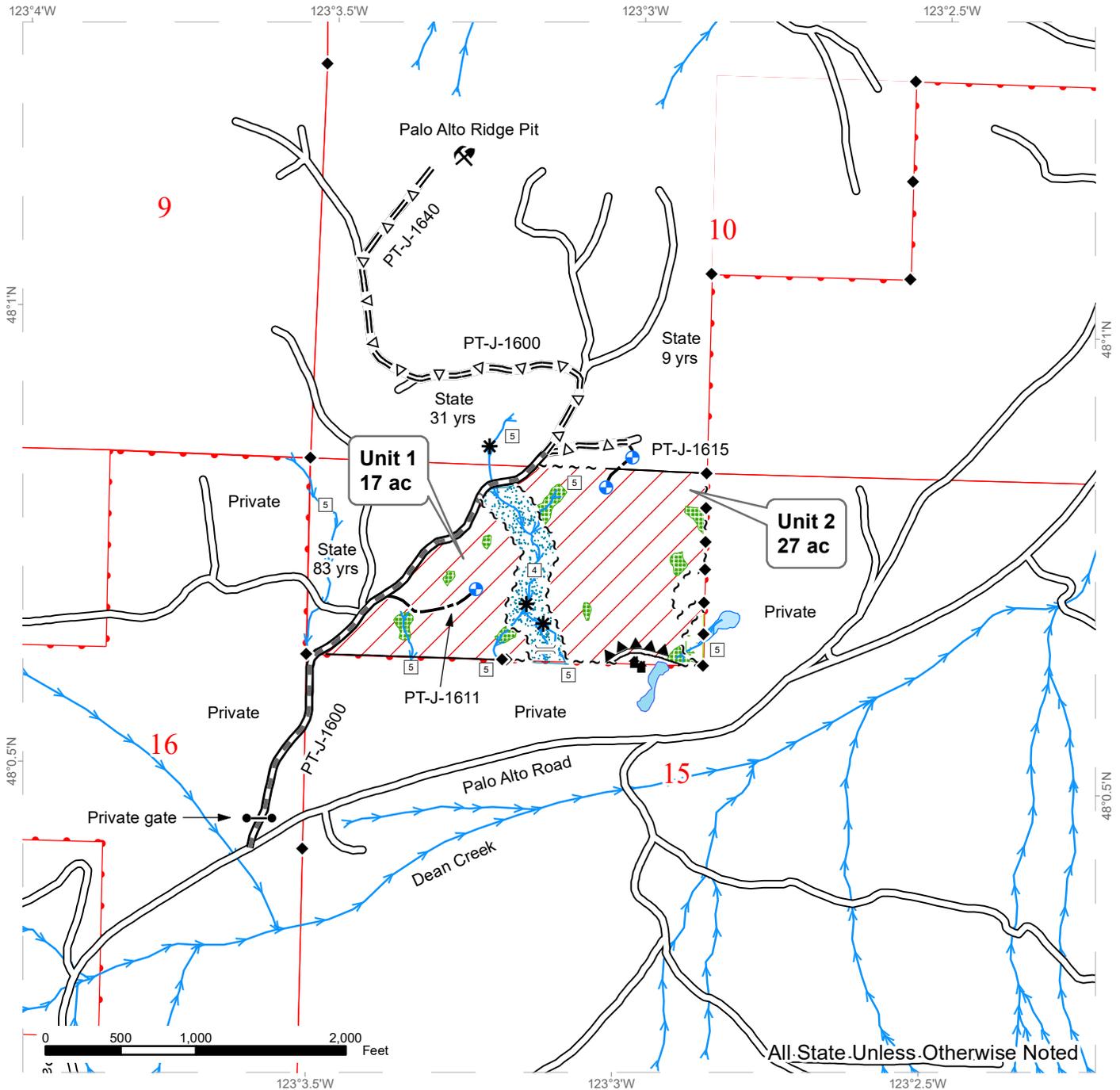
There are hazard abatement requirements in Unit 2.

Approximately 711 MBF of the Douglas fir is High Quality.

TIMBER SALE MAP

SALE NAME: DEAN CREEK DIVIDE
AGREEMENT #: 30-099250
TOWNSHIP(S): T29R3W
TRUST(S): Capitol Grant (7)

REGION: Olympic Region
COUNTY(S): Clallam
ELEVATION RGE: 1244-1875



All State Unless Otherwise Noted

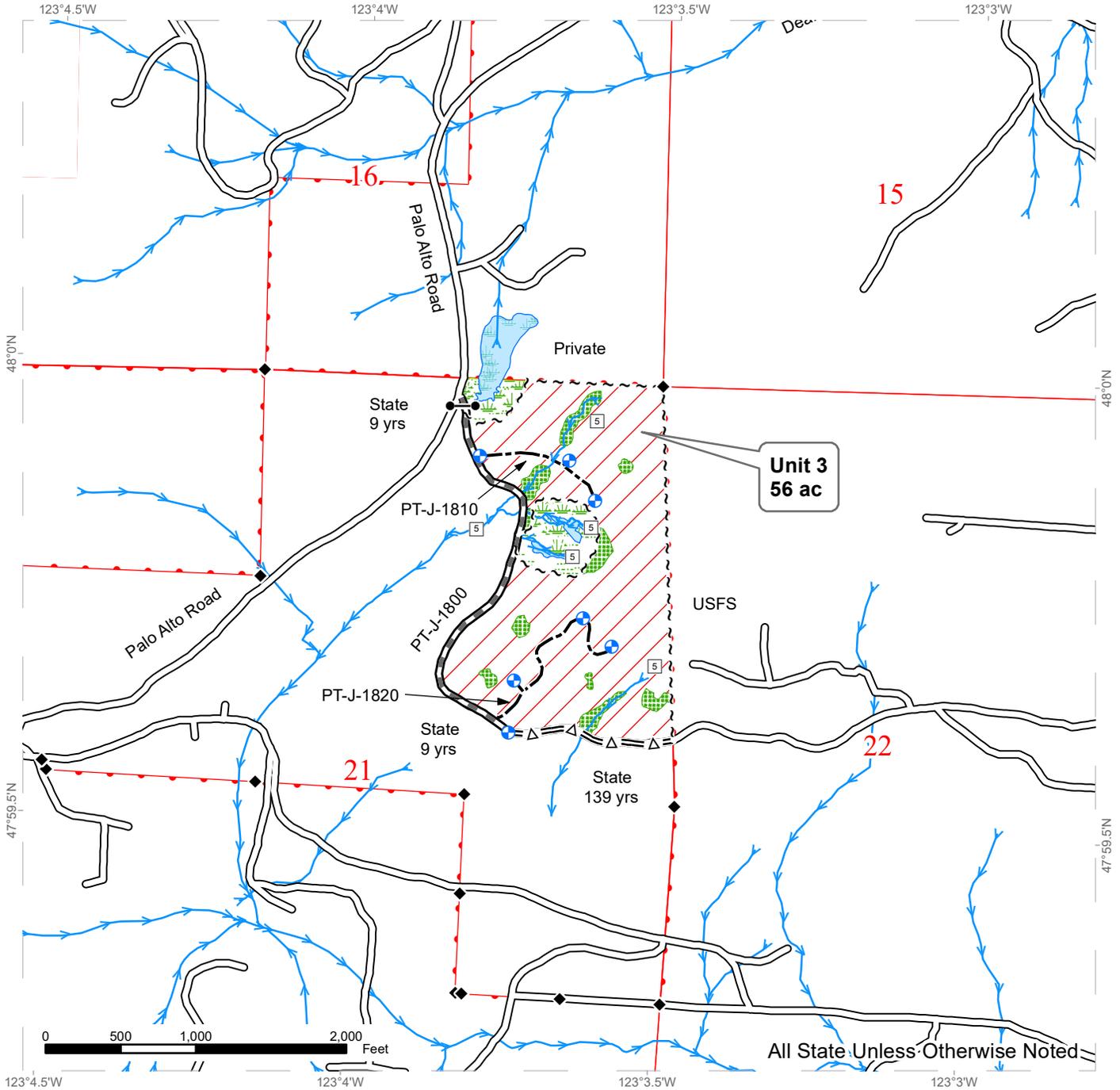
Sale Area (VRH)	DNR-Managed Lands	Existing Roads	Stream Type
Leave Tree Area	PLSS Sections	Required Pre-Haul Maintenance	Proposed Landing
Wetland	Hazard Abatement	Optional Pre-Haul Maintenance	Survey Monument
Wetland Mgt Zone	Timber Sale Boundary	Optional Construction	Gate
Riparian Mgt Zone	Timber Type Change	Designated Crossing	Structure
Open Water (Pond)	Stream	Water Type Break	Rock Pit



TIMBER SALE MAP

SALE NAME: DEAN CREEK DIVIDE
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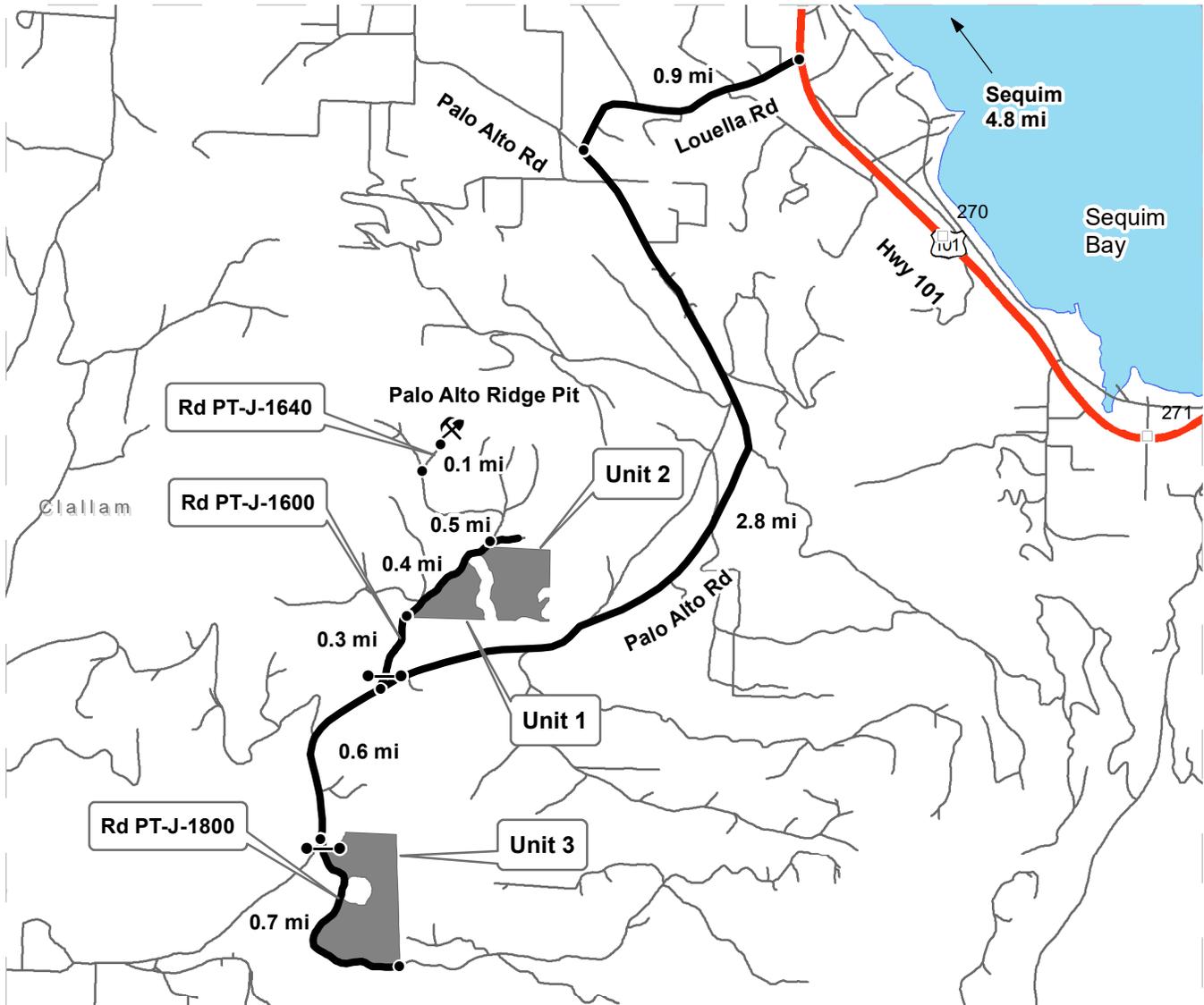


	Sale Area (VRH)		DNR-Managed Lands		Existing Roads		Stream Type
	Leave Tree Area		PLSS Sections		Required Pre-Haul Maintenance		Proposed Landing
	Wetland		Hazard Abatement		Optional Pre-Haul Maintenance		Survey Monument
	Wetland Mgt Zone		Timber Sale Boundary		Optional Construction		Gate (AA-1)
	Riparian Mgt Zone		Timber Type Change		Designated Crossing		Structure
	Open Water (Pond)		Stream		Water Type Break		Rock Pit

DRIVING MAP

SALE NAME: DEAN CREEK DIVIDE
 AGREEMENT#: 30-099250
 TOWNSHIP(S): T29R3W
 TRUST(S): Capitol Grant (7)

REGION: Olympic Region
 COUNTY(S): Clallam
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DRIVING DIRECTIONS:

Units 1-2:

From Highway 101, opposite Sequim Bay State Park (4.8 miles from Sequim City Center), turn west onto Louella Rd and drive 0.9 mile to the junction with Palo Alto Rd. Turn left (SE) onto Palo Alto Rd, and drive 2.8 miles. Turn right (N) onto Rd PT-J-1600, pass through a private gate (contact Timber Sales Office), and drive 0.3 mile to the SW corner of Unit 1. To reach Unit 2, continue another 0.4 mile on Rd PT-J-1600.

Unit 3:

From the junction of Louella Rd and Palo Alto Rd, head SE on Palo Alto Rd and continue 3.4 miles to gated Rd PT-J-1800, on the left (gate requires AA-1 key). The northern section of Unit 3 can be accessed directly from this junction. For direct access to other sections of the unit, pass through the gate and head south and east on Rd PT-J-1800.

Palo Alto Ridge Rock Pit:

Follow Rd PT-J-1600 1.2 miles from its junction with Palo Alto Rd, then turn right onto Rd PT-J-1640 and drive 0.1 mile.

-  Timber Sale Unit
-  Open Water
-  Haul Route
-  Other Roads
-  Highway
-  Gate
-  Milepost Markers
-  Distance Indicator
-  Rock Pit

Map may not be to scale



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-099250

SALE NAME: DEAN CREEK DIVIDE VRH

**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 March 25, 2020 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 a ring of blue paint, bounded out by Leave Tree Area tags, downed red cedar, or timber that has been on the ground for five years or more (five years is defined by more than 1.5 inches of sap rot); bounded by Timber Sale Boundary tags, the PT-J-1600 road, and a distinct timber type change in Units 1 and 2; bounded by Timber Sale Boundary tags and the PT-J-1800 road in Unit 3. Located, located on approximately 100 acres on part(s) of Sections 15, and 21 all in Township 29 North, Range 3 West W.M. in Clallam 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 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-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	SLASH PILING SPECIFICATIONS
B	GREEN TREE RETENTION PLAN
C	LOG FILL DETAIL SHEET

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2022.

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.

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

{10} 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.

{10} 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 \$515.00 per acre per annum for the acres on which an operating release has not been issued.
- 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. TE812521-1 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, ITP TE812521-1 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

{10} 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

{10} 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:

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

For each event, Purchaser shall be solely responsible for the initial \$5,000 in repairs. For repairs in excess of \$5,000, the parties shall share equally the portion of costs

between \$5,000 and \$15,000. The State shall be solely responsible for the portion of the cost of repairs that exceed \$15,000.

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at 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 Forks, 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; PT-J-1800, PT-J-1810, PT-J-1820, PT-J-1600, PT-J-1611, PT-J-1615, and the PT-J-1640. 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 PT-J-1800 road or the PT-J-1600 road between Palo Alto Road and the State boundary, 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:

55-001725- Ephraim J. & June I. Berg- 1979
55-001725 Amendment- 1988

55-001726- Lester J. Ellis- 1981

55-002182- Ada F. Youngquist- 1988

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:

DATA MISSING

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 \$73,424.00. The total contract price consists of a \$0.00 contract bid price plus \$73,424.00 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-001 Operations Outside the Sale Boundaries**

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

H-010 Cutting and Yarding Schedule

Yarding will not be permitted from December 1 to March 31 in the Seasonal Shovel areas of Units 1 and 3 and the Shovel Swing yarding area of Unit 2, unless authorized in writing by the Contract Administrator (see Logging Plan Maps). Only shovel yarding is allowed in these areas from April 1st to November 30th.

The use of tracked skidders and rubber-tired skidders will not be permitted from November 1st to May 31st in the Shovel/Seasonal Skidder areas of all units, only shovel yarding is allowed in these areas during this period, unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

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

If the Contract Administrator determines that a reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale 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 18 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-018 Temporary Stream Crossings

A temporary stream crossing is required to access the southern section of Unit 2 for shovel swing yarding to cable corridors.

Purchaser shall comply with the following during the yarding operation:

- a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required, amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.
- b. Location of the temporary stream crossing must be approved by the Contract Administrator.
- c. A temporary stream crossing shall not exceed 20 feet in width, including rub trees.
- d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.
- e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.

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

H-035 Fall Trees Into Sale Area

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

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using only the methods depicted on the Logging Plan Maps and described in Clause H-010. The use of feller-bunchers is not allowed on slopes exceeding 40 percent in all units. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-127 Tailholds on Private Land

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. Purchaser must have utility lines located before beginning operations.
2. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.
3. While felling timber and hauling rock or timber, warning signs must be posted on the PT-J-1600 and PT-J-1800 roads for haul and falling operations.
4. The CB channel used for rock and timber hauling operations shall be posted at the beginning of all haul roads during active haul.
5. Purchaser shall perform abandonment on all skid trails and equipment trails. Abandonment shall consist of re-establishing natural drainage and natural slopes, fluffing compacted soil to an 18 inch depth using shovel grapples, placing stumps and debris back into the trail, and installing water bars as directed by the Contract Administrator.
6. Ground based harvest equipment shall not operate within 30 feet of Type 5 streams, except at designated crossings.

7. Directional falling methods are required. Timber shall be felled away from private structures south of Unit 2 and away from all leave trees and leave tree areas.
8. Crossing of one Type 4 stream and two Type 5 streams in Units 1 and 2 will be allowed. Designated crossings will be limited to only those designated by the State as shown on the Logging Plan Map. Logs shall be placed in the stream channel up to the level of the stream banks with a shovel as per the attached log fill detail in Schedule C. The temporary crossings shall be approved by the Contract Administrator prior to use. Immediately upon completion of yarding, the logs will be removed with a shovel. Water bars will be installed on the trail in and out of the crossings as directed by the Contract Administrator.
9. Timber felled for the designated crossings will remain on site, within the Riparian Management Zone (RMZ).
10. Purchaser shall identify and mark tailhold and guy line trees prior to falling timber.
11. Designated leave trees shall not be used as tailholds or guy line anchors.
12. The Purchaser shall notify all employees and contractors working on this sale that any danger tree, marked or unmarked, may be felled. Any felled marked danger tree shall be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 10/23/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the PT-J-1600, PT-J-1611, PT-J-1615, PT-J-1640, PT-J-1800, PT-J-1810, and PT-J-1820 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used and not covered in Clause C-050 while performing work required under this contract. 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-130 Dust Abatement

Purchaser shall abate dust on the PT-J-1600 road between stations 0+00 and 9+00 from April 1st to November 30th as directed by the Contract Administrator.

C-140 Water Bars

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

Section S: Site Preparation and Protection**S-001 Emergency Response Plan**

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-020 Extreme Hazard Abatement

Purchaser shall provide a written Extreme Hazard Abatement plan that meets the requirements of WAC 332-24 prior to the beginning of logging operations. The plan must be acceptable to the Contract Administrator. The plan will identify how Purchaser will accomplish abatement. Purchaser shall also provide, and keep current, a written timetable for completion of all specified work in the plan. The Contract Administrator's acceptance and approval of Purchaser's hazard abatement plan shall not be construed as any statement or warranty that the hazard abatement plan is adequate for Purchaser's purposes or complies with applicable laws.

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-110 Resource Protection

No equipment may operate within Leave Tree Areas, wetlands, or within 30 feet of streams (except at designated crossings or for culvert installation/maintenance). No timber shall be felled into, across, or yarded through any Leave Tree Area unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream, except at designated crossings.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

{10} 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

{10}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

{10}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

{10}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:

{10}Appropriate Department of Ecology regional office (contact information below).
{10}DNR Contract Administrator

{10}ECY - Northwest Region:

{10}1-425-649-7000

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

{10}ECY - Southwest Region:

{10}1-360-407-6300

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

{10}ECY - Central Region:

{10}1-509-575-2490

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

{10}ECY - Eastern Region:

{10}1-509-329-3400

{10}(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 the units.

DRAFT

DRAFT

DRAFT

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Mona Griswold

Print Name

Olympic 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 _____

Schedule A
SLASH PILING SPECIFICATIONS

The areas shall be piled by creating circular piles of slash and brush conforming to the following specifications:

- A. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 30 feet wide. Piles shall be cone shaped and stable.
- B. Piles shall be free of topsoil, large rotten logs and large stumps. No material larger than 8 inches in diameter shall be piled. Any burnable material shall be well scattered.
- C. Piles shall not be placed on large stumps or logs.
- D. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave trees, and any standing timber; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.
- E. Piling shall be completed using an approved hydraulic shovel and grapples.
- F. Slash and displaced soil shall be removed from swales, irrigation ditches, natural drainage channels, and access roads concurrent with yarding.
- G. Slash generated during cable yarding shall be stacked in dirt free piles and shall not block roads or interfere with functioning of drainage structures, ditches, or stream channels.

Schedule B
GREEN TREE RETENTION PLAN

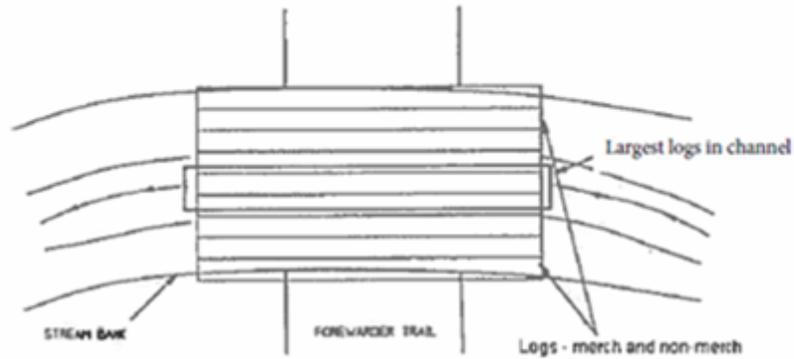
Leave the following:

1. All trees marked with blue paint and all leave tree area clumps shall remain standing. The perimeter of the leave tree clumps are designated by Leave Tree Area Tags. The tags face outward from the leave tree clumps.

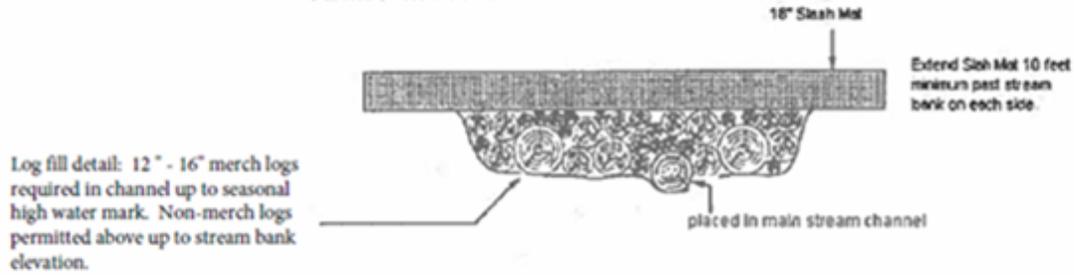
Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	50	4	104	154
2	73	5	169	242
3	144	10	366	510

Designated leave trees are non-exchangeable.

Schedule C
LOG FILL DETAIL SHEET



TEMPORARY FOREWARDER STREAM CROSSING



Installation and removal shall conform to Forest Practices standards and best management practices.

PRE-CRUISE NARRATIVE

Sale Name: Dean Creek Divide	Region: Olympic
Agreement #: 30-099250	District: Straits
Contact Forester: Paul Dunnette Phone / Location: 360-301-2900/Center	County(s): Clallam
Alternate Contact: Mark Benner Phone / Location: 360-374-2800/Center	Other information:

Type of Sale: Lump Sum	
Harvest System: Ground based	76%
Harvest System: Uphill Cable	20%
Enter % of sale acres	
Harvest System: Other(Specify) Swing Yarding / Uphill Cable	4%

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 15/T29N/R3W	07	17.4	0	0.8	0	0	16.6	GPS (Garmin)
2	Sec 15/T29N/R3W	07	29.0	0	1.6	0	0	27.4	GPS (Garmin)
3	Sec 21/T29N/R3W	07	59.8	0	4.1	0	0	55.7	GPS (Garmin)
TOTAL ACRES			106.2	0	6.5	0	0	99.7	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	<p>The Unit 1 prescription is variable retention harvest (VRH).</p> <p>The unit is bounded to the northwest by Road PT-J-1600. The eastern unit boundary is marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint. As of 7/25/19, the property line defining the southern boundary had not been surveyed and therefore had not been marked. This line, currently delineated by a timber type change, will be marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint following the survey.</p> <p>Scattered leave trees are marked with a blue band around the tree at chest height and blue paint at the base. Leave tree clumps are marked with yellow leave tree area tags, pink flashers, pink ribbon, and blue paint.</p>	NA	There are 104 trees in leave tree areas and 50 scattered individual leave trees.
2	<p>The Unit 2 prescription is variable retention harvest (VRH).</p> <p>The unit's western boundary is marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint. The northern boundary is delineated by a timber type change and/or white timber sale boundary tags, pink flashers, pink ribbon, and blue paint. The northwestern corner of the unit is bounded by Road PT-J-1600.</p>	NA	There are 169 trees in leave tree areas and 73 scattered individual leave trees.

	<p>As of 7/25/19, the property line defining the southern and eastern boundaries had not been surveyed. Consequently, the southern boundary and the northern half of the eastern boundary had not been marked. The southern half of the eastern boundary, along a cliff/bluff and a WMZ, is marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint. The remainder of the boundary along these lines will be marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint following the survey.</p> <p>Scattered leave trees are marked with a blue band around the tree at chest height and blue paint at the base. Leave tree clumps are marked with yellow leave tree area tags, pink flashers, pink ribbon, and blue paint.</p>		
3	<p>The Unit 3 prescription is variable retention harvest (VRH).</p> <p>The northern and eastern unit boundaries are marked with white timber sale boundary tags, pink flashers, pink ribbon, and blue paint. The western and southern sides of the unit are bounded by Road PT-J-1800.</p> <p>Scattered leave trees are marked with a blue band around the tree at chest height and blue paint at the base. Leave tree clumps are marked with yellow leave tree area tags, pink flashers, pink ribbon, and blue paint.</p>	NA	There are 366 trees in leave tree areas and 144 scattered individual leave trees.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH, RC, RA 498 MBF	A combination is needed for a private gate on Road PT-J-1600. P. Dunnette will provide information.	Cruise Map
2	DF, WH, RC, RA 822 MBF	A combination is needed for a private gate on Road PT-J-1600. P. Dunnette will provide information.	Cruise Map
3	DF, WH, RC, RA 1782 MBF	The DNR gate on Road PT-J-1800 is opened using the 00-1 key. The unit also can be accessed directly from the junction of Road PT-J-1800 and Palo Alto Road.	Cruise Map
TOTAL MBF	3102		

REMARKS:

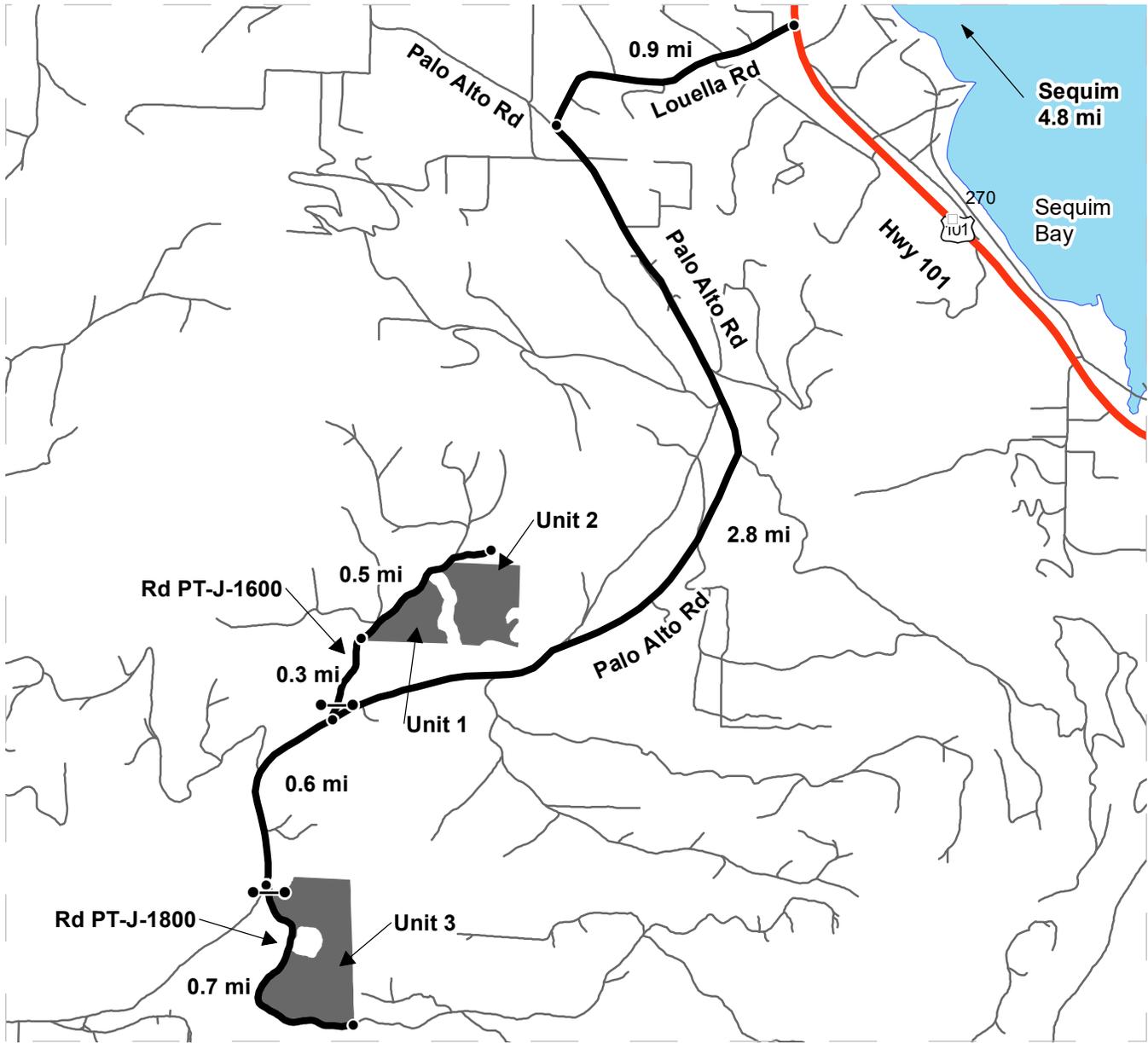
Unit shapefiles (DeanCreek_Unit_1, DeanCreek_Unit_2, DeanCreek_Unit_3) and Avenza PDF maps are available on the shared drive, here: K:\users\pdun490\Dean Creek Divide
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Prepared By: Paul Dunnette Date: 07/15/2019	Title: State Lands Forester	CC:
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DRIVING MAP

SALE NAME: DEAN CREEK DIVIDE
 AGREEMENT#: 30-099250
 TOWNSHIP(S): T29R3W
 TRUST(S): Capitol Grant (7)

REGION: Olympic Region
 COUNTY(S): Clallam
 ELEVATION RGE: 1244-1875



- Gate
- Milepost Markers
- Timber Sale Unit
- Highway
- Haul Route
- Other Roads
- Distance Indicator
- Open Water

Map may not be to scale

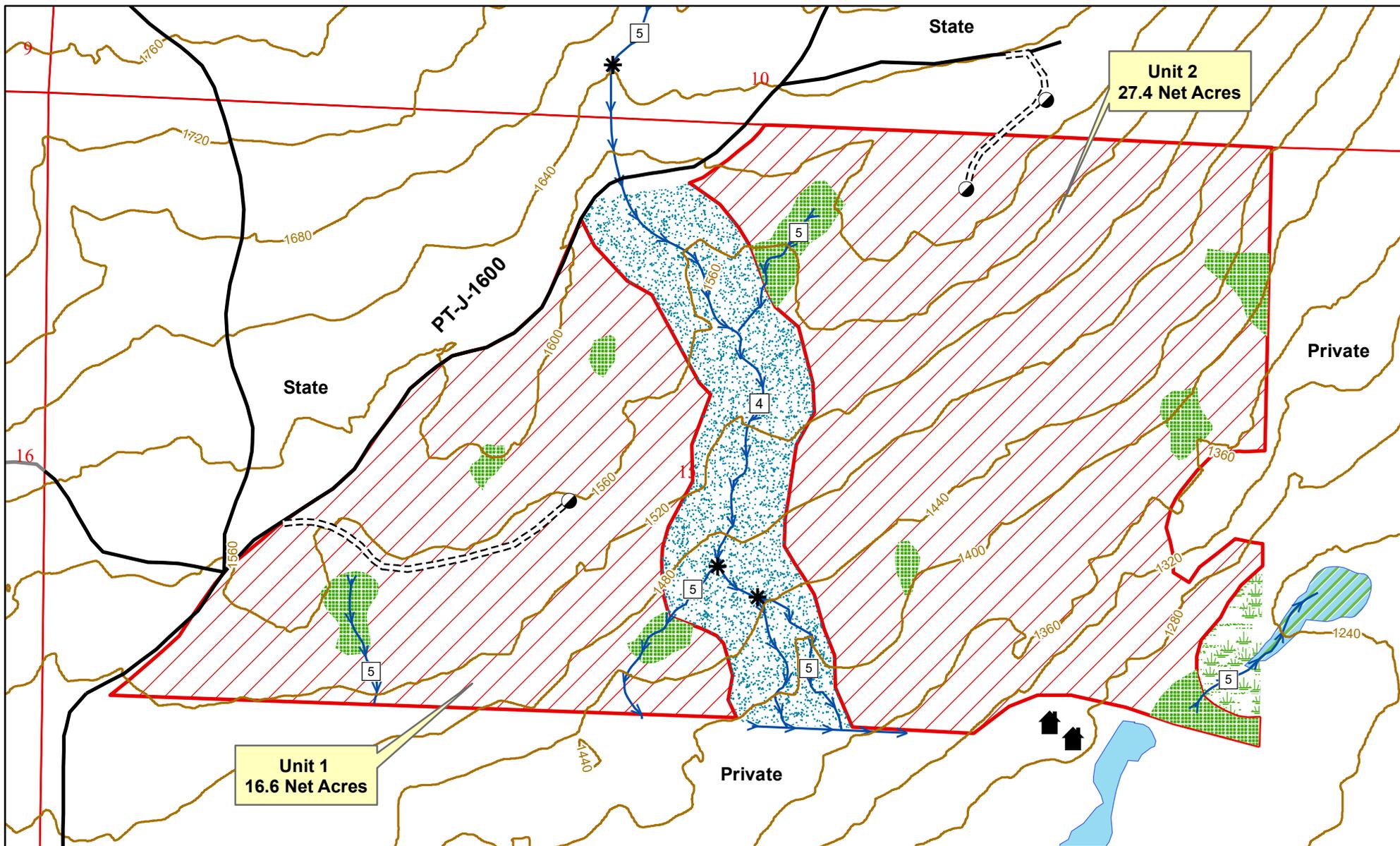
DRIVING DIRECTIONS:

Units 1-2:
 From Highway 101, opposite Sequim Bay State Park (~4.8 miles from Sequim City Center), turn west onto Louella Rd and drive 0.9 mile to the junction with Palo Alto Rd. Turn left (SE) onto Palo Alto Rd, and drive 2.8 miles. Turn right (N) onto Rd PT-J-1600, and, after passing through a private gate (contact pre-sales forester for combination), drive 0.3 mile to the SW corner of Unit 1. To reach Unit 2, continue another 0.4 mile on Rd PT-J-1600.

Unit 3:
 From Highway 101, opposite Sequim Bay State Park, turn west onto Louella Rd and drive 0.9 mi to the junction with Palo Alto Rd. Turn left (SE) onto Palo Alto Rd, and continue 3.4 miles to gated Rd PT-J-1800, on the left (gate requires 00-1 key). The northern section of Unit 3 can be accessed directly from this junction. For direct access to other sections of the unit, pass through the gate and head south on Rd PT-J-1800, which bounds the unit to the west and south (0.7 mile to the east edge of the unit and the state property line).



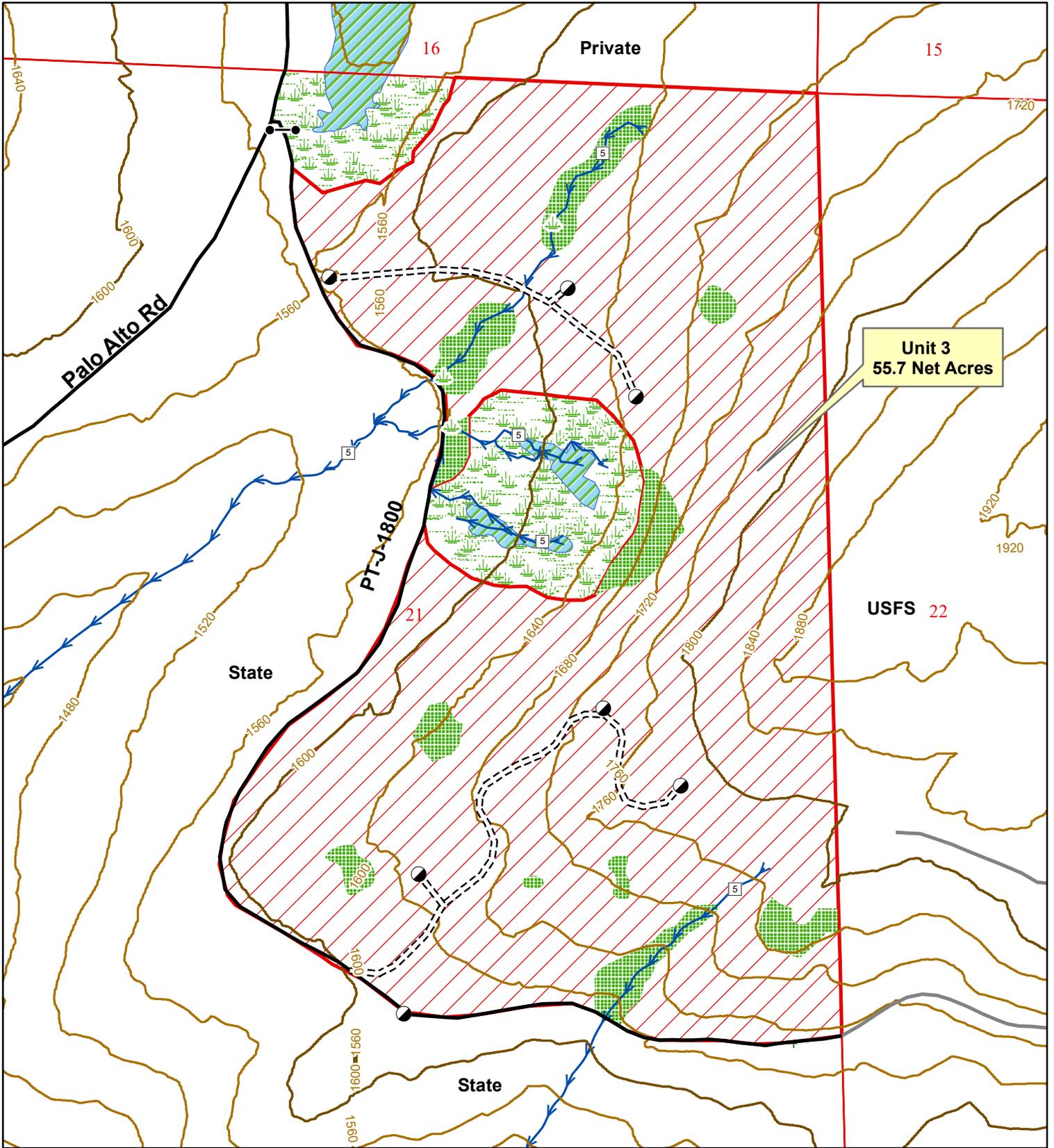
Dean Creek Divide Cruise Map, Units 1 and 2



- Non-DNR Road
- DNR Road - Active
- Landing
- - - New Road Construction
- 🏠 Structure
- ▭ Survey - Section Lines
- ▭ VRH Unit
- ▭ Leave Tree Area
- 🌿 Wetland Mgt Zone
- ▨ Wetland
- 🌊 Stream
- ▨ Riparian Mgt Zone
- Stream Type
- ✱ Stream Type Break
- 🟦 Farm Pond
- 🟡 Contours 40 ft



Dean Creek Divide Cruise Map, Unit 3



- Non-DNR Road
- DNR Road - Active
- Landing
- New Road Construction
- Structure
- Survey - Section Lines
- VRH Unit
- Leave Tree Area
- Wetland Mgt Zone
- Wetland
- Stream
- Riparian Mgt Zone
- Stream Type
- Stream Type Break
- Farm Pond
- Contours 40 ft



N



Cruise Narrative

Sale Name: Dean Creek Divide	Region: Olympic
Agreement #: 30-099250	District: Straits
Lead Cruiser: Kevin Peterson	Completion Date: 8/28/19
Other Cruisers: none	

Unit acreage specifications:

Unit #	Cruised Acres	Cruised acres agree with sale acres? Y/N	If acres do not agree explain why.
1	16.6	Y	
2	27.4	Y	
3	55.7	Y	
Total	99.7	Y	

Unit cruise specifications:

Unit #	Sample Type (VP,FP,ITS,100%)	Expansion Factor (baf,full/half)	Sighting Height (4.5', 16')	Grid Size (plot spacing)	Plot Ratio (cruise/count)	Number of plots
1	VP	54.44/40	4.5'	290 X 290	3:1	8
2	VP	54.44/40	4.5'	290 X 290	1:1	14
3	VP	54.44/40	4.5'	290 X 290	1:1	27

Sale/Cruise Description:

Minor species cruise intensity	Minor species sampled using same cruise plots. Red Cedar and Red Alder were cruised at a 40 BAF				
Minimum cruise spec:	40% of Form Factor at 16 ft. D.O.B or 5 inch top.				
Average ring count:	DF =	8	WH =	8	SS =
Leave/take tree description:	Leave tree clumps are bounded out with yellow tags, pink flashers and blue paint. Individual leave trees are marked with blue bands and two blue butt marks.				
Other conditions:	Exterior boundaries are marked with white tags and pink flashers				

<p>Sort Description:</p>	<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. (minimum diameter 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>
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Field Observations:

Dean Creek Divide is a 3 unit sale located off of Palo Alto Rd. just east of Sequim. The sale is 99.7 acres and has a total volume of 2,825 MBF. Access to units is good and require an OO1 key for unit 3 and a gate code for units 1 and 2. This sale is 76% ground based harvest and 24% cable harvest.

The sale is comprised of 52% Douglas-fir; 48% is of high quality, 34% Western Hemlock and 13% Western Red Cedar, with traces of Grand-fir and Red Alder. The average DF has a DBH of 14.3” and a bole height of 68’. The average WH has a DBH of 12.7” and a bole height of 62’. The average RC has a DBH of 14.4” and a bole height of 53’. Common defects were sweep in the DF and WH and some fire scars and butt rot on the RC.

Some of the smaller RC and DF will be able to manufacture some distribution poles.

Grants: 07

Prepared By: Kevin Peterson – Olympic Region Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
<table border="1"> <tr> <td>T000 R000 S00 TyU1</td> <td>16.60</td> </tr> <tr> <td>T000 R000 S00 TyU2</td> <td>27.40</td> </tr> <tr> <td>T000 R000 S00 TyU3</td> <td>55.70</td> </tr> </table>				T000 R000 S00 TyU1	16.60	T000 R000 S00 TyU2	27.40	T000 R000 S00 TyU3	55.70	Project: DEAN Acres 99.70										Page 1 Date 8/28/2019 Time 7:44:50AM		
T000 R000 S00 TyU1	16.60																					
T000 R000 S00 TyU2	27.40																					
T000 R000 S00 TyU3	55.70																					
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		
									4-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
WH	D	2S		11	2.5	1,124	1,095	109										40	13	243	1.60	4.5
WH	D	3S		62	2.6	6,229	6,069	605	41	59					14	86		38	8	85	0.62	71.8
WH	D	4S		19		1,776	1,776	177	100				13	38	44	6		26	5	27	0.28	66.1
WH	D	UT		8		744	744	74	21	18		61	21		79		14	6	27	0.46	27.5	
WH Totals				34	1.9	9,872	9,684	965	46	38	11	5	4	7	17	72	29	6	57	0.53	169.8	
RC	CU	CU															2	5		0.00	22.1	
RC	D	3S		69	19.9	3,086	2,473	247	34	31	30	5			3	97	36	9	91	0.98	27.2	
RC	D	4S		31	4.5	1,132	1,081	108	98	2			11	15	19	54	29	5	31	0.41	34.5	
RC Totals				13	15.7	4,218	3,554	354	53	22	21	4	3	5	8	84	24	6	42	0.67	83.8	
DF	CU	CU															1	6		0.00	14.9	
DF	HQ	2S		10		1,546	1,546	154			100				100		40	13	245	1.65	6.3	
DF	HQ	3S		15	.8	2,232	2,214	221		100				5	95		39	9	116	0.85	19.1	
DF	HQ	2S		7	2.8	1,090	1,060	106			71	29			100		40	14	284	1.86	3.7	
DF	HQ	3S		16	2.4	2,367	2,309	230		100				5	95		39	9	111	0.85	20.7	
DF	D	2S		3		448	448	45			57	43			100		40	13	255	1.74	1.8	
DF	D	3S		29	3.5	4,484	4,328	431	58	42				19	81		38	7	75	0.62	57.4	
DF	D	4S		17	3.2	2,604	2,520	251	100				6	38	32	24	29	5	30	0.29	83.0	
DF	D	UT		3		414	414	41	23		77		23		77		11	5	12	0.25	33.2	
DF Totals				52	2.3	15,184	14,838	1,479	35	43	17	6	2	6	12	80	29	7	62	0.61	240.2	
GF	CU	CU															8	7		0.00	.3	
GF	D	2S		76		116	116	12			100				100		40	16	400	2.69	.3	
GF	D	3S		24	.0	35	35	3		100					100		40	9	120	0.92	.3	
GF Totals				1		151	151	15		23	77				100		29	11	173	1.64	.9	
RA	D	4S		100	12.5	122	107	11	100				43	57			34	6	35	0.35	3.1	
RA	D	UT															8	5		0.00	1.5	
RA Totals				0	12.5	122	107	11	100				43	57			25	5	23	0.32	4.6	
Totals					4.1	29,547	28,334	2,825	41	38	15	5	3	6	13	78	28	7	57	0.59	499.3	

TC PSTATS			PROJECT STATISTICS					PAGE	1		
			PROJECT		DEAN		DATE	8/28/2019			
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
000	000	00	CREEK	U1		99.70	49	260	S	W	
000	000	00	CREEK	U2							
000	000	00	CREEK	U3							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			49	260	5.3						
CRUISE			26	135	5.2	26,062	.5				
DBH COUNT REFOREST COUNT			23	125	5.4						
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		62	118.4	14.3	68	35.0	132.2	15,184	14,838	4,277	
WHEMLOCK		39	94.4	12.7	62	23.4	83.3	9,872	9,684	2,653	
WR CEDAR		31	45.3	14.4	53	13.5	51.3	4,218	3,554	1,413	
R ALDER		2	3.1	10.0	49	0.5	1.7	122	107	37	
GRAND FI		1	.3	26.0	90	0.2	1.1	151	151	42	
TOTAL		135	261.4	13.8	63	72.7	269.7	29,547	28,334	8,421	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
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		81.4	11.6	105	118	132					
WHEMLOCK		112.8	16.1	79	94	110					
WR CEDAR		107.3	15.3	38	45	52					
R ALDER		700.0	100.0	0	3	6					
GRAND FI		700.0	100.0	0	0	1					
TOTAL		33.5	4.8	249	261	274	45	23	11		
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		71.8	10.3	119	132	146					
WHEMLOCK		99.6	14.2	71	83	95					
WR CEDAR		104.0	14.9	44	51	59					
R ALDER		700.0	100.0	0	2	3					
GRAND FI		700.0	100.0	0	1	2					
TOTAL		23.3	3.3	261	270	279	22	11	5		
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		72.3	10.3	13,305	14,838	16,371					
WHEMLOCK		100.1	14.3	8,299	9,684	11,069					
WR CEDAR		106.3	15.2	3,014	3,554	4,093					
R ALDER		700.0	100.0	0	107	214					
GRAND FI		700.0	100.0	0	151	301					
TOTAL		25.9	3.7	27,284	28,334	29,383	27	14	7		
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				101	112	124					
WHEMLOCK				100	116	133					
WR CEDAR				59	69	80					
R ALDER		700.0	100.0	0	64	128					
GRAND FI		700.0	100.0	0	141	282					
TOTAL		23.6	3.4	101	105	109	22	11	6		

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DEAN		DATE	8/28/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
000	000	00	CREEK	U1	16.60	8	46	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		8	46	5.8						
CRUISE		6	34	5.7	4,426	.8				
DBH COUNT REFOREST COUNT		2	12	6.0						
BLANKS 100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	14	134.5	14.0	66	38.2	142.9	14,933	14,786	4,349	4,349
WHEMLOCK	10	65.3	15.1	67	21.0	81.7	9,720	9,476	2,722	2,722
WR CEDAR	8	48.5	14.4	53	14.5	55.0	4,343	3,647	1,483	1,483
R ALDER	2	18.3	10.0	49	3.2	10.0	733	642	221	221
TOTAL	34	266.6	14.1	63	77.1	289.6	29,728	28,551	8,775	8,775
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
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	62.5	23.6		103	134	166				
WHEMLOCK	83.9	31.7		45	65	86				
WR CEDAR	102.4	38.6		30	49	67				
R ALDER	282.8	106.7			18	38				
TOTAL	26.6	10.0		240	267	293	32	16	8	
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	53.6	20.2		114	143	172				
WHEMLOCK	79.7	30.1		57	82	106				
WR CEDAR	94.7	35.7		35	55	75				
R ALDER	282.8	106.7			10	21				
TOTAL	17.5	6.6		270	290	309	14	7	4	
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	52.3	19.7		11,868	14,786	17,705				
WHEMLOCK	76.7	29.0		6,733	9,476	12,220				
WR CEDAR	96.0	36.2		2,326	3,647	4,968				
R ALDER	282.8	106.7			642	1,327				
TOTAL	19.6	7.4		26,442	28,551	30,661	17	9	4	
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				83	103	124				
WHEMLOCK	57.9	21.8		82	116	150				
WR CEDAR	49.1	18.5		42	66	90				
R ALDER	282.8	106.7			64	133				
TOTAL	99.4	37.5		91	99	106	450	230	113	

T TSPCSTGR		Species, Sort Grade - Board Foot Volumes (Type)										Page 1									
Project: DEAN												Date 8/28/2019									
												Time 7:44:51AM									
T000 R000 S00 TU2										T000 R000 S00 TU2											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
000	000	00	CREEK	U2	27.40	14	41	S	W												
Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
					Net	Def%	Gross		Net	Log Scale Dia.				Log Length				Ln	Dia	Bd	
									4-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	CU	CU															4	7		0.00	3.8
DF	HQ	2S		12		1,755	1,755	48			100					100	40	13	239	1.68	7.3
DF	HQ	3S		15	3.0	2,146	2,081	57		100					19	81	37	9	108	0.86	19.4
DF	HQ	2S		3	8.3	600	550	15			100					100	40	13	220	1.66	2.5
DF	HQ	3S		18	2.5	2,597	2,532	69		100					15	85	38	9	99	0.80	25.5
DF	D	2S		5		705	705	19				100				100	40	16	400	2.40	1.8
DF	D	3S		26	2.3	3,728	3,642	100	82	18					28	72	37	7	64	0.55	56.7
DF	D	4S		20		2,825	2,825	77	100				12	51	14	23	27	5	31	0.28	91.5
DF	D	UT		1		110	110	3	100				100				11	5	3	0.05	37.7
DF	Totals			49	1.8	14,466	14,200	389	42	37	16	5	3	10	15	71	29	7	58	0.57	246.2
WH	D	2S		20		2,128	2,128	58			100					100	40	13	243	1.55	8.8
WH	D	3S		55	4.6	5,919	5,649	155	22	78						100	40	9	111	0.83	51.0
WH	D	4S		14		1,395	1,395	38	100				17	42	28	13	26	5	29	0.33	48.8
WH	D	UT		11		1,065	1,065	29			100					100	40	16	400	2.54	2.7
WH	Totals			35	2.6	10,507	10,236	280	26	43	21	10	2	6	4	88	34	8	92	0.77	111.3
RC	CU	CU															2	6		0.00	32.2
RC	D	3S		79	19.3	3,910	3,155	86	26	22	43	9			4	96	36	9	111	1.20	28.5
RC	D	4S		21	11.9	947	834	23	94	6				14	10	75	33	5	32	0.45	25.8
RC	Totals			14	17.9	4,857	3,989	109	41	18	34	7		3	5	92	22	7	46	0.83	86.5
GF	CU	CU															8	7		0.00	1.1
GF	D	2S		76		422	422	12			100					100	40	16	400	2.69	1.1
GF	D	3S		24	.0	127	127	3		100						100	40	9	120	0.92	1.1
GF	Totals			2		548	548	15		23	77					100	29	11	173	1.64	3.2
Type Totals					4.6	30,378	28,974	794	35	36	20	9	2	7	10	81	29	7	65	0.68	447.1

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DEAN		DATE	8/28/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
000	000	00	CREEK	U2	27.40	14	76	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		14	76	5.4						
CRUISE		7	41	5.9	6,268	.7				
DBH COUNT										
REFOREST										
COUNT		7	35	5.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	22	129.8	13.7	65	35.8	132.2	14,466	14,200	4,091	4,091
WHEMLOCK	9	55.6	16.4	72	20.2	81.7	10,507	10,236	2,919	2,919
WR CEDAR	9	42.3	15.7	53	14.4	57.1	4,857	3,989	1,611	1,611
GRAND FI	1	1.1	26.0	90	0.8	3.9	548	548	152	152
TOTAL	41	228.8	14.8	65	71.4	274.9	30,379	28,974	8,772	8,772
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
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	99.2	27.5		94	130	165				
WHEMLOCK	118.1	32.7		37	56	74				
WR CEDAR	107.8	29.9		30	42	55				
GRAND FI	374.2	103.7			1	2				
TOTAL	44.0	12.2		201	229	257	83	43	21	
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	75.3	20.9		105	132	160				
WHEMLOCK	116.2	32.2		55	82	108				
WR CEDAR	101.7	28.2		41	57	73				
GRAND FI	374.2	103.7			4	8				
TOTAL	20.8	5.8		259	275	291	19	10	5	
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	72.0	20.0		11,365	14,200	17,035				
WHEMLOCK	115.1	31.9		6,970	10,236	13,502				
WR CEDAR	107.2	29.7		2,803	3,989	5,175				
GRAND FI	374.2	103.7			548	1,117				
TOTAL	22.0	6.1		27,206	28,974	30,741	21	11	5	
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	27.4	7.6		86	107	129				
WHEMLOCK				85	125	165				
WR CEDAR				49	70	91				
GRAND FI	374.2	103.7			141	287				
TOTAL	163.9	45.5		99	105	112	1,157	590	289	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DEAN		DATE	8/28/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
000	000	00	CREEK	U3	55.70	27	138	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		27	138	5.1						
CRUISE		13	60	4.6	15,367	.4				
DBH COUNT										
REFOREST										
COUNT		14	78	5.6						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	26	108.0	14.8	70	33.5	129.0	15,612	15,168	4,347	4,347
WHEMLOCK	20	122.1	11.3	59	25.2	84.7	9,605	9,474	2,501	2,501
WR CEDAR	14	45.8	13.8	52	12.8	47.4	3,867	3,312	1,295	1,204
TOTAL	60	275.9	13.2	62	71.9	261.1	29,084	27,954	8,143	8,052
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
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	77.9	15.3		91	108	125				
WHEMLOCK	102.3	20.1		98	122	147				
WR CEDAR	111.6	21.9		36	46	56				
TOTAL	29.5	5.8		260	276	292	36	18	9	
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	77.7	15.3		109	129	149				
WHEMLOCK	99.8	19.6		68	85	101				
WR CEDAR	112.3	22.0		37	47	58				
TOTAL	26.1	5.1		248	261	275	28	14	7	
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	78.7	15.4		12,826	15,168	17,509				
WHEMLOCK	101.3	19.9		7,592	9,474	11,356				
WR CEDAR	112.8	22.1		2,579	3,312	4,045				
TOTAL	29.9	5.9		26,315	27,954	29,593	37	19	9	
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				99	118	136				
WHEMLOCK				90	112	134				
WR CEDAR				54	70	85				
TOTAL	221.1	43.4		101	107	113	2,033	1,037	508	

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

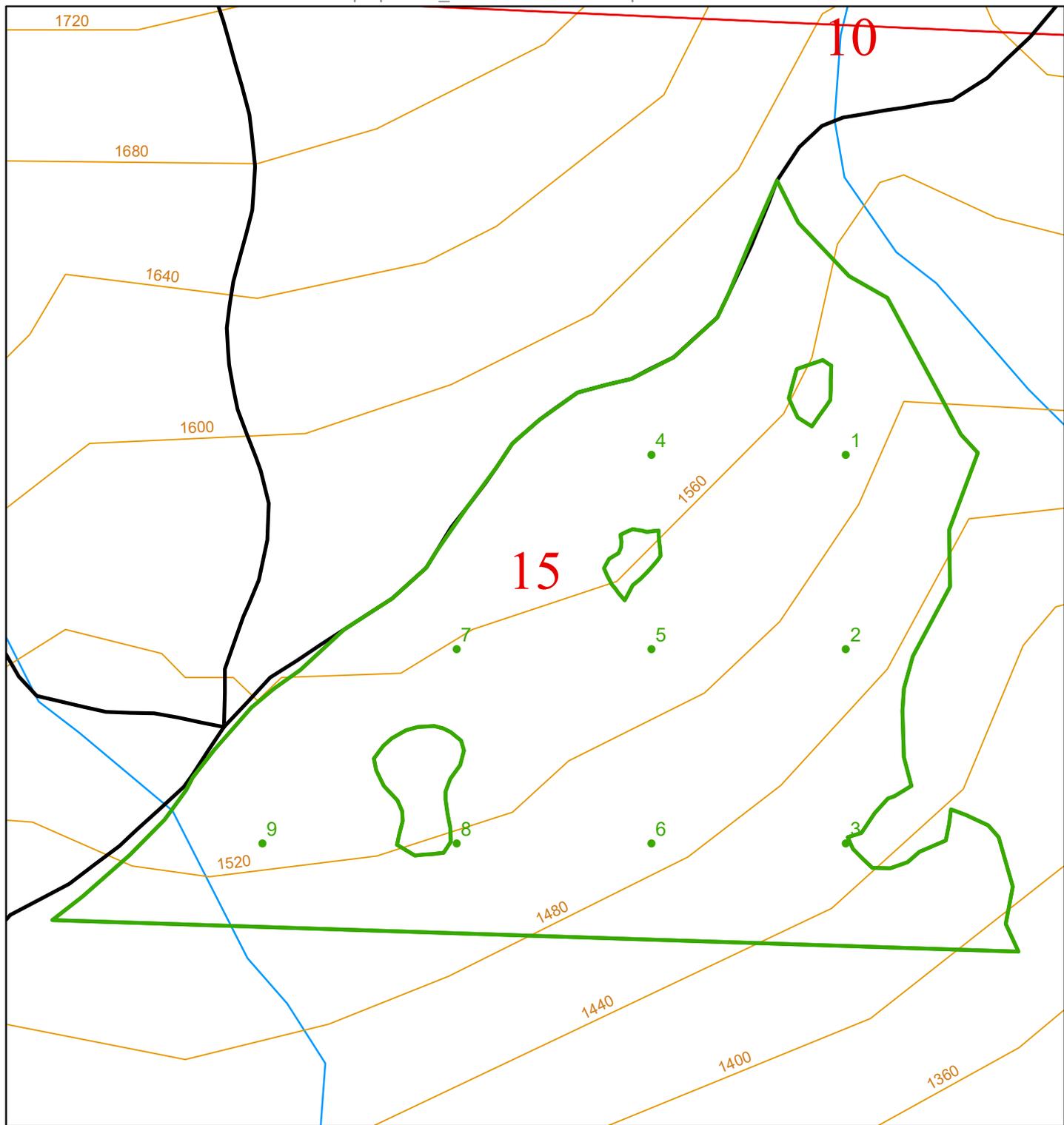
T000 R000 S00 TyU1	16.6
T000 R000 S00 TyU2	27.4
T000 R000 S00 TyU3	55.7

Project DEAN
Acres 99.70

Page No 1
Date: 8/28/2019
Time 7:44:50AM

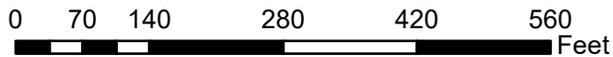
Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	11,804	22,459	12,153	36.12	18.98	0.63	4,264	4,264	1,514	1,479
WHEMLOCK	9,409	16,933	8,463	28.11	15.62	0.52	2,645	2,645	984	965
WR CEDAR	4,515	6,151	3,311	30.08	22.08	0.70	1,409	1,358	421	354
GRAND FI	29	58	100	144.21	72.10	1.80	42	42	15	15
R ALDER	304	457	101	12.04	8.03	0.32	37	37	12	11
Totals	26,062	46,057	24,127	32.02	18.12	0.60	8,396	8,345	2,946	2,825

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	25,757	45,601	24,027	32.26	18.22	0.60	8,359	8,308	2,934	2,814
H	304	457	101	12.04	8.03	0.32	37	37	12	11
Totals	26,062	46,057	24,127	32.02	18.12	0.60	8,396	8,345	2,946	2,825



Cruiser Sample Point Locations

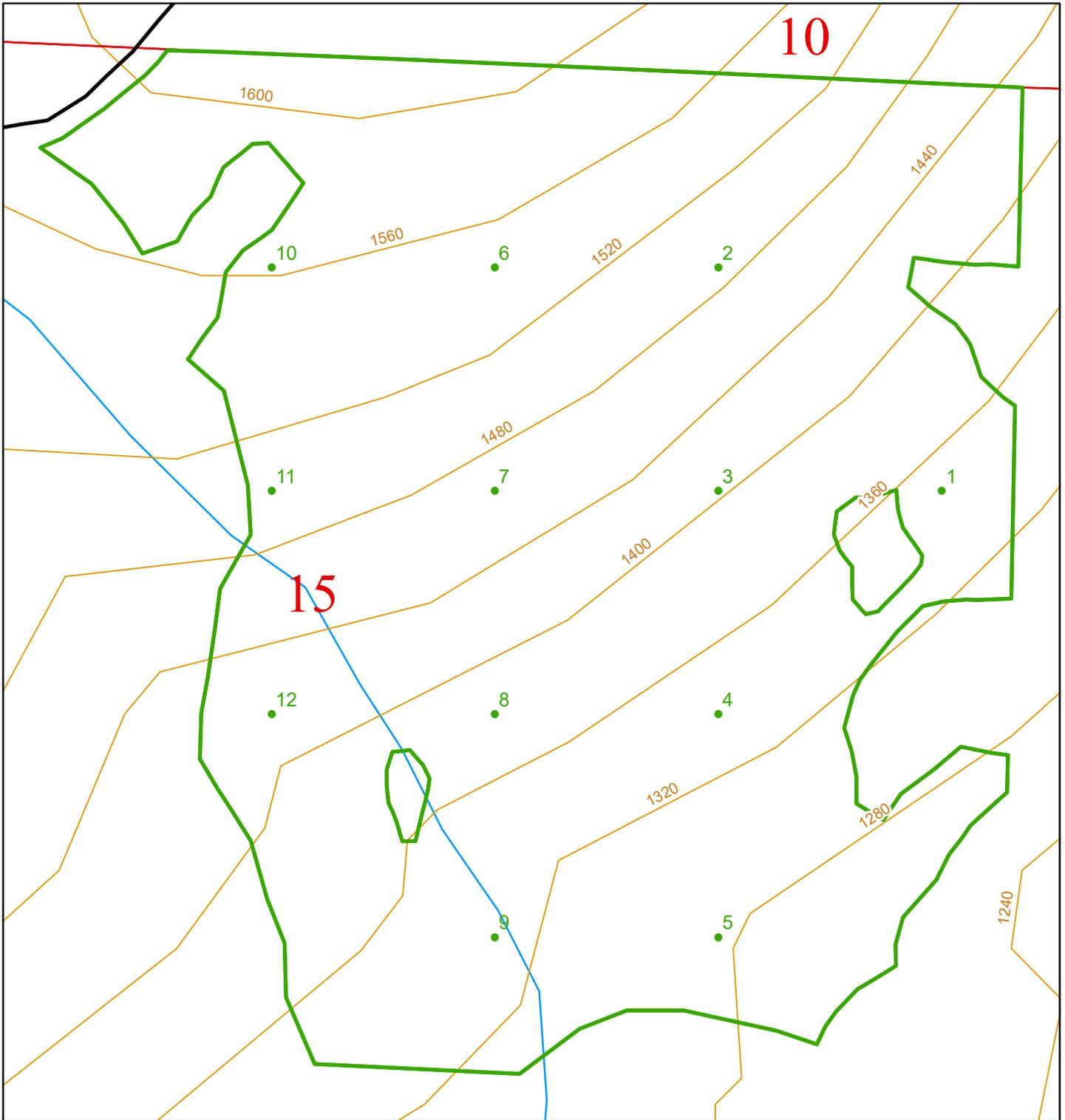
LAYER NAME:	dcd_u1_edit	Township:	T29R03W
POLY ID:	1	Total Sample Points:	9
Acres:	17	Spacing Between Points:	275
		Point Rotation Degrees:	0



Scale 1:2,400

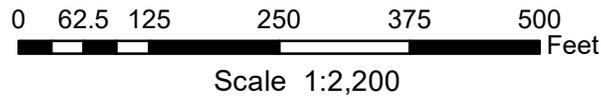
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



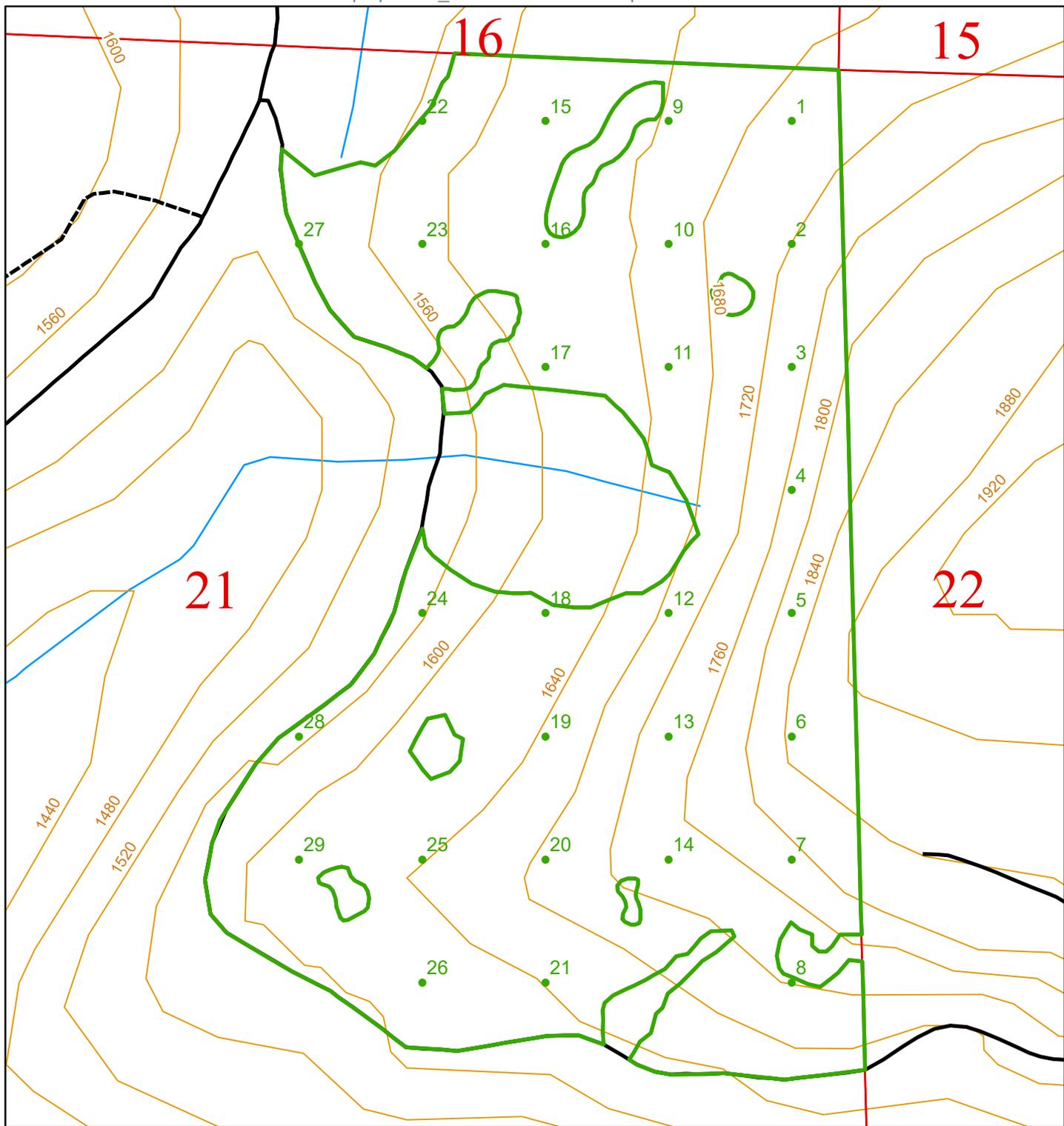
Cruiser Sample Point Locations

LAYER NAME:	dcd_u2_editt	Township:	T29R03W
POLY ID:	1	Total Sample Points:	12
Acres:	27	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0



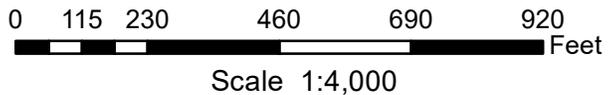
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

LAYER NAME:	dcd_u3_edit	Township:	T29R03W
POLY ID:	1	Total Sample Points:	29
Acres:	56	Spacing Between Points:	Width: 290 Height: 290
		Point Rotation Degrees:	0



Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot

Appeal Information

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

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

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

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

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

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

And

Department Of Natural Resources
Olympic Region
411 Tillicum Lane
Forks, WA 98331

Other Applicable Laws

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

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

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

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

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

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

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

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

DNR affidavit of mailing:

On this day _____,	I placed in the United States mail at _____	Forks	_____	WA,
(date)		(post office location)		
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 2616284				
_____	_____			
(Printed name)	(Signature)			

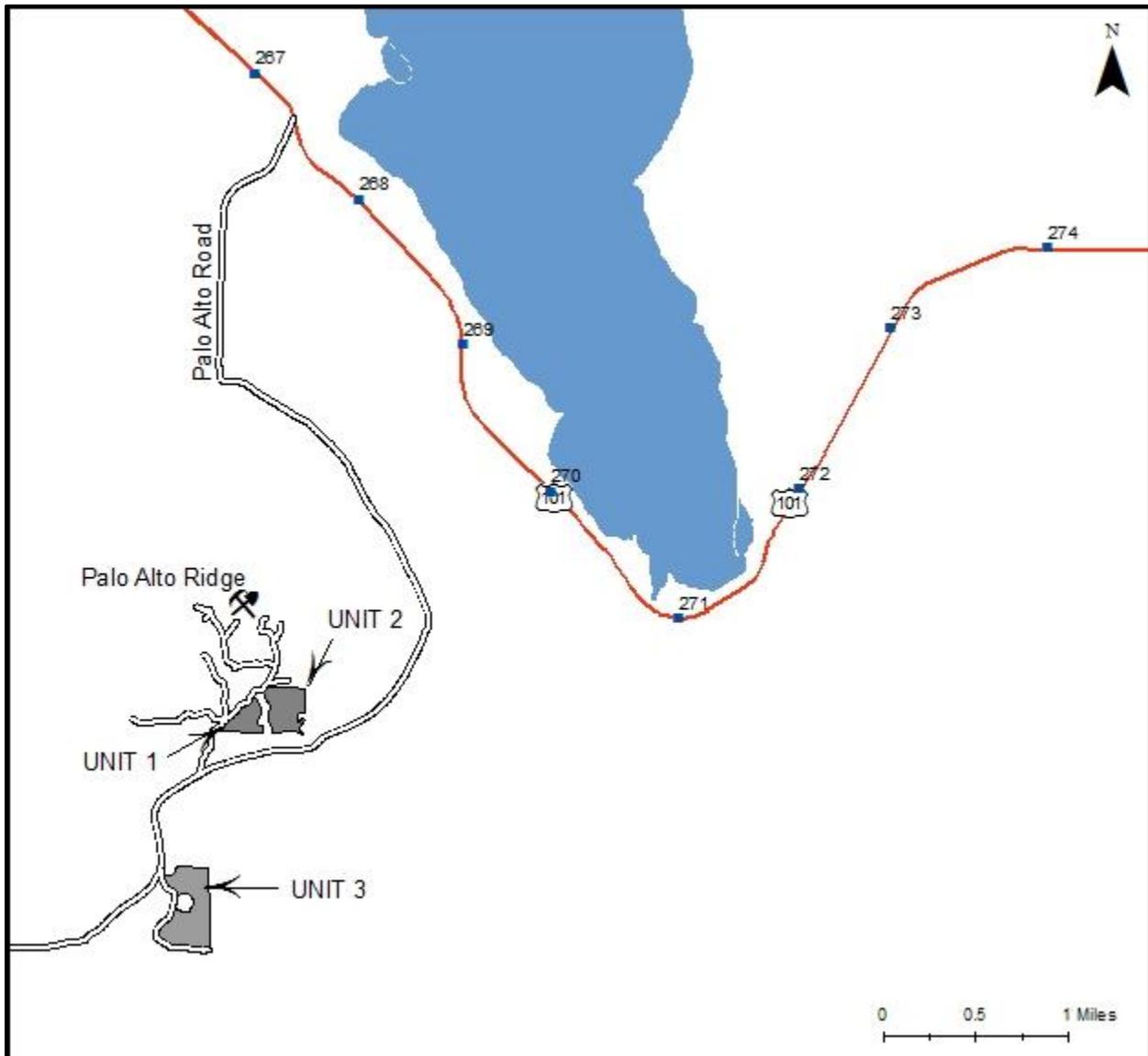
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

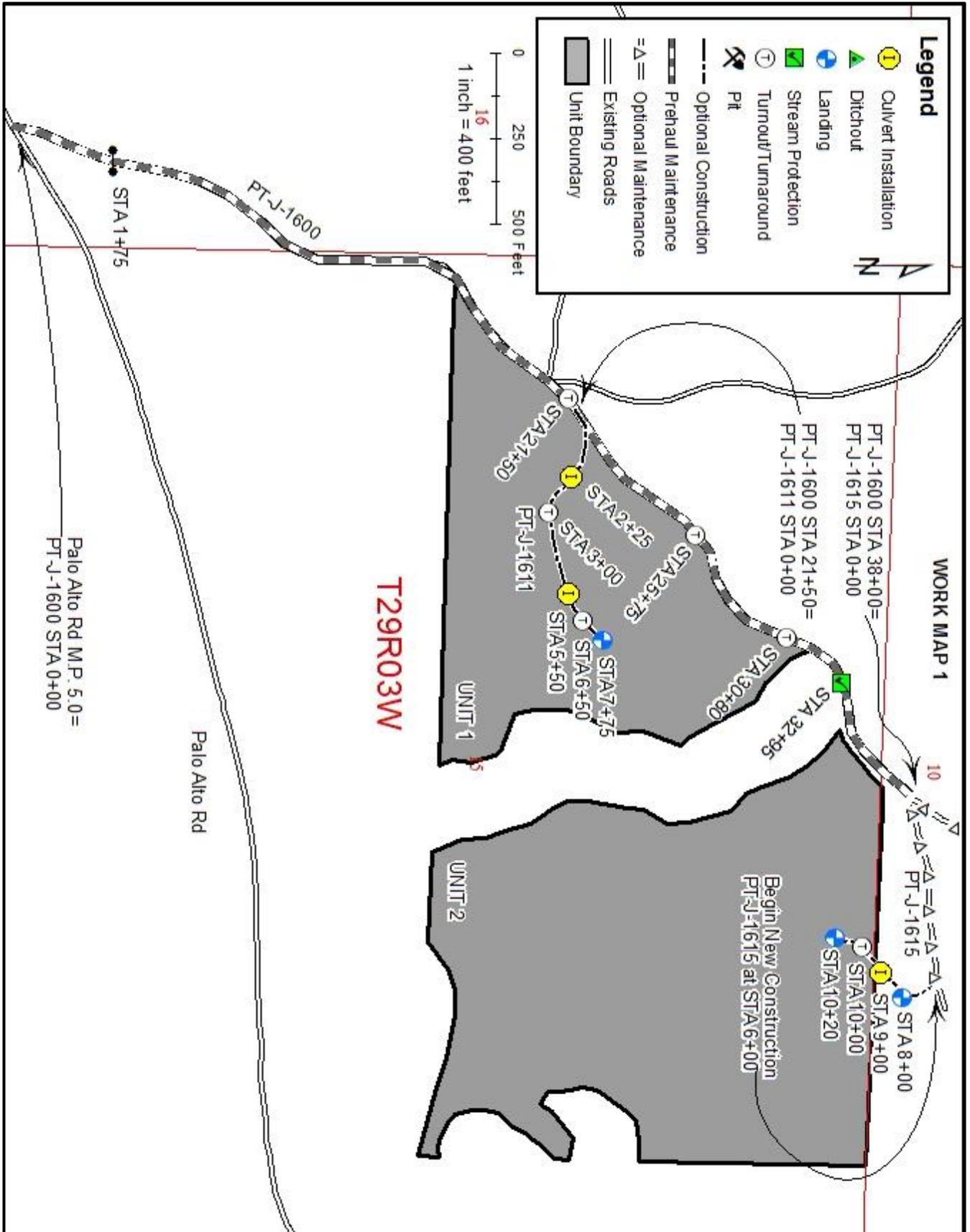
DEAN CREEK DIVIDE TIMBER SALE ROAD PLAN
CLALLAM COUNTY
STRAITS DISTRICT
OLYMPIC REGION

AGREEMENT NO.: 30-099250
DATE: 12/27/2019

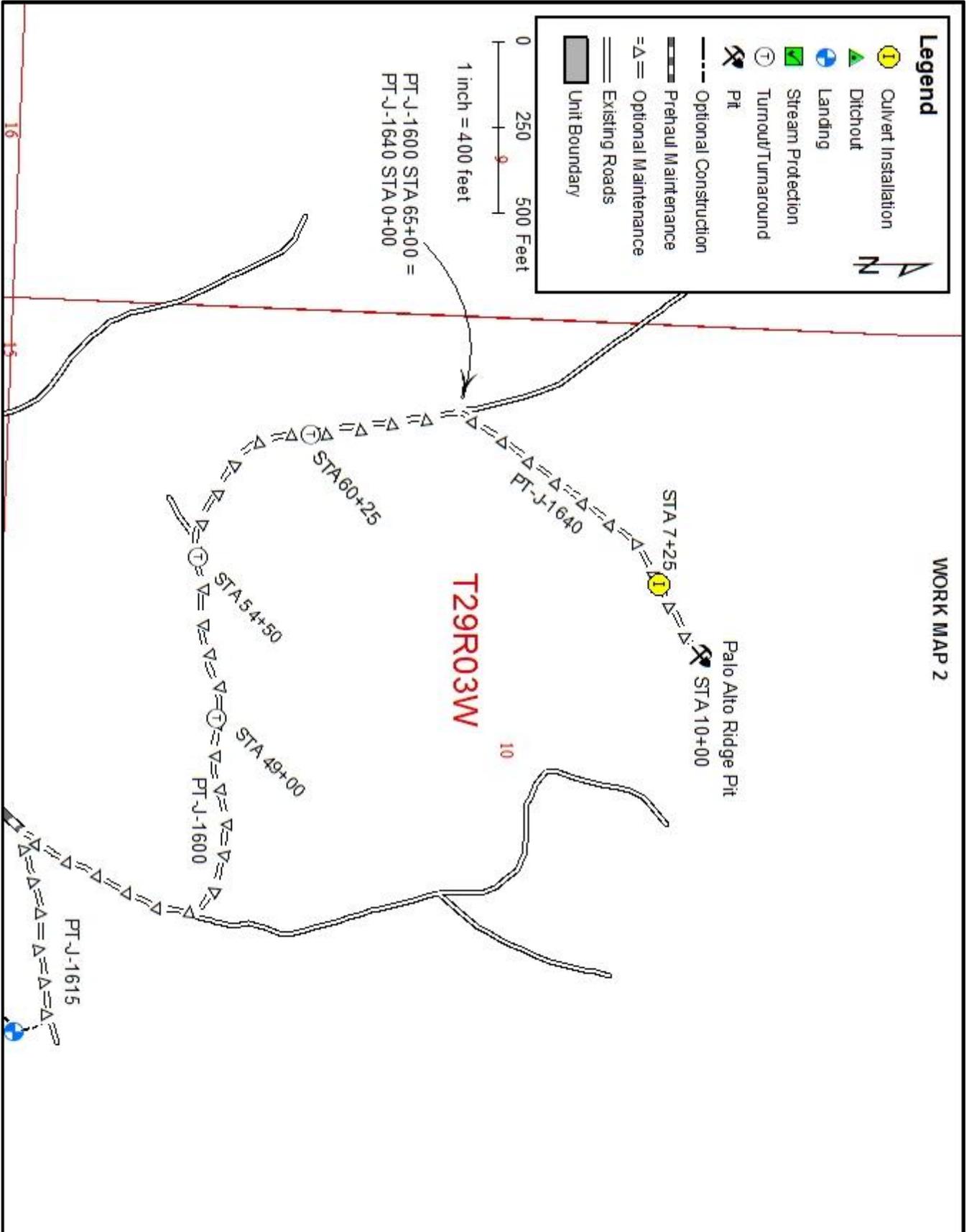
DISTRICT ENGINEER: GREG ELLIS
DRAWN & COMPILED BY: JONATHAN MASON
& SCOTT ROSE

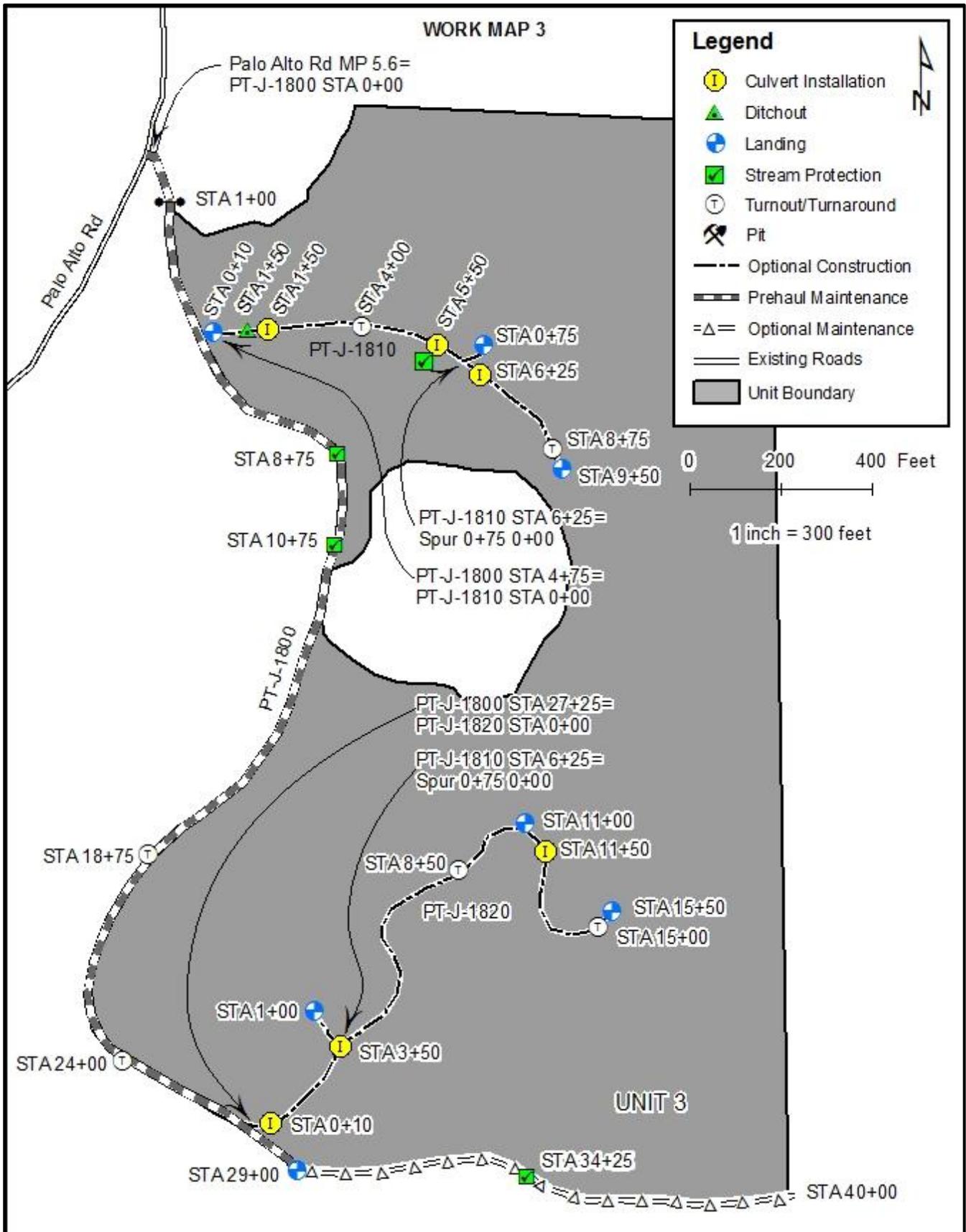
AREA MAP





WORK MAP 2





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>
PT-J-1600	0+00 to 38+00	Pre-Haul Maintenance
PT-J-1800	0+00 to 29+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>
PT-J-1600	38+00 to 65+00	Pre-Haul Maintenance
PT-J-1611	0+00 to 7+75	Construction
PT-J-1615	0+00 to 6+00	Pre-Haul Maintenance
PT-J-1615	6+00 to 10+20	Construction
PT-J-1640	0+00 to 10+00	Pre-Haul Maintenance
PT-J-1800	29+00 to 40+00	Pre-Haul Maintenance
PT-J-1810	0+00 to 9+50	Construction
PT-J-1820	0+00 to 15+50	Construction
Spur 0+75	0+00 to 0+75	Construction
Spur 1+00	0+00 to 1+00	Construction

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PT-J-1611	0+00 to 7+75	See below.
PT-J-1615	6+00 to 10+20	See below.
PT-J-1810	0+00 to 9+50	See below.
PT-J-1820	0+00 to 15+50	See below.
Spur 0+75	0+00 to 0+75	See below.
Spur 1+00	0+00 to 1+00	See below.
Total Stations	38.70 Stations	

Construction includes, but is not limited to: Clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, end hauling material for

construction, compacting road surfaces, constructing ditchlines, constructing ditchouts, constructing turnouts and turnarounds, curve widening, acquisition and installation of drainage structures, application of rock, spreading grass seed and hay.

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>
PT-J-1600	0+00 to 38+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2.
PT-J-1600	38+00 to 65+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2.
PT-J-1615	0+00 to 6+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2.
PT-J-1640	0+00 to 10+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in

		accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2. Install Culverts according to culvert list.
PT-J-1800	0+00 to 29+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2.
PT-J-1800	29+00 to 40+00	Remove all vegetative material with minimum loss of rock and dispose of in accordance with Clause 2-9 and Clause 3-23. Apply rock in accordance with Rock List. Grade, shape and compact existing road surface and turnouts in accordance with Clause 2- 5. Compact in accordance with Compaction List. Clean and construct ditchlines in accordance with Clause 2-7. Brush Road in accordance with Clause 3-1 and Clause 3-2.
Total Stations	121.00 Stations	

Pre-haul maintenance includes, but is not limited to: Brushing right-of-way, bucking and removal of fallen trees, right-of-way debris disposal, cleaning ditches, constructing ditches, installing additional culverts, widening road segments, constructing headwalls, cleaning culvert inlets and outlets, cross drain culvert replacements, installing erosion control materials and sediment removal structures, spot rocking, grading and shaping existing road surface and turnouts, constructing additional turnouts, compaction of road surface, application of rock, acquisition and application of grass seed and hay.

0-7 POST-HAUL MAINTENANCE

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

0-8 CLOSURE

This project includes road closure listed in Clause **Error! Reference source not found.**

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source called Palo Alto Ridge Pit. Rock source development will involve stripping approximately 0.4 acre to useable rock as determined by the Contract Administrator and possible drilling and shooting to obtain ballast material. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.

4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Plan Work maps.

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 5 business days before the closure of any road. Construction may not close any road for more than 21 consecutive calendar 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 cut ends, or 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 or cold galvanizing compound.

1-12 SURVEY MONUMENTS

At no time during construction, reconstruction, or maintenance shall survey monuments, witness trees, or bearing trees be disturbed or damaged. If damaged or disturbed, Purchaser shall hire a licensed land surveyor to repair, replace, and/or reset them.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

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

- Orange ribbon and paint for construction centerlines.
- Construction stakes for everything else.

1-16 CONSTRUCTION STAKES SET BY STATE

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
PT-J-1810	0+00 to 9+50	Centerline
PT-J-1820	0+00 to 15+50	Centerline, Slope Stake

SUBSECTION TIMING

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 14 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
All	All	All activities including timber hauling.	Weekends and State Recognized Holidays
All	All	All activities including timber hauling.	November 1 st – April 30 th
PT-J-1600		All activities including timber hauling.	6:00PM to 8:00AM

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

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

1-33 SNOW PLOWING RESTRICTION

On the following road(s), snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request. Purchaser shall request a SNOW PLOWING AGREEMENT each time plowing occurs. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator. Any loss of rock as a result of plowing snow shall be replaced by Purchaser at no additional cost to the state and the direction of the Contract Administrator.

<u>Road</u>	<u>Stations</u>
PT-J-1600	0+00 to 65+00
PT-J-1611	0+00 to 7+75
PT-J-1615	0+00 to 10+20
PT-J-1640	0+00 to 10+00
PT-J-1800	0+00 to 40+00
PT-J-1810	0+00 to 9+50
PT-J-1820	0+00 to 15+50

SUBSECTION OTHER INFRASTRUCTURE

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.

The following county roads and state highways are affected by this sale:

<u>Road Name</u>
Palo Alto Road

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

<u>Road</u>	<u>Stations</u>
PT-J-1600	0+00 to 65+00
PT-J-1615	0+00 to 10+20
PT-J-1640	0+00 to 10+00
PT-J-1800	0+00 to 40+00

2-6 CLEANING CULVERTS

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

<u>Road</u>	<u>Stations</u>
PT-J-1600	0+00 to 65+00
PT-J-1800	0+00 to 40+00

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean and/or construct ditches, headwalls, and catchbasins. Work must be completed before the start of timber haul and must be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface is not allowed. Ditchlines, headwalls, and catch basins shall not encroach into the existing road.

<u>Road</u>	<u>Stations</u>	<u>Left and/or Right</u>
PT-J-1600	0+00 to 65+00	Left and Right
PT-J-1800	0+00 to 40+00	Left and Right

2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud and other debris on the existing road surface with a minimum loss of rock. Material must be disposed of as specified in Clauses 4-35 through 4-38.

<u>Road</u>	<u>Stations</u>
PT-J-1600	0+00 to 65+00
PT-J-1800	0+00 to 40+00

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 5 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be

achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
PT-J-1600	0+00 to 65+00
PT-J-1640	0+00 to 10+00
PT-J-1800	0+00 to 40+00

3-3 BRUSH REMOVAL

Remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets. Brush should be disposed of so that it will not fall back onto the road prism.

SUBSECTION CLEARING

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 5 inches DBH or over 15 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 40%.
- Against standing trees.

SUBSECTION GRUBBING

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. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits, 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 and on stable locations.

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the grubbing limits in accordance with Clause 3-23 unless otherwise detailed in this road plan and as directed by the Contract Administrator.

SUBSECTION PILE

3-31 PILING

Purchaser shall pile organic debris no closer than 20 feet from standing timber and no higher than 20 feet. Piles must be free of rock and soil.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction, reconstruction and maintenance work unless stated otherwise within this Road Plan or authorized in writing by the Contract Administrator.

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. 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.

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 16 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 SWITCHBACK STANDARDS

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

Purchaser shall follow these standards for switchbacks:

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

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table, unless construction staked or designed:

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

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table, unless construction staked or designed:

<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.

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Turnarounds must be no larger than 50 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-26 DITCH WORK – USE MATERIAL IN EXISTING SUBGRADE

On the following road(s), Purchaser may use the excavated ditch material to build up the subgrade. Material shall meet specification of Common Borrow in accordance with Clause 4-48.

<u>Road</u>	<u>Stations</u>
PT-J-1611	0+00 to 7+75
PT-J-1615	0+00 to 10+20
PT-J-1810	0+00 to 9+50
PT-J-1820	0+00 to 15+50

4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with any existing road surface. Excavated material must be end hauled to the location specified in Clauses 4-36 through 4-38.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified in the table below and as needed to fit as built conditions. 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. L or R denotes ditchout left or ditchout right.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
PT-J-1810	1+50	Left

SUBSECTION WASTE MATERIAL (DIRT)

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.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

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

4-39 WASTE AREA COMPACTION

Excavated material may be deposited adjacent to the road prism on side slopes up to 45% if the waste material is compacted and free of debris. On side slopes of 45% or more, all excavation shall be end hauled or pushed to designated waste areas. All waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts, with the exception of side hill embankments too narrow to accommodate excavation equipment which may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

SUBSECTION BORROW

4-48 BORROW MATERIAL

Borrow material may not contain more than 5% clay, organic debris, or trash by volume.

4-49 BORROW SOURCE

Purchaser shall obtain borrow material from the listed borrow source(s). Development of the borrow source must be in accordance with the attached BORROW SOURCE DETAIL.

<u>Source</u>	<u>Location</u>	<u>Type</u>
Existing pile	PT-J-1810 Sta 0+10	3 inch minus crushed rock

SUBSECTION SHAPING

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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.

SUBSECTION COMPACTION

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. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before placement of rock.

4-62 DRY WEATHER COMPACTION

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.

4-65 CULVERT BACKFILL COMPACTION

Culvert backfills shall be accomplished by using a jumping jack compactor, performing at least 2 passes per lift, in lifts not to exceed 8 inches.

4-66 COMPACTION BY METHOD

Compaction shall consist of three complete passes over the entire width of each lift with a vibratory drum roller weighing a minimum of 6,000 pounds at a maximum

operating speed of 3 mph. For embankment segments too narrow to accommodate a drum roller, a plate compactor shall be used.

SUBSECTION SUBGRADE REINFORCEMENT

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

SUBSECTION CULVERTS

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-23.

5-6 CULVERT TYPE

Purchaser shall install culverts made of plastic in accordance with Clauses 10-15 through 10-23.

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-13 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and are available for installation as directed by the Contract Administrator. In the event that culverts are not used, culverts shall be stockpiled at PT-S-1800 STA 4+75/ PT-J-1810 STA 0+00.

<u>Road</u>	<u>Size</u>
On any portion of road used for timber or rock haul.	Two 18" x 30' culverts 18" culvert band

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the TYPICAL CROSS DRAIN CULVERT INSTALLATION DETAIL SHEET, TYPICAL TYPE NS NP CULVERT INSTALLATION DETAIL SHEET, the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings". Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer's recommendations. Culverts over 15 inches diameter shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet. Shorter section of banded culvert shall be installed at the inlet end.

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 18 inches of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover specified in the Engineer's design, TYPICAL TYPE NS NP DETAIL SHEET, or recommended by the culvert manufacturer for the type and size of the pipe, whichever is greater.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

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

Rock used for energy dissipaters must weigh at least 10 pounds. 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. Placement must be with a zero-drop-height method only.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 10 feet must be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts, and fastened securely to the posts with No. 10 galvanized smooth wire or 1/2-inch bolts in accordance with the TYPICAL CULVERT INSTALLATION DETAILS SHEET.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Purchaser shall construct catch basins to resist erosion. Minimum dimensions of catch basins are 1-2 feet wide, 1-2 feet deep and 2-4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the TYPICAL CROSS DRAIN CULVERT INSTALLATION DETAIL at all cross drain culverts that specify the placement of rock. Rock used for headwalls must consist of oversize or quarry spall material. 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. No placement by end dumping or dropping of rock is allowed.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

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. Prior to approval, purchaser shall submit a passing sieve test performed by procedure described in WSDOT FOP for WAQTC T 27/11.

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

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

<u>Source</u>	<u>Rock Type</u>
Palo Alto Ridge	2" minus
Palo Alto Ridge	4" minus

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

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked.

6-13 ROCK EXPLORATION

Purchaser shall provide an excavatorwith operator for up to 12 hours of exploration of rock and other related work as directed by the Contract Administrator at the following site(s).

<u>Site</u>	<u>Location</u>
Palo Alto Ridge	T29R03W Section 10 PT-J-1640

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 5% of the total volume mined in that source.

- Oversize material is defined as rock fragments larger than five feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be shot or broken up.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 10 working days before any drilling (Form #M-126PAC).
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads before blasting operations.
- Purchaser shall call PennCom before blasting.

6-16 TECHNICAL SPECIFICATIONS

DRILLING

The Purchaser shall drill in accordance to an approved Shot Plan. Drill depth shall not extend more than 5 feet below existing pit floor. The District Engineer or their designee and Purchaser shall jointly measure and determine drill depths, hole spacing and pattern and must be approved prior to loading explosives. During drilling operation, drill operator shall keep a bore log which includes the depth and location of each hole drilled. The District Engineer or their designee may ask to see the bore log during and after the drilling process has completed.

BLASTING

The Purchaser shall furnish and load appropriate explosives, detonators, and ignition sources in accordance to all State and Federal laws and in accordance to an approved Shot Plan.

DRILLING AND SHOOTING PLAN "SHOT PLAN"

The Purchaser shall submit a written drilling and shooting plan, including drawings, to the District Engineer or their designee, which must meet the approval of the District Engineer or their designee prior to the start of the drilling operation. The plan and drawing(s) shall include the following proposals: drill hole diameter, drill hole spacing, drill hole pattern, drill hole depth, any stemming depths, type and depth of explosive including amount per drill hole, detonator and ignition type, and proposed delay pattern. Any adjustment or modifications to the proposals during operations must be noted and resubmitted prior to loading of explosives.

WEATHER LIMITATIONS

When, in the opinion of the District Engineer or their designee, the weather is such that satisfactory results cannot be obtained in any phase of operation, Purchaser shall suspend operations until the weather is favorable. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

SUBSECTION ROCK MANUFACTURE

6-20 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- All testing and operations must be performed in accordance with Clause 6-24 ROCK CRUSHING COMPLIANCE PROCEDURE.
- Purchaser shall produce sieve analysis for crushing operations for each rock gradation type.
- Purchaser may use a commercial testing lab to produce sieve analyses.
- Sieve analysis for acceptance of aggregate shall be performed by procedure described in WSDOT FOP for WAQTC T 27/11.

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 75% 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.

6-23 ROCK GRADATION TYPES

Purchaser shall provide or manufacture rock in accordance with the types and amounts listed in the Manufacturing list below. Rock must meet the following specifications for gradation and uniform quality during manufacture and placement into a stockpile. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

<u>Rock Type</u>	<u>Amount</u>
2" Minus	1500
4" Minus	3460

6-24 ROCK CRUSHING COMPLIANCE PROCEDURE

Phase I. Equipment Adjustment

Step 1:

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

Step 2:

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

Phase II. Production

Step 3:

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

- After the first 500 yards
- After every 2,000 yards thereafter.

- a) Any time a sample is out of spec, but is within 5%*, the Purchaser will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.
- b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.
- c) Purchaser is strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.
 - The 5% will be applied only to sieve specs for 2" to ¼"; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.

SUBSECTION ROCK GRADATIONS

6-25 FINES

% Passing U.S. #40 sieve	100%
% Passing U.S. #200 sieve	0%

The portion of aggregate retained on the No. 200 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	5%

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

6-30 2-INCH MINUS CRUSHED ROCK

% Passing 2" square sieve	100%
% Passing 1" square sieve	50 - 85%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-34 3-INCH MINUS BALLAST ROCK

% Passing 3" square sieve	100%
% Passing U.S. #4 sieve	16% maximum
% Passing U.S. #200 sieve	7% maximum

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

6-37 4-INCH JAW RUN ROCK

% Passing 4" square sieve	95%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-50 LIGHT LOOSE RIP RAP

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

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	500 lbs. to 1 ton (18" - 28")
15% to 80%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are estimated truck 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.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade drainage installation included grading and 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 and in lifts not to exceed 6 inches.

6-72 ROCK APPLICATION AFTER HAULING

On the following road(s), upon completion of all hauling operations, Purchaser shall apply rock in accordance with the quantities shown on the ROCK LIST.

<u>Road</u>	<u>Stations</u>	<u>*Rock Type</u>	<u>Amount</u>
PT-J-1600	0+00 to 6+65	2" minus	70 yd ³
PT-J-1800	0+00 to 40+00	2" minus	100 yd ³

6-73 ROCK FOR WIDENED PORTIONS

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

6-76 DRY WEATHER ROCK COMPACTION

The Contract Administrator may require the application of water to facilitate compaction of the rock surfacing. The method of water application is subject to approval by the Contract Administrator.

6-78 ROCK FOR SPOT PATCHING

Rock for spot patching shall be applied before any grading is done and before any rock lifts are applied. Once applied, spot patches shall be graded into the existing running surface.

SECTION 7 – STRUCTURES

SUBSECTION SIGNS

7-2 SIGN INSTALLATION (NON-HIGHWAY)

The Purchaser shall be responsible for the purchase, installation, and maintenance of the following road signs. Signs shall be installed a minimum of 7 days before road closure. Signs shall be at least 2 feet in any direction, and shall be orange with black lettering.

<u>Road</u>	<u>Mile Post</u>	<u>Sign</u>
Palo Alto Rd	4.5 to 6	Trucks Entering Road

SUBSECTION GATE CLOSURE

7-70 GATE CLOSURE

On the following road(s), Purchaser shall keep gates closed and locked except during periods of haul. All gates that remain open during haul must be locked or securely fastened in the open position. All gates must be closed at termination of use.

<u>Road</u>	<u>Station</u>
PT-J-1600	1+75
PT-J-1800	1+00

SUBSECTION GATES AND FENCES

7-75 GATE MAINTENANCE

Purchaser shall conduct gate maintenance as listed. Purchaser shall remove all old gate material from state land before the termination of the contract.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
PT-J-1800	1+00	Prior to painting, surfaces shall be prepared by cleaning, sanding and removing all loose rust and paint. All surfaces shall be dry at the time of painting. Gate shall be painted Safety Yellow color using high gloss alkyd enamel paint. Two coats of paint shall be applied, using the procedures described in the product instructions, with a minimum of eight hours drying time between coats.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Purchaser shall install sediment traps in accordance with the Sediment Trap Detail. Sediment control shall be accomplished using waddles, silt fencing, sediment traps, or other methods as approved in writing by the Contract Administrator.

<u>Road</u>	<u>Stations</u>	<u>Left and/or Right</u>
PT-J-1600	STA 32+95	Left and Right
PT-J-1800	STA 8+75 to STA 10+75	Left
PT-J-1800	STA 34+25	Left
PT-J-1810	STA 5+50	Left and Right

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 3-inch layer of straw or hay to all exposed soils. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall spread hay and seed on all exposed soils including, but not limited to, stream culverts, waste areas, sidecast pullback areas, stream crossing removals, bridge installations, and other areas directed by the Contract Administrator. Revegetation of exposed soils shall be accomplished by manual dispersal of grass seed unless otherwise detailed in this Road Plan. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the all seed, mulch, straw and/or hay, matting etc..

8-17 REVEGETATION TIMING

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

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover over the revegetated area. Seed must be covered before the first anticipated storm event. Seed may not be allowed to sit exposed during any rain event. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the 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 at no addition cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil inside the grubbing limits at a rate of 60 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>	<u>Minimum % germination</u>
Perennial Rye	35-45	90
Red Fescue	30-40	90
Highland Bent	5-15	85
White Clover	10-20	90
Inert and Other Crop	0.5	

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator.
PT-J-1600	0+00 to 6+65	Apply post haul rock per Clause 6-72.
PT-J-1800	0+00 to 40+00	Apply post haul rock per Clause 6-72.

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface as approved in writing by the Contract Administrator.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

SECTION 10 MATERIALS

SUBSECTION GEOTEXTILES

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for filtration. Woven slit-film geotextiles are not allowed. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.
Water permittivity	D 4491	0.02 sec ⁻¹
Grab tensile strength	D 4632	180 lb in machine direction, 100lb in cross-machine direction
Grab tensile elongation	D 4632	30% max. at 180 lb or more
Ultraviolet stability	D 4355	70% retained after 500 hours of exposure

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

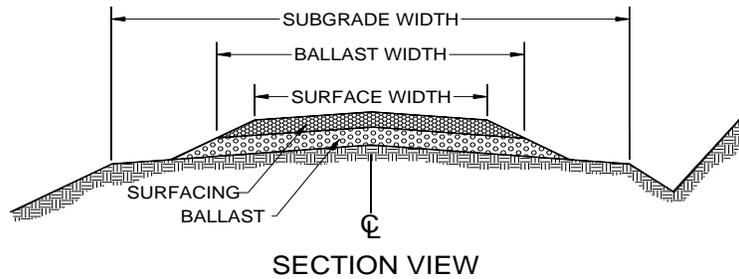
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAUGE AND CORRUGATION

Unless otherwise stated in the engineer's design, metal culverts must conform to the following specifications for gauge and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gauge</u>	<u>Corrugation</u>
18"	16 (0.064")	2 ² / ₃ " X 1 ¹ / ₂ "
24" to 48"	14 (0.079")	2 ² / ₃ " X 1 ¹ / ₂ "
54" to 96"	12 (0.109")	3" X 1"

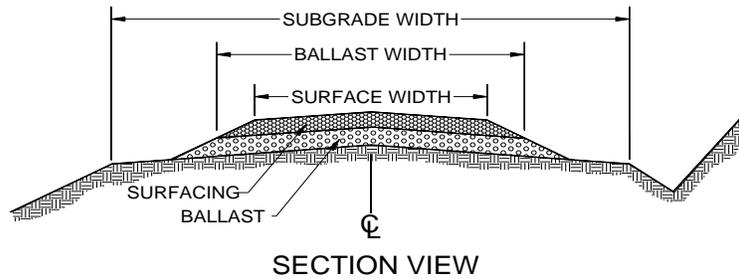
ROCK LIST SHEET



1. Rock quantities, subtotals and totals are “truck measure” estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼” minus to 4” minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources= 1) Palo Alto Ridge: 4 inch minus, 2 inch minus; 2) Commercial: 1 ¼ inch minus, 3 inch minus

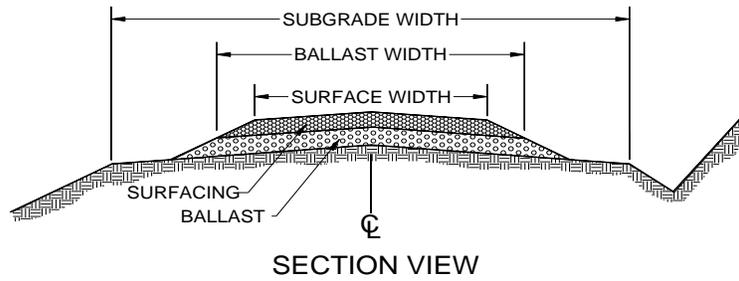
ROAD NAME	START STATION	END STATION	Subgrade WIDTH (ft)	Ballast SOURCE	Ballast WIDTH (ft)	Ballast DEPTH (in)	Ballast Quantity (yd ³ /sta)	Ballast SUBTOTAL (yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity (yd ³ /sta)	Crushed Subtotal (yd ³)	Rip rap Source	Rip Rap Quantity (yd ³)
PT-J-1600															
Spot Patch	0+00	38+00		1,2					1,2				30		
Turnout	21+50			1,2				20							
Turnout	22+75			1,2				20							
Turnout	30+80			1,2				20							
Post Haul	0+00	6+65							2				100		
PT-J-1611															
Lift	0+00	1+25	17	1,2	14	8	50	60	1,2	12	4	20	30		
Lift	1+25	2+75	17	1,2	14	12	75	110	1,2	12	6	30	50		
Culvert	2+25								1,2				20		1
Lift	2+75	5+00	17	1,2	14	8	50	110	1,2	12	4	20	50		
Turnout	3+00			1,2				30							
Lift	5+00	6+75	17	1,2	14	12	75	130	1,2	12	6	30	50		
Culvert	5+50								1,2				20		1
Turn Around	6+50			1,2	14			50							
Lift	6+75	7+75	17	1,2	14	8	50	50	1,2	12	4	20	20		
Landing	7+75			1,2				70							
PT-J-1615															
Lift	6+00	8+75	23	1,2	20	8	65	180	1,2	18	4	30	80		
Landing	8+00			1,2				100							
Lift	8+75	9+50	18	1,2	16	12	75	60	1,2	14	6	40	30		
Totals:								1010					480		2

ROCK LIST SHEET CONTINUED



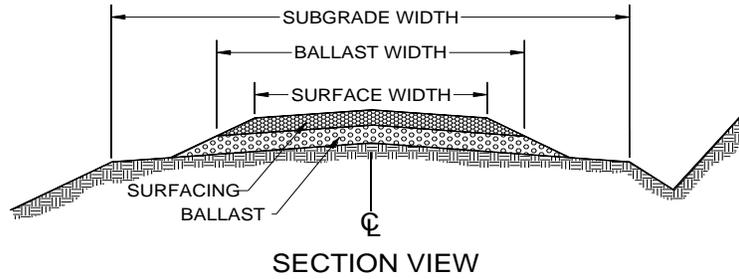
ROAD NAME	START STATION	END STATION	Subgrade WIDTH (ft)	Ballast SOURCE	Ballast WIDTH (ft)	Ballast DEPTH (in)	Ballast Quantity (yd ³ /sta)	Ballast SUBTOTAL (yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity (yd ³ /sta)	Crushed Subtotal (yd ³)	Rip rap Source	Rip Rap Quantity (yd ³)
PT-J-1615 Cont...															
Culvert	9+00								1,2				20	1	1
Turn Around	10+00			1,2	14		50	50							
Lift	9+50	10+20	17	1,2	14	8	50	40	1,2	12	4	20	20		
Landing	10+20			1,2				70							
PT-J-1600															
Spot Patch	38+00	65+00							1,2				50		
Turnout	49+00			1,2				20							
Turnout	54+50			1,2				20							
Turnout	60+25			1,2				20							
PT-J-1640															
Spot Patch	0+00	10+00							1,2				20		
Lift	0+00	1+50		1,2				20	1,2				30		
Lift	6+00	9+00	17	1,2	14	12	75	230	1,2	12	6	30	90		
Culvert	7+25								1,2				20	1	1
PT-J-1800															
Spot Patch	0+00	29+00							1,2				50		
Spot Patch	29+00	40+00							1,2				30		
Turnout	18+75			1,2				20							
Turnout	24+00			1,2				20							
Turnout	29+00			1,2				20							
Post Haul													100		
PT-J-1810															
Lift	0+00	3+50	17	1,2	14	8	50	180	1,2	12	4	20	70		
Culvert	1+50								1,2				20	1	1
Turnout	4+00			1,2				20							
Totals:								730					520		3

ROCK LIST SHEET CONTINUED



ROAD NAME	START STATION	END STATION	Subgrade WIDTH (ft)	Ballast SOURCE	Ballast WIDTH (ft)	Ballast DEPTH (in)	Ballast Quantity (yd ³ /sta)	Ballast SUBTOTAL (yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity (yd ³ /sta)	Crushed Subtotal (yd ³)	Rip rap Source	Rip Rap Quantity (yd ³)
PT-J-1810 Cont															
Lift	3+50	6+00	19	1,2	16	12	90	230	1,2	14	6	40	100		
Culvert	5+50								1,2				20	1	1
Culvert	6+25								1,2				20	1	1
Lift	6+00	9+50	17	1,2	14	8	50	160	1,2	12	4	20	70		
Turn Around	8+75			1,2	14			50							
Landing	9+50			1,2				70							
Spur 0+75															
Construction	0+00	0+75	17	1,2	14	8	50	40	1,2	12	4	20	20		
Landing	0+75			1,2				70							
PT-J-1820															
Lift	0+00	6+25	17	1,2	14	8	50	310	1,2	12	4	20	130		
Culvert	0+10								1,2				20	1	1
Culvert	3+50								1,2				20	1	1
Lift	6+25	7+00	23	1,2	20	8	65	50	1,2	18	4	30	20		
Lift	7+00	10+50	17		14	8	50	170	1,2	12	4	20	70		
Turnout	8+50			1,2				20							
Lift	10+50	11+50	23		20	12	100	100		18	6	45	50		
Landing	11+00			1,2				70							
Culvert	11+50								1,2				20	1	1
Lift	11+50	13+00	17	1,2	14	8	50	80	1,2	12	4	20	30		
Lift	13+00	15+50	23	1,2	20	8	65	160	1,2	18	4	30	80		
Turn Around	15+00			1,2	14			50							
Landing	15+50			1,2				70							
Spur 1+00															
Lift	0+00	1+00	17	1,2	14	8	50	50	1,2	12	4	20	20		
Landing								70							
Totals:								1820					690		5

ROCK LIST SHEET CONTINUED



ROAD NAME	START STATION	END STATION	Subgrade WIDTH (ft)	Ballast SOURCE	Ballast WIDTH (ft)	Ballast DEPTH (in)	Ballast Quantity (yd ³ /sta)	Ballast SUBTOTAL (yd ³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity (yd ³ /sta)	Crushed Subtotal (yd ³)	Rip rap Source	Rip Rap Quantity (yd ³)
Stock Pile													500		
Totals:							0						500		0
Grand Totals:							3560						2190		10

CULVERT LIST

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)	DOWNPOUT LENGTH (ft)	RIP RAP - INLET (cy)	RIP RAP - OUTLET (cy)	BACKFILL MATERIAL	NOTES
PT-J-1611	2+25	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1611	5+50	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1615	9+00	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1640	7+25	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1810	1+50	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1810	5+50	24	50			0.5	0.5	NT	Pastic Corrugated; Stream Culvert
PT-J-1810	6+25	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1820	0+10	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1820	3+50	18	30			0.5	0.5	NT	Pastic Corrugated
PT-J-1820	11+50	18	30			0.5	0.5	NT	Pastic Corrugated
Contengency		18	30						Pastic Corrugated
Contengency		18	30						Pastic Corrugated

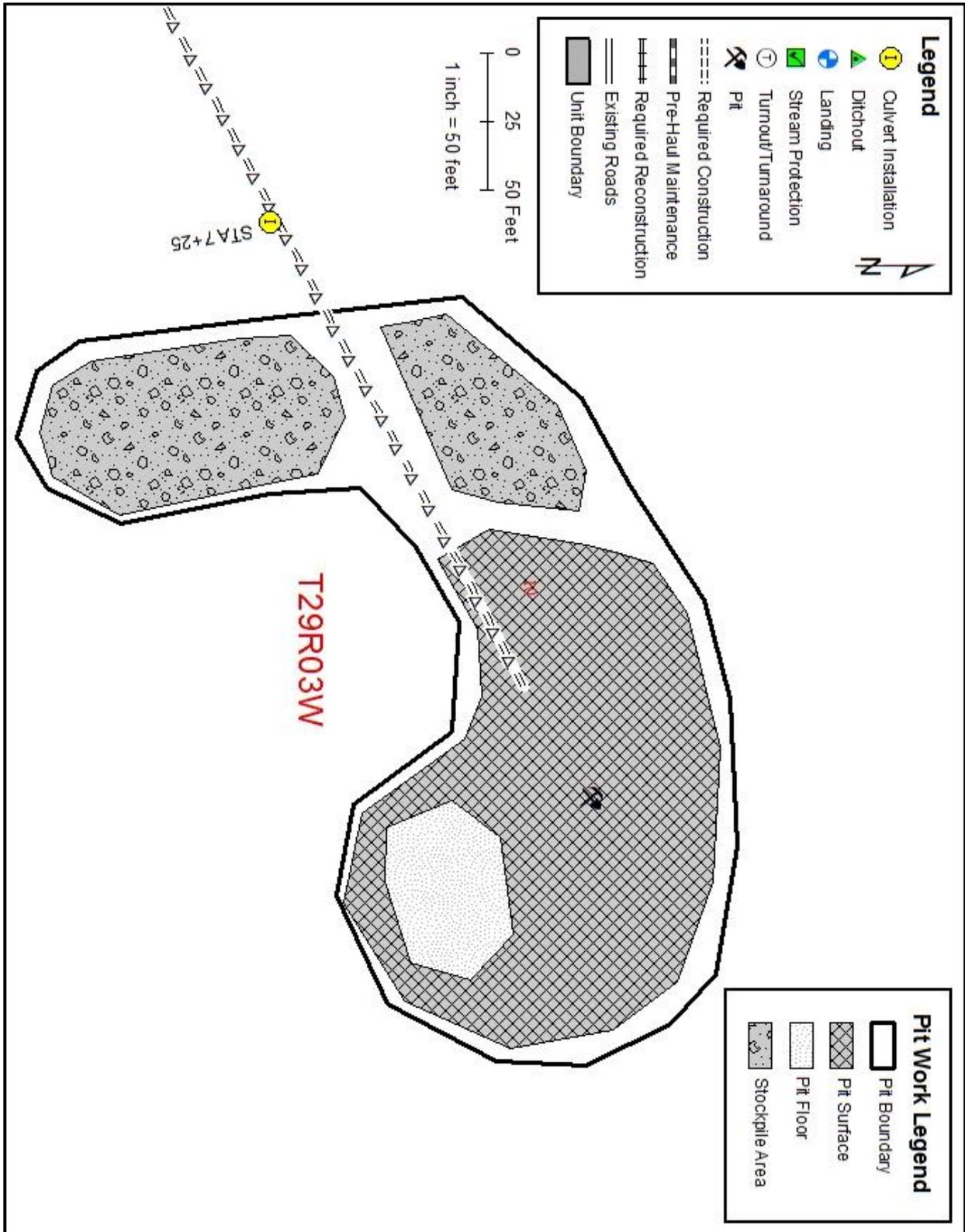
All rip rap shall be Oversize unless specified in the Rock List, or in the field.

All backfill shall be native material (NT) unless specified otherwise. CR= 1 ½"- crushed rock, PR= Pit Run Rock

COMPACTION LIST

Road	Stations	Type	Max Depth Per Lift (inches)	Equipment Type	Minimum Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Pre-haul	All	Culvert Backfill	8"	Jumping Jack		3	
Pre-haul	All	Rock Lifts	6"	Vibratory Smooth Drum	6,000	3	3
Pre-haul	All	Pre-haul Surface		Vibratory Smooth Drum	6,000	3	3
Construction	All	Subgrade (Except Puncheon)	6"	Vibratory Smooth Drum	6,000	2	3
Construction	All	Culvert Backfill	8"	Jumping Jack		3	
Construction	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3
Reconstruction	All	Subgrade (Except Puncheon)	6"	Vibratory Smooth Drum	6,000	2	3
Reconstruction	All	Culvert Backfill	8"	Jumping Jack		3	
Reconstruction	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3
Post-haul Maintenance	All	Rock Placement	6"	Vibratory Smooth Drum	6,000	2	3

Palo Alto Ridge Pit Development Plan



Palo Alto Ridge
ROCK SOURCE DEVELOPMENT PLAN
SEC. 10, T.29N., R.03W
PIT USE REQUIREMENTS

1. Mining shall begin in the development shown on pit plan.
2. All vegetation including stumps shall be cleared a minimum 20 feet beyond the top of all working faces. Trees shall be cleared to a minimum of $\frac{3}{4}$ of height of the tallest tree adjacent to the pit. The Contractor shall maintain a minimum of 10 foot wide stripped area from the pit face at all times.
3. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in an area designated by the Contract Administrator.
4. All exposed soils shall be grass seeded in accordance with Road Plan clause 8-25.
5. Activity restrictions per Clause 1-25.
6. Only the quantities and sorts specified in this road plan for this sale may be used or manufactured, unless otherwise approved by the Contract Administrator in writing.
7. Maintain drainage of the pit floor and all drainage structures within the pit boundaries. The pit floor shall have continuity of slope be left in a smooth and neat condition, providing drainage to the southeast at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
8. Excavated face height shall not exceed 20 feet and shall be sloped no steeper than 1/4:1.
9. Excavated slopes shall have a 1 1/2:1 back slope or less at the completion of operations unless otherwise stated in Clause 4-5.
10. A minimum 4 foot high berm shall be constructed and constantly maintained along the upper edge of excavated pit faces. No pit faces shall be left unblocked at any time.
11. All operations shall be completed prior to the end of each operating season, including but not limited to: drainage maintenance, sloping of the excavated face, and construction of berms, unless otherwise approved in writing by the Contract Administrator.
12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material, benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life. The contractor shall use Light Loose Rip Rap to block the drill trail.
13. All material shall remain the property of the State.
14. At the conclusion of operations, Purchaser shall ask the Contract Administrator for written approval of the final rock source condition and compliance with the terms of this plan.
15. All work shall be conducted according to relevant specifications in this Road Plan, and the Contract Administrator.
16. Purchaser shall give the Contract Administrator a minimum of 7 days' notice prior to commencing any operations.
17. Purchaser shall notify PENCOM, Dispatch, and the Clallam County Sheriff before blasting.

SUMMARY - Road Development Costs													
SALE NAME:	Dean Creek Divide	CONTRACT#:	30-099250	REGION:	Olympic	DISTRICT:	Straits						
LEGAL DESCRIPTION:	S.1015.1621T29R03W												
ROAD NAME:	PT-J-1810	PT-J-1820	PT-J-1820	Spur 0+75	Spur1+00	PT-J-1600	PT-J-1600	PT-J-1615	PT-J-1640	PT-J-1800	PT-J-1600	PT-J-1800	
ROAD TYPE:	Construction	Construction	Construction	Construction	Construction	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Posthaul	Posthaul	
NUMBER OF STATIONS:	4	6	10	1	1	38.00	27.00	6.00	10.00	27.50	7	40	
SIDESLOPE:	0	0	0	0	0	0%	0%	0%	0%	0%	0	0	
CLEARING AND GRUBBING:	487	765	\$1,390.80	\$104.31	\$139.08	\$0.00	\$0.00	\$0	\$0	\$0	\$0.00	\$0.00	
ROAD BRUSHING:	0	0	\$0.00	\$0.00	\$0.00	\$684.00	\$486.00	\$108	\$180	\$495	\$0.00	\$0.00	
EXCAVATION AND FILL:	396	622	\$1,130.00	\$84.75	\$113.00	\$0.00	\$0.00	\$0	\$0	\$0	\$0.00	\$0.00	
ROAD GRADING:	0	0	\$0.00	\$0.00	\$0.00	\$247.00	\$175.50	\$39	\$180	\$179	\$45.50	\$260.00	
DITCH CLEANING/CONSTRUCTION:	0	0	\$0.00	\$0.00	\$0.00	\$1,482.00	\$1,053.00	\$234	\$180	\$1,073	\$0.00	\$0.00	
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:													
Ballast:	280	420	\$660.00	\$109.50	\$122.00	\$1,076.40	\$1,076.40	\$0	\$1,798	\$431	\$0.00	\$0.00	
Surface:	90	220	\$220.00	\$20.00	\$20.00	\$478.20	\$797.00	\$0	\$1,110	\$555	\$100.00	\$100.00	
Oversize:	3	0	\$3.00	\$0.00	\$0.00	\$0.00	\$0.00	\$7	\$0	\$0	\$0.00	\$0.00	
CULVERTS AND FLUMES:	0	3,300	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0	\$660	\$0	\$0.00	\$0.00	
STRUCTURES:	0	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
MISC. EXPENSES:	20	32	\$58.50	\$4.39	\$5.85	\$982.30	\$830.45	\$155.10	\$360.00	\$843.38	\$0.00	\$0.00	
OVERHEAD:	605	1,311	\$1,505.13	\$97.23	\$115.89	\$494.99	\$441.84	\$54.35	\$446.79	\$357.62	\$196.74	\$222.48	
TOTAL COSTS:	8,171	17,698	\$20,319.29	\$1,312.61	\$1,564.46	\$5,444.89	\$4,860.19	\$597.89	\$4,914.69	\$3,933.85	\$1,836.24	\$2,076.48	
COST PER STATION:	2,335	3,218	\$2,031.93	\$1,750.15	\$1,564.46	\$143.29	\$180.01	\$99.65	\$491.47	\$143.05	\$262.32	\$51.91	

Forest Access Road Maintenance Specifications

Cuts and Fills

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

Drainage

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

Forest Access Road Maintenance Specifications

Preventative Maintenance

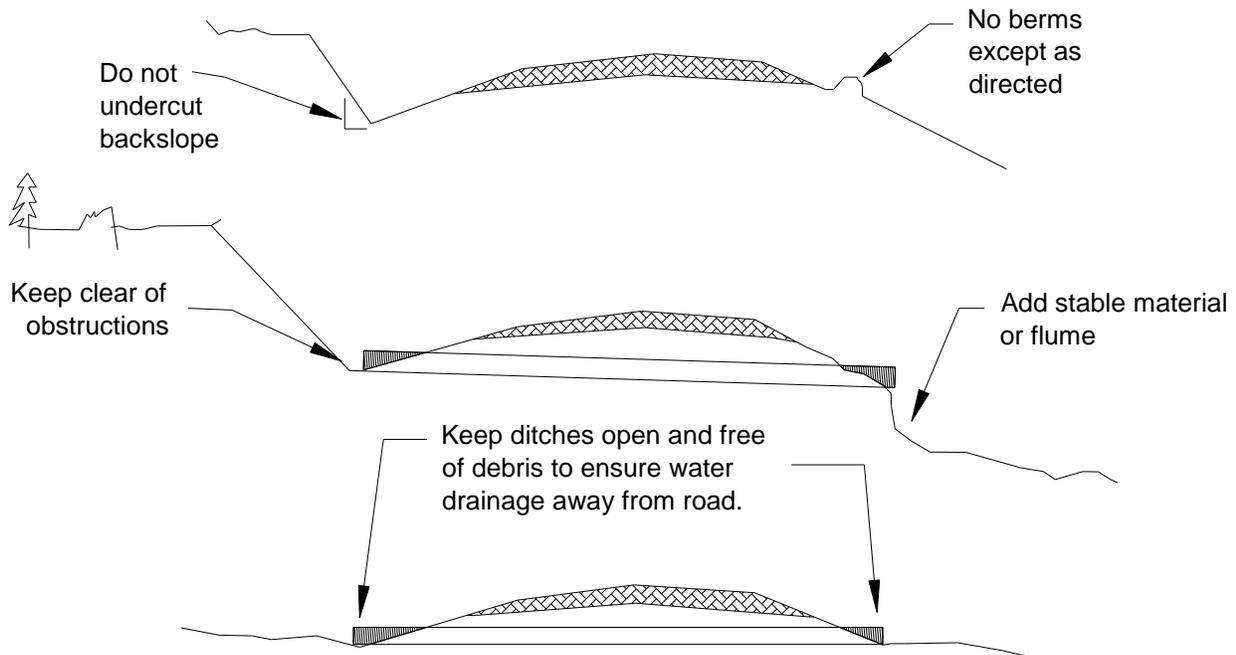
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

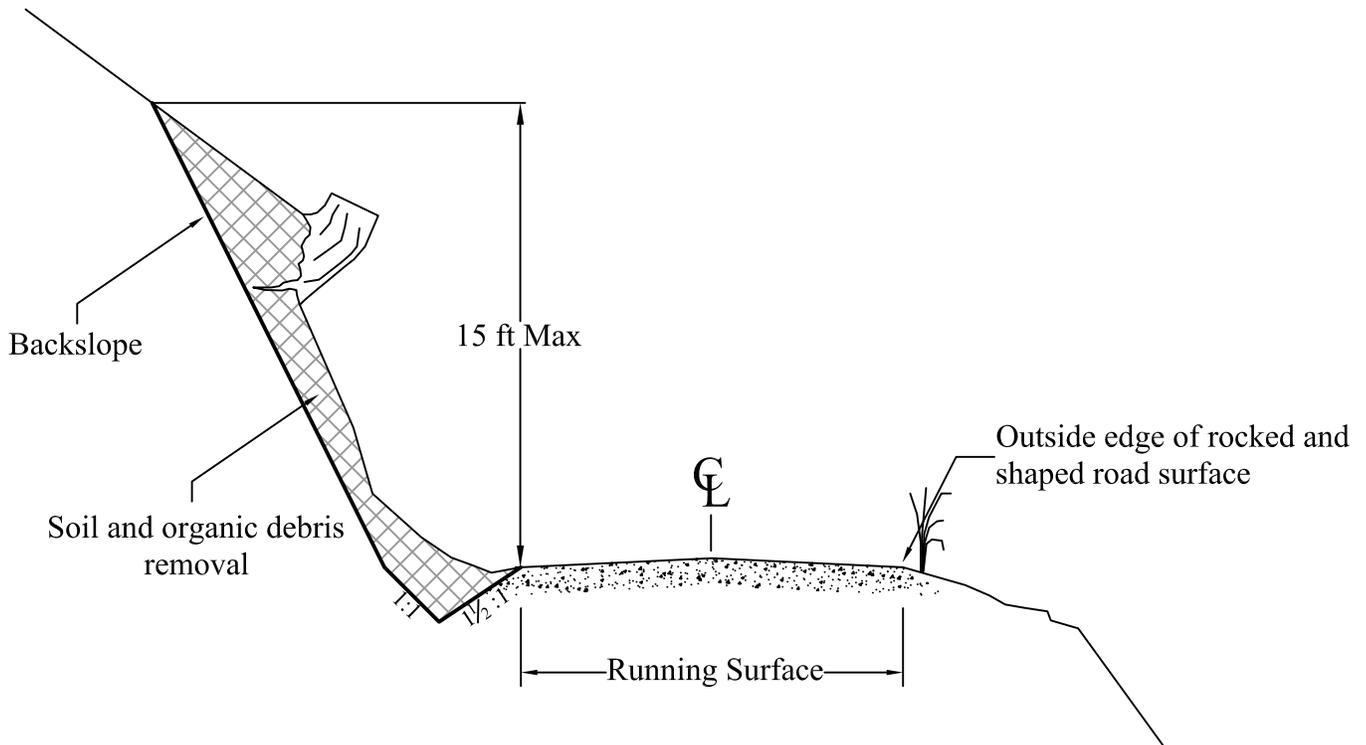
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

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

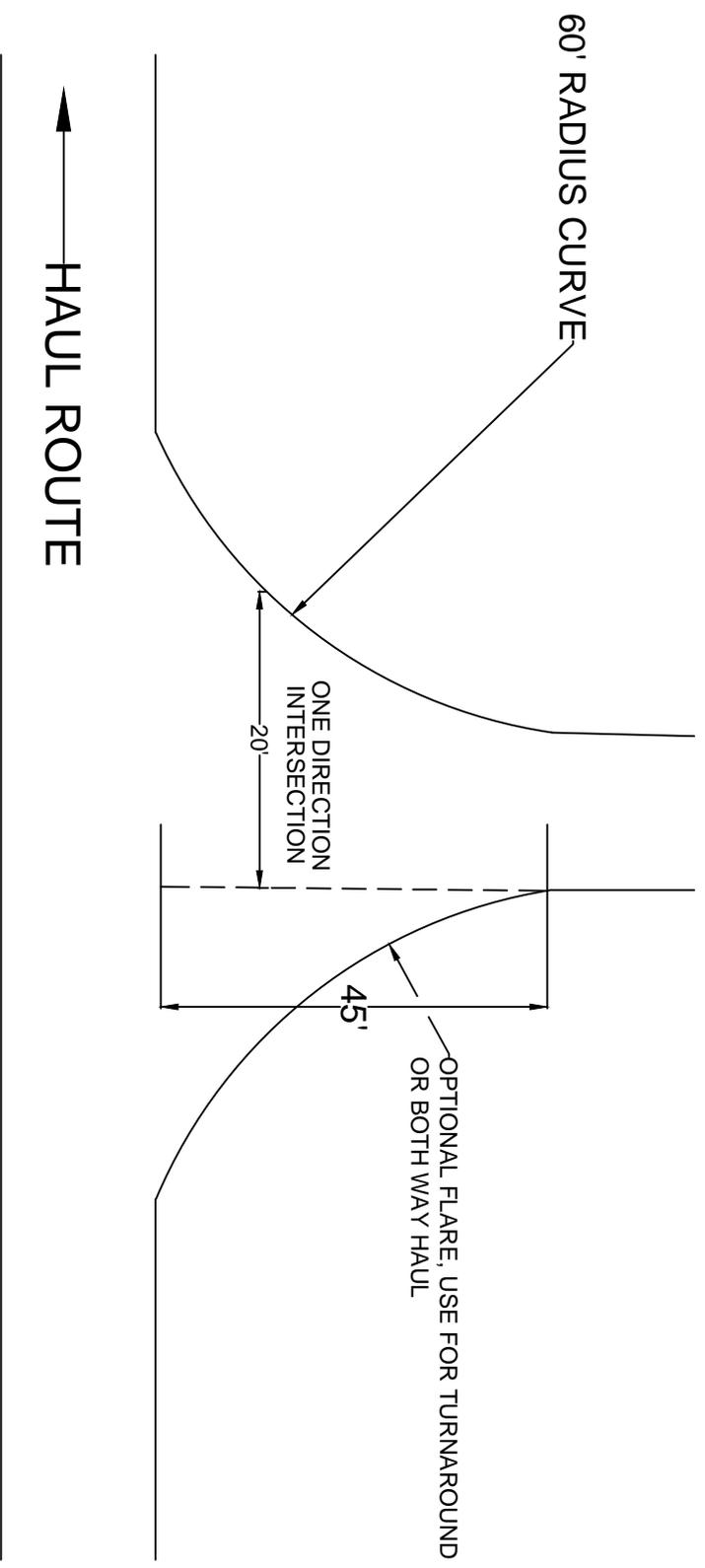


Ditch Cleaning Detail



1. The backslope shall be no steeper than $\frac{1}{2}:1$, unless the material is hardpan or solid rock, in which case it may be $\frac{1}{4}:1$.
2. If there is sufficient width for the ditch without affecting the cut bank, than removing bank material is not required.
3. Bank material above the ditch shall be removed to a maximum height of 15 feet, if needed to meet the requirements of this detail.
4. If there is insufficient width to clean or construct a ditch without disturbing more than 15 vertical feet of bank, the Contract Administrator may authorize changes to this plan in order to still meet the intent of having a ditch, while staying within the excavation limits already set.
5. Ditch cleaning or construction shall not shrink the running surface of the road.

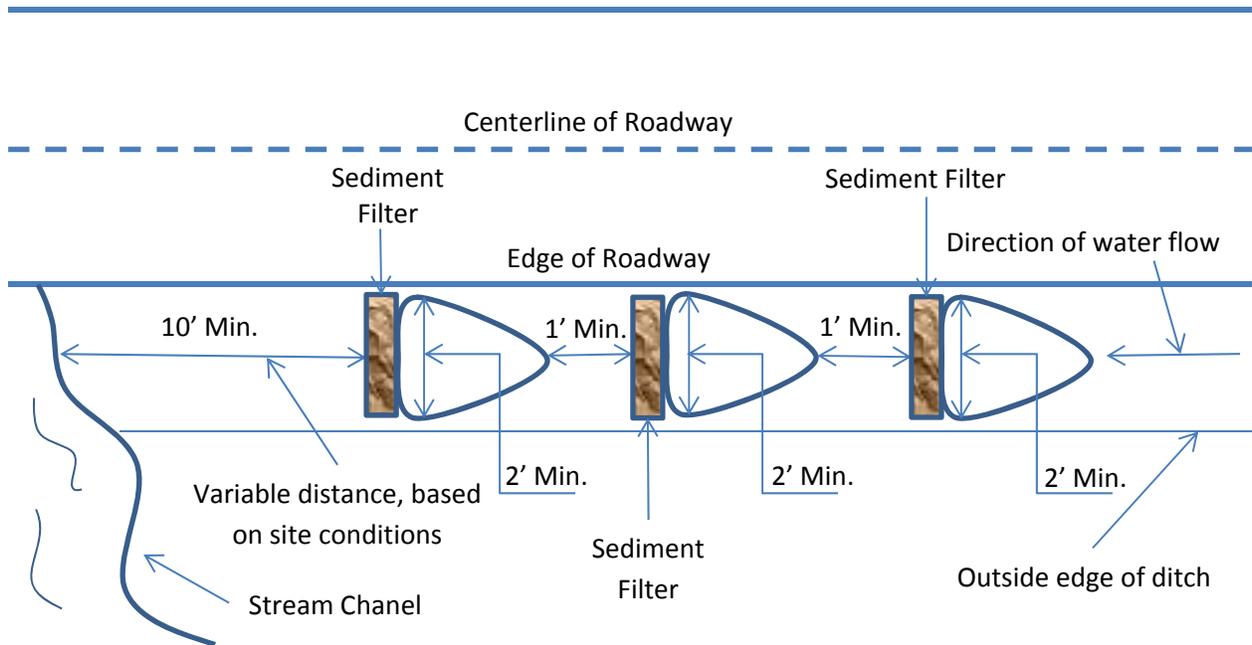
TYPICAL INTERSECTION



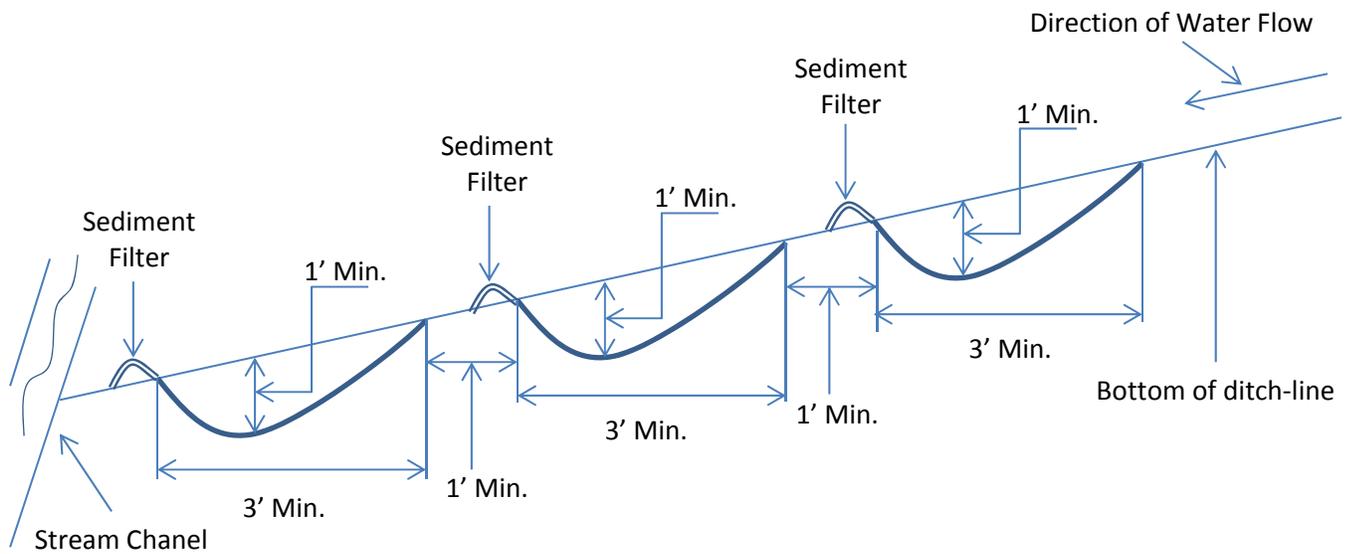
NOT TO SCALE

SEDIMENT TRAP DETAIL

Top View

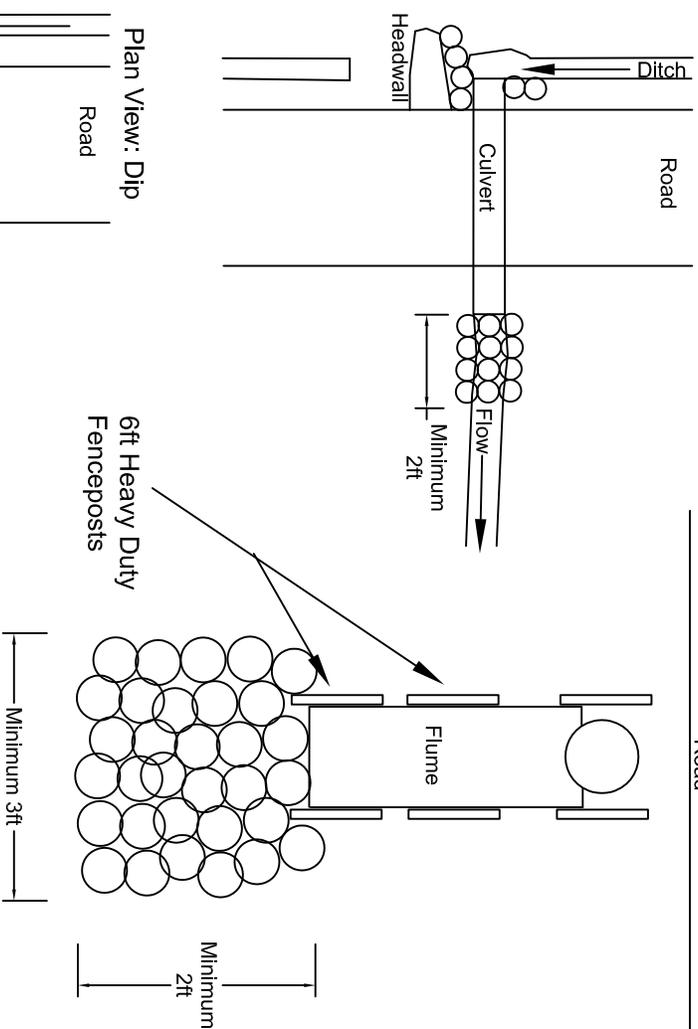


Profile View

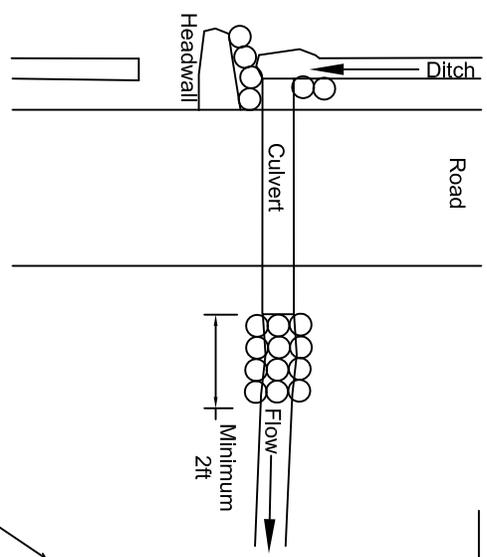


Typical Cross Drain Culvert Installation Detail Sheet.

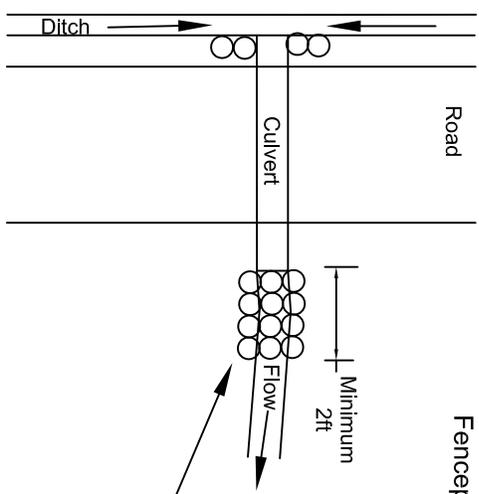
Cross Section View: Flume
Road



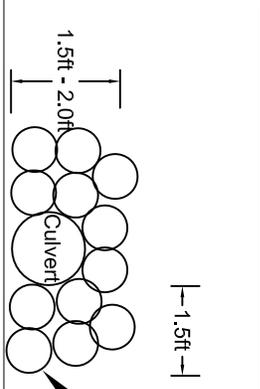
Plan View: No Dip



Plan View: Dip



Cross Section View: Inlet
Road



-Culvert lay shall not exceed 10%.

-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.

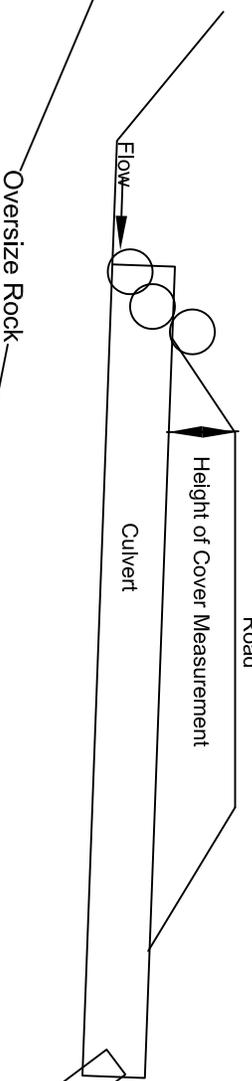
-Oversize shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.

-Oversize shall be placed at headwalls, along the fill at the inlet, and at the end of flumes in accordance with this Detail. On culverts with no flume oversize shall be placed at the outlet as an energy dissipater as specified in this Detail. All oversize distance to be determined by the Contract Administrator.

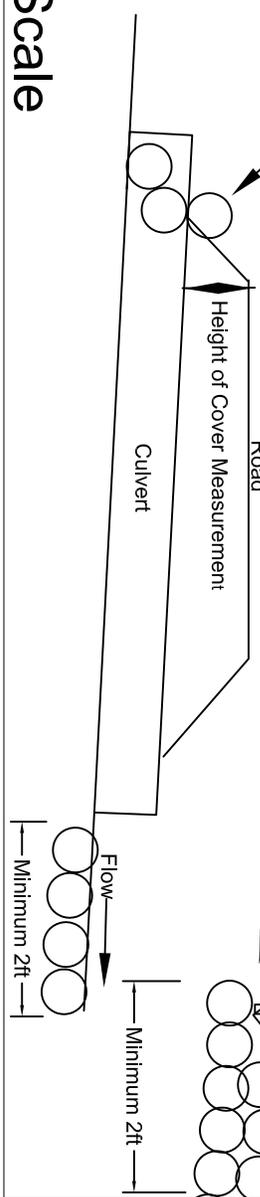
-Backfill compaction for installations on existing roads shall be achieved using a jumping jack, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus at least the width of the compactor footprint used..

Culvert Minimum Cover		
Diameter	Steel	Plastic
18"	18"	18"

Profile View: Flume
Road



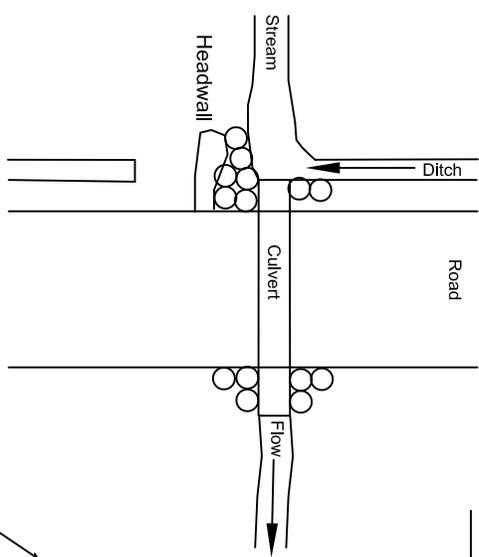
Profile View: No Flume
Road



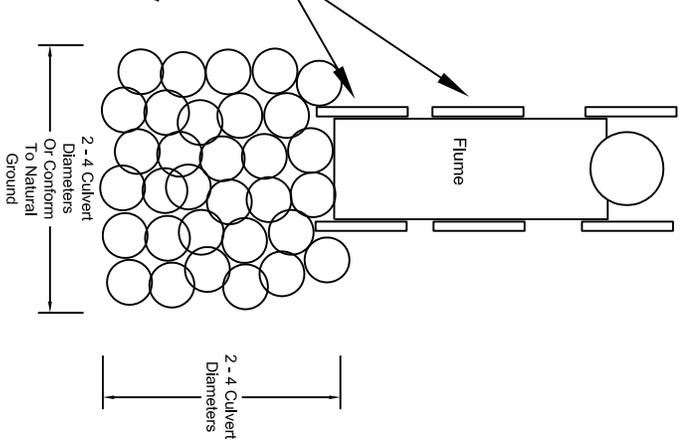
Not To Scale

Typical Type Ns, Np Culvert Installation Detail Sheet.

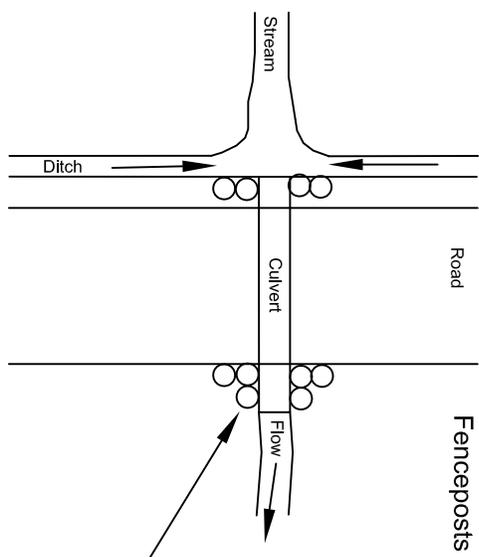
Plan View: No Dip



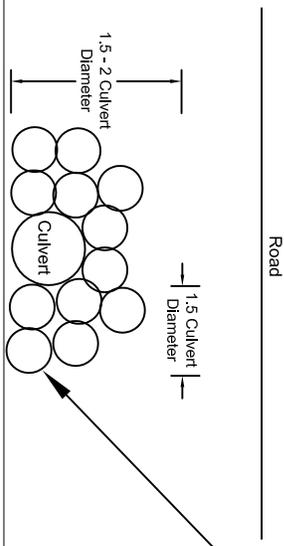
Cross Section View: Flume



Plan View: Dip



Cross Section View: No Flume



-Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.

-Culvert lay shall match stream gradient up to 5%.

-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.

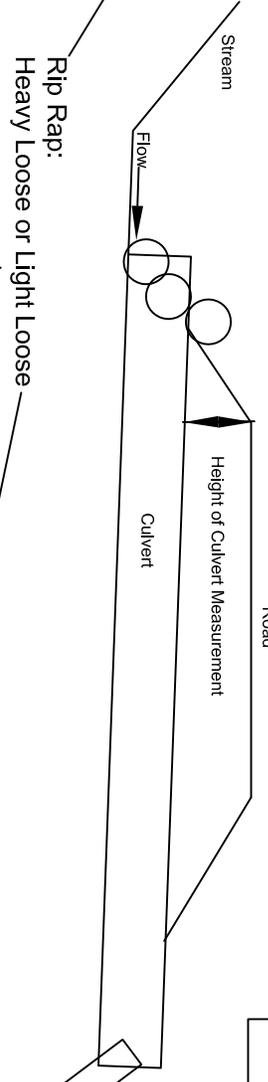
-Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.

-Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end of flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is a stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.

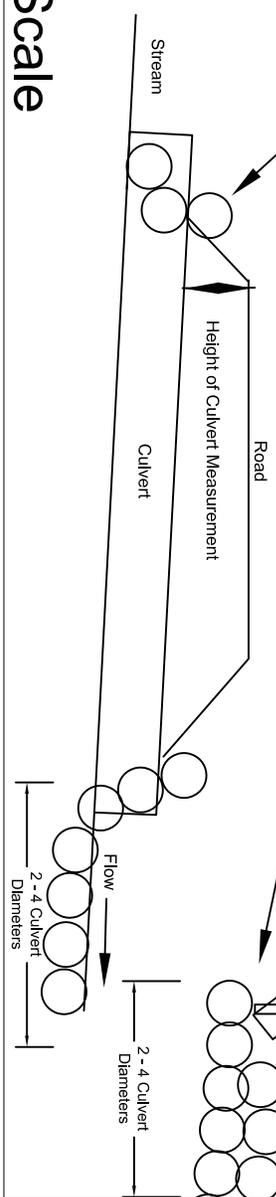
-Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus 3 times the width of the compactor footprint used..

Culvert Minimum Cover			
Diameter	Steel	Plastic	
24"	18"	24"	
30" - 42"	24"	24"	
48" On	36"	36"	

Profile View: Flume

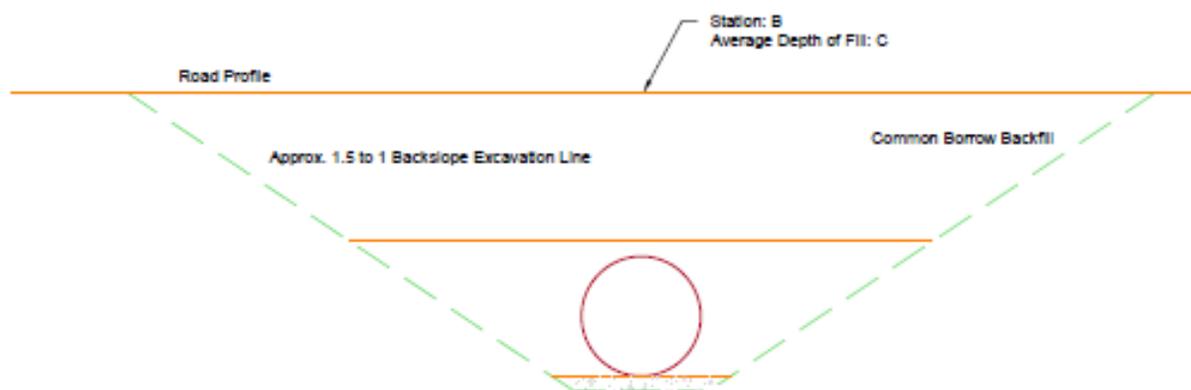


Profile View: No Flume



Not To Scale

PROFILE - CENTERLINE OF ROAD LOOKING UPSTREAM

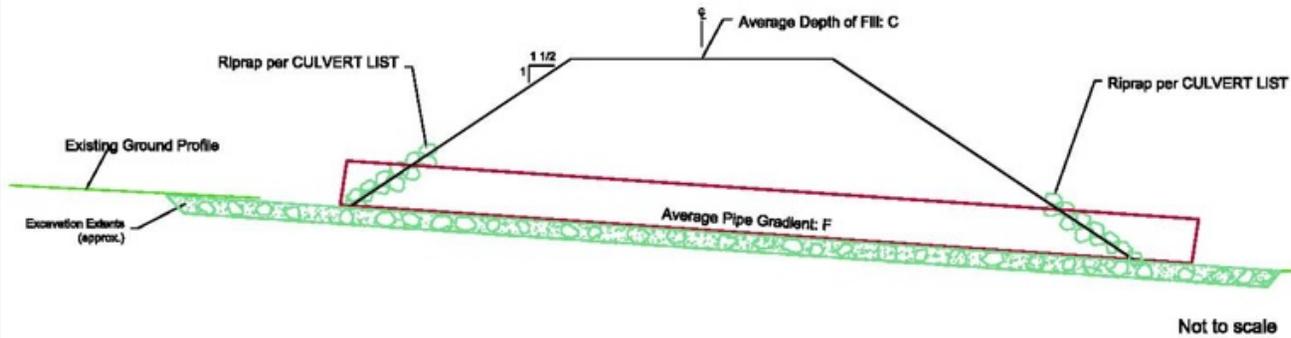


TYPICAL TYPE 4, TYPE 5 CULVERT
INSTALL SHEET

A) Road	B) Station	C) Depth (ft)	D) Diameter (in)	E) Length (ft)	F) Gradient
PT-J-1810	5+50	6	24	50	10%

Note:
1) Crown at centerline not shown

PROFILE - CENTERLINE OF CULVERT



Not to scale

OLYMPIC REGION
SITE LOCATION
Drawn By: Madisen Wamstadt
Designed By: Madisen Wamstadt

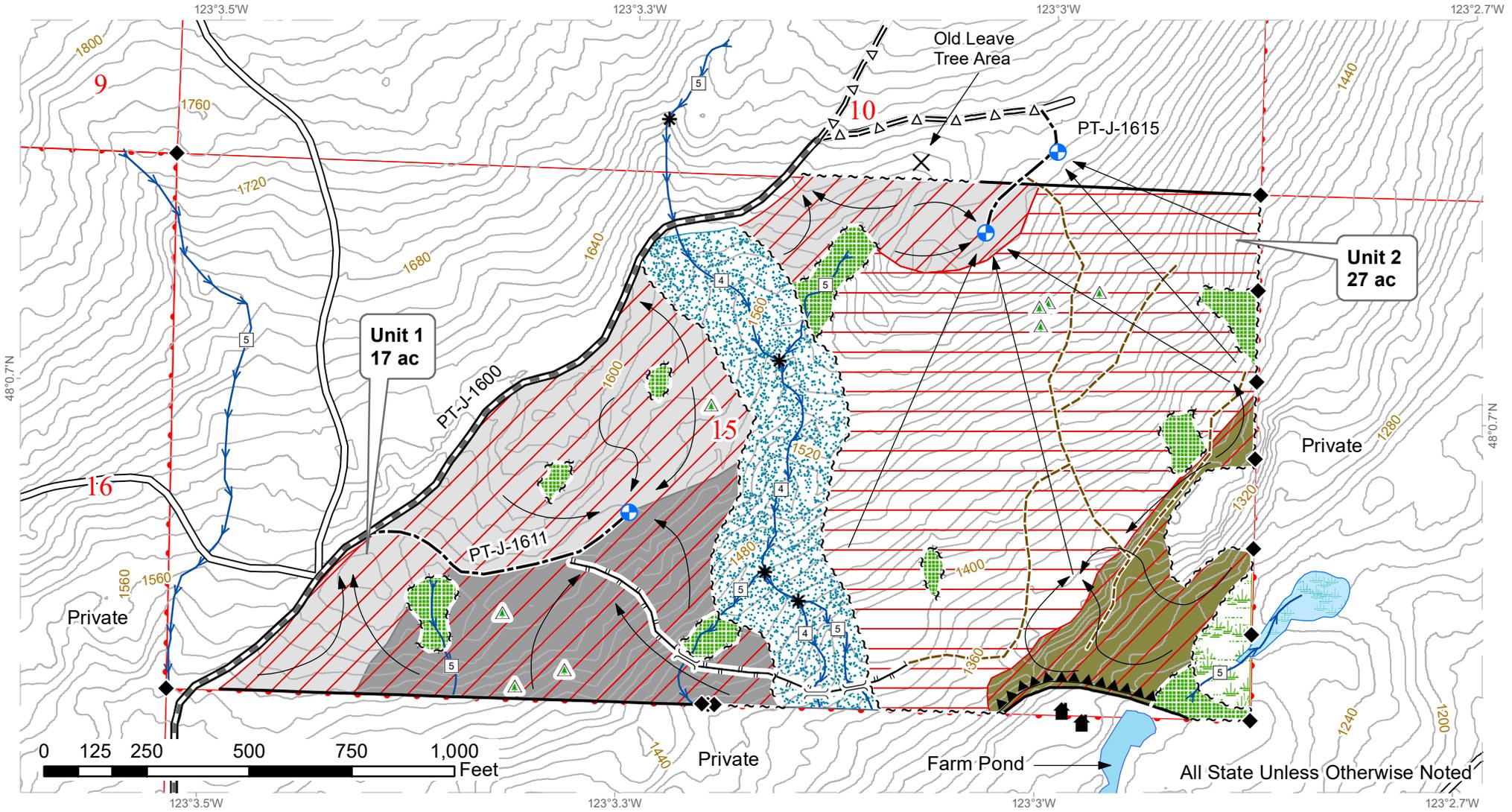


Date: October 2015

LOGGING PLAN MAP

SALE NAME: DEAN CREEK DIVIDE
 AGREEMENT#: 30-099250
 TOWNSHIP(S): T29R3W
 TRUST(S): Capitol Grant (7)

REGION: Olympic Region
 COUNTY(S): Clallam
 ELEVATION RGE: 1244-1875

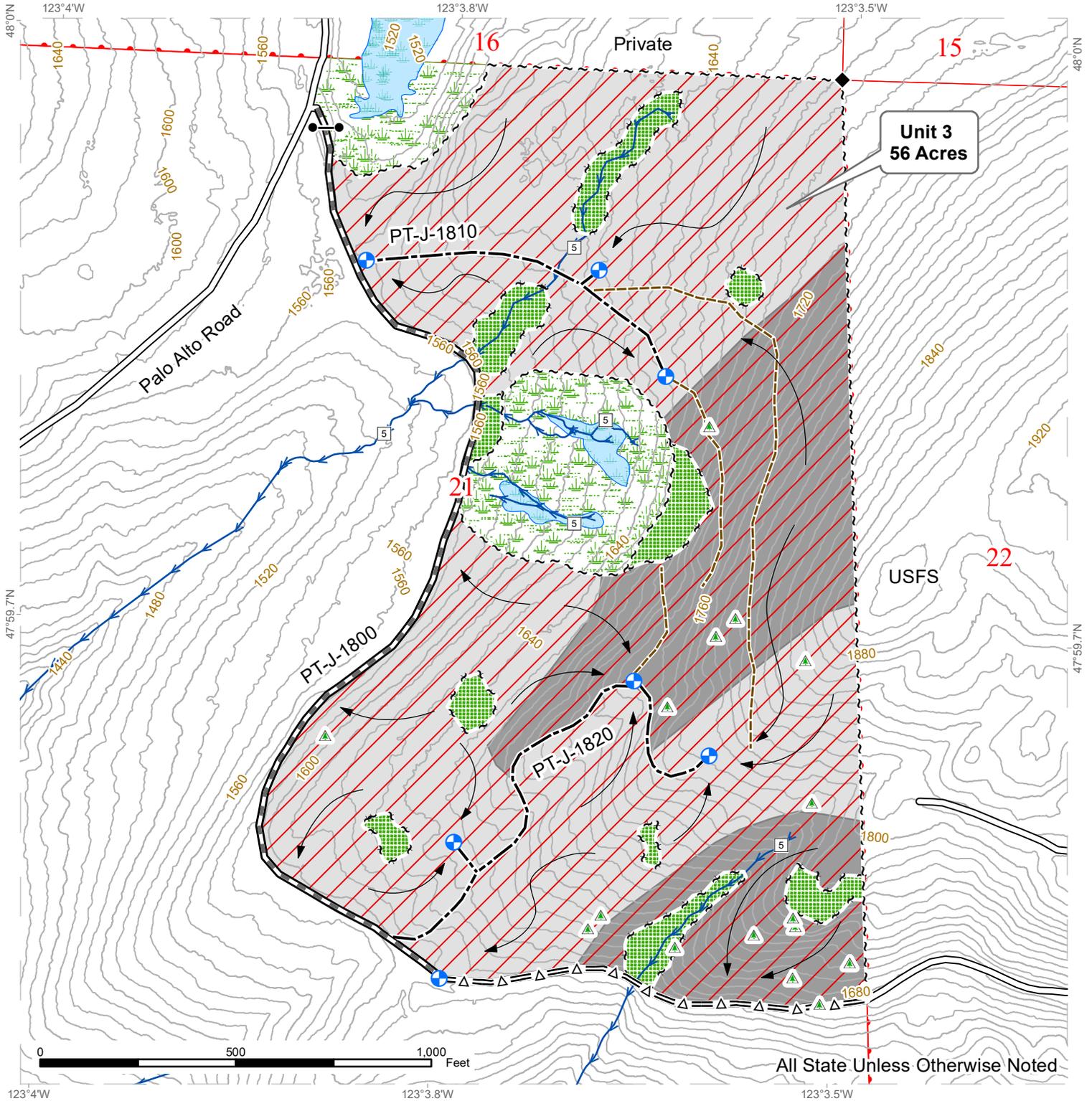


Ground VRH	Riparian Mgt Zone	DNR-Managed Lands	Contours 10 ft	Required Pre-Haul Maintenance	Cable Yarding	Non-Tradeable Leave Tree
Shovel/Seasonal Skidder	Wetland Mgt Zone	PLSS Sections	Hazard Abatement	Optional Pre-Haul Maintenance	Stream Type	Survey Monument
Seasonal Shovel	Wetland	Sale Boundary Tags	Timber Type Change	Old Grades / Trails	Water Type Break	Structure
Shovel Swing Yarding	Leave Tree Area	Leave Tree Area Tags	Existing Roads	Designated Equipment Trail	Designated Crossing	Gate
Cable VRH	Open Water		Optional Construction	Ground Yarding	Proposed Landing	

LOGGING PLAN MAP

SALE NAME: DEAN CREEK DIVIDE
 AGREEMENT#: 30-099250
 TOWNSHIP(S): T29R3W
 TRUST(S): Capitol Grant (7)

REGION: Olympic Region
 COUNTY(S): Clallam
 ELEVATION RGE: 1244-1875



All State Unless Otherwise Noted

