



TIMBER NOTICE OF SALE

SALE NAME: Q PETTIJOHN

AGREEMENT NO: 30-100010

AUCTION: July 28, 2020 starting at 10:00 a.m., Northeast Region Office, Colville, WA

COUNTY: Okanogan

SALE LOCATION: Sale located approximately 21 miles east of Tonasket, WA.

PRODUCTS SOLD AND SALE AREA:

All green conifer species (excluding ponderosa pine) 7 inches and greater in diameter at breast height except for leave trees banded with purple in Units 1, 2, 3, 4 and 5 and as described in the Schedule A in Units 6 and 7 bounded by white timber sale boundary tags; and all right of way timber banded with orange paint on part(s) of Sections 7, 18 and 19 all in Township 37 North, Range 31 East, Sections 11 and 12 all in Township 37 North, Range 29 East, Sections 6 all in Township 37 North, Range 30 East, Sections 19, 20 and 30 all in Township 38 North, Range 30 East, W.M., containing 594 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 Ring DBH, Ring Count, Total MBF, Total Tons, Price \$/Ton, and MBF by Grade (P, SM, 1S, 2S, 3S, 4S, 5S, 6S, UT).

MINIMUM BID: \$20/ton (est. value \$272,000.00)

BID METHOD: Sealed Bids

PERFORMANCE SECURITY:

\$54,400.00

SALE TYPE: Tonnage Scale

EXPIRATION DATE: November 30, 2022

ALLOCATION: Export Restricted

BIDDABLE SPECIES: Bidding to be allowed on all species combined.

BID DEPOSIT: \$27,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Dozer, Rubber tired skidder, and Ground based equipment. Falling and Yarding will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator due to springbreak.

ROADS: 15.55 stations of required construction. 8.62 stations of required reconstruction. 485.39 stations of required prehaul maintenance. Road construction will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator due to spring breakup. The hauling of forest products will not be permitted from March 15 to June 1 unless authorized in writing by the Contract Administrator.



TIMBER NOTICE OF SALE

ACREAGE DETERMINATION

CRUISE METHOD: Acreage determined using GPS methods. Acreage shown above is net harvest acres in harvest units. Ponderosa pine and western red cedar: 8.0 - 17.5 inches dbh has a minimum top of 5.6 inch dib. All other species: 7.0 - 17.5 inches dbh has minimum top of 4.6 inch dib. All species 17.6 inches and greater dbh have a minimum top dib of 40% of dob at 16 feet or a 6 inch top whichever is greater.

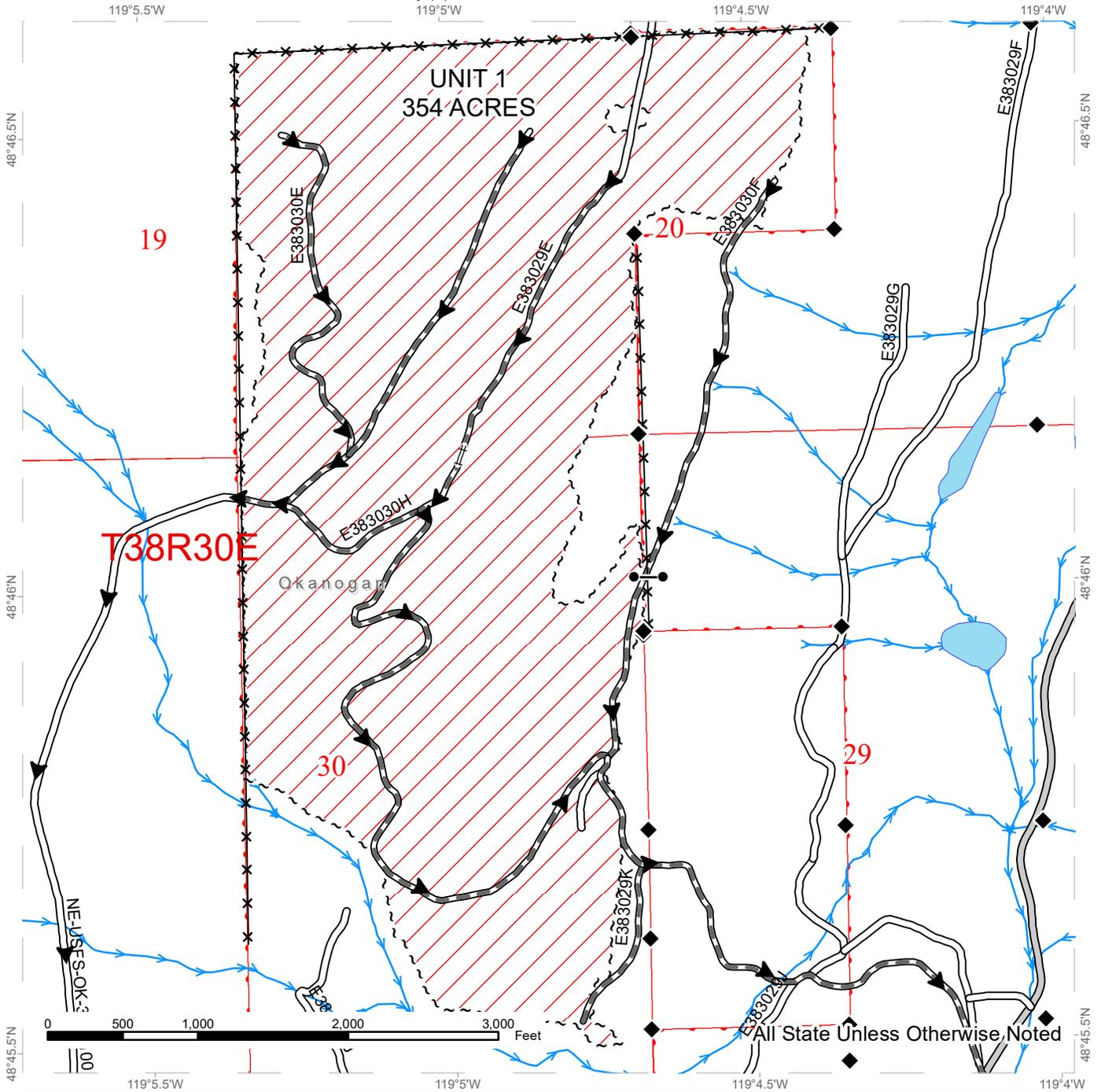
FEES: Within 10 days of day of sale, Purchaser shall provide payment for a road use permit in the amount of \$500.00. \$39,780.00 is due on day of sale. \$1.64 per ton is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Locked gates restricts access to Unit 5, 6 and 7. Contact Northeast Region Office at (509) 684-7474 for access. Utility is optional removal see contract clause H-157 for details.

TIMBER SALE MAP

SALE NAME: Q PETTIJOHN
AGREEMENT #: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840



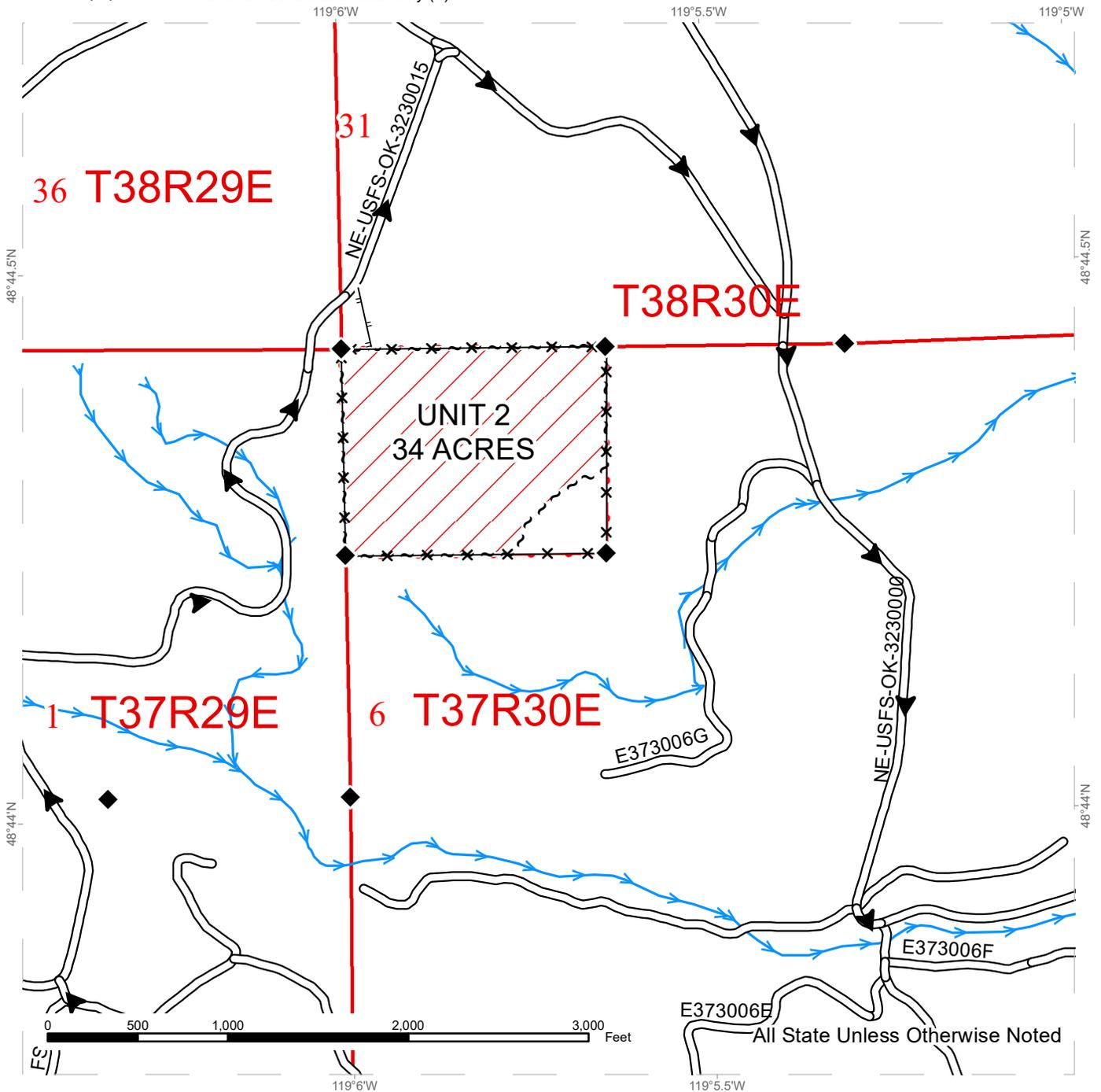
Public Land Survey Townships	County Road	Hauling_Route
DNR Managed Lands	Existing Roads	Fence
Variable Retention Harvest	Required Pre-Haul Maintenance	Streams
Sale Boundary Tags	Required Reconstruction	Survey Monument
		Gates



TIMBER SALE MAP

SALE NAME: Q PETTIJOHN
AGREEMENT #: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840



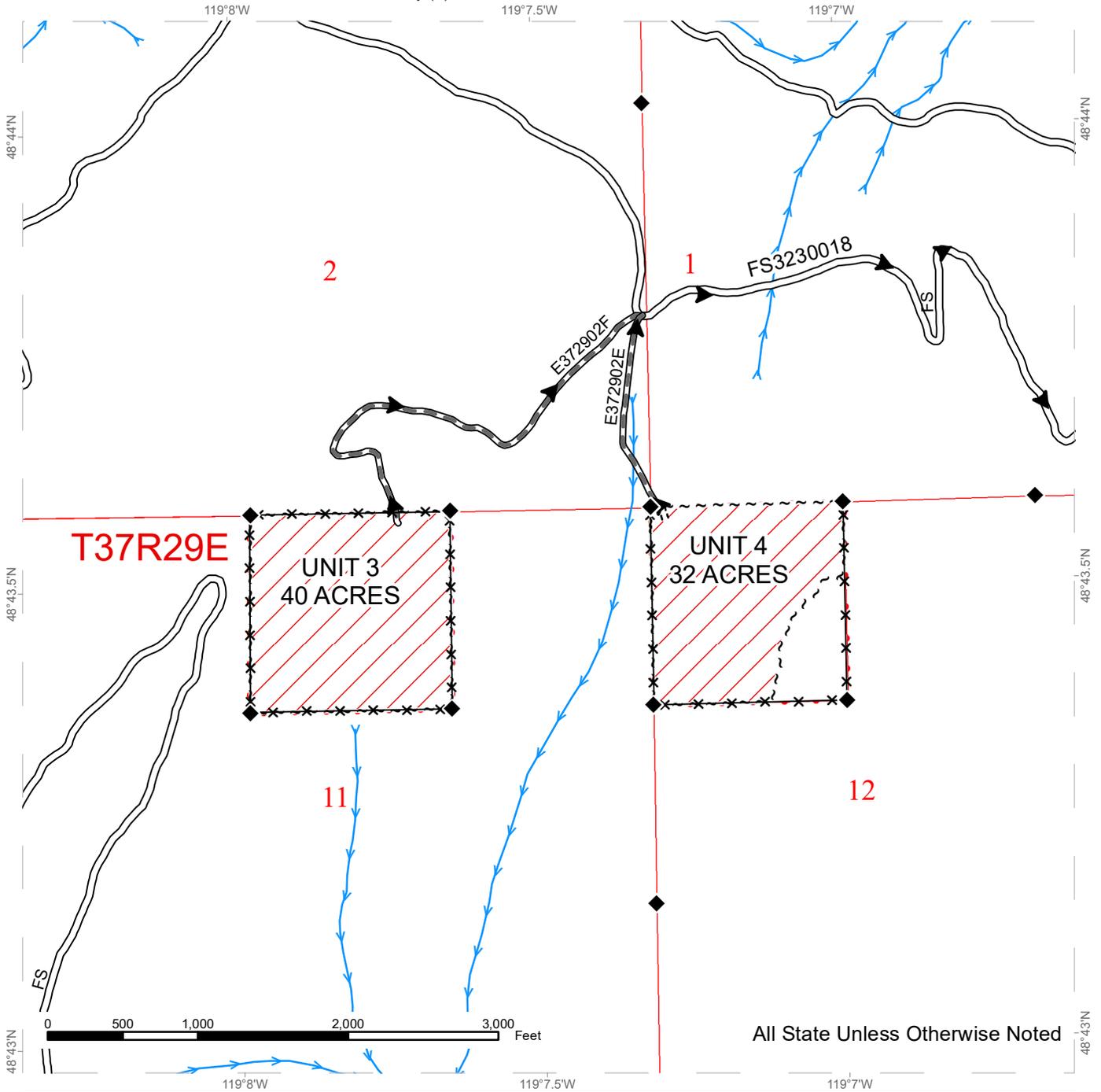
Public Land Survey Townships	Existing Roads	Hauling_Route
DNR Managed Lands	Designated Skid Trail	Fence
Variable Retention Harvest	Streams	Survey Monument
Sale Boundary Tags		



TIMBER SALE MAP

SALE NAME: Q PETTIJOHN
AGREEMENT #: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840



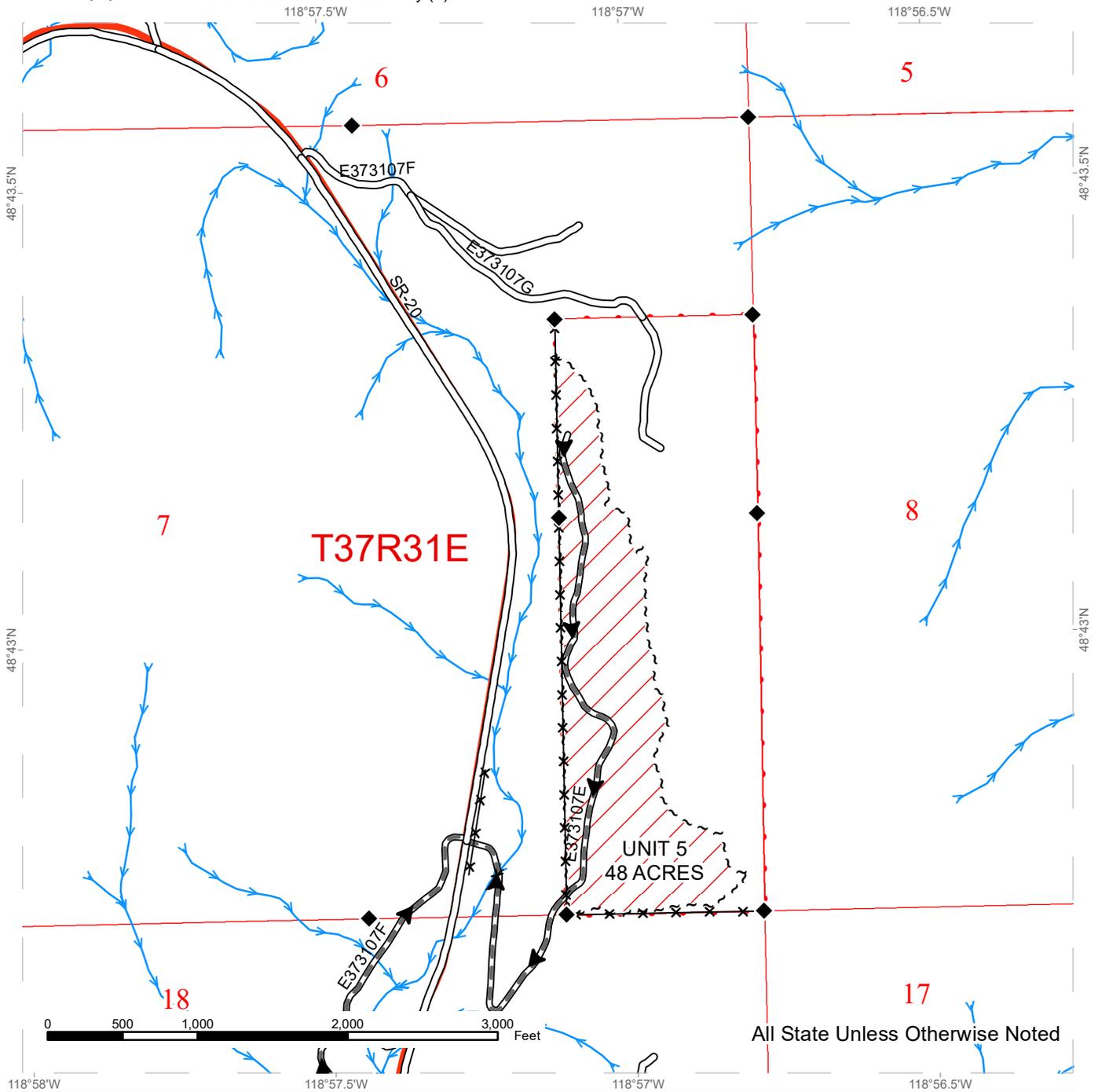
All State Unless Otherwise Noted

Public Land Survey Townships	Existing Roads	Hauling_Route
DNR Managed Lands	Required Pre-Haul Maintenance	Fence
Variable Retention Harvest	Required Construction	Streams
Sale Boundary Tags	Survey Monument	

TIMBER SALE MAP

SALE NAME: Q PETTIJOHN
AGREEMENT #: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840

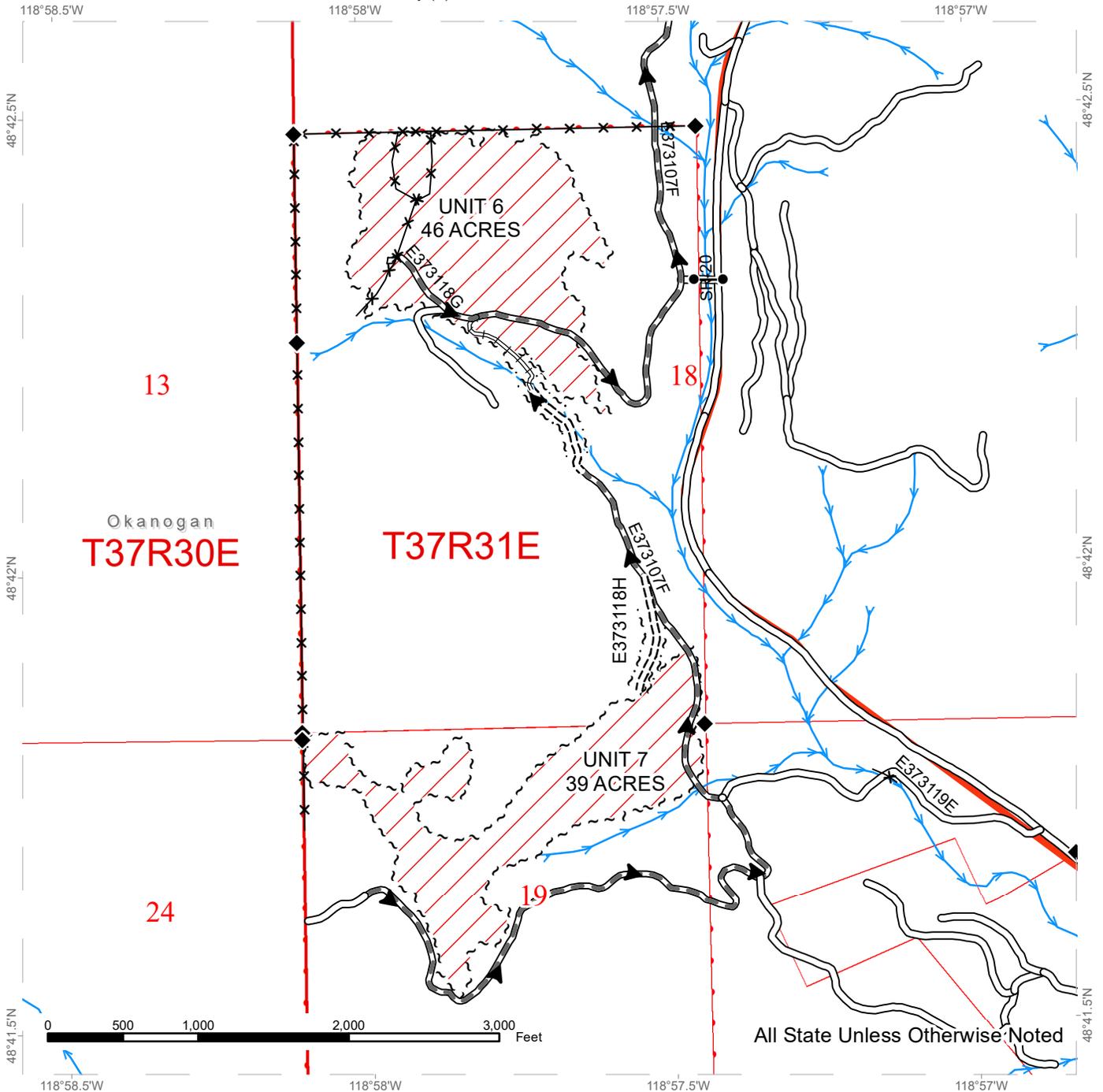


Public Land Survey Townships	Existing Roads	Hauling_Route
DNR Managed Lands	Required Pre-Haul Maintenance	Fence
Variable Retention Harvest	Sale Boundary Tags	Streams
		Survey Monument

TIMBER SALE MAP

SALE NAME: Q PETTIJOHN
AGREEMENT #: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840



All State Unless Otherwise Noted

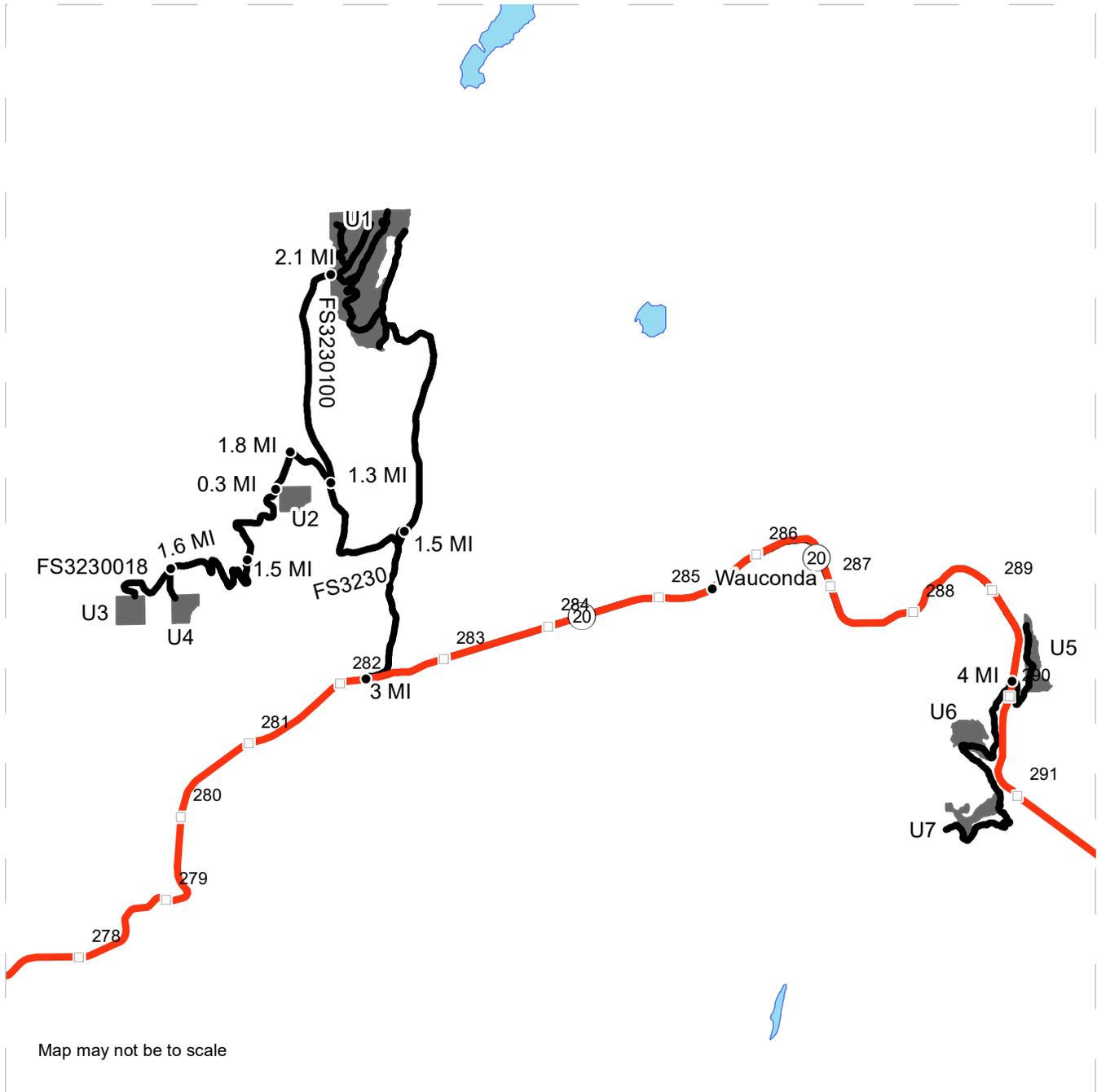
Public Land Survey Townships	Existing Roads	Hauling_Route
DNR Managed Lands	Required Pre-Haul Maintenance	Fence
Variable Retention Harvest	Required Construction	Streams
Sale Boundary Tags	Required Reconstruction	Survey Monument
Right of Way Tags = 1 acre		Gates



DRIVING MAP

SALE NAME: Q PETTIJOHN
AGREEMENT#: 30-100010
TOWNSHIP(S): T37R29E, T37R30E, T37R31E, T38R30E
TRUST(S): Common School and Indemnity (3)

REGION: Northeast Region
COUNTY(S): Okanogan
ELEVATION RGE: 3800-4840



Map may not be to scale

- Timber Sale Unit
- Haul Route
- Milepost Markers

DRIVING DIRECTIONS:

Units 1,2,3,4.
 From Wauconda travel west on Hwy 20 for 3 miles and turn onto Bonaparte Lake Rd. Travel North 1.5 miles and turn west onto FS3230 Rd. Continue for 1.3 miles and head north onto the FS100 Rd. Travel north for 2.1. This will access Unit 1. From the intersection of FS3230 Rd travel west for 1.8 miles and turn south onto FS3230015 Rd. Continue for 0.3 miles to access Unit 2. Continue for 1.5 miles and travel south for 1.6 miles on FS3230018 Rd. This will access Units 3 and 4.

Units 5,6,7
 From Wauconda travel east on Hwy 20 for 4 miles to access Units 5, 6, and 7



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Tonnage Scale AGREEMENT NO. 30-0100010

SALE NAME: Q PETTIJOHN

**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-010 Products Sold and Sale Area

Purchaser was the successful bidder on July 28, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All green conifer species (excluding ponderosa pine) 7 inches and greater in diameter at breast height except for leave trees banded with purple in Units 1, 2, 3, 4 and 5 and as described in the Schedule A in Units 6 and 7 bounded by white timber sale boundary tags; and all right of way timber banded with orange paint, located on approximately 594 acres on part(s) of Sections 7, 18, and 19 all in Township 37 North, Range 31 East, Sections 11, and 12 all in Township 37 North, Range 29 East, Section 6 in Township 37 North, Range 30 East, Sections 19, 20, and 30 all in Township 38 North, Range 30 East W.M. in Okanogan County(s) as shown on the attached timber sale map and as designated on the sale area.

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

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the timber sale area and the forest products being sold. Purchaser also warrants to the State that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Unit 6 and 7 Harvest Prescription
B	USFS Skid Trail Requirements

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to November 30, 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-050 Contract Term Extension - Payment

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

- a. A written request for extension of the contract term must be received prior to the expiration date of the contract.
- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the contract value based on the contract payment rate and advertised volume.

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

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

- d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the timber value of the contract.

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

- e. Payment of \$265.00 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-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-090 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, added forest products

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

G-100 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-105 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 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 same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: PwC-SFIFM-513.

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 Colville, 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; E372902E, E372902F, E373107E, E373107F, E373118G, E373118H, E383019F, E383029E, E383029K, E383030E, E383030F, E383030H, USFS 3230100, USFS 3230000 and USFS 3230015. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-320 Erosion Control

Purchaser shall deliver 300 pounds of grass seed to a location designated by the Contract Administrator. Seed provided shall meet the following specifications.

40% Mountain Brome, 30% Sherman Big Bluegrass, 30% Idaho Fescue

Seed shall be weed free, premixed and delivered to Highlands Fire Camp in 50 pound bags clearly labeled with the timber sale name on each bag.

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 E383029E, E383030F, E383029E, E373107F and USFS 3230015 roads, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement 1927 with Scott dated July 8, 1981

Easement 1928 and supplement with Jones and Hart dated November 13, 1981 and March 30, 1989

Easement 90081 with Vaagen Bros. Lumber dated June 25, 2014

Easement 513 with USFS dated November 12, 1980

Road Use Permit 99088 with Verzone dated July 24, 2019

Road Use Permit *****with USFS dated *****

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-010 Initial Deposit

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

P-024 Payment for Forest Products

Purchaser agrees to weigh all loads and pay the following rate per ton for forest products conveyed plus \$39,780.00 on day of sale and \$1.64 per ton upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

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

P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to weigh all loads and pay the rate of \$2.00 per ton for forest products approved for removal from the sale area under clause H-157.

P-040 Weighing and Scaling Costs

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

P-045 Guarantee of Payment

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

P-052 Payment Procedure

If a third party Log and Load Reporting Service (LLRS) is required by this contract the State will compute and forward to the Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to the Northeast region office on or before the date shown on the billing statement.

If a third party LLRS is not required by this contract, Purchaser shall pay for forest products removed on a monthly basis. Payments will be submitted to the Northeast region office on or before the fourteenth of the month following the month in which the timber was removed or, according to an alternate payment schedule as approved by the State with at least one payment each month for timber removed. The alternate payment schedule, once approved by the State, shall become part of this contract and may be changed only with written approval of the State.

Payment will be based on the contract rate multiplied by the tons (tonnage contracts) or volume (mbf contracts) removed during the month or payment period. Included with the payment will be a summary report along with all related load tickets and the corresponding certified weight tickets for the payment period. The summary report will be generated using a computer spreadsheet and list the load tickets in ascending numerical order with the corresponding ticket number and weight or volume for each load.

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

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-024 shall apply.

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$54,400.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State

decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section L: Log Definitions and Accountability

L-060 Load Tickets

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

Purchaser shall account for all load tickets issued by the Contract Administrator and return unused tickets at termination of the contract, or as otherwise required by the Contract Administrator. Unused tickets not returned shall be subject to liquidated damages per clause D-030.

The State may also treat load tickets either not accounted for or not returned as lost forest products per clause P-070. All costs associated with computing the billings for lost forest products shall be borne by Purchaser

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within 2 business day of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

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

L-110 State Approval of Log Scaling and Weighing Locations

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

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are

currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

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

Falling and Yarding will not be permitted from March 15 to June 1 in all units unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

Excessive damage for leave trees is defined in clause H-012.

Excessive skid trail damage is defined in clause H-015 or H-016.

When leave tree damage exceeds the limits set forth in clause H-012, Purchaser shall be subject to liquidated damages (clause D-040 or D-041).

H-012 Leave Tree Damage Definition

Leave trees are trees required for retention within the sale boundary. Purchaser shall protect leave trees from being cut, damaged, or removed during operations.

Leave tree damage exists when more than 5 percent of the leave trees are damaged in a unit and when one or more of the following criteria occur as a result of Purchaser's operation, as determined by the Contract Administrator:

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave 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 leave tree has been cut or damaged, the Purchaser may be required to pay liquidated damages for Excessive Leave Tree Damage as detailed in clause D-040.

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. Skid trails will not exceed 16 feet in width, including rub trees.
- b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.
- c. Skid trail location will be pre-approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 12 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-025 Timing Requirements for Timber Removal

All forest products must be removed within 30 days of being felled.

H-030 Timber Falling

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

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for Units 1, 2, 3, 4, 5, 6 and 7. The plan shall address the harvest operations and be incorporated at the pre-work conference, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

Trees designated for cutting along skid trails and cable corridors shall be left standing as rub trees until all timber that is tributary to the skid trail or cable corridor has been removed.

H-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

H-060 Skid Trail Locations

Locations of skid trails must be marked by Purchaser and approved by the Contract Administrator prior to the felling of timber.

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-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using D6 equivalent or smaller for ground skidding and ground base harvesting equipment. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-130 Hauling Schedule

The hauling of forest products will not be permitted during the weekends and holidays on USFS roads and on E372902E, E372902F, E373107E, E373107F, E373118G, E373118H, E383019F, E383029E, E383029K, E383030E, E383030F, E383030H,

USFS 3230100, USFS 3230000 and USFS 3230015 roads from March 15 to June 1 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Whole tree yarding required in all units.
- b. Hand felling of trees and retrieval with bull lines and chokers maybe required in isolated areas of units.
- c. Road salts shall not be applied to roads for dust abatement or removing of ice from road surfaces.
- d. All slash shall be pile at landings or hauled back into the units where designated by the Contract Administrator.
- e. Slash piled at landings shall be separated from the road prism at completion of harvest.
- f. Appropriate warning signs shall be posted at locations designated by the Contract Administrator.
- g. If snow plowing occurs, snow berms shall be removed at locations designated by the Contract Administrator to allow surface water to drain from roads. Snow plowing is not allowed on USFS 3300100 and USFS 3230000 due to winter recreation.

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

H-150 Required Removal of Forest Products

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

Species	Net bd ft	Log length (ft)	Log dib
All green species	20	16	4.6

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

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

H-160 Mismatch

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

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

H-180 Removal of Specialized Forest Products or Firewood

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

H-190 Completion of Settings

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

H-210 Log Length Hauling Restrictions

The maximum log length hauled from the sale area shall not exceed 45 feet unless otherwise approved in writing by the Contract Administrator.

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-260 Fall Leaners

Trees within all units that have been pushed over in falling or skidding operations shall be felled.

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

Road construction and associated work provisions of the Road Plan for this sale, dated 10/17/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on E372902E, E372902F, E373107E, E373107F, E373118G, E373118H, E383019F, E383029E, E383029K, E383030E, E383030F and E383030H 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 USFS 3230100, USFS 3230000 and USFS 3230015 roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

C-090 Landing Location

Landings shall be built 50 feet off the E383030H and USFS 3230015 road(s).

C-130 Dust Abatement

Purchaser shall abate dust on the E372902E, E372902F, E373107E, E373107F, E373118G, E373118H, E383019F, E383029E, E383029K, E383030E, E383030F, E383030H, USFS 3230100, USFS 3230000 and USFS 3230015 roads used for hauling from June 15 to November 1.

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-040 Noxious Weed Control

Purchaser shall notify the Contract Administrator in advance of moving equipment onto State lands. Purchaser shall thoroughly clean all off road equipment prior to entry onto State land to remove contaminated soils and noxious weed seed. If equipment is moved from one DNR project area to another, the Contract Administrator reserves the right to require the cleaning of equipment. Equipment shall be cleaned at a location approved by the Contract Administrator.

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, the Purchaser is responsible for notifying the following:

Appropriate Department of Ecology regional office (contact information below).

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

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

ECY - Southwest Region:

1-360-407-6300

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

ECY - Central Region:

1-509-575-2490

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

ECY - Eastern Region:

1-509-329-3400

(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

S-131 Refuse Disposal

As required by RCW 70.93, All Purchaser generated refuse shall be removed from state lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state forest lands. All refuse shall be transported in a manner such that it is in compliance with RCW 70.93 and all loads or loose materials shall be covered/secured such that these waste materials are properly contained during transport.

S-140 Fence Repair

Purchaser shall immediately repair all fence damage resulting from operations on this sale to an equal or better condition than existed at the time of sale.

Section D: Damages

D-010 Liquidated Damages

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

D-021 Failure to Remove Forest Products

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

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

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal tonnage to date from the cruised tonnage multiplied by the contract bid rates.

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

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

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

A = Administrative Fee = \$2,500.00.

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

Where:

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

LD = Liquidated damage value.

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

D-030 Inadequate Log Accountability

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

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged trees in the units.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Print Name

Ken McNamee
Northeast Region Manager

Date: _____
Address: _____

Date: _____

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

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
Unit 6 and 7 Harvest Prescription

I. Unit 6 will be prescriptive harvest. Leave a minimum of 21 TPA (45' X 45' Spacing) Leave trees will be 6TPA of the largest available and 13-15TPA of the healthiest and most vigorous trees greater than 10" DBH . Leave trees will be the largest available of the healthiest, most vigorous trees with good growth form and crown ratios. Emphasis will be placed on removing diseased western larch unless retention is required to meet minimum leave tree levels. All biological legacy trees have been identified and banded with purple paint throughout the unit. If trees with dwarf mistletoe must be retained priority shall be placed on trees with infection in the lower ¼ of the live crown. Harvested openings shall not create voids of greater than 400 feet between leave trees.

II. Unit 7 will be prescriptive harvest. Leave a minimum of 6 TPA (85' X 85' Spacing). Leave trees will be the largest available of the healthiest, most vigorous trees with good growth form and crown ratios. Emphasis will be placed on removing diseased western larch unless retention is required to meet minimum leave tree levels. All biological legacy trees have been identified and banded with purple paint throughout the unit. If trees with dwarf mistletoe must be retained priority shall be placed on trees with infection in the lower ¼ of the live crown. Harvested openings shall not create voids of greater than 400 feet between leave trees. An emphasis will be placed on protecting existing regeneration.

Schedule B
USFS Skid Trail Requirements

File Code: 2450

Date: December 4, 2019

Washington State Department of Natural Resources Northeast Region
Highlands District
Attn: Andy Townsend, Silviculture Unit Forester

Subject: Pettijohn Timber Sale Parcel Access

Andy:

With this letter I am hereby authorizing your request to skid timber material across Forest Service Lands in association with the Pettijohn Timber Sale.

Skidding is authorized to occur between Department of Natural Resources (DNR) parcel, located in the NW¹/₄ of the NW¹/₄ of Section 06, T.37N., R.30E., W.M., and Forest Service Road (FSR) 3230-015. The distance of said skid is approx. 270 feet. See Exhibit A, Map.

In conjunction with skidding activity, an area adjacent to FSR 3230-015 is also hereby authorized, for the purpose of landing timber and the piling of slash.

Conditions upon this authorized activity are as follows:

- Skid Trail width shall be no greater than that which is practicably required for skidding operations.
- The volume of slash material piled on Forest Service lands shall not exceed 50% of total slash volume generated. Remaining slash volume will be deposited back within the DNR parcel of origin.
- The location of slash piling shall be designated on the ground by an authorized Forest Service (FS) Tonasket Ranger District representative.
- Final disposal of slash upon FS lands shall be conducted as mutually agreed upon by FS personnel and DNR Timber Sale Contract Administrator.
- When engaged in commercial hauling adjacent to or on National Forest System roads or National Forest System trails open to public travel, the holder shall provide users with adequate warning of hazardous conditions associated with the holder's operations. Warning devices shall be appropriate for current conditions and shall be covered or removed when not needed. Flags and other warning devices shall comply with the Manual on Uniform Traffic Control Devices for Streets and Highways.

The DNR shall rehabilitate FS ground affected by skidding by decompacting soils, applying FS approved certified weed-free seed mix at rates and times as shown below, and other treatments as directed by authorized Forest Service (FS) Tonasket Ranger District representative(s).

SPECIES	LBS/ACRE	APPLICATION	TIMING
Yarrow (<i>Achillea millefolium</i>)	Wenatchee biotype	0.25	

LATE FALL OR EARLY SPRING

Mountain Brome (*Bromus carinatus*) Reecer Creek Biotype 8.5

Idaho fescue (*Festuca idahoensis*) Chelan-Entiat biotype 2.5

Blue Wild Rye (*Elymus glaucus*) Sinlahekin 6

- Damage to structures due to logging operations, such as fences, shall be promptly repaired.
- Removal of timber: The following removal of timber to facilitate skidding and landing activities is authorized: Two or less trees measuring 10-15" dbh. Eight or less trees measuring 4-8" dbh. Trees removed will be utilized as rehabilitation debris on the landing and/or skid trail.
- Timing: Please notify the Tonasket District Ranger, in writing, 30 days prior to skidding operations.

This letter of authorization shall remain in effect for a period of 5 years from the date signed by both parties.

APPROVED:

Kathleen Johnson
Okanogan-Wenatchee National Forest Tonasket Ranger District Ranger



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northeast

Timber Sale Name: Q PETTIJOHN

Application Number: 30- 100010

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 1,555 linear feet
Road to be constructed (optional and required) but not abandoned

Reconstruction: 862 linear feet
Road to be reconstructed (optional and required) but not abandoned

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

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

Pre-Haul Maintenance: 48,539 linear feet
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 0 linear feet
Roads to be constructed (optional and required) and then abandoned

0 linear feet
Temporary Reconstruction:
Roads to be reconstructed (optional and required) and then abandoned

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

(Revised 9/18)

Timber Sale Cruise Report Pettijohn

Sale Name: Q PETTIJOHN

Sale Type: WEIGHT SCALE

Region: NORTHEAST

District: HIGHLANDS

Lead Cruiser: Dylan Worlock

Other Cruisers: Kevin Parkinson, Mike Rung

Cruise Narrative:

Location:

Sale location is in northeastern Okanogan county. Units 1-4 are accessed via UFS 3230000 RD located off Bonaparte Lake Rd. Units 5-7 located off HWY 20, via easement roads.

Legal description:

Sections 19, 20, & 30, T 38 N, R 30 E, WM.;

Section 6, T 37 N, R 30 E, WM.;

Sections 11 & 12, T 37 N, R 29 E, WM.; and

Sections 7, 18, & 19, T 37 N, R 31 E, WM.

Cruise Design:

DBH - Minimum DBH is 7"

Log length - Saw logs: 32 feet where possible, minimum of 12 feet

Top DIB - Sawlog: Trees less than 17.5" DBH have a minimum top of 4.6" dib.

Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 4.6" dib top whichever is greater.

Take/Leave Prescription -

Units 1-5: Harvest all green conifers that meet the minimum cruise specifications and are not banded with purple paint. Leave all hardwoods.

Unit 6: Prescription harvest requires at least 21 leave trees per acre. See prescription appendix for further details. Leave all ponderosa pine and all hardwoods.

Unit 7: Prescription harvest requires at least 6 leave trees per acre. See prescription appendix for further details. Leave all ponderosa pine and all hardwoods.

ROW: Remove all orange-banded trees.

Cruise Acres determination -

Cruised acres in the TRIS Sale reports are based off the FMA unit boundary acreage, subtracting internal road acreage.

Timber Quality:

This sale consists of domestic quality, second growth timber. Harvest timber is primarily Douglas-fir (76%), and western larch (23%). There is a small component of lodgepole pine (<1%), and subalpine fir (<1%).

Engelmann spruce is noted in the sale area but was not picked up in the cruise.

Observed defect-

Defect found in the sale area includes isolated root rot pockets, split tops, broken tops, and spike knots.

Smaller amounts of sweep exist throughout the sale as well. Mistletoe is present, but rarely affects the timber quality of the tree.

Logging and Stand Conditions:

The ground within the sale area is primarily rolling and gentle. Short pitches of steeper ground are present. Rock outcroppings are present in the area.

% Cable vs. % ground-based harvesting:

100% ground-based harvest.

Timber Sale Notice Volume (MBF)

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	12.6			1,796.0	270.7	1,009.1	516.1
WL	13.9			532.4	140.4	291.8	100.2
LP	8.1			8.2			8.2
AF	9.7			2.5			2.5
ES	13.9			1.6	0.5	0.8	0.3
ALL	12.6			2,340.4	411.7	1,301.7	627.1

Timber Sale Notice Weight (tons)

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	13,144.1	1,653.7	7,428.9	4,061.4
WL	3,233.2	718.7	1,863.4	650.9
LP	44.5			44.5
AF	18.6			18.6
ES	9.0	2.3	4.5	2.1
ALL	16,449.4	2,374.7	9,296.8	4,777.8

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
56.4	4.1	96.4	2.8	5,518	5.0

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
PETTIJOHN U1	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	354.4	363.2	167	58	18

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
PETTIJOHN U2	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	34.5	34.5	26	15	1
PETTIJOHN U3	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	40.4	40.4	28	14	4
PETTIJOHN U4	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	31.9	31.9	23	10	3
PETTIJOHN U5	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	47.6	49.1	36	14	1
PETTIJOHN U6	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	45.7	46.5	31	11	2
PETTIJOHNU7	B1C: VR, 1 BAF (20) Measure/ Count Plots, Sighting Ht = 4.5 ft	38.9	39.3	26	10	5
ROW	ST: Strip/Percent Sample (1 tree expansion)	0.5		1	1	0
All		593.8	604.8	338	133	34

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	LIVE	4 SAW	Domestic	5.0	24.0	4	0.0	18.6	2.5
DF	LIVE	2 SAW	Domestic	12.5	32.0	456	2.1	1,653.7	270.7
DF	LIVE	3 SAW	Domestic	8.3	32.0	1,699	2.1	7,428.8	1,009.2
DF	LIVE	4 SAW	Domestic	5.5	21.0	869	3.3	4,061.6	515.9
DF	LIVE	CULL	Cull	6.4	17.0	0	100.0	0.0	0.0
ES	LIVE	2 SAW	Domestic	13.5	32.0	1	0.0	2.3	0.5
ES	LIVE	3 SAW	Domestic	9.5	32.0	1	0.0	4.5	0.8
ES	LIVE	4 SAW	Domestic	5.1	22.0	1	0.0	2.1	0.3
LP	LIVE	4 SAW	Domestic	5.8	15.0	14	0.0	44.5	8.2
WL	LIVE	2 SAW	Domestic	12.4	32.0	237	0.9	718.8	140.5
WL	LIVE	3 SAW	Domestic	7.8	32.0	491	3.8	1,863.5	291.8
WL	LIVE	4 SAW	Domestic	5.2	21.0	169	2.7	651.0	100.2
WL	LIVE	CULL	Cull	10.9	9.0	0	100.0	0.0	0.0

Timber Sale Log Grade x Diameter Bin Summary

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	5 - 8	LIVE	4 SAW	5.0	24.0	4	0.0	18.6	2.5
DF	< 5	LIVE	CULL	3.0	24.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	4 SAW	5.3	22.0	842	3.4	3,941.3	500.3
DF	5 - 8	LIVE	CULL	6.0	14.0	0	100.0	0.0	0.0

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	3 SAW	7.0	32.0	781	1.8	3,618.3	463.8
DF	9 - 11	LIVE	4 SAW	9.0	15.0	26	0.0	120.3	15.6
DF	9 - 11	LIVE	CULL	9.3	20.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	3 SAW	9.6	32.0	876	2.3	3,656.4	520.3
DF	9 - 11	LIVE	2 SAW	11.5	32.0	39	0.0	147.0	23.5
DF	12 - 14	LIVE	3 SAW	11.8	32.0	42	2.7	154.1	25.0
DF	12 - 14	LIVE	2 SAW	12.6	32.0	274	2.3	1,043.0	163.0
DF	12 - 14	LIVE	CULL	12.7	4.0	0	100.0	0.0	0.0
DF	15 - 19	LIVE	CULL	16.1	2.0	0	100.0	0.0	0.0
DF	15 - 19	LIVE	2 SAW	16.5	32.0	99	1.7	323.9	58.7
DF	20+	LIVE	2 SAW	20.8	32.0	43	4.1	139.9	25.6
ES	5 - 8	LIVE	4 SAW	5.1	22.0	1	0.0	2.1	0.3
ES	5 - 8	LIVE	3 SAW	7.7	32.0	0	0.0	0.4	0.1
ES	9 - 11	LIVE	3 SAW	9.8	32.0	1	0.0	4.1	0.7
ES	12 - 14	LIVE	2 SAW	11.7	32.0	0	0.0	0.9	0.2
ES	15 - 19	LIVE	2 SAW	15.2	32.0	0	0.0	1.4	0.3
LP	5 - 8	LIVE	4 SAW	5.8	15.0	14	0.0	44.5	8.2
WL	5 - 8	LIVE	4 SAW	5.2	22.0	169	2.7	651.0	100.2
WL	5 - 8	LIVE	3 SAW	7.0	32.0	262	6.3	1,073.0	155.8
WL	9 - 11	LIVE	3 SAW	9.7	31.0	229	0.7	790.4	136.0
WL	9 - 11	LIVE	CULL	10.6	11.0	0	100.0	0.0	0.0
WL	9 - 11	LIVE	2 SAW	11.5	32.0	12	9.1	42.2	6.9
WL	12 - 14	LIVE	CULL	12.1	4.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	2 SAW	12.5	32.0	151	0.6	471.9	89.7
WL	15 - 19	LIVE	2 SAW	17.1	32.0	74	0.0	204.6	43.9

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	5 - 8	LIVE	Domestic	5.0	24.0	4	0.0	18.6	2.5
DF	< 5	LIVE	Cull	3.0	24.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	Domestic	5.8	25.0	1,624	2.6	7,559.7	964.1
DF	5 - 8	LIVE	Cull	6.0	14.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Cull	9.3	20.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Domestic	9.6	31.0	942	2.2	3,923.7	559.4
DF	12 - 14	LIVE	Domestic	12.4	32.0	317	2.3	1,197.0	188.0
DF	12 - 14	LIVE	Cull	12.7	4.0	0	100.0	0.0	0.0
DF	15 - 19	LIVE	Cull	16.1	2.0	0	100.0	0.0	0.0

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	15 - 19	LIVE	Domestic	16.5	32.0	99	1.7	323.9	58.7
DF	20+	LIVE	Domestic	20.8	32.0	43	4.1	139.9	25.6
ES	5 - 8	LIVE	Domestic	5.2	23.0	1	0.0	2.5	0.4
ES	9 - 11	LIVE	Domestic	9.8	32.0	1	0.0	4.1	0.7
ES	12 - 14	LIVE	Domestic	11.7	32.0	0	0.0	0.9	0.2
ES	15 - 19	LIVE	Domestic	15.2	32.0	0	0.0	1.4	0.3
LP	5 - 8	LIVE	Domestic	5.8	15.0	14	0.0	44.5	8.2
WL	5 - 8	LIVE	Domestic	5.9	26.0	431	4.9	1,724.0	256.0
WL	9 - 11	LIVE	Domestic	9.8	31.0	241	1.1	832.6	143.0
WL	9 - 11	LIVE	Cull	10.6	11.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	Cull	12.1	4.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	Domestic	12.5	32.0	151	0.6	471.9	89.7
WL	15 - 19	LIVE	Domestic	17.1	32.0	74	0.0	204.6	43.9

Timber Sale Distribution of Volume by County and Timber Trust by Sale Unit

Unit	Harvest Type	N Trusts	Timber Trust	County	Unit MBF	Sale MBF	Unit % of Sale	Trust % of Unit	Trust % of Sale
PETTIJOHN U1	UNEVNAGE_MGT	1	3	Okanogan	1,055.0	2,340.4	45.08	100.00	45.08
PETTIJOHN U2	SHELTER_INT	1	3	Okanogan	147.8	2,340.4	6.32	100.00	6.32
PETTIJOHN U3	SHELTER_INT	1	3	Okanogan	226.9	2,340.4	9.69	100.00	9.69
PETTIJOHN U4	SHELTER_INT	1	3	Okanogan	181.9	2,340.4	7.77	100.00	7.77
PETTIJOHN U5	SHELTER_INT	1	3	Okanogan	260.0	2,340.4	11.11	100.00	11.11
PETTIJOHN U6	UNEVNAGE_MGT	1	3	Okanogan	243.9	2,340.4	10.42	100.00	10.42
PETTIJOHNU7	UNEVNAGE_MGT	1	3	Okanogan	215.6	2,340.4	9.21	100.00	9.21

Timber Sale Distribution of Volume by County and Timber Trust for the Timber Sale

Timber Trust	County	Trust % of Sale
3	Okanogan	99.60

Cruise Unit Report PETTIJOHN U1

Unit Sale Notice Volume (MBF): PETTIJOHN U1

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	12.4			781.8	98.4	440.3	243.1
WL	12.8			262.6	46.7	160.5	55.4
LP	8.1			8.2			8.2
AF	9.7			2.5			2.5
ALL	12.3			1,055.0	145.1	600.8	309.1

Unit Sale Notice Weight (tons): PETTIJOHN U1

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	6,071.5	652.8	3,373.5	2,045.2
WL	1,694.5	255.4	1,058.6	380.5
LP	44.5			44.5
AF	18.6			18.6
ALL	7,829.1	908.2	4,432.0	2,488.9

Unit Cruise Design: PETTIJOHN U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	354.4	363.2	167	58	18

Unit Cruise Summary: PETTIJOHN U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
PP		86	1.7	0
DF	68	251	1.5	0
WL	37	60	0.4	0
LP	2	4	0.0	0
AF	1	1	0.0	0
ALL	108	402	2.4	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
PP	33.7	57.5	8.0						
DF	30.1	108.5	8.4	82.2	47.5	5.8	2,472	118.5	10.2
WL	7.2	250.5	19.4	103.2	40.1	6.6	741	253.7	20.5
LP	0.5	640.3	49.5	48.7	10.8	7.7	23	640.4	50.1
AF	0.1	1,292.3	100.0	58.5	0.0	0.0	7	1,292.3	100.0
ALL	48.1	77.4	6.0	85.7	47.7	4.6	4,126	90.9	7.5

Unit Summary: PETTIJOHN U1

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
AF	LIVE	CUT	1	ALL	9.7	25	45	7	0.0	0.2	0.1	0.0	18.6	2.5
DF	LIVE	CUT	68	ALL	12.4	37	51	2,206	6.2	32.0	26.8	7.6	6,071.5	781.7
DF	LIVE	LEA	0	ALL	15.8	51	65	266	6.2	2.4	3.2	0.8	731.8	94.2
LP	LIVE	CUT	2	ALL	8.1	17	23	23	0.0	1.3	0.5	0.2	44.5	8.3
PP	LIVE	CUT	0	ALL							0.1			
PP	LIVE	LEA	1	ALL	12.5	30	54			11.9	10.2	2.9		
WL	LIVE	CUT	37	ALL	12.8	49	65	741	8.2	8.0	7.2	2.0	1,694.5	262.7
ALL	LIVE	CUT	108	ALL	12.4	39	53	2,977	6.6	41.5	34.7	9.8	7,829.1	1,055.2
ALL	LIVE	LEA	1	ALL	13.1	34	56	266	6.0	14.3	13.4	3.7	731.8	94.2
ALL	ALL	ALL	109	ALL	12.6	37	54	3,243	6.6	55.8	48.1	13.5	8,560.9	1,149.4

Unit Stand Table: PETTIJOHN U1

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
AF	10	LIVE	CUT	1	9.7	25	45	7	0.0	0.2	0.1	0.0	18.6	2.5
DF	8	LIVE	CUT	9	8.0	18	33	160	12.4	10.1	3.5	1.3	360.9	56.6
DF	10	LIVE	CUT	6	10.1	29	48	116	18.6	4.3	2.4	0.7	396.9	41.0
DF	12	LIVE	CUT	12	11.8	37	52	307	9.2	6.2	4.7	1.4	930.5	108.7
DF	14	LIVE	CUT	11	13.9	50	64	371	5.4	4.1	4.3	1.2	1,048.8	131.5
DF	16	LIVE	CUT	16	16.1	57	70	635	5.2	4.5	6.3	1.6	1,788.1	225.0
DF	18	LIVE	CUT	8	17.8	55	69	353	1.4	1.8	3.2	0.7	858.4	125.1
DF	20	LIVE	CUT	5	19.7	59	73	214	0.5	0.9	2.0	0.4	566.8	75.8
DF	22	LIVE	CUT	1	21.7	55	61	51	7.0	0.2	0.4	0.1	121.1	18.1
DF	12	LIVE	LEA	3	12.0	43	61	82	0.0	0.5	0.4	0.1	221.1	29.2
DF	14	LIVE	LEA	4	13.8	46	60	83	0.0	0.5	0.5	0.1	219.0	29.5
DF	16	LIVE	LEA	8	15.5	53	67	23	0.0	0.7	0.9	0.2	84.8	8.1

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	18	LIVE	LEA	4	17.2	54	67	77	0.0	0.3	0.5	0.1	206.9	27.4
DF	20	LIVE	LEA	5	19.7	59	70	0		0.3	0.6	0.1	0.0	0.0
DF	22	LIVE	LEA	2	21.5	54	67	0		0.1	0.2	0.1	0.0	0.0
DF	24	LIVE	LEA	1	23.0	48	59	0		0.0	0.1	0.0	0.0	0.0
LP	8	LIVE	CUT	1	7.0	14	18	12	0.0	0.9	0.3	0.1	15.2	4.4
LP	10	LIVE	CUT	1	10.1	23	34	11	0.0	0.4	0.3	0.1	29.3	3.8
PP	8	LIVE	LEA	6	8.1	16	29			2.0	0.7	0.3		
PP	10	LIVE	LEA	8	9.8	21	41			1.8	1.0	0.3		
PP	12	LIVE	LEA	20	11.6	27	58			3.8	2.8	0.8		
PP	14	LIVE	LEA	13	13.3	38	66			2.0	1.9	0.5		
PP	16	LIVE	LEA	14	15.5	44	66			1.5	1.9	0.5		
PP	18	LIVE	LEA	8	17.9	48	65			0.7	1.2	0.3		
PP	20	LIVE	LEA	4	19.5	61	76			0.2	0.5	0.1		
PP	22	LIVE	LEA	1	22.0	50	64			0.0	0.1	0.0		
PP	24	LIVE	LEA	1	24.0	72	95			0.0	0.1	0.0		
WL	8	LIVE	CUT	1	7.5	18	30	9	17.6	0.6	0.2	0.1	17.5	3.1
WL	10	LIVE	CUT	7	10.2	41	59	128	2.6	2.4	1.4	0.4	296.2	45.5
WL	12	LIVE	CUT	7	12.1	48	67	128	3.7	1.7	1.4	0.4	333.3	45.2
WL	14	LIVE	CUT	10	14.1	54	68	200	7.5	1.8	1.9	0.5	453.9	70.9
WL	16	LIVE	CUT	7	15.7	64	77	127	22.5	1.0	1.4	0.3	292.9	45.1
WL	18	LIVE	CUT	4	17.9	76	93	122	1.8	0.4	0.8	0.2	247.9	43.4
WL	20	LIVE	CUT	1	19.0	62	73	27	0.0	0.1	0.2	0.0	52.7	9.4

Unit Log Grade Summary: PETTIJOHN U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	LIVE	4 SAW	5.0	24.0	7	0.0	18.6	2.5
DF	LIVE	2 SAW	12.1	32.0	278	1.8	652.8	98.4
DF	LIVE	3 SAW	8.4	32.0	1,243	2.0	3,373.5	440.3
DF	LIVE	4 SAW	5.5	21.0	686	4.8	2,045.2	243.1
DF	LIVE	CULL	6.4	18.0	0	100.0	0.0	0.0
LP	LIVE	4 SAW	5.8	15.0	23	0.0	44.5	8.2
WL	LIVE	2 SAW	12.1	32.0	132	1.5	255.4	46.7
WL	LIVE	3 SAW	7.8	32.0	453	5.7	1,058.6	160.5
WL	LIVE	4 SAW	5.3	21.0	156	4.6	380.5	55.4
WL	LIVE	CULL	10.9	9.0	0	100.0	0.0	0.0

Unit Log Sort Summary: PETTIJOHN U1

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	LIVE	Domestic	5.0	24.0	7	0.0	18.6	2.5
DF	LIVE	Cull	6.4	18.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	6.7	24.0	2,206	2.9	6,071.5	781.8
LP	LIVE	Domestic	5.8	15.0	23	0.0	44.5	8.2
WL	LIVE	Cull	10.9	9.0	0	100.0	0.0	0.0
WL	LIVE	Domestic	6.8	26.0	741	4.7	1,694.5	262.6

Unit Log Grade x Sort Summary: PETTIJOHN U1

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	LIVE	4 SAW	Domestic	5.0	24.0	7	0.0	18.6	2.5
DF	LIVE	2 SAW	Domestic	12.1	32.0	278	1.8	652.8	98.4
DF	LIVE	3 SAW	Domestic	8.4	32.0	1,243	2.0	3,373.5	440.3
DF	LIVE	4 SAW	Domestic	5.5	21.0	686	4.8	2,045.2	243.1
DF	LIVE	CULL	Cull	6.4	18.0	0	100.0	0.0	0.0
LP	LIVE	4 SAW	Domestic	5.8	15.0	23	0.0	44.5	8.2
WL	LIVE	2 SAW	Domestic	12.1	32.0	132	1.5	255.4	46.7
WL	LIVE	3 SAW	Domestic	7.8	32.0	453	5.7	1,058.6	160.5
WL	LIVE	4 SAW	Domestic	5.3	21.0	156	4.6	380.5	55.4
WL	LIVE	CULL	Cull	10.9	9.0	0	100.0	0.0	0.0

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U1

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	5 - 8	LIVE	4 SAW	5.0	24.0	7	0.0	18.6	2.5
DF	< 5	LIVE	CULL	3.0	24.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	4 SAW	5.4	21.0	642	5.1	1,925.0	227.4
DF	5 - 8	LIVE	CULL	5.5	19.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	3 SAW	7.3	32.0	542	1.5	1,601.1	191.9
DF	9 - 11	LIVE	4 SAW	9.0	15.0	44	0.0	120.3	15.6
DF	9 - 11	LIVE	3 SAW	10.0	32.0	660	2.6	1,677.0	234.0
DF	9 - 11	LIVE	2 SAW	11.5	32.0	42	0.0	89.7	14.8
DF	12 - 14	LIVE	3 SAW	12.0	32.0	41	0.0	95.3	14.4
DF	12 - 14	LIVE	2 SAW	12.2	32.0	236	2.1	563.1	83.6
DF	12 - 14	LIVE	CULL	12.7	4.0	0	100.0	0.0	0.0
DF	15 - 19	LIVE	CULL	16.1	2.0	0	100.0	0.0	0.0
LP	5 - 8	LIVE	4 SAW	5.8	15.0	23	0.0	44.5	8.2

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WL	5 - 8	LIVE	4 SAW	5.3	21.0	156	4.6	380.5	55.4
WL	5 - 8	LIVE	3 SAW	7.1	32.0	257	8.8	635.7	91.0
WL	9 - 11	LIVE	3 SAW	9.8	31.0	196	1.3	422.9	69.5
WL	9 - 11	LIVE	CULL	10.6	11.0	0	100.0	0.0	0.0
WL	9 - 11	LIVE	2 SAW	11.5	32.0	20	9.1	42.2	6.9
WL	12 - 14	LIVE	CULL	12.1	4.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	2 SAW	12.3	32.0	112	0.0	213.2	39.8

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U1

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
AF	5 - 8	LIVE	Domestic	5.0	24.0	7	0.0	18.6	2.5
DF	< 5	LIVE	Cull	3.0	24.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	Cull	5.5	19.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	Domestic	5.8	23.0	1,183	3.5	3,526.0	419.4
DF	9 - 11	LIVE	Domestic	9.9	28.0	746	2.3	1,887.0	264.5
DF	12 - 14	LIVE	Domestic	12.2	32.0	276	1.8	658.5	97.9
DF	12 - 14	LIVE	Cull	12.7	4.0	0	100.0	0.0	0.0
DF	15 - 19	LIVE	Cull	16.1	2.0	0	100.0	0.0	0.0
LP	5 - 8	LIVE	Domestic	5.8	15.0	23	0.0	44.5	8.2
WL	5 - 8	LIVE	Domestic	6.0	25.0	413	7.3	1,016.2	146.4
WL	9 - 11	LIVE	Domestic	9.9	31.0	216	2.0	465.1	76.4
WL	9 - 11	LIVE	Cull	10.6	11.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	Cull	12.1	4.0	0	100.0	0.0	0.0
WL	12 - 14	LIVE	Domestic	12.3	32.0	112	0.0	213.2	39.8

Cruise Unit Report PETTIJOHN U2

Unit Sale Notice Volume (MBF): PETTIJOHN U2

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	10.0			131.7	63.7	67.9
WL	14.6			16.2	12.9	3.3
ALL	10.4			147.8	76.6	71.2

Unit Sale Notice Weight (tons): PETTIJOHN U2

Sp	Tons by Grade		
	All	3 Saw	4 Saw
DF	892.9	417.4	475.5
WL	99.2	76.3	22.9
ALL	992.1	493.7	498.4

Unit Cruise Design: PETTIJOHN U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	34.5	34.5	26	15	1

Unit Cruise Summary: PETTIJOHN U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
PP		18	1.1	0
DF	23	56	2.2	0
WL	4	5	0.2	0
ALL	27	79	3.0	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
PP	22.5	30.4	7.6						
DF	43.1	135.0	26.5	93.5	35.6	7.4	4,029	139.6	27.5
WL	3.8	329.5	64.6	121.8	16.9	8.4	468	329.9	65.2
ALL	60.8	90.0	17.7	95.8	34.5	6.6	5,824	96.4	18.9

Unit Summary: PETTIJOHN U2

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	23	ALL	10.0	43	57	3,813	5.1	74.8	40.8	12.9	892.9	131.7
DF	LIVE	LEA	3	ALL	13.0	45	62	216	5.1	2.5	2.3	0.6	50.5	7.5
PP	LIVE	LEA	17	ALL	17.4	51	75			8.4	13.8	3.3		
WL	LIVE	CUT	4	ALL	14.6	58	73	468	0.0	3.3	3.8	1.0	99.2	16.2
ALL	LIVE	CUT	27	ALL	10.2	44	58	4,281	4.6	78.1	44.6	13.9	992.1	147.9
ALL	LIVE	LEA	20	ALL	16.5	50	72	216	4.8	10.9	16.1	3.9	50.5	7.5
ALL	ALL	ALL	47	ALL	11.2	44	59	4,497	4.6	89.0	60.7	17.8	1,042.6	155.4

Unit Stand Table: PETTIJOHN U2

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	5	7.9	36	55	832	5.0	28.5	9.8	3.5	179.7	28.7
DF	10	LIVE	CUT	7	9.6	42	53	1,210	3.6	25.9	13.1	4.2	275.0	41.8
DF	12	LIVE	CUT	5	11.6	48	58	659	4.7	11.1	8.2	2.4	190.1	22.8
DF	14	LIVE	CUT	5	13.8	56	69	884	9.5	7.8	8.2	2.2	196.4	30.5
DF	16	LIVE	CUT	1	15.2	68	85	228	0.0	1.3	1.6	0.4	51.7	7.9
DF	10	LIVE	LEA	1	10.0	40	61	82	0.0	1.4	0.8	0.2	16.4	2.8
DF	16	LIVE	LEA	2	16.0	52	64	134	14.1	1.1	1.5	0.4	34.1	4.6
PP	10	LIVE	LEA	2	10.0	26	47			2.8	1.5	0.5		
PP	12	LIVE	LEA	1	12.0	45	84			1.0	0.8	0.2		
PP	16	LIVE	LEA	2	16.0	57	83			1.1	1.5	0.4		
PP	18	LIVE	LEA	1	17.0	62	91			0.5	0.8	0.2		
PP	20	LIVE	LEA	2	19.5	78	106			0.7	1.5	0.3		
PP	22	LIVE	LEA	1	21.0	63	78			0.3	0.8	0.2		
PP	24	LIVE	LEA	4	23.6	64	82			1.3	3.8	0.8		
PP	26	LIVE	LEA	1	25.0	76	101			0.2	0.8	0.2		
PP	28	LIVE	LEA	1	28.0	85	114			0.2	0.8	0.1		
PP	30	LIVE	LEA	1	29.0	90	121			0.2	0.8	0.1		
PP	38	LIVE	LEA	1	38.0	90	121			0.1	0.8	0.1		
WL	14	LIVE	CUT	2	13.6	57	74	242	0.0	1.9	1.9	0.5	50.4	8.4
WL	16	LIVE	CUT	2	15.8	59	73	226	0.0	1.4	1.9	0.5	48.8	7.8

Unit Log Grade Summary: PETTIJOHN U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	7.3	32.0	1,846	1.4	417.4	63.7
DF	LIVE	4 SAW	5.3	25.0	1,967	5.4	475.5	67.9
DF	LIVE	CULL	9.3	20.0	0	100.0	0.0	0.0

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WL	LIVE	3 SAW	9.7	32.0	373	0.0	76.3	12.9
WL	LIVE	4 SAW	5.1	23.0	95	0.0	22.9	3.3

Unit Log Sort Summary: PETTIJOHN U2

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Cull	9.3	20.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	5.8	27.0	3,813	3.5	892.9	131.7
WL	LIVE	Domestic	7.4	28.0	468	0.0	99.2	16.2

Unit Log Grade x Sort Summary: PETTIJOHN U2

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	7.3	32.0	1,846	1.4	417.4	63.7
DF	LIVE	4 SAW	Domestic	5.3	25.0	1,967	5.4	475.5	67.9
DF	LIVE	CULL	Cull	9.3	20.0	0	100.0	0.0	0.0
WL	LIVE	3 SAW	Domestic	9.7	32.0	373	0.0	76.3	12.9
WL	LIVE	4 SAW	Domestic	5.1	23.0	95	0.0	22.9	3.3

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U2

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.3	25.0	1,967	5.4	475.5	67.9
DF	5 - 8	LIVE	3 SAW	6.7	32.0	1,124	1.4	261.0	38.8
DF	9 - 11	LIVE	3 SAW	9.0	32.0	722	1.4	156.4	24.9
DF	9 - 11	LIVE	CULL	9.3	20.0	0	100.0	0.0	0.0
WL	5 - 8	LIVE	4 SAW	5.1	23.0	95	0.0	22.9	3.3
WL	9 - 11	LIVE	3 SAW	9.7	32.0	373	0.0	76.3	12.9

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U2

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.6	27.0	3,091	4.0	736.5	106.7
DF	9 - 11	LIVE	Domestic	9.0	32.0	722	1.4	156.4	24.9
DF	9 - 11	LIVE	Cull	9.3	20.0	0	100.0	0.0	0.0
WL	5 - 8	LIVE	Domestic	5.1	23.0	95	0.0	22.9	3.3
WL	9 - 11	LIVE	Domestic	9.7	32.0	373	0.0	76.3	12.9

Cruise Unit Report PETTIJOHN U3

Unit Sale Notice Volume (MBF): PETTIJOHN U3

Sp	QMD	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	11.9			168.3	113.2	55.1
WL	10.9			58.6	39.9	18.7
ALL	11.7			226.9	153.1	73.8

Unit Sale Notice Weight (tons): PETTIJOHN U3

Sp	Tons by Grade		
	All	3 Saw	4 Saw
DF	1,216.2	825.1	391.1
WL	384.5	273.8	110.7
ALL	1,600.7	1,098.9	501.8

Unit Cruise Design: PETTIJOHN U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	40.4	40.4	28	14	4

Unit Cruise Summary: PETTIJOHN U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
PP		2	1.0	0
DF	36	64	2.3	0
WL	11	20	0.7	0
ALL	47	86	3.1	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
PP	20.0	0.0	0.0						
DF	45.7	98.1	18.5	100.6	23.9	4.0	4,598	100.9	19.0
WL	14.3	169.8	32.1	112.8	25.7	7.7	1,612	171.7	33.0
ALL	61.4	78.7	14.9	103.5	24.6	3.6	6,358	82.5	15.3

Unit Summary: PETTIJOHN U3

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	36	ALL	11.9	45	65	4,167	3.5	53.6	41.4	12.0	1,216.2	168.3
DF	LIVE	LEA	0	ALL	16.2	12	15	431	3.5	3.0	4.3	1.1	125.8	17.4
PP	LIVE	LEA	0	ALL	20.0					0.7	1.4	0.3		
WL	LIVE	CUT	11	ALL	10.9	47	73	1,451	1.6	19.8	12.9	3.9	384.5	58.6
WL	LIVE	LEA	0	ALL	20.0			161	1.6	0.7	1.4	0.3	42.7	6.5
ALL	LIVE	LEA	0	ALL	17.5	8	10	592	3.1	4.4	7.1	1.7	168.5	23.9
ALL	LIVE	CUT	47	ALL	11.6	46	67	5,618	3.0	73.4	54.3	15.9	1,600.7	226.9
ALL	ALL	ALL	47	ALL	12.0	43	64	6,210	3.0	77.8	61.4	17.6	1,769.2	250.8

Unit Stand Table: PETTIJOHN U3

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	2	8.6	33	60	162	15.3	5.3	2.2	0.7	39.4	6.6
DF	10	LIVE	CUT	7	9.7	35	58	628	2.0	14.9	7.6	2.4	191.9	25.4
DF	12	LIVE	CUT	11	11.9	46	66	1,189	-1.3	15.4	12.0	3.5	348.5	48.0
DF	14	LIVE	CUT	13	14.0	57	72	1,776	6.9	15.4	16.3	4.4	528.6	71.7
DF	16	LIVE	CUT	2	15.3	58	73	274	0.0	1.7	2.2	0.6	71.5	11.1
DF	18	LIVE	CUT	1	17.0	61	75	138	0.0	0.7	1.1	0.3	36.3	5.6
DF	16	LIVE	LEA	5	15.4	13	16	359	3.5	2.8	3.6	0.9	104.8	14.5
DF	26	LIVE	LEA	1	25.0			72	3.5	0.2	0.7	0.1	21.0	2.9
PP	16	LIVE	LEA	1	16.0					0.5	0.7	0.2		
PP	30	LIVE	LEA	1	30.0					0.1	0.7	0.1		
WL	8	LIVE	CUT	1	8.0	33	65	141	0.0	3.4	1.2	0.4	31.7	5.7
WL	10	LIVE	CUT	3	10.0	38	61	314	0.0	6.4	3.5	1.1	85.1	12.7
WL	12	LIVE	CUT	5	11.6	56	82	637	3.5	7.9	5.9	1.7	185.9	25.7
WL	14	LIVE	CUT	2	14.5	68	89	359	0.0	2.0	2.3	0.6	81.8	14.5
WL	20	LIVE	LEA	1	20.0			161	1.6	0.6	1.4	0.3	42.7	6.5

Unit Log Grade Summary: PETTIJOHN U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	8.0	32.0	2,803	3.8	825.1	113.2
DF	LIVE	4 SAW	5.4	23.0	1,364	1.1	391.1	55.1
DF	LIVE	CULL	7.4	6.0	0	100.0	0.0	0.0
WL	LIVE	3 SAW	7.3	32.0	987	2.0	273.8	39.9
WL	LIVE	4 SAW	5.1	24.0	464	0.8	110.7	18.7

Unit Log Sort Summary: PETTIJOHN U3

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Cull	7.4	6.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	6.4	26.0	4,167	2.9	1,216.2	168.3
WL	LIVE	Domestic	6.1	28.0	1,451	1.6	384.5	58.6

Unit Log Grade x Sort Summary: PETTIJOHN U3

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	8.0	32.0	2,803	3.8	825.1	113.2
DF	LIVE	4 SAW	Domestic	5.4	23.0	1,364	1.1	391.1	55.1
DF	LIVE	CULL	Cull	7.4	6.0	0	100.0	0.0	0.0
WL	LIVE	3 SAW	Domestic	7.3	32.0	987	2.0	273.8	39.9
WL	LIVE	4 SAW	Domestic	5.1	24.0	464	0.8	110.7	18.7

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U3

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.4	23.0	1,364	1.1	391.1	55.1
DF	5 - 8	LIVE	3 SAW	7.2	32.0	1,357	2.2	418.9	54.8
DF	5 - 8	LIVE	CULL	7.4	6.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	3 SAW	9.2	32.0	1,446	5.2	406.1	58.4
WL	5 - 8	LIVE	4 SAW	5.1	24.0	464	0.8	110.7	18.7
WL	5 - 8	LIVE	3 SAW	6.9	32.0	719	2.7	215.3	29.1
WL	9 - 11	LIVE	3 SAW	9.9	32.0	267	0.0	58.5	10.8

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U3

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.9	25.0	2,721	1.7	810.1	109.9
DF	5 - 8	LIVE	Cull	7.4	6.0	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Domestic	9.2	32.0	1,446	5.2	406.1	58.4
WL	5 - 8	LIVE	Domestic	5.9	27.0	1,184	1.9	326.0	47.8
WL	9 - 11	LIVE	Domestic	9.9	32.0	267	0.0	58.5	10.8

Cruise Unit Report PETTIJOHN U4

Unit Sale Notice Volume (MBF): PETTIJOHN U4

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	11.3			156.4		113.8	42.6
WL	14.1			25.5	10.4	13.6	1.5
ALL	11.6			181.9	10.4	127.5	44.0

Unit Sale Notice Weight (tons): PETTIJOHN U4

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	1,111.3		834.0	277.3
WL	154.8	61.4	84.1	9.3
ALL	1,266.1	61.4	918.0	286.7

Unit Cruise Design: PETTIJOHN U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	31.9	31.9	23	10	3

Unit Cruise Summary: PETTIJOHN U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
PP		7	1.8	0
DF	29	58	2.5	0
WL	4	11	0.5	0
ALL	33	76	3.3	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
PP	35.0	54.7	27.4						
DF	50.4	112.1	23.4	102.6	21.9	4.1	5,173	114.2	23.7
WL	9.6	152.7	31.8	131.4	17.7	8.8	1,257	153.8	33.1
ALL	66.1	81.8	17.1	107.2	22.5	3.9	7,082	84.9	17.5

Unit Summary: PETTIJOHN U4

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	29	ALL	11.3	43	67	4,906	1.1	68.7	47.8	14.2	1,111.3	156.4
DF	LIVE	LEA	0	ALL	14.0			268	1.1	2.4	2.6	0.7	60.6	8.5
PP	LIVE	LEA	4	ALL	13.7	31	52			5.9	6.1	1.6		
WL	LIVE	CUT	4	ALL	14.1	55	75	800	1.8	5.6	6.1	1.6	154.8	25.5
WL	LIVE	LEA	2	ALL	23.5	66	78	457	1.8	1.2	3.5	0.7	88.5	14.6
ALL	LIVE	CUT	33	ALL	11.5	44	68	5,706	1.2	74.3	53.9	15.8	1,266.1	181.9
ALL	LIVE	LEA	6	ALL	15.4	28	42	725	1.4	9.5	12.2	3.0	149.1	23.1
ALL	ALL	ALL	39	ALL	12.0	42	65	6,431	1.2	83.8	66.1	18.8	1,415.2	205.0

Unit Stand Table: PETTIJOHN U4

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	2	8.4	24	55	228	0.0	8.5	3.3	1.1	44.5	7.3
DF	10	LIVE	CUT	6	9.5	38	66	963	0.0	20.0	9.9	3.2	220.9	30.7
DF	12	LIVE	CUT	13	11.8	48	70	2,237	1.1	28.0	21.4	6.2	506.0	71.3
DF	14	LIVE	CUT	7	14.0	56	75	1,338	0.3	10.8	11.5	3.1	302.0	42.6
DF	16	LIVE	CUT	1	15.0	50	64	140	14.8	1.3	1.6	0.4	37.9	4.5
DF	14	LIVE	LEA	2	14.0			268	1.1	2.4	2.6	0.7	60.6	8.5
PP	10	LIVE	LEA	1	9.0	18	40			3.9	1.7	0.6		
PP	18	LIVE	LEA	1	18.0	51	70			0.5	0.9	0.2		
PP	20	LIVE	LEA	1	19.0	66	90			0.4	0.9	0.2		
PP	22	LIVE	LEA	1	21.0	54	70			1.1	2.6	0.6		
WL	10	LIVE	CUT	1	10.1	44	68	148	0.0	2.7	1.5	0.5	34.0	4.7
WL	14	LIVE	CUT	1	14.4	60	77	210	0.0	1.3	1.5	0.4	37.9	6.7
WL	18	LIVE	CUT	1	17.4	71	86	225	3.2	0.9	1.5	0.4	42.0	7.2
WL	22	LIVE	CUT	1	21.8	72	90	217	3.1	0.6	1.5	0.3	40.9	6.9
WL	20	LIVE	LEA	1	20.0	76	90	225	0.0	0.8	1.8	0.4	43.7	7.2
WL	30	LIVE	LEA	2	30.0	45	50	232	0.7	0.4	1.8	0.3	44.8	7.4

Unit Log Grade Summary: PETTIJOHN U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	7.3	32.0	3,570	1.5	834.0	113.8
DF	LIVE	4 SAW	5.2	22.0	1,336	0.0	277.3	42.6
WL	LIVE	2 SAW	13.0	32.0	327	1.4	61.4	10.4
WL	LIVE	3 SAW	7.3	32.0	428	2.3	84.1	13.6
WL	LIVE	4 SAW	5.0	26.0	46	0.0	9.3	1.5

Unit Log Sort Summary: PETTIJOHN U4

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	6.2	27.0	4,906	1.1	1,111.3	156.4
WL	LIVE	Domestic	8.0	31.0	800	1.8	154.8	25.5

Unit Log Grade x Sort Summary: PETTIJOHN U4

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	3 SAW	Domestic	7.3	32.0	3,570	1.5	834.0	113.8
DF	LIVE	4 SAW	Domestic	5.2	22.0	1,336	0.0	277.3	42.6
WL	LIVE	2 SAW	Domestic	13.0	32.0	327	1.4	61.4	10.4
WL	LIVE	3 SAW	Domestic	7.3	32.0	428	2.3	84.1	13.6
WL	LIVE	4 SAW	Domestic	5.0	26.0	46	0.0	9.3	1.5

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U4

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.2	22.0	1,336	0.0	277.3	42.6
DF	5 - 8	LIVE	3 SAW	7.0	32.0	2,790	0.9	658.4	88.9
DF	9 - 11	LIVE	3 SAW	8.9	32.0	781	3.6	175.6	24.9
WL	5 - 8	LIVE	4 SAW	5.0	26.0	46	0.0	9.3	1.5
WL	5 - 8	LIVE	3 SAW	6.6	32.0	258	3.8	53.7	8.2
WL	9 - 11	LIVE	3 SAW	9.5	32.0	170	0.0	30.3	5.4
WL	12 - 14	LIVE	2 SAW	13.0	32.0	327	1.4	61.4	10.4

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U4

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	6.0	26.0	4,125	0.6	935.7	131.5
DF	9 - 11	LIVE	Domestic	8.9	32.0	781	3.6	175.6	24.9
WL	5 - 8	LIVE	Domestic	6.2	31.0	303	3.2	63.1	9.7
WL	9 - 11	LIVE	Domestic	9.5	32.0	170	0.0	30.3	5.4
WL	12 - 14	LIVE	Domestic	13.0	32.0	327	1.4	61.4	10.4

Cruise Unit Report PETTIJOHN U5

Unit Sale Notice Volume (MBF): PETTIJOHN U5

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	13.9			203.1	66.8	104.3	32.1
WL	23.3			56.8	46.8	6.1	4.0
ALL	14.5			260.0	113.6	110.3	36.1

Unit Sale Notice Weight (tons): PETTIJOHN U5

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	1,407.6	400.5	748.1	259.0
WL	280.0	222.9	28.0	29.1
ALL	1,687.6	623.3	776.2	288.1

Unit Cruise Design: PETTIJOHN U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	47.6	49.1	36	14	1

Unit Cruise Summary: PETTIJOHN U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	22	94	2.6	0
WL	3	17	0.5	0
ALL	25	111	3.1	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	52.2	62.9	10.5	108.3	41.4	8.8	5,654	75.3	13.7
WL	9.4	155.9	26.0	215.2	1.2	0.7	2,032	155.9	26.0
ALL	61.7	49.9	8.3	124.6	44.1	8.8	7,686	66.5	12.1

Unit Summary: PETTIJOHN U5

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	22	ALL	13.4	40	61	4,270	3.1	40.3	39.4	10.8	1,407.6	203.1
DF	LIVE	LEA	0	ALL	21.5	6	21	1,383	3.1	5.1	12.8	2.8	456.0	65.8
WL	LIVE	CUT	3	ALL	23.3	95	109	1,195	0.7	1.9	5.6	1.2	280.0	56.9
WL	LIVE	LEA	0	ALL	24.0	18	46	837	0.7	1.2	3.9	0.8	196.0	39.8
ALL	LIVE	CUT	25	ALL	14.0	42	63	5,465	2.6	42.2	45.0	12.0	1,687.6	260.0
ALL	LIVE	LEA	0	ALL	22.0	8	26	2,220	2.2	6.3	16.7	3.6	652.0	105.6
ALL	ALL	ALL	25	ALL	15.3	38	58	7,685	2.5	48.5	61.7	15.6	2,339.6	365.6

Unit Stand Table: PETTIJOHN U5

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	4	8.3	22	51	448	14.0	18.3	6.9	2.4	95.8	21.3
DF	10	LIVE	CUT	1	10.8	32	47	89	0.0	2.7	1.7	0.5	45.9	4.2
DF	14	LIVE	CUT	4	14.6	44	56	507	0.0	5.9	6.9	1.8	215.2	24.1
DF	16	LIVE	CUT	4	15.6	57	72	834	0.6	5.2	6.9	1.7	274.0	39.7
DF	18	LIVE	CUT	5	17.7	70	86	1,217	1.5	5.0	8.6	2.0	388.7	57.9
DF	20	LIVE	CUT	3	20.5	68	84	609	3.3	2.3	5.1	1.1	224.9	29.0
DF	22	LIVE	CUT	1	22.2	71	89	270	2.5	0.6	1.7	0.4	79.6	12.9
DF	28	LIVE	CUT	1	28.0	81	91	295	4.2	0.4	1.7	0.3	83.6	14.0
DF	16	LIVE	LEA	2	15.9		36	120	3.1	0.8	1.1	0.3	39.6	5.7
DF	18	LIVE	LEA	1	17.0			60	3.1	0.4	0.6	0.1	19.8	2.9
DF	20	LIVE	LEA	4	19.4	15	18	301	3.1	1.4	2.8	0.6	99.1	14.3
DF	22	LIVE	LEA	1	21.0			120	3.1	0.5	1.1	0.2	39.7	5.7
DF	24	LIVE	LEA	6	23.0	0	34	361	3.1	1.2	3.3	0.7	118.9	17.2
DF	26	LIVE	LEA	1	25.0			60	3.1	0.2	0.6	0.1	19.8	2.9
DF	28	LIVE	LEA	4	28.0			301	3.1	0.7	2.8	0.5	99.2	14.3
DF	30	LIVE	LEA	1	29.8	92	103	60	3.1	0.1	0.6	0.1	19.8	2.9
WL	22	LIVE	CUT	2	22.1	95	110	793	0.0	1.4	3.7	0.8	188.3	37.7
WL	26	LIVE	CUT	1	26.2	94	106	402	1.9	0.5	1.9	0.4	91.7	19.1
WL	20	LIVE	LEA	1	20.0			120	0.7	0.3	0.6	0.1	28.0	5.7
WL	22	LIVE	LEA	2	21.0	49	57	239	0.7	0.5	1.1	0.2	56.0	11.4
WL	24	LIVE	LEA	1	24.0		120	120	0.7	0.2	0.6	0.1	28.0	5.7
WL	26	LIVE	LEA	1	26.0			119	0.7	0.2	0.6	0.1	28.0	5.7
WL	30	LIVE	LEA	1	29.0			120	0.7	0.1	0.6	0.1	28.0	5.7
WL	36	LIVE	LEA	1	36.4		117	120	0.7	0.1	0.6	0.1	28.0	5.7

Unit Log Grade Summary: PETTIJOHN U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	13.0	32.0	1,404	2.5	400.5	66.8
DF	LIVE	3 SAW	8.6	32.0	2,192	1.4	748.1	104.3
DF	LIVE	4 SAW	5.2	25.0	674	0.0	259.0	32.1
DF	LIVE	CULL	5.0	14.0	0	100.0	0.0	0.0
WL	LIVE	2 SAW	15.1	32.0	983	0.8	222.9	46.8
WL	LIVE	3 SAW	11.1	32.0	128	0.0	28.0	6.1
WL	LIVE	4 SAW	5.3	27.0	84	0.0	29.1	4.0

Unit Log Sort Summary: PETTIJOHN U5

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Cull	5.0	14.0	0	100.0	0.0	0.0
DF	LIVE	Domestic	7.5	29.0	4,270	1.6	1,407.6	203.1
WL	LIVE	Domestic	11.3	30.0	1,195	0.7	280.0	56.8

Unit Log Grade x Sort Summary: PETTIJOHN U5

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.0	32.0	1,404	2.5	400.5	66.8
DF	LIVE	3 SAW	Domestic	8.6	32.0	2,192	1.4	748.1	104.3
DF	LIVE	4 SAW	Domestic	5.2	25.0	674	0.0	259.0	32.1
DF	LIVE	CULL	Cull	5.0	14.0	0	100.0	0.0	0.0
WL	LIVE	2 SAW	Domestic	15.1	32.0	983	0.8	222.9	46.8
WL	LIVE	3 SAW	Domestic	11.1	32.0	128	0.0	28.0	6.1
WL	LIVE	4 SAW	Domestic	5.3	27.0	84	0.0	29.1	4.0

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U5

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	CULL	5.0	14.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	4 SAW	5.2	25.0	674	0.0	259.0	32.1
DF	5 - 8	LIVE	3 SAW	7.0	32.0	765	0.0	281.4	36.4
DF	9 - 11	LIVE	3 SAW	10.1	32.0	1,426	2.1	466.7	67.8
DF	9 - 11	LIVE	2 SAW	11.5	32.0	178	0.0	56.4	8.4
DF	12 - 14	LIVE	2 SAW	12.4	32.0	788	3.6	229.6	37.5
DF	15 - 19	LIVE	2 SAW	16.2	32.0	439	1.6	114.4	20.9
WL	5 - 8	LIVE	4 SAW	5.3	27.0	84	0.0	29.1	4.0

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
WL	9 - 11	LIVE	3 SAW	11.1	32.0	128	0.0	28.0	6.1
WL	12 - 14	LIVE	2 SAW	12.3	32.0	250	3.1	58.0	11.9
WL	15 - 19	LIVE	2 SAW	16.8	32.0	733	0.0	164.9	34.9

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U5

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Cull	5.0	14.0	0	100.0	0.0	0.0
DF	5 - 8	LIVE	Domestic	5.8	27.0	1,439	0.0	540.4	68.5
DF	9 - 11	LIVE	Domestic	10.2	32.0	1,604	1.9	523.1	76.3
DF	12 - 14	LIVE	Domestic	12.4	32.0	788	3.6	229.6	37.5
DF	15 - 19	LIVE	Domestic	16.2	32.0	439	1.6	114.4	20.9
WL	5 - 8	LIVE	Domestic	5.3	27.0	84	0.0	29.1	4.0
WL	9 - 11	LIVE	Domestic	11.1	32.0	128	0.0	28.0	6.1
WL	12 - 14	LIVE	Domestic	12.3	32.0	250	3.1	58.0	11.9
WL	15 - 19	LIVE	Domestic	16.8	32.0	733	0.0	164.9	34.9

Cruise Unit Report PETTIJOHN U6

Unit Sale Notice Volume (MBF): PETTIJOHN U6

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	13.0			216.3	41.1	116.5	58.7
WL	15.6			27.7	6.7	20.4	0.5
ALL	13.2			243.9	47.9	136.8	59.2

Unit Sale Notice Weight (tons): PETTIJOHN U6

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	1,560.7	232.5	839.6	488.6
WL	163.4	36.5	123.5	3.3
ALL	1,724.1	269.0	963.1	491.9

Unit Cruise Design: PETTIJOHN U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	45.7	46.5	31	11	2

Unit Cruise Summary: PETTIJOHN U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	28	132	4.3	0
WL	3	19	0.6	0
ALL	31	151	4.9	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHN U6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	85.2	57.2	10.3	87.3	58.5	11.1	7,435	81.8	15.1
WL	12.3	166.8	30.0	156.3	10.8	6.3	1,916	167.2	30.6
ALL	97.4	57.0	10.2	96.0	55.1	9.9	9,351	79.3	14.2

Unit Summary: PETTIJOHN U6

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	28	ALL	13.6	13	18	4,731	2.1	53.7	54.2	14.7	1,560.7	216.3
DF	LIVE	LEA	15	ALL	19.4	14	21	2,704	2.1	15.1	31.0	7.0	891.8	123.6
WL	LIVE	CUT	3	ALL	16.6	43	55	605	2.0	2.6	3.9	1.0	163.4	27.7
WL	LIVE	LEA	4	ALL	16.9	26	31	1,311	2.0	5.4	8.4	2.0	354.0	59.9
ALL	LIVE	LEA	19	ALL	18.8	17	24	4,015	2.0	20.5	39.4	9.0	1,245.8	183.5
ALL	LIVE	CUT	31	ALL	13.8	14	20	5,336	2.1	56.3	58.1	15.7	1,724.1	244.0
ALL	ALL	ALL	50	ALL	15.3	15	21	9,351	2.1	76.8	97.5	24.7	2,969.9	427.5

Unit Stand Table: PETTIJOHN U6

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	8	7.8	8	13	417	1.4	15.4	5.2	1.8	131.2	19.1
DF	10	LIVE	CUT	8	10.1	9	13	378	1.9	9.4	5.2	1.6	130.9	17.3
DF	12	LIVE	CUT	6	12.0	30	39	283	-0.6	5.0	3.9	1.1	93.0	12.9
DF	14	LIVE	CUT	9	13.8	22	29	534	1.3	5.6	5.8	1.6	176.8	24.4
DF	16	LIVE	CUT	12	15.7	20	25	788	4.0	6.2	8.4	2.1	259.9	36.0
DF	18	LIVE	CUT	19	17.6	6	9	1,046	1.8	7.6	12.9	3.1	361.4	47.8
DF	20	LIVE	CUT	5	19.5	24	29	311	1.8	1.6	3.2	0.7	105.7	14.2
DF	22	LIVE	CUT	8	21.8			451	2.1	2.0	5.2	1.1	148.7	20.6
DF	24	LIVE	CUT	1	23.5			56	2.1	0.2	0.6	0.1	18.6	2.6
DF	26	LIVE	CUT	3	25.9			169	2.1	0.5	1.9	0.4	55.7	7.7
DF	28	LIVE	CUT	2	28.4	37	47	180	0.7	0.3	1.3	0.2	48.5	8.2
DF	30	LIVE	CUT	1	30.0	77	97	118	6.4	0.1	0.6	0.1	30.3	5.4
DF	10	LIVE	LEA	2	9.5			96	2.1	2.6	1.3	0.4	33.4	4.4
DF	12	LIVE	LEA	4	11.8	18	29	178	1.1	3.4	2.6	0.8	65.4	8.1
DF	14	LIVE	LEA	3	13.9	12	26	130	1.5	1.9	1.9	0.5	50.1	6.0
DF	16	LIVE	LEA	1	15.2			48	2.1	0.5	0.6	0.2	16.7	2.2
DF	18	LIVE	LEA	2	17.4			96	2.1	0.8	1.3	0.3	33.4	4.4
DF	22	LIVE	LEA	5	21.5	36	44	293	2.8	1.3	3.2	0.7	98.6	13.4
DF	24	LIVE	LEA	5	23.9			240	2.1	1.0	3.2	0.7	83.5	11.0
DF	26	LIVE	LEA	5	25.4	23	33	275	3.0	0.9	3.2	0.6	93.3	12.6
DF	28	LIVE	LEA	5	27.8	15	19	295	1.4	0.8	3.2	0.6	94.3	13.5
DF	30	LIVE	LEA	8	29.7	20	24	571	1.6	1.2	5.8	1.1	174.0	26.1
DF	32	LIVE	LEA	2	32.0	61	75	112	4.6	0.2	1.3	0.2	44.0	5.1
DF	34	LIVE	LEA	3	33.5			144	2.1	0.3	1.9	0.3	50.2	6.6
DF	36	LIVE	LEA	1	36.0	65	81	76	1.3	0.1	0.6	0.1	23.0	3.5
DF	38	LIVE	LEA	1	38.3	105	114	148	0.0	0.1	0.6	0.1	31.9	6.7

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WL	14	LIVE	CUT	2	14.6	74	97	189	3.2	1.1	1.3	0.3	53.0	8.7
WL	16	LIVE	CUT	1	15.0			101	2.0	0.5	0.7	0.2	27.2	4.6
WL	18	LIVE	CUT	1	18.4	83	101	113	0.0	0.4	0.7	0.2	28.7	5.2
WL	20	LIVE	CUT	2	19.8			202	2.0	0.6	1.3	0.3	54.5	9.2
WL	12	LIVE	LEA	1	12.2	53	74	70	0.0	0.8	0.6	0.2	21.4	3.2
WL	14	LIVE	LEA	2	14.5			205	2.0	1.1	1.3	0.3	56.0	9.4
WL	16	LIVE	LEA	2	15.7	80	90	200	0.3	1.0	1.3	0.3	52.2	9.1
WL	18	LIVE	LEA	4	18.2			411	2.0	1.4	2.6	0.6	111.9	18.8
WL	20	LIVE	LEA	2	19.9			206	2.0	0.6	1.3	0.3	56.0	9.4
WL	22	LIVE	LEA	2	22.0	42	49	219	1.0	0.5	1.3	0.3	56.6	10.0

Unit Log Grade Summary: PETTIJOHN U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	15.1	32.0	900	3.3	232.5	41.1
DF	LIVE	3 SAW	8.3	31.0	2,548	2.0	839.6	116.5
DF	LIVE	4 SAW	5.3	22.0	1,283	1.3	488.6	58.7
WL	LIVE	2 SAW	12.8	32.0	147	0.0	36.5	6.7
WL	LIVE	3 SAW	8.2	32.0	446	2.7	123.5	20.4
WL	LIVE	4 SAW	5.0	16.0	12	0.0	3.3	0.5

Unit Log Sort Summary: PETTIJOHN U6

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	6.7	26.0	4,731	2.1	1,560.7	216.3
WL	LIVE	Domestic	8.4	30.0	605	2.0	163.4	27.7

Unit Log Grade x Sort Summary: PETTIJOHN U6

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	15.1	32.0	900	3.3	232.5	41.1
DF	LIVE	3 SAW	Domestic	8.3	31.0	2,548	2.0	839.6	116.5
DF	LIVE	4 SAW	Domestic	5.3	22.0	1,283	1.3	488.6	58.7
WL	LIVE	2 SAW	Domestic	12.8	32.0	147	0.0	36.5	6.7
WL	LIVE	3 SAW	Domestic	8.2	32.0	446	2.7	123.5	20.4
WL	LIVE	4 SAW	Domestic	5.0	16.0	12	0.0	3.3	0.5

Unit Log Grade x Diameter Bin Summary: PETTIJOHN U6

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.3	22.0	1,283	1.3	488.6	58.7
DF	5 - 8	LIVE	3 SAW	6.6	32.0	835	5.9	293.6	38.2
DF	9 - 11	LIVE	3 SAW	9.7	30.0	1,480	-1.0	487.2	67.6
DF	12 - 14	LIVE	3 SAW	11.6	32.0	233	6.2	58.7	10.7
DF	12 - 14	LIVE	2 SAW	12.7	32.0	405	1.6	112.1	18.5
DF	15 - 19	LIVE	2 SAW	19.5	32.0	261	0.0	60.3	11.9
DF	20+	LIVE	2 SAW	20.3	32.0	234	9.3	60.0	10.7
WL	5 - 8	LIVE	4 SAW	5.0	16.0	12	0.0	3.3	0.5
WL	5 - 8	LIVE	3 SAW	6.8	32.0	174	6.7	50.2	8.0
WL	9 - 11	LIVE	3 SAW	10.1	32.0	271	0.0	73.4	12.4
WL	12 - 14	LIVE	2 SAW	12.8	32.0	147	0.0	36.5	6.7

Unit Log Sort x Diameter Bin Summary: PETTIJOHN U6

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.6	24.0	2,118	3.2	782.3	96.8
DF	9 - 11	LIVE	Domestic	9.7	30.0	1,480	-1.0	487.2	67.6
DF	12 - 14	LIVE	Domestic	12.2	32.0	638	3.4	170.9	29.2
DF	15 - 19	LIVE	Domestic	19.5	32.0	261	0.0	60.3	11.9
DF	20+	LIVE	Domestic	20.3	32.0	234	9.3	60.0	10.7
WL	5 - 8	LIVE	Domestic	6.5	29.0	186	6.3	53.5	8.5
WL	9 - 11	LIVE	Domestic	10.1	32.0	271	0.0	73.4	12.4
WL	12 - 14	LIVE	Domestic	12.8	32.0	147	0.0	36.5	6.7

Cruise Unit Report PETTIJOHNU7

Unit Sale Notice Volume (MBF): PETTIJOHNU7

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	15.3			132.3	61.3	54.9	16.0
WL	12.4			83.3	29.2	37.6	16.5
ALL	14.1			215.6	90.6	92.6	32.5

Unit Sale Notice Weight (tons): PETTIJOHNU7

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	842.5	349.8	372.8	119.9
WL	446.3	139.4	213.9	93.0
ALL	1,288.8	489.2	586.7	212.9

Unit Cruise Design: PETTIJOHNU7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (20) Measure/Count Plots, Sighting Ht = 4.5 ft	38.9	39.3	26	10	5

Unit Cruise Summary: PETTIJOHNU7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	17	49	1.9	0
WL	8	27	1.0	0
ALL	25	76	2.9	0

Unit Cruise Statistics (Cut + Leave Trees): PETTIJOHNU7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	37.7	143.4	28.1	134.1	32.0	7.8	5,053	147.0	29.2
WL	20.8	142.8	28.0	163.9	24.5	8.7	3,405	144.9	29.3
ALL	58.5	98.2	19.3	144.7	30.1	6.0	8,458	102.7	20.2

Unit Summary: PETTIJOHNU7

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	17	ALL	16.0	27	38	3,403	1.9	18.2	25.4	6.3	842.5	132.3
DF	LIVE	LEA	2	ALL	23.9	12	17	1,650	1.9	4.0	12.3	2.5	408.5	64.1
WL	LIVE	CUT	8	ALL	14.0	35	55	2,144	0.0	12.2	13.1	3.5	446.3	83.3
WL	LIVE	LEA	1	ALL	21.0	13	15	1,261	0.0	3.2	7.7	1.7	262.5	49.0
ALL	LIVE	LEA	3	ALL	22.7	12	16	2,911	1.1	7.2	20.0	4.2	671.0	113.1
ALL	LIVE	CUT	25	ALL	15.2	30	45	5,547	1.2	30.4	38.5	9.8	1,288.8	215.6
ALL	ALL	ALL	28	ALL	16.9	27	39	8,458	1.1	37.6	58.5	14.0	1,959.8	328.7

Unit Stand Table: PETTIJOHNU7

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	2	8.3	24	50	98	0.0	4.1	1.5	0.5	27.1	3.8
DF	14	LIVE	CUT	7	14.0	21	27	652	1.2	5.0	5.4	1.4	168.3	25.3
DF	16	LIVE	CUT	5	15.9	35	44	473	2.6	2.8	3.8	1.0	124.7	18.4
DF	18	LIVE	CUT	5	17.6	14	18	515	1.5	2.3	3.8	0.9	130.0	20.0
DF	20	LIVE	CUT	7	19.9	22	26	750	2.3	2.5	5.4	1.2	183.6	29.1
DF	22	LIVE	CUT	1	22.6	67	77	106	0.0	0.3	0.8	0.2	25.7	4.1
DF	24	LIVE	CUT	3	23.9	53	67	371	2.8	0.7	2.3	0.5	87.7	14.4
DF	26	LIVE	CUT	1	25.3	86	98	134	2.9	0.2	0.8	0.2	30.8	5.2
DF	32	LIVE	CUT	2	31.2	94	104	305	1.3	0.3	1.5	0.3	64.6	11.9
DF	12	LIVE	LEA	1	12.0			99	1.9	1.0	0.8	0.2	24.8	3.9
DF	18	LIVE	LEA	1	18.3			99	1.9	0.4	0.8	0.2	24.8	3.9
DF	20	LIVE	LEA	1	20.9			99	1.9	0.3	0.8	0.2	24.8	3.9
DF	24	LIVE	LEA	3	24.2	26	30	298	1.9	0.7	2.3	0.5	74.3	11.6
DF	26	LIVE	LEA	2	26.4			199	1.9	0.4	1.5	0.3	49.6	7.7
DF	28	LIVE	LEA	2	27.2			198	1.9	0.4	1.5	0.3	49.6	7.7
DF	30	LIVE	LEA	1	30.1	99	111	144	5.7	0.2	0.8	0.1	32.7	5.6
DF	32	LIVE	LEA	1	31.0	79	100	117	0.0	0.1	0.8	0.1	28.9	4.5
DF	34	LIVE	LEA	1	33.4			99	1.9	0.1	0.8	0.1	24.8	3.9
DF	36	LIVE	LEA	1	35.8		110	99	1.9	0.1	0.8	0.1	24.8	3.9
DF	40	LIVE	LEA	1	40.8			99	1.9	0.1	0.8	0.1	24.8	3.9
DF	42	LIVE	LEA	1	41.0			99	1.9	0.1	0.8	0.1	24.8	3.9
WL	8	LIVE	CUT	1	7.9	37	91	84	0.0	2.3	0.8	0.3	18.3	3.3
WL	10	LIVE	CUT	1	10.1	52	83	102	0.0	1.4	0.8	0.2	23.8	4.0
WL	12	LIVE	CUT	1	11.5	60	86	107	0.0	1.1	0.8	0.2	24.8	4.1
WL	14	LIVE	CUT	5	13.7	30	40	641	0.0	3.8	3.9	1.0	133.3	24.9
WL	16	LIVE	CUT	1	15.7			126	0.0	0.6	0.8	0.2	26.3	4.9

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
WL	18	LIVE	CUT	5	17.8	32	39	657	0.0	2.2	3.9	0.9	135.8	25.5
WL	20	LIVE	CUT	2	19.1			252	0.0	0.8	1.5	0.4	52.5	9.8
WL	26	LIVE	CUT	1	25.3	95	108	175	0.0	0.2	0.8	0.2	31.6	6.8
WL	14	LIVE	LEA	1	14.5			119	0.0	0.7	0.8	0.2	25.6	4.6
WL	16	LIVE	LEA	1	16.3			119	0.0	0.5	0.8	0.2	25.6	4.6
WL	18	LIVE	LEA	1	18.7			119	0.0	0.4	0.8	0.2	25.6	4.6
WL	20	LIVE	LEA	2	20.0			239	0.0	0.7	1.5	0.3	51.1	9.3
WL	26	LIVE	LEA	1	26.2			119	0.0	0.2	0.8	0.2	25.6	4.6
WL	28	LIVE	LEA	3	27.8	76	85	426	0.0	0.5	2.3	0.4	83.5	16.5
WL	34	LIVE	LEA	1	33.3			119	0.0	0.1	0.8	0.1	25.6	4.6

Unit Log Grade Summary: PETTIJOHNU7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	15.4	32.0	1,578	1.6	349.8	61.3
DF	LIVE	3 SAW	8.8	32.0	1,413	2.7	372.8	54.9
DF	LIVE	4 SAW	5.3	20.0	412	0.0	119.9	16.0
WL	LIVE	2 SAW	13.6	32.0	752	0.0	139.4	29.2
WL	LIVE	3 SAW	7.9	32.0	968	0.0	213.9	37.6
WL	LIVE	4 SAW	5.1	25.0	424	0.0	93.0	16.5

Unit Log Sort Summary: PETTIJOHNU7

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	7.9	26.0	3,403	1.9	842.5	132.3
WL	LIVE	Domestic	7.0	28.0	2,144	0.0	446.3	83.3

Unit Log Grade x Sort Summary: PETTIJOHNU7

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	15.4	32.0	1,578	1.6	349.8	61.3
DF	LIVE	3 SAW	Domestic	8.8	32.0	1,413	2.7	372.8	54.9
DF	LIVE	4 SAW	Domestic	5.3	20.0	412	0.0	119.9	16.0
WL	LIVE	2 SAW	Domestic	13.6	32.0	752	0.0	139.4	29.2
WL	LIVE	3 SAW	Domestic	7.9	32.0	968	0.0	213.9	37.6
WL	LIVE	4 SAW	Domestic	5.1	25.0	424	0.0	93.0	16.5

Unit Log Grade x Diameter Bin Summary: PETTIJOHNU7

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.3	20.0	412	0.0	119.9	16.0
DF	5 - 8	LIVE	3 SAW	6.9	32.0	358	4.0	96.9	13.9
DF	9 - 11	LIVE	3 SAW	9.9	32.0	1,055	2.3	275.9	41.0
DF	12 - 14	LIVE	2 SAW	13.3	32.0	580	1.4	132.7	22.6
DF	15 - 19	LIVE	2 SAW	16.2	32.0	615	2.7	137.3	23.9
DF	20+	LIVE	2 SAW	21.0	32.0	383	0.0	79.8	14.9
WL	5 - 8	LIVE	4 SAW	5.1	25.0	424	0.0	93.0	16.5
WL	5 - 8	LIVE	3 SAW	7.1	32.0	494	0.0	116.0	19.2
WL	9 - 11	LIVE	3 SAW	9.3	32.0	473	0.0	97.9	18.4
WL	12 - 14	LIVE	2 SAW	12.6	32.0	521	0.0	99.6	20.2
WL	15 - 19	LIVE	2 SAW	18.4	32.0	231	0.0	39.8	9.0

Unit Log Sort x Diameter Bin Summary: PETTIJOHNU7

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	5.6	23.0	770	1.9	216.8	29.9
DF	9 - 11	LIVE	Domestic	9.9	32.0	1,055	2.3	275.9	41.0
DF	12 - 14	LIVE	Domestic	13.3	32.0	580	1.4	132.7	22.6
DF	15 - 19	LIVE	Domestic	16.2	32.0	615	2.7	137.3	23.9
DF	20+	LIVE	Domestic	21.0	32.0	383	0.0	79.8	14.9
WL	5 - 8	LIVE	Domestic	5.8	27.0	919	0.0	209.0	35.7
WL	9 - 11	LIVE	Domestic	9.3	32.0	473	0.0	97.9	18.4
WL	12 - 14	LIVE	Domestic	12.6	32.0	521	0.0	99.6	20.2
WL	15 - 19	LIVE	Domestic	18.4	32.0	231	0.0	39.8	9.0

Cruise Unit Report ROW

Unit Sale Notice Volume (MBF): ROW

Sp	QMD	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	17.1			6.1	3.1	2.4	0.6
WL	14.2			1.7	0.6	0.8	0.3
ES	13.9			1.6	0.5	0.8	0.3
ALL	15.8			9.3	4.1	4.0	1.2

Unit Sale Notice Weight (tons): ROW

Sp	Tons by Grade			
	All	2 Saw	3 Saw	4 Saw
DF	41.4	18.1	18.4	4.8
WL	10.5	3.1	5.2	2.1
ES	9.0	2.3	4.5	2.1
ALL	60.9	23.6	28.2	9.1

Unit Cruise Design: ROW

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
ST: Strip/Percent Sample (1 tree expansion)	0.5		1	1	0

Unit Cruise Summary: ROW

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	34	34	34.0	0
WL	13	13	13.0	0
ES	13	13	13.0	0
ALL	60	60	60.0	0

Unit Cruise Statistics (Cut + Leave Trees): ROW

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	107.9	0.0	0.0	112.4	38.8	6.6	12,126	38.8	6.6
WL	28.6	0.0	0.0	121.6	23.0	6.4	3,472	23.0	6.4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
ES	27.3	0.0	0.0	113.7	31.6	8.8	3,100	31.6	8.8
ALL	163.7	0.0	0.0	114.2	33.9	4.4	18,699	33.9	4.4

Unit Summary: ROW

Sp	Status	Rx	N	D	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	LIVE	CUT	34	ALL	17.1	55	71	12,126	0.0	67.7	107.9	26.1	41.4	6.1
ES	LIVE	CUT	13	ALL	13.9	46	60	3,100	0.0	25.9	27.3	7.3	9.0	1.6
WL	LIVE	CUT	13	ALL	14.2	55	74	3,472	0.0	26.0	28.6	7.6	10.5	1.7
ALL	LIVE	CUT	60	ALL	15.8	53	69	18,698	0.0	119.6	163.8	41.0	60.9	9.4
ALL	ALL	ALL	60	ALL	15.8	53	69	18,698	0.0	119.6	163.8	41.0	60.9	9.4

Unit Stand Table: ROW

Sp	D	Status	Rx	N	QMD	BL	THT	BF Net	Defect %	TPA	BA	RD	Tons	MBF Net
DF	8	LIVE	CUT	1	8.0	27	47	54	0.0	2.0	0.7	0.2	0.2	0.0
DF	10	LIVE	CUT	3	9.8	32	52	199	0.0	6.0	3.1	1.0	0.8	0.1
DF	12	LIVE	CUT	6	11.9	45	65	710	0.0	12.0	9.2	2.7	2.9	0.4
DF	14	LIVE	CUT	6	14.0	50	66	1,015	0.0	12.0	12.8	3.4	4.3	0.5
DF	16	LIVE	CUT	5	15.9	53	66	1,173	0.0	10.0	13.8	3.5	4.5	0.6
DF	18	LIVE	CUT	3	18.2	59	72	1,025	0.0	6.0	10.8	2.5	4.0	0.5
DF	20	LIVE	CUT	2	19.8	55	65	676	0.0	4.0	8.5	1.9	2.9	0.3
DF	22	LIVE	CUT	2	21.4	79	92	1,513	0.0	4.0	9.9	2.2	4.5	0.8
DF	24	LIVE	CUT	4	23.8	70	83	3,197	0.0	8.0	24.8	5.1	10.1	1.6
DF	26	LIVE	CUT	2	25.5	96	109	2,565	0.0	4.0	14.2	2.8	7.2	1.3
ES	10	LIVE	CUT	5	9.2	30	44	344	0.0	10.0	4.6	1.5	1.0	0.2
ES	12	LIVE	CUT	1	11.9	48	65	177	0.0	2.0	1.5	0.4	0.5	0.1
ES	16	LIVE	CUT	5	15.4	52	64	1,299	0.0	10.0	13.0	3.3	4.1	0.6
ES	18	LIVE	CUT	1	17.4	60	72	407	0.0	2.0	3.3	0.8	1.2	0.2
ES	22	LIVE	CUT	1	21.0	85	100	872	0.0	2.0	4.8	1.1	2.2	0.4
WL	8	LIVE	CUT	1	8.2	28	55	54	0.0	2.0	0.7	0.3	0.2	0.0
WL	10	LIVE	CUT	1	9.6	31	51	70	0.0	2.0	1.0	0.3	0.3	0.0
WL	12	LIVE	CUT	4	12.0	52	72	701	0.0	8.0	6.3	1.8	2.2	0.4
WL	14	LIVE	CUT	2	13.7	65	87	564	0.0	4.0	4.1	1.1	1.7	0.3
WL	16	LIVE	CUT	2	15.8	58	73	556	0.0	4.0	5.4	1.4	1.9	0.3
WL	18	LIVE	CUT	2	17.2	71	87	947	0.0	4.0	6.4	1.6	2.6	0.5
WL	20	LIVE	CUT	1	20.5	60	70	581	0.0	2.0	4.6	1.0	1.6	0.3

Unit Log Grade Summary: ROW

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	14.6	32.0	6,166	0.0	18.1	3.1
DF	LIVE	3 SAW	8.6	32.0	4,855	0.0	18.4	2.4
DF	LIVE	4 SAW	5.4	22.0	1,105	0.0	4.8	0.6
ES	LIVE	2 SAW	13.5	32.0	909	0.0	2.3	0.5
ES	LIVE	3 SAW	9.5	32.0	1,546	0.0	4.5	0.8
ES	LIVE	4 SAW	5.1	22.0	645	0.0	2.1	0.3
WL	LIVE	2 SAW	12.1	32.0	1,174	0.0	3.1	0.6
WL	LIVE	3 SAW	8.2	31.0	1,644	0.0	5.2	0.8
WL	LIVE	4 SAW	5.1	24.0	654	0.0	2.1	0.3

Unit Log Sort Summary: ROW

Sp	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	Domestic	8.4	28.0	12,126	0.0	41.4	6.1
ES	LIVE	Domestic	7.2	26.0	3,100	0.0	9.0	1.5
WL	LIVE	Domestic	7.3	28.0	3,472	0.0	10.5	1.7

Unit Log Grade x Sort Summary: ROW

Sp	Status	Grade	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	14.6	32.0	6,166	0.0	18.1	3.1
DF	LIVE	3 SAW	Domestic	8.6	32.0	4,855	0.0	18.4	2.4
DF	LIVE	4 SAW	Domestic	5.4	22.0	1,105	0.0	4.8	0.6
ES	LIVE	2 SAW	Domestic	13.5	32.0	909	0.0	2.3	0.5
ES	LIVE	3 SAW	Domestic	9.5	32.0	1,546	0.0	4.5	0.8
ES	LIVE	4 SAW	Domestic	5.1	22.0	645	0.0	2.1	0.3
WL	LIVE	2 SAW	Domestic	12.1	32.0	1,174	0.0	3.1	0.6
WL	LIVE	3 SAW	Domestic	8.2	31.0	1,644	0.0	5.2	0.8
WL	LIVE	4 SAW	Domestic	5.1	24.0	654	0.0	2.1	0.3

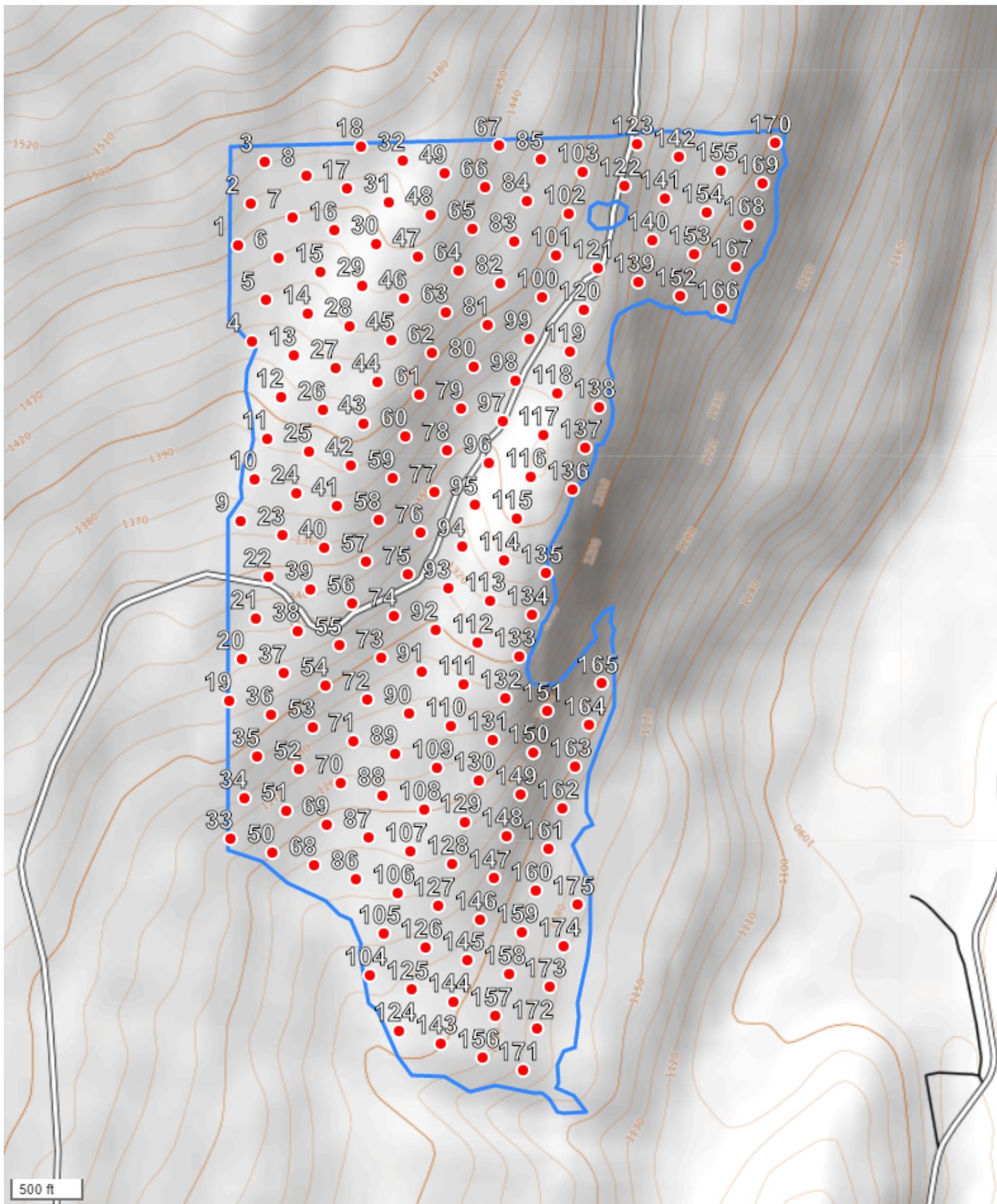
Unit Log Grade x Diameter Bin Summary: ROW

Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	4 SAW	5.4	22.0	1,105	0.0	4.8	0.6
DF	5 - 8	LIVE	3 SAW	7.0	32.0	1,669	0.0	7.0	0.8
DF	9 - 11	LIVE	3 SAW	10.1	32.0	3,187	0.0	11.4	1.6
DF	9 - 11	LIVE	2 SAW	11.5	32.0	374	0.0	0.9	0.2
DF	12 - 14	LIVE	2 SAW	12.9	32.0	1,720	0.0	5.4	0.9

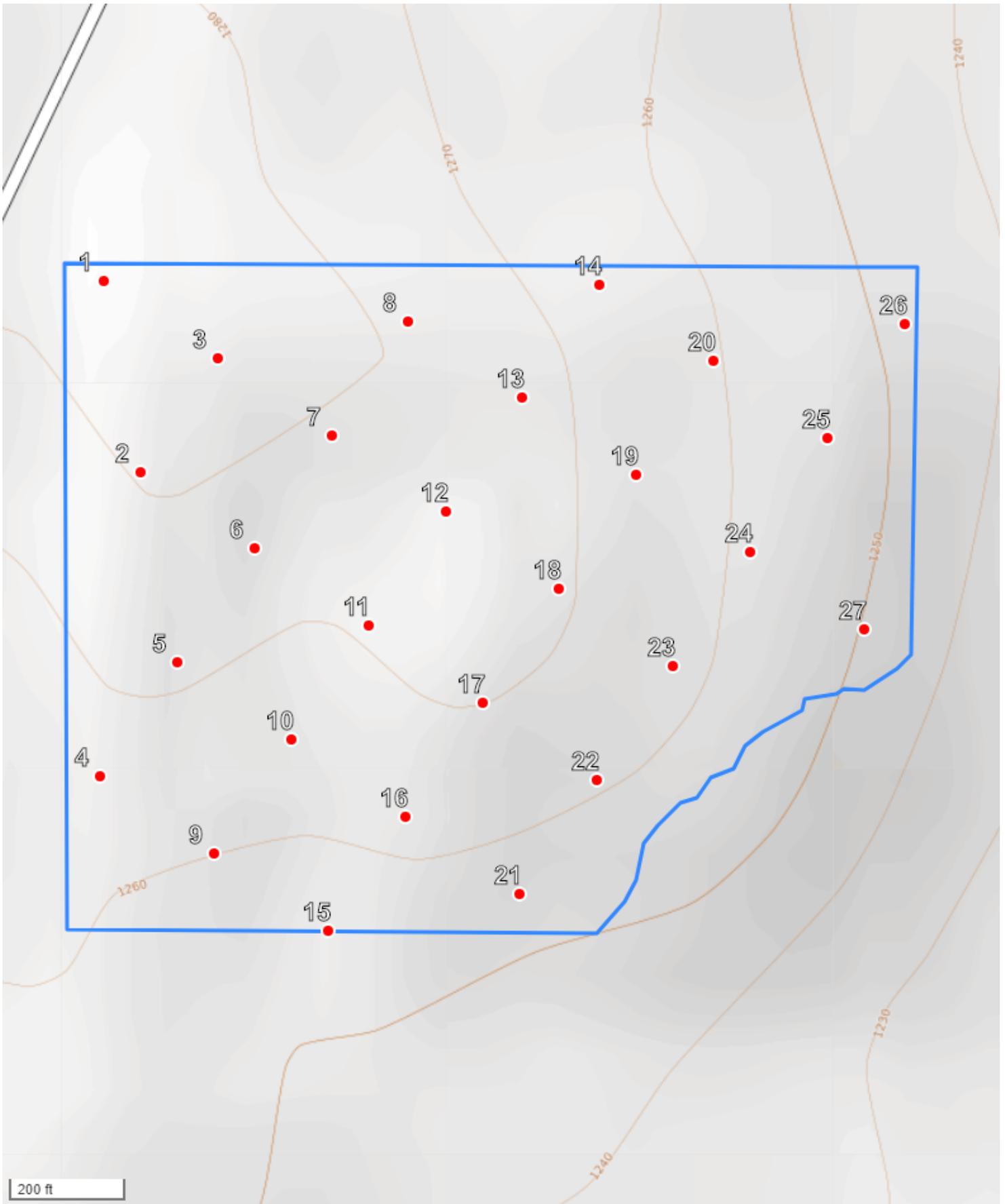
Sp	Bin	Status	Grade	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	15 - 19	LIVE	2 SAW	16.3	32.0	4,072	0.0	11.8	2.0
ES	5 - 8	LIVE	4 SAW	5.1	22.0	645	0.0	2.1	0.3
ES	5 - 8	LIVE	3 SAW	7.7	32.0	150	0.0	0.4	0.1
ES	9 - 11	LIVE	3 SAW	9.8	32.0	1,395	0.0	4.1	0.7
ES	12 - 14	LIVE	2 SAW	11.7	32.0	337	0.0	0.9	0.2
ES	15 - 19	LIVE	2 SAW	15.2	32.0	572	0.0	1.4	0.3
WL	5 - 8	LIVE	4 SAW	5.1	24.0	654	0.0	2.1	0.3
WL	5 - 8	LIVE	3 SAW	7.1	32.0	665	0.0	2.1	0.3
WL	9 - 11	LIVE	3 SAW	9.3	30.0	979	0.0	3.1	0.5
WL	12 - 14	LIVE	2 SAW	12.1	32.0	1,174	0.0	3.1	0.6

Unit Log Sort x Diameter Bin Summary: ROW

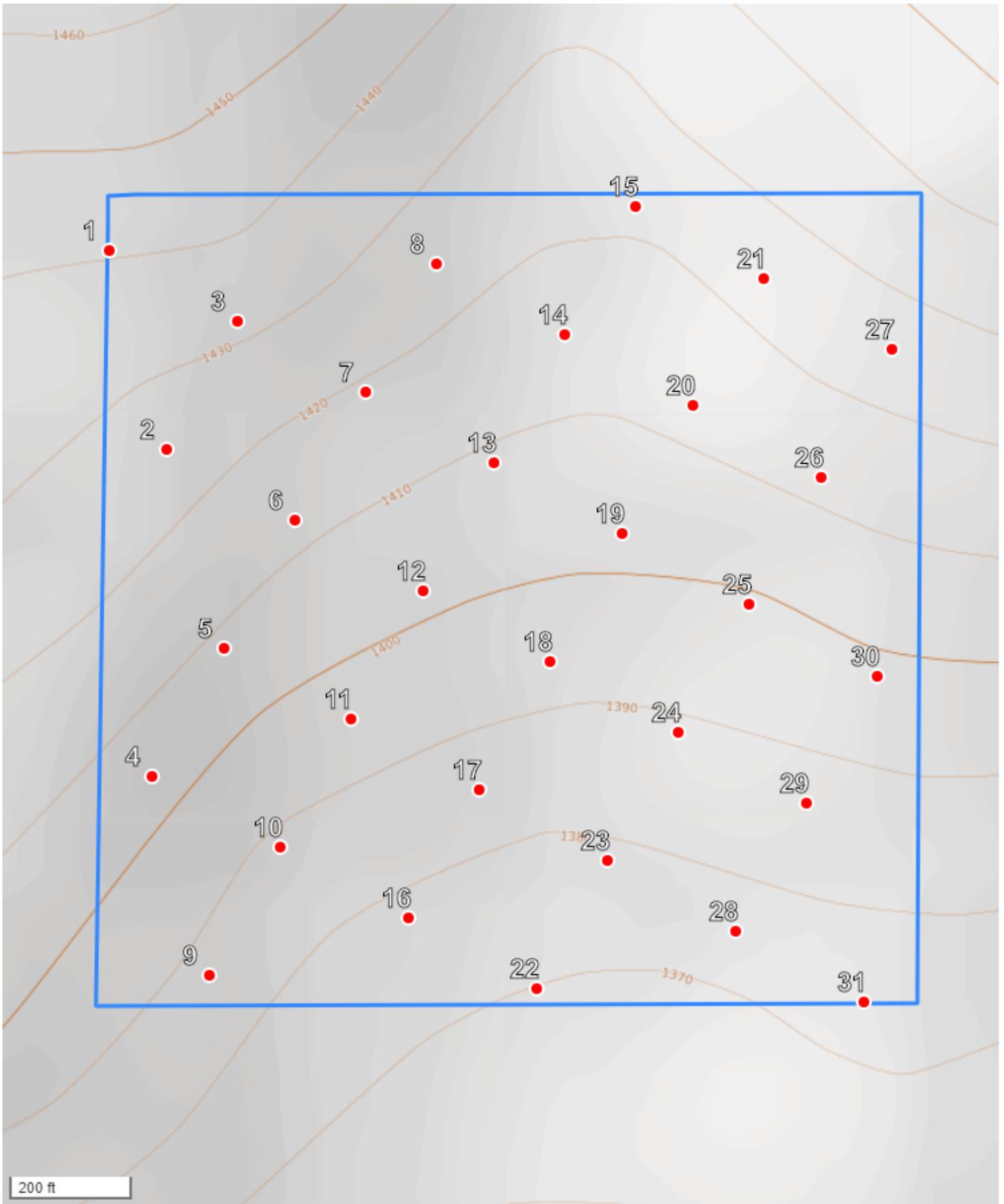
Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Domestic	6.0	26.0	2,774	0.0	11.8	1.4
DF	9 - 11	LIVE	Domestic	10.2	32.0	3,560	0.0	12.4	1.8
DF	12 - 14	LIVE	Domestic	12.9	32.0	1,720	0.0	5.4	0.9
DF	15 - 19	LIVE	Domestic	16.3	32.0	4,072	0.0	11.8	2.0
ES	5 - 8	LIVE	Domestic	5.2	23.0	796	0.0	2.5	0.4
ES	9 - 11	LIVE	Domestic	9.8	32.0	1,395	0.0	4.1	0.7
ES	12 - 14	LIVE	Domestic	11.7	32.0	337	0.0	0.9	0.2
ES	15 - 19	LIVE	Domestic	15.2	32.0	572	0.0	1.4	0.3
WL	5 - 8	LIVE	Domestic	5.8	27.0	1,319	0.0	4.3	0.7
WL	9 - 11	LIVE	Domestic	9.3	30.0	979	0.0	3.1	0.5
WL	12 - 14	LIVE	Domestic	12.1	32.0	1,174	0.0	3.1	0.6



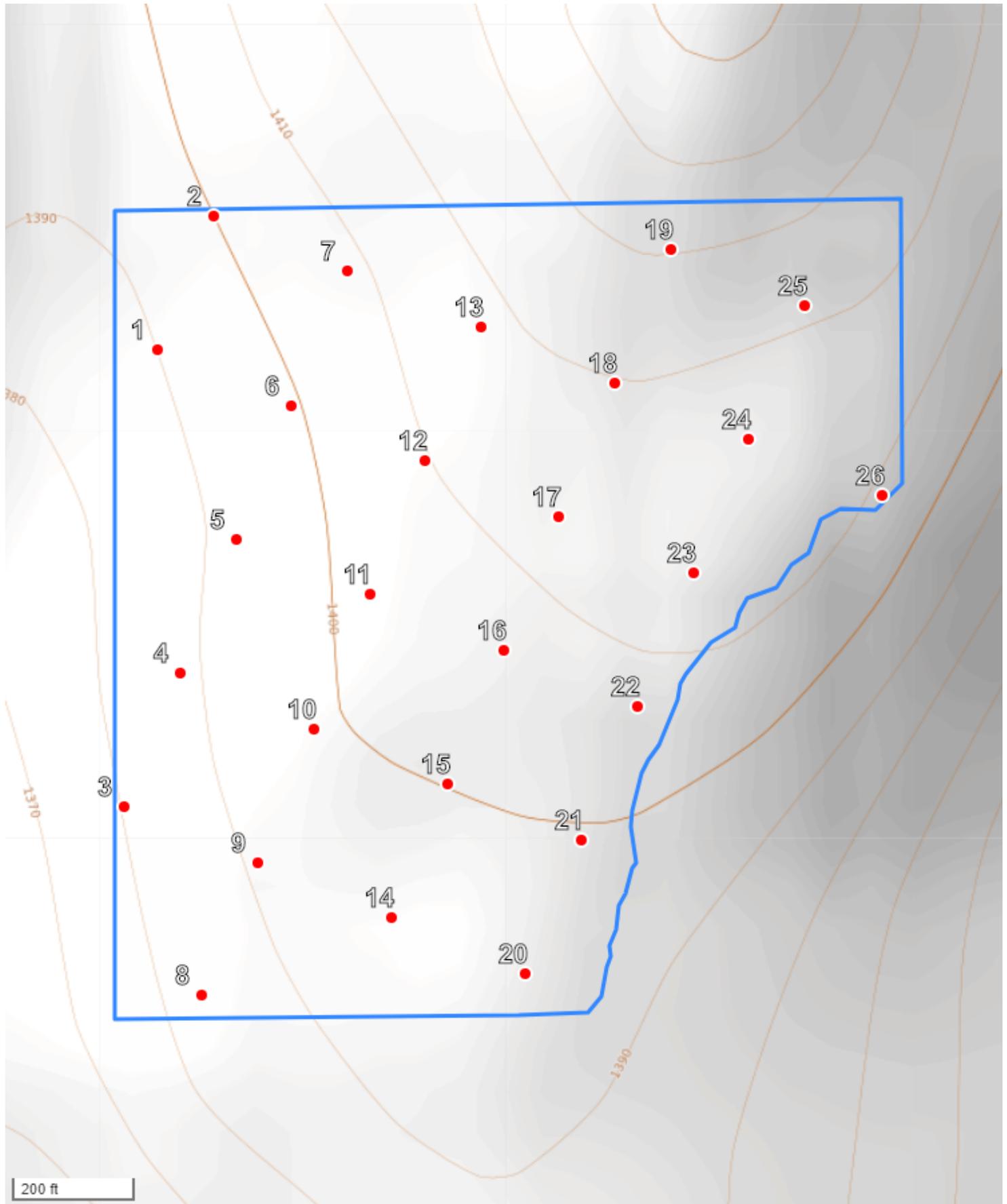
FMA Name: PETTIJOHN U1	N Plots: 175	Plot Spacing: 299.4 ft
Grid Name: PETTIJOHN U1 - 1	Acres Treated: 363.18	Main Azimuth: 17.8 deg



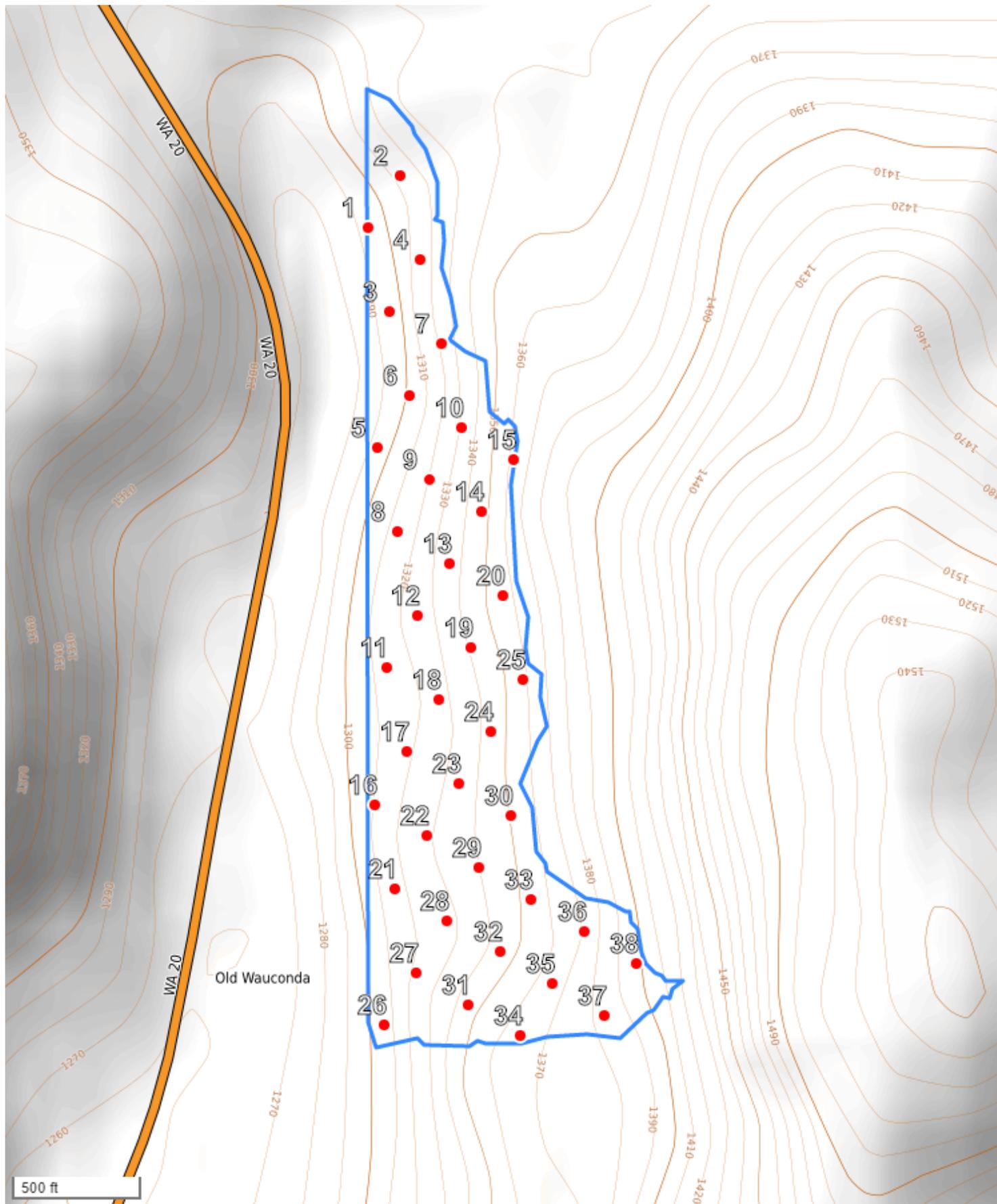
FMA Name: PETTIJOHN U2	N Plots: 27	Plot Spacing: 235.7 ft
Grid Name: PETTIJOHN U2 - 1	Acres Treated: 34.53	Main Azimuth: 34.1 deg



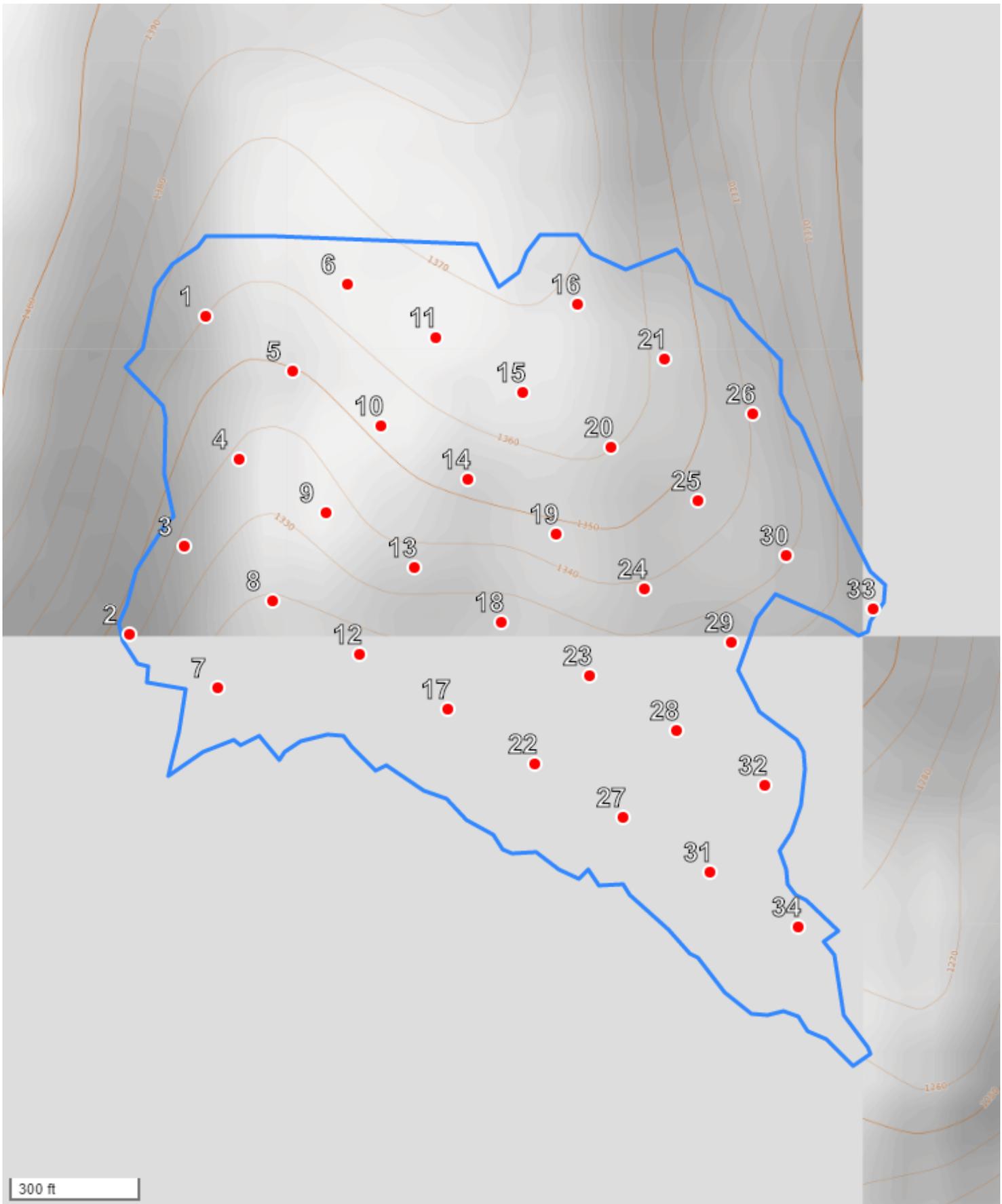
FMA Name: PETTIJOHN U3	N Plots: 31	Plot Spacing: 237.9 ft
Grid Name: PETTIJOHN U3 - 1	Acres Treated: 40.39	Main Azimuth: 29 deg



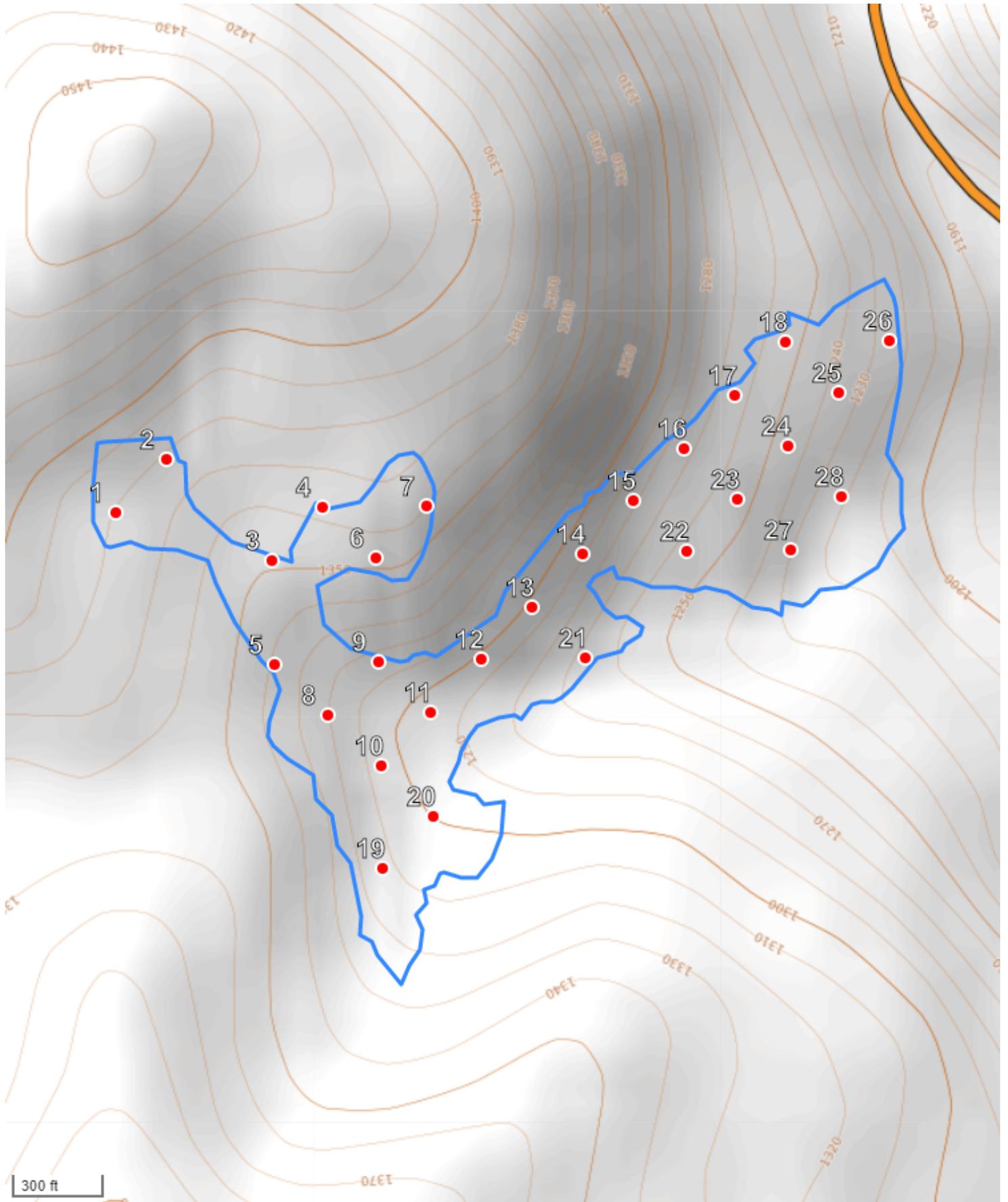
FMA Name: PETTIJOHN U4	N Plots: 26	Plot Spacing: 235.4 ft
Grid Name: PETTIJOHN U4 - 1	Acres Treated: 31.88	Main Azimuth: 22.7 deg



FMA Name: PETTIJOHN U5	N Plots: 38	Plot Spacing: 236.9 ft
Grid Name: PETTIJOHN U5 - 1	Acres Treated: 49.07	Main Azimuth: 31.4 deg



FMA Name: PETTIJOHN U6	N Plots: 34	Plot Spacing: 236.9 ft
Grid Name: PETTIJOHN U6 - 1	Acres Treated: 46.51	Main Azimuth: 31.8 deg



FMA Name: PETTIJOHNU7	N Plots: 28	Plot Spacing: 238.5 ft
Grid Name: PETTIJOHNU7 - 1	Acres Treated: 39.27	Main Azimuth: 43.7 deg

PRE-CRUISE NARRATIVE

Sale Name: Q Pettijohn	Region: Northeast
Agreement #: 30-100010	District: Highlands
Contact Forester: Joe Hoagland Phone / Location: 509-223-4044	County(s): Choose a county, Okanogan
Alternate Contact: Andy Townsend Phone / Location: Click here to enter text.	Other information: Click here to enter text.

Type of Sale: Weight Scale	
Harvest System: Ground based Click here to enter text.	100%
Harvest System: Select harvest system Click here to enter text.	Click here to enter percent sale acres.
Enter % of sale acres	
Harvest System: Select harvest system Click here to enter text.	Click here to enter percent sale acres.

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	Sec 30 T38 R30	03	363.2	0	0	8.8	0	354.4	GPS (Garmin)
2	Sec 6 T37 R30	03	34.5	0	0	0	0	34.5	GPS (Garmin)
3	Sec 11 T37 R29	03	40.4	0	0	0	0	40.4	GPS (Garmin)
4	Sec 12 T37 R29	03	31.9	0	0	0	0	31.9	GPS (Garmin)
5	Sec 7 T37 R31	03	49.1	0	0	1.5	0	47.6	GPS (Garmin)
6	Sec 18 T37 R31	03	46.5	0	0	.8	0	45.74	GPS (Garmin)
7	Sec 19 T37 R31	03	39.3	0	0	.4	0	38.9	GPS (Garmin)

ROW	Sec. 18 T37 R31	03	0.5	0	0	0	0	0.5	
TOTAL ACRES			605.4	0	0	11.48	0	593.94	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
2	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
3	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
4	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
5	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
6	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Prescription harvest based on cruise data. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 21 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
7	Boundaries marked with white "Management Unit Boundary" tags, orange flashers & pink flagging. Remove all green conifers not banded with purple paint. Leave all ponderosa pine. Leave all hardwoods.		Minimum of 6 leave trees will be left per acre. Leave all PP. This sale complies with Procedure 14-006-091
ROW1	Boundaries marked with orange center line. Take Trees marked with purple paint		Total Volume Cruise
ROW2	Boundaries marked with orange center line. Take Trees marked with purple paint		Total Volume Cruise

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF,ES,SAF,WL/ 1400MBF	Accessed from UFS 3230000 RD	Region Provided Maps
2	DF, WL/ 150 MBF	Accessed from UFS 3230000 RD	Region Provided Maps
3	DF,WL/ 170 MBF	Accessed from UFS 3230000 RD	Region Provided Maps
4	DF,WL/ 150 MBF	Accessed from UFS 3230000 RD	Region Provided Maps
5	DF,WL/ 180 MBF	Hwy 20	Region Provided Maps
6	DF,WL,ES/ 170 MBF	Hwy 20	Region Provided Maps
7	DF, WL, ES/ 180 MBF	Hwy 20	Region Provided Maps
ROW	DF, WL, ES/ 4mbf	Hwy 20	Region Provided Maps
TOTAL MBF	2,404 MBF		Region Provided Maps

REMARKS:

Unit 1 has had E383030E, E383019F, E283029E, E383030F, E383030H, E383029K road acreage deducted from gross acreage.
Unit 5 has had E373107E road acreage deducted from gross acreage
Unit 6 has had E3733107F and E373118G road acreage deducted from gross acreage
Unit 7 has had E373107F and E373118H road acreage deducted from gross acreage
ROW volume consists of scattered trees along E373107E and E373118H Roads banded with orange paint.
Forest health survey plots were conducted on Units 1 and 6. If you want the data to develop cruise please contact Joe Hoagland.

Prepared By: Joe Hoagland	Title: Forester	CC:
Date: 10/15/2019		



Forest Practices Application/Notification
Notice of Decision

FPA/N No: 3024125
Effective Date: 04/22/2020
Expiration Date: 04/22/2023
Shut Down Zone: 678 W
EARR Tax Credit: Eligible Non-eligible
Reference: DNR/"Q Pettijohn"
multiple

Decision

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

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval / Reasons for Disapproval

Approved without conditions.

Issued By: Kyle Buckmiller Region: Northeast

Title: Forest Practices Forester Date: 04/22/2020

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: _____

Appeal Information

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

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

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

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

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

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

And

Department Of Natural Resources
Northeast Region
225 S Silke Rd
Colville, WA 99114

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 <u>4/23/2020</u>	I placed in the United States mail at <u>Colville</u> , WA,
(date)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>3024125</u>	
<u>Ronda Nielsen</u>	<u>Ronda Nielsen</u>
(Printed name)	(Signature)

Washington State Department of Natural Resources

Sale Name: Pettijohn

Road Plan Map

Region: Northeast

Agreement No: 30-100010

Page 1 of 5

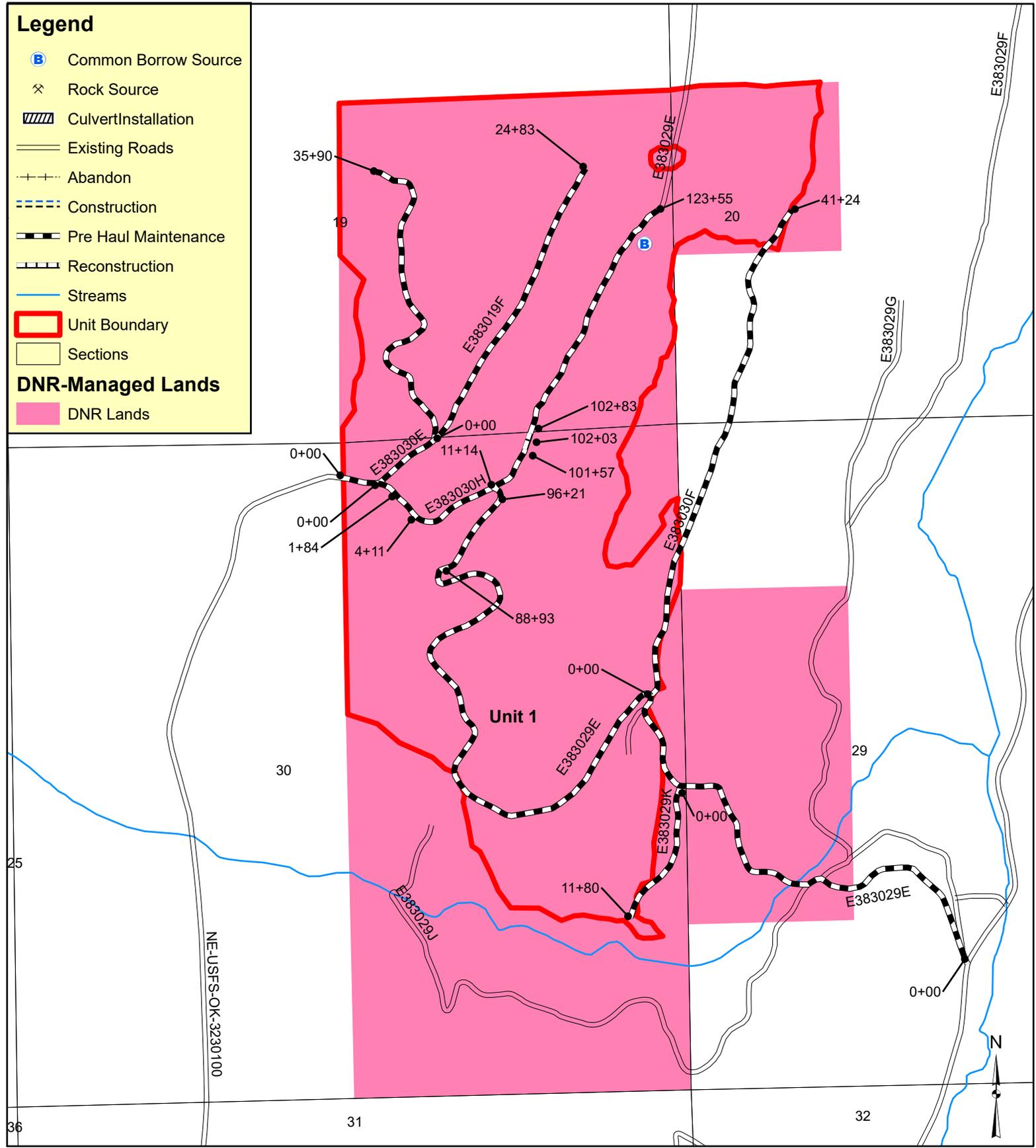
County: Okanogan

Legend

- Ⓟ Common Borrow Source
- ⊗ Rock Source
- Culvert Installation
- Existing Roads
- Abandon
- Construction
- Pre Haul Maintenance
- Reconstruction
- Streams
- Unit Boundary
- Sections

DNR-Managed Lands

- DNR Lands



1 Inch : 1000 Feet

10/17/2019



Washington State Department of Natural Resources

Sale Name: Pettijohn

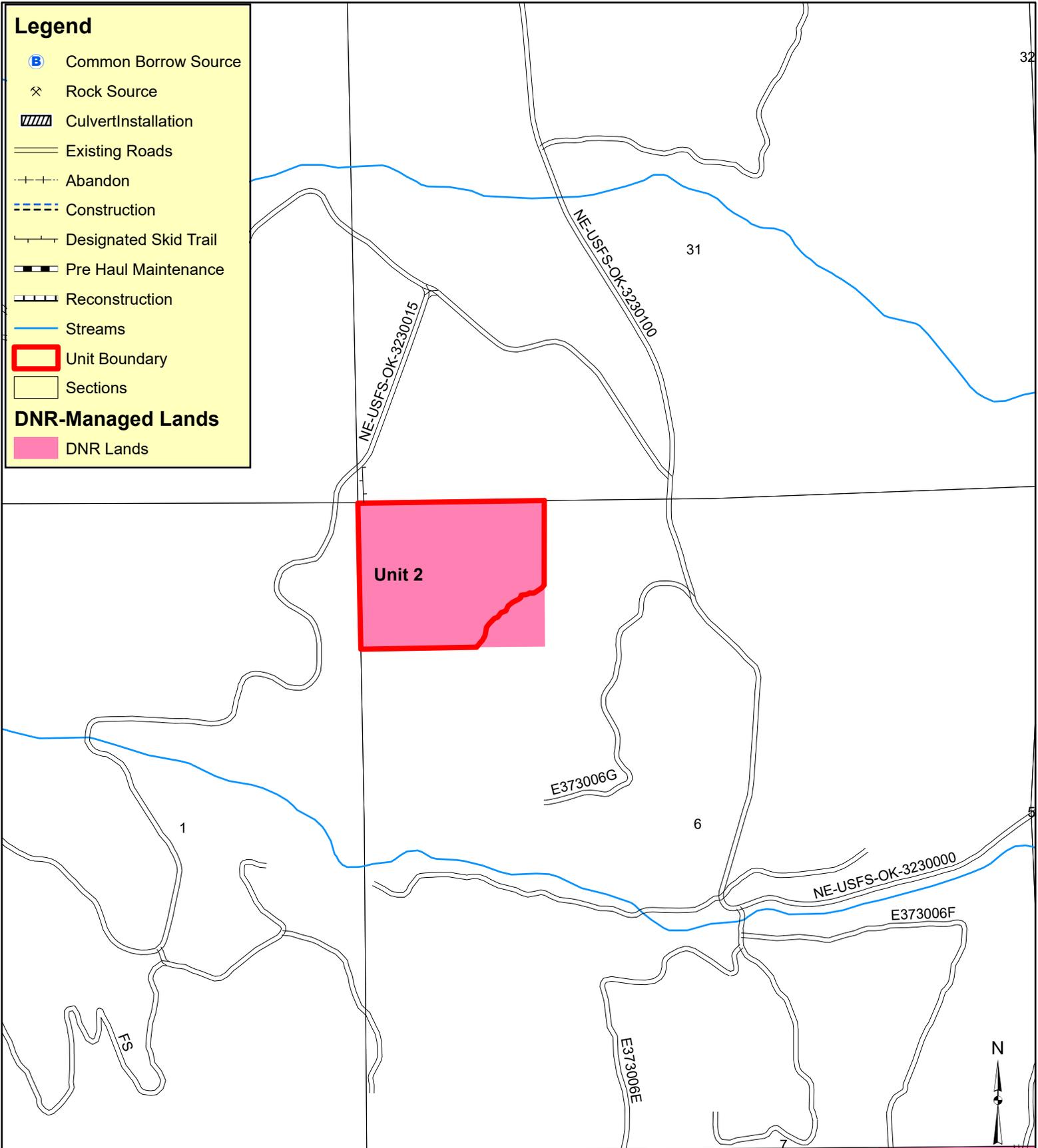
Road Plan Map

Region: Northeast

Agreement No: 30-100010

Page 2 of 5

County: Okanogan



500 250 0 500 1,000 1,500 2,000

1 Inch : 1000 Feet

10/17/2019

Feet

Washington State Department of Natural Resources

Sale Name: Pettijohn

Road Plan Map

Region: Northeast

Agreement No: 30-100010

Page 3 of 5

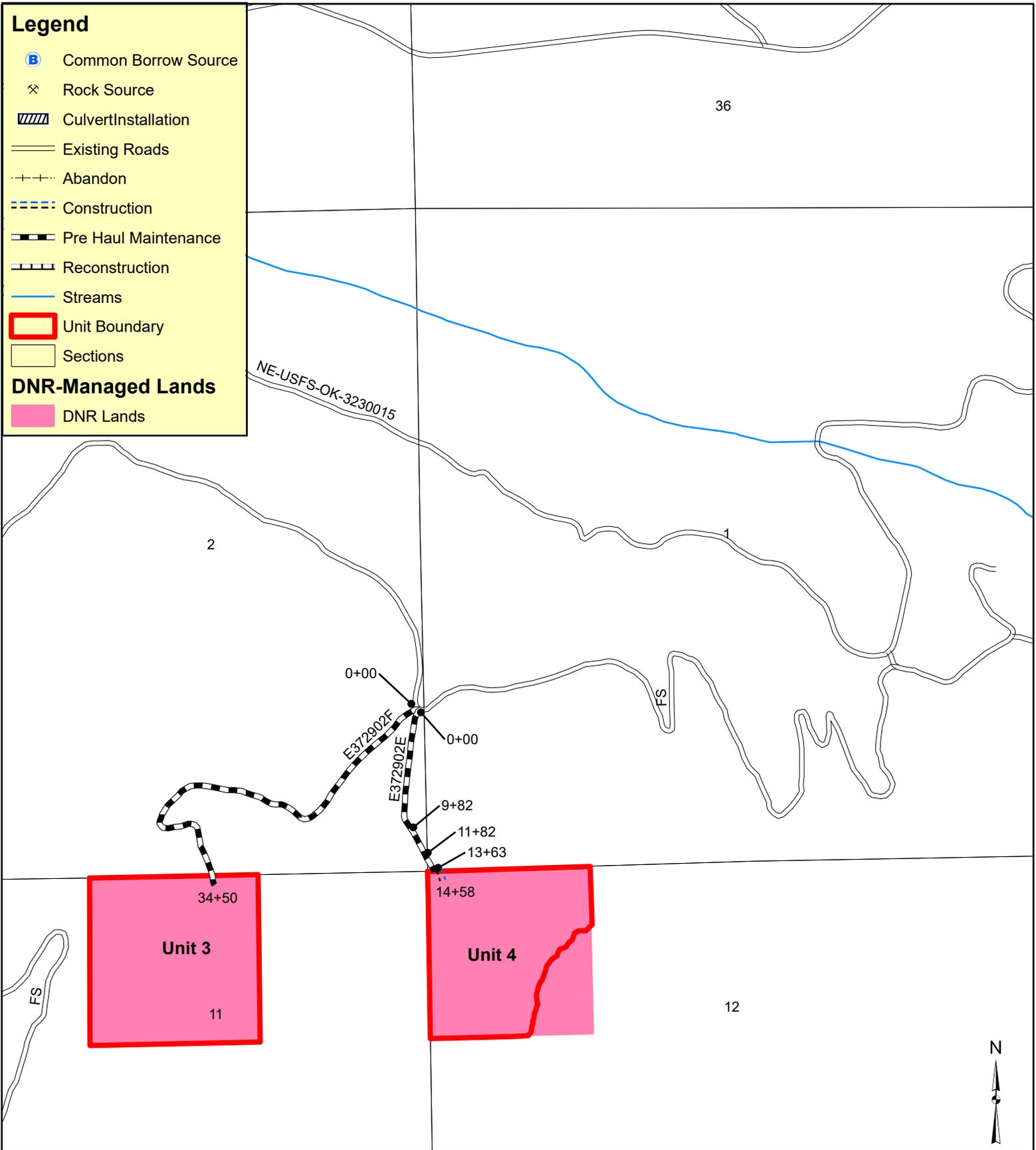
County: Okanogan

Legend

-  Common Borrow Source
-  Rock Source
-  Culvert Installation
-  Existing Roads
-  Abandon
-  Construction
-  Pre Haul Maintenance
-  Reconstruction
-  Streams
-  Unit Boundary
-  Sections

DNR-Managed Lands

-  DNR Lands



500 250 0 500 1,000 1,500 2,000



1 Inch : 1000 Feet

10/17/2019

Washington State Department of Natural Resources

Sale Name: Pettijohn

Road Plan Map

Region: Northeast

Agreement No: 30-100010

Page 4 of 5

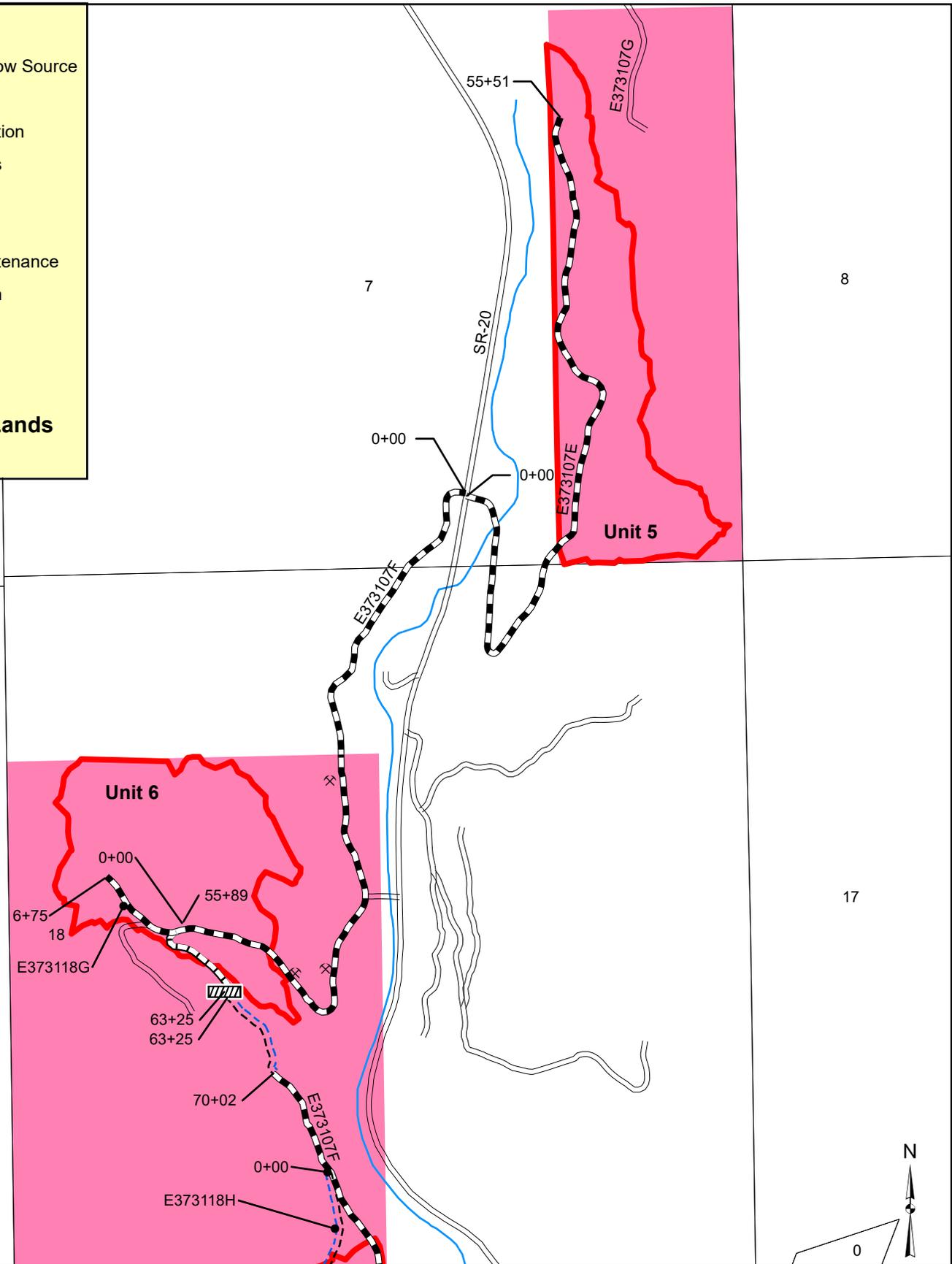
County: Okanogan

Legend

-  Common Borrow Source
-  Rock Source
-  Culvert Installation
-  Existing Roads
-  Abandon
-  Construction
-  Pre Haul Maintenance
-  Reconstruction
-  Streams
-  Unit Boundary
-  Sections

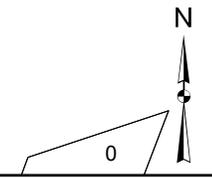
DNR-Managed Lands

-  DNR Lands



1 Inch : 1000 Feet

10/17/2019



Washington State Department of Natural Resources

Sale Name: Pettijohn

Road Plan Map

Region: Northeast

Agreement No: 30-100010

Page 5 of 5

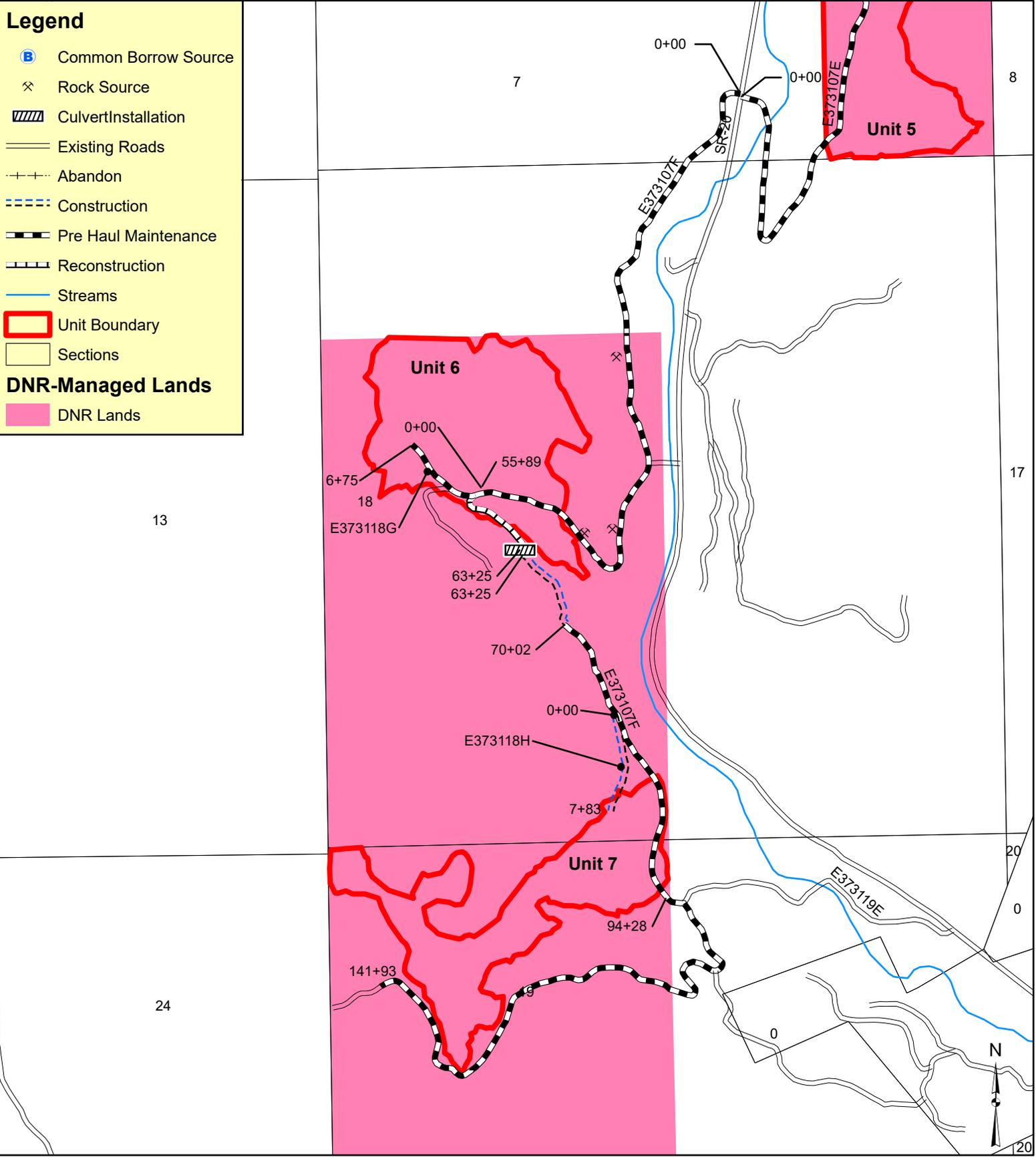
County: Okanogan

Legend

-  Common Borrow Source
-  Rock Source
-  Culvert Installation
-  Existing Roads
-  Abandon
-  Construction
-  Pre Haul Maintenance
-  Reconstruction
-  Streams
-  Unit Boundary
-  Sections

DNR-Managed Lands

-  DNR Lands



500 250 0 500 1,000 1,500 2,000



1 Inch : 1000 Feet

10/17/2019

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

PETTIJOHN TIMBER SALE ROAD PLAN
OKANOGAN COUNTY
HIGHLANDS DISTRICT
NORTHEAST REGION

AGREEMENT NO.: 30-100010

STAFF ENGINEER: JASON BAUER

DATE: 10/17/2019

DRAWN & COMPILED BY: KIRA FENSKE

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>
E372902E	13.63 Sta	Pre-Haul Maintenance
E372902E	0.95 Sta	Construction
E372902F	34.50 Sta	Pre-Haul Maintenance
E373107E	55.51 Sta	Pre-Haul Maintenance
E373107F	127.80 Sta	Pre-Haul Maintenance
E373107F	7.36 Sta	Reconstruction
E373107F	6.77 Sta	Construction
E373118G	6.75 Sta	Pre-Haul Maintenance
E373118H	7.83 Sta	Construction
E383019F	24.83 Sta	Pre-Haul Maintenance
E383029E	122.29 Sta	Pre-Haul Maintenance
E383029E	1.26 Sta	Reconstruction
E383029K	11.80 Sta	Pre-Haul Maintenance
E383030E	35.90 Sta	Pre-Haul Maintenance
E383030F	41.24 Sta	Pre-Haul Maintenance
E383030H	11.14 Sta	Pre-Haul Maintenance

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
-------------	-----------------	---------------------

E372902E	13+63 to 14+58	See Sections 3, 4, and 5
E373107F	63+25 to 70+02	Install Culvert, See Sections 3, 4, and 5
E373118H	0+00 to 7+83	See Sections 3, 4, and 5

Finished roads must be smooth and gradeable.

0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E373107F	55+89 to 63+25	Brush, Grub, Widen, Install Culvert in Type Np Stream
E383029E	101+57 to 102+83	Brush, Grub, Widen, Repair Fill Failure

Finished roads must be smooth and gradeable.

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>
E372902E	0+00 to 13+63	Add and Improve Drainage
E372902F	0+00 to 34+50	Add and Improve Drainage
E373107E	0+00 to 55+51	Add and Improve Drainage
E373107F	0+00 to 55+89	Add and Improve Drainage
E373107F	70+02 to 141+93	Add and Improve Drainage
E373118G	0+00 to 6+75	Add and Improve Drainage
E373118H	0+00 to 7+83	Add and Improve Drainage
E383019F	0+00 to 24+83	Add and Improve Drainage
E383029E	0+00 to 101+57	Add and Improve Drainage
E383029E	102+83 to 123+55	Add and Improve Drainage, Grubbing
E383029K	0+00 to 11+80	Add and Improve Drainage, Grubbing
E383030E	0+00 to 35+90	Add and Improve Drainage, Grubbing
E383030F	0+00 to 41+24	Add and Improve Drainage, Grubbing
E383030H	0+00 to 11+14	Add and Improve Drainage, Grubbing

All roads must be graded, smooth, and brushed according to the “Typical Section Sheet”.

0-7 POST-HAUL MAINTENANCE

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

0-8 CLOSURE

This project includes road closure listed in Clause 9-15 ROAD CLOSURE.

0-12 DEVELOP ROCK SOURCE

Purchaser may develop a new rock source. Rock source development will involve ensuring it drains and slopes shall not exceed 1:1. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
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.

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to "WSDOT Standard Specifications" mean the Washington State Department of Transportation's Standard Specifications for Road, Bridge, and Municipal Construction 2012 (M41-10).

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.
- Wooden stakes

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 14 business 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

1-25 ACTIVITY TIMING RESTRICTION

The operation of road construction equipment is not allowed on weekends or state recognized holidays, unless authorized in writing by the Contract Administrator.

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 or H-131, Purchaser shall provide and comply with a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on pit run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 8 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.

- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contract Administrator upon request. Purchaser shall request a SNOW PLOWING AGREEMENT each time plowing occurs. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

Purchaser shall immediately remove any mud, dirt, rock, or other material tracked or spilled on to county roads and state highways.

If additional damage to the surface, signs, guardrails, etc. occurs then the damage will be repaired, at the Purchaser's expense, as directed by the Contract Administrator when authorized by the county or WSDOT.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

2-6 CLEANING CULVERTS

Purchaser shall clean the inlets and outlets of all culverts.

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before haul commences.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or 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.

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal may not be used for brushing. Excavator buckets, log loaders and similar equipment may not be used for brushing unless otherwise approved in writing by the Contract Administrator.

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 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.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Stumps over 22 inches

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

3-12 STUMP PLACEMENT

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

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, before termination of timber sale contract.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located within the cleared right-of-way or in natural openings as designated by the Contract Administrator.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-30 EXCLUSION OF DOZER BLADES

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

3-31 PILING

Purchaser shall pile organic debris no closer than 20 feet from standing timber and no higher than 10 feet in areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS. Piles must be free of rock and soil.

3-32 END HAULING ORGANIC DEBRIS

On slopes greater than 45%, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS or to a waste area located by the Contract Administrator.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work, unless 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 prior to embankment.

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment except as designed:

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

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees. Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10% of the curve radius.
- 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.

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

4-10 WIDEN THE EXISTING SUBGRADE

On the following road(s), Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

<u>Road</u>	<u>Stations</u>
E383029E	101+57 to 102+83

4-11 KEYED EMBANKMENT

On the following road(s), Purchaser shall key embankments into the native slope in accordance with the KEYED EMBANKMENT DETAIL. Rock used for the Keyed Embankment shall be light loose rip rap (see section 6-50).

<u>Road</u>	<u>Stations</u>
E383029E	102+03

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 50%, Purchaser shall use full bench construction for the entire subgrade width. Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

4-14 ONE-FOOT EXCAVATION LIMIT

Purchaser shall not exceed a one-foot cut at centerline.

4-20 SUBGRADE DIMENSIONS FOR INTERSECTIONS

Purchaser shall construct the subgrade to the dimensions shown on the INTERSECTION DETAIL.

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations 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 30 feet long and 30 feet wide. Locations are subject to written approval by the Contract Administrator.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified on the Culvert and Drainage Sheet and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no

steeper than a 1:1 ratio. Locations may not be changed without written approval from the Contract Administrator.

4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas or areas identified or approved by the Contract Administrator. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is at the discretion of the Contract Administrator.

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>
E373107F	69+02 to 70+02	Put the material on the road and compact

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- Within a wetland 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.

4-46 COMMON BORROW

Common borrow consists of soil, and/or aggregate that is non-plastic and contains no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines in the sample cannot be rolled, between the hand and a smooth surface, into a thread at any moisture content. Common borrow material must be free of rocks greater than 6 inches in any dimension.

4-49 COMMON BORROW SOURCE

Purchaser shall obtain borrow material from source identified on the Road Plan Maps or approved by the Contract Administrator. Development of the borrow source must be in accordance with a written BORROW SOURCE DEVELOPMENT PLAN to be submitted by the Purchaser and approved in writing by the Contract Administrator.

4-50 COMMON BORROW APPLICATION

Purchaser shall apply common borrow in accordance with quantities shown below. Borrow must be spread, shaped, and compacted full width concurrent with hauling operations.

<u>Road</u>	<u>Stations</u>	<u>Depth</u>	<u>Type</u>
E373107F	69+02 to 70+02	2 feet	Common Borrow
E383029E	110+69 to 113+07	1.5 feet	Common Borrow

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment and waste area segments too narrow to accommodate equipment. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-62 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 by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the Culvert and Drainage 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 10-24.

5-6 CULVERT TYPE

Purchaser shall install culverts made of steel in accordance with Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures". Culverts over 18 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

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

5-20 ENERGY DISSIPATERS

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

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the Culvert and Drainage List. Rock used for energy dissipaters must be light loose rip rap. 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. Rock must be set in place by machine. Placement must with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts that specify the placement of rock. Rock used for headwalls must light loose rip rap. 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. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

5-30 DRIVABLE WATERBAR CONSTRUCTION

Purchaser shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL and as marked in the field. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install drivable waterbars using a crawler tractor. Use of any other equipment is not allowed without written approval from the Contract Administrator.

5-31 ROLLING DIP CONSTRUCTION

Purchaser shall construct rolling dips in accordance with the ROLLING DIP DETAIL and as specified on the Culvert and Drainage List and as marked in the field. Rolling dips must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install rolling dips using a crawler tractor. Use of other equipment is not allowed without written approval of the Contract Administrator.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

SECTION 6 – ROCK AND SURFACING

6-1 ROCK SOURCE NOT ON STATE LAND

Rock used in accordance with the quantities on the Rock List may be obtained from source(s) on private land at the Purchaser's expense. Purchaser shall notify the Contract Administrator a minimum of 5 business days before starting any operations.

Purchaser shall obtain written approval from the Contract Administrator for the use of material from any alternate source.

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the Rock List may be obtained from state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material. Purchaser shall notify the Contract Administrator a minimum of 5 business days before starting any operations.

6-5 ROCK FROM COMMERCIAL SOURCE

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

6-21 IN-PLACE PROCESSING

Purchaser may use in-place processing, such as a grid roller or other method, if suitable crushing can be demonstrated to meet the surfacing size-specified in Clause 6-38 4-INCH IN-PLACE ROCK. Purchaser shall use in-place processing, such as a grid roller, mobile linear crusher, or other method of in-place processing to produce 4-inch in-place rock. Rock must meet the surfacing size specified in Clause 6-33 3-INCH IN-PLACE ROCK. Purchaser shall remove any existing organic debris before the start of in-place crushing operations. The use of in-place processing methods is subject to written approval by the Contract Administrator.

6-22 FRACTURE REQUIREMENT FOR ROCK

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

6-23 ROCK GRADATION TYPES

Purchaser shall provide manufacture rock in accordance with the types and amounts listed in Section 6-33 3-INCHMINUS CRUSHED ROCK and the Rock List. Rock must meet the following specifications for gradation and uniform quality. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-33 3-INCH MINUS CRUSHED ROCK

% Passing 3" square sieve	100%
% Passing 1½" square sieve	55 - 75%
% Passing U.S. #4 sieve	15 - 45%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

% Passing 3" square sieve	100%
% Passing 2" square sieve	65 - 95%
% Passing ¾" square sieve	28 - 70%
% Passing U.S. #4 sieve	10 - 35%
% Passing U.S. #200 sieve	0 - 10%

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")

6-51 HEAVY LOOSE RIP RAP

Heavy 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. Heavy 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>Size Range</u>
30% to 90%	1 ton to 2 ton (28" - 36")
30% to 70%	500 lbs. to 1 ton (18" - 28")
20% to 50%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for the subgrade 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 by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

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

6-76 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.

SECTION 7 – STRUCTURES

7-71 GATE CLOSURE DURING HAUL

Purchaser shall keep gates closed and locked except for passing vehicles. If Purchaser elects to use an alternate plan for gate security, Purchaser shall submit a detailed plan to the Contract Administrator for written approval. For all gates required to be closed and locked during haul, Purchaser may install temporary cattle guards. At the completion of hauling Purchaser shall remove temporary cattle guards, refill holes, and replace gates. All gates must be closed at termination of use.

SECTION 9 – POST-HAUL ROAD WORK

9-5 POST-HAUL MAINTENANCE

Purchaser shall perform post-haul maintenance in accordance with the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS on all Roads in this road plan.

9-15 ROAD CLOSURE

Purchaser shall close the following road at the termination of use.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E383029E	88+93 to 96+21	Install 3 non-drivable water bars at the locations indicated on the Culvert and Drainage List.

SECTION 10 MATERIALS

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) except culverts over 24 inches must be aluminized (aluminum type 2 coated meeting AASHTO M-274).

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

Corrugated plastic culverts shall not be used.

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes must meet the AASHTO specification designated for the culvert.

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.

10-23 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 culverts must conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gauge</u>	<u>Corrugation</u>
-----------------	--------------	--------------------

18"	16 (0.064")	2 2/3" X 1/2"
24" to 48"	14 (0.079")	2 2/3" X 1/2"
54" to 96"	12 (0.109")	3" X 1"

10-30 LIGNIN SULFONATE MATERIALS

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

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

10-31 MAGNESIUM CHLORIDE MATERIALS

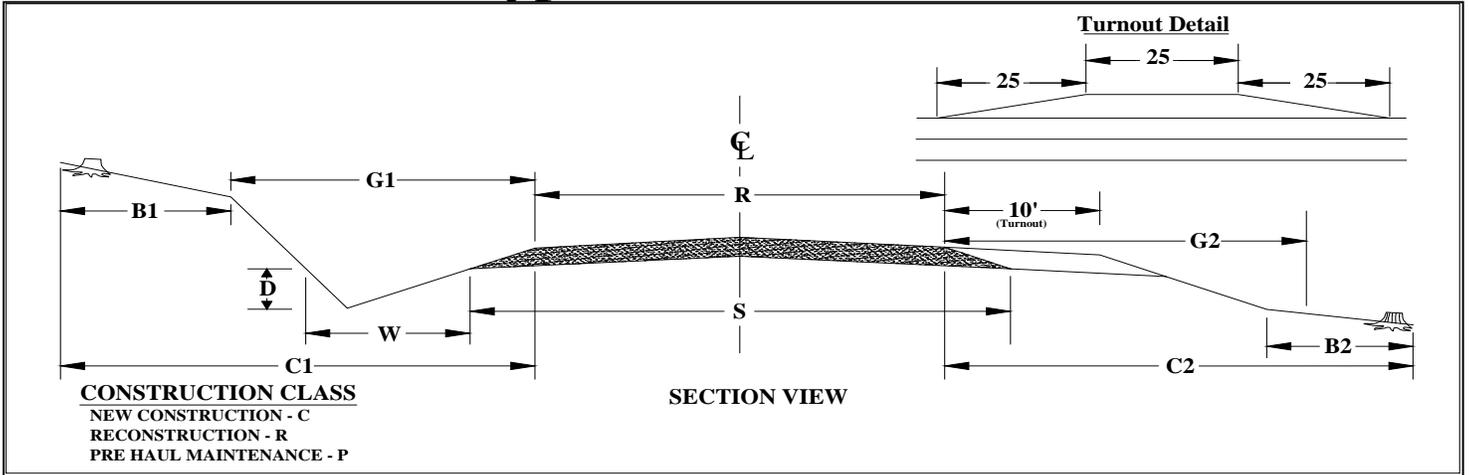
Magnesium Chloride is the chemical residue produced as a by-product of the potash production or natural salt brine, and supplied as a water solution. Percent solids must be 28% magnesium by mass, as supplied.

State of Washington
Department of Natural Resources

Application No. : 30-100010

Name of Sale: Pettijohn Sorts

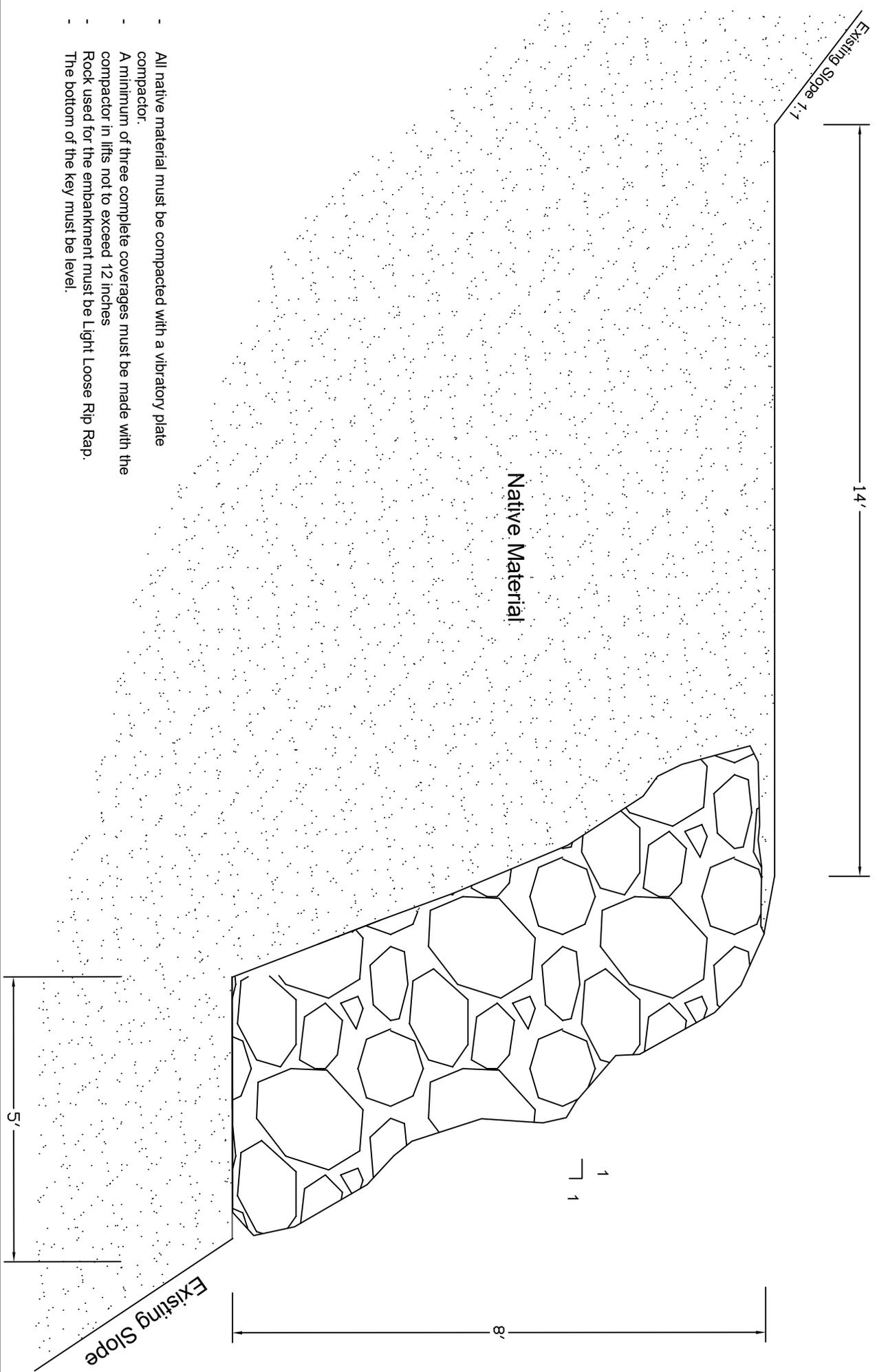
Typical Section Sheet



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	INSLOPE "/>10'	OUTSLOPE "/>10'	CROWN " AT CL	DITCH WIDTH (W)	DITCH DEPTH (D)	DITCH 2 SIDES			GRUBBING CUT BANK (G)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (B1)	ROAD FILL CLEARING (B)	R/W CUT CLEARING (C1)	R/W FILL CLEARING (C2)
E372902E	0+00	13+63	P		12		4											6	6
E372902E	13+63	14+58	C	14			4									5	5		
E372902F	0+00	34+50	P		12		4											6	6
E373107E	0+00	55+51	P		12		4											6	6
E373107F	0+00	55+89	P		12		4											6	6
E373107F	55+89	63+25	R	14			4						2	2				6	6
E373107F	63+25	70+02	C	14			4									5	5		
E373107F	70+02	141+93	P		12		4											6	6
E373118G	0+00	6+75	P		12		4											6	6
E373118H	0+00	7+83	C	14			4									5	5		
E383019F	0+00	24+83	P		12		4											6	6
E383029E	0+00	101+57	P		12		4											6	6
E383029E	101+57	102+83	R		12		4						2	2				6	6
E383029E	102+83	123+55	P		12		4						2	2				6	6
E383029K	0+00	11+80	P		12		4						2	2				6	6
E383030E	0+00	35+90	P		12		4						2	2				6	6
E383030F	0+00	41+24	P		12		4						2	2				6	6
E383030H	0+00	11+14	P		12		4						2	2				6	6

State of Washington
Department of Natural Resources

KEYED EMBANKMENT DETAIL



- All native material must be compacted with a vibratory plate compactor.
- A minimum of three complete coverages must be made with the compactor in lifts not to exceed 12 inches
- Rock used for the embankment must be Light Loose Rip Rap.
- The bottom of the key must be level.

FOREST ROAD ACCESS
Road Maintenance Specifications

Prior to Acceptance of Contract or Acceptance on Timber Sale

A. Cuts and Fills

- (1) Maintain slope lines as constructed. Remove slides from the ditches and roadway. Replace fills to 1 ½:1 slopes with selected material or as directed. Remove overhanging material from cut slopes.
- (2) Material from slides or other sources requiring removal must not be deposited in streams or at locations where it will erode into streams or water courses.
- (3) Undesirable slide materials and debris must not be allowed to contaminate or mix with surface material.

B. Roadway Surfaces

- (1) Grade and shape road surface, turnouts and shoulder to original crown, inslope or outslope as directed to provide suitable traveled surface and surface water runoff in an even, unconcentrated manner.
- (2) Blading must not undercut backslopes at bottom of cut slopes.
- (3) Watering may be required to control dust and to retain fine surface rock.
- (4) Desirable surface material shall not be bladed off roadway.
- (5) Replace surface material lost or worn away.
- (6) Remove berms except as otherwise directed by the State.

C. Drainage

- (1) Keep ditches and drainage channels at outlets and inlets of culverts clear of obstructions.
- (2) Inspect and clean culverts at least monthly, with additional inspection during storms and periods of high runoff. This must be done even during periods of inactivity.
- (3) Place non erodable material or rock at drainage outfalls.
- (4) Keep silt bearing surface runoff from contaminating live streams.

D. Structures

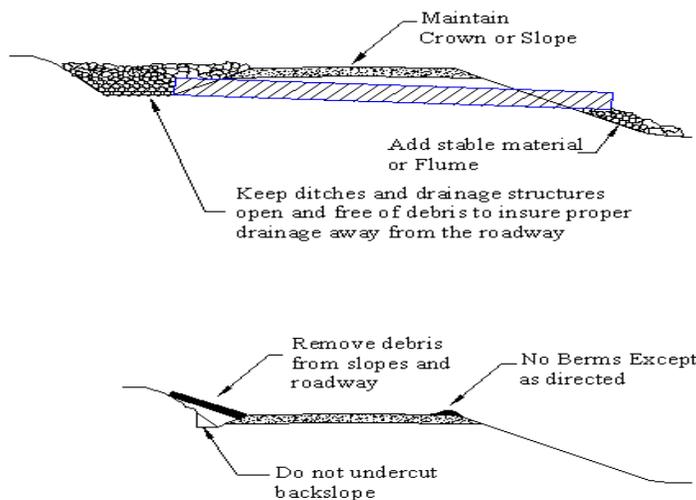
- (1) Repair bridges, culverts, cattle guards, fences and other road structures to conditions required by construction specifications.

E. Termination of Use, or End of Season

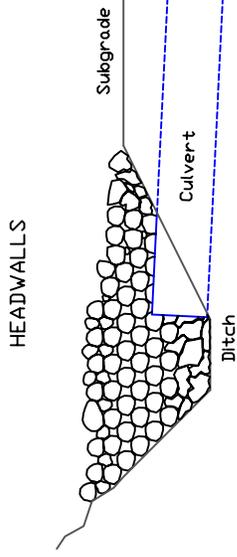
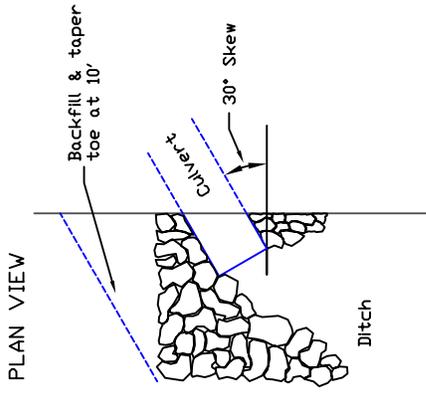
- (1) Do maintenance work to minimize damage from the elements such as blading to insure correct runoff, ditch and culvert clearing and water bars.

F. Debris

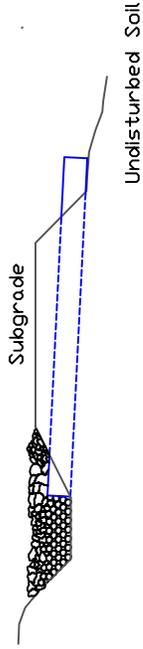
- (1) Remove fallen timber, limbs, stumps from slopes and roadway, ditchlines and culvert inlets.



CULVERT AND DRAINAGE SPECIFICATIONS DETAIL - D1

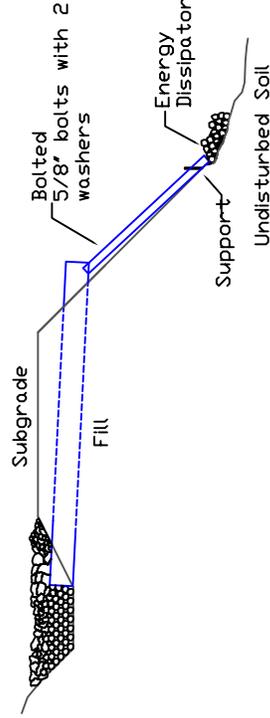


Headwall to be constructed of material that will resist erosion



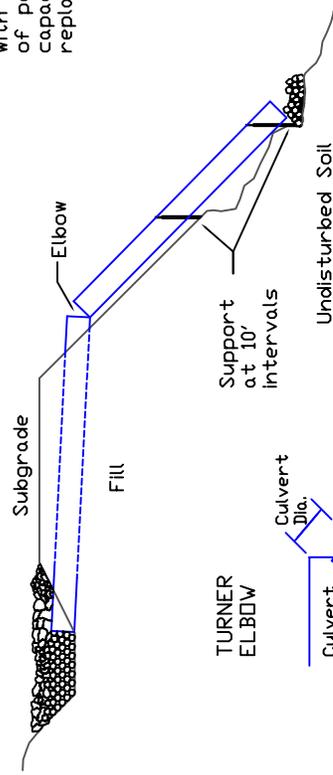
FLUME

Use where ground conditions are uniform, providing for stability of flume.



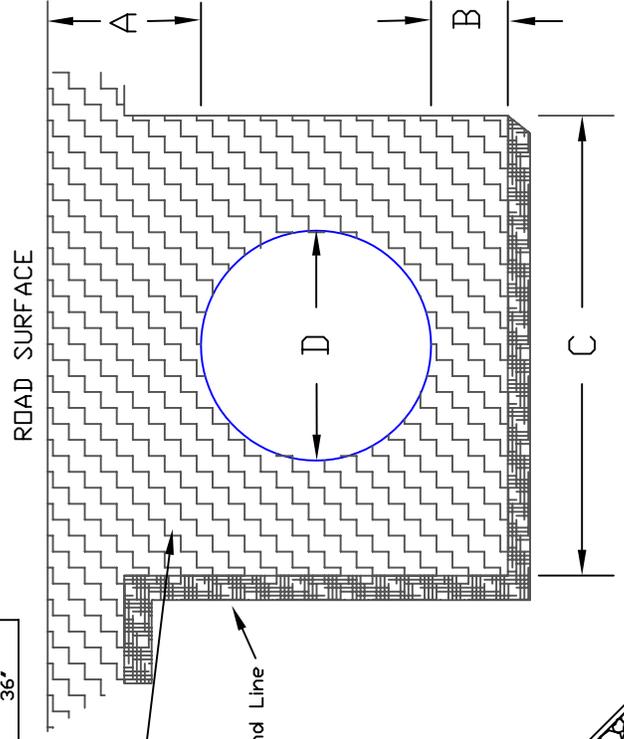
DOWNSPOUT

Use where ground conditions are irregular.



Minimum Cover	A	Minimum Bed Depth	B	Min. Trench Width	C	Nominal Diameter	D
12"	12"	6"	36"	18"	18"	18"	18"
12"	12"	6"	42"	24"	24"	24"	24"
12"	12"	6"	48"	30"	30"	30"	30"
12"	12"	6"	54"	36"	36"	36"	36"

CULVERT BACKFILL & BASE PREPARATION (For Culverts Less Than 36')

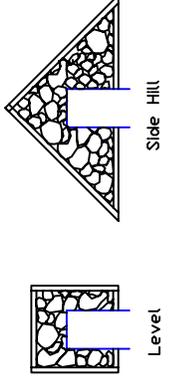


BEDDING MATERIAL:

Use granular material - 3' minus. Large rocks shall be replaced with suitable material. Materials of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill.

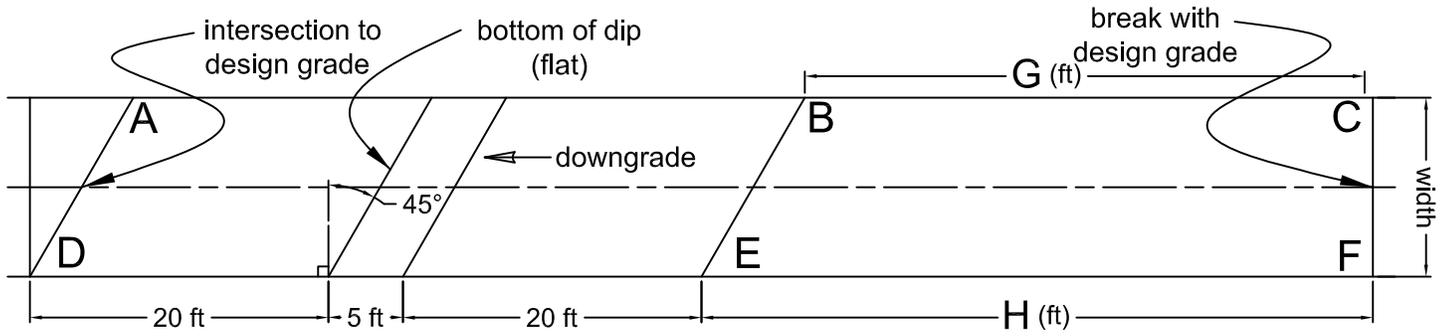
DISSIPATOR SPEC'S

Size in Culvert Diameters
Area 2×2
Depth 1
Aggregate 1/3

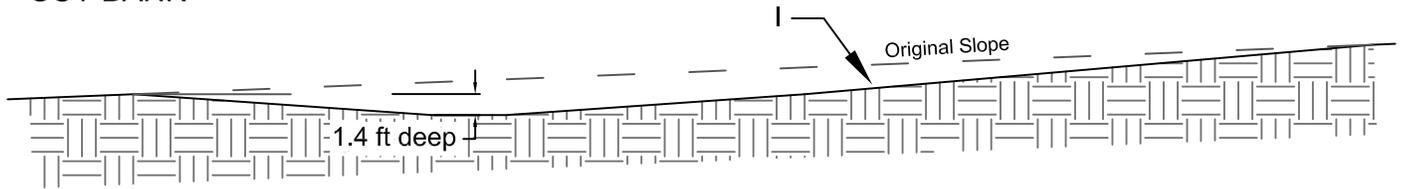


STANDARD 45° ROLLING DIP

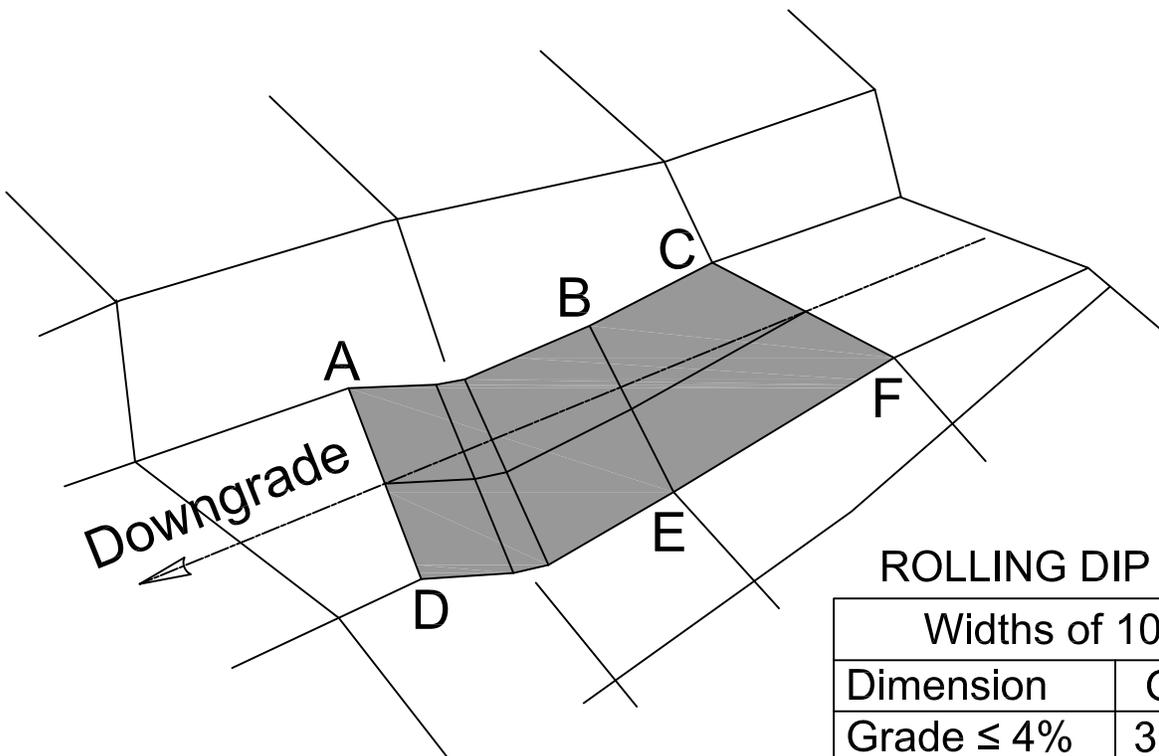
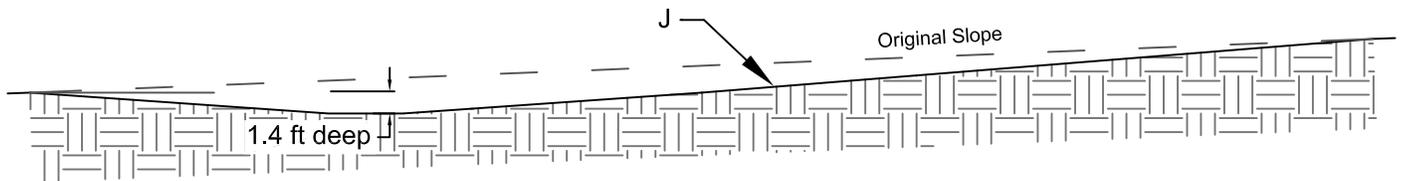
PLAN OF ROLLING DIP



CUT BANK



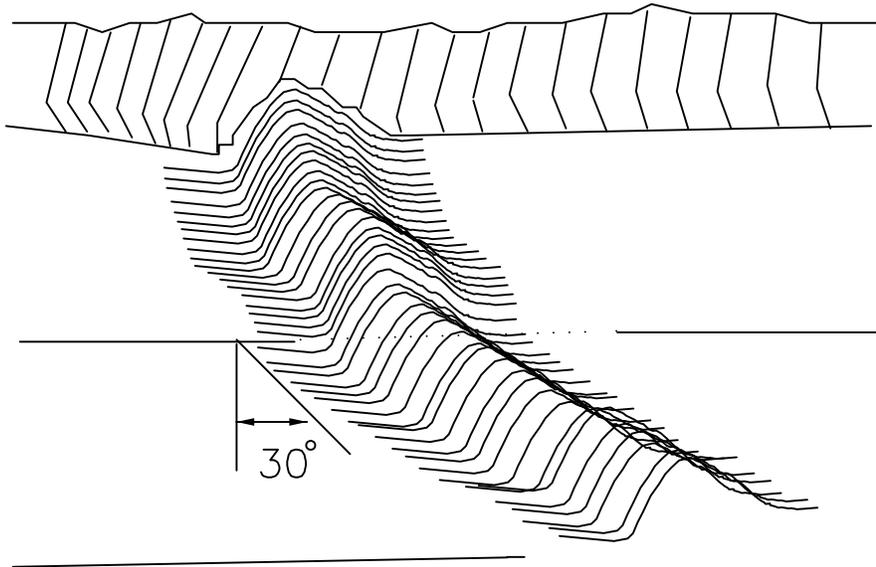
FILL SLOPE



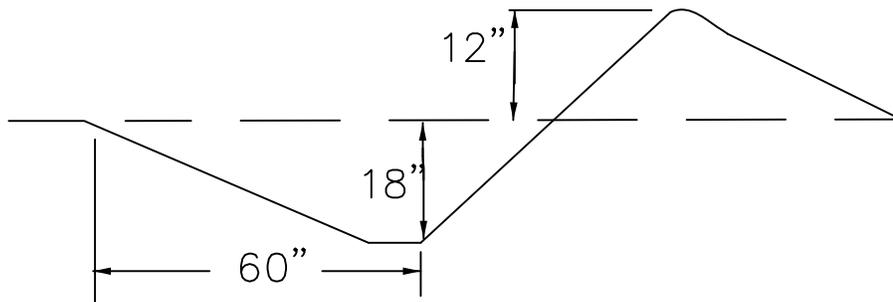
ROLLING DIP DEMENSIONS

Widths of 10' through 14'				
Dimension	G	H	I	J
Grade ≤ 4%	38'	45'	9%	8%
Grade = 6%	48'	55'	11%	11%
Grade = 8%	58'	65'	14%	14%

Top View

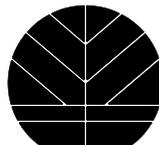


Side View



1. Waterbar construction for forest roads with little or no traffic.
2. Specifications are average and may be adjusted to conditions.
3. Bottom of waterbar must be outsloped to ensure proper drainage.
4. Rock outlet if steep fill slope is present.

Driveable Waterbar Detail



WASHINGTON STATE DEPARTMENT OF
Natural Resources

Northeast Region
Colville, Washington

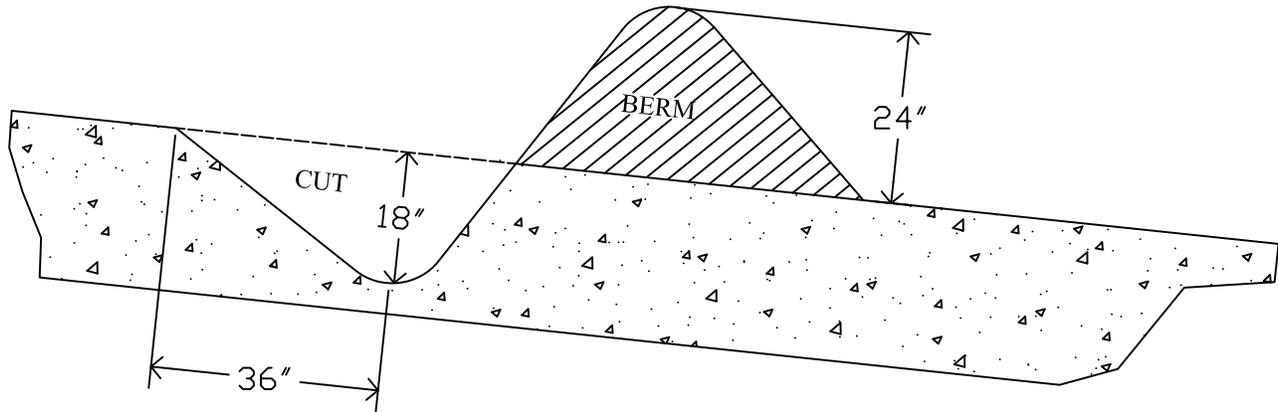
Designed By: Stash Slabinski 9/06/05

Drawn By: Stash Slabinski 9/06/05

Revised:

1 OF 1

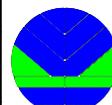
Non-Driveable Water Bar Detail



Notes:

1. WATERBAR CONSTRUCTION FOR FOREST ROADS WITH NO TRAFFIC. SPECIFICATIONS ARE AVERAGE AND MAY BE ADJUSTED TO CONDITIONS.
2. TIE BERM INTO BANK. IF DITCH EXISTS, TIE CUT INTO DITCH.
3. CONSTRUCT CROSS DRAIN BERM APPROXIMATELY 24 IN. HIGH.
4. CUT WATERBAR A MINIMUM OF 18 IN.
5. ENSURE PROPER DRAINAGE AT OUTLET.
6. SKEW WATERBAR 30 DEGREES DOWNGRADE WITH ROAD CENTERLINE.

Non-Driveable Waterbar Detail



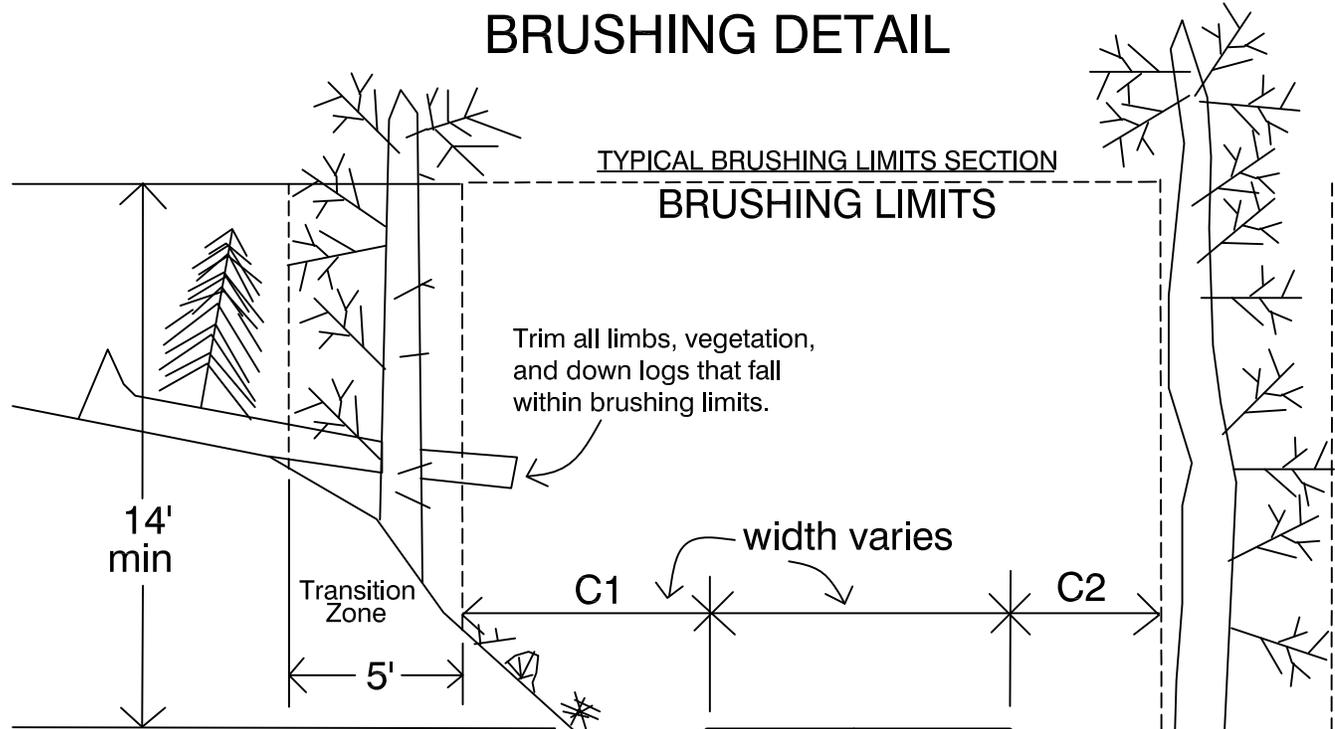
WASHINGTON STATE DEPARTMENT OF
Natural Resources

Northeast Region Colville, Washington		
Designed By:	Stash Slabinski	4/21/05
Drawn By:	Stash Slabinski	4/21/05

Revised:

1 OF 1

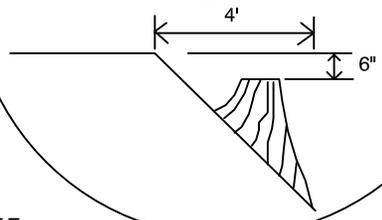
BRUSHING DETAIL



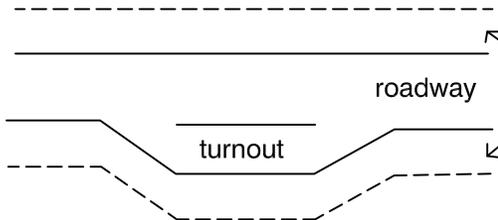
All limbs on standing trees that extend into the brushing limits shall be trimmed within 6" of the stem

Any trees less than 6" in diameter shall be cleared within the transition zones.

Trim all stumps and vegetation within 4' of edge of road and in ditch to at least 6" below the elevation of the edge of road.

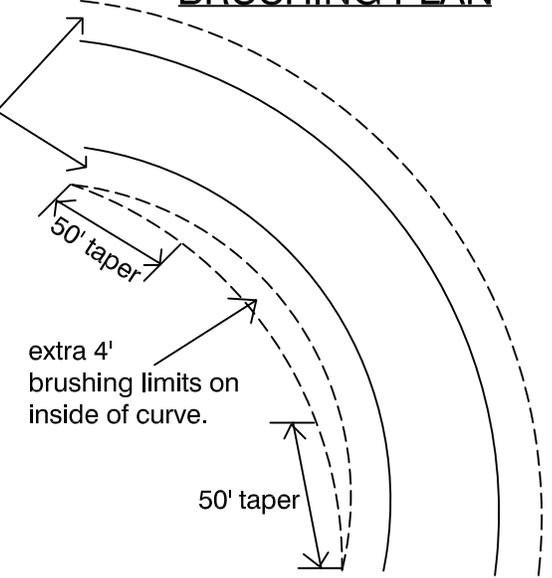


CURVE BRUSHING PLAN



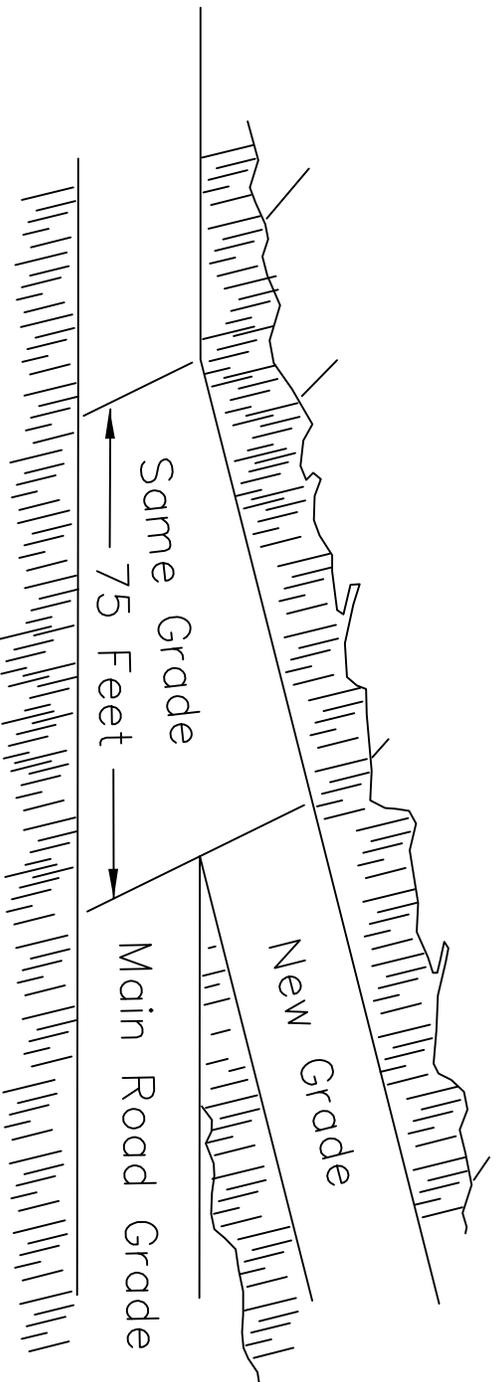
TURNOUT BRUSHING PLAN

1. All vegetation within the brushing limits shall be cut to within 8" of the ground unless otherwise directed by the contract administrator.
2. All brush, trees limbs, etc. shall be removed from the road surface and ditchline.
3. All debris that may roll or migrate into the ditchline shall be removed.



Brushing limits as shown on typical section

Intersection Detail



Main road and spur must have the same grade until there is horizontal separation from each other.

Sale Name - Pettijohn

REGION: Northeast

CONTRACT #: 30-100010 ENGINEER: Jason Bauer

DISTRICT: Highlands

DATE: 10/17/2019

	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Deactivation</i>	<i>Abandonment</i>
ROAD NUMBERS:	E372902E	E373107F	E372902E		0
Comments:	E373107F	E383029E	E372902F		
	E373118H		E373107E		
			E373107F		
			E373118G		
			E383019F		
			E383029E		
			E383029K		
			E383030E		
			E383030F		
			E383030H		
ROAD STANDARD:	<i>Construction</i>	<i>Reconstruction</i>	<i>Maintenance</i>	<i>Deactivation</i>	<i>Abandonment</i>
NUMBER OF STATIONS:	15.55	8.62	486.34	0.00	0.00
CLEARING & GRUBBING:	\$2,113	\$621	\$20,136		0
EXCAVATION AND FILL:	\$6,100	\$2,209	\$18,632	\$0	\$0
MISC. MAINTENANCE:	\$140	\$78	\$4,377		\$0
ROAD ROCK:	\$150	\$225	\$1,650		\$0
ADDITIONAL ROCK:			\$0		\$0
CULVERTS AND FLUMES:	\$0	\$1,256	\$0		\$0
STRUCTURES/MATERIALS:					\$0

TOTAL COSTS:	\$8,503	\$4,389	\$44,794	\$0	\$0
<i>COST PER STATION:</i>	\$547	\$509	\$92	\$0	\$0

	\$/per move	# of moves	Total
MOBILIZATION:	\$2,000	2	\$4,000

Extra Grading	\$0
Extra Rock	\$0
Extra 18X34 culvert	\$0
Total for Extras	\$0

TOTAL (All Roads) = \$61,686 Extras are not in

SALE VOLUME mbf =	2,340
TOTAL \$/MBF =	\$26

Engineer's Notes: