



TIMBER NOTICE OF SALE

SALE NAME: TINES UP

AGREEMENT NO: 30-104033

AUCTION: September 28, 2023 starting at 10:00 a.m., COUNTY: Clark Pacific Cascade Region Office, Castle Rock, WA

SALE LOCATION: Sale located approximately 36 miles east of Woodland, WA

PRODUCTS SOLD AND SALE AREA:

All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, and all down timber greater than 36 inches diameter or existing 5 years prior to the day of sale and snags bounded by the following;

Unit 1, white "Timber Sale Boundary" tags with pink flagging, yellow "Leave Tree Area" tags with pink flagging, reprod, the S-1000 and the S-5000;

Unit 2, white "Timber Sale Boundary" tags with pink flagging, and the S-5000;

Unit 3, white "Timber Sale Boundary" tags with pink flagging, yellow "Leave Tree Area" tags with pink flagging, pink flagging, and the S-5000;

Unit 4, white "Timber Sale Boundary" tags with pink flagging, yellow "Leave Tree Area" tags with pink flagging, and the S-5000;

Unit 5, white "Timber Sale Boundary" tags with pink flagging, blue "Special Management Boundary" tags with pink flagging, yellow "Leave Tree Area" tags with pink flagging, and the S-5000;

Unit 6, white "Timber Sale Boundary" tags with pink flagging and the S-5000;

Unit 7, orange "Right of Way" tags with orange flagging.

All forest products above located on part(s) of Sections 11, 12, 13, 14, 15 and 22 all in Township 6 North, Range 4 East, W.M., containing 156 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, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Douglas fir, Hemlock, Red alder, Maple, Redcedar, and Sale Total.

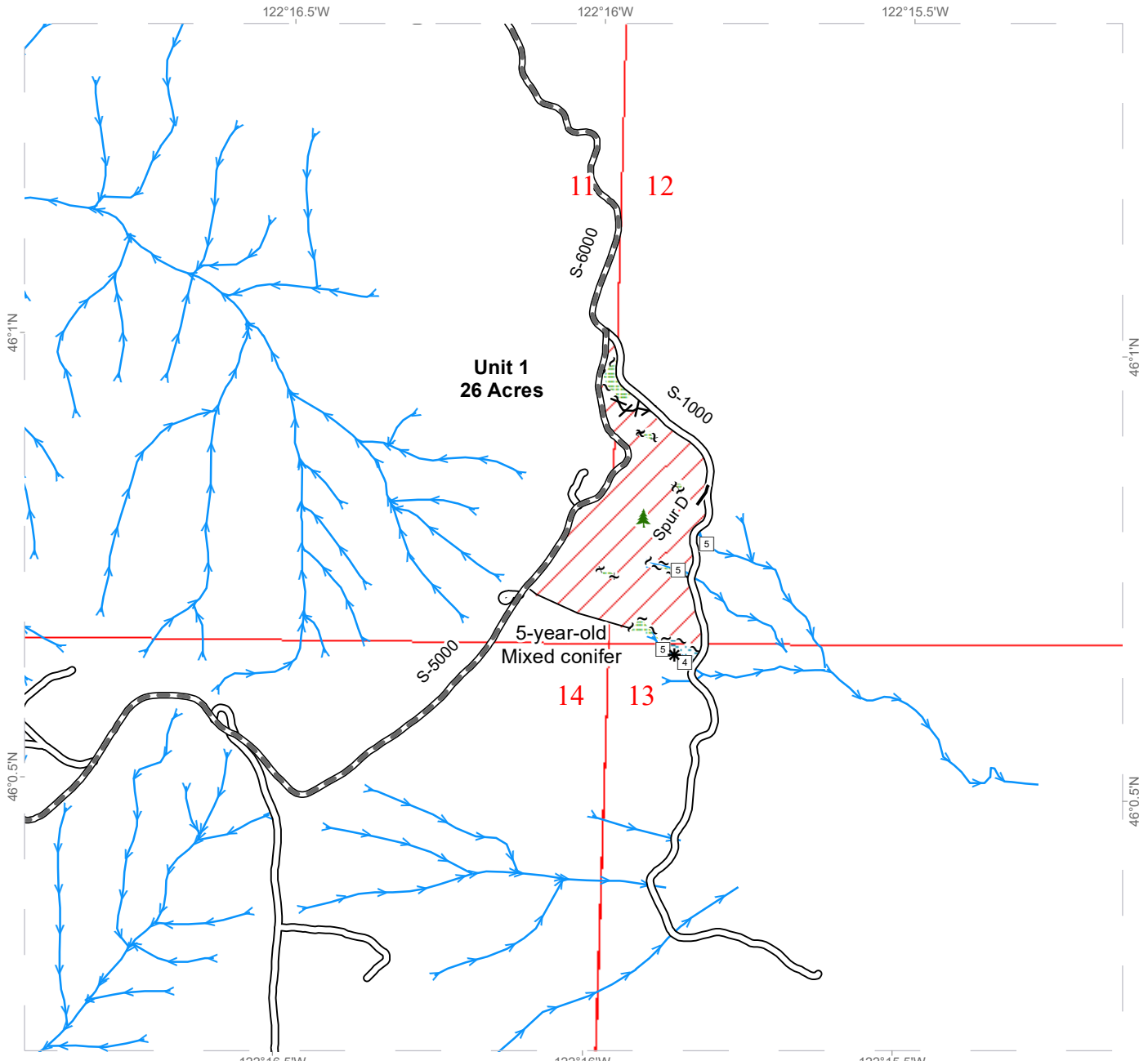
MINIMUM BID: \$1,128,000.00 BID METHOD: Sealed Bids

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

TIMBER SALE MAP

SALE NAME: TINES UP
AGREEMENT #: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



All State Unless Otherwise Noted



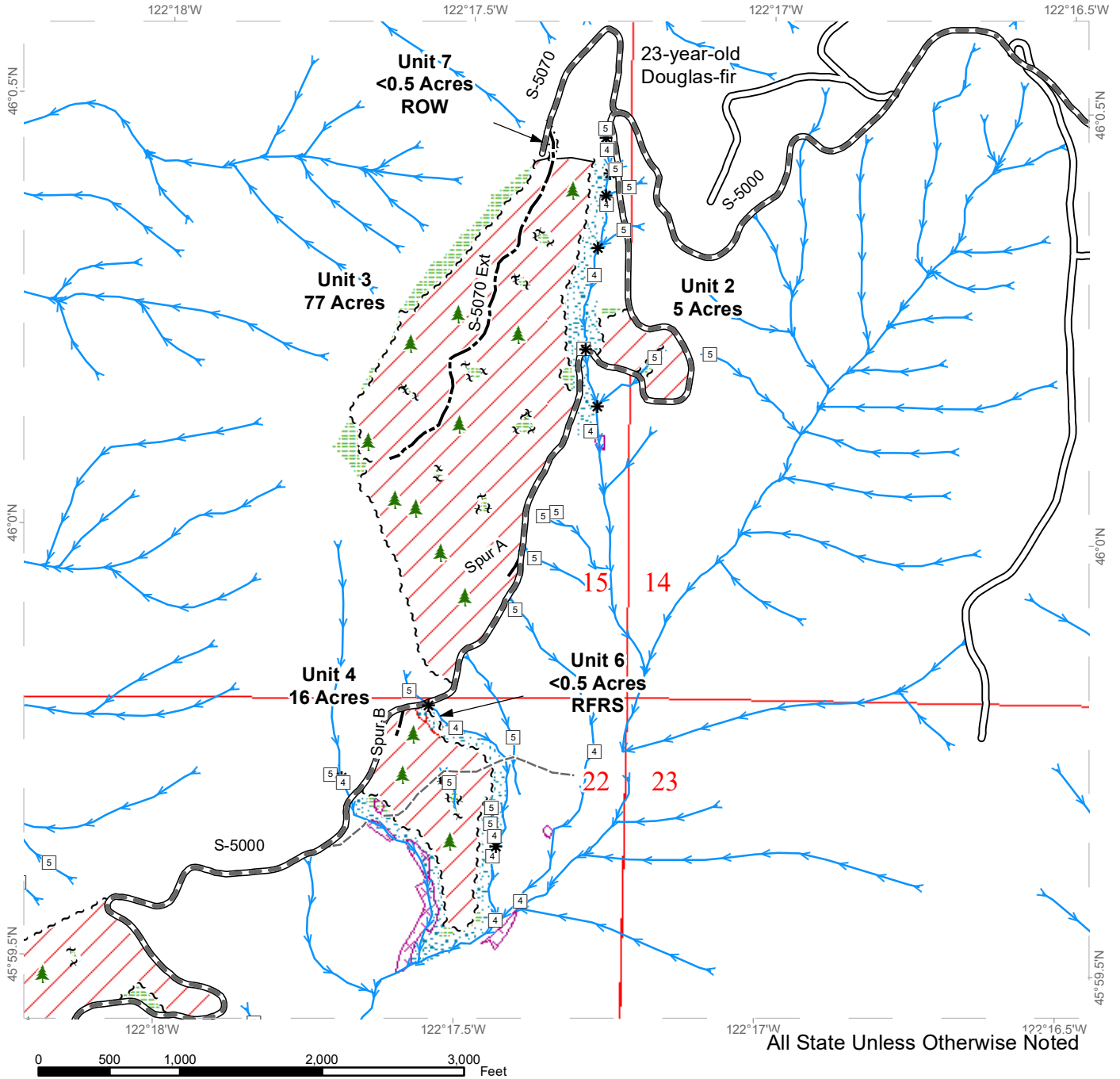
	Variable Retention Harvest		Sale Boundary Tags		Streams
	Leave Tree Area		Leave Tree Tags		Stream Type
	Riparian Mgt Zone		Flag Line		Stream Type Break
			Timber Type Change		Leave Tree Area <1/4-acre
			Existing Roads		
			Required Pre-Haul Maintenance		
			Optional Construction		



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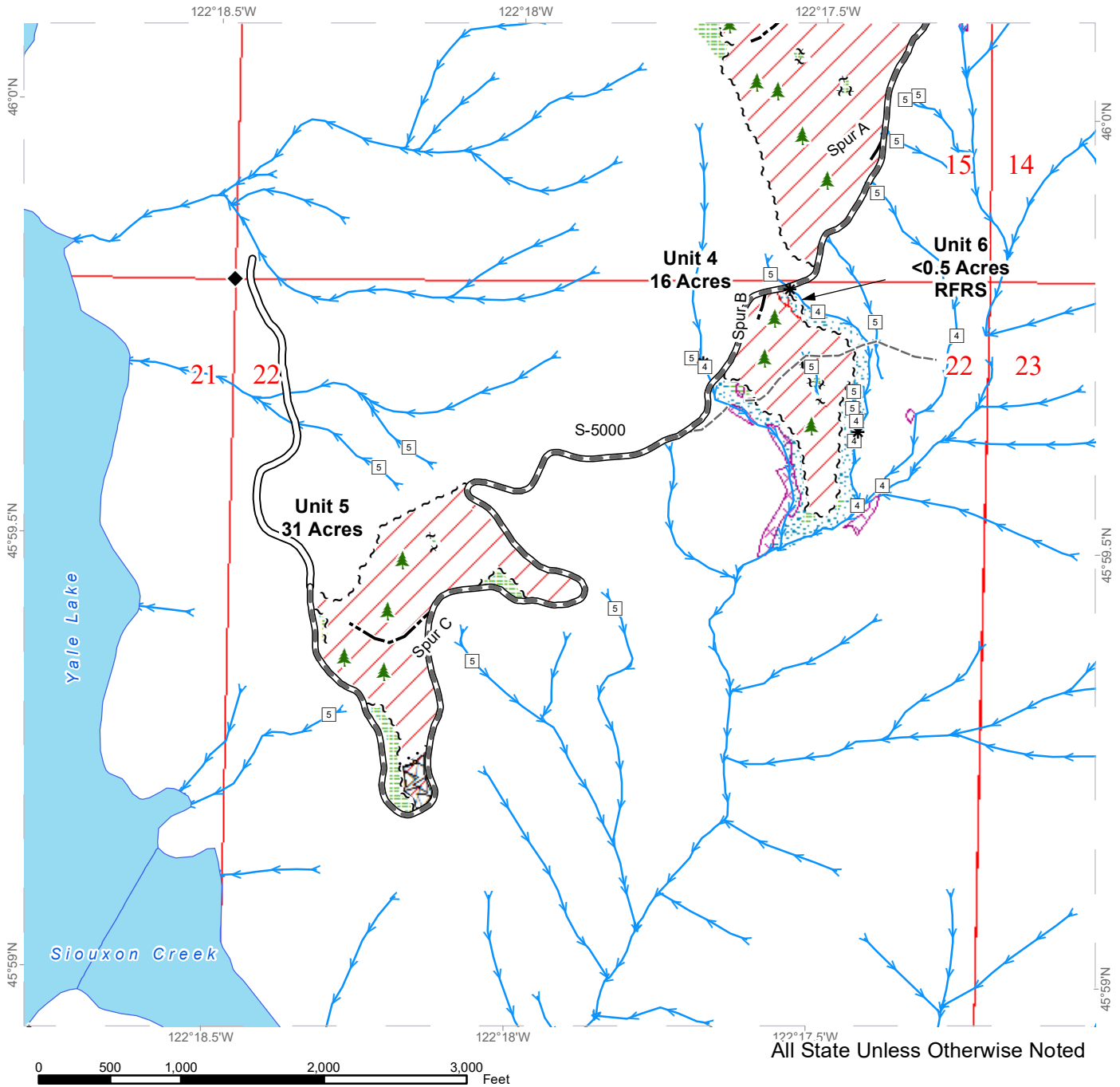
	Variable Retention Harvest		Sale Boundary Tags		Streams
	Hardwood Conversion		Leave Tree Tags		Stream Type
	Leave Tree Area		Right of Way Tags		Stream Type Break
	Riparian Mgt Zone		Timber Type Change		Leave Tree Area <1/4-acre
	Potentially Unstable Slopes		Existing Roads		
			Required Pre-Haul Maintenance		
			Optional Construction		
			Old Grades/Trails		



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REGION: Pacific Cascade Region
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ELEVATION RGE: 1040-2640



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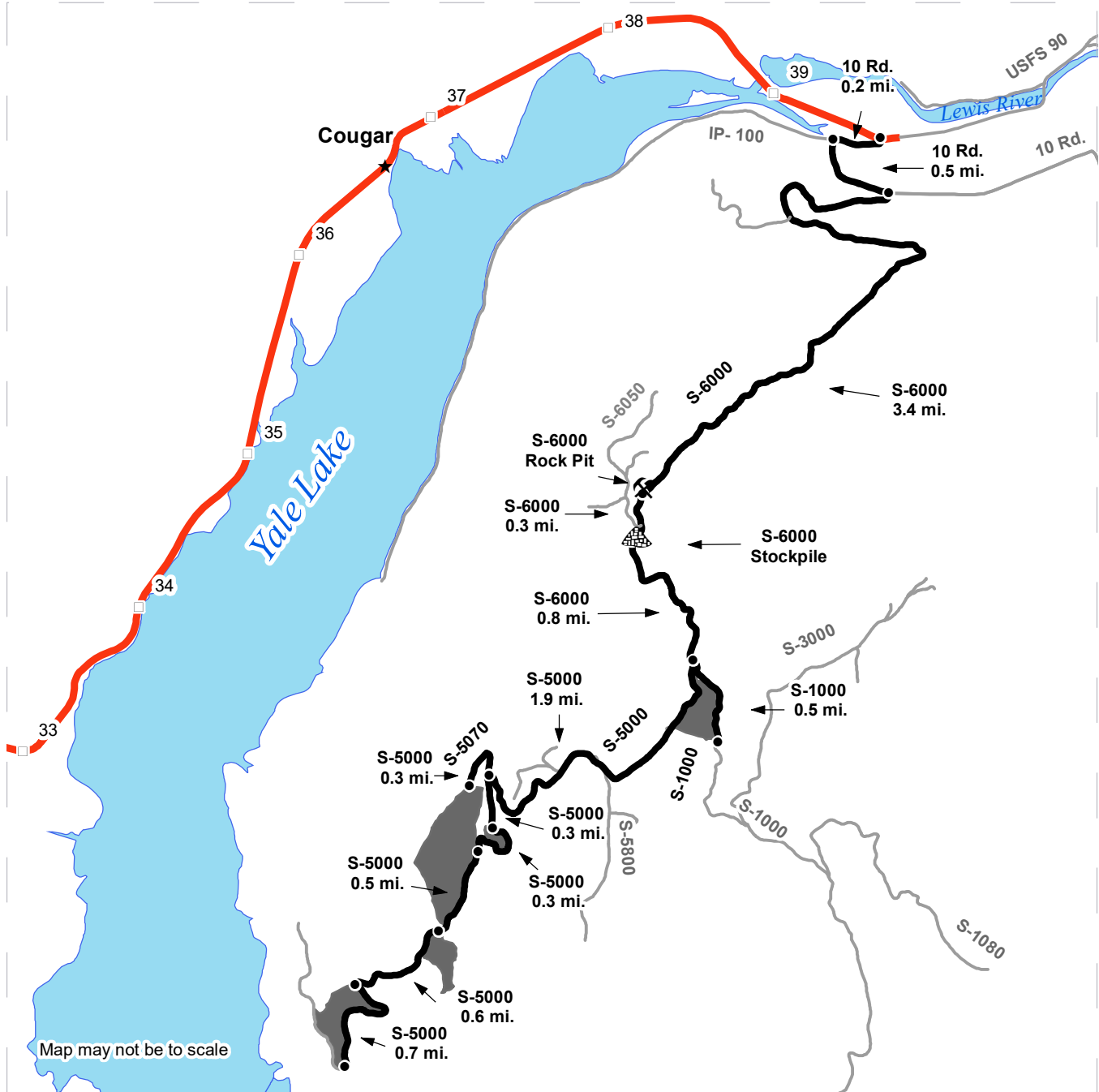
	Variable Retention Harvest		Sale Boundary Tags		Streams
	Hardwood Conversion		Special Mgmt Area		Stream Type
	Timing Restriction		Leave Tree Tags		Stream Type Break
	Leave Tree Area		Existing Roads		Leave Tree Area <1/4-acre
	Riparian Mgmt Zone		Required Pre-Haul Maintenance		Survey Monument
	Potentially Unstable Slopes		Optional Construction		
			Old Grades/Trails		



DRIVING MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E, T7R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



- Timber Sale Unit
- Haul Route
- Other Road
- Milepost Markers
- Distance Indicator
- Rock Pit
- Stockpile
- Town

DRIVING DIRECTIONS:

"From Woodland head east on SR 503 to approx. MP 40. Turn right (south) onto the 10 Rd. Continue for 0.2 mi. on the 10 Rd. to the IP-100/10 Rd. junction and keep left (south). Continue on 10 Rd. for 0.5 mi. to the S-6000/10 Rd. junction and turn right (south) on to the S-6000. Continue on the S-6000 for 3.4 mi. to the S-6000 Pit. Continue on the S-6000 for 0.3 mi to S-6000 Stockpile. Continue on the S-6000 for 0.8 mi. to Unit 1 and the S-5000/S-6000 junction. Veer (southwest) onto the S-5000 and continue on S-5000 for 1.9 mi to S-5070/S-5000 junction, keep left (south) for 0.3 miles to Unit 2. Continue on S-5000 for 0.3 miles to Unit 3. Continue on S-5000 for 0.5 mi. to Unit 4/Unit 6. Continue on S-5000 for 0.6 mi to Unit 5, continue on S-5000 for 0.7 mi. to south end of Unit 5."



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-0104033

SALE NAME: TINES UP

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on September 28, 2023 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, and all down timber greater than 36 inches diameter or existing 5 years prior to the day of sale and snags bounded by the following;

Unit 1, white "Timber Sale Boundary" tags with pink flagging, yellow "Leave Tree Area" tags with pink flagging, reprod, the S-1000 and the S-5000;

Unit 2, white "Timber Sale Boundary" tags with pink flagging, and the S-5000;

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Unit 6, white "Timber Sale Boundary" tags with pink flagging and the S-5000;

Unit 7, orange "Right of Way" tags with orange flagging.

All forest products above located on approximately 156 acres on part(s) of Sections 11, 12, 13, 14, 15, and 22 all in Township 6 North, Range 4 East W.M. in Clark County(s) as designated on the sale area and as shown on the attached timber sale map.

All forest products described above from the bole of the tree that meet or exceed 2 inches diameter inside bark on the small end are eligible for removal. Above ground

components of a tree that remain as by-products after the manufacture of logs, including but not limited to tree tops, branches, limbs, needles, leaves, stumps, are not eligible for removal under the terms of this contract.

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	RMZ Thinning Harvest Specifications Schedule A

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2025.

G-040 Contract Term Adjustment - No Payment

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

- a. Road and bridge failures which deny access.
- b. Access road closures imposed by road owner.
- c. Excessive suspensions as provided in clause G-220.
- d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

- e. Payment of \$1,226.00 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-061 Inadvertent Discovery of Cultural Resources

Purchaser acknowledges that cultural resources as defined in WAC 222-16-010 may exist within the timber sale area and that the existence and location of such resources may be unknown at the time this contract is executed. Purchaser has a duty to exercise due care in its operations and in the event any human skeletal remains are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify local law enforcement in the most expeditious manner possible then notifying the Contract Administrator. In the event cultural resources are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify the Contract Administrator.

Any potential resources shall not be removed or disturbed. Purchaser shall resume operations as directed in writing by the Contract Administrator.

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. TE812521-1 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

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

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

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.
- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator

safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.

- c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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.

Road is defined as the road bed, including but not limited to its component parts, such as cut and fill slopes, 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.

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

Nothing contained in clauses G-120 and G-121 shall be construed as relieving Purchaser of responsibility for, or damage resulting from, Purchaser's operations or negligence, nor shall Purchaser be relieved from full responsibility for making good any defective work or materials. Authorization to haul does not warrant that Purchaser built roads are free from material defect and the State may require additional work, at Purchasers expense regardless of cost, to remedy deficiencies at any time.

G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of the contract. "Claim" as used in this contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Purchasers' obligations to indemnify, defend, and hold harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

G-150 Insurance

Purchaser shall, at its cost and expense, buy and maintain insurance of the types and amounts listed below. Failure to buy and maintain the required insurance may result in a breach and/or termination of the contract at State's option. State may suspend Purchaser operations until required insurance has been secured.

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

The State of Washington, Department of Natural Resources region office of sale origin shall be provided written notice before cancellation or non-renewal of any insurance referred to therein, in accord with the following specifications:

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.
2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

Before starting work, Purchaser shall furnish State of Washington, Department of Natural Resources with a certificate(s) of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements specified in the contract. Insurance coverage shall be obtained by the Purchaser prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release has been signed by the State.

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

The State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as an additional insured via endorsement on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser

waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

By requiring insurance herein, State does not represent that coverage and limits will be adequate to protect Purchaser and such coverage and limits shall not limit Purchaser's liability under the indemnities and reimbursements granted to State in this contract.

The limits of insurance, which may be increased as deemed necessary by State of Washington, Department of Natural Resources, shall not be less than as follows:

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and, if necessary, commercial umbrella insurance with a limit of not less than \$1,000,000.00 per each occurrence. If such CGL insurance contains aggregate limits, the General Aggregate limit shall be at least twice the "each occurrence" limit. CGL insurance shall have products-completed operations aggregate limit of at least two times the "each occurrence" limit. CGL coverage shall include a Logging and Lumbering Endorsement (i.e. Logger's Broad-Form) to cover the events that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

CGL insurance shall be written on Insurance Services Office (ISO) occurrence form CG 00 01 (or a substitute form providing equivalent coverage). All insurance shall cover liability arising out of premises, operations, independent contractors, products completed operations, personal injury and advertising injury, and liability assumed under an insured contract (including the tort liability of another party assumed in a business contract), and contain separation of insured (cross liability) condition.

Employer's Liability "Stop Gap" Insurance. Purchaser shall buy employers liability insurance, and, if necessary, commercial umbrella liability insurance with limits not less than \$1,000,000.00 each accident for bodily injury by accident or \$1,000,000.00 each employee for bodily injury by disease.

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including death) by accident or disease, which exists out of or in connection with the performance of this contract. Except as prohibited by law, Purchaser waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers' compensation, employer's liability, commercial general liability, or commercial umbrella liability insurance.

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser

shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than \$1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Castle Rock, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

Purchaser is required to have a person on site during all operations who is authorized to receive instructions and notices from the State. Purchaser shall inform the State in writing who is authorized to receive instructions and notices from the State, and any limits to this person's authority.

G-170 Assignment and Delegation

No rights or interest in this contract shall be assigned by Purchaser without prior written permission of the State. Any attempted assignment shall be void and ineffective for all purposes unless made in conformity with this paragraph. Purchaser may perform any duty through a delegate, but Purchaser is not thereby relieved of any duty to perform or any liability. Any assignee or delegate shall be bound by the terms of the contract in the same manner as Purchaser.

G-180 Modifications

Waivers, modifications, or amendments of the terms of this contract must be in writing signed by Purchaser and the State.

G-190 Contract Complete

This contract is the final expression of the Parties' agreement. There are no understandings, agreements, or representations, expressed or implied, which are not specified in this contract.

G-200 Notice

Notices required to be given under the following clauses shall be in writing and shall be delivered to Purchaser's authorized agent or sent by certified mail to Purchaser's address of record:

- G-210 Violation of Contract
- G-220 State Suspends Operations

All other notices required to be given under this contract shall be in writing and delivered to the authorized agent or mailed to the Party's post office address. Purchaser agrees to notify the State of any change of address.

G-210 Violation of Contract

- a. If Purchaser violates any provision of this contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after receipt of a suspension notice to remedy the violation. If the violation cannot be remedied (such as a violation of WAC 240-15-015) or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the State may terminate the rights of Purchaser under this contract and collect damages.
- b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.
- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operations

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; 10 Rd (0+00 to 42+00), S-1000 (0+00 to 58+00), S-5000 (0+00 to 245+12), S-5070, S-5070 EXT., S-6000, S-6000D, Spur A, Spur B, Spur C and Spur D. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this contract and to examine the sale area before beginning any operations. A plan of operations shall be developed and agreed upon by the Contract Administrator and Purchaser before beginning any operations. To the extent that the plan of operations is inconsistent with the contract, the terms of the contract shall prevail. State's acceptance and approval of Purchaser's plan of operations shall not be construed as any statement or warranty that the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, re-establish them through a licensed land surveyor in accordance with U.S. General Land Office standards. Corners and/or witness objects that must be disturbed or destroyed in the process of road construction or logging shall be adequately referenced and/or

replaced in accordance with RCW 58.24.040(8). Such references must be approved by the Contract Administrator prior to removal of said corners and/or witness objects.

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the S-1000, S-5000 and S-6000, 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 #55-000643 between State and Weyerhaeuser Company, dated 4/22/1971.

G-396 Public Hauling Permit

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

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$115,986.00. The total contract price consists of a \$0.00 contract bid price plus \$115,986.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$0.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser

agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

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

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

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

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 12 feet in width, including rub trees.

- b. Skid trails shall not cover more than 5 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-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

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

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

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

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Active haul routes will be posted with CB channels.
- b. Ground based yarding equipment shall only operate during dry soil conditions.
- c. Shovels must be large enough to pick up one end of the largest log 35 feet from machine.
- d. Ground based yarding equipment will not be permitted on sustained slopes over 40%.
- e. Cable assist operations will not be permitted on slopes over 75%.
- f. Long butts remaining on the sale must be dispersed as directed by the Contract Administrator.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Sediment delivery from roads will not be allowed. Hauling operations will be shut down as needed until conditions improve or work can be completed that eliminates the delivery of sediment.
- b. Within shovel logging areas, the shovel operator shall break up concentrations of logging debris greater than 10 feet by 10 feet to allow exposure of natural soils to ensure proper reforestation.

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

H-142 Wildlife Timing Restrictions

The following wildlife timing restrictions apply to this contract and shall be in place in the locations shown on the attached timber sale map.

Northern Spotted Owl - Timing restrictions are described as no operation of heavy equipment within the critical nesting season (March 1 to August 31). Heavy equipment is identified as felling, yarding, and loading equipment for logging, and road maintenance and construction equipment in the southernmost portion of Unit 5, delineated by blue "Special Management Tags."

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-250 Additional Falling Requirements

Within all units, all non-merchantable hardwood stems 2 inches DBH or 10 feet tall, shall be felled concurrently with felling operations. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

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

Road construction and associated work provisions of the Road Plan for this sale, dated 3/9/2023 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on S-5070, S-5070 Ext, S-6000D, Spur A, Spur B, Spur C and Spur D. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all roads not listed in Clause C-050. 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-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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-110 Resource Protection

No ground based equipment may operate within 30 feet of all streams unless authority is granted in writing by the Contract Administrator.

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 or other releases of hazardous material/waste during operations conducted under this contract.

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 covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management at 1-800-258-5990
- National Response Center at 1-800-424-8802
- Appropriate Department of Ecology (ECY) at 1-800-645-7911
- DNR Contract Administrator

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

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

SIGNATURES

This agreement may be executed in any number of counterparts (including by electronic mail in portable document format (.pdf), or by facsimile) each of which shall be deemed an original but all of which, when taken together, shall constitute one and the same Agreement binding on all parties.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Eric Wisch

Print Name

Pacific Cascade Region Manager

Date: _____

Date: _____

Address: _____

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

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
Riparian Forest Restoration Strategy

Units 6: Riparian Forest Restoration Strategy Hardwood Conversion

- All reserve trees are marked with a ring of blue paint.
- No conifers will be harvested.
- Any snags felled for safety reasons must remain on-site and shall be left as close as possible to their original location.
- Logging damage to advanced regeneration is to be avoided where operationally feasible.
- A 30-foot Equipment Exclusion Zone (EEZ) from the edge of the 100-year floodplain is to be observed throughout the unit. The EEZ is defined as any area within 5 feet of the white Timber Sale Boundary tags.
- Skid roads shall be marked by the Purchaser and approved by the Contract Administrator prior to felling operations.

PRE-CRUISE NARRATIVE

Sale Name: Tines Up	Region: Pacific Cascade
Agreement #: 30-104033	District: Yacolt
Contact Forester: Scott Hancock Phone / Location: 360.608.9294	County(s): Choose a county, Clark
Alternate Contact: Phone / Location:	Other information: Click here to enter text.

Type of Sale: Lump Sum	
Harvest System: Ground based Click here to enter text.	45%
Harvest System: Uphill Cable Click here to enter text.	55%
Enter % of 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 Determinati on (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1 (VRH)	11/ 06N/04E	02,03	29	1	2	0	0	26	GPS (Trimble)
2 (VRH)	14/ 06N/04E	02, 03	7	1	1	0	0	5	GPS (Trimble)
3 (VRH)	15/ 06N/04E	02	88	5	6	0	0	77	GPS (Trimble)
4 (VRH)	22/ 06N/04E	03	26	9	1	0	0	16	GPS (Trimble)
5 (VRH)	22/ 06N/04E	03,08	33	0	2	0	0	31	GPS (Trimble)
6 (RMZ)	22/ 06N/04E	03	<0.5	**	0	0	0	<0.5	Combination GPS(Trimble) and Laser
7 (ROW)	15/ 06N/04E	02	<0.5	0	0	0	0	<0.5	GPS (Trimble)
TOTAL ACRES			184	16	12	0	0	156	

**** Hardwood Conversion unit**

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Unit 1 is bounded by white “Timber Sale Boundary” tags with pink flagging, the S-1000 and S-5000 Roads, and pink flagging along. Clumped reserve trees are marked with yellow “Leave Tree Area” tags and pink flagging. Individual reserve trees are marked with a blue ring of paint. Road centerlines are marked with orange flagging and stakes.	VRH	Leave tree total=223. 0 painted blue.
2	Unit 2 is bounded by white “Timber Sale Boundary” tags with pink flagging, and the S-5000 Road. Clumped reserve trees are marked with yellow “Leave Tree Area” tags and pink flagging.	VRH	Leave tree total=49. 0 painted blue.
3	Unit 3 is bounded by white “Timber Sale Boundary” tags with pink flagging, and the S-5000 Road. Clumped reserve trees are marked with yellow “Leave Tree Area” tags and pink flagging. Individual reserve trees are marked with a blue ring of paint. Road centerlines are marked with orange flagging and stakes.	VRH	Leave tree total=665. 87 painted blue.
4	Unit 4 is bounded by white “Timber Sale Boundary” tags with pink flagging, and the S-5000 Road. Clumped reserve trees are marked with yellow “Leave Tree Area” tags and pink flagging. Individual reserve trees are marked with a blue ring of paint.	VRH	Leave tree total=135 27 painted blue.
5	Unit 5 is bounded by white “Timber Sale Boundary” tags with pink flagging, blue "Special Management Boundary" tags with pink flagging, and the S-5000 Road. Clumped reserve trees are marked with yellow “Leave Tree Area” tags and pink flagging. Individual reserve trees are marked with a blue ring of paint. Road centerlines are	VRH	Leave tree total=264. 21 painted blue.

	marked with orange flagging and stakes.		
6	Unit 6 (RMZ) is bounded by white “Timber Sale Boundary” tags with pink flagging, and the S-5000 Road.	RMZ	Blue painted trees.
7	Unit 7 (ROW) is bounded by orange “Right-of-Way Boundary” tags with orange flagging Road centerlines are marked with orange flagging and stakes.	ROW	No leave trees.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH 730	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000 Rd.	1"=400'
2	DF, WH 148	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000 Rd.	1"=400'
3	DF, WH 2531	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000 Rd. The top access is from the S-5070 Rd..	1"=400'
4	RA, DF, BLM 562	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000.	1"=400'
5	DF, RA 1134	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000 Rd.	1"=400'
6	RA. BLM 7	Accessed via the 10 Rd. to the S-6000 Rd. to the S-5000 Rd..	1"=400'
7	DF 5	Accessed via the 10 Rd to the S-6000 Rd. to the S-5000 Rd. to the S-5070 Rd.	1"=400'
TOTAL MBF	5,117		

REMARKS:

The entire sale is possibly inaccessible from as early as November to as late as April (or June of 2022).

Prepared By: Michael Rutledge Date: 08/18/2022	Title: NRS2	CC:
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Timber Sale Cruise Report Tines Up

Sale Name: TINES UP

Sale Type: LUMP SUM

Region: PACIFIC CASC

District: YACOLT

Lead Cruiser: AMHerrman, BEWarnstadt

Other Cruisers:

Cruise Narrative:

Tines Up is located 4 miles south of Cougar, WA near the southeast side of Yale Lake. It is accessed via SR 503 and S-Line forest roads. All units can be reached directly from the S-5000 road.

The sale includes five Variable Retention Harvests (Units 1-5), one Riparian Management Thinning (Unit 6), and one Right of Way (Unit 7).

Units 1-3 contain a dominant cohort of Douglas-fir with western hemlock. Some poles and high quality trees are on site. The most common defects appear to be spike knots and broken tops. In Unit 3, bole heights average shorter on the western (upslope) side of the unit.

Units 4 and 5 contain Douglas-fir mixed with mature hardwoods. Red alder and big-leaf maple appear to have good saw log potential. Many have straight, mostly un-forked boles. Both units contain patches of large diameter Douglas-fir, but there appears to be more high quality segments and taller trees in Unit 4. Some *schweinitzii* fungus was observed though it did not appear to be widespread.

Tines Up is laid out on moderate-steep slopes. Understory conditions are somewhat brushy but do not appreciably hinder foot travel.

116 plots (114 variable radius, 2 fixed) were used to measure 324 trees. Most units were cruised with a 1:1 cruise:count plot ratio. Trees were segmented into lengths based on a preference for long logs and taking into account location of defect/expected breakage in each tree cruised. Preferred length for conifers is 40'. Preferred length for hardwoods is 30'.

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	19.7	7.6		3,509	7	2,211	1,065	188	39
WH	16.8			533		248	214	67	4
RA	14.1			214		18	50	119	27
MA	12.9			202		28	39	89	46
RC	13.0			3				3	
ALL	18.0	7.6		4,462	7	2,505	1,368	466	116

Timber Sale Notice Weight (tons)

Sp	Tons by Grade					
	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	27,167	40	15,697	9,347	1,767	316

Sp	Tons by Grade					
	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
WH	5,240		2,186	2,187	837	30
RA	1,922		164	392	1,163	203
MA	1,807		216	315	899	378
RC	36				36	
ALL	36,173	40	18,263	12,241	4,702	927

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 (%)
222.8	3.8	127.8	2.0	28,656	4.2

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
TINES UP U1	B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	26.0	27.7	18	9	0
TINES UP U2	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	5.0	5.8	5	5	0
TINES UP U3	B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	77.0	83.1	51	21	0
TINES UP U4	B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	16.0	16.8	16	16	1
TINES UP U5	B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	31.0	33.0	22	18	1
TINES UP U6	FX: FR plots (20 tree / acre expansion)	0.4	0.4	2	2	0
TINES UP U7	B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.3	0.3	2	2	0
All		155.7	167.0	116	73	2

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	15.9	39	10,926	10,590	3.1	11,630.5	1,648.8
DF	LIVE	2 SAW	HQ-B	14.8	40	3,666	3,612	1.5	4,066.7	562.4
DF	LIVE	3 SAW	Domestic	8.9	38	5,757	5,586	3.0	7,722.0	869.7
DF	LIVE	3 SAW	HQ-B	10.3	40	1,285	1,253	2.4	1,624.9	195.1
DF	LIVE	4 SAW	Domestic	5.7	25	1,233	1,206	2.2	1,766.7	187.8

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	CULL	Cull	8.8	5	193	0	100.0	0.0	0.0
DF	LIVE	SPECIAL MILL	HQ-A	16.2	40	42	42	0.0	40.3	6.5
DF	LIVE	UTILITY	Pulp	7.3	14	251	251	0.0	316.1	39.1
MA	LIVE	2 SAW	Domestic	14.0	30	196	180	8.0	216.0	28.1
MA	LIVE	3 SAW	Domestic	11.0	30	265	248	6.4	314.9	38.6
MA	LIVE	4 SAW	Domestic	7.1	29	591	573	3.1	898.6	89.2
MA	LIVE	CULL	Cull	5.1	9	41	0	100.0	0.0	0.0
MA	LIVE	UTILITY	Pulp	5.2	23	298	298	0.0	377.9	46.3
RA	LIVE	2 SAW	Domestic	13.1	30	127	115	9.2	164.4	17.9
RA	LIVE	3 SAW	Domestic	11.1	30	337	322	4.3	391.7	50.2
RA	LIVE	4 SAW	Domestic	7.0	28	782	766	2.0	1,162.8	119.3
RA	LIVE	CULL	Cull	8.0	8	56	0	100.0	0.0	0.0
RA	LIVE	UTILITY	Pulp	5.9	17	174	171	1.5	203.0	26.7
RC	LIVE	4 SAW	Domestic	5.2	39	20	19	2.4	36.3	3.0
WH	LIVE	2 SAW	Domestic	14.5	40	1,635	1,593	2.5	2,185.6	248.1
WH	LIVE	3 SAW	Domestic	8.8	39	1,419	1,375	3.1	2,187.3	214.1
WH	LIVE	4 SAW	Domestic	5.5	28	438	431	1.5	837.0	67.1
WH	LIVE	CULL	Cull	8.0	6	101	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	5.1	14	24	24	0.0	30.1	3.8

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Domestic	5.7	29	2,247	1.4	3,441.7	349.8
DF	5 - 7	LIVE	Pulp	6.4	13	130	0.0	163.3	20.2
DF	5 - 7	LIVE	Cull	6.5	5	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Pulp	8.8	14	68	0.0	102.0	10.7
DF	8 - 11	LIVE	Cull	9.6	6	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Domestic	9.7	37	4,091	3.2	5,543.1	637.0
DF	8 - 11	LIVE	HQ-B	10.2	40	1,253	2.4	1,624.9	195.1
DF	12 - 15	LIVE	HQ-B	13.6	40	1,915	1.5	2,335.7	298.2
DF	12 - 15	LIVE	Domestic	13.9	38	4,701	2.8	5,570.1	732.0
DF	12 - 15	LIVE	Cull	14.2	5	0	100.0	0.0	0.0
DF	16 - 19	LIVE	HQ-A	16.2	40	42	0.0	40.3	6.5
DF	16 - 19	LIVE	Pulp	16.7	15	12	0.0	16.7	1.9
DF	16 - 19	LIVE	HQ-B	17.0	40	1,418	1.5	1,469.8	220.8
DF	16 - 19	LIVE	Domestic	17.9	40	3,951	2.0	4,217.7	615.2
DF	20+	LIVE	Pulp	20.4	12	40	0.0	34.2	6.3

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	20+	LIVE	HQ-B	21.5	40	279	1.3	261.3	43.5
DF	20+	LIVE	Domestic	22.9	40	2,391	5.8	2,346.6	372.2
DF	20+	LIVE	Cull	27.9	5	0	100.0	0.0	0.0
MA	5 - 7	LIVE	Cull	5.1	9	0	100.0	0.0	0.0
MA	5 - 7	LIVE	Pulp	5.2	22	280	0.0	353.1	43.6
MA	5 - 7	LIVE	Domestic	6.4	29	337	2.0	505.4	52.4
MA	8 - 11	LIVE	Pulp	9.1	24	17	0.0	24.8	2.7
MA	8 - 11	LIVE	Domestic	9.8	30	485	5.5	708.1	75.4
MA	12 - 15	LIVE	Domestic	13.2	30	119	7.7	153.8	18.5
MA	16 - 19	LIVE	Domestic	16.2	30	29	6.7	31.3	4.5
MA	20+	LIVE	Domestic	20.9	30	33	10.1	30.9	5.2
RA	5 - 7	LIVE	Cull	5.1	8	0	100.0	0.0	0.0
RA	5 - 7	LIVE	Pulp	5.2	18	113	2.2	133.6	17.5
RA	5 - 7	LIVE	Domestic	5.8	27	329	0.6	480.9	51.3
RA	8 - 11	LIVE	Domestic	9.5	30	759	3.5	1,073.6	118.2
RA	8 - 11	LIVE	Pulp	9.5	15	20	0.0	27.2	3.1
RA	8 - 11	LIVE	Cull	11.2	10	0	100.0	0.0	0.0
RA	12 - 15	LIVE	Pulp	12.3	25	39	0.0	42.1	6.1
RA	12 - 15	LIVE	Domestic	13.4	30	115	9.2	164.4	17.9
RC	5 - 7	LIVE	Domestic	5.2	39	19	2.4	36.3	3.0
WH	5 - 7	LIVE	Pulp	5.1	14	24	0.0	30.1	3.8
WH	5 - 7	LIVE	Cull	5.7	4	0	100.0	0.0	0.0
WH	5 - 7	LIVE	Domestic	5.9	32	837	1.0	1,595.1	130.4
WH	8 - 11	LIVE	Domestic	9.9	37	876	3.5	1,306.7	136.5
WH	12 - 15	LIVE	Domestic	13.9	40	1,332	2.5	1,840.3	207.3
WH	12 - 15	LIVE	Cull	14.7	10	0	100.0	0.0	0.0
WH	16 - 19	LIVE	Domestic	17.1	40	180	7.7	259.7	28.1
WH	20+	LIVE	Domestic	21.1	40	173	1.6	208.0	27.0
WH	20+	LIVE	Cull	22.9	10	0	100.0	0.0	0.0

Cruise Unit Report TINES UP U1

Unit Sale Notice Volume (MBF): TINES UP U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	19.3	7.0		585	304	234	35	12
WH	15.8			222	73	115	30	4
RC	13.0			3			3	
ALL	17.9	7.0		811	378	350	67	16

Unit Cruise Design: TINES UP U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	26.0	27.7	18	9	0

Unit Cruise Summary: TINES UP U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	35	65	3.6	1
WH	16	30	1.7	0
RC	1	1	0.1	0
ALL	52	96	5.3	1

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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 (%)
DF	169.5	53.0	12.5	132.8	18.1	3.1	22,512	56.0	12.9
WH	78.2	102.9	24.3	109.2	41.4	10.3	8,544	110.9	26.4
RC	2.6	424.3	100.0	44.5	0.0	0.0	116	424.3	100.0
ALL	250.3	36.9	8.7	124.5	28.2	3.9	31,172	46.5	9.5

Unit Summary: TINES UP U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	33	ALL	19.3	77	97	20,927	20,087	4.0	74.5	151.3	34.4	522.3
DF	LIVE	POLE	2	ALL	20.4	81	102	2,526	2,424	4.0	8.0	18.3	4.0	63.0

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RC	LIVE	CUT	1	ALL	13.0	43	52	119	116	2.4	2.8	2.6	0.7	3.0
WH	LIVE	CUT	16	ALL	15.8	64	79	8,853	8,544	3.5	57.5	78.2	19.7	222.2
ALL	LIVE	POLE	2	ALL	20.4	81	102	2,526	2,424	4.0	8.0	18.3	4.0	63.0
ALL	LIVE	CUT	50	ALL	17.8	71	88	29,899	28,748	3.9	134.8	232.1	54.8	747.4
ALL	ALL	ALL	52	ALL	17.9	71	89	32,425	31,172	3.9	142.8	250.3	58.9	810.5

Cruise Unit Report TINES UP U2

Unit Sale Notice Volume (MBF): TINES UP U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	17.5	6.6		59	29	23	7
WH	17.7			32	24	3	4
RA	13.3			6			6
ALL	16.8	6.6		96	53	26	17

Unit Cruise Design: TINES UP U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	5.0	5.8	5	5	0

Unit Cruise Summary: TINES UP U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	8	9	1.8	1
WH	6	6	1.2	0
RA	2	2	0.4	0
ALL	16	17	3.4	1

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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 (%)
DF	98.0	72.4	32.4	119.5	29.8	10.5	11,714	78.3	34.1
WH	65.3	69.7	31.2	96.4	29.1	11.9	6,300	75.6	33.4
RA	21.8	136.9	61.2	51.7	25.6	18.1	1,127	139.3	63.9
ALL	185.1	33.5	15.0	103.4	35.9	9.0	19,141	49.1	17.5

Unit Summary: TINES UP U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	8	ALL	17.5	65	86	12,051	11,714	2.8	58.7	98.0	23.4	58.6
RA	LIVE	CUT	2	ALL	13.3	41	52	1,391	1,127	19.0	22.6	21.8	6.0	5.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	6	ALL	17.7	44	58	7,587	6,300	17.0	38.2	65.3	15.5	31.5
ALL	LIVE	CUT	16	ALL	16.9	54	71	21,029	19,141	9.0	119.5	185.1	44.9	95.7
ALL	ALL	ALL	16	ALL	16.9	54	71	21,029	19,141	9.0	119.5	185.1	44.9	95.7

Cruise Unit Report TINES UP U3

Unit Sale Notice Volume (MBF): TINES UP U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade				Utility
				All	2 Saw	3 Saw	4 Saw	
DF	19.6	7.8		2,206	1,401	670	112	23
WH	17.3			274	146	95	33	
RA	14.3			13		5	7	
ALL	19.1	7.8		2,492	1,546	770	152	23

Unit Cruise Design: TINES UP U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	77.0	83.1	51	21	0

Unit Cruise Summary: TINES UP U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	85	216	4.2	2
WH	14	34	0.7	0
RA	2	2	0.0	0
ALL	101	252	4.9	2

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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 (%)
DF	198.8	35.5	5.0	144.1	25.3	2.7	28,648	43.6	5.7
WH	31.3	145.9	20.4	113.5	28.7	7.7	3,553	148.7	21.8
RA	1.8	714.1	100.0	88.8	13.6	9.6	164	714.3	100.5
ALL	231.9	32.5	4.5	139.5	27.0	2.7	32,364	42.2	5.3

Unit Summary: TINES UP U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	84	ALL	19.6	74	99	29,001	28,117	3.0	93.1	195.1	44.1	2,165.0
DF	LIVE	POLE	1	ALL	22.7	97	124	547	531	3.0	1.3	3.7	0.8	40.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	CUT	2	ALL	14.3	65	79	206	164	20.6	1.7	1.8	0.5	12.6
WH	LIVE	CUT	14	ALL	17.3	60	76	3,753	3,553	5.3	19.2	31.3	7.5	273.5
ALL	LIVE	POLE	1	ALL	22.7	97	124	547	531	3.0	1.3	3.7	0.8	40.8
ALL	LIVE	CUT	100	ALL	19.2	71	95	32,960	31,834	3.4	114.0	228.3	52.1	2,451.2
ALL	ALL	ALL	101	ALL	19.2	71	95	33,507	32,364	3.4	115.3	231.9	52.9	2,492.0

Cruise Unit Report TINES UP U4

Unit Sale Notice Volume (MBF): TINES UP U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	22.8	8.0		252	7	195	41	8	2
RA	16.0			80		16	31	29	4
MA	13.5			69		17	14	25	13
WH	26.0			6		5	1		
ALL	17.3	8.0		407	7	234	86	61	20

Unit Cruise Design: TINES UP U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	16.0	16.8	16	16	1

Unit Cruise Summary: TINES UP U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	29	30	1.9	1
RA	20	20	1.3	0
MA	15	16	1.0	0
WH	1	1	0.1	0
ALL	65	67	4.2	1

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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 (%)
DF	88.0	104.6	26.2	179.1	31.6	5.9	15,760	109.3	26.8
RA	58.7	111.2	27.8	85.6	34.7	7.8	5,021	116.5	28.9
MA	46.9	206.6	51.6	91.5	28.4	7.3	4,296	208.5	52.2
WH	2.9	400.0	100.0	123.9	0.0	0.0	364	400.0	100.0
ALL	196.6	58.0	14.5	129.4	48.1	6.0	25,442	75.3	15.7

Unit Summary: TINES UP U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	29	ALL	22.8	86	112	16,326	15,760	3.5	31.0	88.0	18.4	252.2
MA	LIVE	CUT	15	ALL	13.6	50	75	4,697	4,296	8.5	46.5	46.9	12.7	68.7
RA	LIVE	CUT	20	ALL	16.0	56	70	5,302	5,021	5.3	42.0	58.7	14.7	80.3
WH	LIVE	CUT	1	ALL	26.0	77	96	380	364	4.2	0.8	2.9	0.6	5.8
ALL	LIVE	CUT	65	ALL	17.3	62	83	26,705	25,442	4.7	120.3	196.6	46.4	407.1
ALL	ALL	ALL	65	ALL	17.3	62	83	26,705	25,442	4.7	120.3	196.6	46.4	407.1

Cruise Unit Report TINES UP U5

Unit Sale Notice Volume (MBF): TINES UP U5

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	19.4			403	282	96	23	1
MA	12.6			134	11	25	64	33
RA	12.7			111		13	75	22
ALL	14.7			647	293	135	163	57

Unit Cruise Design: TINES UP U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	31.0	33.0	22	18	1

Unit Cruise Summary: TINES UP U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	30	44	2.0	0
MA	24	29	1.3	0
RA	17	20	0.9	0
ALL	71	93	4.2	0

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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	93.9	109.1	23.3	138.3	39.2	7.2	12,985	115.9	24.3
MA	61.9	157.7	33.6	69.6	30.8	6.3	4,308	160.7	34.2
RA	42.7	169.4	36.1	83.6	27.3	6.6	3,566	171.6	36.7
ALL	198.4	54.1	11.5	105.1	47.8	5.7	20,858	72.2	12.9

Unit Summary: TINES UP U5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	29	ALL	19.9	52	67	13,374	12,690	5.1	42.5	91.7	20.6	393.4
DF	LIVE	POLE	1	ALL	19.0	70	88	311	295	5.1	1.1	2.1	0.5	9.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
MA	LIVE	CUT	24	ALL	13.0	40	54	4,561	4,308	5.6	67.1	61.9	17.2	133.5
RA	LIVE	CUT	17	ALL	12.2	46	59	3,773	3,566	5.5	52.6	42.7	12.2	110.5
ALL	LIVE	CUT	70	ALL	14.9	45	59	21,708	20,563	5.3	162.2	196.3	49.9	637.5
ALL	LIVE	POLE	1	ALL	19.0	70	88	311	295	5.1	1.1	2.1	0.5	9.1
ALL	ALL	ALL	71	ALL	14.9	45	59	22,019	20,858	5.3	163.3	198.4	50.4	646.6

Cruise Unit Report TINES UP U6

Unit Sale Notice Volume (MBF): TINES UP U6

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
RA	15.2			5	2	1	2	0
ALL	15.2			5	2	1	2	0

Unit Cruise Design: TINES UP U6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	0.4	0.4	2	2	0

Unit Cruise Summary: TINES UP U6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA	10	10	5.0	0
ALL	10	10	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): TINES UP 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 (%)
RA	126.1	17.9	12.7	98.7	14.3	4.5	12,450	22.9	13.5
ALL	126.1	17.9	12.7	98.7	14.3	4.5	12,450	22.9	13.5

Unit Summary: TINES UP U6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	CUT	10	ALL	15.2	54	69	12,630	12,450	1.4	100.1	126.1	32.4	5.0
ALL	LIVE	CUT	10	ALL	15.2	54	69	12,630	12,450	1.4	100.1	126.1	32.4	5.0
ALL	ALL	ALL	10	ALL	15.2	54	69	12,630	12,450	1.4	100.1	126.1	32.4	5.0

Cruise Unit Report TINES UP U7

Unit Sale Notice Volume (MBF): TINES UP U7

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
DF	8.4			5	1	4
ALL	8.4			5	1	4

Unit Cruise Design: TINES UP U7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.3	0.3	2	2	0

Unit Cruise Summary: TINES UP U7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	9	9	4.5	0
ALL	9	9	4.5	0

Unit Cruise Statistics (Cut + Leave Trees): TINES UP U7

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	180.0	15.7	11.1	91.2	41.1	13.7	16,416	44.0	17.7
ALL	180.0	15.7	11.1	91.2	41.1	13.7	16,416	44.0	17.7

Unit Summary: TINES UP U7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	9	ALL	8.4	34	63	17,337	16,416	5.3	467.7	180.0	62.1	4.9
ALL	LIVE	CUT	9	ALL	8.4	34	63	17,337	16,416	5.3	467.7	180.0	62.1	4.9
ALL	ALL	ALL	9	ALL	8.4	34	63	17,337	16,416	5.3	467.7	180.0	62.1	4.9



Units 1-3 are ruled by conifers. Douglas-fir and hemlock in the morning fog.



Unit 4 has conifer patches mixed with hardwoods. Some of the Douglas- fir is high quality. Some big-leaf maples have unusually straight boles with good saw log potential.

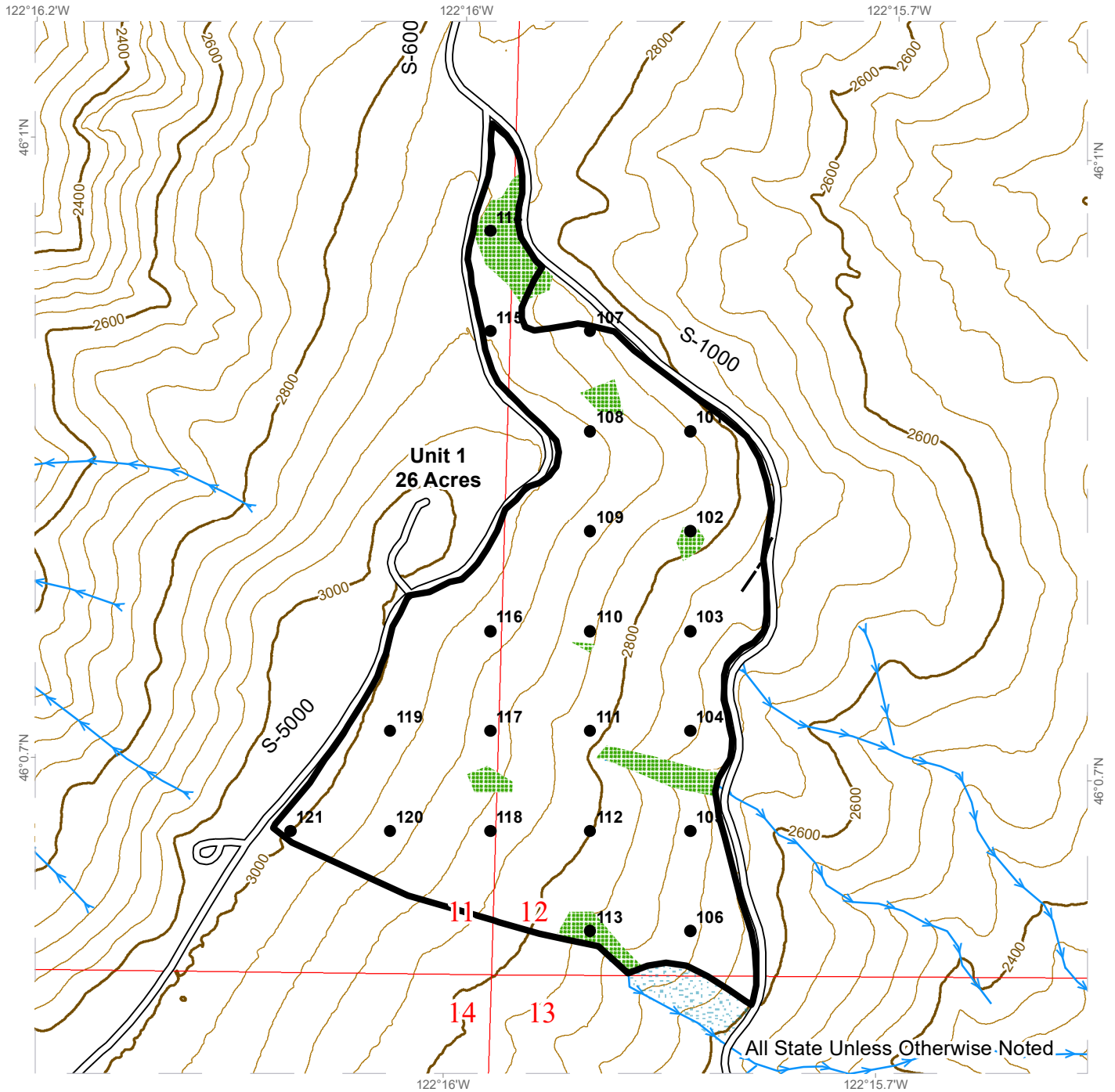


Unit 5: Crowds of red alder and maple with large Douglas-firs sprinkled in.

CRUISING MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640

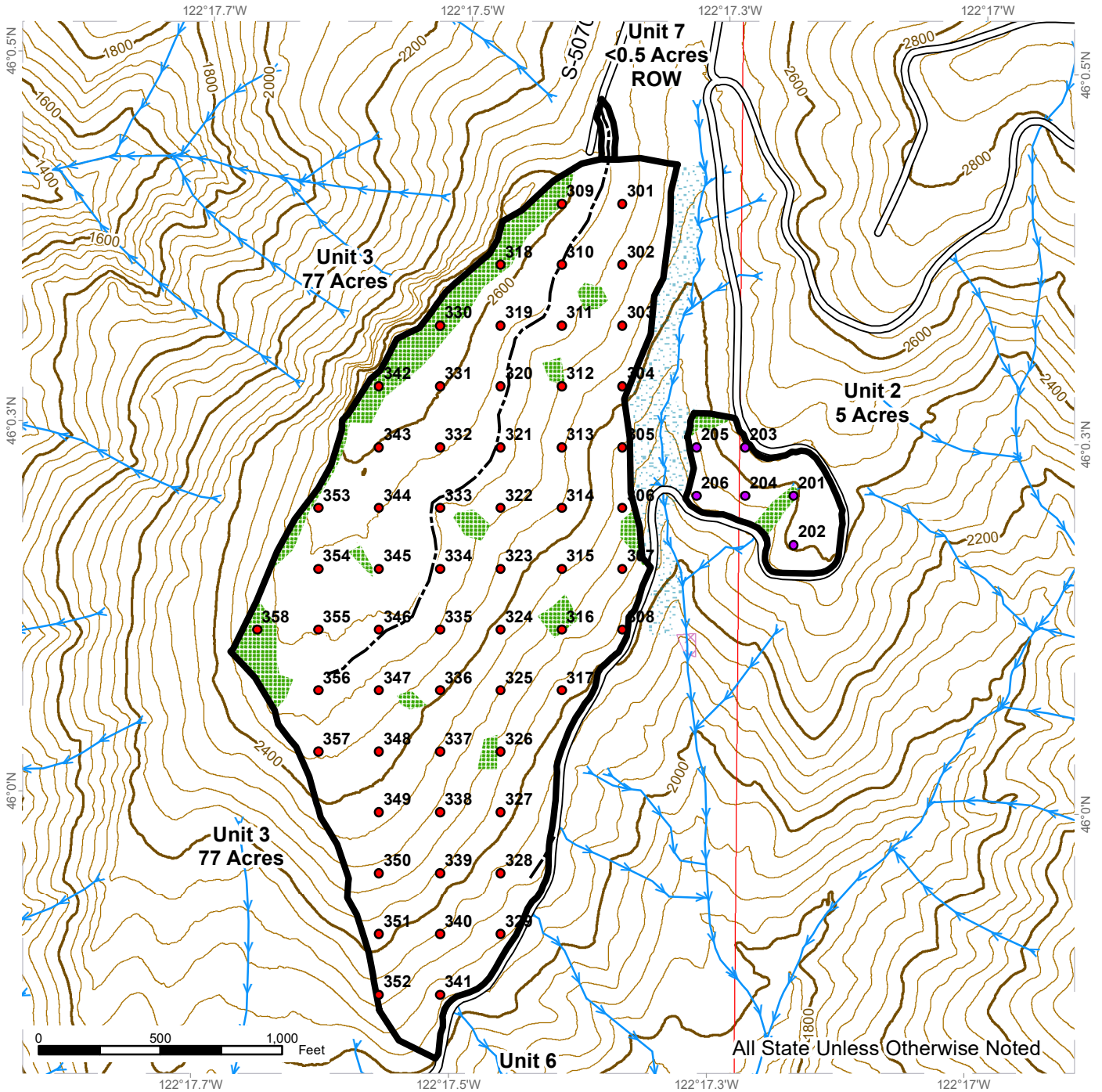






- Units
- Leave Tree Areas
- U1 Plots

CRUISING MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640

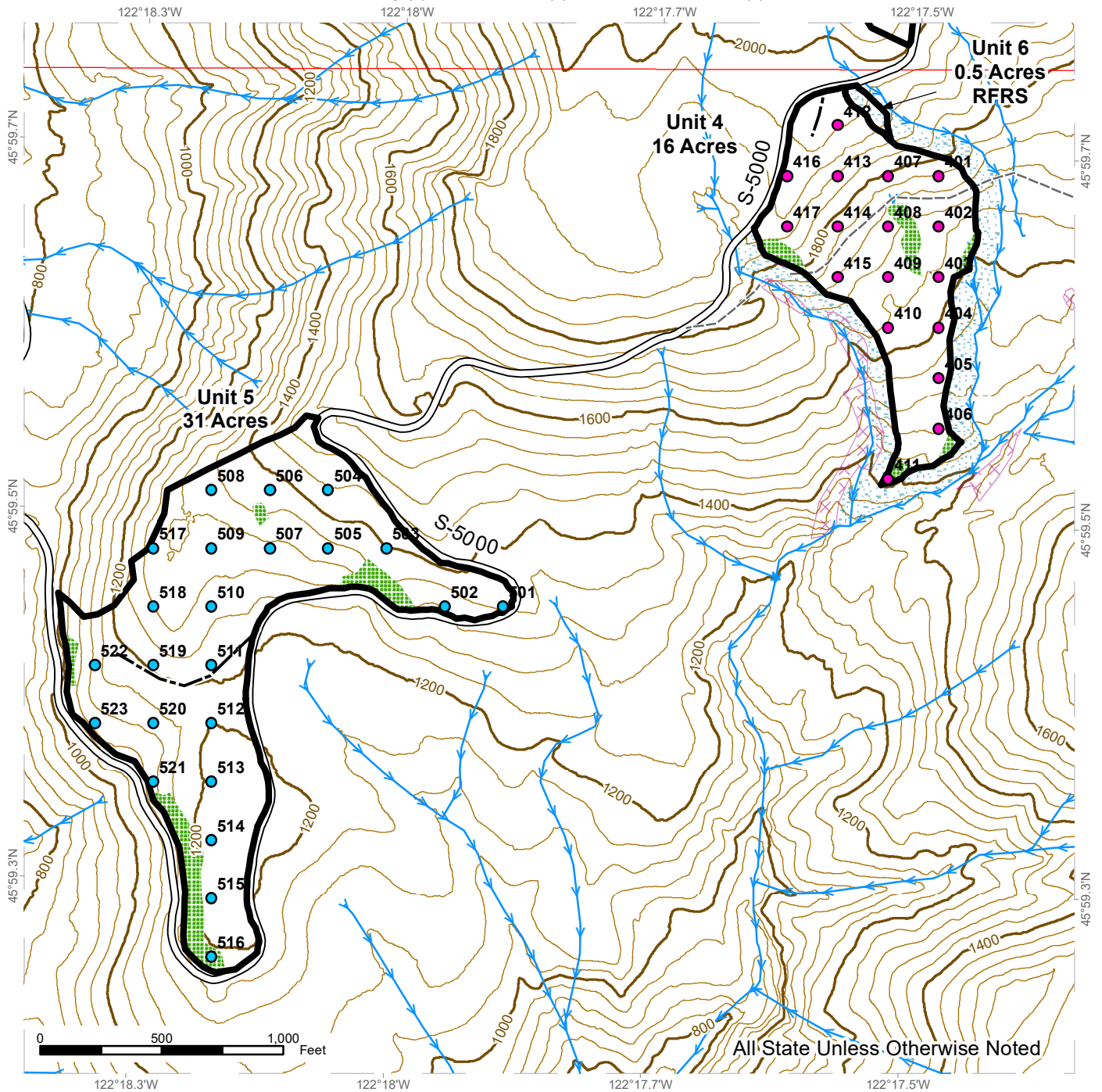


	Units
	Leave Tree Areas
	U2 plots
	U3 plots





CRUISING MAP


SALE NAME: TINES UP
AGREEMENT#: 30-104033
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TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



All State Unless Otherwise Noted

	Units
	Leave Tree Areas
	U4 plots
	U5 plots





Forest Practices Application/Notification
Notice of Decision

FPA/N No: 2941288

Effective Date: 4/24/2023

Expiration Date: 4/24/2026

Shut Down Zone: 660 ; .

EARR Tax Credit: Eligible Non-eligible

Reference: Tines Up

30-104033

Decision

- Notification Accepted 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.
- Withdrawn Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
- Closed All forest practices obligations are met.

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval/Reasons for Disapproval

No additional conditions.

Issued By: Geoff Crosby

Region: Pacific Cascade Region

Title: Forest Practices Forester

Date: 4/24/2023

Copies to: Landowner, Timber Owner and Operator

Issued in person: LO TO OP

By:

Date: 04/24/2023

Appeal Information

You have thirty (30) days to *file* (i.e., *actually deliver*) an appeal in writing of this Decision and any related State Environmental Policy Act (SEPA) determinations to the Pollution Control Hearings Board, the Attorney General's Office, and the Department of Natural Resources' region office. See [RCW 76.09.205](#). The appeal period starts when the applicant receives this decision, which usually happens electronically on the date indicated below.

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	Office of the Attorney General Natural Resources Division	Department Of Natural Resources Pacific Cascade Region
<u>Physical Address</u> 1111 Israel Road, SW Suite 301 Tumwater, WA 98501	<u>Physical Address</u> 1125 Washington Street, SE Olympia, WA 98504	<u>Physical Address</u> 601 Bond Rd Castle Rock WA 98611
<u>Mailing address</u> Post Office Box 40903 Olympia, WA 98504-0903	<u>Mailing Address</u> Post Office Box 40100 Olympia, WA 98504-0100	<u>Mailing Address</u> Post Office Box 280 Castle Rock, WA 98611-0280

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

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 <https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and>. Notify DNR of new Operators within 48 hours.

Continuing Forestland 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 forestland 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 and 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 forestland obligation, the seller must pay the buyer's costs related to continuing forestland obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forestland obligation against the seller.

Failure by the seller to send the required notice to 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 forestland obligation prior to sale.

DNR Declaration of Mailing

Jacqueline Spahn, caused the Notice of Decision for FPA/N No. Enter FPA/N No to be placed in the United States mail at Castle Rock, WA, postage paid. I declare under penalty of perjury of the laws of the State of Washington, that the foregoing is true and correct.

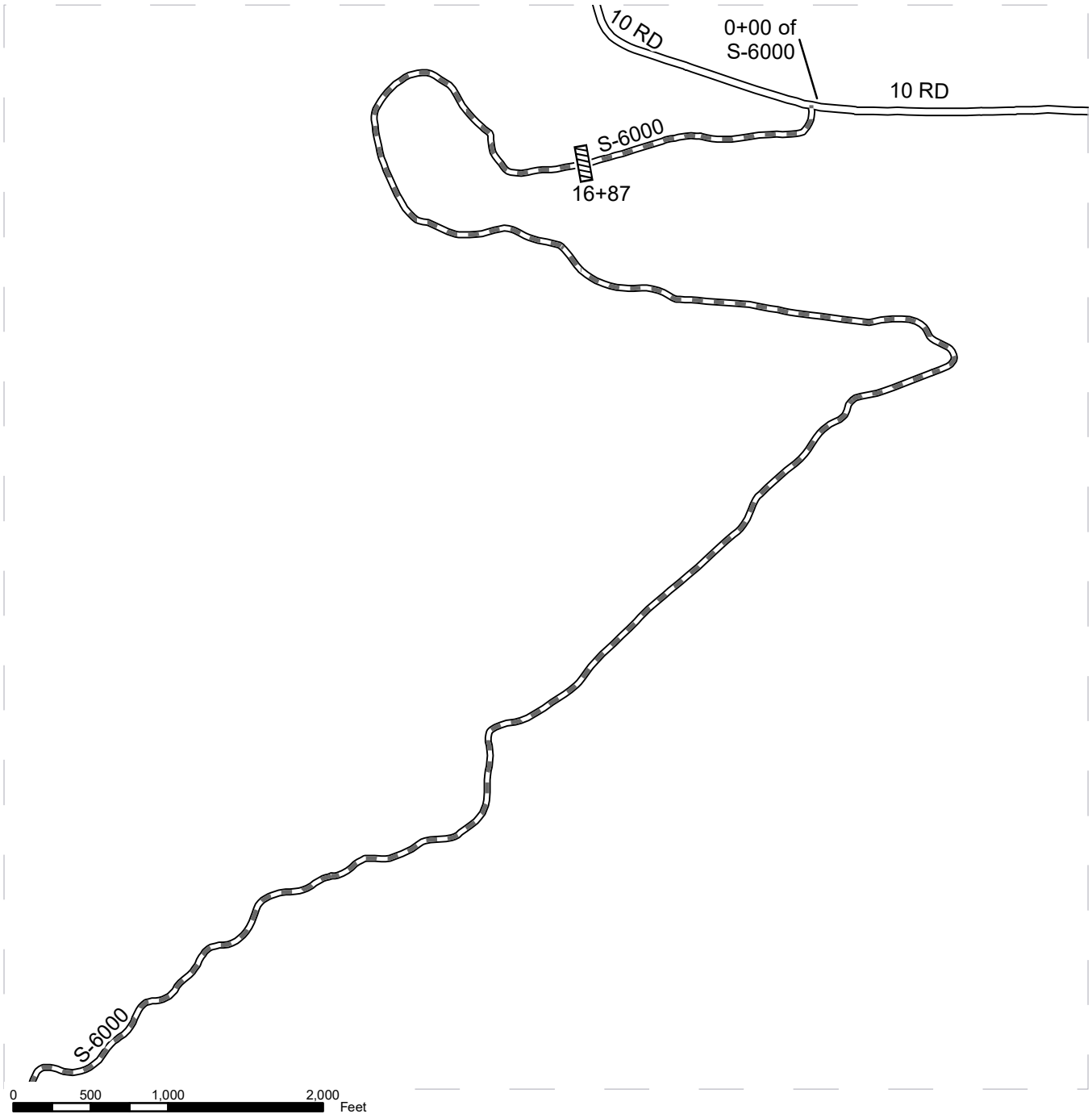
(Date) Castle Rock, WA
(City & State where signed)




Jacqueline Spahn
(Signature)


ROAD PLAN MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity(3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



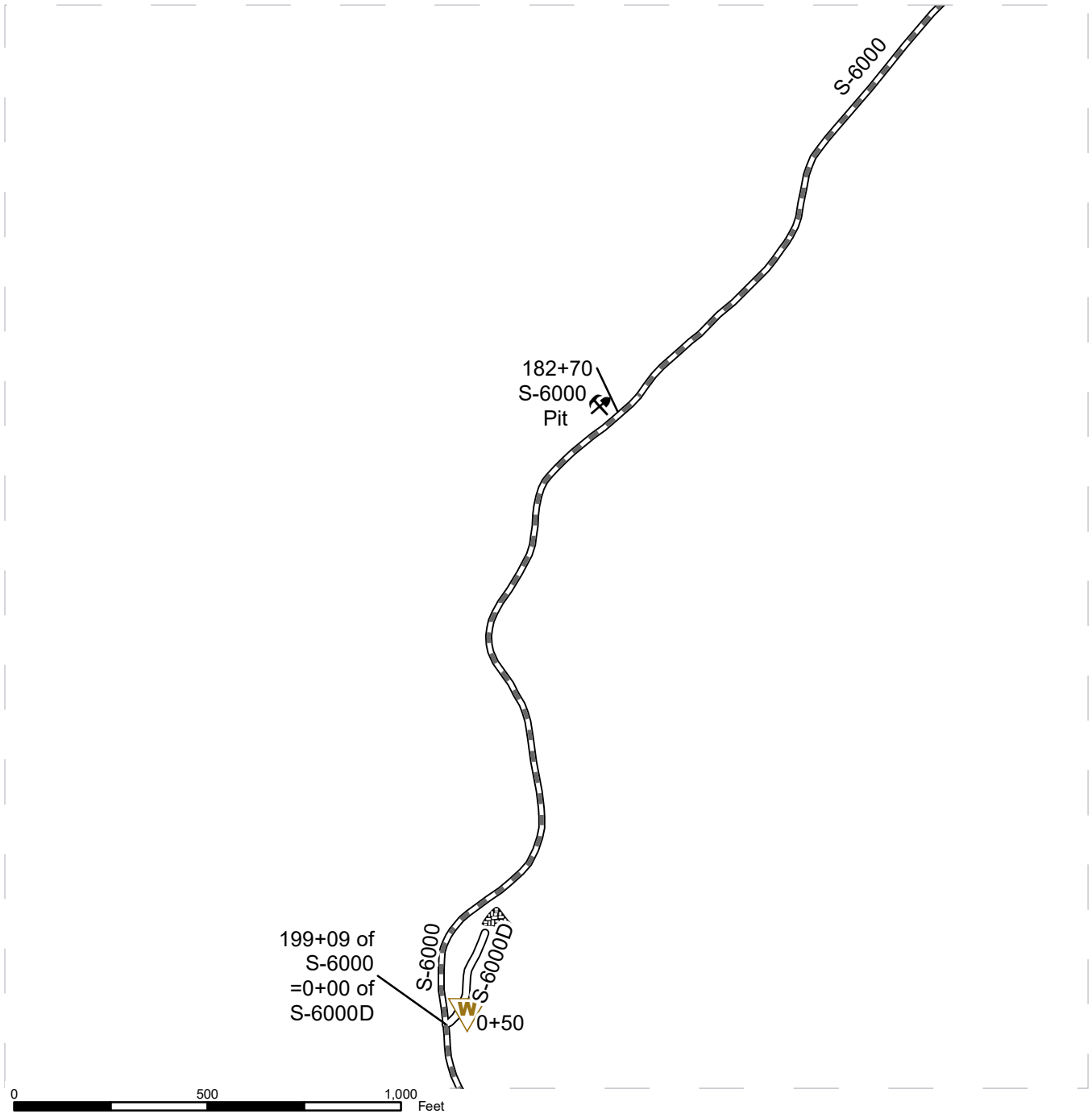
 Existing Roads	 Culvert
 Required Pre-Haul Maintenance	



ROAD PLAN MAP

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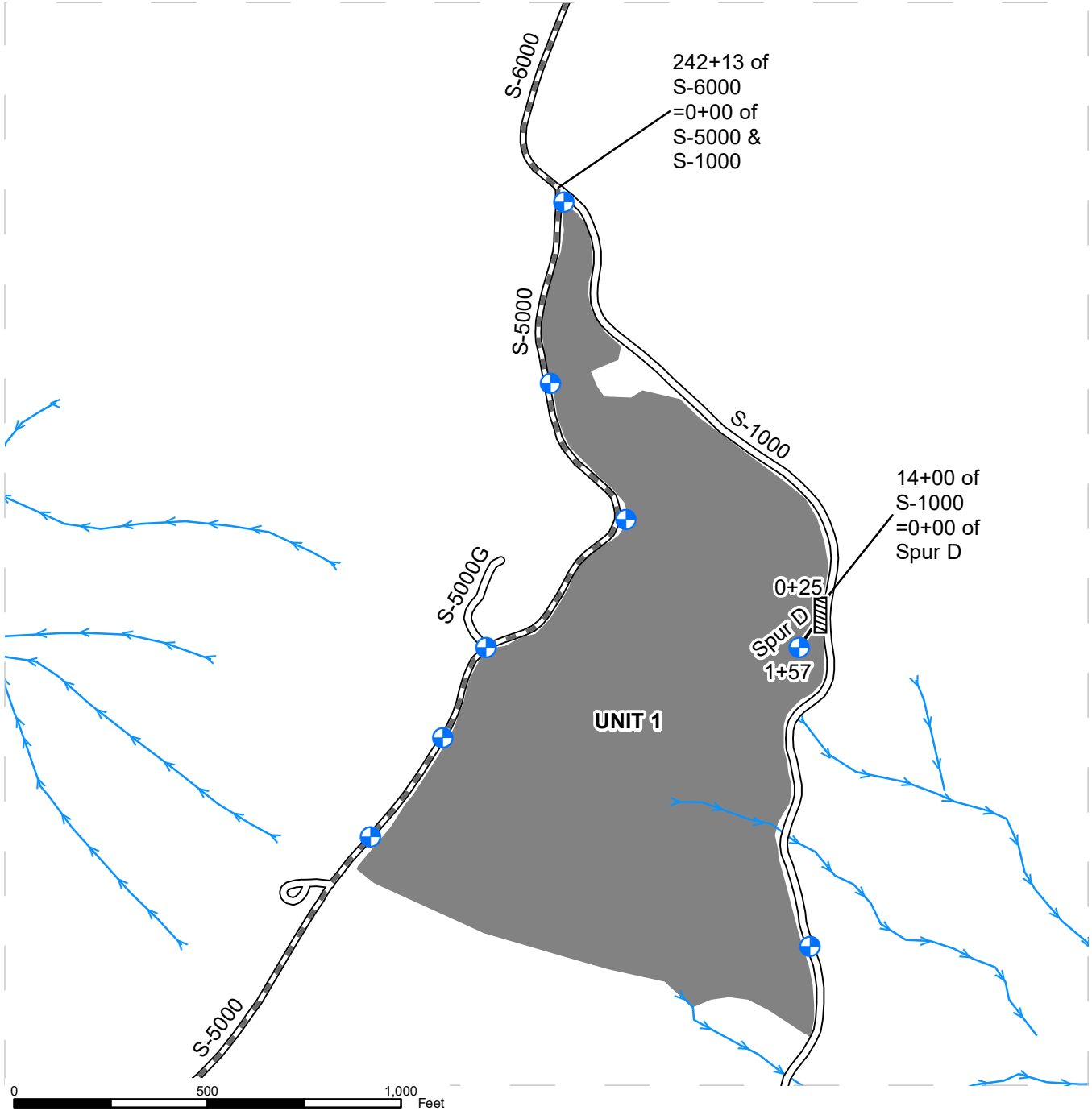


Existing Roads	Rock Pit
Required Pre-Haul Maintenance	Stockpile
	Waste Area

ROAD PLAN MAP

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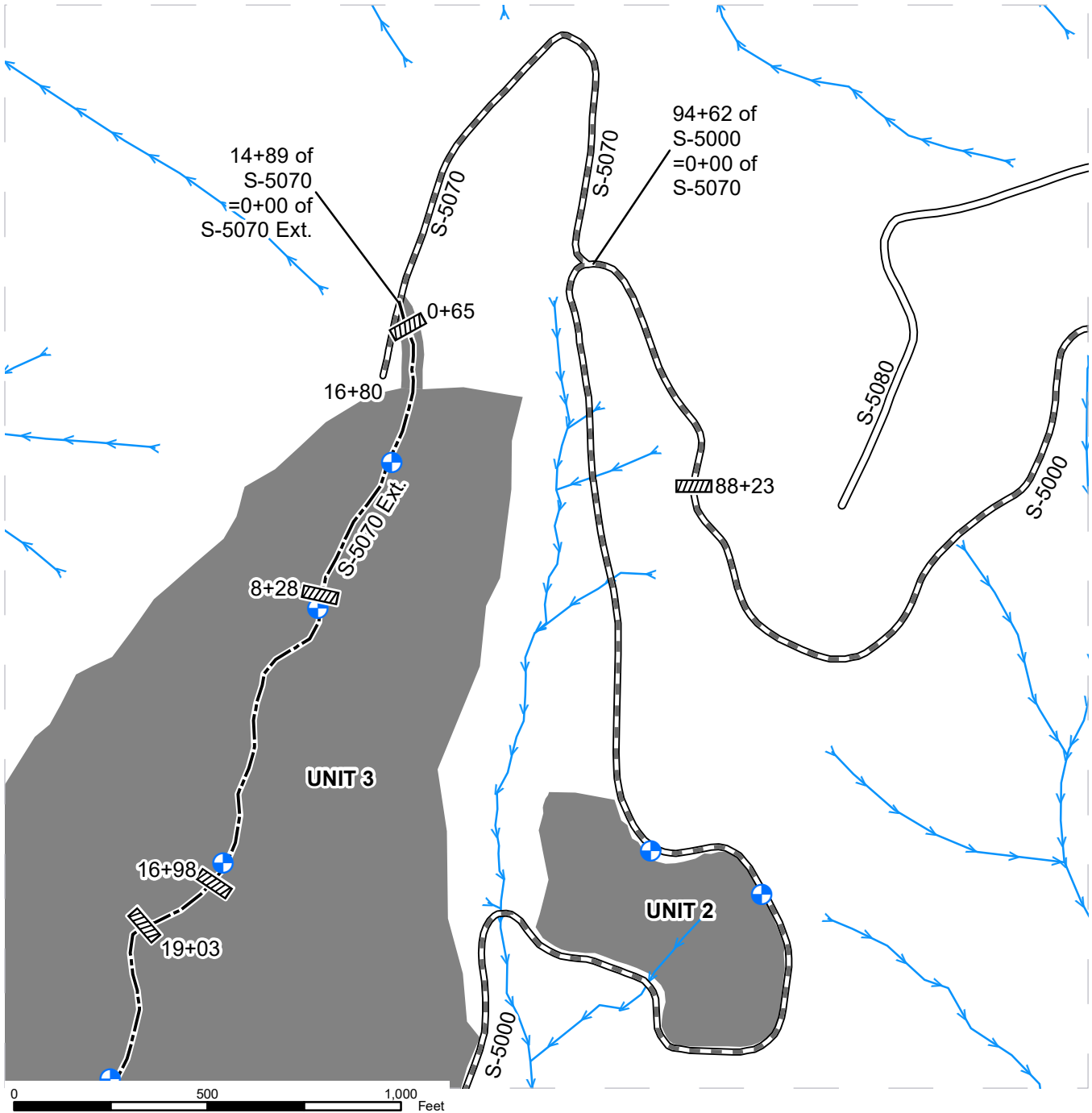
Existing Roads	Culvert	Harvest Type
Required Pre-Haul Maintenance	Landing - Proposed	Streams
Optional Construction		



ROAD PLAN MAP

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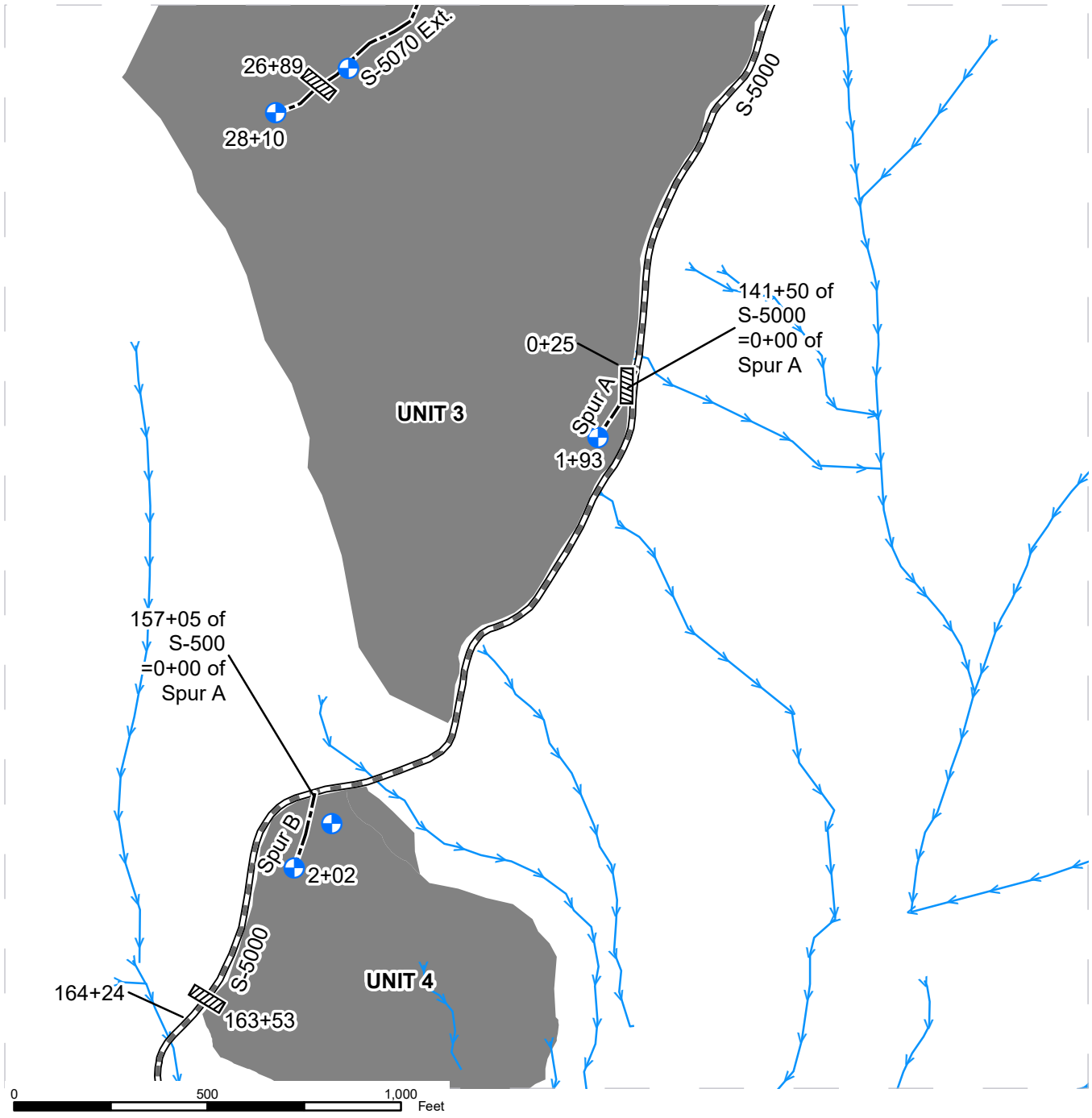
Existing Roads	Culvert	Harvest Type
Required Pre-Haul Maintenance	Landing - Proposed	Streams
Optional Construction		



ROAD PLAN MAP

SALE NAME: TINES UP
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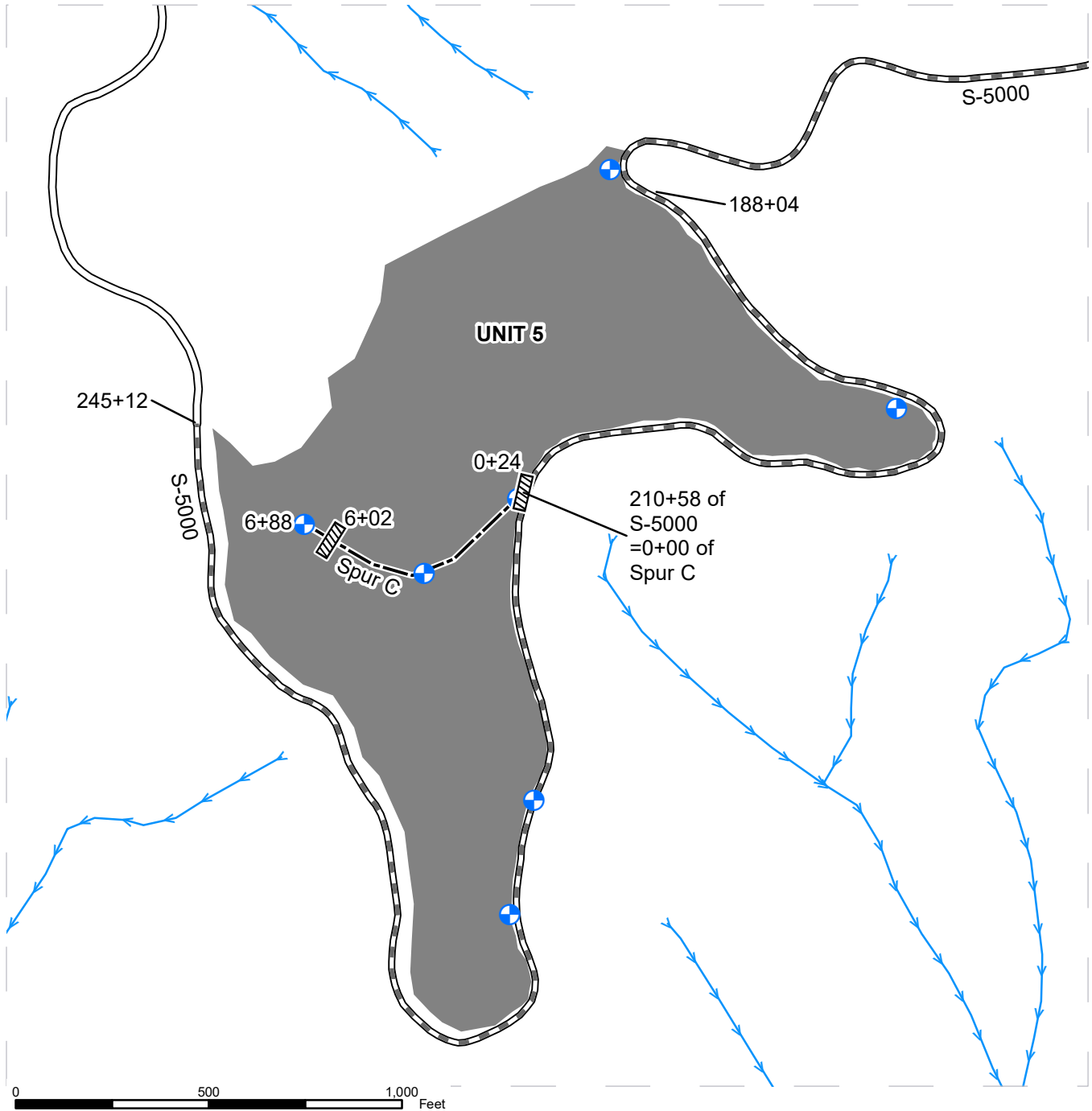
Required Pre-Haul Maintenance	Culvert	Harvest Type
Optional Construction	Landing - Proposed	Streams



ROAD PLAN MAP

SALE NAME: TINES UP
 AGREEMENT#: 30-104033
 TOWNSHIP(S): T6R4E
 TRUST(S): Common School and Indemnity(3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
 COUNTY(S): Clark
 ELEVATION RGE: 1040-2640



Existing Roads	Culvert	Harvest Type
Required Pre-Haul Maintenance	Landing - Proposed	Streams
Optional Construction		



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

TINES UP TIMBER SALE ROAD PLAN
CLARK COUNTY
THREE CORNER ROCK UNIT, YACOLT DISTRICT
PACIFIC CASCADE REGION

AGREEMENT NO.: 30-104033

STAFF ENGINEER: DAVID STONE

DRAWN & COMPILED BY: ALICIA COMPTON
& DAVID STONE

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>
S-6000	0+00 to 242+13	Pre-haul Maintenance
S-5000	0+00 to 245+12	Pre-haul Maintenance
S-5070	0+00 to 16+80	Pre-haul Maintenance

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
S-5070 EXT	0+00 to 28+10	Construction
Spur A	0+00 to 1+93	Construction
Spur B	0+00 to 2+02	Construction
Spur C	0+00 to 6+88	Construction
Spur D	0+00 to 1+57	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to: clearing; grubbing; right-of-way debris disposal; excavation and embankment to sub-grade; turnout, turnaround and landing construction; acquisition and installation of drainage structures; shaping subgrade; manufacture and application of rock; compaction of earthwork and rock; and acquisition and application of erosion control materials.

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>
S-6000	0+00 to 242+13	Grade, shape, and compact existing surface in accordance to TYPICAL SECTION SHEET. Manufacture and apply rock in accordance to ROCK LIST. Grade, shape, and compact rock. Acquire and install drainage structures in accordance to CULVERT LIST.
S-5000	0+00 to 245+12	
S-5070	0+00 to 16+80	

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve requirements listed in the ROCK SOURCE DEVELOPMENT PLAN. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-8 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.

1-15 ROAD MARKING

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

- Construction and Reconstruction roads: Centerline stakes with orange flagging, orange paint, and aluminum reference tags.
- Pre-haul Maintenance roads: Orange paint and aluminum reference tags.

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 timber hauling, rock hauling, or right-of-way hauling, without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction and drainage installation
- Waste area construction
- Subgrade compaction
- Rock pit development
- Rock application and compaction

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure periods unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-130 Hauling Schedule.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All	Construction, Reconstruction, Pre-haul Maintenance, Rock Source Work, Stockpile Work, & Abandonment	October 1 to April 30

1-26 OPERATING DURING CLOSURE PERIOD

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

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 4 inches on jaw run roads.
- Wheel track rutting exceeds 2 inches on crushed rock roads.
- Wheel track rutting exceeds 2 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.

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired equipment or other methods, approved in writing by Contract Administrator, must be used. Other methods must meet the following criteria: Material utilized to protect the deck surface from tracked equipment damage must be of substantial thickness, durability and width to support the machine weight and prevent grousers from touching the bridge deck and asphalt surfaces.

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

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

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

<u>Road</u>	<u>Stations</u>
S-6000	0+00 to 242+13
S-1000	0+00 to 23+35
S-5000	0+00 to 245+12

2-5 MAINTENANCE GRADING – EXISTING ROAD

Purchaser shall use a grader to shape the existing surface before applying rock.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries 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 45%.
- Against standing trees.
- On slopes above a cut bank.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Stumps over 22 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

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

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

3-20 ORGANIC DEBRIS DEFINITION

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

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 subgrade approval.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

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

<u>Road</u>	<u>Disposal Location</u>
S-6000 Pit	On the Left side of the S-6000D at station 0+50

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

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

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings downhill side of the road, unless otherwise detailed in this road plan and as directed by the Contract Administrator.

3-32 END HAULING ORGANIC DEBRIS

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

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. 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:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 13 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 6% 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:

<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 3 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

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

4-21 TURNOUTS

Purchaser shall construct non designated turnouts intervisible with a maximum distance of 1000 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 ROCK LIST.

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified on the CULVERT LIST and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

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

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. 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>
S-6000 Pit	On the Left side of the S-6000D at station 0+50	Pile Organic material separately from all other waste

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.

4-48 NATIVE MATERIAL

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

4-55 ROAD SHAPING

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

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 in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment, waste area, and segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

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

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

Purchaser shall compact maintained road surfaces in accordance with the COMPACTION LIST by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-24.

5-6 CULVERT TYPE

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

5-10 CULVERT MARKER INSTALLATION

At road locations listed on the CULVERT LIST marked Y, Purchaser shall provide and install culvert markers at the inlet in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

All culverts must be installed with a compacted depth of cover over the top of the culvert, as 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 culverts on the CULVERT LIST that specify the placement of rock. Energy dissipater installation is subject to approval by the Contract Administrator. The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. 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 3 feet wide and 4 feet long with back slopes consistent with Clause 4-5 CUT SLOPE RATIO.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock 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. Rock type must meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culverts, Purchaser shall place rock in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST and as directed by the Contract Administrator. 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. Rock type must meet the specifications in Clause 6-51 HEAVY LOOSE RIP RAP.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
S-6000	16+87	HEAVY LOOSE RIP RAP

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by October 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 200 feet.

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following source on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source, a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 business days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>
S-6000 Pit	W½ SE¼ Sec. 02, T06N, R04E, W.M.

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile on state land at no charge to the Purchaser. Other stockpiles may not be used.

<u>Source</u>	<u>Location</u>	<u>Existing Rock Type</u>	<u>Note</u>
S-6000D Stockpile	Station 2+05 on the S-6000D	5-Inch JAW RUN ROCK	Crush all existing stockpile rock into 1¼ - Inch Minus Crushed Rock

6-5 ROCK FROM COMMERCIAL SOURCE

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

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

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

<u>Source</u>	<u>Location</u>
S-6000 Pit	W½ SE¼ Sec. 02, T06N, R04E, W.M.

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 or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator. Purchaser shall provide a sieve analysis upon request from the Contract Administrator. Gradation specifications shall meet requirements in Clauses 6-27, 6-28, 6-34, 6-50, 6-51 and the Rock Crushing Compliance Procedure.

6-27 1-INCH MINUS CRUSHED ROCK

% Passing 1" square sieve	100%
% Passing 3/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 60%
% Passing U.S. #10 sieve	25 - 50%
% Passing U.S. #40 sieve	15 - 30%
% Passing U.S. #200 sieve	5 - 15%

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.

6-28 1 1/4-INCH MINUS CRUSHED ROCK

% Passing 1 1/4" square sieve	100%
% Passing 5/8" square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 50%

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

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

6-34 3-INCH JAW RUN ROCK

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

Ballast rock must be 100% equal to, or smaller than, 3 inches in at least one dimension. Rock may contain no more than 5 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%	18" - 28"
15% to 80%	8" - 18"
10% to 20%	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%	28" - 36"
30% to 70%	18" - 28"
20% to 50%	8" - 18"
10% to 20%	3" - 8"

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depths using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction. Unless otherwise stated in Clause 6-75 OPTIONAL ROCK EXCEPTION.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of Spot Rocking, Landing, Junction, culvert backfill, and Rip Rap Rock is on a cubic yard truck measure basis. The Contract Administrator will measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator or mail them to the Pacific Cascade Region Office on a weekly basis during rocking operations.

6-65 ROCK STOCKPILE LOCATION

Purchaser shall stockpile rock as listed below. Rock stockpiles must be in accordance Clause 6-67 ROCK STOCKPILE SPECIFICATIONS. Rock stockpiles must be in accordance with Clause 11-1 STOCKPILE SPECIFICATIONS AND DIMENSIONS.

<u>Rock Source</u>	<u>Rock Type</u>	<u>Quantity (c.y.)</u>	<u>Stockpile Location</u>
Existing 5-Inch Jaw Run Stockpile @ Sta. 2+05 on S-6000D	1 ¼ Inch Minus	2,000 estimate, crush all existing rock	On the S-6000D at station 2+05

6-67 ROCK STOCKPILE SPECIFICATIONS

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

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

When completed, the stockpile must be neat and regular in shape. The stockpile height is limited to a maximum of 15 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 5 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile. The method of dropping from a bucket or spout in one location to form a cone shaped pile is not allowed.

Stockpiles of different types or sizes of aggregate must be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for completed subgrade and drainage installation, including inlet and outlet armor and subgrade compaction, before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. Road surfaces must be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

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

6-75 OPTIONAL ROCK EXCEPTION

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

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

<u>Road</u>	<u>Stations</u>
S-5070 EXT	0+00 to 28+10

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 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils within 100 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

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

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Abandonment</u>
S-6000/S-1000	Culvert install & Landing	3.7	
S-5000	Culvert install & Landings	12.0	
S-5070 EXT	0+00 to 28+10	44.2	
Spur A	0+00 to 1+93	3.7	5.2
Spur B	0+00 to 2+02	4.6	5.2
Spur C	0+00 to 6+88	12.3	18.4
Spur D	0+00 to 1+57	2.9	4.0
S-6000 Pit	Pit perimeter, Access Road, Bench, and Waste Area on S-6000D	14.8	

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

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed.

8-17 REVEGETATION TIMING

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

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop at least 75% coverage of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause, restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no additional cost to the state.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil inside the grubbing limits at a rate of 40 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>	<u>Minimum % germination</u>
Perennial Rye	25-35	90
Red Fescue	40-50	90
Highland Bent	5-15	85
Red and White Clover	10-20	90
Inert and Other Crop	0.5	

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
Spur A	0+25
Spur B	0+15
Spur C	0+24
Spur D	0+25

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

9-12 LANDING EMBANKMENT REMOVAL

Purchaser shall reduce or relocate the landing embankment. Place excavated material in a waste area designated by the Contract Administrator.

9-21 ROAD ABANDONMENT

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Date</u>
Spur A	0+00 to 1+93	LIGHT	Before the termination of this contract
Spur B	0+00 to 2+02	LIGHT	Before the termination of this contract
Spur C	0+00 to 6+88	LIGHT	Before the termination of this contract
Spur D	0+00 to 1+57	LIGHT	Before the termination of this contract

9-22 LIGHT ABANDONMENT:

- Remove road shoulder berms except as directed.
- Rip the surface to a minimum depth of 10 inches
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing which will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 200 feet, or as marked in the field.
- Place a waterbar within 20 feet of a culvert inlet to channel water away from inlet.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars shall be outsloped to provide positive drainage. Outlets shall be on stable locations.
- Remove culverts and leave the resulting trench open. The removed fill material shall be placed and compacted in a location that will not erode into any Type 1 through 5 waters or wetlands. Slope all trench walls and approach embankments no steeper than 1.5:1.
- Scatter woody debris onto abandoned road surfaces.
- Block roads with earthen barricades according to the attached EARTHEN BARRICADE DETAIL.
- Apply grass seed concurrently with abandonment to all exposed soil within the old roadway limits and in accordance with Section 8 EROSION CONTROL.
- Provide and evenly spread a 4-inch layer of straw to all exposed soils within 100 feet of a stream.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-24 GAUGE AND CORRUGATION

Metal 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"

SECTION 11 SPECIAL NOTES

11-1 ROCK STOCKPILE SPECIFICATIONS AND DIMENSIONS

Before placing aggregates upon the stockpile site, the site shall be cleared of vegetation, trees, stumps, brush, rocks, or other debris and the ground leveled to a smooth, firm, uniform surface sloped at 2 percent and ditched as required.

Stockpile location shall be approved in writing by the Contract Administrator, prior to any stockpile aggregate placement.

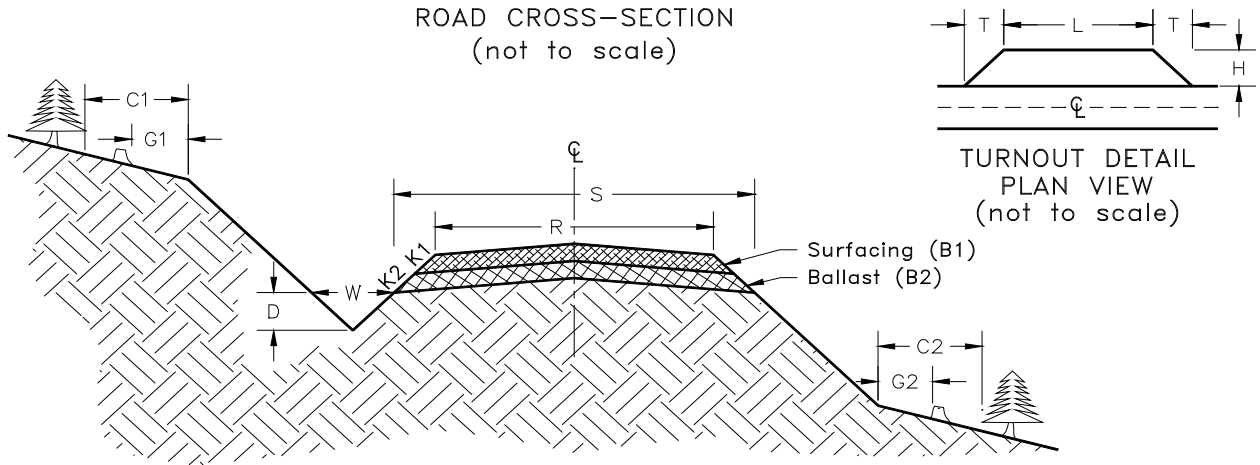
The piles, when completed, shall be neat and uniform in shape. Pushing aggregates into piles with a bulldozer shall not be permitted.

Construct one stockpile at Station 2+05 on the S-6000D road as shown at the location on the Road Plan Map.

The stockpile of 1¼ Inch minus crushed rock shall have a base of 100.0' x 59.3', 1-1/3:1 sloped sides with a height of 13 feet, and a top dimension of 65.5' x 24.8'.

The stockpile shall have all sides and top uniform. Side slopes are based on 37 degrees, which is equivalent to 1.3:1 ratio, or approximately 75 percent.

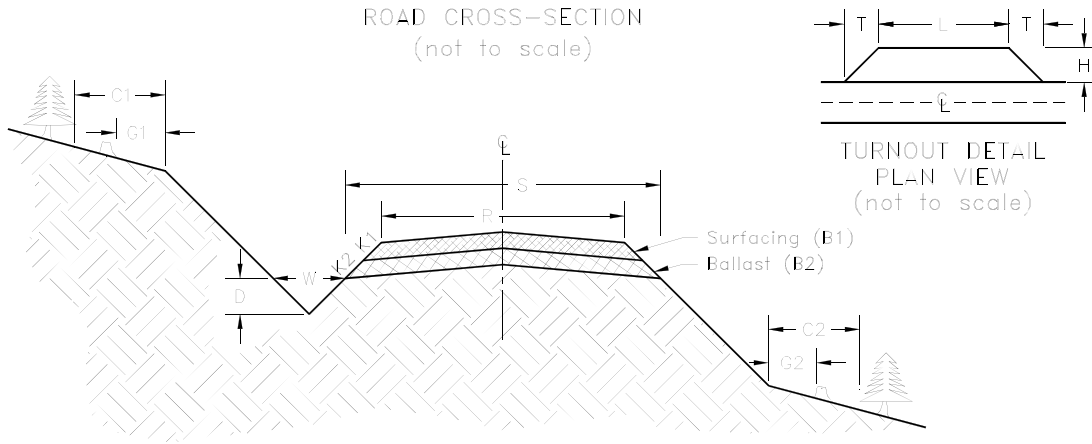
TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown at CL (%)	Grubbing Limits (feet)		Clearing Limits (feet)	
						Width (feet)	Depth (feet)		G1	G2	C1	C2
				S	R	W	D		G1	G2	C1	C2
S-6000	0+00	242+13	A	--	12	3	1	4	NA	NA	NA	NA
S-5000	0+00	245+12	A	--	12	3	1	4	NA	NA	NA	NA
S-5070	0+00	16+80	B	--	12	3	1	4	NA	NA	NA	NA
* S-5070 EXT	0+00	2+39	C	16	12	3	1	4	3	3	ROW TAGS	
* S-5070 EXT	2+39	28+10	C	16	12	3	1	4	3	3	5	5
* Spur A	0+00	1+93	C	16	12	3	1	4	3	3	5	5
* Spur B	0+00	2+02	C	16	12	3	1	4	3	3	5	5
* Spur C	0+00	6+88	C	16	12	3	1	4	3	3	5	5
* Spur D	0+00	1+57	C	16	12	3	1	4	3	3	5	5

* Optional Roads

ROCK LIST
(Page 1 of 4)



BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
					3" JAW RUN						
* S-5070 EXT	0+00	28+10	1½:1	9	46	28.10	1,293	S-6000 Pit			
* CURVE WIDENING	--	--	1½:1	9	--	--	65				
* TURNOUT	--	--	1½:1	9	28/TO	3 TO's	84		50	10	25
* JUNCTION		0+00	--	--	--	--	12				
* LANDING	--	--	--	--	41/Landing	6 Landings	246				
Spur A	0+00	1+93	1½:1	9	46	1.93	89				
CURVE WIDENING	--	--	1½:1	9	--	--	5				
JUNCTION		0+00	--	--	--	--	12				
LANDING	--	--	--	--	41/Landing	1 Landings	41				
Spur B	0+00	2+02	1½:1	9	46	2.02	93				
CURVE WIDENING	--	--	1½:1	9	--	--	5				
JUNCTION		0+00	--	--	--	--	12				
LANDING	--	--	--	--	41/Landing	2 Landings	82				
Spur C	0+00	6+88	1½:1	9	46	6.88	316				
CURVE WIDENING	--	--	1½:1	9	--	--	16				
JUNCTION		0+00	--	--	--	--	12				
LANDING	--	--	--	--	41/Landing	3 Landings	123				

ROCK LIST
(Page 2 of 4)

BALLAST CONTINUED

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout			
									Length (feet)	Width (feet)	Taper (feet)	
			K2	B2					L	H	T	
3" JAW RUN												
Spur D	0+00	1+57	1½:1	9	46	1.57	72	S-6000 Pit				
CURVE WIDENING	--	--	1½:1	9	--	--	4					
JUNCTION		0+00	--	--	--	--	12					
LANDING	--	--	--	--	41/Landing	1 Landings	41					
S-5000 LANDING	--	--	--	--	41/Landing	12 Landings	492					
S-1000 LANDING	--	--	--	--	41/Landing	1 Landings	41					

*Optional Rock see Clause 6-75

Required JAW RUN BALLAST TOTAL **1,468** Cubic Yards
Optional JAW RUN BALLAST TOTAL **1,700** Cubic Yards

ROCK LIST
(Page 3 of 4)

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K1	B1					L	H	T
S-6000	0+00	243+13		SPOT ROCK	--	--	460	S-6000 Pit			
S-5000	0+00	245+12		SPOT ROCK	--	--	330				
S-5070	0+00	16+80		SPOT ROCK	--	--	100				
S-6000		Culvert Back Fill & Bedding			--	--	25				
S-5000		Culvert Back Fill & Bedding			--	--	20				
S-5000	164+24	188+04	1½:1	4	19	23.8	452	S-6000D Stockpile			
CURVE WIDENING	--	--	1½:1	4	--	--	23				
S-6000D		2+05		STOCKPILE	--	--	2,000				

Required 1 1/4 -INCH MINUS CRUSHED SURFACE TOTAL **2,935** Cubic Yards

Required 1 -INCH MINUS CRUSHED SURFACE TOTAL **475** Cubic Yards

ROCK LIST
(Page 4 of 4)

RIP-RAP

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				
								S-6000 Pit, or Rock found during excavation on road Construction and Reconstruction
						LIGHT LOOSE RIPRAP		
Culvert headwall, energy dissipators and armor								
S-5000 Culverts	--	--	--	--	--	--	8.0	
S-5070 EXT Culverts	--	--	--	--	--	--	5.0	
Spur A Culverts	--	--	--	--	--	--	1.0	
Spur C Culverts	--	--	--	--	--	--	3.5	
Spur D Culverts	--	--	--	--	--	--	1.0	
						HEAVY LOOSE RIPRAP		
S-6000 Culverts	--	--	--	--	--	--	12.0	

LIGHT LOOSE RIPRAP TOTAL 18.5 Cubic Yards
HEAVY LOOSE RIPRAP TOTAL 12.0 Cubic Yards

CULVERT LIST

Road Number	Location	Culvert			Armoring (Cubic Yards)			Backfill Material	Bedding Material	Culvert Marker (Y/N)	Remarks
		Dia. (inches)	Length (feet)	Type	Inlet	Outlet	Type				
S-6000	16+87	24	40	XX	4.0	8.0	HL	CR-20cy	CR-5cy	Y	T5 Creek
S-5000	88+23	18	30	XX	0.5	5.0	LL	CR-5cy	CR-5cy	Y	Cross drain
	163+53	18	30	XX	0.5	2.0	LL	CR-5cy	CR-5cy	Y	Cross drain
S-5070 EXT	0+65	18	30	XX	0.5	0.5	LL	NT	NT	Y	Cross drain – no skew
	8+28	18	30	XX	0.5	0.5	LL	NT	NT	Y	Cross drain
	16+98	18	30	XX	0.5	0.5	LL	NT	NT	Y	Cross drain
	19+03	18	30	XX	0.5	0.5	LL	NT	NT	Y	Cross drain
	26+89	18	30	XX	0.5	0.5	LL	NT	NT	Y	Cross drain – no skew
Spur A	0+25	18	50	XX	0.5	0.5	LL	NT	NT	N	Cross drain – install in existing ditchline
Spur C	0+24	18	40	XX	0.5	0.5	LL	NT	NT	N	Cross drain – install in existing ditchline
	6+02	18	30	XX	0.5	2.0	LL	NT	NT	N	Cross drain – no skew
Spur D	0+25	18	50	XX	0.5	0.5	LL	NT	NT	N	Cross drain – install in existing ditchline

Key:

- CR - Crushed Rock – 1 ¼ “ minus
- NT - Native (bank run)
- SR - Shot Rock
- LL - Light Loose Riprap
- HL - Heavy Loose Riprap
- GM - Galvanized Metal
- PD - Polyethylene Pipe Dual Wall
- AM - Aluminized Metal
- XX - PD or GM

COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
All Waste Areas	All	All	Waste Area	12	Excavation	28,000	3	--
All roads	All	All	Embankment	12	Excavation	28,000	4	--
All roads	All	All	Subgrade	12	Vibratory Smooth Drum	20,000	4	5
All roads	All	All	3 " Jaw Run	12	Vibratory Grid	20,000	4	5
All roads	All	All	1 1/4" Minus	6	Vibratory Smooth Drum	20,000	4	5

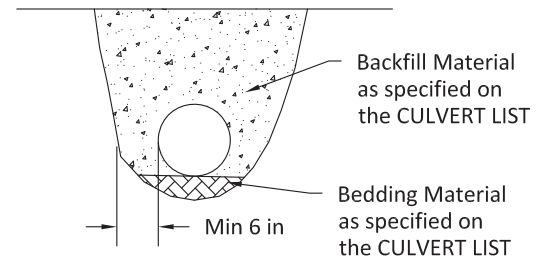
CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 1 OF 2

INSTALLATION REQUIREMENTS:

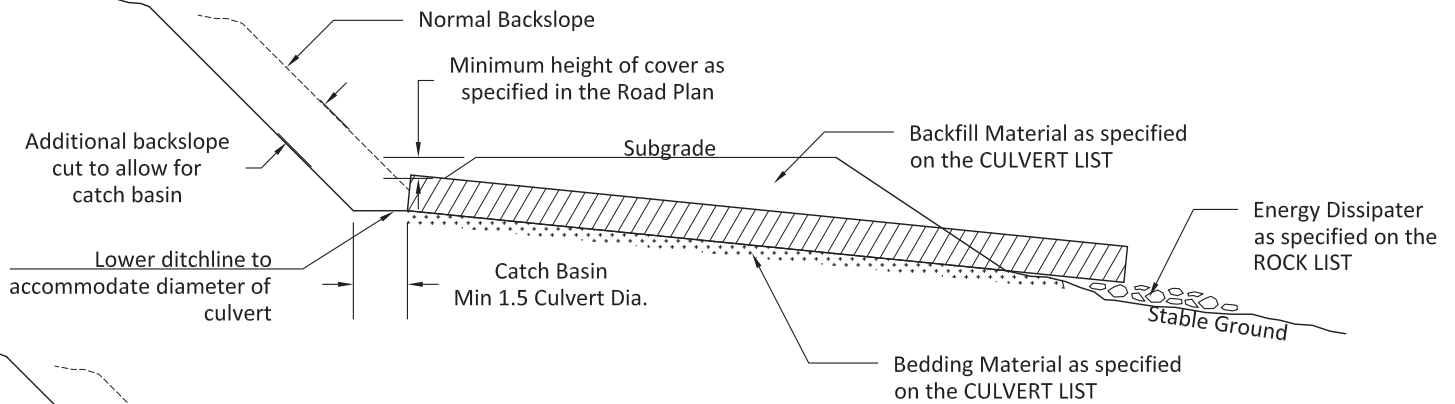
1. Proper preparation of foundation and placement of any required bedding material shall precede the installation of all culverts. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform, dense, unyielding base. The pipe must be uniformly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

ALL DRAWINGS ARE NOT TO SCALE

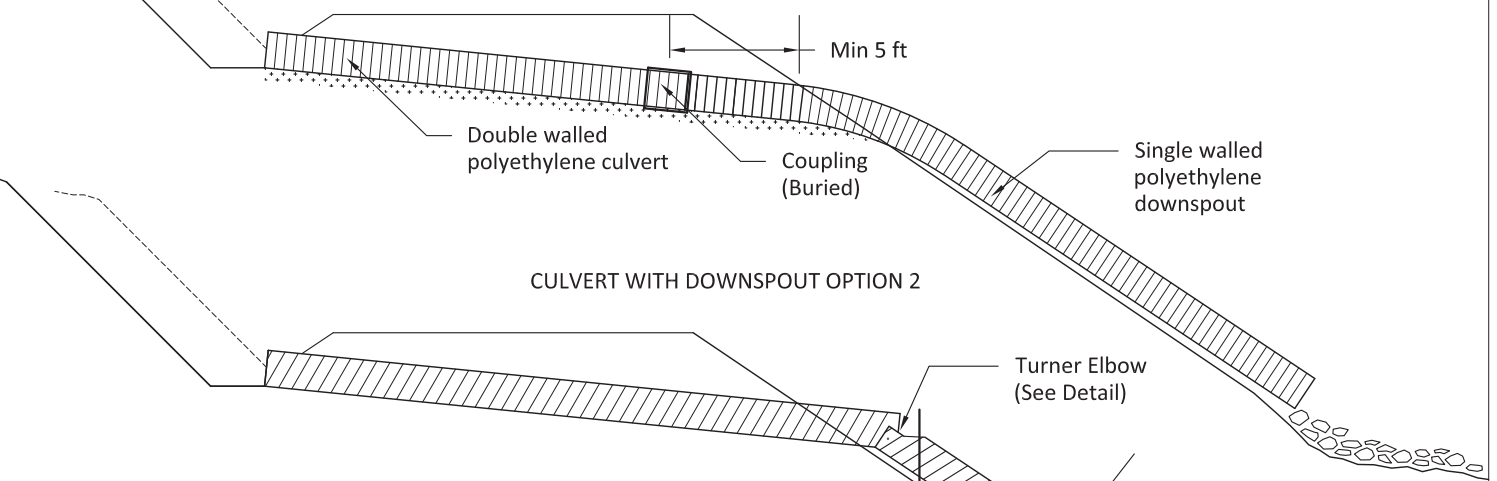
CROSS SECTION



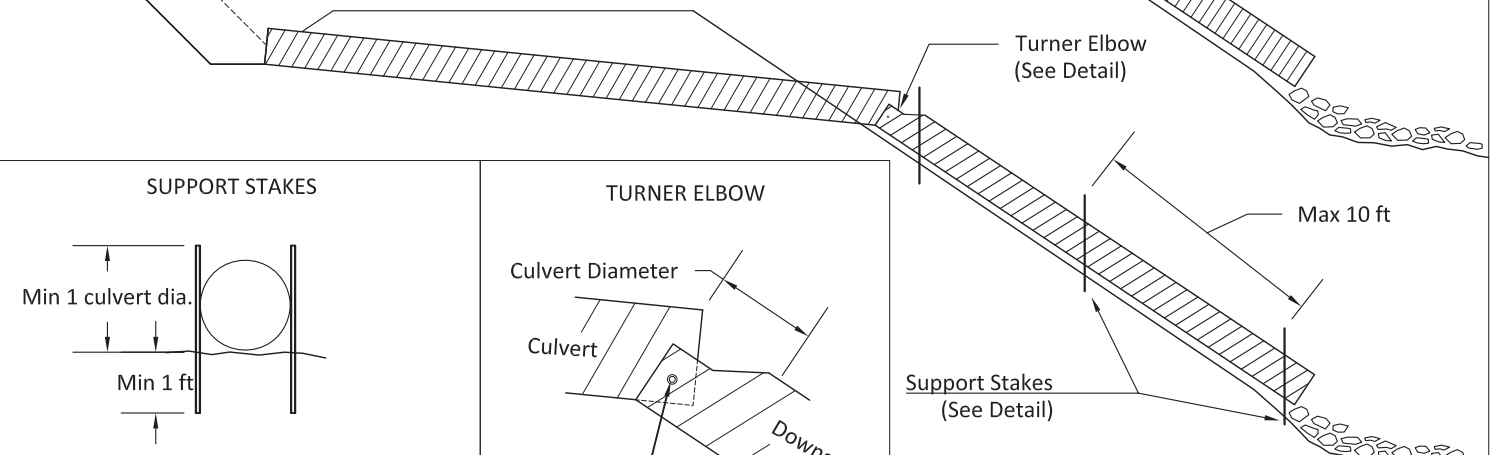
CULVERT PROFILE (TYPICAL)



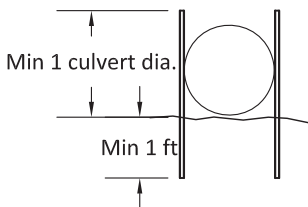
CULVERT WITH DOWNSPOUT OPTION 1



CULVERT WITH DOWNSPOUT OPTION 2

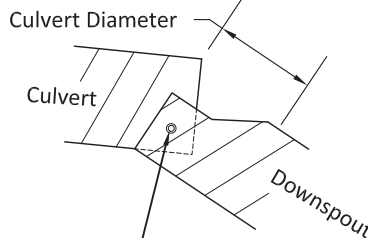


SUPPORT STAKES



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

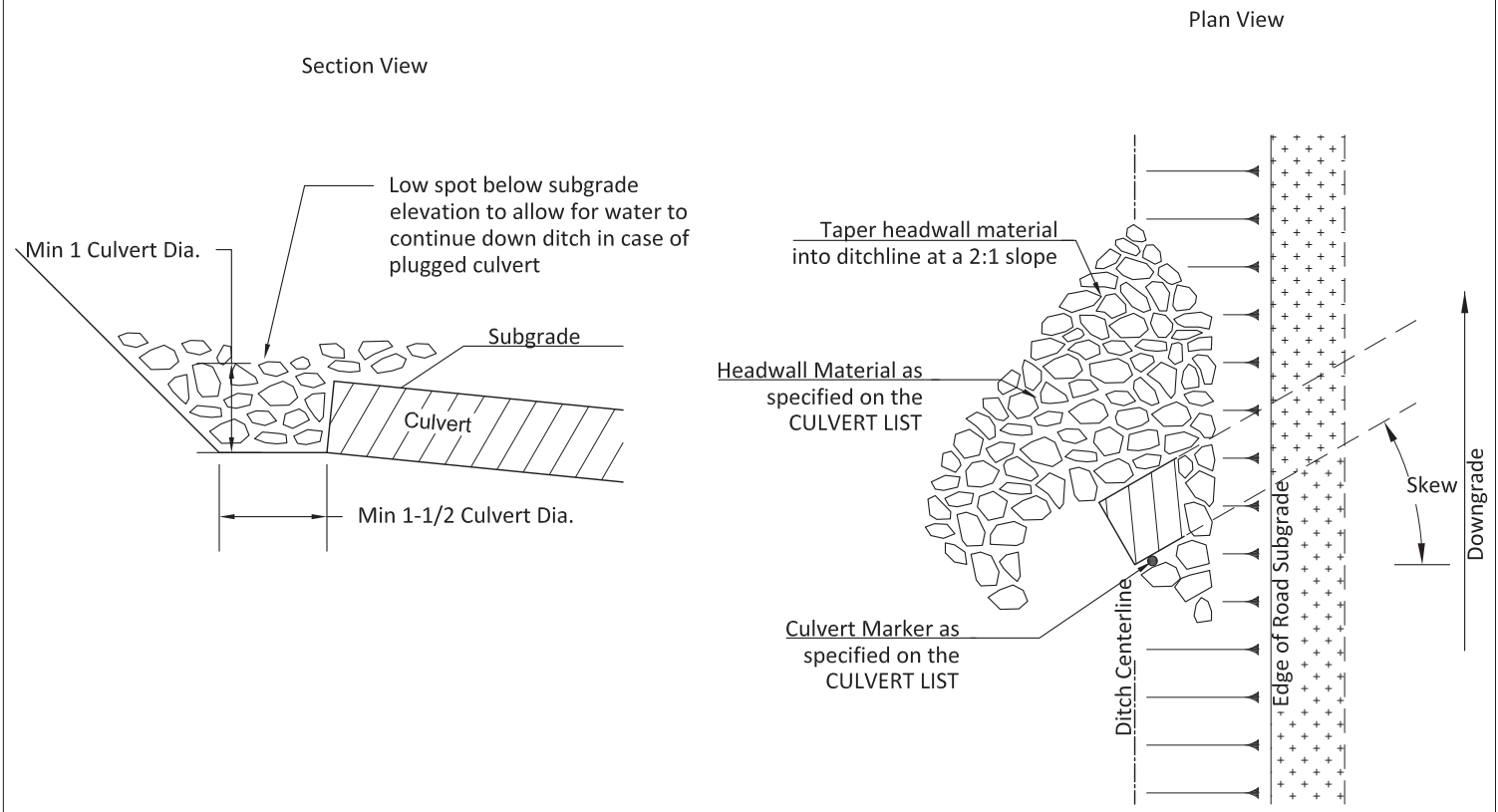
TURNER ELBOW



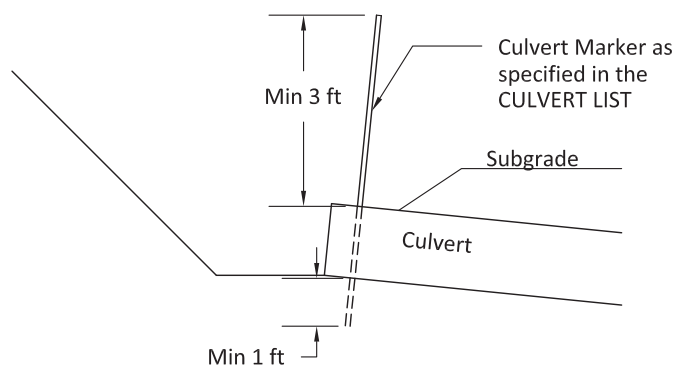
Bolted with $\frac{5}{8}$ " galvanized bolts and washers (both sides)
Downspout must be 6 inches larger in diameter than the culvert.

CULVERT AND DRAINAGE SPECIFICATION DETAIL
PAGE 2 OF 2

HEADWALLS

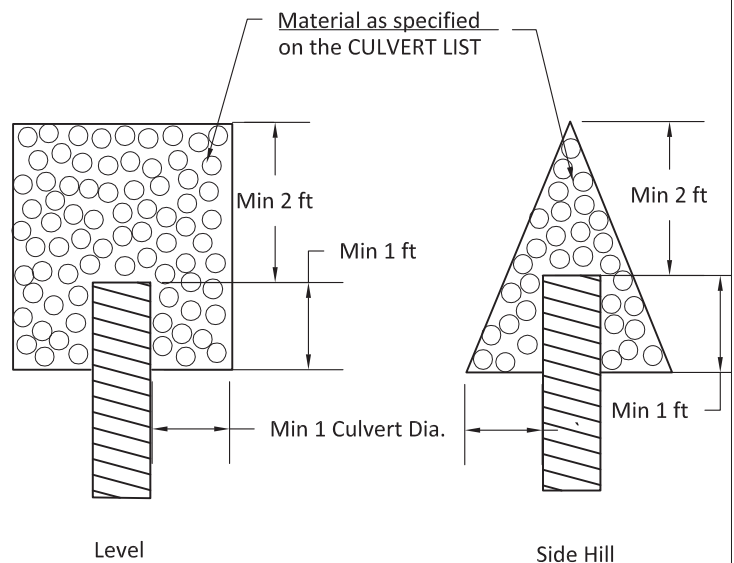


CULVERT MARKERS



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

ENERGY DISSIPATERS



Min Energy Dissipater Depth: 1 Culvert Dia.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

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

Surface

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

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

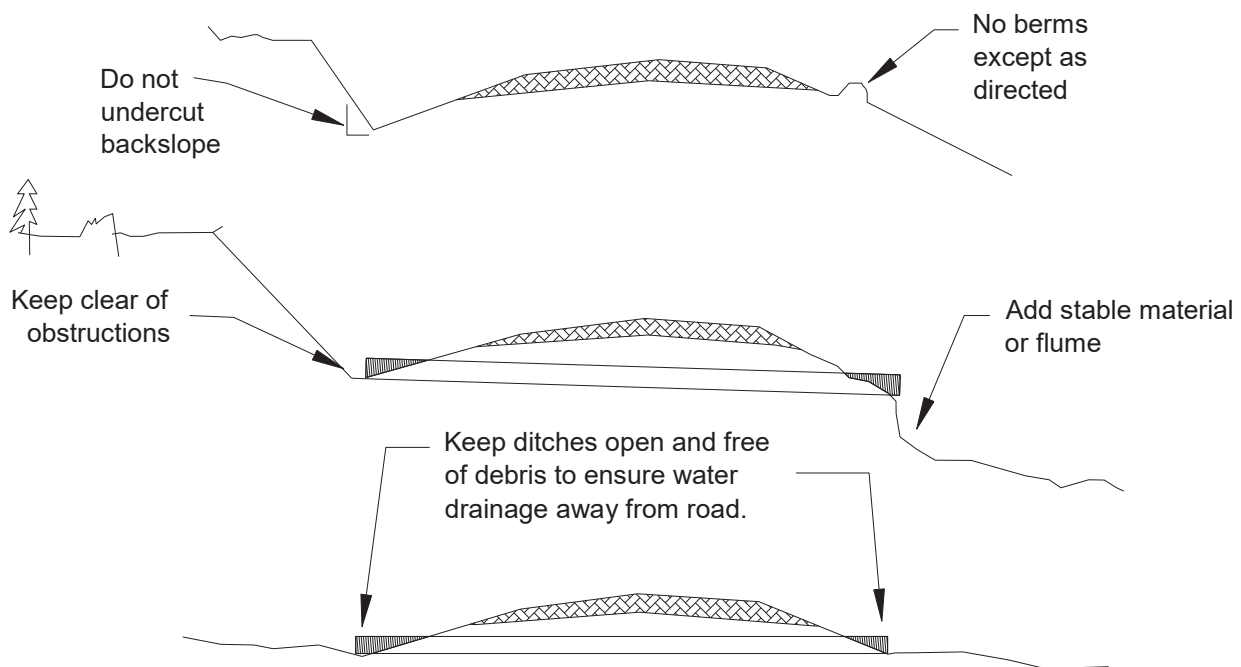
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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



LIVE STREAM INSTALLATION PROCEDURE

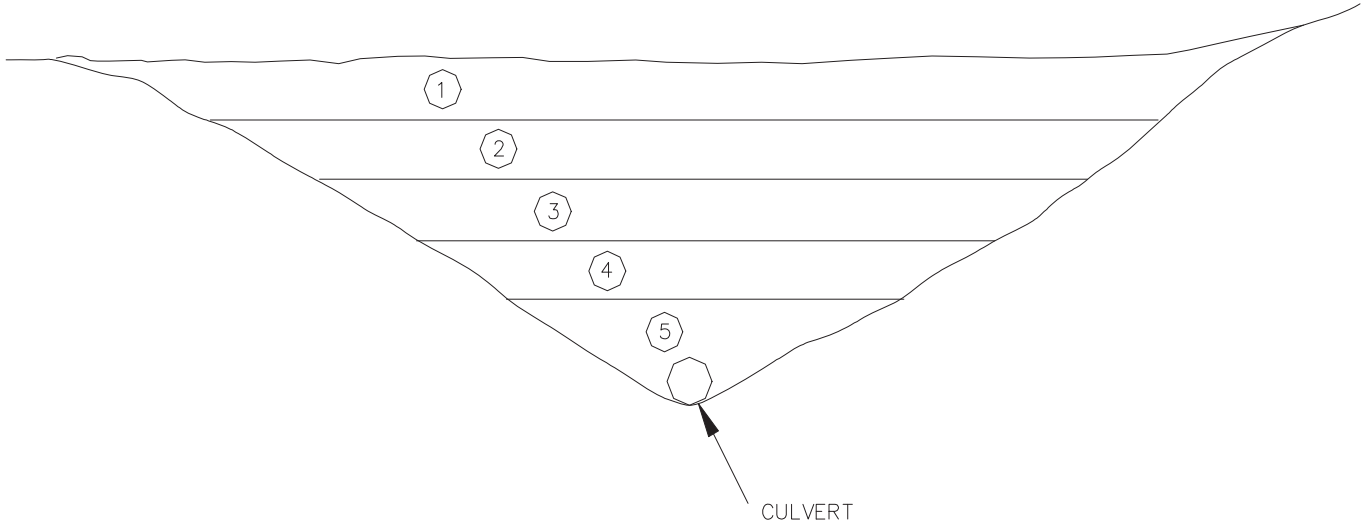
Order of work is as follows, deviations shall be approved, in writing, by the Contract Administrator.

- 1) Purchaser shall notify the State of intent to start project, and a pre-work conference shall be held before move in of equipment. State will designate a representative that will remain on site at all times when work is being performed in creek channel.
- 2) Work period shall be restricted to the permitted times stated in an approved FPA. Work period on Np and Ns streams that are not covered by an FPA shall be permitted only during the dry weather seasonal low flow period between June 1 and October 1; any work outside of this timing restriction may be granted in writing by the Contract Administrator only during unseasonably low flows.
- 3) Assemble the items on the Materials List onsite before proceeding.
- 4) Set up pumps (one as backup).
- 5) Dam up stream with sandbags and line floor of dam with plastic (to prevent sub-surface water flow), place clean rock on plastic to hold in place, and key leading edge of plastic into channel bottom - see **SETTLING POND AND PUMP DETAIL**. Build a settling pond at culvert outlet. Fill may need to be removed before the settling pond installation due to space limitations. Pump clean water at catch basin around work site and back into stream. Dirty water shall be pumped away from site and onto forest floor a minimum of 200 feet from live streams. Silt fence shall be erected at base of fill slope and bottom edge of fence shall be keyed into slope and held in place with rocks to prevent water from flowing under the silt fence.
- 6) Remove remainder of fill and culvert.
- 7) Remove settling pond.
- 8) Cover exposed soils within 100 feet of all live streams with straw (minimum depth of 4 inches) and grass seed.

Materials List:

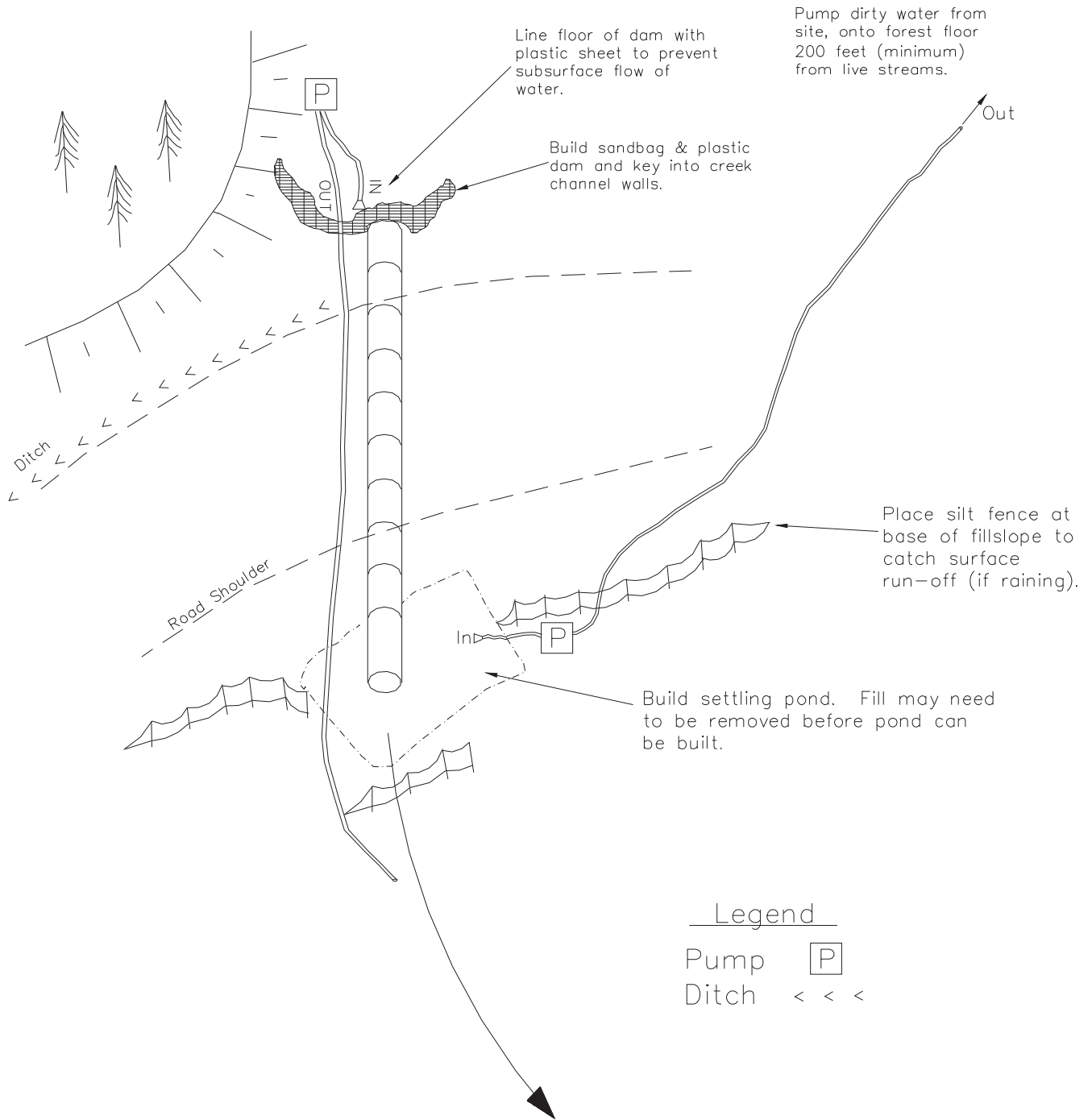
- 3 pumps, (one as a backup) The clean water pump (dam at culvert catch basin) shall have a minimum capacity of 1200 gallons per minute. The dirty water pump (settling pond) and the backup pump shall each have a minimum capacity of 600 gpm. Culvert removal should not start during rain or threat of rain;
- plastic sheet;
- silt fence and stakes;
- bales of straw

FILL REMOVAL DETAIL

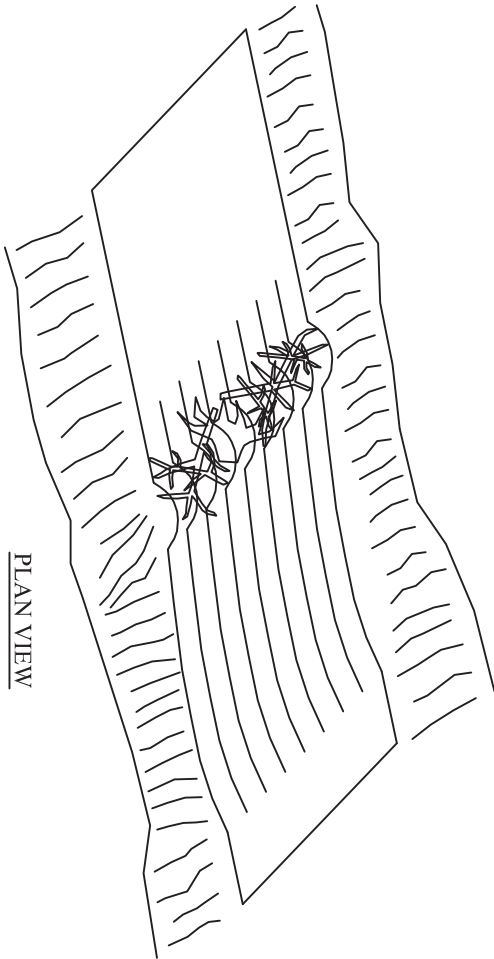


- Remove fill in layers not to exceed 3 feet.

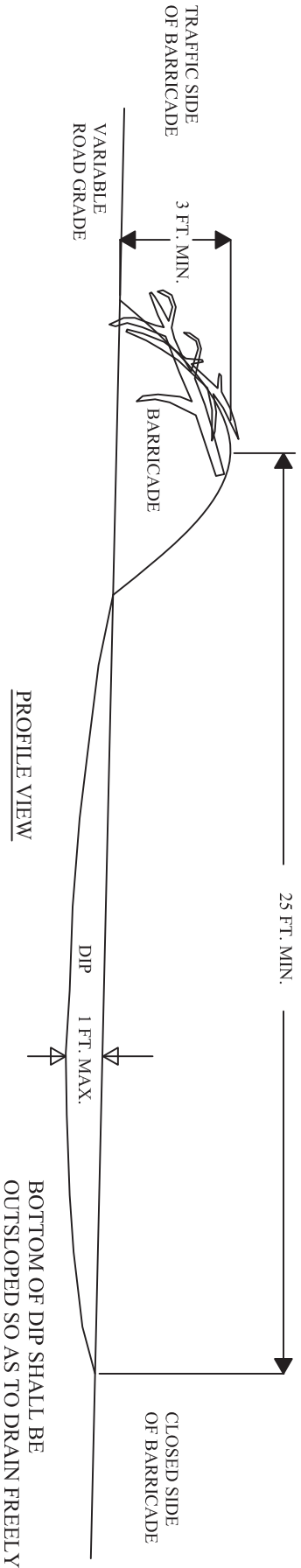
SETTLING POND AND PUMP DETAIL



EARTHEN BARRICADE DETAIL

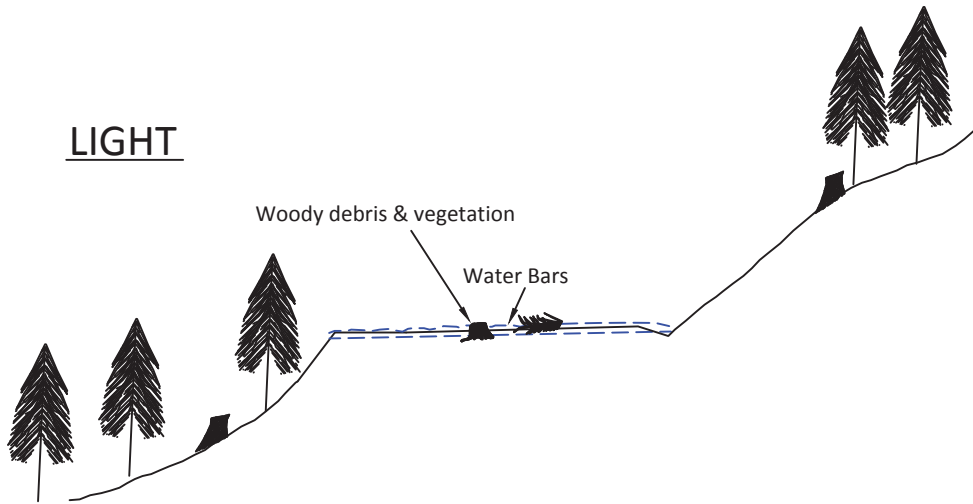


SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

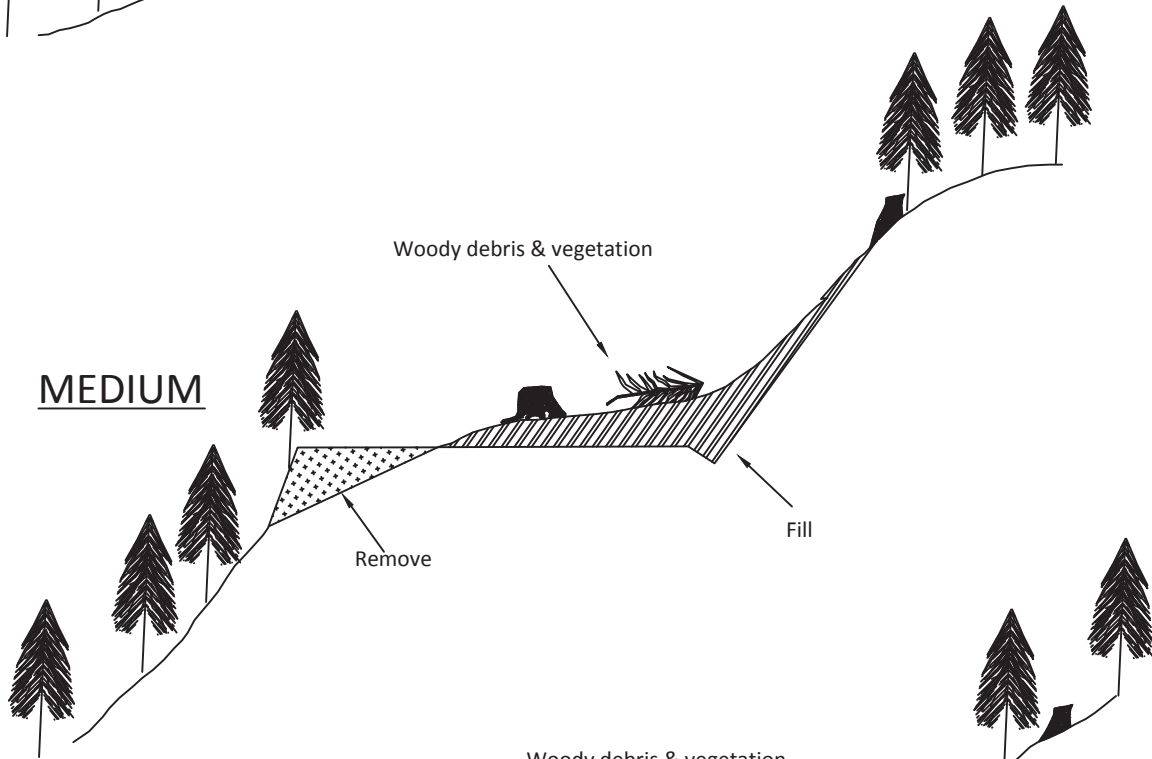


ROAD ABANDONMENT CROSS SECTIONS

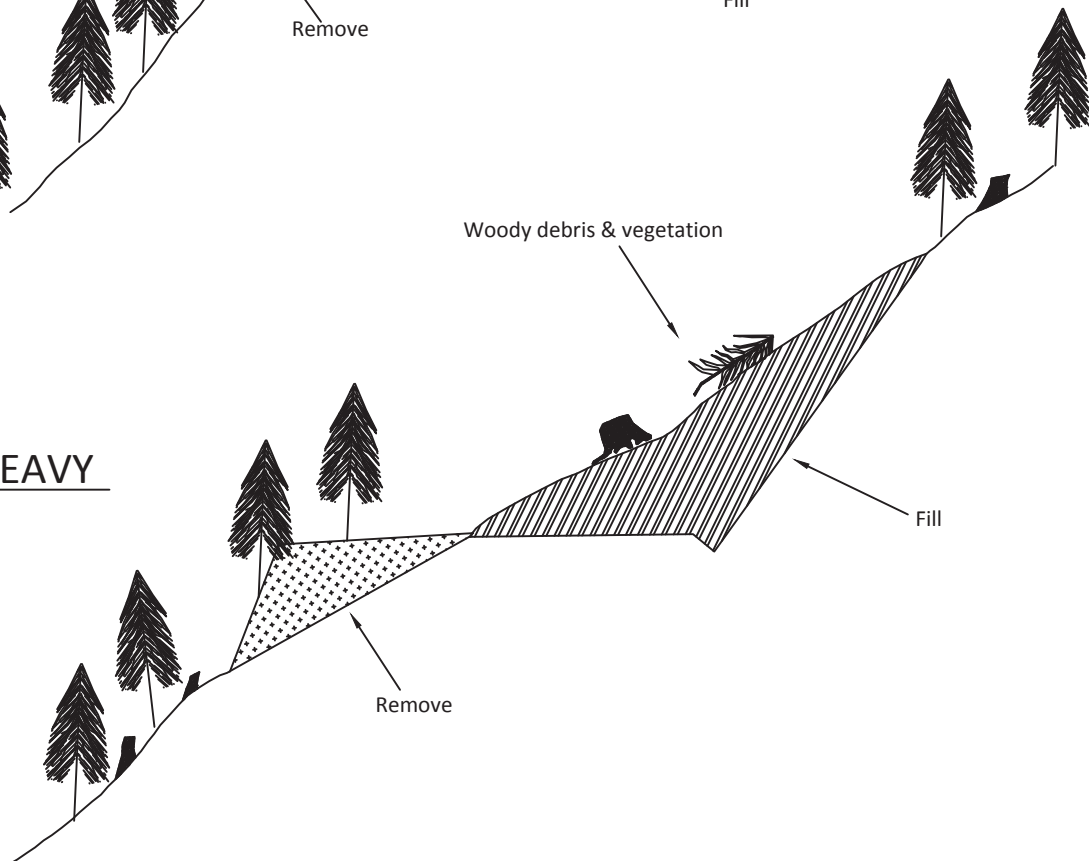
LIGHT



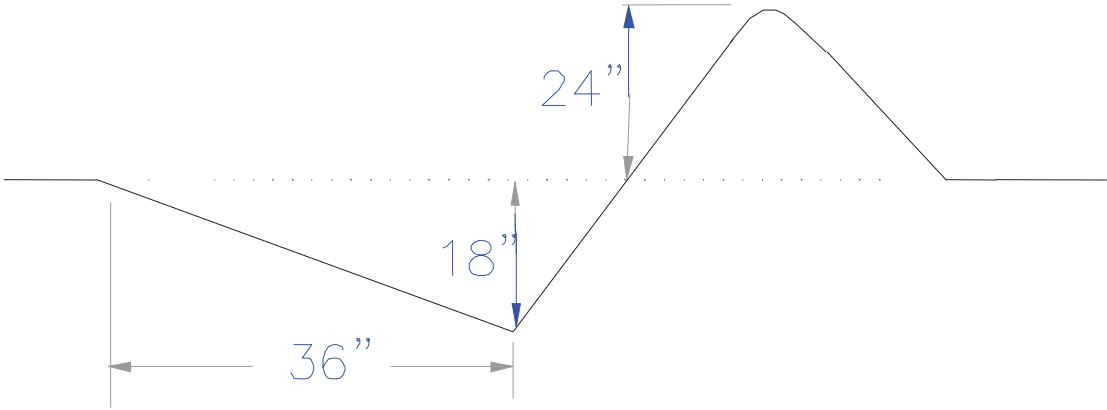
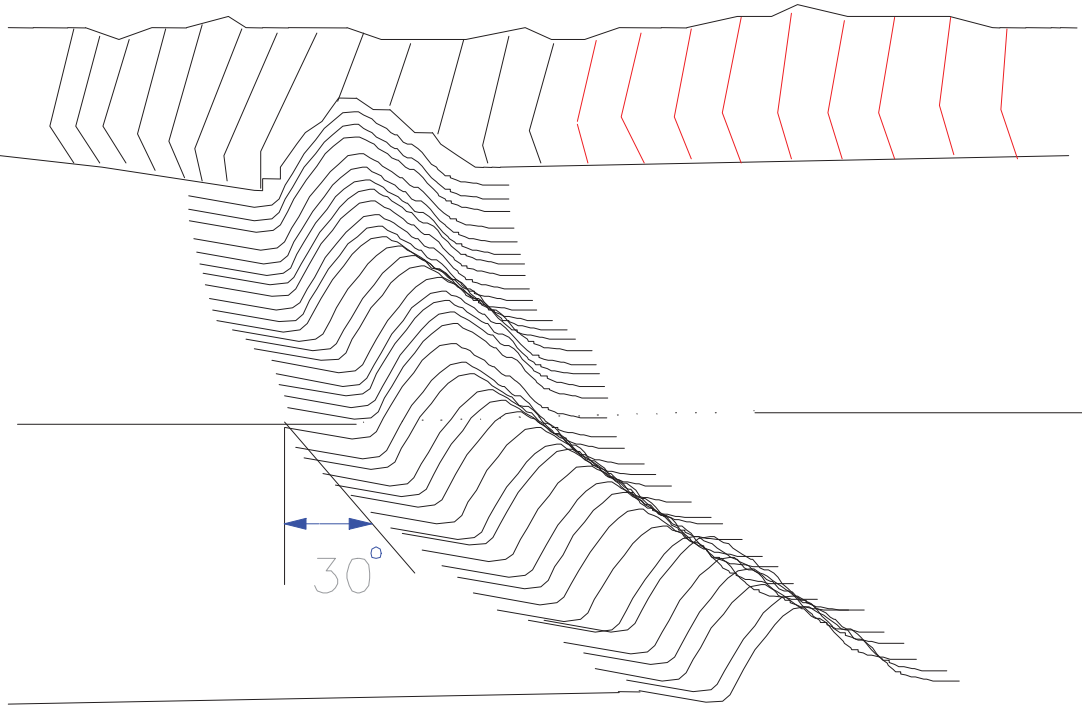
MEDIUM



HEAVY



NON-DRIVABLE WATER BAR DETAIL



Rock Crushing Compliance Procedure

Phase I. Equipment Adjustment

- Step 1:** At start up of crushing operations, the contractor will notify the contract administrator when the rock meets the gradation specifications in the contract. None of the rock crushed during this calibration period will be counted toward the amount required to be crushed, and this rock must be kept separate from accepted rock crushed later.
- Step 2:** The contract administrator and the contractor will test the rock. Two samples will be taken. If the rock meets specifications, crushing may begin. If the rock does not meet specifications, return to Step 1.

Phase II. Production

- Step 3:** The contract administrator and the contractor will continue periodic testing to ensure that rock stays in spec. Testing will take place according to the following schedule:
- After the first 500 yards
 - After every 1,000 yards thereafter
- a) Any time a sample is out of spec, but is within 5%*, the contractor will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.
- b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.
- c) Contractors are strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.
- * The 5% will be applied only to sieve specs for 2" to ¼"; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

INFORMATIONAL BLASTING PLAN

Timber Sale/Project Name: _____ App./Project No.: _____

1. Blaster-in-Charge: Name: _____

Company: _____

Address: _____

Telephone: _____

2. Quarry Name/Location: _____

3. Total Estimated Cubic Yards in Blast (loose): _____

4. Hole Spacing: _____

5. Burden: _____

6. Hole Diameter: _____

7. Hole Depth: _____

8. Sub Drill: _____

9. Number of Holes: _____

10. Stemming Depth: _____

11. Explosive (mfg., name, density, %, V.O.D.): _____

12. Type and Size of Primer (if applicable): _____

13. Total Weight of Primers for Shot: _____

14. Calculated Powder Factor/Cubic Yard: _____

15. Number of Delays (in M.S.): _____

M-126PAC (03/04)

INFORMATIONAL BLASTING PLAN

Page 2 of 3

16. Number of Holes Fired on Each Delay: _____

17. Total Amount of Explosives Fired on Each Delay: _____

18. Type of Blasting Machine: _____

19. Date, Start Drilling: _____

20. Date and Time, Start Loading: _____

21. Date and Time of Blast (approx.): _____

INFORMATIONAL BLASTING PLAN

Page 3 of 3

22. Detail drawing of delay system (show hole pattern and delays in milliseconds). Attach additional sheets if required:

23. Typical cross-section of hole (show primer, main charge, sub drill, and stemming):

23. Submitted by: _____ Date: _____

24. Received by: _____ Date: _____

Note: Attach copies of manufacturer=s data sheet(s) for explosive and caps.

M-126PAC (03/04)

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
PACIFIC CASCADE REGION

ROCK SOURCE DEVELOPMENT PLAN

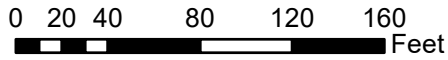
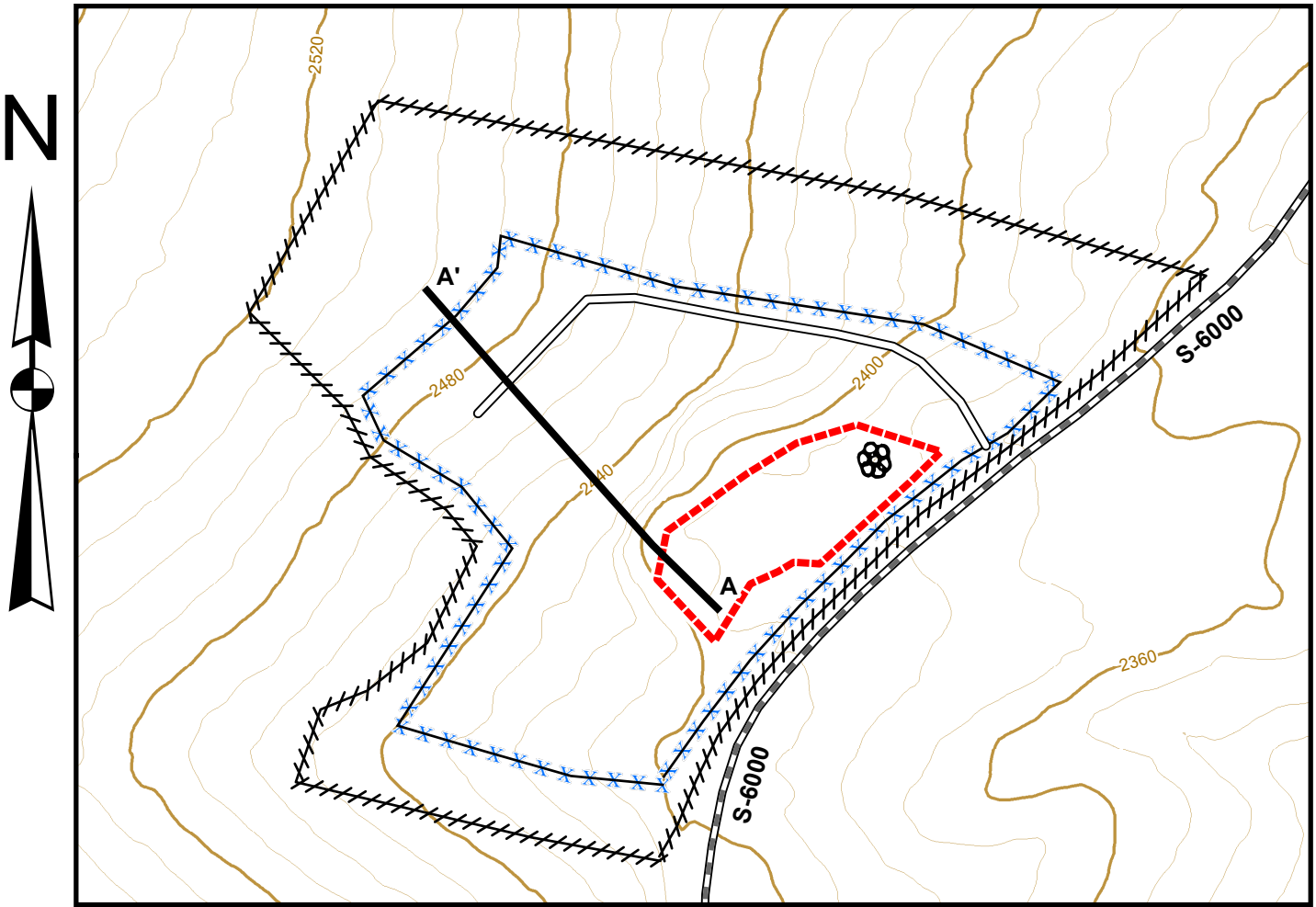
S-6000 Pit – W½ SE¼ Section 02, Township 06 North, Range 04 East, W.M.
(Page 1 of 2)

1. Development shall take place in mining area as indicated on the Pit Development Plan Maps for the S-6000 Pit.
2. All vegetation including stumps shall be cleared a minimum of 25 feet beyond the top of all working faces. Trees shall be cleared to a minimum of ¾ of the height of the tallest tree adjacent to the pit. The Contractor shall maintain a minimum of 15 foot wide area stripped to rock from the pit face at all times. All Clearing shall be approved in writing by the Contract Administrator prior to overburden removal.
3. Overburden from the S-6000 Pit shall be end hauled to the waste area at Station 0+50 on the S-6000D road. All waste material shall be compacted. Minimal acceptable compaction is achieved by placing waste material in 1 foot or shallower lifts and routing excavation equipment over entire width of the lifts. All Overburden removal shall be approved in writing by the Contract Administrator prior to any drilling operation and or rock extraction.
4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated Waste Area.
5. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator 5 working days prior to any drilling. (Form #M-126PAC)
6. Drilling may begin when the Contract Administrator has approved, in writing, all of the Clearing, Grubbing and Overburden removal. Purchaser shall block access roads and trails before blasting operations.
7. Pit faces shall not exceed 30 feet in height. All pit faces shall be sloped no steeper than ¼:1.
8. Working bench width shall be a minimum of 20 feet.
9. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques. The installation of a culvert may be necessary to drain water from the pit floor in locations where the pit floor is adjacent to a road. The location of the culvert shall be subject to approval of the Contract Administrator. No sediment shall enter live water.
10. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stock piled material shall be maintained in a neat and useable condition.
11. Oversize material remaining in the rock source at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction and not larger than two cubic yards in volume. At the conclusion of operations, all remaining oversize material shall be placed at the location shown on the Pit Development Plan Map and as directed by the Contract Administrator in a location outside of the future development.
12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material and shall not be undermined or over steepened; benches shall have safety berms constructed or access blocked to highway vehicles. Access roads/trails shall have Non-driveable waterbars constructed in accordance with the NON-DRIVEABLE WATER BAR DETAIL as directed by the Contract Administrator. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to human life.
13. All exposed soil in the waste area, access roads, and exposed banks shall be grass seeded in accordance with Road Plan Clauses 8-15 and 8-25.
14. All operations shall be carried out in compliance with all regulations of:
 - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations@ (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
 - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.
15. The Operator shall submit an informational drilling and shooting report to the Contract Administrator after blasting has occurred. (Form #M-126PAC)
16. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner. Upon completion of operations, the site shall be cleared of all temporary structures/equipment and rubbish, access roads shall be blocked with riprap at locations as directed by the Contract Administrator, and shall be left in a neat and presentable condition. At the completion of rock source operations, Contractor shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.

S-6000 Pit

W1/2 SE1/4 Sec 02, T06N, R04E, W.M.

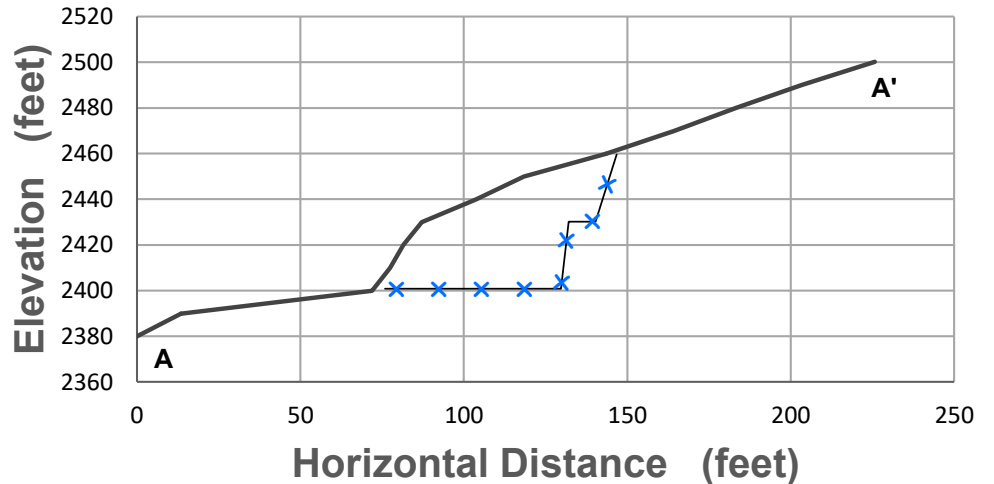
Page 2 of 2



Legend

- Access Road
- Mining Area Boundary
- Pit Floor
- Rock Pit Boundary
- Contours 10 ft
- Pre-haul Maintenance
- Oversize Rock Storage Area
- Profile Line

Profile "A"



SUMMARY - Road Development Costs

REGION: Pacific Cascade

DISTRICT: Yacolt

SALE/PROJECT NAME: Tines Up

AGREEMENT #: 30-104033

ROAD NUMBERS:	S-5070 EXT, Spur A, Spur B, Spur C, & Spur D	S-6000, S-5000, & S-5070
---------------	--	-----------------------------

ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	40.50	0.00	504.05
CLEARING & GRUBBING, EXCAVATION AND FILL, MISC.:	\$19,065.59	\$0.00	\$23,656.07
ROAD ROCK:			
Optional:	\$42,655.60	\$0.00	\$0.00
Required:	\$24,884.02	\$0.00	\$48,596.89
Total:	\$67,539.62	\$0.00	\$48,596.89
STOCKPILE/PIT DEVELOPMENT:	\$0.00	\$0.00	\$15,240.00
CULVERTS AND FLUMES:	\$7,996.62	\$0.00	\$2,700.78
STRUCTURES:	\$0.00	\$0.00	\$0.00
DUST ABATEMENT	\$0.00	\$0.00	\$0.00
MOBILIZATION:	\$2,216.59	\$0.00	\$2,129.66
TOTAL COSTS:	\$96,818.42	\$0.00	\$92,323.40
COST PER STATION:	\$2,391	\$0	\$183
ROAD DEACTIVATION & ABANDONMENT COSTS:	\$3,064.04	\$0.00	\$0.00
	10% OVERHEAD AND GENERAL EXPENSE =		\$19,220.59
	TOTAL (All Roads) =		\$211,426.45
	TOTAL (Minus Optional Rock) =		\$168,770.85
	SALE VOLUME MBF =		4,461
	TOTAL \$/MBF =		\$47.39
	TOTAL \$/MBF (Minus Optional Rock) =		\$37.83

Profit and Risk costs are accounted on an individual basis.

Compiled by: David Stone

Date: March 9, 2023

SUMMARY OF ROAD

Sale:	Tines Up		Landing on S-1000 & S-6000
Required Pre-Haul Maintenance-	242+13 4.59	Required Reconstruction -	0.00
	stations miles		stations miles
Required Abandonment-	0.00	Optional Reconstruction -	0.00
	stations miles		stations miles
		Required Construction -	0.00
			stations miles
		Optional Construction -	0.00
			stations miles

PRE-HAUL MAINTENANCE

CLEARING

EXCAVATION

Remove culverts from state lands - 1 @ \$125.00 total \$125.00

MISC.

Grade and shape existing road surface - 242.13 stations @ \$27.10 per station \$6,561.72
 Roll shaped road surface w/ vibratory roller prior to rocking - 242.13 stations @ \$14.40 per station \$3,486.67
 Construct landing - 1 @ \$185.50 each \$185.50
 Grass seed - 3.7 lbs @ \$9.00 per lb \$33.30

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$10,392.19**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts & Bands</u>			
0	LF of 18"	\$20.18	40 LF of 24" \$1,152.24
0	LF of 30"	\$0.00	0 LF of 36" \$0.00 w/bevel
0	LF of 42"	\$0.00 w/gasket-bevel	0 LF of 48" \$0.00
0	LF of 54"	\$0.00	0 LF of 60" \$0.00
0	LF of 66"	\$0.00	0 LF of 72" \$0.00
		\$20.18	\$1,152.24
<u>Half Rounds</u>			
0	LF of 24"	\$0.00	0 LF of 30" \$0.00
0	LF of 36"	\$0.00	0 LF of 42" \$0.00
		\$0.00	\$0.00
<u>Culvert Stakes & Markers</u>			
0	stakes	\$0.00	
1	markers	\$11.00	
		\$11.00	
			TOTAL CULVERTS \$1,183.42

ROCK

0+00 to 243+13 Spot Rock	460 cy. of	1 1/4" Minus	@	\$21.09	per c.y.=	\$9,701.40
S-1000 Landing 1	41 cy. of	3" Jaw Run	@	\$19.14	per c.y.=	\$784.74
Energy Dissipator/Headwall - culverts	12.0 cy. of	Riprap HL	@	\$26.71	per c.y.=	\$320.52
Bedding/Backfill- culverts	25 cy. of	1 1/4" Minus	@	\$22.32	per c.y.=	\$558.00
					TOTAL ROCK	\$11,364.66

ADDITIONAL REQUIREMENTS

Straw Mulching near streams - 0.07 acres @ \$860.00 per acre \$60.20
 TOTAL ADDITIONAL REQUIREMENTS **\$60.20**

ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$23,000.47	Required Reconstruction -	\$0.00			
					SUBTOTAL	\$23,000.47
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00			
Required Construction -	\$0.00	Optional Construction -	\$0.00			
					TOTAL	\$23,000.47
					COST PER STATION	\$94.99

SUMMARY OF ROAD

Sale:	Tines Up		Road:	S-5000	
Required Pre-Haul Maintenance-	245+12 4.64	stations miles	Required Reconstruction -	0.00	stations miles
Required Abandonment-	0.00	stations miles	Optional Reconstruction -	0.00	stations miles
			Required Construction -	0.00	stations miles
			Optional Construction -	0.00	stations miles

PRE-HAUL MAINTENANCE

CLEARING

EXCAVATION

MISC.

Grade and shape existing road surface -	245.12	stations @	\$27.10	per station	\$6,642.75
Roll shaped road surface w/ vibratory roller prior to rocking -	245.12	stations @	\$14.40	per station	\$3,529.73
Construct landings -	12.00	@	\$185.50	each	\$2,226.00
Grass seed -	12.0	lbs @	\$9.00	per lb	\$108.00

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$12,506.48**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>					
60	LF of 18"	\$1,495.36	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$1,495.36			\$0.00
<u>Half Rounds</u>					
0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00
<u>Culvert Stakes & Markers</u>					
0	stakes	\$0.00			
2	markers	\$22.00			
		\$22.00			
			TOTAL CULVERTS		\$1,517.36

ROCK

164+24 to	188+04	475 cy. of	1" Minus	@	\$27.41	per c.y.=	\$13,019.75
0+00 to 245+12	Spot Rock	330 cy. of	1 1/4" Minus	@	\$27.48	per c.y.=	\$9,068.40
Energy Dissipator/Headwall - culverts		8.0 cy. of	Riprap LL	@	\$27.58	per c.y.=	\$220.64
Landings 12		492 cy. of	3" Jaw Run	@	\$24.42	per c.y.=	\$12,014.64
Bedding/Backfill- culverts		20 cy. of	1 1/4" Minus	@	\$23.99	per c.y.=	\$479.80
						TOTAL ROCK	\$34,803.23

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$48,827.07	Required Reconstruction -	\$0.00				
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00			SUBTOTAL	\$48,827.07
Required Construction -	\$0.00	Optional Construction -	\$0.00			TOTAL	\$48,827.07

COST PER STATION \$199.20

SUMMARY OF ROAD

Sale:	Tines Up				Road:	S-5070		
Required Pre-Haul Maintenance-	16+80 0.32	stations miles	Required Reconstruction -	0.00	stations miles	Required Construction -	0.00	stations miles
Required Abandonment-	0+00 0.00	stations miles	Optional Reconstruction -	0+00 0.00	stations miles	Optional Construction -	0.00	stations miles

PRE-HAUL MAINTENANCE

CLEARING

EXCAVATION

MISC.

Grade and shape existing road surface -	16.80	stations @	\$27.10	per station	\$455.28
Roll shaped road surface w/ vibratory roller prior to rocking -	16.80	stations @	\$14.40	per station	\$241.92

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$697.20**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>					
0	LF of 18"	\$0.00	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$0.00			\$0.00
<u>Half Rounds</u>					
0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00
<u>Culvert Stakes & Markers</u>					
0	stakes	\$0.00			
0	markers	\$0.00			
		\$0.00			
			TOTAL CULVERTS		\$0.00

ROCK

0+00 to 16+80 Spot Rock	100	cy. of	1 1/4" Minus	@	\$24.29	per c.y.=	\$2,429.00	
							TOTAL ROCK	\$2,429.00

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$3,126.20	Required Reconstruction -	\$0.00				
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00				SUBTOTAL
Required Construction -	\$0.00	Optional Construction -	\$0.00				TOTAL

\$3,126.20

\$3,126.20

COST PER STATION \$186.08

SUMMARY OF ROAD

Sale:	<u>Tines Up</u>		Road: S-5070 EXT
Required Pre-Haul Maintenance-	0.00	stations miles	Required Reconstruction -
	0.00		stations miles
Required Abandonment-	0.00	stations miles	Optional Reconstruction -
	0.00		stations miles
			Required Construction -
			stations miles
			Optional Construction -
			stations miles
			28+10 0.53

PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris	3.23	acres @	\$1,010.00	per acre	\$3,262.30
Remove large stumps -	12	@	\$117.00	each	\$1,404.00

EXCAVATION - includes drift endhaul

Road Construction Earthwork - includes embankment	28.10	sta. @	\$174.78	per sta. =	\$4,911.32
Grade and shape subgrade -	28.10	stations @	\$22.55	per station	\$633.66

FILL

MISC.					
Roll subgrade w/ vibratory roller prior to rocking -	28.10	stations @	\$18.00	per station	\$505.80
Construct turnouts -	3	@	\$91.00	each	\$273.00
Construct landings -	6	@	\$185.50	each	\$1,113.00
Grass seed -	44.2	lbs @	\$9.00	per lbs	\$397.80

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$12,500.88**

CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>						
150	LF of 18"	\$3,738.40		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00
0	LF of 42"	\$0.00		0	LF of 48"	\$0.00
0	LF of 54"	\$0.00		0	LF of 60"	\$0.00
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$3,738.40				\$0.00
<u>Half Rounds</u>						
0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00
<u>Culvert Stakes & Markers</u>						
0	stakes	\$0.00				
5	markers	\$55.00				
		\$55.00				
TOTAL CULVERTS						\$3,793.40

ROCK

Energy Dissipator/Headwall - culverts	5.0	cy. of	Riprap LL	@	\$27.72	per c.y.=	\$138.60
0+00 to 28+10	1,700	cy. of	3" Jaw Run	@	\$25.01	per c.y.=	\$42,517.00
							TOTAL ROCK
							\$42,655.60

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$0.00		
		Optional Reconstruction -	\$0.00		
Required Abandonment-	\$0.00	Optional Construction -	\$58,949.88		
				SUBTOTAL	\$58,949.88
Required Construction -	\$0.00			TOTAL	\$58,949.88
				COST PER STATION	\$2,097.86

SUMMARY OF ROAD

Sale: <u>Tines Up</u>	Road: <u>Spur A</u>
Optional Pre-Haul Maintenance - 0.00 stations miles	Required Reconstruction - 0.00 stations miles
Required Abandonment- 1+93 stations miles 0.04	Optional Reconstruction - 0.00 stations miles
Required Construction - 0.00 stations miles	Optional Construction - 1+93 stations miles 0.04

PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris	0.22	acres @	\$1,010.00	per acre	\$222.20
Remove large stumps -	2	@	\$117.00	each	\$234.00

EXCAVATION - includes drift endhaul

Road Construction Earthwork - includes embankment work	1.93	sta. @	\$174.78	per sta. =	\$337.33
Grade and shape subgrade -	1.93	stations @	\$22.55	per station	\$43.52

FILL

MISC.

Roll subgrade w/ vibratory roller prior to rocking -	1.93	stations @	\$18.00	per station	\$34.74
Construct landing -	1	@	\$185.50	each	\$185.50
Grass seed -	3.7	lbs @	\$9.00	per lbs	\$33.30

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$1,090.59**

CULVERTS - MATERIALS & INSTALLATION

Culverts

50	LF of 18"	\$1,232.68	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$1,232.68			\$0.00

Half Rounds

0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00

Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$1,232.68**

ROCK

Energy Dissipator/Headwall - culverts	1.0	cy. of	Riprap LL	@	\$28.41	per c.y. =	\$28.41
0+00 to 1+93	147	cy. of	3" Jaw Run	@	\$25.52	per c.y. =	\$3,751.44
							TOTAL ROCK

\$3,779.85

ABANDONMENT

Construct waterbar -	1	@	\$98.00	each	\$98.00
Construct Earthen Barricade -	1	@	\$188.00	each	\$188.00
Rip roadway -	1.93	stations @	\$35.60	per station	\$68.71
Grass seed -	5.2	lbs @	\$9.00	per lbs	\$46.80
Remove culvert -	0.5	hours @	\$178.00	per hour	\$89.00
Remove culvert from state lands -	1	@	\$100.00	each	\$100.00
Scatter woody debris -	0.2	hours @	\$178.00	per hour	\$35.60

TOTAL ABANDONMENT **\$626.11**

Optional Pre-Haul Maintenance - \$0.00	Required Reconstruction - \$0.00	
Required Abandonment- \$626.11	Optional Reconstruction - \$0.00	SUBTOTAL \$6,729.23
Required Construction - \$0.00	Optional Construction - \$6,103.12	TOTAL \$6,729.23
		COST PER STATION \$3,486.65

SUMMARY OF ROAD

Sale:	Tines Up				Spur B
Required Pre-Haul Maintenance-	0.00	stations miles	Required Reconstruction -	0.00	stations miles
Required Abandonment-	2+02 0.04	stations miles	Optional Reconstruction -	0.00	stations miles
			Required Construction -	0.00	stations miles
			Optional Construction -	2+02 0.04	stations miles

PRE-HAUL MAINTENANCE

ENDHAUL	TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.	\$0.00
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RECONSTRUCTION

CLEARING/GRUBBING

EXCAVATION

FILL

MISC.

ENDHAUL	TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.	\$0.00
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CONSTRUCTION

CLEARING/GRUBBING

Scatter Organic Debris	0.23	acres @	\$1,010.00	per acre	\$232.30
Remove large stumps -	2	@	\$117.00	each	\$234.00

EXCAVATION - includes drift endhaul

Road Construction Earthwork	2.02	sta. @	\$134.00	per sta. =	\$270.68
Grade and shape subgrade -	2.02	stations @	\$22.55	per station	\$45.55

FILL

MISC.

Roll subgrade w/ vibratory roller prior to rocking -	2.02	stations @	\$18.00	per station	\$36.36
Construct landing -	2	@	\$185.50	each	\$371.00
Grass seed -	4.6	lbs @	\$9.00	per lbs	\$41.40

ENDHAUL	TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.	\$1,231.29
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CULVERTS - MATERIALS & INSTALLATION

<u>Culverts & Bands</u>						
0	LF of 18"	\$0.00		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00 w/bevel
0	LF of 42"	\$0.00	w/gasket-bevel	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	w/gasket-bevel	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$0.00				\$0.00
<u>Half Rounds</u>						
0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00
<u>Culvert Stakes & Markers</u>						
0	stakes	\$0.00				
0	markers	\$0.00				
		\$0.00				
				TOTAL CULVERTS		\$0.00

ROCK

0+00 to 2+02	192	cy. of	3" Jaw Run	@	\$26.18	per c.y. =	\$5,026.56	
							TOTAL ROCK	\$5,026.56

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS	\$0.00
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ABANDONMENT

Construct waterbar -	1	@	\$98.00	each	\$98.00
Construct Earthen Barricade -	1	@	\$188.00	each	\$188.00
Rip roadway -	2.02	stations @	\$35.60	per station	\$71.91
Grass seed -	5.2	lbs @	\$9.00	per lbs	\$46.80
Scatter woody debris -	0.2	@	\$178.00	each	\$35.60
				TOTAL ABANDONMENT	\$440.31

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$0.00		
Required Abandonment-	\$440.31	Optional Reconstruction -	\$0.00		SUBTOTAL
Required Construction -	\$0.00	Optional Construction -	\$6,257.85		\$6,698.16
				TOTAL	\$6,698.16
				COST PER STATION	\$3,315.92

SUMMARY OF ROAD

Sale: Tines Up

Road: Spur C

Required Pre-Haul Maintenance-	<input type="text" value="0.00"/>	stations miles
Required Abandonment-	<input type="text" value="6+88"/>	stations miles
	<input type="text" value="0.13"/>	

Required Reconstruction -	<input type="text" value="0.00"/>	stations miles
Optional Reconstruction -	<input type="text" value="0.00"/>	stations miles

Required Construction -	<input type="text" value="0.00"/>	stations miles
Optional Construction -	<input type="text" value="6+88"/>	stations miles
	<input type="text" value="0.13"/>	

PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

CLEARING/GRUBBING

Scattering organic debris	0.79	acres @	\$1,010.00	per acre	\$797.90
Remove large stumps -	3	@	\$117.00	each	\$351.00

EXCAVATION - includes drift endhaul

Road Construction Earthwork - includes embankment work	6.88	sta. @	\$174.78	per sta. =	\$1,202.49
Grade and shape subgrade -	6.88	stations @	\$22.55	per station	\$155.14

FILL

MISC.

Roll subgrade w/ vibratory roller prior to rocking -	6.88	stations @	\$18.00	per station	\$123.84
Construct landing -	3	@	\$185.50	each	\$556.50
Grass seed -	12.3	lbs @	\$9.00	per lbs	\$110.70

ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$3,297.57**

CULVERTS - MATERIALS & INSTALLATION

Culverts & Bands

70	LF of 18"	\$1,737.86	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$1,737.86			\$0.00

Half Rounds

0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00

Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$1,737.86**

ROCK

Energy Dissipator/Headwall - culverts	3.5	cy. of	Riprap LL	@	\$32.15	per c.y. =	\$112.53
0+00 to 6+88	467	cy. of	3" Jaw Run	@	\$28.56	per c.y. =	\$13,337.52
							<u>TOTAL ROCK</u>

\$13,450.05

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

ABANDONMENT

Construct waterbar -	3	@	\$98.00	each	\$294.00
Construct Earthen Barricade -	1	@	\$188.00	each	\$188.00
Rip roadway -	6.88	stations @	\$35.60	per station	\$244.93
Grass seed -	18.4	lbs @	\$9.00	per lbs	\$165.60
Remove culvert -	1.0	hours @	\$178.00	per hour	\$178.00
Remove culvert from state lands -	2	@	\$100.00	each	\$200.00
Scatter woody debris -	0.7	hours @	\$178.00	per hour	\$124.60

TOTAL ABANDONMENT **\$1,395.13**

Required Pre-Haul Maintenance-	<input type="text" value="\$0.00"/>
Required Abandonment-	<input type="text" value="\$1,395.13"/>
Required Construction -	<input type="text" value="\$0.00"/>

Required Reconstruction -	<input type="text" value="\$0.00"/>
Optional Reconstruction -	<input type="text" value="\$0.00"/>
Optional Construction -	<input type="text" value="\$18,485.48"/>

SUBTOTAL **\$19,880.61**

TOTAL \$19,880.61

COST PER STATION \$2,889.62

SUMMARY OF ROAD

Sale:	Tines Up		Spur D
Required Haul Maintenance-	Pre- stations 0.00 miles	Required Reconstruction -	 stations 0.00 miles
Required Abandonment-	 stations 1+57 0.03 miles	Optional Reconstruction -	 stations 0.00 miles
		Required Construction -	 stations 0.00 miles
		Optional Construction -	 stations 1+57 0.03 miles

PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

CONSTRUCTION

CLEARING/GRUBBING

Scattering Organic Debris	0.16	acres @	\$1,010.00	per acre	\$161.60
Remove large stumps -	2	@	\$117.00	each	\$234.00

EXCAVATION - includes drift endhaul

Road Construction Earthwork - includes embankment work	1.57	sta. @	\$174.78	per sta. =	\$274.40
Grade and shape subgrade -	1.57	stations @	\$22.55	per station	\$35.40

FILL

MISC.

Roll subgrade w/ vibratory roller prior to rocking -	1.57	stations @	\$18.00	per station	\$28.26
Construct landing -	1	@	\$185.50	each	\$185.50
Grass seed -	2.9	lbs @	\$9.00	per lbs	\$26.10

ENDHAUL - by trucking

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$945.26**

CULVERTS - MATERIALS & INSTALLATION

Culverts

50	LF of 18"	\$1,232.68		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00
0	LF of 42"	\$0.00		0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	w/gasket-bevel	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$1,232.68				\$0.00

Half Rounds

0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00

Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$1,232.68**

ROCK

Energy Dissipator/Headwall - culverts	1.0	cy. of	Riprap LL	@	\$21.76	per c.y.=	\$21.76
0+00 to 1+57	129	cy. of	3" Jaw Run	@	\$20.20	per c.y.=	\$2,605.80
							TOTAL ROCK \$2,627.56

ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

ABANDONMENT

Construct waterbar -	1	@	\$98.00	each	\$98.00
Construct Earthen Barricade -	1	@	\$188.00	each	\$188.00
Rip roadway -	1.57	stations @	\$35.60	per station	\$55.89
Grass seed -	4.0	lbs @	\$9.00	per lbs	\$36.00
Remove culverts -	0.5	hours @	\$178.00	per hour	\$89.00
Remove culvert from state lands -	1	@	\$100.00	each	\$100.00
Scatter woody debris -	0.2	hours @	\$178.00	per hour	\$35.60

TOTAL ABANDONMENT **\$602.49**

Required Pre-Haul Maintenance-	\$0.00	Required Reconstruction -	\$0.00		
				SUBTOTAL	\$5,407.99
Required Abandonment-	\$602.49	Optional Reconstruction -	\$0.00		
Required Construction -	\$0.00	Optional Construction -	\$4,805.50		
				TOTAL	\$5,407.99
				COST PER STATION	\$3,444.58

ROCK DEVELOPMENT COST SUMMARY

Pit:	S-6000 Pit	Location:	W½ SE¼ Sec. 02, T06N, R04E, W.M.
Sale:	Tines Up	Road:	4608.5 CY
Swell:	1.30	Stockpile:	c.y.
Shrinkage:	0.00	Total Truck Loads:	4608.5 CY
Drill Pct.:	100%	In Place Total:	3545 c.y.

Access Road Construction	2.5 Stations	\$223.33 /Station	\$558.33
Pit Development & Cleanup including Clearing and Grubbing of Waste Area, Endhaul and place overburden, grass seeding.			
in Waste Area, spread and compact.	\$6.93 /cu.yd x	1088.0 cu.yds.	\$7,539.84
Drill & Shoot:	\$3.65 /cu.yd x	3545.0 cu.yds.	\$12,939.25
Rip Rock:	\$2.50 /cu.yd x	0 cu.yds.	\$0.00
Push Rock:	\$1.35 /cu.yd x	4608.5 cu.yds.	\$6,221.48
Load Crusher:	\$0.75 /cu.yd x	4578.0 cu.yds.	\$3,433.50
Crush 3" Jaw Run Rock:	\$4.05 /cu.yd x	3168 cu.yds.	\$12,830.40
Crush 1½" Minus Rock:	\$6.00 /cu.yd x	935 cu.yds.	\$5,610.00
Crush 1" Minus Rock:	\$6.75 /cu.yd x	475 cu.yds.	\$3,206.25
Load Crushed Rock in Truck:	\$0.75 /cu.yd x	4578.0 cu.yds.	\$3,433.50
Load Rip Rap Rock in Truck:	\$2.25 /cu.yd x	30.5 cu.yds.	\$68.63
	\$0.00 /ton x	0 tons =	\$0.00
	\$0.00 /ton x	0 tons =	\$0.00
	\$0.00 /cu.yd x	0 cu.yds.	\$0.00
		Subtotal	\$55,841.18

Move In/Set-up Mobile Jaw	1	@	\$962.79	=	\$962.79
Move In/Set-up Mobile 2 Stage Crusher	1	@	\$1,256.50	=	\$1,256.50
Move In/Set-up 3 Stage Crusher	0	@	\$0.00	=	\$0.00
Move In and set up Drill and Compressor	1	@	\$572.04	=	\$572.04
Move in Roller and Compactor	0	@	\$488.93	=	\$0.00
Move in Grader	0	@	\$436.33	=	\$0.00
Move in D-8	1	@	\$588.39	=	\$588.39
Move in Loader	1	@	\$554.69	=	\$554.69
Move in Excavator	2	@	\$515.44	=	\$1,030.88
Move in Trucks	5	@	\$185.36	=	\$926.80
Move in Water Truck	0	@	\$0.00	=	\$0.00
				Subtotal	\$5,892.09

TOTAL PRODUCTION COSTS \$61,733.27

Base Cost = \$13.40 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	Speed (Mi/hr.)	One-Way Dist (ft)	ROCK COST
S-6000 0+00 to 243+13 Spot Rock 1 1/4" Minus	\$5.99	\$1.70	\$13.40	\$21.09	460	17	10304	\$9,701.40
S-1000 Landing 1 3" Jaw Run	\$5.14	\$0.60	\$13.40	\$19.14	41	15	8378	\$784.74
S-6000 HL Energy Dissipator/Headwall - culverts	\$11.11	\$2.20	\$13.40	\$26.71	12	12	16583	\$320.52
S-6000 Bedding/Backfill- culverts 1 1/4" Minus	\$8.02	\$0.90	\$13.40	\$22.32	25	17	16583	\$558.00
S-5000 164+24 to 188+04 1" Minus	\$12.31	\$1.70	\$13.40	\$27.41	475	15	24252	\$13,019.75
S-5000 0+00 to 245+12 Spot Rock 1 1/4" Minus	\$12.38	\$1.70	\$13.40	\$27.48	330	15	24427	\$9,068.40
S-5000 LL Energy Dissipator/Headwall - culverts	\$12.18	\$2.00	\$13.40	\$27.58	8.0	12	18631	\$220.64
S-5000 Landings 12 3" Jaw Run	\$10.42	\$0.60	\$13.40	\$24.42	492	15	21043	\$12,014.64
S-5000 Bedding/Backfill- culverts 1 1/4" Minus	\$9.69	\$0.90	\$13.40	\$23.99	20	15	18631	\$479.80
S-5070 0+00 to 16+80 Spot Rock 1 1/4" Minus	\$9.19	\$1.70	\$13.40	\$24.29	100	15	16765	\$2,429.00
S-5070 EXT LL Energy Dissipator/Headwall - culverts	\$12.32	\$2.00	\$13.40	\$27.72	5.0	12	18897	\$138.60
S-5070 EXT 0+00 to 28+10 3" Jaw Run	\$10.16	\$1.45	\$13.40	\$25.01	1700	15	19102	\$42,517.00
Spur A LL Energy Dissipator/Headwall - culverts	\$13.01	\$2.00	\$13.40	\$28.41	1.0	12	20218	\$28.41
Spur A 0+00 to 1+93 3" Jaw Run	\$10.67	\$1.45	\$13.40	\$25.52	147	15	20338	\$3,751.44
Spur B 0+00 to 2+02 3" Jaw Run	\$11.33	\$1.45	\$13.40	\$26.18	192	15	21900	\$5,026.56
Spur C LL Energy Dissipator/Headwall - culverts	\$16.75	\$2.00	\$13.40	\$32.15	3.5	12	27414	\$112.53
Spur C 0+00 to 6+88 3" Jaw Run	\$13.71	\$1.45	\$13.40	\$28.56	467	15	27617	\$13,337.52
Spur D LL Energy Dissipator/Headwall - culverts	\$6.36	\$2.00	\$13.40	\$21.76	1.0	12	7468	\$21.76
Spur D 0+00 to 1+57 3" Jaw Run	\$5.35	\$1.45	\$13.40	\$20.20	129	15	7561	\$2,605.80
				Total C.Y.	4608.5		Sub Total	\$116,136.51

TOTAL ROCKING COSTS \$116,136.51

ROCK DEVELOPMENT COST SUMMARY

Pit:	Existng 5" Jaw Run Stockpile	Location:	2+05 on S-6000D
Sale:	Tines Up	Road:	. c.y.
Swell:	1.30	Stockpile:	2000 c.y.
Shrinkage	1.16	Total Truck Loads:	2000. c.y.
Drill Pct.:	0%	In Place Total:	c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact.

	\$0.00	/cu.yd x	0	cu.yds.		\$0.00
Drill & Shoot:	\$3.65	/cu.yd x	0	cu.yds.		\$0.00
Rip Rock:	\$2.50	/cu.yd x	0	cu.yds.		\$0.00
Push Rock:	\$1.35	/cu.yd x	0	cu.yds.		\$0.00
Load Crusher:	\$0.75	/cu.yd x	2000	cu.yds.		\$1,500.00
Crush 1½" Mnus Rock:	\$3.65	/cu.yd x	2000	cu.yds.		\$7,300.00
Load Dump Truck - 1½" Minus:	\$0.75	/cu.yd x	2000	cu.yds.		\$1,500.00
Load Dump Truck - Riprap:	\$2.25	/cu.yd x	0.0	cu.yds.		\$0.00
	\$0.00	/ton x	0	tons =		\$0.00
	\$0.00	/ton x	0	tons =		\$0.00
	\$0.00	/ton x	0	tons =		\$0.00
	\$0.00	/cu.yd x	0	cu.yds.		\$0.00
Subtotal						\$10,300.00

Move in all equipment from S-6000 Pit

Move In/Set-up Jaw	0	@	\$0.00	=	\$0.00	
Move In/Set-up 2 Stage Crusher	1	@	\$379.46	=	\$379.46	
Move In/Set-up 3 Stage Crusher	0	@	\$0.00	=	\$0.00	
Move In and set up Drill and Compressor	0	@	\$0.00	=	\$0.00	
Move in Roller and Compactor	0	@	\$0.00	=	\$0.00	
Move in Grader	0	@	\$0.00	=	\$0.00	
Move in D-8	0	@	\$0.00	=	\$0.00	
Move in Loader	1	@	\$56.09	=	\$56.09	
Move in Excavator	1	@	\$52.17	=	\$52.17	
Move in Trucks	2	@	\$18.83	=	\$37.66	
Move in Water Truck	0	@	\$0.00	=	\$0.00	
Subtotal						\$525.38

TOTAL PRODUCTION COSTS \$10,825.38

Base Cost= \$5.41 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Load Cost Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	Speed (Mi/hr.)	One-way Dist (ft)	ROCK COST
Stock Pile 1½ Minus Crushed Rock	\$1.81	\$0.40	\$5.41	\$7.62	2000	5	125	\$15,240.00
					Total C.Y.	2000.0	Sub Total	\$15,240.00

TOTAL ROCKING COSTS \$15,240.00

Road Building Move-In Calculations

Sale: Tines Up

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
39.7	Highway	50
4.6	County/ Mainline	20
2.5	Steep Grades	10

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	Within Area			Within		Total Cost
				Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Area Cost	
0	Brush Cutter	\$395.60		\$17.80	0.00	0.00	0	\$0.00	\$0.00
1	Graders	\$619.13		\$19.83	0.00	0.00	4	\$79.32	\$698.45
0	Loader (Small)	\$395.60		\$15.00	0.00	0.00	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$619.13		\$17.00	0.00	0.00	0	\$0.00	\$0.00
1	Rollers & Compactors	\$395.60		\$27.14	0.00	0.00	4	\$108.56	\$504.16
0	Drill & Compressor	\$395.60		\$35.60	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Small)	\$395.60		\$50.00	0.00	0.00	0	\$0.00	\$395.60
1	Excavators (Large)	\$778.79	2	\$56.00	0.00	0.00	4	\$224.00	\$1,094.95
0	Tired Backhoes/Skidders	\$619.13		\$12.50	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D6)	\$619.13		\$32.43	0.00	0.00	0	\$0.00	\$0.00
0	Tractors (D7)	\$619.13		\$30.00	0.00	0.00	0	\$0.00	\$0.00
1	Tractor (D8)	\$778.79	2	\$57.43	0.00	0.00	4	\$229.72	\$1,100.67
2	Dump Truck (10 cy +)	\$210.21		\$11.00	0.00	0.00	3	\$66.00	\$552.42
0	Dump Truck (Off Hiway)	\$568.75		\$9.00	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (1500 Gal)	\$160.52		\$10.50	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (2500 Gal)	\$187.28		\$12.25	0.00	0.00	0	\$0.00	\$0.00

	TOTAL MOVE-IN COSTS: \$4,346.25
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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: TINES UP

Application Number: 30- 104033

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 2,810 linear feet
Road to be constructed (optional and required) but not abandoned

Reconstruction: 0 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: 50,405 linear feet
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 1,240 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

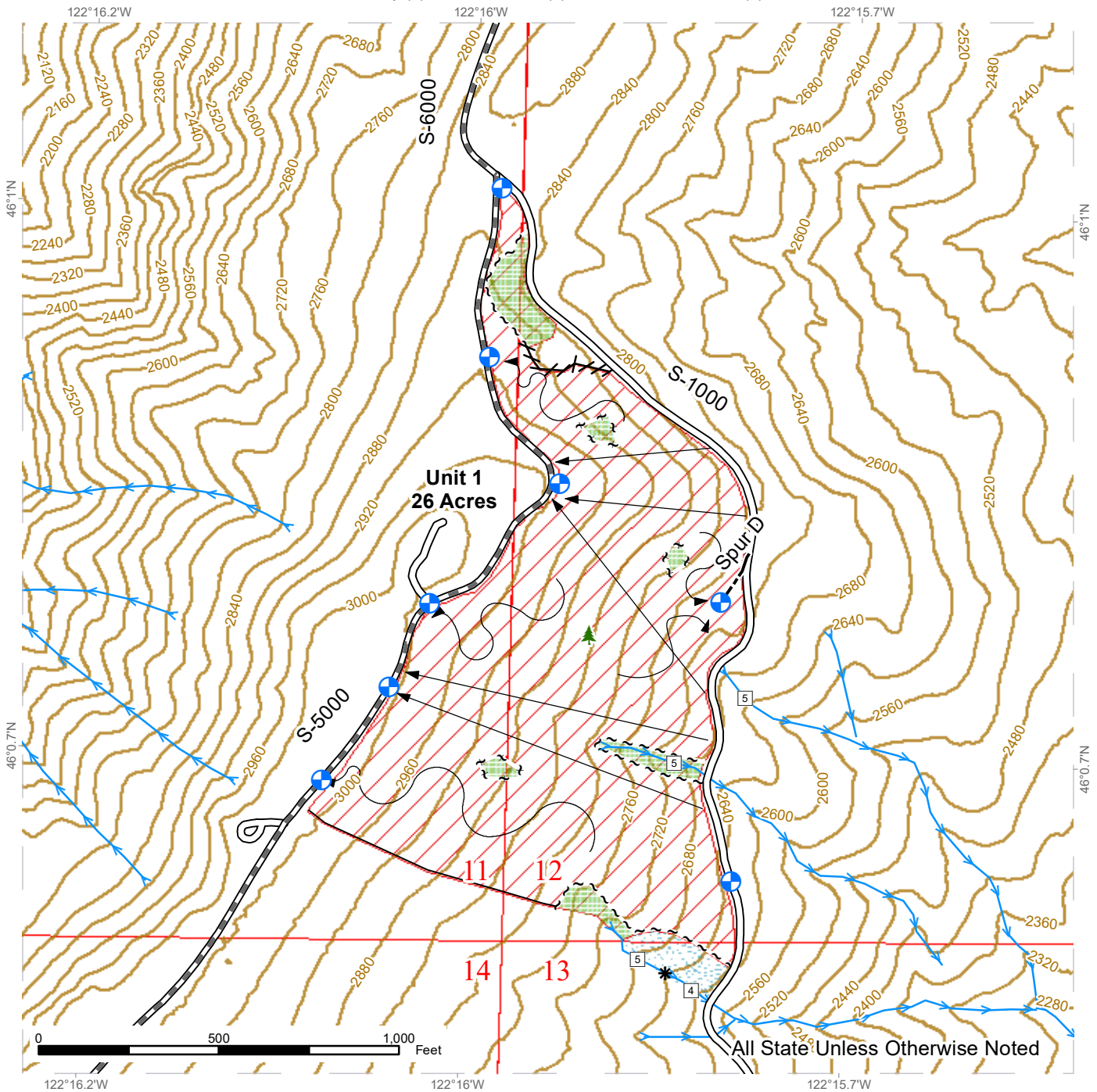
All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact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

LOGGING PLAN MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



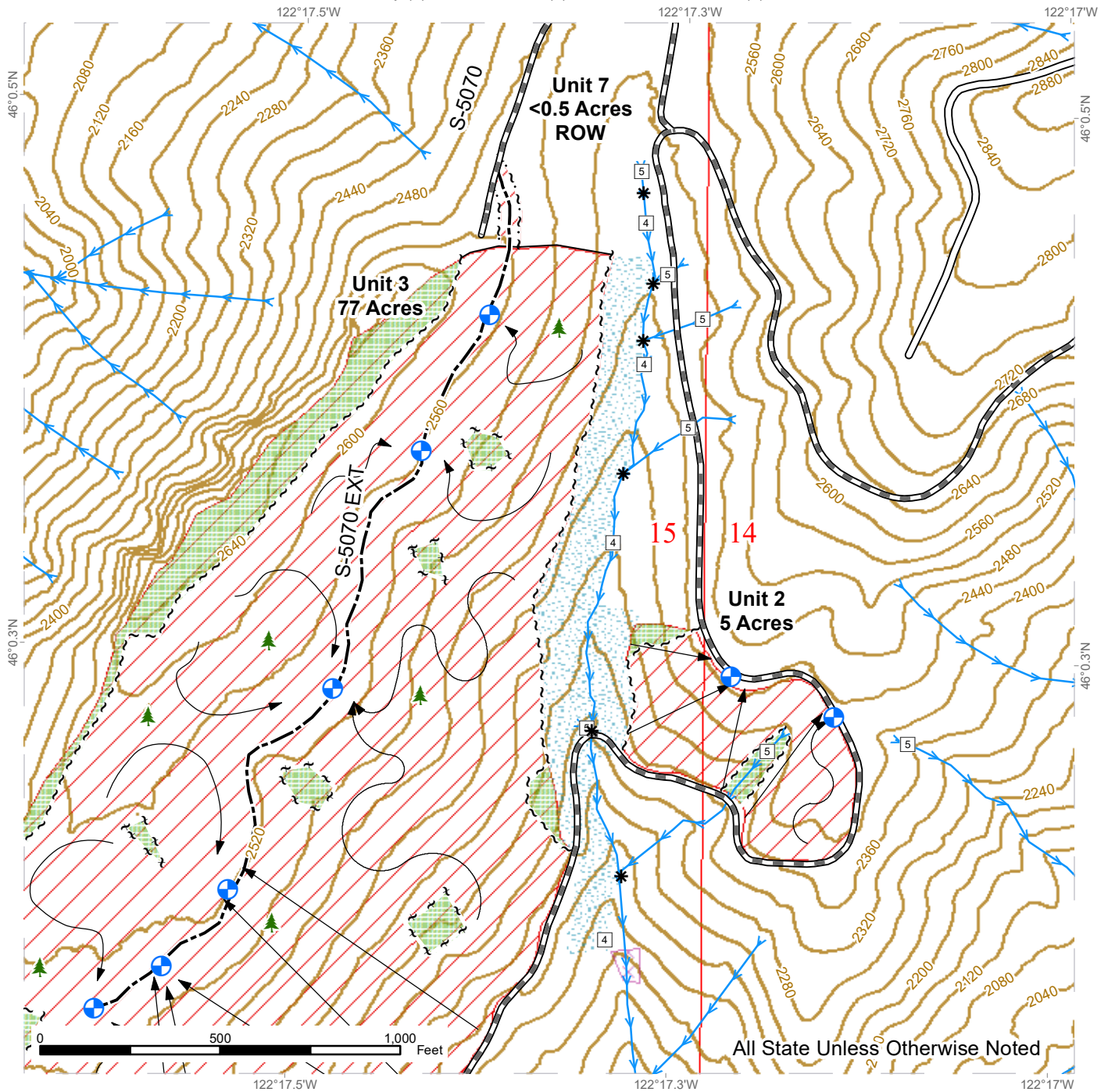
Ground Harvest	Sale Boundary Tags	Streams
Cable Harvest	Timber Type Change	Stream Type
Leave Tree Area	Leave Tree Tags	Stream Type Break
Riparian Mgt Zone	Flag Line	Landing - Proposed
	Existing Roads	Leave Tree Area <1/4-acre
	Required Pre-Haul Maintenance	
	Optional Construction	



LOGGING PLAN MAP

SALE NAME: TINES UP
 AGREEMENT#: 30-104033
 TOWNSHIP(S): T6R4E
 TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
 COUNTY(S): Clark
 ELEVATION RGE: 1040-2640



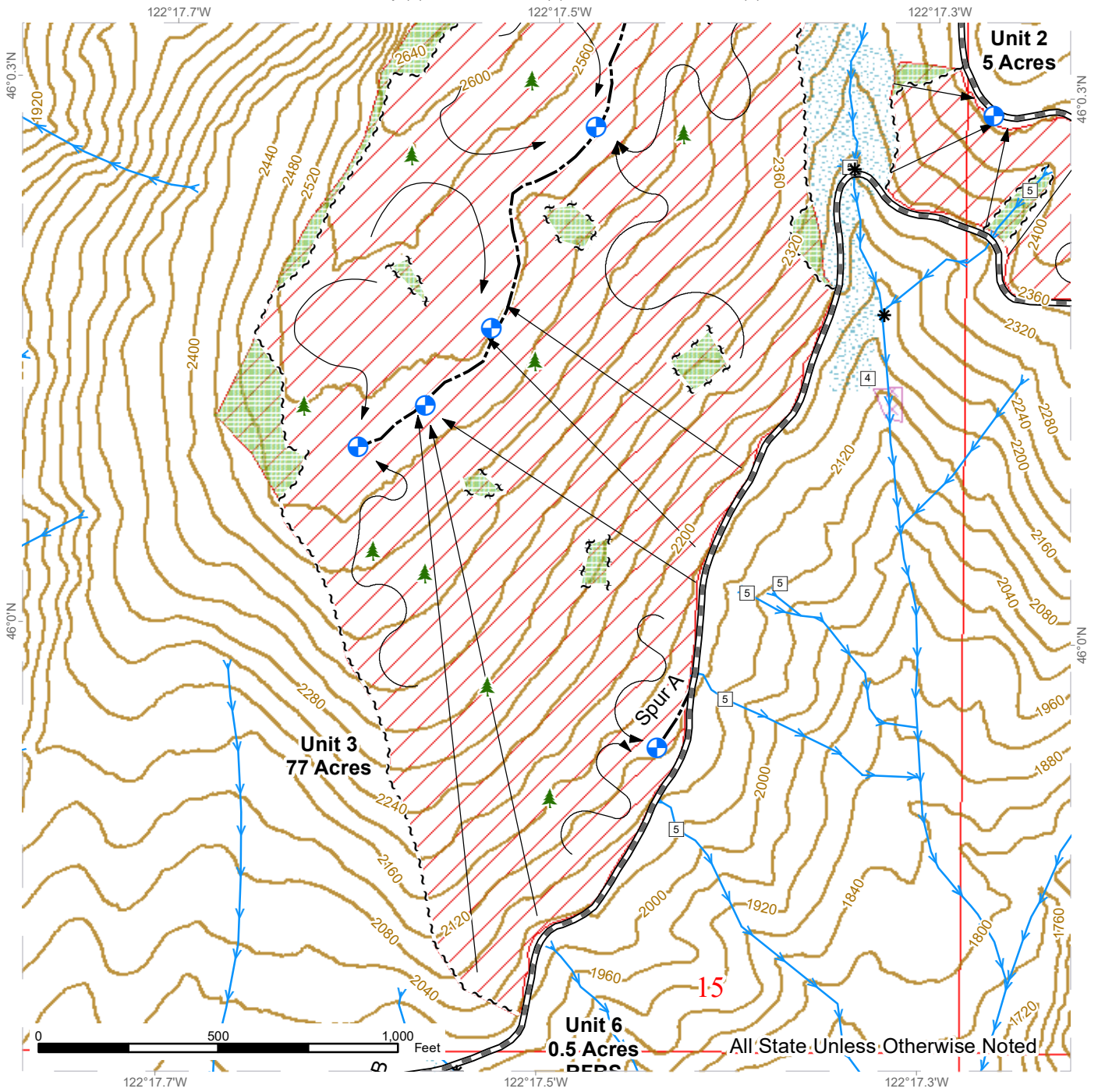
Ground Harvest	Sale Boundary Tags	Streams
Cable Harvest	Timber Type Change	Stream Type
Leave Tree Area	Leave Tree Tags	Stream Type Break
Riparian Mgt Zone	Right of Way Tags	Landing - Proposed
Potentially Unstable Slopes	Existing Roads	Leave Tree Area <1/4-acre
	Required Pre-Haul Maintenance	
	Optional Construction	



LOGGING PLAN MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



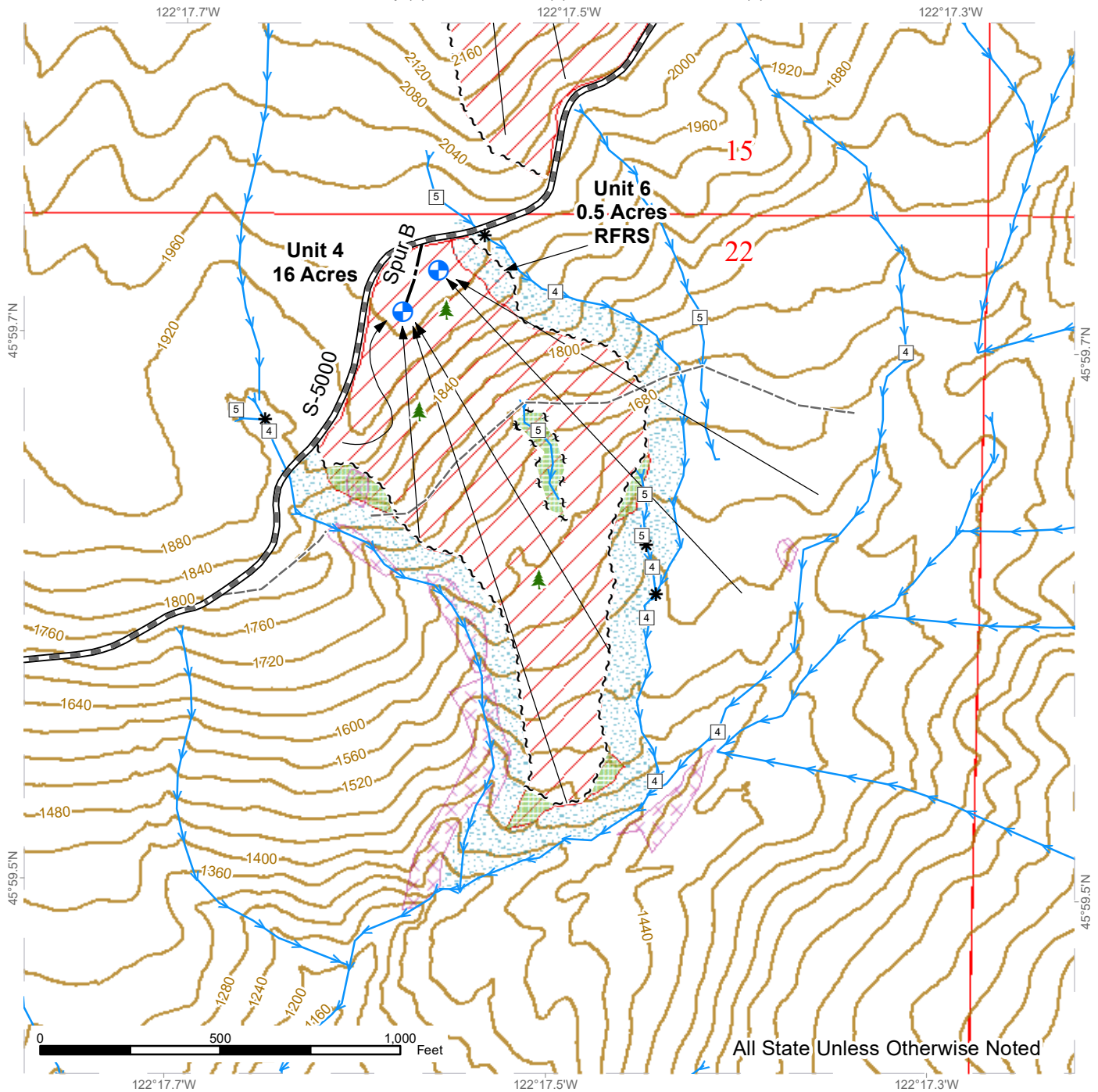
Ground Harvest	Sale Boundary Tags	Streams
Cable Harvest	Leave Tree Tags	Stream Type
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type Break
Riparian Mgt Zone	Optional Construction	Landing - Proposed
Potentially Unstable Slopes		Leave Tree Area <1/4-acre



LOGGING PLAN MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



All State Unless Otherwise Noted

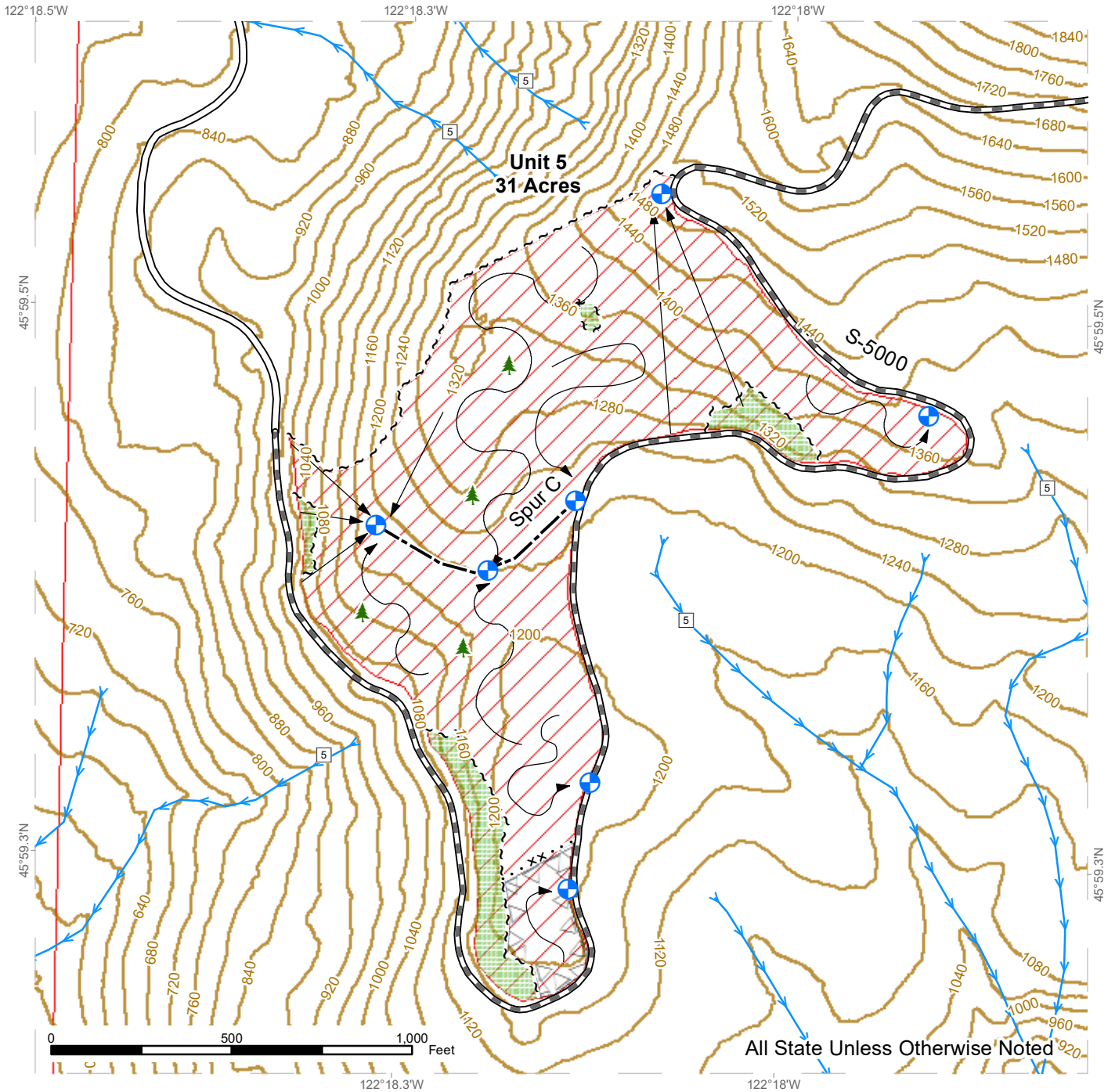
Ground Harvest	Sale Boundary Tags	Streams
Cable Harvest	Leave Tree Tags	Stream Type
Leave Tree Area	Required Pre-Haul Maintenance	Stream Type Break
Riparian Mgt Zone	Optional Construction	Landing - Proposed
Potentially Unstable Slopes	Old Grades/Trails	Leave Tree Area <1/4-acre



LOGGING PLAN MAP

SALE NAME: TINES UP
AGREEMENT#: 30-104033
TOWNSHIP(S): T6R4E
TRUST(S): Common School and Indemnity (3), Normal School (8), State Forest Purchase (2)

REGION: Pacific Cascade Region
COUNTY(S): Clark
ELEVATION RGE: 1040-2640



All State Unless Otherwise Noted

Ground Harvest	Sale Boundary Tags	Streams
Cable Harvest	Special Mgmt Area	Stream Type
Timing Restriction	Leave Tree Tags	Stream Type Break
Leave Tree Area	Existing Roads	Landing - Proposed
	Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre
	Optional Construction	



	A	B	C	D	E	F	G	H	I
1	ATB Indexing Form								
2	<i>Note: Please leave fields blank if not applicable</i>						PAS Initials	BH	
3	Prefix	55							
4	Agreement Number	55-000643							
5	Document Type	contract							
6	Agreement Name	Mitchell Peak - Rain Creek Easement Exchange							
7	Transaction Type	easement - road							
8	Effective Date/Date Granted	4/22/1971							
9	Expiration Date	Indef.							
10	Grantee/Lessee/Buyer	DNR							
11	Grantor/Lessor/Seller	International Paper Company							
12									
13	Water Body (aquatics)								
14	Notes (Deed file # or Aquatic Plate Reference)	See also 50-035573, 50-035574, 50-035575, 55-089301 & 55-089302							
15	Additional Parcel Information or special instructions	Recording numbers 73723 & 716027							
16									
17	GIS Parcel ID Entries	County	Cowlitz / Skamania						
18									
19		Region	Pacific Cascade						
20					Sec	Tsp	Range	E/W	G. Lot
21	Parcel ID 1		Parcel ID 21		25	7	4	E	
22	Parcel ID 2		Parcel ID 22						
23	Parcel ID 3		Parcel ID 23						
24	Parcel ID 4		Parcel ID 24						
25	Parcel ID 5		Parcel ID 25						
26	Parcel ID 6		Parcel ID 26						
27	Parcel ID 7		Parcel ID 27						
28	Parcel ID 8		Parcel ID 28						
29	Parcel ID 9		Parcel ID 29						
30	Parcel ID 10		Parcel ID 30						
31	Parcel ID 11		Parcel ID 31						
32	Parcel ID 12		Parcel ID 32						
33	Parcel ID 13		Parcel ID 33						
34	Parcel ID 14		Parcel ID 34						
35	Parcel ID 15		Parcel ID 35						
36	Parcel ID 16		Parcel ID 36						
37	Parcel ID 17		Parcel ID 37						
38	Parcel ID 18		Parcel ID 38						
39	Parcel ID 19		Parcel ID 39						
40	Parcel ID 20		Parcel ID 40						

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BURLINGTON NORTHERN INC. COPY

T & M Contract
No. 7243

MITCHELL PEAK-RAIN CREEK

Easement Deed
No. 27010

EASEMENT EXCHANGE

6/29/71

This Agreement, made and entered into as of the 22nd day of April, 1971, by and between Weyerhaeuser Company, a Washington corporation, herein called "Weyerhaeuser", International Paper Company, a New York corporation, herein called "International", Burlington Northern Inc., a Delaware corporation, herein called "Burlington" and the State of Washington, acting by and through the Department of Natural Resources, herein called "State", W I T N E S S E T H:

I.

A. Weyerhaeuser hereby grants and conveys to International, Burlington, and State, their successors and assigns, a permanent, nonexclusive easement upon, over and along rights of way 60 feet in width over and across Lot Five (5) of Section Twenty-five (25), Township Seven (7) North, Range Four (4) East of W. M., in Clark County, Washington, and the Northeast Quarter of Northeast Quarter (NE $\frac{1}{4}$ of NE $\frac{1}{4}$), Lot One (1) and Lot Five (5) of Section Thirty-one (31) and the South half of Northeast Quarter (S $\frac{1}{2}$ of NE $\frac{1}{4}$), South half of Northwest Quarter (S $\frac{1}{2}$ of NW $\frac{1}{4}$), North half of Southwest Quarter (N $\frac{1}{2}$ of SW $\frac{1}{4}$), East half of Southeast Quarter (E $\frac{1}{2}$ of SE $\frac{1}{4}$) and Northwest Quarter of Southeast Quarter (NW $\frac{1}{4}$ of SE $\frac{1}{4}$) of Section Thirty-three (33), Township Seven (7) North, Range Five (5) East of W. M. in Skamania County, Washington, located approximately as shown in light blue on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

B. Weyerhaeuser hereby grants and conveys to State, its successors and assigns, a permanent, nonexclusive easement upon,



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over and along a right of way 60 feet in width over and across the Northwest Quarter of Northeast Quarter (NW $\frac{1}{4}$ of NE $\frac{1}{4}$), East half of Northwest Quarter (E $\frac{1}{2}$ of NW $\frac{1}{4}$), Northeast Quarter of Southwest Quarter (NE $\frac{1}{4}$ of SW $\frac{1}{4}$) of Section Thirty-three (33), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in brown on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

C. Weyerhaeuser hereby grants and conveys to Burlington, its successors and assigns, a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across Lot Eight (8) and Lot Seven (7) of Section Twenty-nine (29), Township Seven (7) North, Range Five (5) East of W. M. in Skamania County, Washington, located approximately as shown in grey on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

D. International hereby grants and conveys to Weyerhaeuser, Burlington and State, their successors and assigns, a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across Lot Seven (7) of Section Twenty-five (25), Township Seven (7) North, Range Four (4) East of W. M. in Cowlitz County, Washington, located approximately as shown in red on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

E. State hereby grants and conveys to Weyerhaeuser, International and Burlington, their successors and assigns, a permanent, nonexclusive easement upon, over and along rights of way 60 feet in width over and across Lot Three (3), Lot Two (2) and Southeast Quarter of Northeast Quarter (SE $\frac{1}{4}$ of NE $\frac{1}{4}$) of Section Thirty-six (36), Township Seven (7) North, Range Four (4) East of W. M. in Clark County, Washington and the North half

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of Northeast Quarter ($N\frac{1}{2}$ of $NE\frac{1}{4}$), Southeast Quarter of Northeast Quarter ($SE\frac{1}{4}$ of $NE\frac{1}{4}$), North half of Northwest Quarter ($N\frac{1}{2}$ of $NW\frac{1}{4}$) of Section Thirty-two (32), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in dark green on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

F. State hereby grants and conveys to International and Burlington, their successors and assigns, a permanent, nonexclusive easement upon, over and along rights of way 60 feet in width over and across the Northeast Quarter ($NE\frac{1}{4}$), East half of Northwest Quarter ($E\frac{1}{2}$ of $NW\frac{1}{4}$), Southwest Quarter ($SW\frac{1}{4}$) and Southeast Quarter ($SE\frac{1}{4}$) of Section Thirty-four (34), the Northwest Quarter of Northeast Quarter ($NW\frac{1}{4}$ of $NE\frac{1}{4}$), South half of Northeast Quarter ($S\frac{1}{2}$ of $NE\frac{1}{4}$), Northeast Quarter of Northwest Quarter ($NE\frac{1}{4}$ of $NW\frac{1}{4}$), South half of Northwest Quarter ($S\frac{1}{2}$ of $NW\frac{1}{4}$), West half of Southwest Quarter ($W\frac{1}{2}$ of $SW\frac{1}{4}$), East half of Southeast Quarter ($E\frac{1}{2}$ of $SE\frac{1}{4}$) of Section Thirty-five (35), the South half of Southwest Quarter ($S\frac{1}{2}$ of $SW\frac{1}{4}$) of Section Thirty-six (36), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in lavender on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

G. State hereby grants and conveys to Burlington, its successors and assigns, a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across the Northeast Quarter ($NE\frac{1}{4}$) of Section Thirty-five (35), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in orange on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

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H. State hereby grants and conveys to Weyerhaeuser and Burlington, their successors and assigns, a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across the Northwest Quarter of Northwest Quarter (NW $\frac{1}{4}$ of NW $\frac{1}{4}$) of Section Thirty-two (32) Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in violet on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

I. Burlington hereby grants and conveys to Weyerhaeuser, International and State, their successors and assigns, a permanent, nonexclusive easement upon, over and along rights of way 60 feet in width over and across Lot Nine (9) of Section Twenty-nine (29) and Lot Two (2) of Section Thirty-one (31), Township Seven (7) North, Range Five (5) East of W. M. in Skamania County, Washington, located approximately as shown in yellow on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

J. Burlington hereby grants and conveys to Weyerhaeuser a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across Lot Six (6) of Section Twenty-nine (29), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in light green on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

K. Burlington hereby grants and conveys to State a permanent, nonexclusive easement upon, over and along a right of way 60 feet in width over and across Lot Nine (9) of Section Twenty-nine (29), Township Seven (7) North, Range Five (5) East of W. M., in Skamania County, Washington, located approximately as shown in dark blue on the attached "Exhibit A".

Subject as to said lands to all matters of public record.

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II.

The parties hereto hereby agree that the rights hereinabove granted by one party hereto to the others shall be subject to the following terms and conditions:

1. The easements are conveyed for the purposes of construction, reconstruction, use and maintenance of a road, or roads, for the purpose of providing access to or from lands now owned or hereafter acquired by the parties hereto.

2. Each party hereto reserves for itself, its successors and assigns, the right at all times and for any purpose to go upon, cross and recross, at any place on grade or otherwise, said rights of way on lands owned by it and to use the roads on said rights of way in a manner that will not unreasonably interfere with the rights granted to the other party hereunder.

3. Each party hereto may grant to third parties, upon such terms as it chooses, any or all of the rights reserved by it herein; provided, that use by such party shall be subject to the terms and conditions of this agreement and shall not unreasonably interfere with the rights granted to the other party hereunder.

4. Each party hereto may permit its respective contractors, licensees, purchasers of timber or other valuable materials, and their agents, hereinafter individually referred to as "Permittee" and collectively referred to as "Permittees", to exercise the rights granted to it herein; provided, that when a party hereto or one of its Permittees plans to use any portion of said roads for the purpose of hauling timber or other valuable materials, such party shall notify the other thereof at least fifteen (15) days prior to the commencement of use of said rights, advising of the portion of road to be used, the approximate dates when such use will begin and end, and of the approximate volumes of forest products or valuable materials to be hauled and forthwith upon the completion of such use notify the other party thereof.

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5. The cost of road maintenance and resurfacing shall be allocated on the basis of respective uses of said roads. When any party uses a road, that party shall perform or cause to be performed, or contribute or cause to be contributed, that share of maintenance and resurfacing occasioned by such use as hereinafter provided. During periods when a road is being used solely by one party, such party shall maintain that portion of said road so used to the standards existing at the time use is commenced. During periods when more than one party is using the same road, or any portion thereof, the parties hereto shall meet and establish necessary maintenance provisions. Such provisions shall include, but shall not be limited to:

(a) the appointment of a maintainer, which may be one of the parties hereto or any third party, who will perform or cause to be performed at a reasonable and agreed upon rate the maintenance and resurfacing of the road or the portion thereof being used; and

(b) a method of payment by which each party using said road or a portion thereof, shall pay its pro rata share of the cost incurred by said maintainer in maintaining or resurfacing said road or portion thereof.

For purposes of the agreement, maintenance is defined as the work normally necessary to preserve and keep the roadway, road structure and road facilities as nearly as possible in their present condition or as hereafter improved.

6. Each party using any portion of a road shall repair or cause to be repaired at its sole cost and expense that damage to said road occasioned by it which is in excess of that which it would cause through normal and prudent usage of said road. Should inordinate damage to a road occur which is not caused by an authorized user of said road, the parties hereto shall meet to agree

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upon the cost of replacement, the party to undertake the replacement, and the shares of replacement cost to be borne by each user of said road.

7. Unless the parties hereto agree in writing to share the costs of improvements in advance of such improvements being made, such improvements shall be solely for the account of the improver.

8. Each party hereto reserves to itself all timber now on or hereafter growing within the rights of way on its said lands.

9. Each party hereto shall require each of its Permittees, before using any of said roads on the lands of the other party hereto, to:

(a) obtain and, during the term of such use, maintain a policy of liability insurance in a form generally acceptable in the trade and customary in the area of said rights of way, insuring said Permittee against liability arising out of its operations, including use of vehicles. Minimum amounts of insurance shall be:

(1) For log haulers, One Hundred Thousand Dollars (\$100,000.00) for injury to one person, Three Hundred Thousand Dollars (\$300,000.00) for any one occurrence, and One Hundred Thousand Dollars (\$100,000.00) property damage for any one occurrence;

(2) For fern cutters, bough cutters, shake cutters, or other miscellaneous users operating pickup trucks, light trucks (under one (1) ton) or passenger cars for the purpose of transporting miscellaneous forest products. Twenty-five Thousand Dollars (\$25,000.00) for injury to one person, Fifty Thousand Dollars (\$50,000.00) for any one occurrence and Five Thousand Dollars (\$5,000.00) property damage for any one occurrence; or

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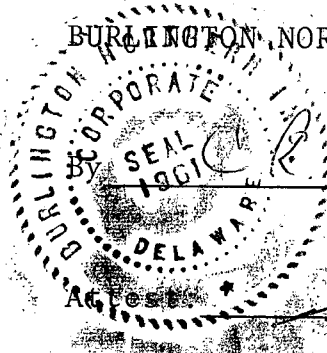
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(3) Such other limits as the parties hereto may agree upon in writing from time to time.

(b) deliver to each party hereto a certificate from the insurer of said Permittee certifying that coverage in not less than the above named amounts is in force and that in the event of cancellation or modification of such coverage, the insurer will give each party hereto ten (10) days' written notice prior to any cancellation or modification.

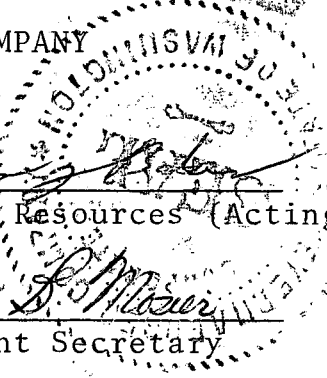
IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the day and year first above written.

BURLINGTON NORTHERN INC.



C. R. Benifer
VICE PRESIDENT
Annex
SECRETARY

WEYERHAEUSER COMPANY



By *Norman J. [Signature]*
Manager, Land Resources (Acting)
Attest: *Mary S. Moser*
Assistant Secretary

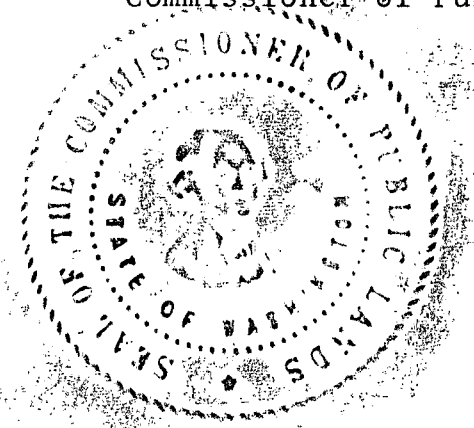
O.I. INTERNATIONAL PAPER COMPANY



By *D. J. Sandoz*
Manager of Woodlands
Attest: *[Signature]*
Assistant Secretary

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

By *Bert Cole*
BERT L. COLE
Commissioner of Public Lands



LT3/26

APPROVED
R/W AGENT

W.L.G.
DATE 6-15-71

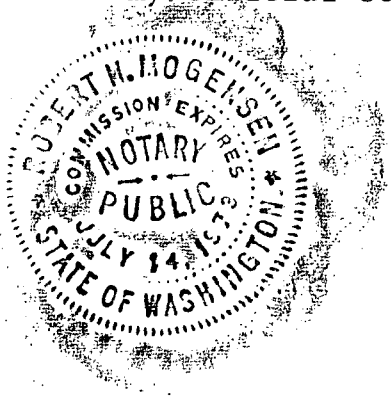
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STATE OF WASHINGTON)
) King)
County of Pierce) ss.
) ~~King~~)

On this 27th day of April, 19 71, before me personally appeared Norman J. Baker and Mary B. Mosier _____, to me known to be the Manager, Land Resources (Acting) and Assistant Secretary, respectively, of WEYERHAEUSER COMPANY, the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

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



Robert H. Mogensen
Notary Public in and for the
State of Washington, residing
at Tacoma
My commission expires: 7/14/73

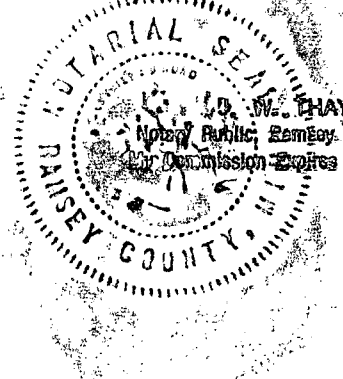
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STATE OF MINNESOTA)
County of Ramsey) ss.

On this 29th day of may, 1971, before me personally appeared C. R. Binger and R. M. O'Kelly, to me known to be the VICE PRESIDENT and SECRETARY, respectively, of BURLINGTON NORTHERN INC., the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

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



D. W. Thayer
Notary Public in and for the State
of Minnesota, residing at St. Paul
My commission expires: Nov. 17, 1971

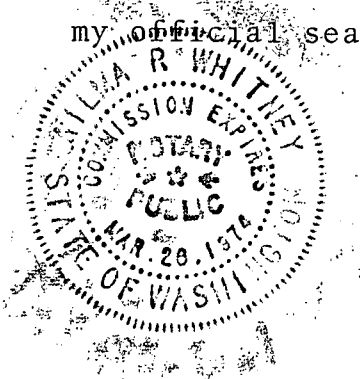
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STATE OF Washington)
County of Cowlitz) ss.

On this 3^d day of May, 1971, before me personally appeared A. J. Sandoy and F. L. Patrick, to me known to be the Mgr. of Woodlands and Asst Secretary, respectively, of INTERNATIONAL PAPER COMPANY, the corporation that executed the within and foregoing instrument, and acknowledged said instrument to be the free and voluntary act and deed of said corporation, for the uses and purposes therein mentioned, and on oath stated that they were authorized to execute said instrument and that the seal affixed is the corporate seal of said corporation.

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



Wilma R. Whitney
Notary Public in and for the State
of Wash., residing at Longview
My commission expires: 3/26/74

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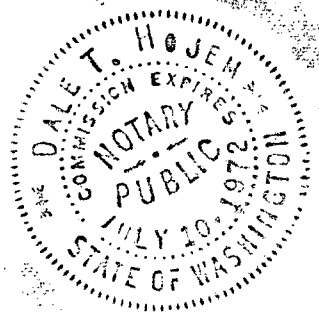
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STATE OF WASHINGTON)
County of Thurston) ss.

On this 24th day of June, 1971, before me personally appeared BERT L. COLE, to me known to be the Commissioner of Public Lands, and ex officio administrator of the Department of Natural Resources of the State of Washington, the Department that executed the within and foregoing instrument on behalf of the State of Washington, and acknowledged said instrument to be the free and voluntary act and deed of the State of Washington for the uses and purposes therein mentioned, and on oath stated that he was authorized to execute said instrument and that the seal affixed is the official seal of the Commissioner of Public Lands for the State of Washington.

IN WITNESS WHEREOF, I have hereunto set my hand and seal the day and year set forth above.

Dale T. Hojem
Notary Public in and for the State of Washington, residing at Olympia

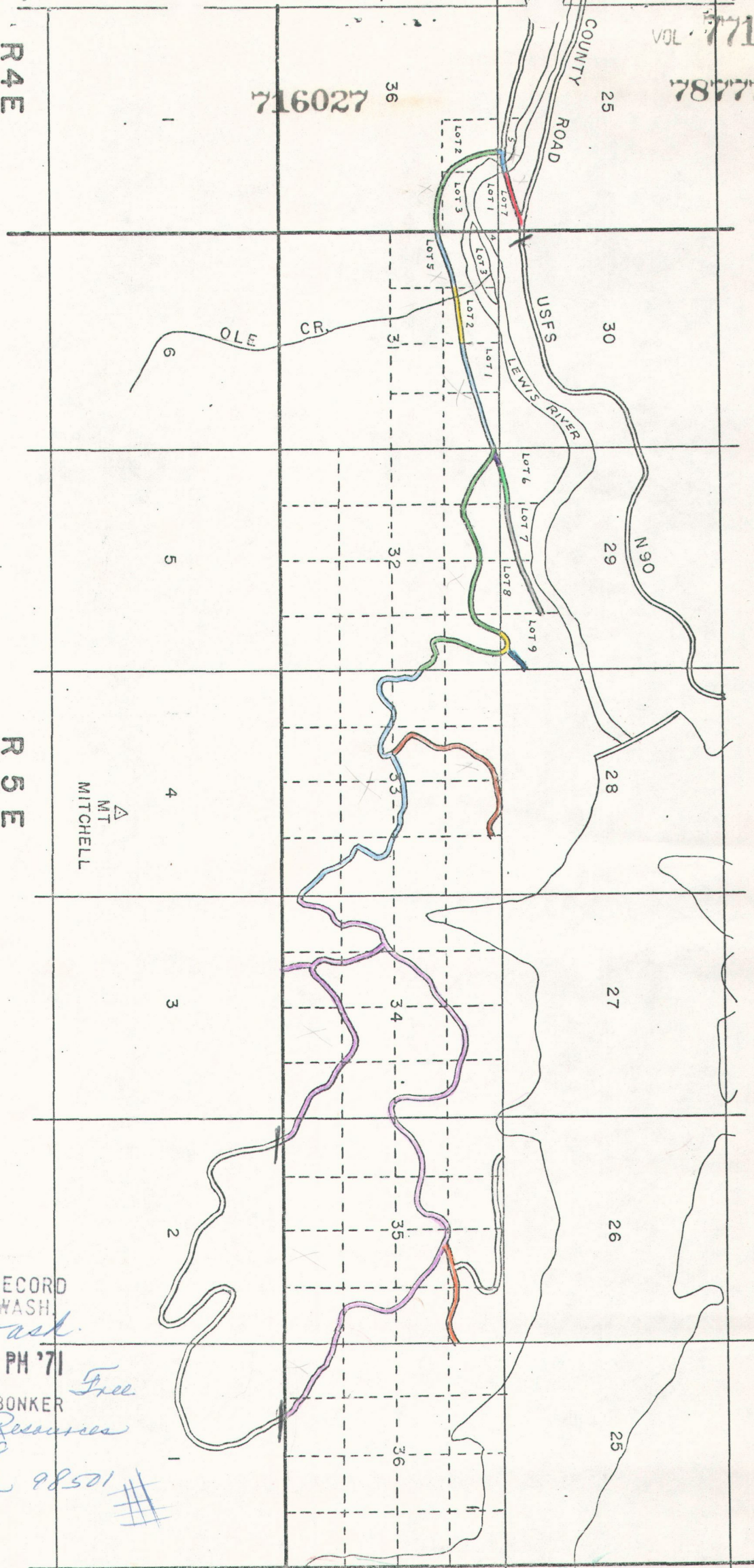


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R5E

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FILED FOR RECORD
 CLARK CO. WASH.
State of Wash.
 JUL 7 12 45 PM '71
 AUDITOR DON BONKER *Free*
Dept Natl Resources
Box 168
Olympia 98501

Filed for Record 7-14 1971 10:23A
 Request of Dept of Natural Resources
 JACK TRENT, Cowlitz County Auditor *E Saucher, Dep*

EXHIBIT A