

TIMBER NOTICE OF SALE

SALE NAME: MULLIGAN VRH & VDT

AGREEMENT NO: 30-092287

AUCTION: May 24, 2016 starting at 10:00 a.m., **COUNTY:** Mason
South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 18 miles north of the town of Hoodspport.

PRODUCTS SOLD AND SALE AREA:

All timber, except leave trees bounded out by yellow leave tree area tags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, blue special management tags and timber type change marked with pink flagging in Unit #1.

All timber as described in Schedule A bounded by white timber sale boundary tags and blue special management tags in Unit #2 on part(s) of Sections 11 and 14 all in Township 23 North, Range 4 West, W.M., containing 81 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	16.9	7	2,915				31		1,854	695	310	25
Hemlock	10.9	7	323						62	100	153	8
Cottonwood	25.5		12						12			
Red alder	16.4		6							5	1	
Red cedar	18.8		5							4	1	
White pine	6.9		2									2
Sale Total			3,263									

MINIMUM BID: \$898,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: September 30, 2017 **ALLOCATION:** Export Restricted

BID DEPOSIT: \$89,800.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground based equipment. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

Falling, yarding and timber haul will not be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.

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ROADS: 30.53 stations of required construction. 10.44 stations of required reconstruction. 26.09 stations of optional construction. 8.24 stations of optional reconstruction. 21.80 stations of required pre-haul maintenance. 111.06 stations of post-haul maintenance. 34.33 stations of decommissioning, if constructed/reconstructed. Cross section designs are available at the South Puget Sound Region office upon request. Purchaser maintenance on the 2000, 2020, 2025, 2026, and 2027 roads and Spurs 1, 2 and 3. Designated maintenance on all other roads used. Rock for this proposal may be obtained from the state owned Wedge Rock Pit or any commercial rock source.

Road construction and rock haul will not be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.

ACREAGE DETERMINATION

CRUISE METHOD: Unit #1 acreage was determined by traversing boundaries by GPS. Unit #2 acreage was determined by traversing boundaries by GPS. Traverse GPS files are available upon request by emailing rachel.mason@dnr.wa.gov. See cruise narrative for cruise method.

FEES: \$57,918.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains high quality Douglas fir and possible poles.

Hand falling may be required within equipment limitation zones on Type 5 streams.

Unit #2 is a variable density thinning and must be marked by the Purchaser prior to harvest operations beginning and in accordance with Schedule A, which is part of the contract.

Trees within the clearing limits on the 2000 Road at stations 40+05 to 46+16 are marked with orange paint and must be left on site.

Purchaser shall cut vine maple within the harvest area of Unit #1.

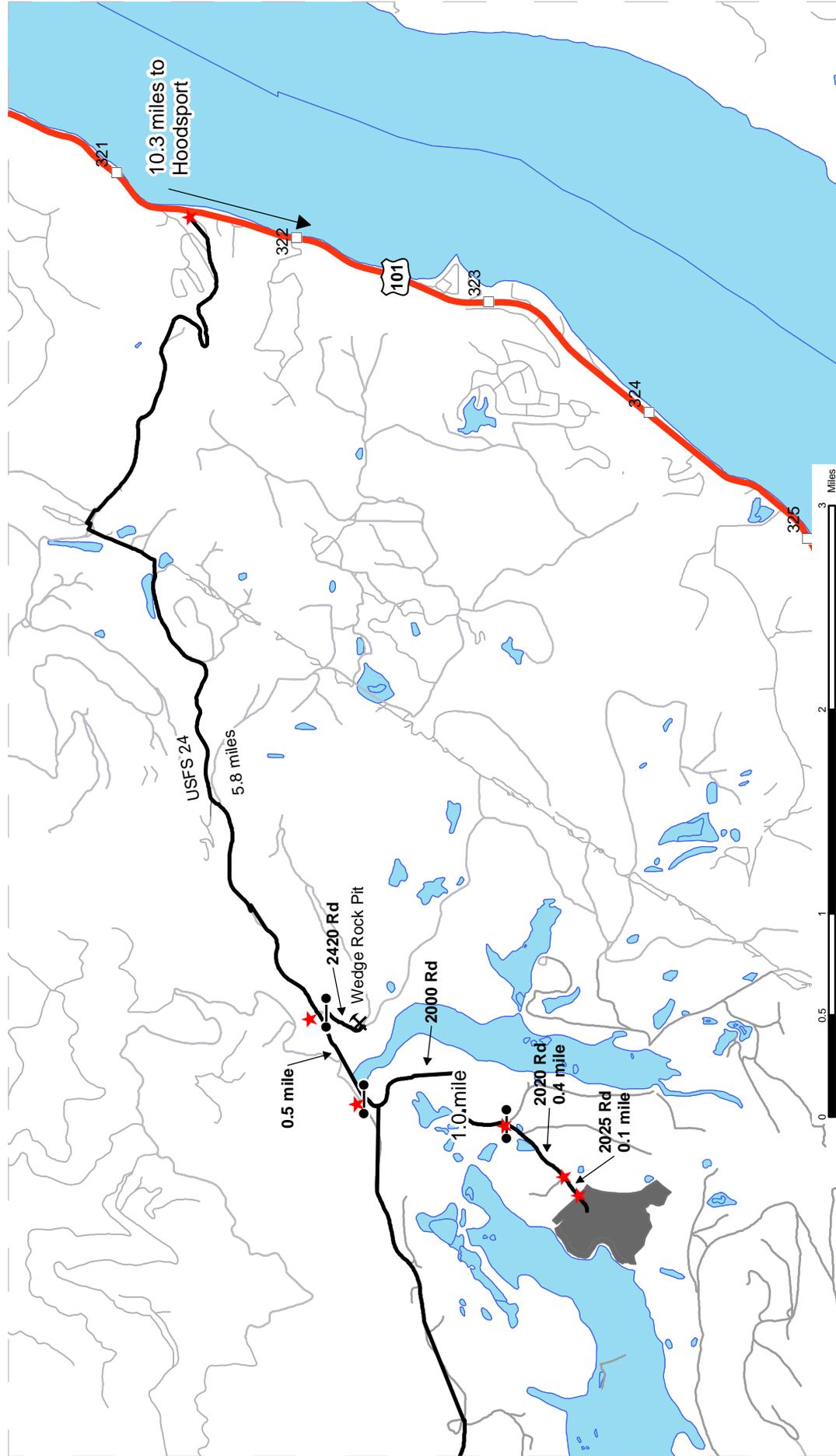
As part of the Fly Net Timber Sale, planned to be auctioned August 2016, the gate at station 1+15 on the 2020 Road will be removed, re-installed and maintained at station 1+42 on the 1900 Road.

See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region office at (360) 825-1631 or by contacting Mike Davies at (360) 801-0682.

DRIVING MAP

SALE NAME: Mulligan VRH & VDT
AGREEMENT #: 92287
TOWNSHIP(S): T23R04W
TRUST(S): Common School and Indemnity (03), Charitable/Education/Penal & Reformatory Instt. (06)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 766-823 ft.



- Timber Sale Unit
- Highways
- Haul Route
- Other Route
- Milepost Markers
- Distance Indicator
- Wedge Rock Pit
- Gate - 383 Key

DRIVING DIRECTIONS:

Directions from Hoodspport: Travel north on US 101 for 10.3 miles. Turn left onto USFS 24 Road (Jorstad Creek Road) and travel 5.8 miles to the 2420 road. Turn left and go through gate up 2420 Road to Wedge Rock Pit. To access harvest units continue 0.5 miles on USFS 24 Road from 2420 Road to gate on 2000 Road. Turn left and go through gate on 2000 Road. Travel 1.0 mile on 2000 Road then turn right through open gate on 2020 Road. Travel 0.4 mile on 2020 and turn left on 2025 Road. Unit 1 boundary is 0.1 mile on 2025 Road.

**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-092287

SALE NAME: MULLIGAN VRH & VDT

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on May 24, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bounded out by yellow leave tree area tags, and down timber existing more than 5 years from the day of sale, bounded by the following: white timber sale boundary tags, blue special management tags and timber type change marked with pink flagging in Unit #1.

All timber as described in Schedule A bounded by white timber sale boundary tags and blue special management tags in Unit #2, located on approximately 81 acres on part(s) of Sections 11, and 14 all in Township 23 North, Range 4 West W.M. in Mason 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	WMZ Thinning Prescription

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to September 30, 2017.

G-040 Contract Term Adjustment - No Payment

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

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

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

- e. Payment of \$856.00 per acre per annum for the acres on which an operating release has not been issued within the VRH unit. Payment of \$122.00 per acre per annum for the acres on which an operating release has not been issued within the VDT unit.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.
- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser.

The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

Contract Item	Appraised Price	Overbid Factor	Price	Fees	Contract Payment Rate
Cottonwood	\$108.25	0	\$0.00	\$9.00	\$9.00
Douglas fir	\$281.40	0	\$0.00	\$9.00	\$9.00
Hemlock	\$219.75	0	\$0.00	\$9.00	\$9.00
Red alder	\$323.23	0	\$0.00	\$9.00	\$9.00
Red cedar	\$643.57	0	\$0.00	\$9.00	\$9.00
White pine	\$146.14	0	\$0.00	\$9.00	\$9.00
Other	\$282.00	0	\$0.00	\$9.00	\$9.00

G-111 Title and Risk of Loss

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from

the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

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

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

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

that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

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

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

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

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

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

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Enumclaw, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive,

modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

G-210 Violation of Contract

G-220 State Suspends Operations

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

G-210 Violation of Contract

- a. If Purchaser violates any provision of this contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after receipt of a suspension notice to remedy the violation. If the violation cannot be remedied (such as a violation of WAC 240-15-015) or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the

State may terminate the rights of Purchaser under this contract and collect damages.

- b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.
- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operation

The Contract Administrator may suspend any operation of Purchaser under this contract when the State is suffering, or there is a reasonable expectation the State will suffer environmental, monetary, or other damage if the operation is allowed to continue.

Purchaser shall be in breach of this contract if the operation continues after the suspension notice or if the operation resumes without prior approval and notice from the Contract Administrator.

Purchaser may request a modification of a suspension within 30 days of the start of suspension through the dispute resolution process in clause G-240. If this process results in a finding that the suspension exceeded the time reasonably necessary to stop or prevent damage to the State, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State is suffering, or can reasonably be expected to suffer if the operation is allowed to continue, will prevent harvest for a period that will exceed 6 months, and Purchaser has complied with this contract, the provisions of clause G-066 shall govern just as if the harvest was prevented by an applicable foreign or domestic governmental regulation or order.

G-230 Unauthorized Activity

Any cutting, removal, or damage of forest products by Purchaser, its employees, agents, or invitees, including independent contractors, in a manner inconsistent with the terms of this contract or State law, is unauthorized. Such activity may subject Purchaser to liability for triple the value of said forest products under RCW 79.02.320 or RCW 79.02.300 and may result in prosecution under RCW 79.02.330 or other applicable statutes.

G-240 Dispute Resolution

The following procedures apply in the event of a dispute regarding interpretation or administration of this contract and the parties agree that these procedures must be followed before a lawsuit can be initiated.

- a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.
- b. The Region Manager will issue a written decision on Purchaser's request within ten business days.
- c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.
- d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

Purchaser shall comply with all applicable statutes, regulations and laws, including, but not limited to; chapter 27.53 RCW, chapter 68.50 RCW, WAC 240-15 and WAC 296-54. Failure to comply may result in forfeiture of this contract.

G-260 Venue

This contract shall be governed by the laws of the State of Washington. In the event of a lawsuit involving this contract, venue shall be proper only in Thurston County Superior Court.

G-270 Equipment Left on State Land

All equipment owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other State land by the termination date of this contract. Equipment remaining unclaimed on State land 60 days after the expiration of the contract period is subject to disposition as provided by law. Purchaser shall pay to the State all costs of moving, storing, and disposing of such equipment. The State shall not be responsible for any damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract

expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; on the USFS 24, 2000, 2020, 2025, 2026, 2027, and 2420 roads and Spurs 1, 2 and 3. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-380 Road Easement and Road Use Permit Requirements

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

Easement #55-000049 entered into between the State of Washington Department of Natural Resources and United States Forest Service, Department of Agriculture dated September 23, 1968.

G-400 Memorandum of Understanding Requirements

Purchaser agrees to comply with the attached terms and conditions of the Memorandum of Understanding entered into between the State and Forest Service, United States Department of Agriculture, dated August 4, 1992.

G-430 Open Fires

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

G-450 Encumbrances

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

To be determined approximately one month prior to the day of sale.

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 \$87,285.00. The total contract price consists of a \$0.00 contract bid price plus \$87,285.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-012 Leave Tree Damage Definition

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

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

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

If the Contract Administrator determines that a leave tree has been cut or damaged, the Purchaser may be required to pay liquidated damages for Excessive Leave Tree Damage as detailed in clause D-040.

H-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 144 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-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 the variable density thinning Unit #2. The plan shall address the prescription, marking, falling 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 yarded by ground based equipment unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A) Falling, yarding and timber haul will not be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1st to April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventative measures must be in place prior to commencing any winter operations.
- B) Purchaser shall pile landing debris as needed to create plantable spots every 11 feet. Planting spots shall be down to mineral soil.
- C) No equipment shall be allowed within the 30 foot equipment limitation zones (ELZ) on Type 5 streams, except at road crossings and designated crossings. ELZs are marked with red flagging.
- D) Crossings on Type 5 streams may be allowed at locations pre-marked by the Purchaser and approved by the Contract Administrator. Temporary structures should be used to provide stream channel and bank protection and shall be

installed prior to use. All crossing structure material shall be cleaned out following use.

- E) Any and all operations associated with this timber sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- F) Purchaser shall cut all vine maple leaving a stump height no greater than 12 inches in Unit #1.
- G) Purchaser shall notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A) Purchaser shall leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet in Unit #1.
- B) Trees within the clearing limits on the 2000 Road at stations 40+05 to 46+16 are marked with orange paint and shall be left on site.

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 Unit #1, all live stems over 2 inches in diameter, shall be felled. 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 10/15/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the 2000, 2020, 2025, 2026, and 2027 roads and Spurs 1, 2 and 3. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used not covered 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 State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters any Type 5 stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 4 to 6 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If

large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

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

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

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

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

ECY - Southwest Region:

1-360-407-6300

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

ECY - Central Region:

1-509-575-2490

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

ECY - Eastern Region:

1-509-329-3400

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$500.00 per tree for all damaged trees in Unit #2.

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 Unit #1.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Art Tasker
South Puget Sound Region Manager

Date: _____
Address: _____

Date: _____

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)

COUNTY OF _____)

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

_____ to me known to be the _____ of the corporation

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
WMZ Thinning Prescription

Unit 2 WMZ Thinning Prescription

Unit Average Residual Basal Area (BA)	DBH Take Limits (inches)
130 square feet	13-34

Only live conifers 6 inches in diameter at breast height (DBH) or greater shall count towards the BA target. At any given location within the harvest unit, leave trees shall not result in a residual basal area less than 120 square feet.

To accomplish this prescription, fallers shall target for harvest trees that are 13 inches to 34 inches in DBH. No trees that are 12 inches and less in DBH or 35 inches or larger in DBH shall be felled, with the exception of those trees which pose safety hazards. Trees in the harvested diameter ranges (DBH take limits) shall be thinned through the diameter ranges in accordance with the leave tree selection criteria below.

Prior to cutting in this unit, Purchaser shall mark take trees with bands of durable paint as agreed upon with the Contract Administrator. The Contract Administrator shall review take tree selection for compliance with the prescription and provide approval in writing before cutting operations begin.

Leave trees within the take limits will be selected by comparing their characteristics with adjacent trees. The best leave trees would have the following characteristics (in descending order of importance):

- 1) Free of disease, major defect and damage,
- 2) Fullest and most vigorous crown, measured using live crown ratios,
- 3) Largest diameter,
- 4) Best form (tallest tree, straightest bole, smallest limb diameter).



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: South Puget Sound

Timber Sale Name: Mulligan

Application Number: 30- 092287

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 5,662 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 1868 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

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

Decommission: 3433 **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 2180 **linear feet**
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

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

(Revised 6/13)

PRE-CRUISE NARRATIVE

Sale Name: Mulligan	Region: South Puget Sound
Agreement #: 30-092287	District: Hood Canal
Contact Forester: Mike Davies	Phone/ Location: (360) 801-0682
Alternate Contact: Ben Blocher	Phone/ Location: (360) 463-1829

Type of Sale: Lump sum Required or Optional removal of utility as pulp: Yes Evaluated for RFRS Implementation? Yes Percentage cable (specify downhill vs uphill): 0 Percentage ground based: 100 Species Onsite: <input checked="" type="checkbox"/> RC, <input checked="" type="checkbox"/> DF, <input checked="" type="checkbox"/> WH, <input checked="" type="checkbox"/> RA, <input type="checkbox"/> BC, <input checked="" type="checkbox"/> BLM, <input type="checkbox"/> NF, <input type="checkbox"/> SF, <input checked="" type="checkbox"/> SS, <input type="checkbox"/> Other:(Please List)
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UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #	Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
					RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1		Sec 11 / T23N/ R4W	06	78	0	3.7	0.7	0	73.6	GPS, LxW
2		Sec 11/ T23N/ R4W	06	7.0	0	0	0	0	7.0	GPS
TOTAL ACRES				85.0	0	3.7	0.7	0	80.6	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	VRH with tagged leave tree clumps	None	624
2	VDT WMZ Thinning. Prescription based thinning down to basal area of 140.	VDT Unit	

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	A383 lock on Gate #30 on 2000 Road	
2		A383 lock on Gate #30 on 2000 Road	

REMARKS:

Prepared By: Mike Davies Date: 10/09/2015	Title: NRS1	CC: Audrey Mainwaring
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Cruise Narrative

Sale Name: Mulligan	Region: South Puget Sound
Agree. #: 30-092287	District: Hood Canal
Lead cruiser: John Piety	Completion date: 10-20-2015 revised 3-3-2016
Other cruisers on sale: None	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	73.6	Yes	
2	7	Yes	
Total	80.6		

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise:count)	Total number of plots
1	VP	40 BAF	4.5	230' X 230'	1:1	59
2	VP	54.4 BAF	4.5	150' X 150'	100%	8

Sale/Cruise Description:

Minor species cruise intensity:	100% up to 5 trees per species
Minimum cruise spec:	<p>HA - Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 1/2" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators 1/2" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (High Quality sort. Grades SM, 2S, 12"+ TDIB lengths 16-40ft. Max butt 27" Grade 3S lengths 34ft, 26ft, 17ft. TDIB 8-11".)</p> <p>HB - Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 1 1/2" in diameter. May include logs with not more than two larger knots up to 2 1/2" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (Intermediate sort. Grade 2S, 12"+TDIB lengths 16-40ft. Max butt 27" Grade 3S lengths 34ft, 26ft, 17ft min TDIB 8-11".).</p> <p>D - Domestic quality logs that do not meet high quality or intermediate definitions. (Domestic sort. Grades 2S, 3S, 4S and utility. Lengths 16ft-40ft,</p>

	min TDIB 2in.) O- Logs exceeding 27" on the large end. (Oversize sort. Grade 2S. Lengths 16ft-40ft, 2ft multiples butt diameter min dia. 27 in. +) R - Logs meeting the following criteria: Surface characteristics for a rough log sort will not meet the requirements for a domestic 2S, but still be in limitations for a domestic 3S. Meaning logs will contain excessive knots in excess of 2 1/2" and not exceeding 3" with a recovery of less than 65% of the net scale and greater than 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)			
Avg ring count by sp:	DF =	7	WH =	7
Leave/take tree description:	Leave trees are banded with blue paint and tagged out with yellow leave tree tags.			
Other conditions	Unit # 2 is a WMZ thinning. This unit will be thinned down to a basal area of 130. The volume represented by an "L" on the cruise reports will need to be deducted from the take volume to get your total. A "P" on the cruise reports indicate possible pole volume.			

Field observations:

This sale is a dominant DF stand with a WH understory and minor species, RC, WP, SS, RA, BLM, BC. This is fair to good quality logs with a fair amount of oversized logs. The pole volume is lite here due to sweep and some excessive branching. There is a decent amount of higher quality logs.

Grants: 100% - 06

Prepared by:

John Piety

Title:

Cruiser

CC:

TC PSTATS		PROJECT STATISTICS							PAGE 1	
		PROJECT MULLIGAN							DATE 3/3/2016	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	04	11	MULLIGAN	0001	80.60	67	356	S	W	
23N	04W	11	MULLIGAN	WMZ2						
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		67	356	5.3						
CRUISE		40	196	4.9	13,930	1.4				
DBH COUNT										
REFOREST										
COUNT		27	148	5.5						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	136	106.9	16.9	77	40.6	167.3	33,501	32,750	7,245	7,245
DOUG FIR-L	14	4.9	17.5	70	2.0	8.3	1,948	1,923	389	389
DOUG FIR-P	7	4.9	16.7	95	1.8	7.4	1,493	1,493	325	325
WHEMLOCK	28	46.0	10.9	50	9.0	29.7	3,805	3,754	950	950
WHEMLOCK-L	6	6.8	9.8	43	1.1	3.5	254	254	81	81
WR CEDAR	2	.3	18.8	60	0.1	.6	57	57	20	20
W PINE	1	2.4	6.9	46	0.2	.6	24	24	9	9
COTWOOD	1	.2	25.5	120	0.1	.6	157	152	33	33
R ALDER	1	.4	16.4	65	0.2	.6	80	76	20	20
TOTAL	196	172.8	15.2	68	56.0	218.7	41,319	40,481	9,073	9,073
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		89.1	7.6	611	661	711				
DOUG FIR-L		79.1	21.9	895	1,146	1,397				
DOUG FIR-P		63.0	25.6	277	373	468				
WHEMLOCK		115.0	22.1	130	168	205				
WHEMLOCK-L		44.0	19.6	33	42	50				
WR CEDAR		47.1	44.1	142	255	368				
W PINE										
COTWOOD										
R ALDER										
TOTAL		103.4	7.4	544	587	630	427	218	107	
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		62.2	7.6	99	107	115				
DOUG FIR-L		446.3	54.5	2	5	8				
DOUG FIR-P		264.9	32.3	3	5	6				
WHEMLOCK		153.2	18.7	37	46	55				
WHEMLOCK-L		434.7	53.1	3	7	10				
WR CEDAR		818.5	99.9	0	0	1				
W PINE		818.5	99.9	0	2	5				
COTWOOD		818.5	99.9	0	0	0				
R ALDER		818.5	99.9	0	0	1				
TOTAL		52.3	6.4	162	173	184	109	56	27	
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		46.3	5.7	158	167	177				
DOUG FIR-L		306.5	37.4	5	8	11				
DOUG FIR-P		255.8	31.2	5	7	10				

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT MULLIGAN							DATE	3/3/2016
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	04	11	MULLIGAN	0001	80.60	67	356	S	W	
23N	04W	11	MULLIGAN	WMZ2						
CL	68.1		COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK			132.7	16.2	25	30	35			
WHEMLOCK-L			422.8	51.6	2	4	5			
WR CEDAR			818.5	99.9	0	1	1			
W PINE			818.5	99.9	0	1	1			
COTWOOD			818.5	99.9	0	1	1			
R ALDER			818.5	99.9	0	1	1			
TOTAL			35.4	4.3	209	219	228	50	25	12
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			49.5	6.0	30,771	32,750	34,728			
DOUG FIR-L			293.6	35.8	1,234	1,923	2,612			
DOUG FIR-P			253.9	31.0	1,030	1,493	1,956			
WHEMLOCK			140.3	17.1	3,111	3,754	4,396			
WHEMLOCK-L			428.4	52.3	121	254	386			
WR CEDAR			818.5	99.9	0	57	113			
W PINE			818.5	99.9	0	24	48			
COTWOOD			818.5	99.9	0	152	304			
R ALDER			818.5	99.9	0	76	152			
TOTAL			40.0	4.9	38,505	40,481	42,457	64	33	16

TC TSTATS		STATISTICS							PAGE	1	
		PROJECT MULLIGAN							DATE	3/3/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
23N	04W	11	MULLIGAN	0001	73.60	59	318	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		59	318	5.4							
CRUISE		32	158	4.9	12,631		1.3				
DBH COUNT											
REFOREST											
COUNT		27	148	5.5							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	118	112.3	16.7	76	41.9	171.5	34,150	33,370	7,391	7,391	
DOUG FIR-P	7	5.3	16.7	95	2.0	8.1	1,635	1,635	356	356	
WHEMLOCK	28	50.4	10.9	50	9.9	32.5	4,167	4,111	1,040	1,040	
WR CEDAR	2	.4	18.8	60	0.2	.7	62	62	22	22	
W PINE	1	2.6	6.9	46	0.3	.7	26	26	10	10	
COTWOOD	1	.2	25.5	120	0.1	.7	172	166	37	37	
R ALDER	1	.5	16.4	65	0.2	.7	88	83	22	22	
TOTAL	158	171.6	15.2	69	55.2	214.9	40,300	39,453	8,879	8,879	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		93.1	8.6	596	652	708					
DOUG FIR-P		63.0	25.6	277	373	468					
WHEMLOCK		115.0	22.1	130	168	205					
WR CEDAR		47.1	44.1	142	255	368					
W PINE											
COTWOOD											
R ALDER											
TOTAL		104.6	8.3	498	543	588	437	223	109		
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		55.7	7.2	104	112	120					
DOUG FIR-P		246.3	32.0	4	5	7					
WHEMLOCK		139.6	18.2	41	50	60					
WR CEDAR		768.1	99.9	0	0	1					
W PINE		768.1	99.9	0	3	5					
COTWOOD		768.1	99.9	0	0	0					
R ALDER		768.1	99.9	0	0	1					
TOTAL		51.2	6.7	160	172	183	105	53	26		
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		41.5	5.4	162	172	181					
DOUG FIR-P		237.7	30.9	6	8	11					
WHEMLOCK		119.6	15.6	27	33	38					
WR CEDAR		768.1	99.9	0	1	1					
W PINE		768.1	99.9	0	1	1					
COTWOOD		768.1	99.9	0	1	1					
R ALDER		768.1	99.9	0	1	1					
TOTAL		34.3	4.5	205	215	225	47	24	12		

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT MULLIGAN			DATE	3/3/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	04W	11	MULLIGAN	0001	73.60	59	318	S	W	
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		45.2	5.9	31,407	33,370	35,334				
DOUG FIR-P		235.9	30.7	1,133	1,635	2,137				
WHEMLOCK		127.1	16.5	3,431	4,111	4,790				
WR CEDAR		768.1	99.9	0	62	124				
W PINE		768.1	99.9	0	26	52				
COTWOOD		768.1	99.9	0	166	332				
R ALDER		768.1	99.9	0	83	166				
TOTAL		<i>39.2</i>	<i>5.1</i>	<i>37,440</i>	<i>39,454</i>	<i>41,467</i>	<i>61</i>	<i>31</i>	<i>15</i>	

TC TSTATS		STATISTICS					PAGE	1		
		PROJECT MULLIGAN					DATE	3/3/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	04W	11	MULLIGAN	WMZ	7.00	8	38	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		8	38	4.8						
CRUISE		8	38	4.8	1,299	2.9				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	18	50.5	21.1	100	26.7	122.4	26,676	26,225	5,710	5,710
DOUG FIR-L	14	56.7	17.5	70	22.7	95.2	22,435	22,138	4,479	4,479
WHEMLOCK-L	6	78.3	9.8	43	13.1	40.8	2,920	2,920	927	927
TOTAL	38	185.5	16.0	67	64.6	258.4	52,031	51,283	11,116	11,116
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	64.0	15.5	607	718	830					
DOUG FIR-L	79.1	21.9	895	1,146	1,397					
WHEMLOCK-L	44.0	19.6	33	42	50					
TOTAL	94.4	15.3	651	769	887	356	181	89		
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	64.8	24.4	38	51	63					
DOUG FIR-L	129.3	48.7	29	57	84					
WHEMLOCK-L	123.9	46.7	42	78	115					
TOTAL	59.1	22.3	144	186	227	159	81	40		
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	66.1	24.9	92	122	153					
DOUG FIR-L	50.7	19.1	77	95	113					
WHEMLOCK-L	118.2	44.6	23	41	59					
TOTAL	43.2	16.3	216	258	301	85	43	21		
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	74.9	28.2	18,823	26,225	33,627					
DOUG FIR-L	39.0	14.7	18,881	22,138	25,395					
WHEMLOCK-L	120.9	45.6	1,589	2,920	4,250					
TOTAL	48.2	18.2	41,968	51,283	60,598	106	54	26		

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

T23N R04W S11 Ty0001	73.6
T23N R04W S11 TyWM2	7.0

Project MULLIGAN
Acres 80.60

Page No 1
Date: 3/3/2016
Time 3:01:09PM

Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
DOUG FIR	9,408	21,224	18,284	68.19	30.23	0.90	6,415	6,416	2,978	2,915
WHEMLOCK	4,255	6,401	2,657	19.52	12.97	0.39	830	830	327	323
COTWOOD	14	42	66	191.33	63.78	1.64	27	27	13	12
R ALDER	34	68	45	48.16	24.08	0.75	16	16	6	6
WR CEDAR	27	53	38	61.51	30.75	1.06	16	16	5	5
W PINE	192	192	18	3.93	3.93	0.11	8	8	2	2
Totals	13,930	27,981	21,109	52.50	26.14	0.78	7,313	7,313	3,330	3,263

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
C	13,882	27,871	20,998	52.37	26.08	0.77	7,270	7,270	3,311	3,244
H	48	110	111	90.05	39.28	1.13	43	43	19	18
Totals	13,930	27,981	21,109	52.50	26.14	0.78	7,313	7,313	3,330	3,263



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

FPA/N No: 2418401

Effective Date: 2/17/2016

Expiration Date: 2/17/2019

Shut Down Zone: 654

EARR Tax Credit: Eligible Non-eligible

Reference: **Mulligan VRH &VDT**

**Forest Practices Application/Notification
 Notice of Decision**

Decision

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

FPA/N Classification

Number of Years Granted on Multi-Year Request

- Class II Class III Class IVG Class IVS 4 yrs 5 yrs

Conditions on Approval / Reasons for Disapproval

Issued By: Jason Sharp

Region: South Puget Sound

Title: Resource Protection Forester

Date: 2/17/2016

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: _____

Appeal Information

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

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

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

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

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

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

And

Department Of Natural Resources
South Puget Sound Region
950 Farman Ave. N
Enumclaw, WA 98022

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.

Hydraulic Project Approval (HPA) (Chapter 77.55RCW and WAC 222-50-020(2))

The Department of Fish and Wildlife (WDFW), as the jurisdictional agency issuing HPAs, has final authority for approving water crossing structures in Type S and F waters. WDFW continues to have authority on Type N waters and may exercise that authority on some Type N waters.

Notice: The HPA water crossing requirements supersede what is indicated on the FPA. Landowners are required by law to follow the provisions as directed on the HPA.

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

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

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

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

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

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

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

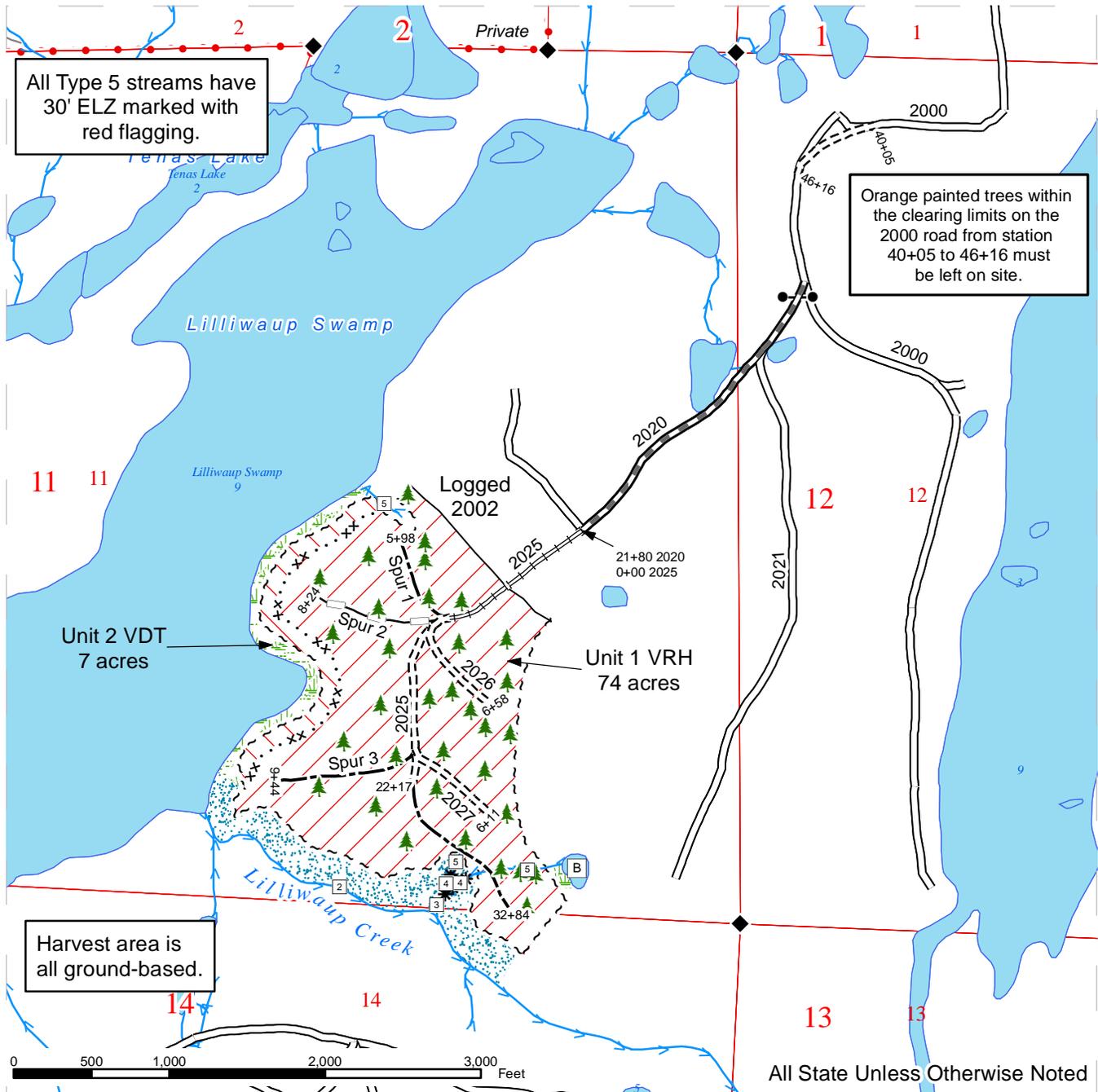
DNR affidavit of mailing:

On this day 2/17/2016, I placed in the United States mail at Enumclaw, WA,
(date mm/dd/yyyy) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2418401**
Sherry Tomlinson _____
(Printed name) (Signature)

ROAD PLAN MAP

SALE NAME: MULLIGAN VRH & VDT
 AGREEMENT#: 92287
 TOWNSHIP(S): T23R04W
 TRUST(S): Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: South Puget Sound Region
 COUNTY(S): MASON
 ELEVATION RGE: 766-823 ft.



All Type 5 streams have 30' ELZ marked with red flagging.

Orange painted trees within the clearing limits on the 2000 road from station 40+05 to 46+16 must be left on site.

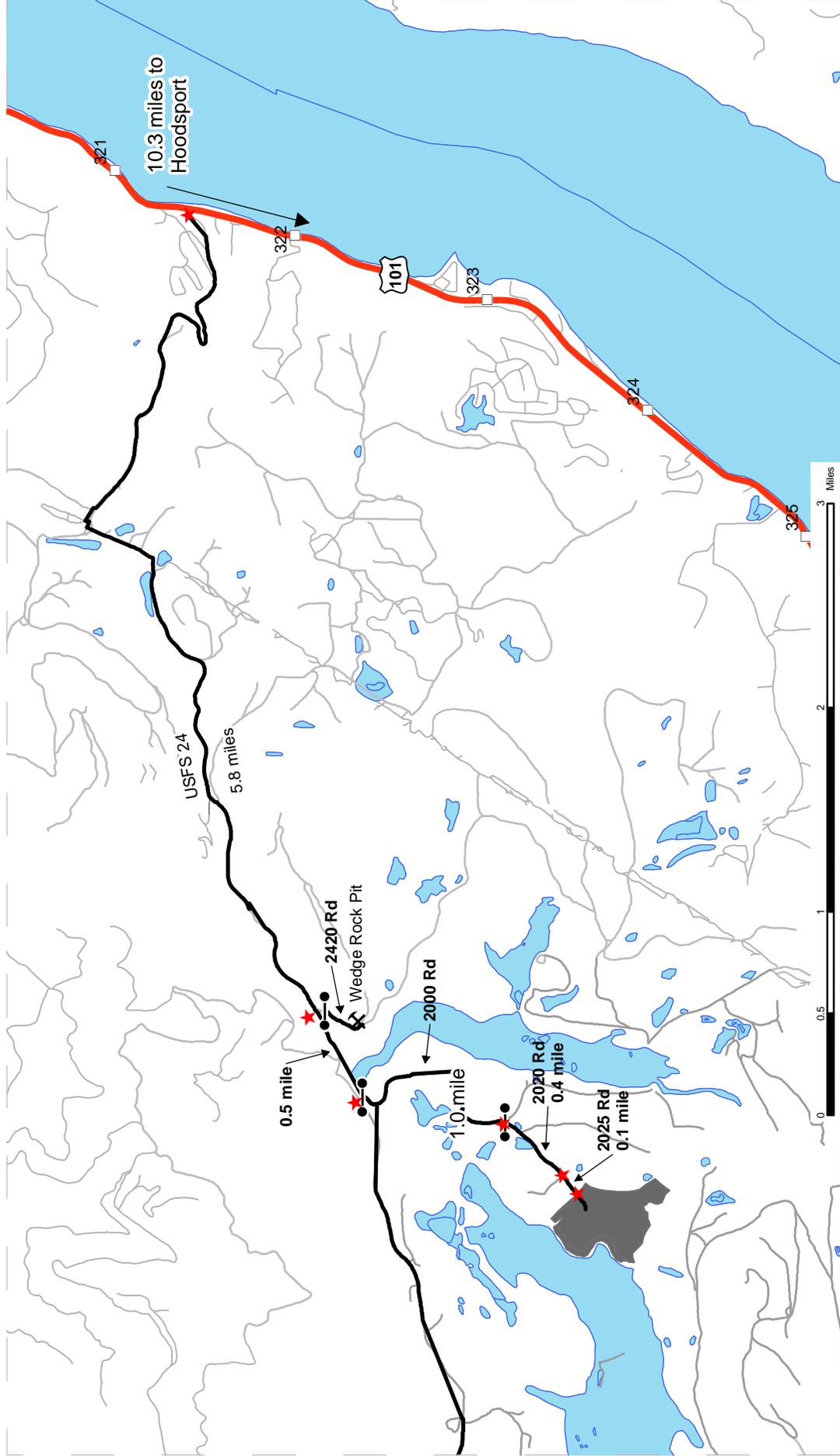
Harvest area is all ground-based.

Existing Roads	Riparian Management Zone	Leave Tree Clump
Optional Construction	Wetland Management Zone	Monumented Corners
Optional Reconstruction	Variable Retention Harvest	Open Water
Required Construction	Variable Density Thinning	Gates
Required Reconstruction	Streams	
Required Pre-Haul Maintenance	Stream Type	
White Timber Sale Boundary Tags	Stream Type Break	
Blue Special Management Area Tags		
Timber Type Change marked with Pink flagging		

DRIVING MAP

SALE NAME: Mulligan VRH & VDT
AGREEMENT #: 92287
TOWNSHIP(S): T23R04W
TRUST(S): Common School and Indemnity (03), Charitable/Education/Penal & Reformatory Instnt. (06)

REGION: South Puget Sound Region
COUNTY(S): Mason
ELEVATION RGE: 766-823 ft.



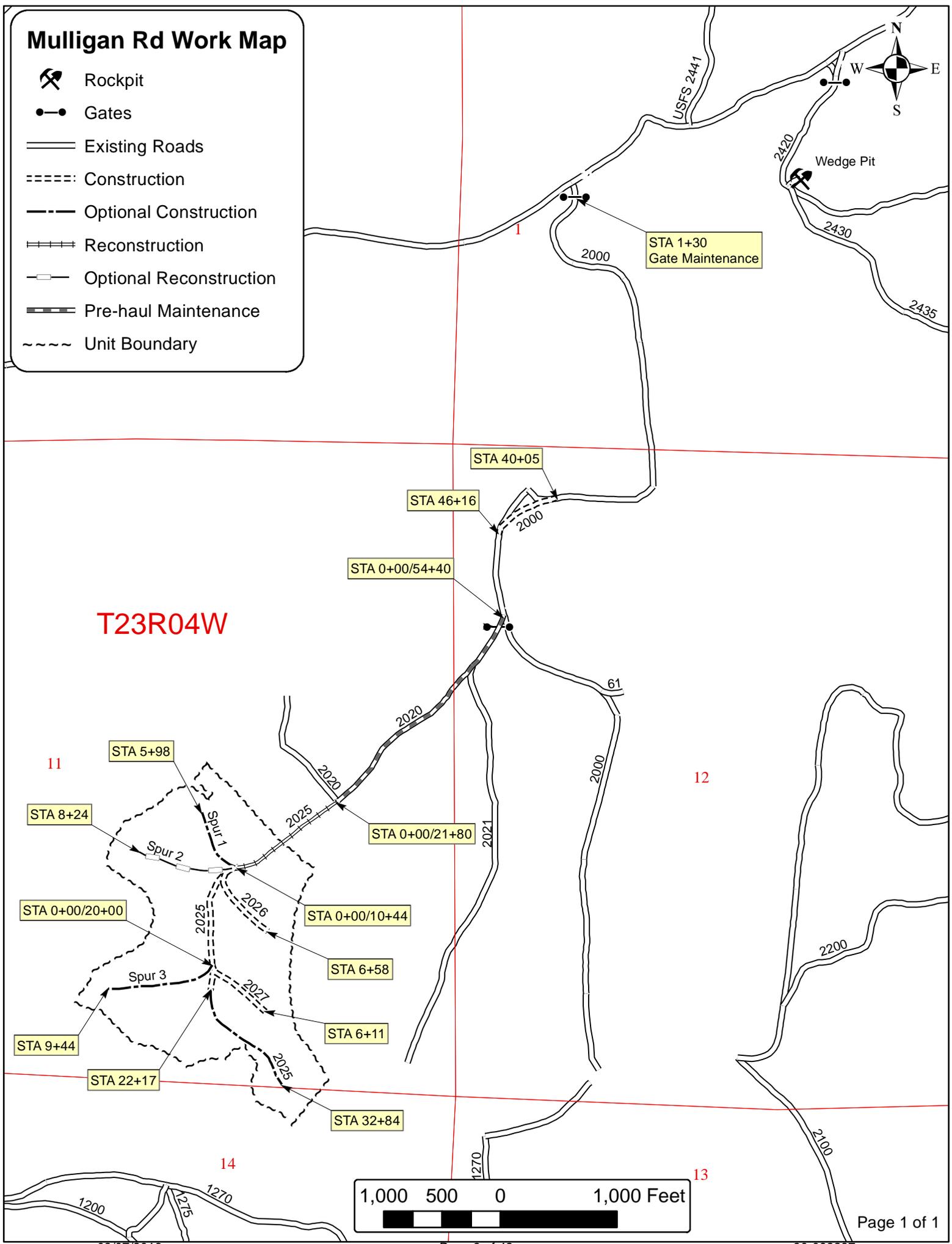
- Timber Sale Unit
- Highways
- Haul Route
- Other Route
- Milepost Markers
- Distance Indicator
- Wedge Rock Pit
- Gate - 383 Key

DRIVING DIRECTIONS:

Directions from Hoodspport: Travel north on US 101 for 10.3 miles. Turn left onto USFS 24 Road (Jorstad Creek Road) and travel 5.8 miles to the 2420 road. Turn left and go through gate up 2420 Road to Wedge Rock Pit. To access harvest units continue 0.5 miles on USFS 24 Road from 2420 Road to gate on 2000 Road. Turn left and go through gate on 2000 Road. Travel 1.0 mile on 2000 Road then turn right through open gate on 2020 Road. Travel 0.4 mile on 2020 and turn left on 2025 Road. Unit 1 boundary is 0.1 mile on 2025 Road.

Mulligan Rd Work Map

-  Rockpit
-  Gates
-  Existing Roads
-  Construction
-  Optional Construction
-  Reconstruction
-  Optional Reconstruction
-  Pre-haul Maintenance
-  Unit Boundary



T23R04W

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

MULLIGAN TIMBER SALE ROAD PLAN
MASON COUNTY
HOODCANAL DISTRICT

AGREEMENT NO.: 30-092287

STAFF ENGINEER: Heymann

DATE: 10/15/15

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>
2000	40+05 to 46+16	Construction
2020	0+00 to 21+80	Pre-haul Maintenance
2025	0+00 to 10+44	Reconstruction
2025	10+44 to 22+17	Construction
2026	0+00 to 6+58	Construction
2027	0+00 to 6+11	Construction
2025	22+17 to 32+84	Decommissioning if built
Spur 1	0+00 to 5+98	Decommissioning if built
Spur 2	0+00 to 8+24	Decommissioning if built
Spur 3	0+00 to 9+44	Decommissioning if built

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>
2025	22+17 to 32+84	Construction
Spur 1	0+00 to 5+98	Construction
Spur 2	0+00 to 8+24	Reconstruction
Spur 3	0+00 to 9+44	Construction

0-4 CONSTRUCTION

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

- clearing;
- grubbing;
- right-of-way debris disposal;
- excavation and/or embankment to subgrade;
- landing construction;
- acquisition and installation of drainage structures;
- acquisition, manufacture, and application of rock;
- road decommissioning.

0-5 RECONSTRUCTION

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

- brushing right-of-way;
- clearing existing excavation and embankment slopes;
- grubbing existing excavation and embankment slopes;
- right-of-way debris disposal;
- landing construction;
- pulling ditches;
- cleaning ditches;
- constructing ditches;
- acquisition and installation of additional drainage structures;
- realigning road segments;
- grading and shaping existing road surface and turnouts;
- compaction of road surface;
- acquisition, manufacture, and application of rock; including existing turnouts;
- road decommissioning.

0-6 PRE-HAUL MAINTENANCE

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

- brushing right-of-way;
- removing fallen right-of-way debris;
- pulling ditches;
- cleaning ditches;
- gate maintenance (painting);
- grading and shaping existing road surface and turnouts.

0-7 POST-HAUL MAINTENANCE

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

0-9 DECOMMISSIONING

This project includes decommissioning listed in Clause 9-20 ROAD DECOMMISSIONING.

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

Purchaser shall perform road work in accordance with the state’s marked location.

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 other than timber cut on the right-of-way, without written approval from the Contract Administrator.

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:

- Drainage installation & Subgrade compaction
- Rock compaction

1-25 ACTIVITY TIMING RESTRICTION

The operation of road construction equipment is not allowed on weekends or state recognized holidays, unless authorized in writing by the Contract Administrator. The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS.

<u>Activity</u>	<u>Closure Period</u>
Road Construction, Decommissioning, Pre-haul Maintenance and Reconstruction	November 1 to April 30

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during November 1 to April 30 as listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-140 SPECIAL HARVEST REQUIREMENTS, the Purchaser shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan in writing, and preventative measures shall be put

in place, before operation in the closure period. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan shall be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-33 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.

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.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before rock application and/or timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>
2020	0+00 to 21+80

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, and catch basins. Work must be completed before grading.

<u>Road</u>	<u>Stations</u>
2020	0+00 to 21+80

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditch lines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
2020	0+00 to 21+80

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing trees unless approved by the Contract Administrator.

3-10 GRUBBING

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditch lines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris before rock and/or timber haul.

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 locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
-

4-5 CUT SLOPE RATIO

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

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (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 2 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

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

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Turnarounds must be no larger than 30 feet long and 30 feet wide.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-26 DITCH WORK – USE MATERIAL IN EXISTING SUBGRADE

On the following road(s), Purchaser may use the excavated ditch material to build up the subgrade.

<u>Road</u>	<u>Stations</u>
2025	0+00 to 32+84
2026	0+00 to 6+58
2027	0+00 to 6+11
Spur 1	0+00 to 5+98
Spur 2	0+00 to 8+24
Spur 3	0+00 to 9+44

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts at locations shown on the CULVERT LIST and as needed. 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.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

4-46 COMMON BORROW

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

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL

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

4-49 BORROW SOURCE

Purchaser shall obtain borrow material from 2025 road reconstruction slopes or borrow sources identified or approved by the Contract Administrator. Development of the borrow source must be in accordance with a written BORROW SOURCE DEVELOPMENT PLAN to be submitted by the Purchaser and approved in writing by the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Type</u>
2025 RD	6+49 to 9+44	Common Borrow

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

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

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed 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/or timber haul.

4-62 DRY WEATHER COMPACTION

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

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

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

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and

may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-15 through 10-23.

5-6 USED CULVERT MATERIAL

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

<u>Road</u>	<u>Stations</u>
2025	22+17 to 32+84
Spur 1	0+00 to 5+98
Spur 2	0+00 to 8+24
Spur 3	0+00 to 9+44

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the Corrugated Polyethylene Pipe Association’s “Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings”. Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer’s recommendations.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Rock used for headwalls must be consistent with the specifications listed on the CULVERT LIST.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by November 1. Purchaser shall construct waterbars according to the attached 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 100 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(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Wedge Pit	NW ¼ SE¼ Sec 1 T23N R04W	4 Inch In Place/Quarry Spalls

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 stockpile(s), if they exist, on state land at no charge to the Purchaser. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Wedge Pit	NW ¼ SE¼ Sec 1 T23N R04W	4 Inch In Place/Quarry Spalls

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 calendar days before starting any operations in the rock source.

<u>Source</u>
Wedge Pit

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments too large to be converted by the Purchaser to a size that will meet specifications used for the roads in this sale.
- Oversized rock that exceeds the maximum allowable amount must be stockpiled away from pit mining operations.
- Purchaser shall notify the Contract Administrator a minimum of 5 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 5 working days before any drilling.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

6-20 ROCK GRADATION TYPES

Purchaser shall supply and/or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-21 IN-PLACE PROCESSING

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

6-38 4-INCH IN-PLACE ROCK

4-inch in-place rock must have a minimum of 90 percent of the top 4 inches of the running surface pass a 4-inch square opening.

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 50 percent of rock may be larger than 6 inches in any dimension and no rock may be larger than 8 inches in any dimension.

6-43 QUARRY SPALLS

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

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

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are in-bank yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for drainage installation including culvert installation, subgrade shaping and compacting before rock application.

6-71 ROCK APPLICATION

Rock shall be applied in accordance with the specifications and quantities shown on the ROCK LIST. The Contract Administrator shall direct locations for rock that is to be applied as spot patching. Rock shall be spread, shaped, and compacted full width concurrent with rock hauling operations. Rock shall be spread and compacted full width in one lift. Compaction shall be by smooth drum vibratory roller weighing at least 14,000 pounds. Three complete passes at a maximum speed of 3 mph shall be made on each lift.

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 during dry weather 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>
2025	22+17 to 32+84
Spur 1	0+00 to 5+98
Spur 2	0+00 to 8+24
Spur 3	0+00 to 9+44

SECTION 7 – STRUCTURES

7-70 GATE CLOSURE

Purchaser shall keep gates closed and locked except during periods of haul. All gates must be closed at termination of use.

7-75 GATE MAINTENANCE

Purchaser shall conduct gate maintenance as listed.

1. Clean Gate and lock box
Each gate and lock box to be thoroughly scraped, wire brushed and cleaned. Remove all rust and loose or peeling material from previous-painted surfaces. All surfaces must be clean, dry, free of mildew, grease, chalk, soap film, sanding dust or other contaminates.
2. Prevent Rust
Use a suitable anti-corrosive primer for all bare surfaces.
3. Paint
Paint color shall be Rodda Safety Yellow.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
2000	1+30	Clean, spot prime and paint gate and lock box.

SECTION 9 – POST-HAUL ROAD WORK

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.

<u>Road</u>	<u>Stations</u>
2020	0+00 to 21+80
2025	0+00 to 22+17
2026	0+00 to 6+58
2027	0+00 to 6+11
2000	0+00 to 54+40

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-20 ROAD DECOMMISSIONING

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
2025	22+17 to 32+84	Decommissioning
Spur 1	0+00 to 5+98	Decommissioning
Spur 2	0+00 to 8+24	Decommissioning
Spur 3	0+00 to 9+44	Decommissioning

9-22 DECOMMISSIONING

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Remove culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Scatter woody debris onto decommissioned road surfaces.

SECTION 10 MATERIALS

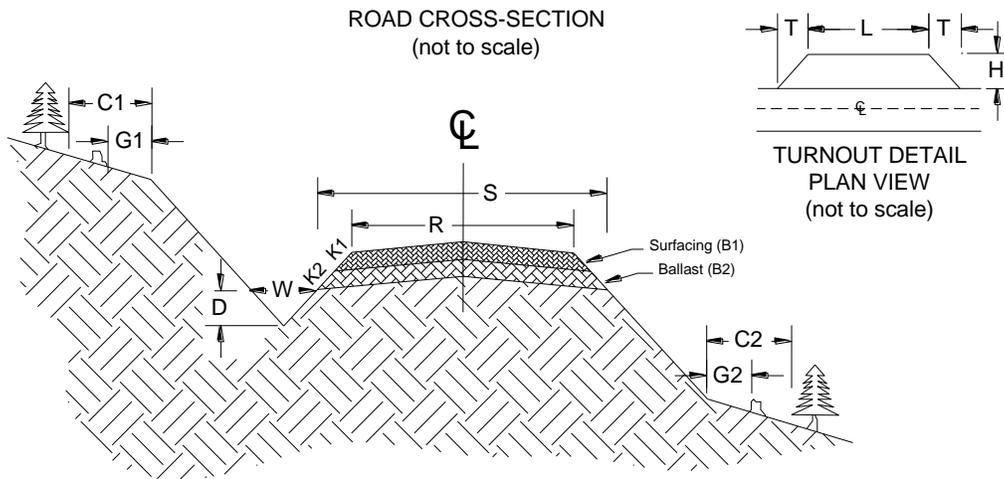
10-17 CORRUGATED PLASTIC CULVERT

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

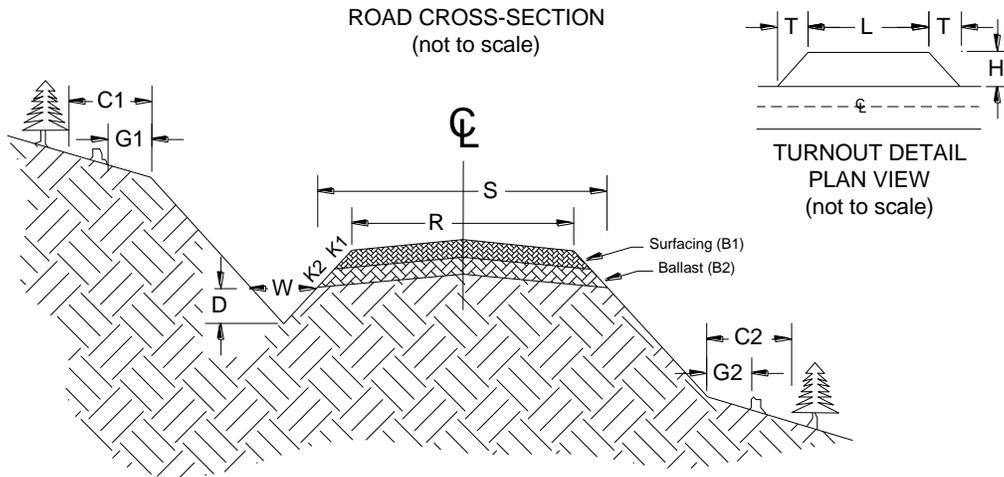
10-22 PLASTIC BAND

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

TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio %	Fill Slope Ratio %
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
				S	R	W	D		G1	G2	C1	C2	%	%
2000	40+05	46+16	C	16	12	2	1	4	5	5	10	10	100	67
2020	0+00	21+80	C	16	12	2	1	4	5	5	10	10	100	67
2025	0+00	32+84	C	16	12	3.5	1	4	5	5	10	10	100	67
2026	0+00	6+58	C	16	12	3.5	1	4	5	5	10	10	100	67
2027	0+00	6+11	C	16	12	3.5	1	4	5	5	10	10	100	67
Spur 1	0+00	5+98	C	16	12	3.5	1	4	5	5	10	10	100	67
Spur 2	0+00	8+24	C	16	12	3.5	1	4	5	5	10	10	100	67
Spur 3	0+00	9+44	C	16	12	3.5	1	4	5	5	10	10	100	67



ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout			
									Length	Width	Taper	
			K2	B2				4 Inch In Place	L	H	T	
2000	40+05	46+16	1½ : 1	8	32	6.11	196	Wedge Pit				
2025	0+00	22+17	1½ : 1	8	32	22.17	709	Wedge Pit				
2025	22+17	32+84	1½ : 1	8	32	10.67	341	Wedge Pit				
2026	0+00	6+58	1½ : 1	8	32	6.58	211	Wedge Pit				
2027	0+00	6+11	1½ : 1	8	32	6.11	196	Wedge Pit				
Spur 1	0+00	5+98	1½ : 1	8	32	5.98	191	Wedge Pit				
Spur 2	0+00	8+24	1½ : 1	8	32	8.24	264	Wedge Pit				
Spur 3	0+00	9+44	1½ : 1	8	32	9.44	302	Wedge Pit				
			Quarry Spalls for culvert headwalls/energy dissipaters					13	Wedge Pit			

*Optional Rock: If Purchaser elects to haul on optional rock roads in dry weather, the depth listed above is recommended but not required.

OPTIONAL ROCK 1,098 Cubic Yards
 REQUIRED ROCK 1,325 Cubic Yards
 BALLAST TOTAL 2,423 Cubic Yards

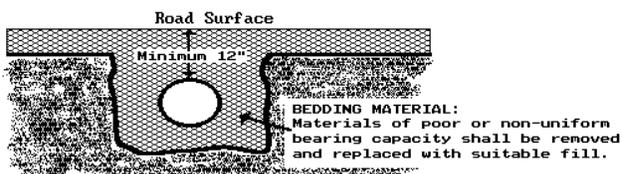
NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement.

CULVERT LIST

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Remarks
		Dia.	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type	
										Onsite rock that meets the size specifications for quarry spalls may be used if approved by the Contract Administrator.
2025	11+19	18	PD	50			0.5	0.5	QS	
2025	13+00	18	PD	30			0.5	0.5	QS	
2025	16+08	18	PD	30			0.5	0.5	QS	
2025	16+32	18	PD	30			0.5	0.5	QS	
2025	17+92	18	PD	30			0.5	0.5	QS	
2025	27+91	18	TEMP	30						
2025	30+34	18	TEMP	30						
2026	0+95	18	PD	30			0.5	0.5	QS	
2026	1+84	18	PD	30			0.5	0.5	QS	
2026	4+17	18	PD	30			0.5	0.5	QS	
2026	4+65	18	PD	30			0.5	0.5	QS	
2027	0+65	18	PD	50			0.5	0.5	QS	
2027	2+58	18	PD	30			0.5	0.5	QS	
2027	3+98	18	PD	30			0.5	0.5	QS	
2027	5+34	24	PD	30			0.5	0.5	QS	
Spur 1	0+23	18	TEMP	50						
Spur 2	3+36	18	TEMP	30						Ditch Out Outlet
Spur 3	0+43	18	TEMP	50						Ditch Out Outlet
Spur 3	8+53	18	TEMP	30						

- PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648
 GS16 = Galvanized Steel AASHTO No. M36, 16 Gauge
 AS12 = Aluminized Steel AASHTO No. M274, 12 Gauge
 TEMP = Temporary Culvert

CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")

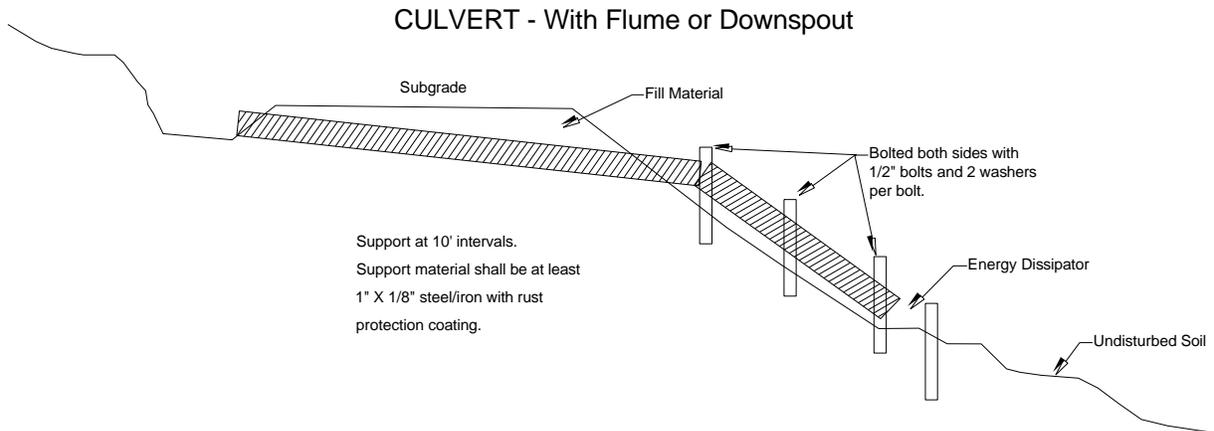
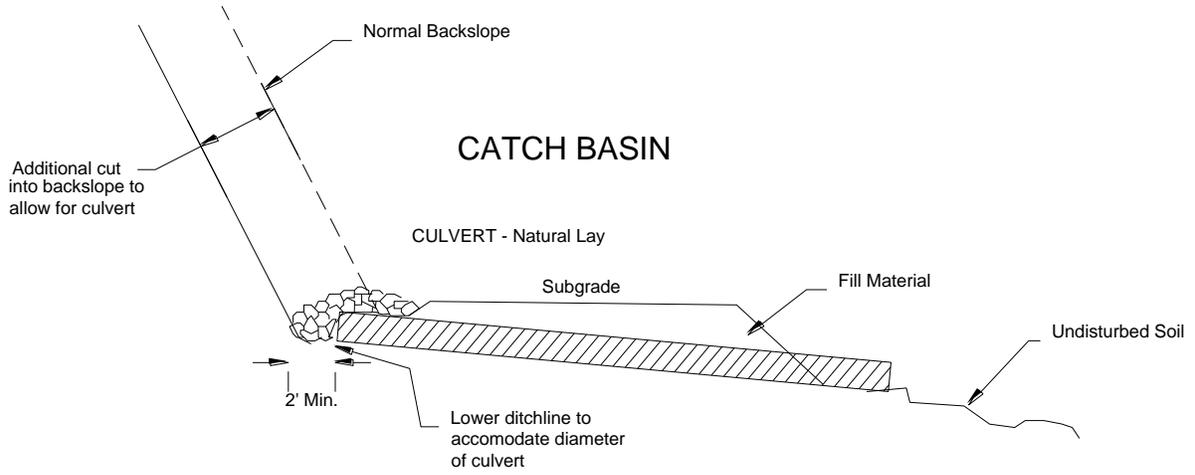


Key:

- QS - Quarry Spalls
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downsput - Full round pipe

CULVERT AND DRAINAGE SPECIFICATION DETAIL

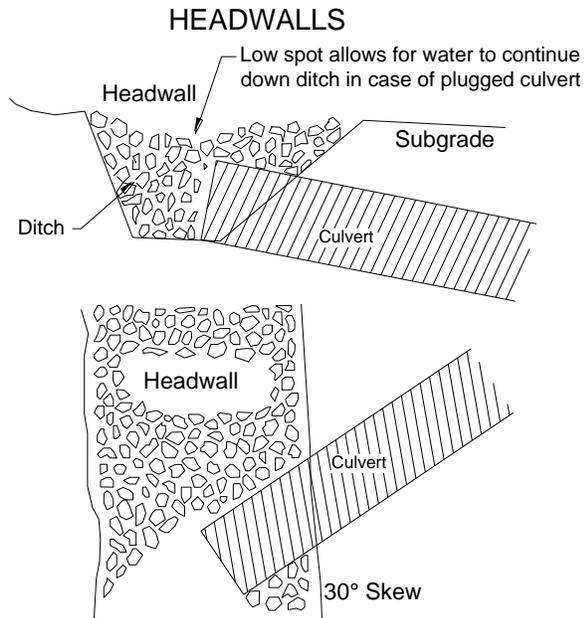
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CULVERT AND DRAINAGE SPECIFICATION DETAIL

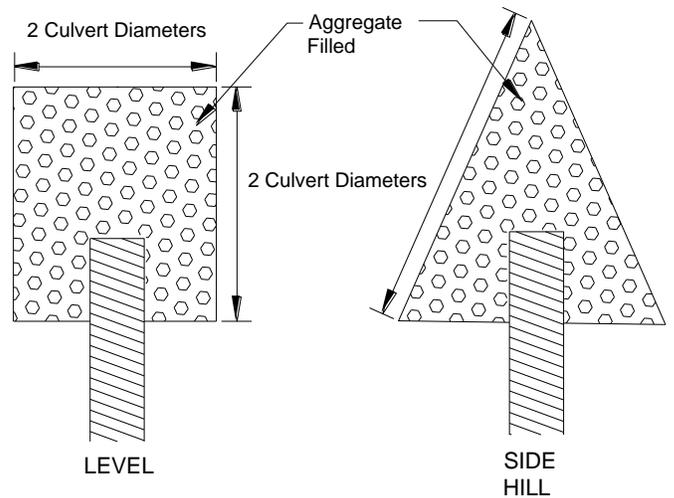
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Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense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



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



Dissipator Specifications:
Depth: 1 culvert diameter
Aggregate: as specified in the
CULVERT LIST.

CULVERT AND DRAINAGE SPECIFICATION DETAIL

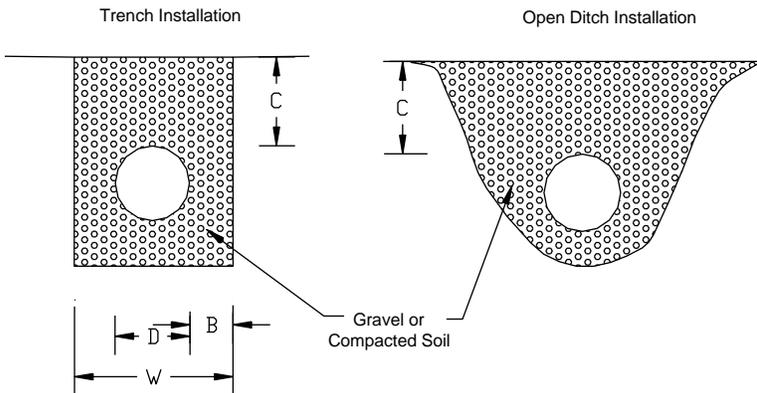
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POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.
4. Site conditions and availability of bedding materials often dictate the type of installation method used.
5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS



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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the construction materials. 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 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.

Preventative Maintenance

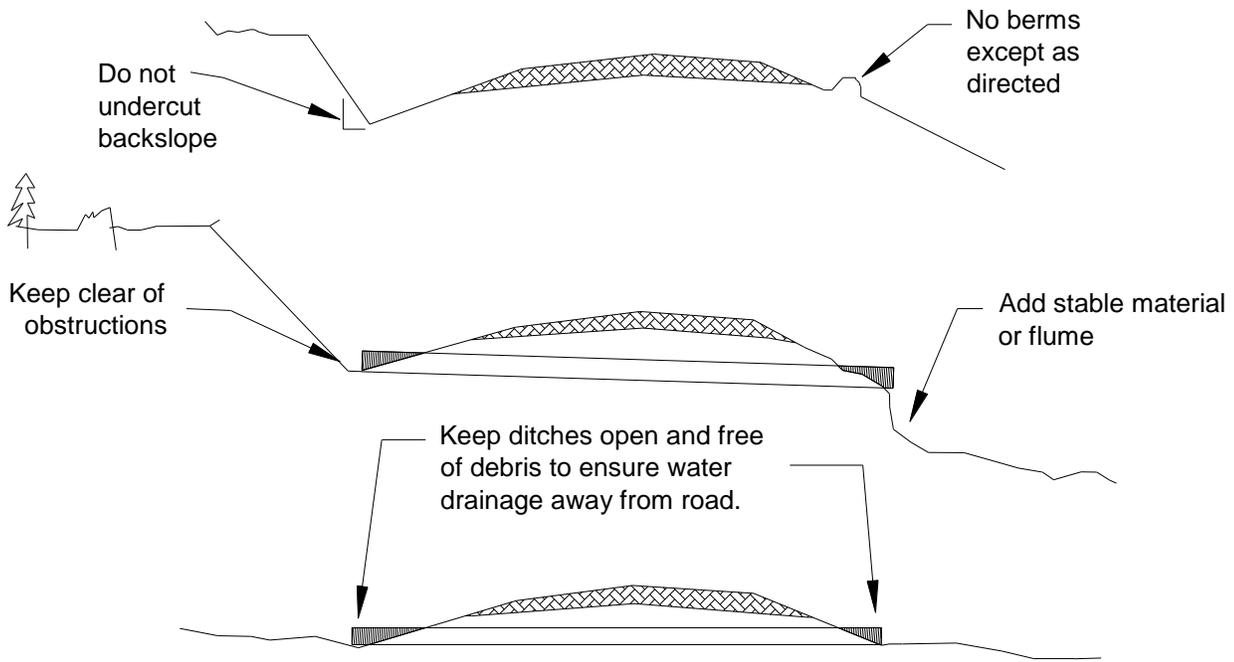
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

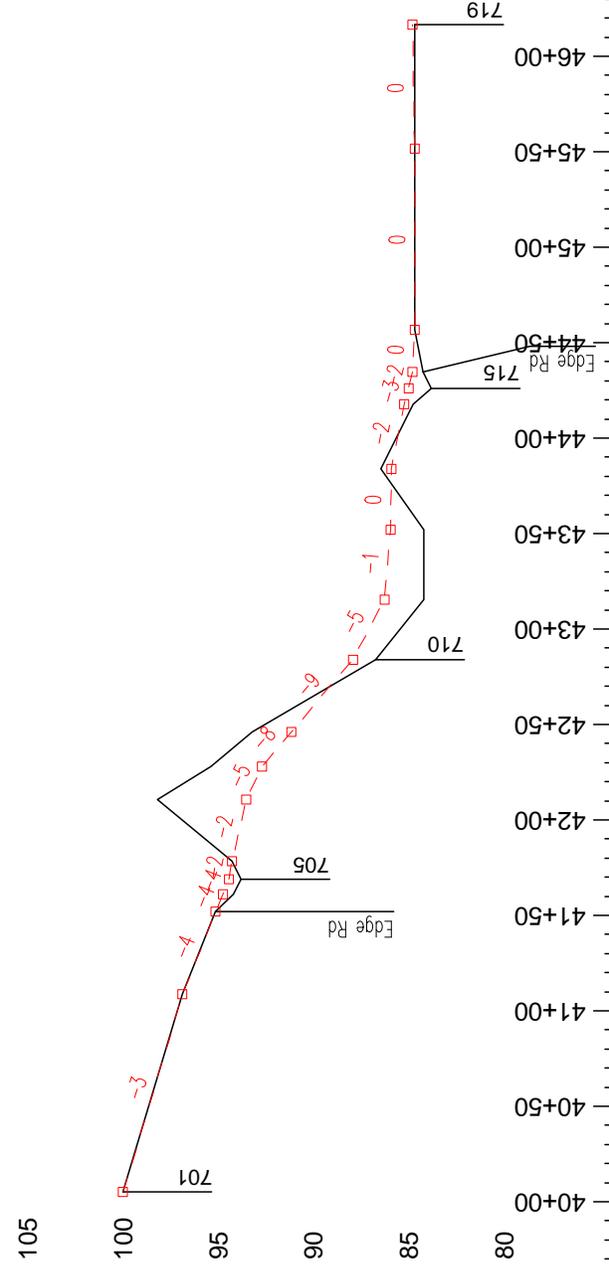
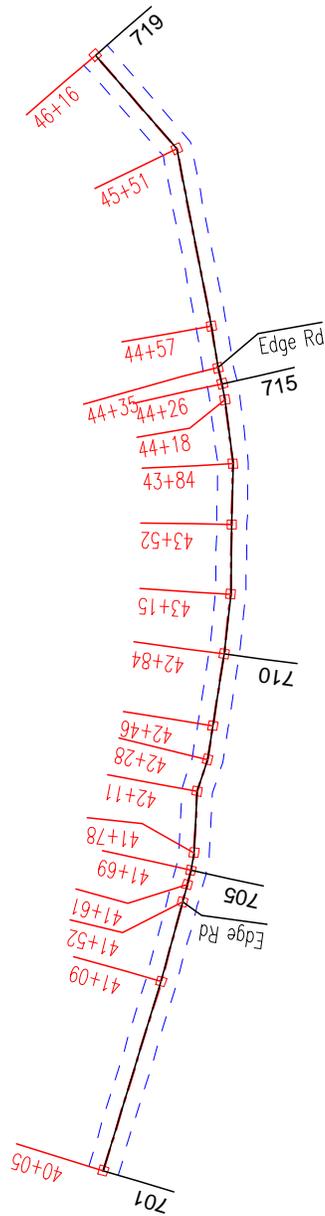
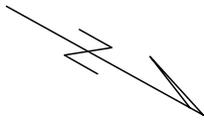
Termination of Use or End of Season

- 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.



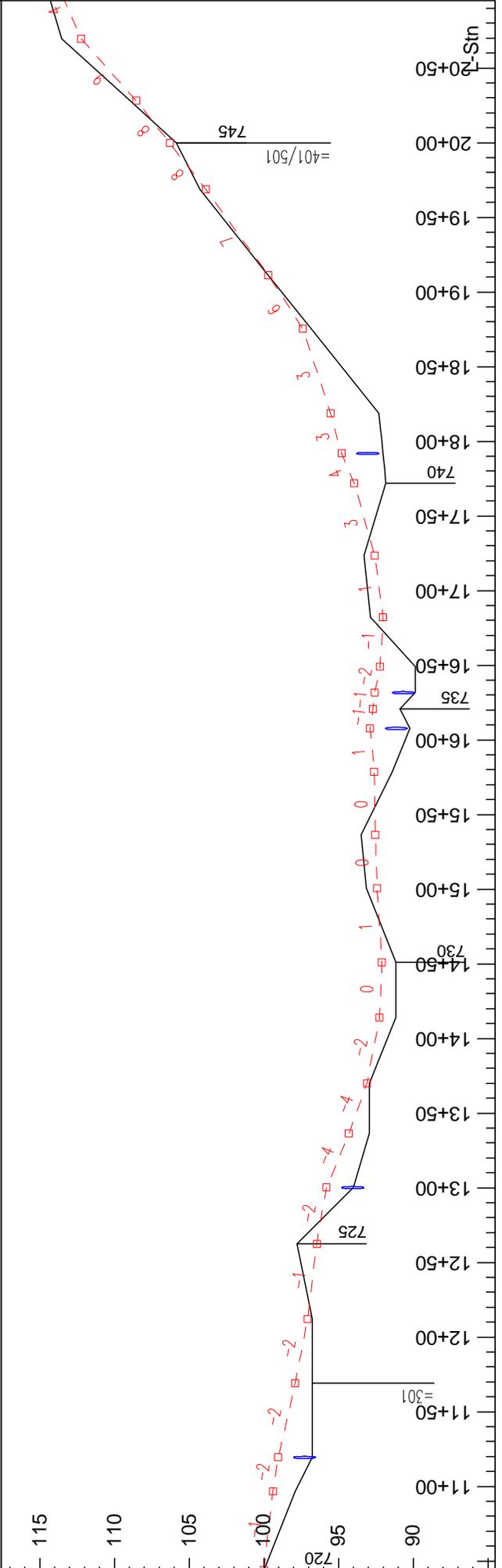
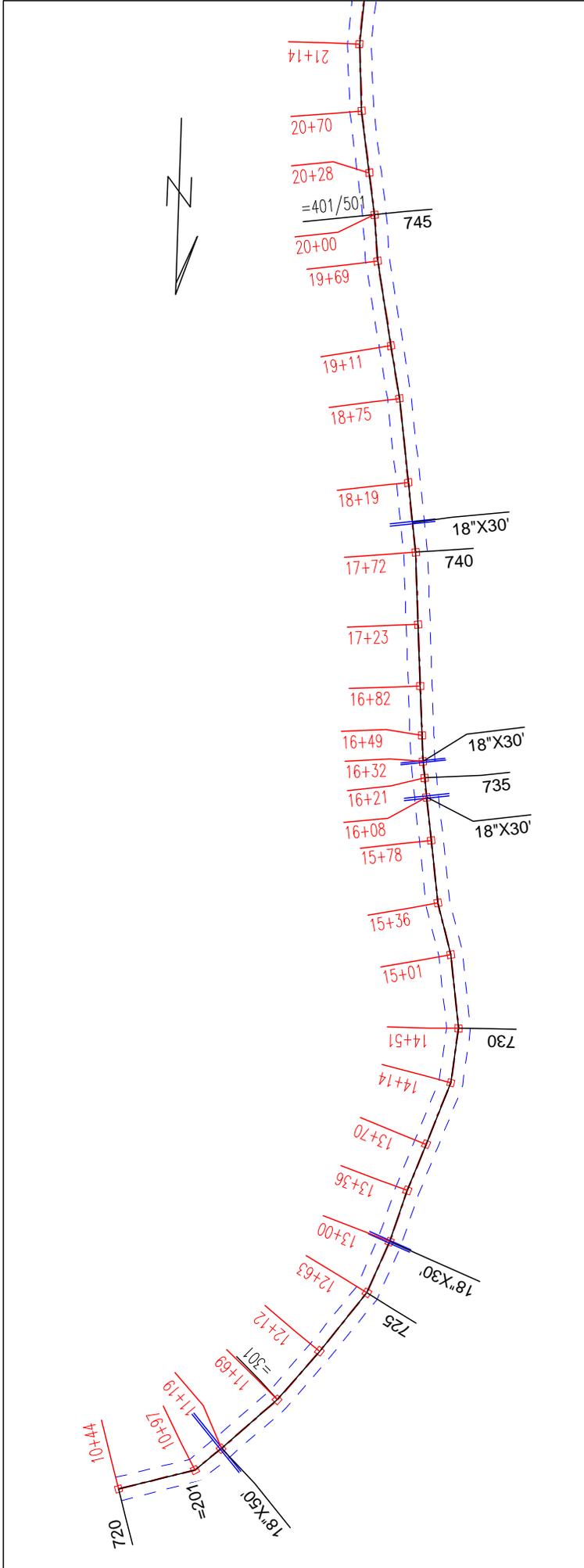


Mulligan Timber Sale
 2000 RD
 Contract #: 30-092287

Washington State Department of Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:120
 Profile Horz Scale 1:1200

Engineer: Heymann
 15/10/15
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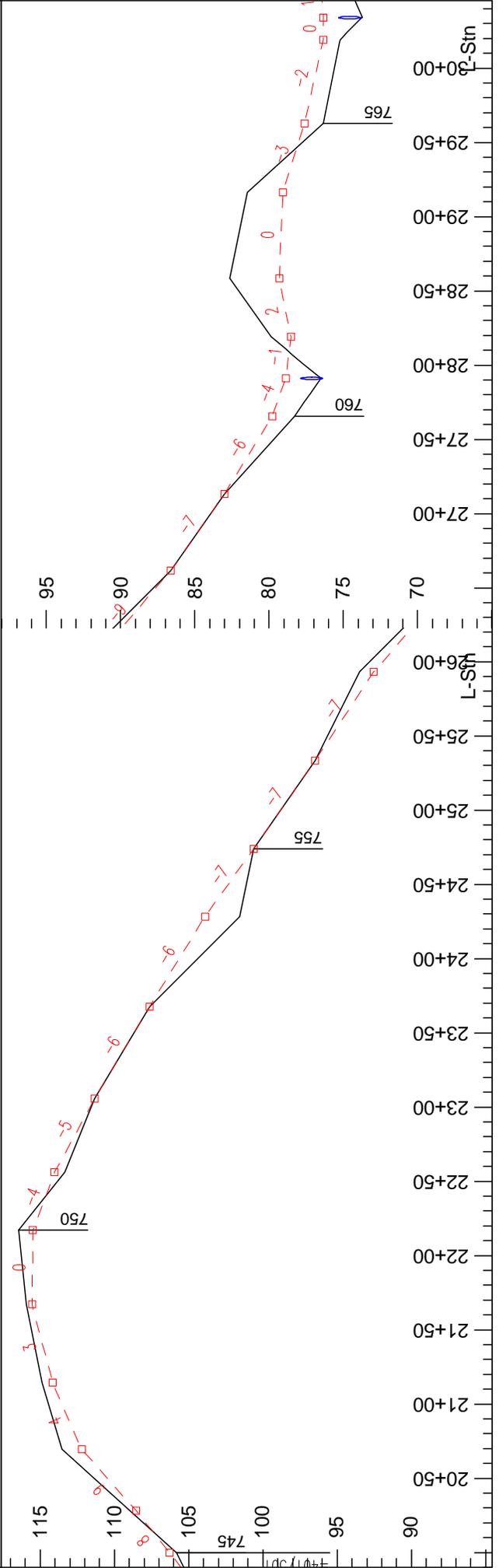
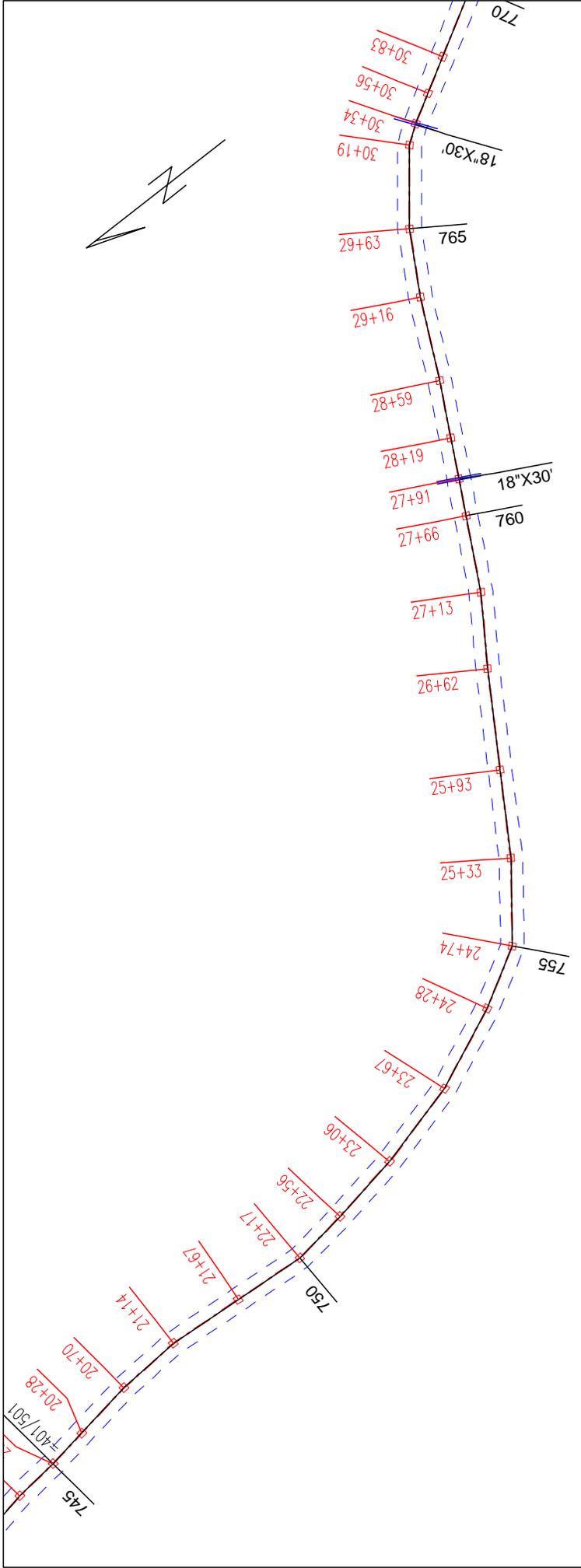
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Washington State Department of Natural Resources
South Puget Sound Region

Mulligan Timber Sale
2025 RD
Contract #: 30-092287

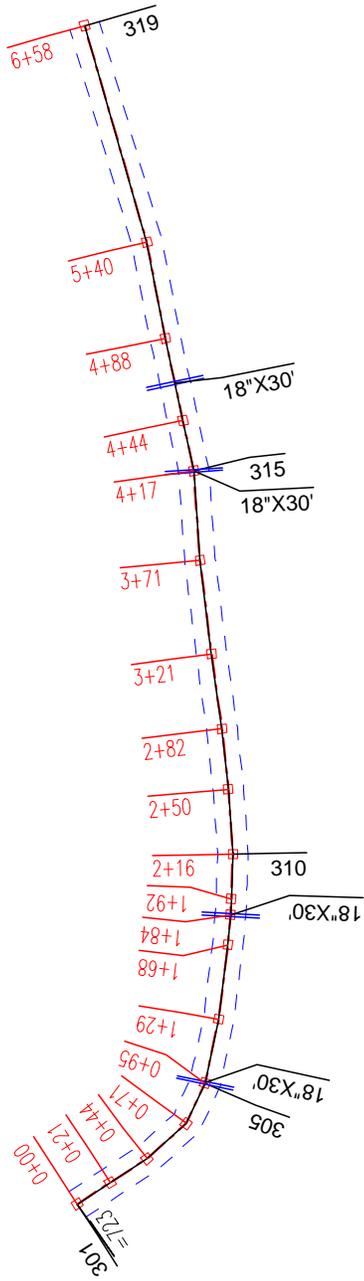
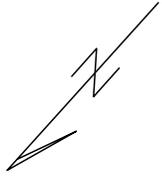


Engineer: Heymann
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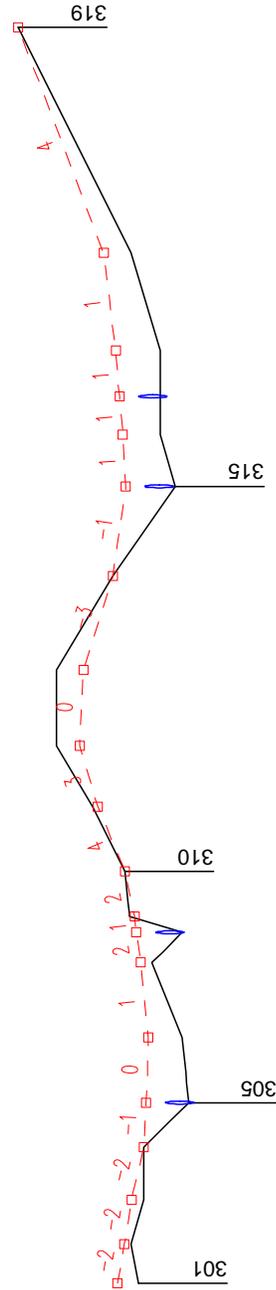
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South Puget Sound Region

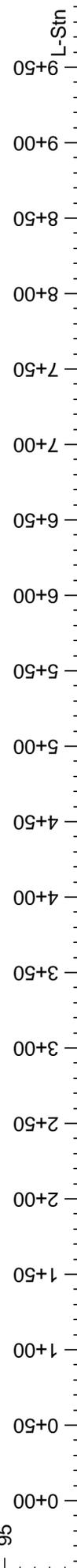
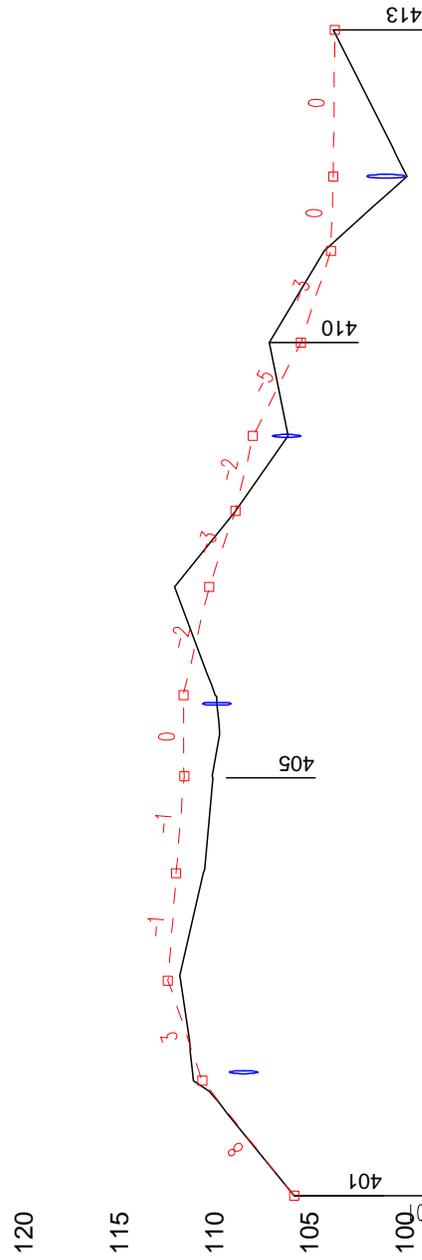
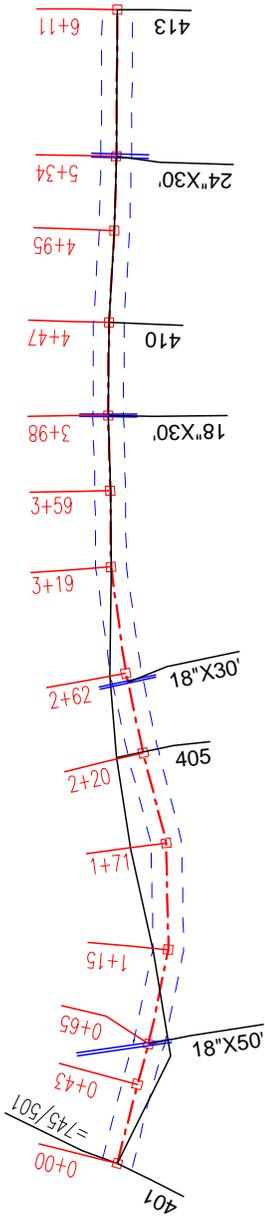
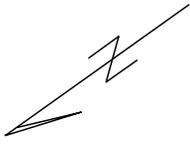
Mulligan Timber Sale
2025 RD
Contract #: 30-092287

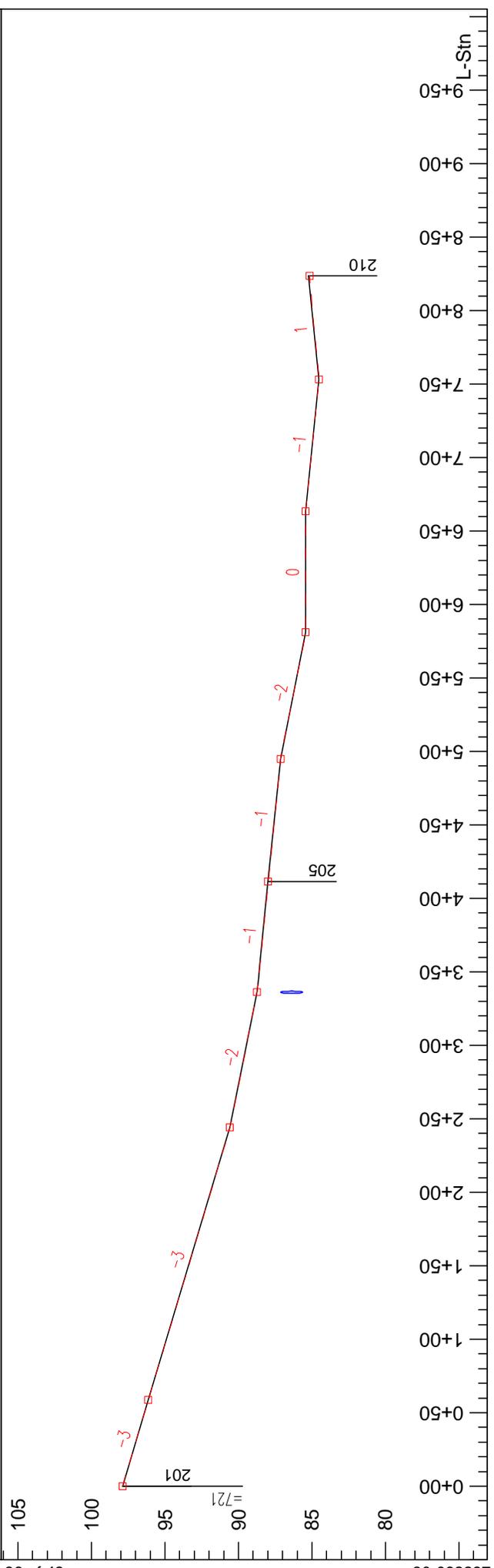
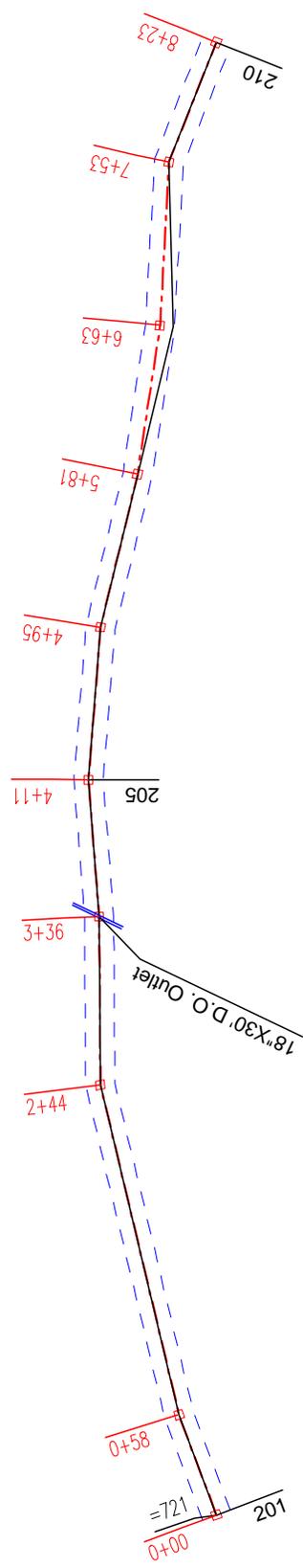


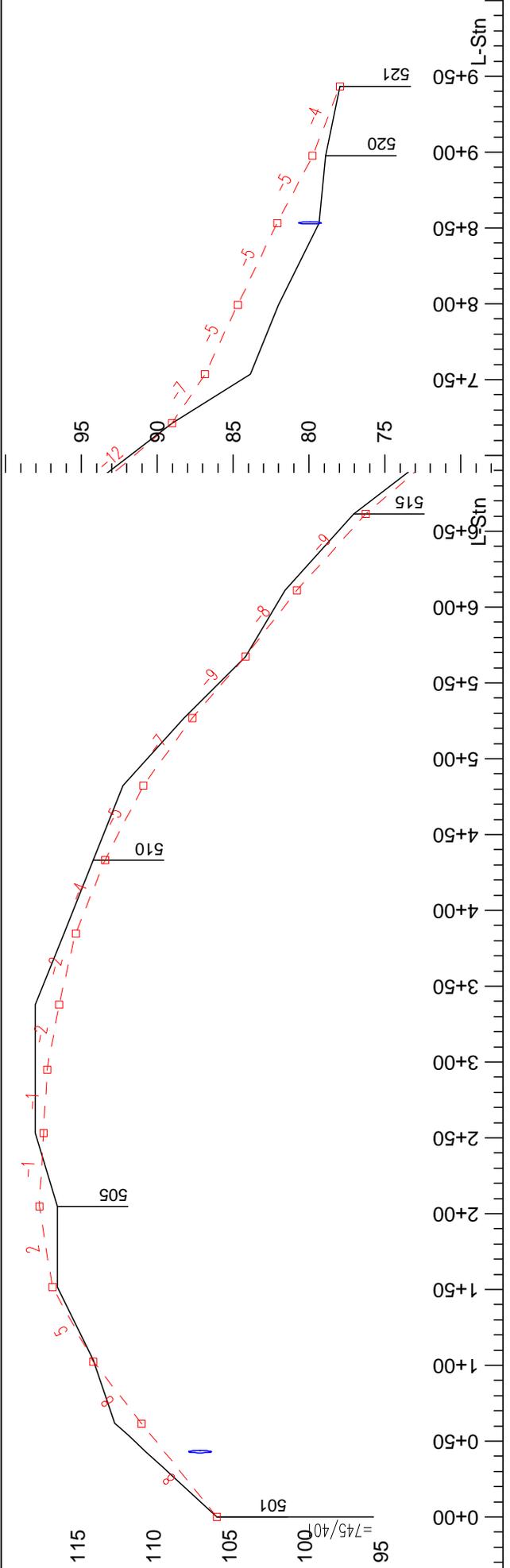
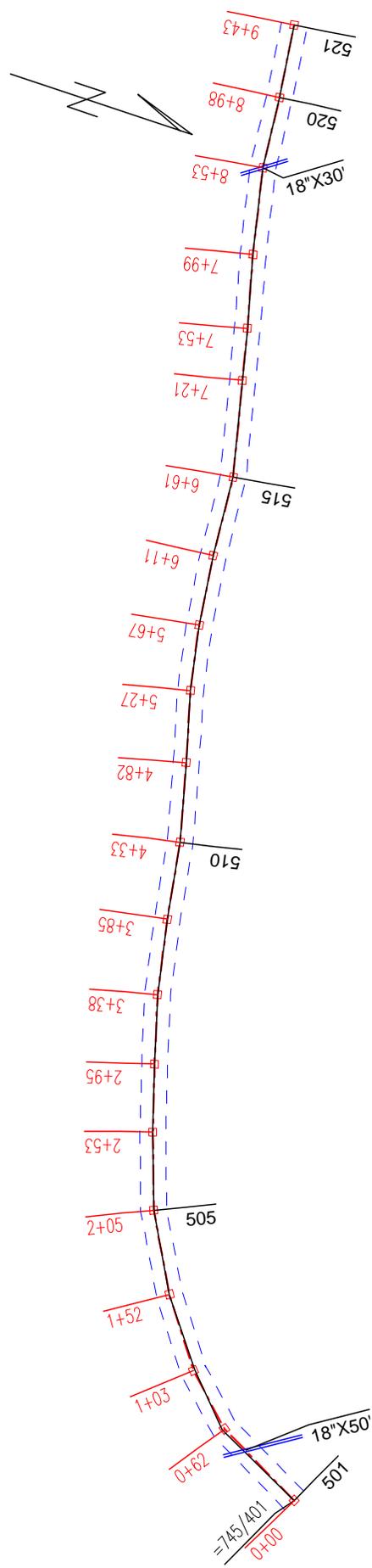
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105
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95
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0-50
0+00
0+50
1+00
1+50
2+00
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4+50
5+00
5+50
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Mulligan Timber Sale
 Spur 3
 Contract #: 30-092287

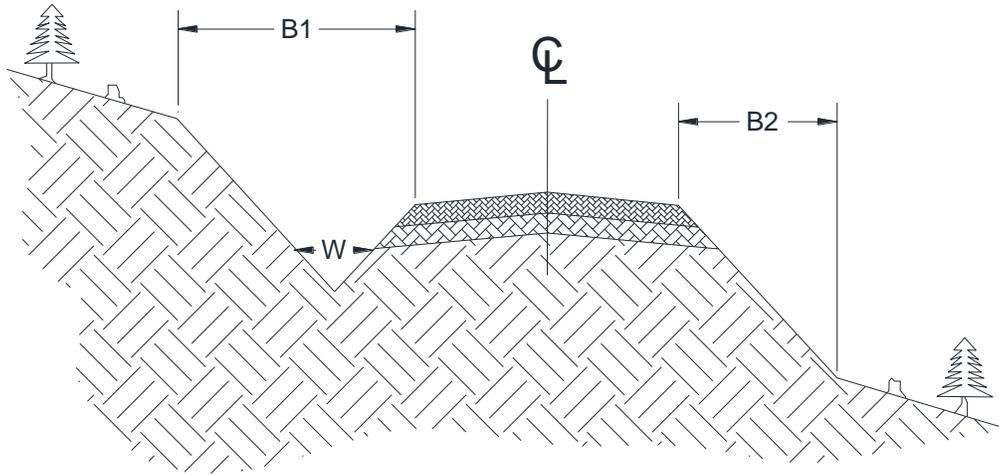
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 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:120
 Profile Horz Scale 1:1200

Engineer: Heymann
 15/10/15

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BRUSHING DETAIL
(not to scale)



BRUSHING LIST

Road Number	From station	To station	Road Width (feet)	Ditch		Brushing Limits (feet)		Remarks <u>In addition to brushing...</u>
				Width (feet)	Depth (feet)	B1	B2	
				W	D	B1	B2	
2020	0+00	21+80	12	2	1	7	7	

B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush that is cut shall be removed to the downhill side of the road and placed such that it will not block ditches, ditch-outs, or drainage structures. Signs, culvert location markers, culverts or any other identification features damaged by brushing shall be replaced at the Purchasers expense.

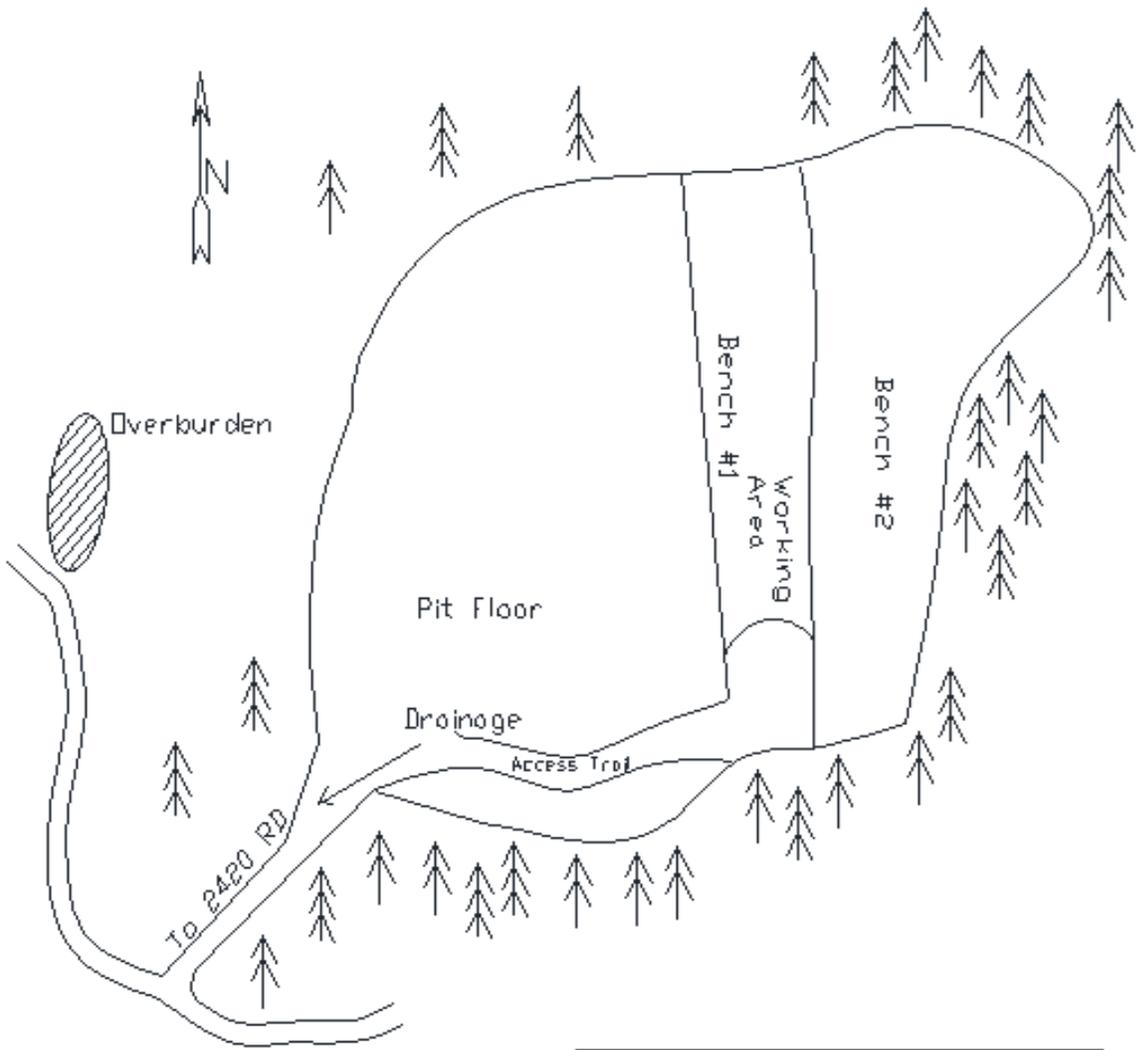
COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
2000Curve	31+40	54+40						
2025	0+00	32+84	Embankment					
2026	0+00	6+58						
2027	0+00	6+11	Subgrade					
Spur 1	0+00	5+98	Rock					
Spur 2	0+00	8+24						
Spur 3	0+00	9+44						
				12	Vibratory Smooth Drum	14,000	4	3

PIT DEVELOPMENT PLAN

1. Scatter root wads and organic debris larger than one cubic foot in volume as directed by the Contract Administrator.
2. A minimum stripping width of 20 feet must be maintained from all pit faces and at the termination of operations pit shall be left in said condition.
3. Pile all reject rock and overburden away from pit working area as shown.
4. Pit floor shall be sloped to allow drainage as shown. No ponding will be allowed.
5. Maximum face height shall not exceed 30 feet in height.
6. Pit face shall have a maximum backslope of 1/4:1.
7. Working bench width shall be a minimum of 25 feet.
8. At the completion of operations, Purchaser shall request written approval from the Contract Administrator for final rock source condition and compliance with the terms of this plan
9. Quantity and Quality of ballast pit is not guaranteed by the State.

NW 1/4 SE 1/4 Section 1, Township 23 North, Range 4 West
Mulligan T.S. App # 30-092287 County: Mason

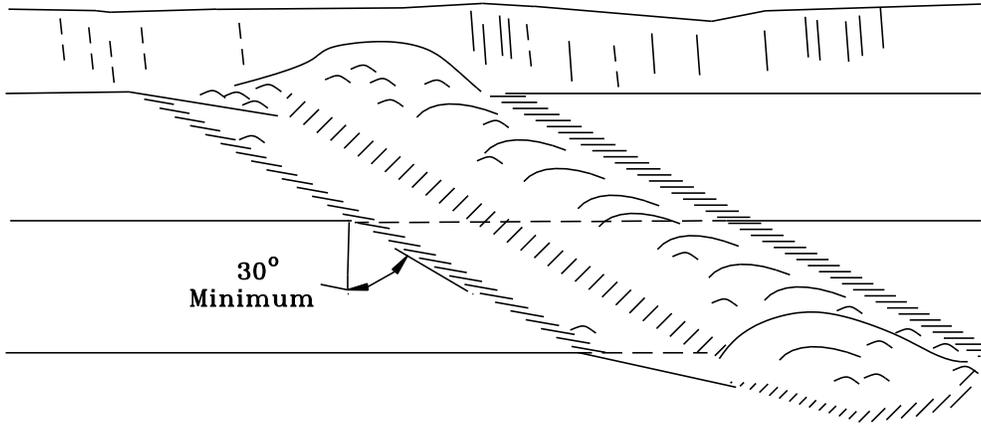


Date: 1/7/16
Scale: None
Page: 1 of 1
Drawn By: W.S.D.

Wedge Pit Plan View	
	WASHINGTON STATE DEPARTMENT OF Natural Resources

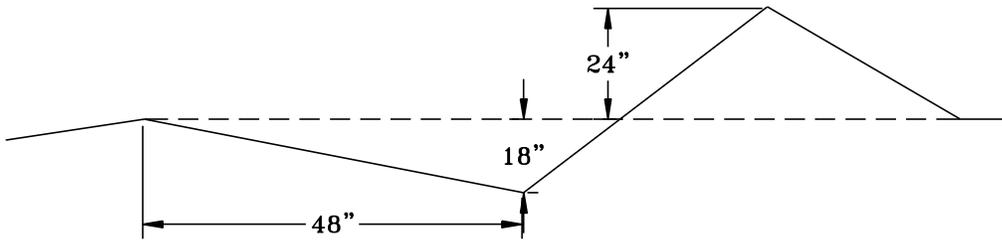
Non-Drivable Water Bar Detail

Cross Ditch



30°
Minimum

Cross Section at Centerline



Date:
Scale : None
App#
Drawn by: M.A.D.

Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF Natural Resources
<small>SPS Region</small>	

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

(For internal DNR use only. Costs are estimates only & are not guaranteed by the State or part of the Road Plan.)

REGION: South Puget Sound
DISTRICT: Hood Canal

SALE/PROJECT NAME: Mulligan T.S.
LEGAL DESCRIPTION: Sec 11 & 14 T23N R04W

CONTRACT NUMBER: 30-092287

ROAD NUMBER:	2000 2027	2025 Spurs 1&3	2026	2025	Spur 2	2000 2027	2020	2026
ROAD STANDARD:	Construction			Reconstruction		Pre/Post-haul maintenance		
NUMBER OF STATIONS:		56.62			18.68		132.86	
SIDESLOPE:		5-15%			5-15%		5-15%	
CLEARING AND GRUBBING:		\$4,757			\$934			
EXCAVATION AND FILL:		\$4,397			\$2,055			
MISC. MAINTENANCE:							\$2,496	
ROCK TOTALS (Cu. Yds.):								
Ballast:	3639	\$27,952			\$8,888		\$0	
Surface:	0	\$0			\$0		\$0	
Quarry Spalls:	15	\$170			\$0		\$0	
CULVERTS AND FLUMES:		\$12,773			\$599		\$0	
STRUCTURES:		\$0			\$0		\$0	
GENERAL EXPENSES:		\$4,504			\$1,248		\$300	
MOBILIZATION:		\$1,133			\$1,133		\$1,133	
TOTAL COSTS:		\$55,687			\$14,856		\$3,929	
COST PER STATION:		\$984			\$795		\$30	

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$4,952

NOTE¹: This appraisal has no allowance for profit and risk.

TOTAL (All Roads) =	\$79,425
SALE VOLUME MBF =	3,263
TOTAL COST PER MBF =	\$24.34

Date: 10/15/15

SPS REGION - ROAD COST ESTIMATE - CONSTRUCTION

SALE NAME: Mulligan T.S.

CONTRACT NUMBER: 30-092287

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
2000	15	1	1.00	1.00	\$50	1.00	8.24	\$412
2025	10	22	1.00	2.00	\$50	1.00	22.40	\$2,240
2026	10	22	1.00	2.00	\$50	1.00	6.58	\$658
2027	10	22	1.00	2.00	\$42	0.80	6.11	\$411
Spurs 1&3	10	22	1.00	2.00	\$42	0.80	15.42	\$1,036

Clear and Grub TOTAL = \$4,757

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
2000	15	1.0	1.75	\$100	1.00	8.24	\$1,442
2025	10	1.0	1.50	\$78	0.50	22.40	\$1,310
2026	10	1.0	1.50	\$78	0.50	6.58	\$385
2027	10	1.0	1.50	\$78	0.50	6.11	\$357
Spurs 1&3	10	1.0	1.50	\$78	0.50	15.42	\$902

*End Haul, Over Haul, Large Fills/Cuts

End Haul/ Over Haul
Large Fills/ Cuts

Estimated Vol. (cy)	No. of Equip. Days	Cost/day	Sub Total
			\$0
			\$0

Excavation TOTAL = \$4,397

III. BALLAST AND SURFACING :

Ballast source: Wedge Pit
Surface source:
Riprap source :

Description	cu.yds/sta	x stations	= cubic yards
Ballast (4"-)	47	58.75	2,761
Surfacing (2 1/2"-)			0
Riprap	15	1.00	15

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

R.T. Miles = 1.3
Ave. Speed = 20
Delay (Hrs.)= 0.2
Cost / Hour = \$100.00
CY / Load = 12

Ballast (4"-) 2761 Cu. yds @
Surfacing (2 1/2") 0 Cu. yds @
Riprap 15 Cu. yds @

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & Shoot	\$3.75		\$3.75
Dig and load	\$1.50		\$1.50
Crushing			
Purchase			
Haul *	\$2.21	\$2.21	\$2.21
Spread	\$1.36		\$3.00
Compact	\$0.51		
Strip			
Reclamation			
Use tax	\$0.09	\$0.09	\$0.09
TOTAL (\$/cy)	\$10.12	\$2.40	\$11.35

\$10.12 /cu. yd = \$27,952
\$2.40 /cu. yd = \$0
\$11.35 /cu. yd = \$170

Rock total = \$28,123

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter	No/Length	Installed Cost/ft	Sub-total
18"PD	1			590	\$19.96	\$11,776
24"PD	1			30	\$29.89	\$897
30"PD					\$40.30	\$0
36"PD					\$43.30	\$0
48"PD					\$58.30	\$0
Bands & Gaskets	4			1	\$25.00	\$100

Geotextile 0.08-0.12/ft^2 (purchase only)

Culvert total = \$12,773

V. STRUCTURES

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

Structure total = \$0

Sub-TOTAL = \$50,049

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$4,504

VII. MOBILIZATION:

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	\$200	2	\$400
Grader	\$600	1	\$600
Compactor	\$600	1	\$600
Excavator	\$900	2	\$1,800
Dozer D8)	\$1,000		\$0
Front end loader	\$800		\$0
Rock crusher	\$4,000		\$0
Drill	\$800		\$0
Dozer (D5)	\$800		\$0

Total Mobilization = \$3,400

Mobilization sub-total = \$1,133

Road No. 2000 2025 2026 2027
Standard: Construction
Stations: 58.75

SHEET TOTAL = \$55,687

By:

Sheet 2 of 5

Date: 10/15/15

SPS REGION - ROAD COST ESTIMATE - RECONSTRUCTION

SALE NAME: Mulligan T.S.

CONTRACT NUMBER: 30-092287

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
2025	5	5	1.00	1.25	\$40	1	10.44	\$522
Spur 2	5	5	1.00	1.25	\$40	1	8.24	\$412
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0
			1.00	1.00	\$40	1		\$0

Clear and Grub TOTAL = \$934

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
2025	5	1.0	1.25	\$88	1.00	10.44	\$1,148
Spur 2	5	1.0	1.25	\$88	1.00	8.24	\$906
	0	1.0	1.00	\$88	1.00	0.00	\$0
	0	1.0	1.00	\$88	1.00	0.00	\$0
	0	1.0	1.00	\$88	1.00	0.00	\$0

*End Haul, Over Haul, Large Fills/Cuts

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

Excavation TOTAL = \$2,055

III. BALLAST AND SURFACING :

Ballast source:
Surface source:
Riprap source :

Description	cu.yds/sta x stations =	cubic yards
Ballast (4"-)	47 18.68	878
Surfacing (2 1/2"-)		0
Riprap		0

UNIT COSTS	Ballast	Surfacing	Riprap
Drill & Shoot	\$3.75		
Dig and load	\$1.50		
Crushing			
Purchase			
Haul *	\$2.21	\$2.21	\$2.21
Spread	\$1.36		
Compact	\$0.51		
Strip			
Reclamation			
Use tax	\$0.09	\$0.09	\$0.09
TOTAL (\$/cy)	\$10.12	\$2.40	\$2.40

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

R.T. Miles =	1.3
Ave. Speed =	20
Delay (Hrs.)=	0.2
Cost / Hour =	\$100.00
CY / Load =	12

Ballast (4"-)	878 Cu. yds @	\$10.12 /cu. yd =	\$8,888
Surfacing (2 1/2")	0 Cu. yds @	\$2.40 /cu. yd =	\$0
Riprap	0 Cu. yds @	\$2.40 /cu. yd =	\$0

Rock total = \$8,888

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter (in.)	No/Length (ft)	Installed Cost/ft	Sub-total
18"PD	1			30	\$19.96	\$599
24"PD					\$29.89	\$0
30"PD					\$40.30	\$0
36"PD					\$43.30	\$0
48"PD					\$58.30	\$0
Bands & Gaskets					\$25.00	\$0

Culvert total = \$599

V. STRUCTURES

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

Structure total = \$0

Sub-TOTAL = \$12,475

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 10% \$1,248

VII. MOBILIZATION:

Description	\$ per Move	# of Moves	Sub-total
Dump Trucks	\$200	2	\$400
Grader	\$600	1	\$600
Compactor	\$600	1	\$600
Excavator	\$900	2	\$1,800
Dozer D8)	\$1,000	0	\$0
Front end loader	\$800	0	\$0
Rock crusher	\$4,000	0	\$0
Drill	\$800	0	\$0
Dozer (D5)	\$800	0	\$0

Total Mobilization = \$3,400 Mobilization sub-total = \$1,133

Road No. 2025 Spur 2
Standard: Reconstruction
Stations: 18.68

SHEET TOTAL = \$14,856

By:

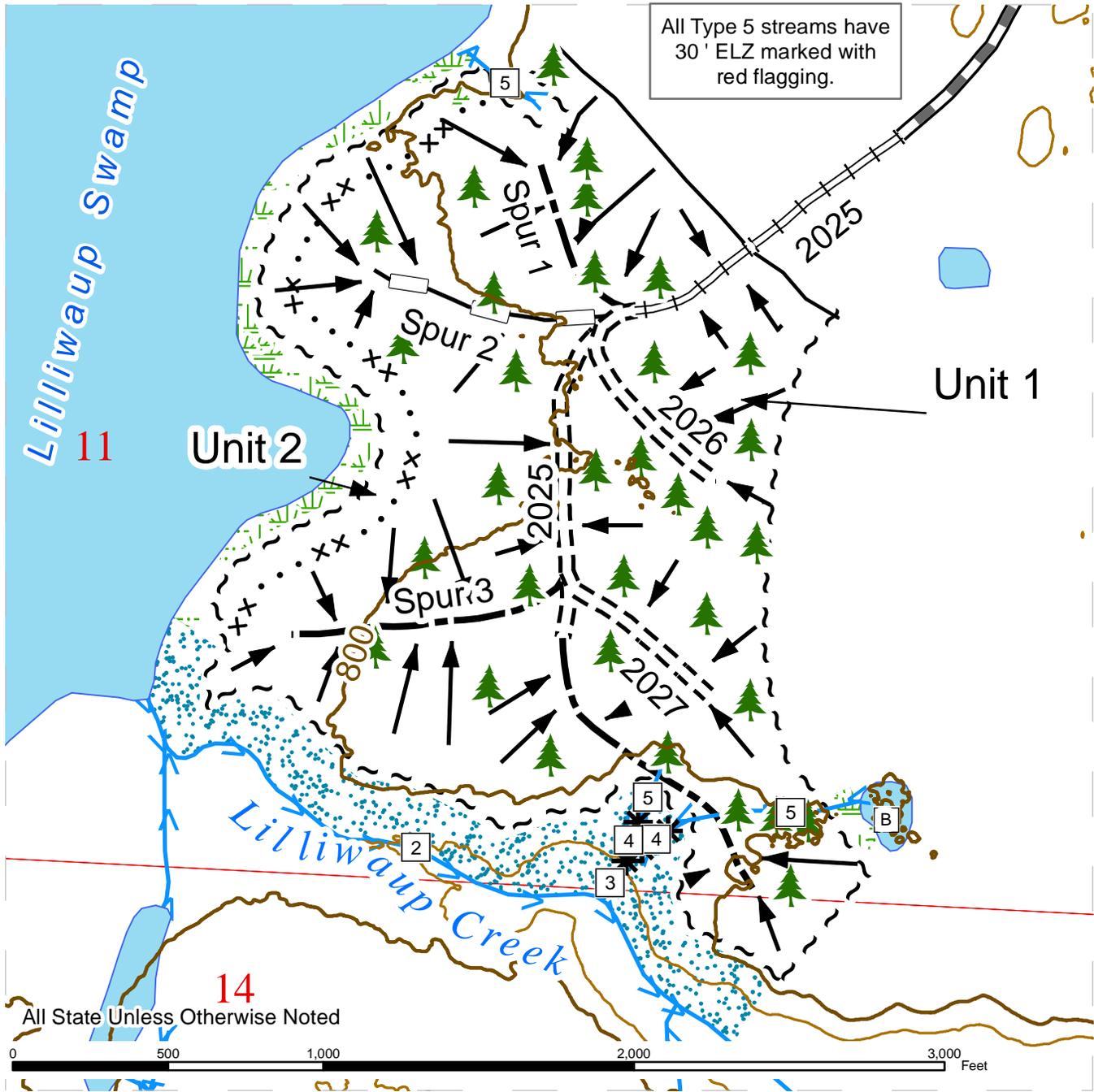
Sheet 3 of 5

Date: 10/15/15

LOGGING PLAN MAP

SALE NAME: MULLIGAN VRH & VDT
 AGREEMENT#: 92287
 TOWNSHIP(S): T23R04W
 TRUST(S): Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6)

REGION: South Puget Sound Region
 COUNTY(S): MASON
 ELEVATION RGE: 766-823 ft.



--- Sale Boundary Tags	--- Optional Construction	Riparian Mgt Zone
...xx Special Mgt Area Tags	-□- Optional Reconstruction	Wetland Mgt Zone
Timber Type Change marked with Pink Flagging	==== Required Construction	Streams
→ Ground-based logging	==== Required Reconstruction	Contours 40 ft
Leave Tree Clumps Bounded by Yellow "Leave Tree Area" Tags	==== Required Pre-Haul Maintenance	□ Stream Type
Public Land Survey Sections	Open Water	* Stream Type Break
	◆ Monumented Corners	