

Washington DNR Timber Sales Program

**Updated information is being provided for Dillydally Timber Sale #30-097287 documents as follows:**

**Documents amended:**

<b>Brief Description</b>	<b>DATE</b>	<b>Initials</b>
Wildlife timing restrictions associated with the interim Marbled Murrelet strategy have been removed since they do not apply under the Long Term Marbled Murrelet Conservation Strategy implemented December 3, 2019.  This change affects the following documents: <ul style="list-style-type: none"><li>• Notice of Sale – Special Remarks</li><li>• Contract – clause H-142 removed</li><li>• Road Plan – clause 1-27 removed</li><li>• Timber Sale Maps</li><li>• Logging Plan Maps</li></ul>	12/10/2019	akm



TIMBER NOTICE OF SALE

SALE NAME: DILLYDALLY

AGREEMENT NO: 30-097287

AUCTION: December 17, 2019 starting at 10:00 a.m., COUNTY: Thurston South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 11 miles west of Olympia.

PRODUCTS SOLD AND SALE AREA:

All timber, except leave trees bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, and the B-8500 Road in Unit #1; white Timber Sale Boundary tags, and the B-8000, B-8100, B-8510, and B-8500 roads in Unit #2; white Timber Sale Boundary tags in Unit #3;

All timber bounded by orange right of way tags in Unit #4;

All forest products above located on part(s) of Sections 20, 28, 29 and 30 all in Township 18 North, Range 3 West, W.M., containing 162 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513) and FSC 100% raw materials under the Forest Stewardship Council® Standard (cert no: BV-FM/COC-080501). \*Only Unit #2 is FSC Certified.

ESTIMATED SALE VOLUMES AND QUALITY:

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

MINIMUM BID: \$2,520,000.00 BID METHOD: Sealed Bids

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

EXPIRATION DATE: October 31, 2022 ALLOCATION: Export Restricted

BID DEPOSIT: \$252,000.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Harvesting activities are estimated to be 96 percent cable and 4 percent ground based harvest. Cable and cable-tethered equipment allowed on all slopes. Ground based equipment is limited to tracked equipment, with non-tethered self-leveling equipment limited to sustained slopes of 55 percent or less, all other tracked equipment limited to sustained slopes that are 45 percent or less. Use of tracked skidders shall be allowed only in lieu of optional construction of the B-8550 Road in Unit #2 (using the location of the B-8550 Road as the skid trail) or for pole yarding in any unit, on sustained slopes that are 45 percent and less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.



## TIMBER NOTICE OF SALE

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Falling, yarding, and hauling of forest products will not be permitted on weekends or State recognized holidays unless authorized in writing by the Contract Administrator. In addition, hauling of forest products will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator. If permission is granted to operate from November 1 to April 30, preventative measures may be required to protect water, soil, roads and other forest assets.

**ROADS:**

33.86 stations of required construction. 22.89 stations of optional construction. 371.10 stations of required prehaul maintenance. 5.55 stations of abandonment, if constructed. Purchaser maintenance on the B-8100, B-8500, B-8500 Ext., B-8510, B-8510 Ext., and B-8550 roads. Designated maintenance on all other roads used.

Rock for this proposal may be obtained from the State owned Porter Pass Quarry or Rock Candy Quarry, as well as from the existing 2 1/2 inch crushed stockpile at the Porter Pass Quarry, at no cost to the Purchaser or any commercial rock source at the Purchaser's expense. If Rock Candy Quarry is used, Purchaser must prepare a Rock Source Development Plan that must be approved by the Contract Administrator prior to operations.

The operation of road construction equipment or rock haul on any roads will not be permitted from November 1 to April 30, nor 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 1 to April 30, a maintenance plan is required per Road Plan clause 1-26.

**ACREAGE DETERMINATION**

**CRUISE METHOD:** Unit acreage was determined by traversing boundaries by GPS in all units. GPS data files are available at DNR's website for timber sale auction packets. See cruise narrative for cruise method.

**FEES:** \$128,146.00 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 Douglas-fir poles and high quality logs.

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 the Tumwater work center at (360) 902-1447.

Purchaser shall cut all hardwood stems greater than 2 inches within the harvest unit(s), leaving a stump no more than 12 inches in height.

There are multiple trails located in all units. Trails in Unit #2 are to be restored to original pre-harvest condition following harvest per Schedule A-Recreation Trail Clean Out and Repair.

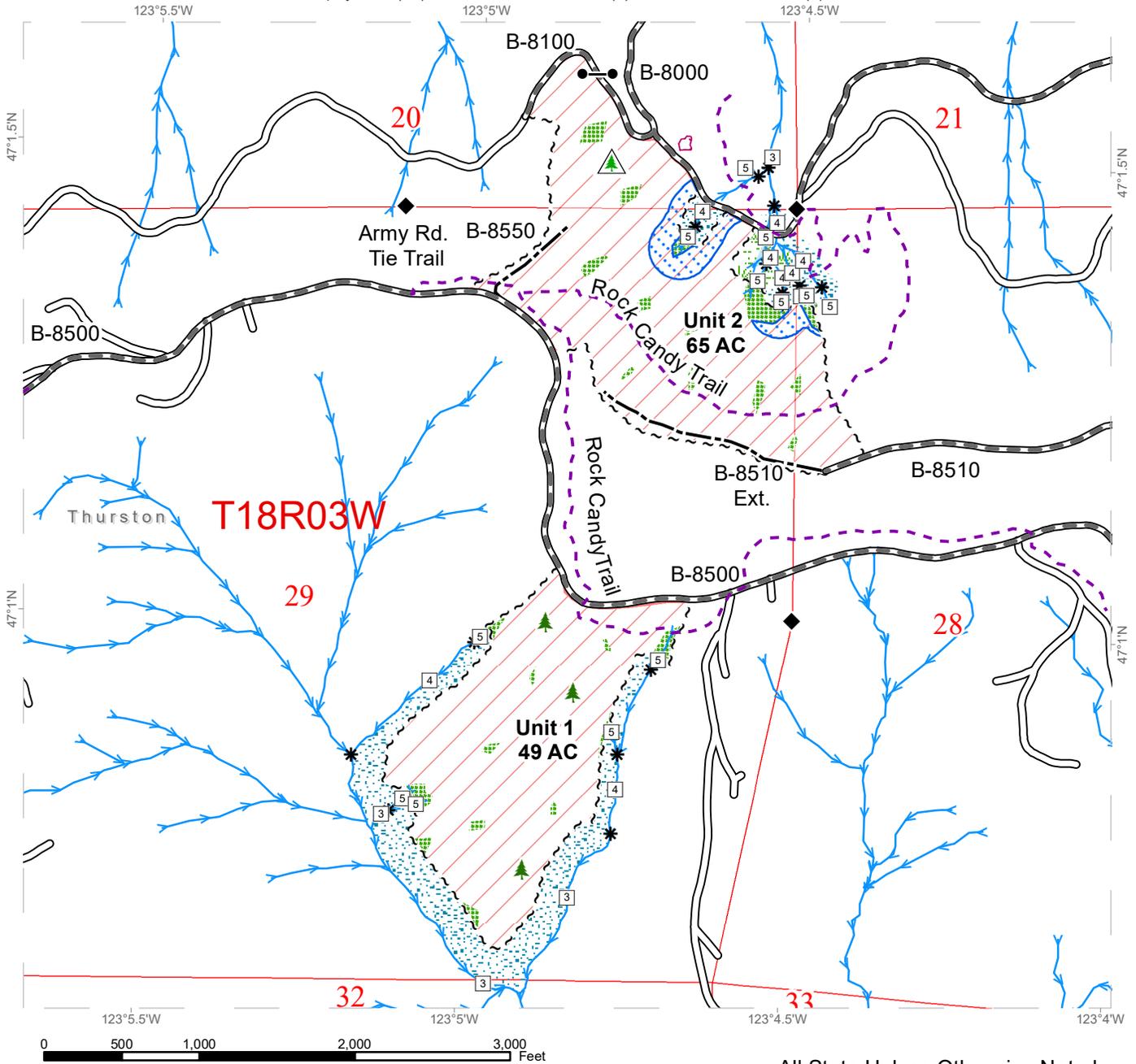
The B-8000 Road, within harvest units, is to be left open at the end of each day. Blocking will be allowed during operating hours.

Operational restrictions apply associated with Non-Tradeable Leave Trees and Tailhold Restriction Areas due to protection for potentially unstable slopes. Additionally, Watershed Analysis Prescriptions apply where shown on the Timber Sale map in Units #2 and #3. See contract clause H-141 for further information.

# TIMBER SALE MAP

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



All State Unless Otherwise Noted

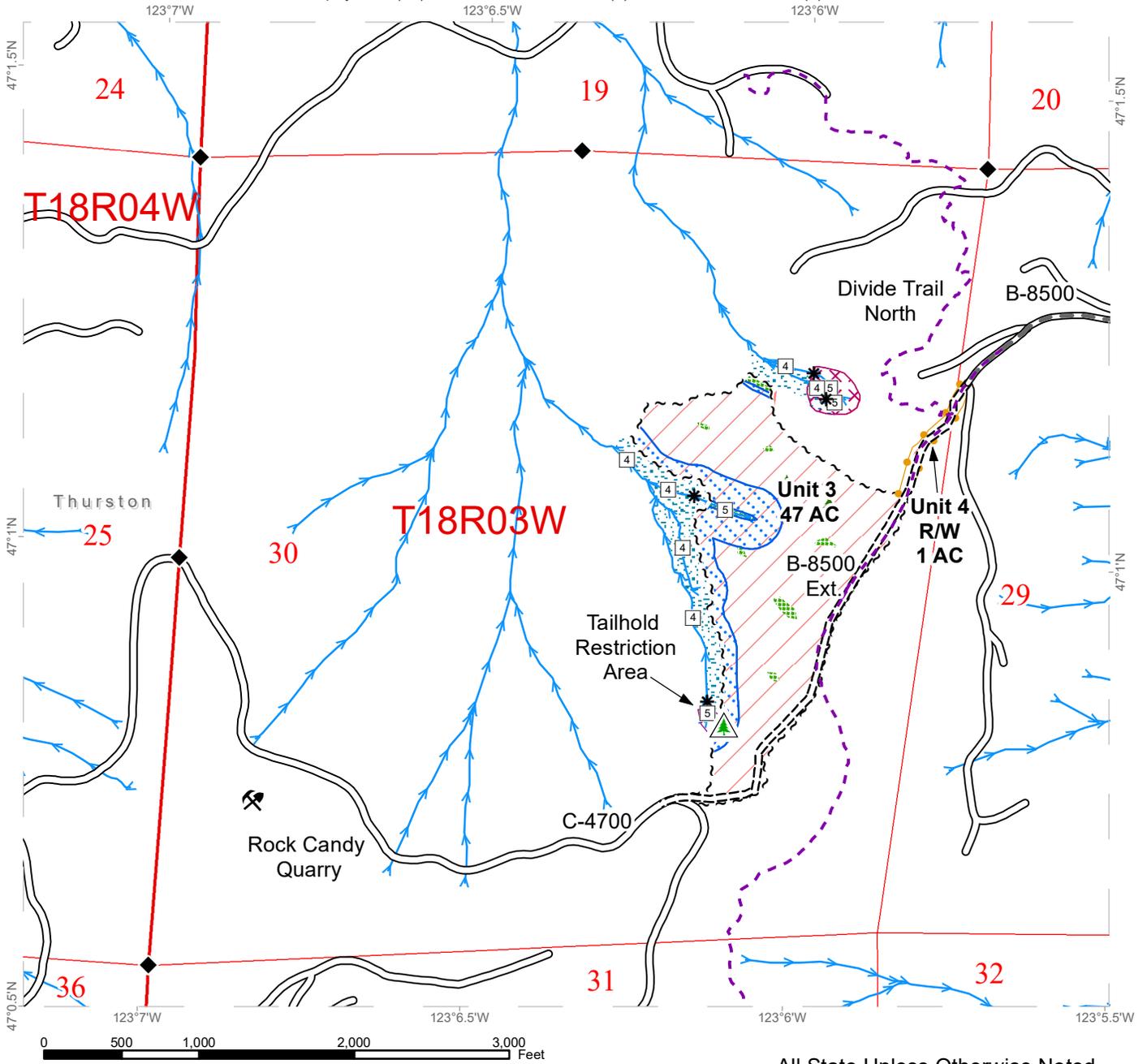
	Variable Retention Harvest		Existing Roads		Streams
	Sale Boundary Tags		Required Pre-Haul Maintenance		Stream Type
	Forested Wetland		Optional Construction/optional skid trail		Stream Type Break
	Leave Tree Area		Gate (Master 957)		Recreation Trails
	Riparian Mgt Zone		Leave Tree Area <1/4-acre		Survey Monument
	Tailhold Restriction Area		Non-Tradeable Leave Trees		
	Wetland Mgt Zone		Kennedy Creek Watershed Prescription Area		



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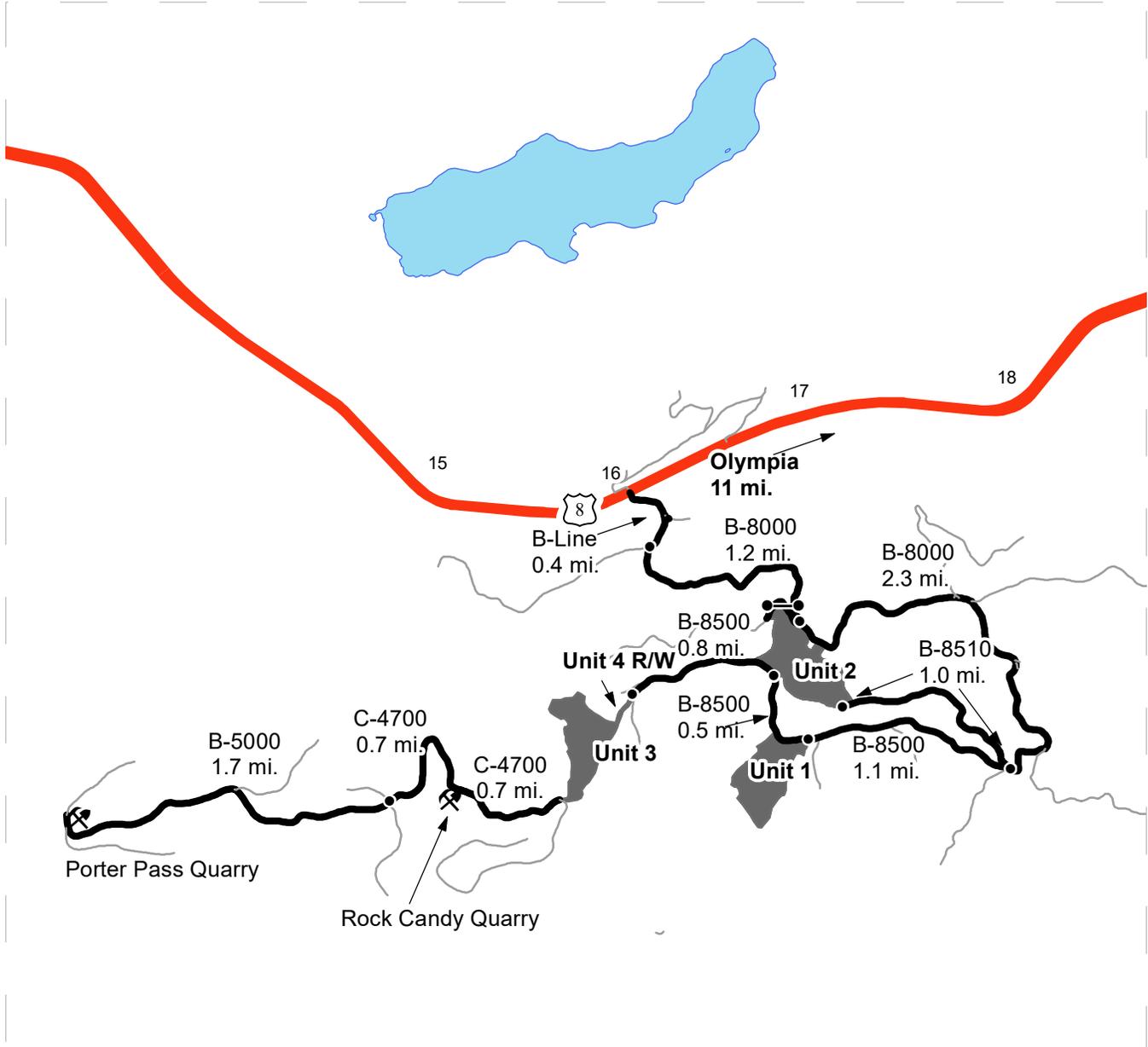
	Variable Retention Harvest		Existing Roads		Streams
	Sale Boundary Tags		Required Pre-Haul Maintenance		Stream Type Break
	Right of Way Tags		Required Construction		Recreation Trails
	Leave Tree Area		Leave Tree Area <1/4-acre		Survey Monument
	Riparian Mgt Zone		Non-Tradeable Leave Trees		
	Tailhold Restriction Area		Rock Pit		
			Kennedy Creek Watershed Prescription Area		



# DRIVING MAP

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Map may not be to scale

**DRIVING DIRECTIONS:**

- Timber Sale Unit
- Highway
- Haul Route
- Other Road
- Distance Indicator
- Gate (Master 957)
- ⛏ Rock Pit

From US HWY 8 turn south at approximately Mile Marker 16 onto the Rock Candy Mountain RD SW. Continue on the B-Line for 0.4 miles. Turn east onto the B-8000 for 1.2 miles to Unit 2.

Continue 2.3 miles and stay straight onto the B-8500.

Continue 1.1 miles to Unit 1.

Continue 1.3 miles to Unit 3.

Porter Pass and Rock Candy Quarries will be accessible via this sale's new construction of the B-8500 Ext.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-097287**

**SALE NAME: DILLYDALLY**

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on December 17, 2019 and the sale was confirmed on \_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, and the B-8500 Road in Unit #1; white Timber Sale Boundary tags, and the B-8000, B-8100, B-8510, and B-8500 roads in Unit #2; white Timber Sale Boundary tags in Unit #3;

All timber bounded by orange right of way tags in Unit #4;

All forest products above located, located on approximately 162 acres on part(s) of Sections 20, 28, 29, and 30 all in Township 18 North, Range 3 West W.M. in Thurston 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	Recreation Trail Clean Out and Repair

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

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

G-051 Contract Term Extension - Payment

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

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

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 \$953.00 per acre per annum for the acres on which an operating release has not been issued in the harvest area.
- 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, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

## G-064 Permits

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

## G-065 Regulatory Disclaimer

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

## G-066 Governmental Regulatory Actions

## a. Risk

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

## b. Sale Area

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

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

## c. Adjustment of Price

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

## G-070 Limitation on Damage

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

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

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

G-115 Forest Stewardship Council® (FSC®) Certification

Forest products purchased under this contract are FSC 100% certified as being in conformance with the Forest Stewardship Council Standard under certificate number: BV-FM/COC-080501. This only applies to Unit #2.

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

Commercial General Liability (CGL) Insurance. Purchaser shall maintain general liability (CGL) insurance, and, if necessary, commercial umbrella insurance with a limit of not less than \$1,000,000.00 per each occurrence. If such CGL insurance

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

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

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

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

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

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

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at 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 address of record:

G-210 Violation of Contract

G-220 State Suspends Operations

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

G-210 Violation of Contract

- a. If Purchaser violates any provision of this contract, the Contract Administrator, by written notice, may suspend those operations in violation. If the violation is capable of being remedied, Purchaser has 30 days after

receipt of a suspension notice to remedy the violation. If the violation cannot be remedied (such as a violation of WAC 240-15-015) or Purchaser fails to remedy the violation within 30 days after receipt of a suspension notice, the State may terminate the rights of Purchaser under this contract and collect damages.

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

#### G-220 State Suspends Operation

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

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

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

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

#### G-230 Unauthorized Activity

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

or RCW 79.02.300 and may result in prosecution under RCW 79.02.330 or other applicable statutes.

G-240 Dispute Resolution

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

**G-280 Operating Release**

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

**G-310 Road Use Authorization**

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; the B-Line, B-5000, B-5300, B-8000, B-8100, B-8500, B-8500 Ext., B-8510, B-8510 Ext., B-8550, and C-4700 roads. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

**G-330 Pre-work Conference**

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

**G-340 Preservation of Markers**

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

**G-360 Road Use Reservation**

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

**G-370 Blocking Roads**

Purchaser shall not block the B-Line, B-5000, and B-8000 roads, unless authority is granted in writing by the Contract Administrator.

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:

Easement, including the terms and provisions thereof,

For: Trail

In Favor of: DNR

Disclosed by Application No.: 50-070357

Granted: 4/13/1998

Expires: 1/31/2047

Easement, including the terms and provisions thereof,

For: Road

In Favor of: Northwest Pipeline Corporation

Disclosed by Application No.: 50-073640

Granted: 3/13/2003

Expires: 3/13/2033

Easement, including the terms and provisions thereof,

For: Road

In Favor of: Port Blakely Tree Farms LP

Disclosed by Application No.: 50-076920

Granted: 2/26/2005

Expires: Indefinite

Lease, including the terms and provisions thereof,

For: Land Use License

In Favor of: Washington Department of Fish & Wildlife

Disclosed by Application No.: 60-095576

Granted: 5/2/2017

Expires: 6/30/2022

Lease, including the terms and provisions thereof,

For: Land Use License

In Favor of: Washington Department of Fish & Wildlife

Disclosed by Application No.: 60-096820

Granted: 4/23/2018

Expires: 6/30/2022

Region Encumbrances

Lease, including the terms and provisions thereof,  
For: Minor Forest Products  
In Favor of: DNR – South Puget Sound  
Disclosed by Application No.: 35-SPSTCO1  
Granted: 1/1/2015  
Expires: Indefinite

Lease, including the terms and provisions thereof,  
For: Land Use License  
In Favor of: Washington University  
Disclosed by Application No.: 60-WS1038  
Granted: 4/1/2019  
Expires: 12/31/2019

#### Special Notations

Located within the Medicine Creek Treaty area. Intergovernmental agreements for vehicle access with Squaxin Island Tribe (92-095269), Puyallup Tribe (92-095272), Muckleshoot Tribe (92-095267), and Nisqually Indian Tribe (92-097198).

#### 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 \$195,988.00. The total contract price consists of a \$0.00 contract bid price plus \$195,988.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

## P-045 Guarantee of Payment

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

## P-050 Billing Procedure

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

## P-080 Payment Account Refund

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

## P-090 Performance Security

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

## P-100 Performance Security Reduction

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

## Section H: Harvesting Operations

## H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 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 unit containing the damaged leave tree, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 12 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all harvest units. The plan shall address the harvest operations, including tailhold and cable corridor locations, watershed analysis prescription areas, recreation trails, logging debris and safety, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-051 Branding and Painting

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

timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable, cable-tethered, and tracked ground based equipment. Cable and cable-tethered equipment allowed on all slopes. Ground based equipment is limited to tracked equipment, with non-tethered self-leveling equipment limited to sustained slopes of 55 percent or less, all other tracked equipment limited to sustained slopes that are 45 percent or less. Use of tracked skidders shall be allowed only in lieu of optional construction of the B-8550 Road in Unit #2 (using the location of the B-8550 Road as the skid trail) or for pole yarding in any unit, on sustained slopes that are 45 percent and less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

General

- a. Falling, yarding and hauling of forest products, will not be permitted on weekends or State recognized holidays unless authorized in writing by the Contract Administrator.
- b. Hauling of forest products will not be permitted from November 1 to April 30, unless authorized in writing by the Contract Administrator.
- c. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.
- d. The 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.

- e. To facilitate proper reforestation in areas of high slash concentrations, purchaser shall, in concurrence with ground based yarding, clear plantable spots at an 11.5 foot by 11.5 foot spacing.

#### Stream protection

- a. Equipment limitation zones are required within 30 feet of Type 5 streams.
- b. Crossings of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at crossing locations (when water is present) to protect the stream bank and prevent sedimentation. All materials placed in and/or over the stream at these crossings shall be removed immediately upon completion of yarding on that skid trail.
- c. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- d. Purchaser shall take measures throughout operations to control soil erosion, water channelization, and prevent sediment delivery to streams or wetlands. Methods may include construction of water bars, "sweeping" with logs, silt traps, or other measures on skid trails, yarding corridors and haul roads.

#### Skid trails

- a. Skid trail closure will occur immediately upon completion of yarding all tributary timber. Closure shall consist of creating plantable spots, creating water bars or other methods as directed by the Contract Administrator to prevent water accumulation and sediment movement.
- b. In the event operations become inactive for long periods of time, skid trails shall be water barred prior to completion of yarding tributary timber to prevent water accumulation and sediment movement, if required by the Contract Administrator.
- c. Once a skid trail is closed, the Purchaser shall not reopen a skid trail unless approved in writing 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.
- b. Areas restricting operations due to protection of potentially unstable slopes are located within and outside the sale boundary.
  - Locations inside the sale boundary are identified as Non-Tradeable Leave Trees marked with yellow Leave Tree Area tags as shown on the Timber Sale and Logging Plan Maps inside which no trees may be used as tailholds and no equipment may operate within, nor logs yarded through or over.
  - Locations outside the sale boundary are identified as Tailhold Restriction Areas on the Logging Plan and Timber Sales Maps. Trees within these areas shall not be used as tailholds.
- c. Kennedy Creek Watershed Analysis Prescriptions for Units #2 and #3 (where shown on the Logging Plan Map): Within 100 feet of any defined stream channel where slopes are greater than 30 percent; disturbance shall be limited to areas of no more than 100 square feet of continuous exposed mineral soil or compact soil; no more than 50 percent of the total ground area shall be exposed; avoid disturbance of understory vegetation.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-250 Additional Falling Requirements

Within the harvest units, all hardwood stems greater than 2 inches, shall be felled. The remaining stump height shall be no more than 12 inches in height. 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 12/1/2018 are hereby made a part of this contract.

**C-050 Purchaser Road Maintenance and Repair**

Purchaser shall perform work at their own expense on the B-8100, B-8500, B-8500 Ext., B-8510, B-8510 Ext., and B-8550 roads. All work shall be completed to the specifications detailed in the Road Plan.

**C-060 Designated Road Maintainer**

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used 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 equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

**C-080 Landing Locations Approved Prior to Construction**

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

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

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

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

**S-010 Fire Hazardous Conditions**

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

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

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

**S-030 Landing Debris Clean Up**

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

**S-050 Cessation of Operations for Low Humidity**

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

**S-060 Pump Truck or Pump Trailer**

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

**S-100 Stream Cleanout**

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

**S-110 Resource Protection**

No yarding equipment may operate within Riparian or Wetland Management Zones unless authority is granted in writing by the Contract Administrator.

**S-120 Stream Protection**

No timber shall be felled into, across, or yarded through Type 3 or 4 streams.

**S-130 Hazardous Materials****a. Hazardous Materials and Waste - Regulatory Compliance**

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

**b. Hazardous Materials Spill Prevention**

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

**c. Hazardous Materials Spill Containment, Control and Cleanup**

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If

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

d. Hazardous Material Release Reporting

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

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

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

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

ECY - Southwest Region:

1-360-407-6300

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

ECY - Central Region:

1-509-575-2490

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

ECY - Eastern Region:

1-509-329-3400

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

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

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser  
\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Scott Sargent  
South Puget Sound Region Manager

Date: \_\_\_\_\_  
Address: \_\_\_\_\_

Date: \_\_\_\_\_

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

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_

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

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

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_

My appointment expires \_\_\_\_\_

**Schedule A**  
**Recreation Trail Clean Out and Repair**

This schedule applies to the Army Road Tie and the Rock Candy trails in Unit #2 only.

Purchaser is responsible for locating and marking the recreation trail within the sale boundary on the ground prior to harvest as approved by the Contract Administrator (CA).

- If needed, upon completion of harvest activities Purchaser shall locate the original recreation trail with pink fluorescent flagging. The CA will then approve the trail location in writing and repair/clean out can begin.
- The CA may require cleanout of the trail prior to completion of harvest, if there is a delay in harvesting activities.

Recreation trail repair/clean out shall occur within 2 weeks of completion of harvest within 200 feet of the trail and shall consist of the following:

- Remove all logging debris from the recreation trail and the area on each side of the trail within 5 feet of the travel path.
- Trail will be repaired where holes or ruts resulted due to logging damage. The trail will be returned to its original width on mineral soils and free of organic debris.
- Existing drainage control measures shall be returned to pre-harvest condition.

All work described above shall be done as determined by the CA. The logging release for the unit will not be issued until repair and clean out is completed and approved in writing by the CA.



## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:** South Puget Sound

**Timber Sale Name:** Dillydally

**Application Number:** 30- 097287

#### EXCISE TAX APPLICABLE ACTIVITIES

**Construction:** 5,120 linear feet  
*Road to be constructed (optional and required) but not abandoned*

**Reconstruction:** 0 linear feet  
*Road to be reconstructed (optional and required) but not abandoned*

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

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

**Pre-Haul Maintenance:** 37,110 linear feet  
*Existing road to receive maintenance work (optional and required) prior to haul*

#### EXCISE TAX EXEMPT ACTIVITIES

**Temporary Construction:** 555 linear feet  
*Roads to be constructed (optional and required) and then abandoned*

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

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.  
(Revised 9/18)

# PRE-CRUISE NARRATIVE

Sale Name: <b>Dillydally</b>	Region: <b>South Puget Sound</b>
Agreement #: <b>30-097287</b>	District: <b>Black Hills</b>
Contact Forester: <b>Brody Coval</b>	Phone/ Location: <b>(253) 293-0264</b>
Alternate Contact: <b>Andy Ritter</b>	Phone/ Location: <b>(360)-791-5980</b>

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): <b>Lump Sum</b>
Required or Optional removal of utility as pulp: <b>N/A</b>
Evaluated for RFRS Implementation?: <b>Yes</b>
Percentage cable (specify downhill vs uphill): <b>96%</b>
Percentage ground based: <b>4%</b>
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 type="checkbox"/> SS, <input type="checkbox"/> Other:(Please List)

## 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, dimensions and error of closure if applicable)	
					RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres			Other Acres (describe)
1		Sec 29/ T 18N/ R 03 W		51.5	0	2.1	0	0	49.4	GPS
2		Sec 20, 28, 29/ T 18N/ R 03 W		67.9	0	3.4	0	0	64.5	GPS
3		Sec 30/ T 18N/ R 03 W		49.9	0	1.2	1.9	0	46.8	GPS, Divide Trail N.: 2800' x 30'
4 R/W		Sec 29&30/ T 18N/ R 03 W		1.4		0	0.6	0	0.8	GPS, Divide Trail N.: 860' x 30'
<b>TOTAL ACRES</b>				<b>177.5</b>	<b>0</b>	<b>6.7</b>	<b>2.5</b>	<b>0</b>	<b>161.5</b>	

## HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging.	N/A	8 leave trees per acre
2	Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging.	N/A	8 leave trees per acre

3	Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging.	N/A	8 leave trees per acre
4 R/W	Right-of-Way unit marked with orange "Right of Way Boundary" tags and orange flagging.	N/A	N/A

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 700')
2	See Cruise	Gate on B-8100, approx. 600' from B-8000 (Master: 957)	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 700')
3	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 700')
4 R/W	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 700')

**REMARKS:**

This is a three unit VRH harvest with 96% cable yarding as well as a Right-of-Way unit. There are new construction roads in unit 2. The old Army Tie Road (now converted to a motorized trail) runs through unit 3 and 4.

<b>Prepared By: Brody Coval</b> <b>Date: June 18, 2019</b>	<b>Title: Forester</b>	<b>CC:</b>
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*Revised 2/23/2007 (PSLD)*

## Cruise Narrative

<b>Sale Name:</b> Dillydally	<b>Region:</b> South Puget Sound
<b>Agree. #:</b> 30-097287	<b>District:</b> Black Hills
<b>Lead cruiser:</b> John Piety	<b>Completion date:</b> 1-28-2019 revised 6-26-2019 by Dan Hohl
<b>Other cruisers on sale:</b> None	

**Unit acreage specifications:**

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	49.4	Yes	
2	64.5	Yes	
3	46.8	Yes	
4 R/W	0.8	Yes	
<b>Total</b>	<b>161.5</b>		

**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	40.0 BAF	4.5	290' X 290'	1:1	24
2	VP	54.4 BAF	4.5	290' X 290'	1:1	31
3	VP	46.9 BASF	4.5	290' X 290'	1:1	26
4 R/W	ITS	DF: 9.125 WH: 7 RA,RC: 1	4.5	N/A	N/A	1

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	<b>100% up to 5 trees per species</b>
<b>Minimum cruise spec:</b>	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, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27")  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

	<p>the outer third to end of the log. (Intermediate sort. Grades 2S, 3S. . Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27").</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, min TDIB 2in.)</p> <p>O- Logs exceeding 27" on the large end. (Oversize sort. Grade 2S. Lengths 16ft-40ft, 2ft multiples butt diameter min dia. 27 in. +)</p> <p>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"+)</p>						
<b>Avg ring count by sp:</b>	<table border="1"> <tr> <td><b>DF =</b></td> <td>6</td> <td><b>WH =</b></td> <td>7</td> <td></td> <td></td> </tr> </table>	<b>DF =</b>	6	<b>WH =</b>	7		
<b>DF =</b>	6	<b>WH =</b>	7				
<b>Leave/take tree description:</b>	Variable Retention Harvest: Boundaries are marked with white "Timber Sale Boundary" tags and pink flagging. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging. Right-of-Way unit marked with orange "Right of Way Boundary" tags and orange flagging.						
<b>Other conditions</b>							

**Field observations:**

These stands are DF and WH with some minor species, RC, RA, BM and a couple SF. Half of unit # 1 and part of unit #3 has had some previous harvest activity. These are good to high quality logs, defect seen include sweep, forks, spike knots, old bear damage, bole rot and some mistletoe. The units are mostly tower ground with a small percentage of ground based. There is some optional road construction in unit #2 and some reconstruction in unit #3.

**Grants: 1, 2, 42**

**Prepared by:**

**John Piety**

**Title:**

**Check Cruiser**

**CC:**

TC PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																						
T018 R003 S29 TyROW4 THRU T18N R03W S30 Ty0003			Project: <b>DILLYDAL</b>												Page <b>1</b>									
			Acres <b>161.50</b>												Date <b>6/26/2019</b> Time <b>10:57:55AM</b>									
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre			
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf				
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99								
DF	HA	SM		3	.5	1,324	1,318	213				10	90				100	40	20	695	3.23	1.9		
DF	HA	2S		3	2.9	855	830	134				100				100	40	13	252	1.48	3.3			
DF	HA	3S				322	322	52			100					100	40	8	105	0.62	3.1			
DF	HB	2S		18	1.9	6,269	6,148	993				39	61			100	40	16	439	2.20	14.0			
DF	HB	3S		3	2.3	1,185	1,159	187			100					100	40	10	146	0.86	7.9			
DF	D	2S		29	2.2	10,333	10,106	1,632				57	43		1	0	99	40	15	364	1.85	27.8		
DF	D	3S		9	1.7	3,450	3,393	548			100	0			1	7	6	86	37	9	117	0.85	28.9	
DF	D	4S		6		2,195	2,195	355			38	62			13	15	5	67	31	6	44	0.40	49.5	
DF	D	UT		1	36.4	429	273	44			27	4	30	40		1	24	75	30	3	22	0.33	12.6	
DF	OS	2S		26	5.6	9,792	9,239	1,492					100		2		2	96	39	22	817	4.09	11.3	
DF	OS	UT		1	49.7	358	180	29					100					100	40	20	338	3.50	.5	
DF	RO	2S		1	3.9	247	237	38					100					100	40	14	259	1.62	.9	
<b>DF Totals</b>				76	3.7	36,759	35,400	5,717			3	18	27	53		1	2	2	95	36	11	219	1.32	161.8
DF	P	HA	2S	49		254	254	41				100					100	40	13	226	1.29	1.1		
DF	P	HB	3S	36		183	183	30				100					100	40	9	112	0.71	1.6		
DF	P	D	4S	15		77	77	12			32	68			22	10		68	28	6	38	0.37	2.0	
DF	P	D	UT																26	2		0.13	.8	
<b>DF Totals</b>				1		514	514	83			5	46	49			3	1		95	34	7	92	0.68	5.6
WH	HA	SM		1	2.2	146	142	23					100				100	40	17	450	2.23	.3		
WH	HA	3S		3		174	174	28			100						100	40	11	180	0.94	1.0		
WH	HB	2S		9		650	650	105				100					100	40	15	323	1.76	2.0		
WH	HB	3S		3		219	219	35			100						100	40	10	150	0.89	1.5		
WH	D	2S		26	5.5	1,970	1,863	301				75	25			4	96	39	14	295	1.68	6.3		
WH	D	3S		27	2.3	1,952	1,907	308			100					1	99	40	9	129	0.81	14.8		
WH	D	4S		21		1,499	1,499	242			41	59			6	22	5	67	32	6	44	0.39	34.3	
WH	D	UT																	27	2		0.13	6.9	
WH	OS	2S		10	12.9	819	714	115					100					100	40	21	677	3.53	1.1	
<b>WH Totals</b>				15	3.5	7,430	7,169	1,158			9	44	29	18		1	5	2	92	34	8	105	0.75	68.1
RA	D	2S		46	1.0	1,051	1,041	168				100				69	31	32	12	176	1.30	5.9		
RA	D	3S		16	1.7	360	354	57				100				67	33	33	11	132	0.97	2.7		
RA	D	4S		36	1.3	822	812	131			26	74				50	10	40	31	7	51	0.50	16.0	
RA	D	UT		2		25	25	4			2	98			99	1			20	6	20	0.36	1.3	
<b>RA Totals</b>				5	1.2	2,258	2,231	360			9	44	47			1	61	4	34	31	8	86	0.74	25.9
BM	D	4S		100		130	130	21				100						100	30	12	150	1.18	.9	
<b>BM Totals</b>				0		130	130	21					100						100	30	12	150	1.18	.9
RC	D	CU																10	3		0.00	.0		
RC	D	3S		51		630	630	102			51	41	8			67	33	31	11	129	1.28	4.9		
RC	D	4S		21	4.9	283	269	43			55	45			13	47	14	26	29	6	35	0.45	7.8	
RC	OS	3S		28	15.7	397	335	54					100			41	59	33	25	811	7.23	.4		
<b>RC Totals</b>				3	5.8	1,310	1,234	199			12	36	21	31		3	56	3	38	30	8	94	1.01	13.1
<b>Totals</b>					3.6	48,402	46,678	7,538			4	24	28	44		1	7	2	90	35	9	170	1.10	275.4

PROJECT STATISTICS										PAGE	1	
PROJECT DILLYDAL										DATE	6/26/2019	
TC PSTATS	TWP	RGE	SC	TRACT	TYPE	THR	ACRES	PLOTS	TREES	CuFt	BdFt	
	018	003	29	DILLYDALLY	ROW		161.50	82	433	S	W	
	18N	03W	30	DILLYDALLY	0003							
							ESTIMATED		PERCENT			
							TOTAL		SAMPLE			
							TREES		TREES			
							PER PLOT					
	TOTAL			82	433		5.3					
	CRUISE			44	247		5.6	19,728	1.3			
	DBH COUNT											
	REFOREST											
	COUNT			38	179		4.7					
	BLANKS											
	100 %											
<b>STAND SUMMARY</b>												
		SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
		TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
	DOUG FIR	150	63.1	21.7	96	34.9	162.5	36,759	35,400	7,665	7,665	
	DOUG FIR-P	5	2.0	16.8	88	0.8	3.1	514	514	128	128	
	WHEMLOCK	43	34.4	15.4	68	11.4	44.6	7,430	7,169	1,753	1,753	
	R ALDER	29	13.9	16.1	63	4.9	19.6	2,258	2,231	595	595	
	WR CEDAR	19	7.8	17.4	56	3.1	13.0	1,310	1,234	393	393	
	BL MAPLE	1	.9	21.1	70	0.5	2.1	130	130	31	31	
	<b>TOTAL</b>	<b>247</b>	<b>122.2</b>	<b>19.2</b>	<b>82</b>	<b>55.9</b>	<b>244.9</b>	<b>48,402</b>	<b>46,678</b>	<b>10,565</b>	<b>10,565</b>	
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	82.8	6.8	865	928	991						
	DOUG FIR-P	41.3	20.5	210	264	318						
	WHEMLOCK	100.0	15.2	287	338	390						
	R ALDER	55.4	10.5	137	153	169						
	WR CEDAR	167.1	39.4	209	345	480						
	BL MAPLE											
	<b>TOTAL</b>	<b>105.7</b>	<b>6.7</b>	<b>628</b>	<b>673</b>	<b>718</b>		<b>446</b>	<b>228</b>		<b>112</b>	
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH		5	7		10	
	DOUG FIR	77.5	8.6	58	63	69						
	DOUG FIR-P	398.7	44.0	1	2	3						
	WHEMLOCK	158.8	17.5	28	34	40						
	R ALDER	287.0	31.7	10	14	18						
	WR CEDAR	284.1	31.3	5	8	10						
	BL MAPLE	671.6	74.1	0	1	2						
	<b>TOTAL</b>	<b>62.2</b>	<b>6.9</b>	<b>114</b>	<b>122</b>	<b>131</b>		<b>155</b>	<b>79</b>		<b>39</b>	
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	65.7	7.2	151	162	174						
	DOUG FIR-P	398.9	44.0	2	3	5						
	WHEMLOCK	143.6	15.8	38	45	52						
	R ALDER	274.4	30.3	14	20	26						
	WR CEDAR	292.3	32.2	9	13	17						
	BL MAPLE	671.6	74.1	1	2	4						
	<b>TOTAL</b>	<b>40.1</b>	<b>4.4</b>	<b>234</b>	<b>245</b>	<b>256</b>		<b>64</b>	<b>33</b>		<b>16</b>	
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	79.8	8.8	32,283	35,400	38,517						
	DOUG FIR-P	412.3	45.5	280	514	748						
	WHEMLOCK	156.4	17.3	5,932	7,169	8,406						
	R ALDER	270.4	29.8	1,566	2,231	2,897						

TC PSTATS		<b>PROJECT STATISTICS</b>							PAGE	<b>2</b>		
		<b>PROJECT DILLYDAL</b>							DATE	6/26/2019		
TWP	RGE	SC	TRACT	TYPE		ACRES		PLOTS	TREES	CuFt	BdFt	
018	003	29	DILLYDALLY	ROW	THR	161.50		82	433	S	W	
18N	03W	30	DILLYDALLY	0003								
CL	68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5 7		10			
WR CEDAR		327.4	36.1	788	1,234	1,680						
BL MAPLE		671.6	74.1	34	130	226						
<b>TOTAL</b>		57.3	6.3	43,728	46,678	49,628	131 67		33			
CL	68.1	COEFF		V BAR/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5 7		10			
DOUG FIR				199	218	237						
DOUG FIR-P		406.8	44.9	89	163	238						
WHEMLOCK		107.8	11.9	133	161	189						
R ALDER		232.2	25.6	80	114	147						
WR CEDAR		272.7	30.1	61	95	130						
BL MAPLE		286.6	31.6	16	62	108						
<b>TOTAL</b>		48.6	5.4	179	191	203	94 48		24			



T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page	1										
Project: DILLYDAL												Date	6/26/2019										
												Time	10:57:53AM										
T18N R03W S29 T0001										T18N R03W S29 T0001													
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt														
18N	03W	29	DILLYDALLY	0001	49.40	24	58	S	W														
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre		
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft					
DF	HA	2S		1		369	369								100				40	12	200	1.28	1.8
DF	HA	3S		1		370	370								100				40	10	150	0.89	2.5
DF	HB	2S		13	2.1	3,521	3,448				84	16			100				40	14	297	1.69	11.6
DF	HB	3S		2	.0	690	690								100				40	10	164	1.04	4.2
DF	DM	2S		23	6.1	6,486	6,092				67	33		1	1	98			40	15	314	1.85	19.4
DF	DM	3S		11	4.1	3,146	3,018							1	5	6	88		38	10	127	0.94	23.8
DF	DM	4S		10		2,613	2,613		29	71				9	15	2	74		33	6	49	0.44	53.8
DF	DM	UT		2	43.9	1,163	653			5	40	55			33	67			28	4	31	0.58	21.0
DF	OS	2S		35	7.3	10,112	9,373							6			94		38	23	835	4.48	11.2
DF	OS	UT		1	49.5	757	383										100		40	19	319	3.27	1.2
DF	RO	2S		1	17.2	120	100										100		40	14	240	1.85	.4
<b>DF</b>	<b>Totals</b>			90	7.6	29,345	27,106							3	2	2	93		35	10	180	1.25	150.9
RA	DM	2S		28		520	520								100		58	42	32	13	212	1.49	2.5
RA	DM	3S		29		545	545								100		30	70	36	10	140	0.87	3.9
RA	DM	4S		43		785	785		15	85					43	5	52		32	7	57	0.48	13.7
<b>RA</b>	<b>Totals</b>			6		1,850	1,850		6	66	28				43	2	54		33	8	92	0.69	20.1
WH	DM	2S		28	4.3	312	299					100				100			40	17	440	2.11	.7
WH	DM	3S		37		381	381					100				100			40	8	93	0.69	4.1
WH	DM	4S		7		68	68		100					100					18	5	20	0.24	3.4
WH	OS	2S		28	50.0	570	285										100		40	22	420	3.77	.7
<b>WH</b>	<b>Totals</b>			3	22.4	1,332	1,033		7	37	57			7			93		31	9	117	1.03	8.8
RC	DM	4S		100		95	95										100		40	7	70	0.83	1.4
<b>RC</b>	<b>Totals</b>			0		95	95										100		40	7	70	0.83	1.4
<b>Type Totals</b>					7.8	32,623	30,085							3	5	2	90		35	10	166	1.18	181.1



**T18N R03W S30 T0003** **T18N R03W S30 T0003**  
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt  
 18N 03W 30 DILLYDALLY 0003 46.80 26 75 S W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	HA	SM	5	1.5	1,449	1,428	67			32	68				100	40	17	490	2.42	2.9		
DF	HA	2S	3	6.0	790	743	35			100					100	40	13	223	1.31	3.3		
DF	HA	3S	2		720	720	34		100						100	40	8	90	0.53	8.0		
DF	HB	2S	23	2.1	6,247	6,117	286			52	48				100	40	15	345	1.79	17.7		
DF	HB	3S	3		648	648	30		100						100	40	10	152	0.79	4.3		
DF	DM	2S	22	1.2	5,995	5,923	277			78	22				100	40	14	306	1.59	19.4		
DF	DM	3S	15	.3	4,034	4,020	188		100						100	40	9	123	0.78	32.6		
DF	DM	4S	8		1,960	1,960	92	57	43			19	17	16	47	29	6	38	0.34	51.6		
DF	DM	UT			247	247	12	100							100	40	3	20	0.12	12.3		
DF	OS	2S	17	5.6	4,726	4,463	209				100				100	40	21	773	3.88	5.8		
DF	OS	UT	1	50.0	436	218	10				100				100	40	21	380	4.00	.6		
DF	RO	2S	1	8.3	138	126	6			100					100	40	13	220	1.66	.6		
<b>DF</b>	<b>Totals</b>			65	2.8	27,389	26,612	1,245	5	23	34	37	1	1	1	96	36	9	167	1.01	159.1	
DF	P	HB	3S	75	.0	368	368	17		100					100	40	9	117	0.75	3.2		
DF	P	DM	4S	25		119	119	6	30	70			30		70	28	5	38	0.32	3.2		
DF	P	DM	UT													26	2		0.11	1.4		
<b>DF</b>	<b>P</b>	<b>Totals</b>		1		487	487	23	7	93			7		93	32	6	63	0.51	7.7		
WH	HA	SM	5	2.2	502	491	23				100				100	40	17	450	2.23	1.1		
WH	HB	2S	4		422	422	20			100					100	40	14	290	1.63	1.5		
WH	HB	3S	9		757	757	35		100						100	40	10	150	0.89	5.0		
WH	DM	2S	20	14.0	2,222	1,911	89			89	11				100	40	13	222	1.47	8.6		
WH	DM	3S	28	2.9	2,651	2,575	121		100						100	40	9	129	0.79	19.9		
WH	DM	4S	34		3,046	3,046	143	39	61			5	13	8	74	34	6	46	0.39	66.5		
WH	DM	UT														27	2		0.13	11.6		
<b>WH</b>	<b>Totals</b>			23	4.1	9,601	9,203	431	13	56	23	8	2	4	3	91	35	7	81	0.61	114.3	
RA	DM	2S	65	.7	2,466	2,450	115			100				64	36	33	12	178	1.30	13.8		
RA	DM	3S	10		389	389	18		100					100		30	11	130	1.03	3.0		
RA	DM	4S	25		914	914	43	45	55					51	13	36	30	6	47	0.58	19.5	
<b>RA</b>	<b>Totals</b>			9	.4	3,768	3,752	176	11	24	65			65	3	32	31	9	104	0.90	36.2	
RC	DM	3S	43		330	330	15		59	41				41	59	33	12	164	1.67	2.0		
RC	DM	4S	57		421	421	20	33	67					15	73	11	26	6	39	0.45	10.9	
<b>RC</b>	<b>Totals</b>			2		751	751	35	18	64	18			9	59	6	26	27	7	58	0.68	12.9
<b>Type Totals</b>					2.8	41,995	40,805	1,910	8	32	34	26	2	9	2	88	35	8	124	0.84	330.2	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
018	003	29	DILLYDALLY	ROW4	0.80	1	21	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		1	21	21.0						
CRUISE		1	21	21.0	98		21.4			
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	8	91.3	19.5	92	42.8	188.9	32,964	32,964	7,933	7,933
WHEMLOCK	2	17.5	13.0	48	4.5	16.1	875	875	381	381
R ALDER	7	8.8	10.4	64	1.6	5.2	563	538	160	161
WR CEDAR	4	5.0	11.3	33	1.0	3.5	125	125	52	52
<b>TOTAL</b>	<i>21</i>	<i>122.5</i>	<i>17.9</i>	<i>81</i>	<i>50.5</i>	<i>213.7</i>	<i>34,527</i>	<i>34,502</i>	<i>8,526</i>	<i>8,527</i>
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		88.0	33.2	241	361	481				
WHEMLOCK		28.3	26.5	37	50	63				
R ALDER		25.6	10.4	55	61	68				
WR CEDAR		23.1	13.2	22	25	28				
<b>TOTAL</b>		<i>146.0</i>	<i>32.6</i>	<i>113</i>	<i>168</i>	<i>222</i>	<i>894</i>	<i>456</i>	<i>224</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
18N	03W	29	DILLYDALLY	0001	49.40	24	110	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		24	110	4.6						
CRUISE		12	58	4.8	3,810	1.5				
DBH COUNT										
REFOREST										
COUNT		12	52	4.3						
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	47	61.7	21.9	86	34.5	161.7	29,345	27,106	6,641	6,640
R ALDER	8	10.0	15.6	73	3.4	13.3	1,850	1,850	456	456
WHEMLOCK	2	4.1	17.3	70	1.6	6.7	1,332	1,033	287	287
WR CEDAR	1	1.4	15.0	47	0.4	1.7	95	95	45	45
<b>TOTAL</b>	<b>58</b>	<b>77.1</b>	<b>20.9</b>	<b>82</b>	<b>40.1</b>	<b>183.3</b>	<b>32,623</b>	<b>30,085</b>	<b>7,429</b>	<b>7,428</b>
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	81.4	11.9		668	758	848				
R ALDER	41.5	15.6		173	205	237				
WHEMLOCK	112.6	105.4			540	1,109				
WR CEDAR										
<b>TOTAL</b>	<b>90.4</b>	<b>11.9</b>		<b>584</b>	<b>662</b>	<b>741</b>	<b>326</b>	<b>166</b>	<b>82</b>	
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	48.8	10.2		55	62	68				
R ALDER	339.0	70.6		3	10	17				
WHEMLOCK	312.1	65.0		1	4	7				
WR CEDAR	489.9	102.1			1	3				
<b>TOTAL</b>	<b>51.9</b>	<b>10.8</b>		<b>69</b>	<b>77</b>	<b>85</b>	<b>112</b>	<b>57</b>	<b>28</b>	
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	29.6	6.2		152	162	172				
R ALDER	350.2	72.9		4	13	23				
WHEMLOCK	288.9	60.2		3	7	11				
WR CEDAR	489.9	102.1			2	3				
<b>TOTAL</b>	<b>30.8</b>	<b>6.4</b>		<b>172</b>	<b>183</b>	<b>195</b>	<b>40</b>	<b>20</b>	<b>10</b>	
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	32.6	6.8		25,265	27,106	28,947				
R ALDER	344.5	71.8		522	1,850	3,178				
WHEMLOCK	293.0	61.0		402	1,033	1,664				
WR CEDAR	489.9	102.1			95	192				
<b>TOTAL</b>	<b>34.5</b>	<b>7.2</b>		<b>27,921</b>	<b>30,085</b>	<b>32,249</b>	<b>50</b>	<b>25</b>	<b>12</b>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				156	168	179				
R ALDER	344.5	71.8		39	139	238				
WHEMLOCK	152.4	31.8		60	155	250				
WR CEDAR	489.9	102.1			57	115				
<b>TOTAL</b>	<b>181.2</b>	<b>37.7</b>		<b>152</b>	<b>164</b>	<b>176</b>	<b>1,368</b>	<b>698</b>	<b>342</b>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
18N	03W	29	DILLYDALLY	0002	64.50	31	168	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES	PER PLOT	TREES	TREES				
TOTAL		31	168	5.4						
CRUISE		16	93	5.8	8,334	1.1				
DBH COUNT										
REFOREST										
COUNT		15	75	5.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	55	60.5	23.9	105	38.4	187.8	49,283	48,158	9,745	9,745
DOUG FIR-P	3	2.8	18.5	101	1.2	5.3	934	934	228	228
WHEMLOCK	18	37.9	16.7	73	14.2	57.9	10,607	10,470	2,407	2,407
WR CEDAR	10	12.9	18.7	59	5.7	24.6	2,662	2,471	775	777
R ALDER	6	13.0	14.1	59	3.7	14.0	1,496	1,441	398	398
BL MAPLE	1	2.2	21.1	70	1.1	5.3	325	325	77	77
<b>TOTAL</b>	<i>93</i>	<i>129.2</i>	<i>20.5</i>	<i>85</i>	<i>65.2</i>	<i>294.8</i>	<i>65,308</i>	<i>63,799</i>	<i>13,630</i>	<i>13,631</i>
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	67.7	9.1		1,181	1,299	1,418				
DOUG FIR-P	17.1	11.8		294	333	373				
WHEMLOCK	84.7	20.5		387	487	587				
WR CEDAR	123.3	41.0		346	586	826				
R ALDER	49.3	22.0		99	127	154				
BL MAPLE										
<b>TOTAL</b>	<i>90.3</i>	<i>9.4</i>		<i>858</i>	<i>946</i>	<i>1,035</i>	<i>326</i>	<i>166</i>	<i>81</i>	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	81.2	14.6		52	60	69				
DOUG FIR-P	311.1	55.8		1	3	4				
WHEMLOCK	112.6	20.2		30	38	46				
WR CEDAR	232.3	41.7		8	13	18				
R ALDER	359.2	64.5		5	13	21				
BL MAPLE	409.4	73.5		1	2	4				
<b>TOTAL</b>	<i>54.6</i>	<i>9.8</i>		<i>117</i>	<i>129</i>	<i>142</i>	<i>119</i>	<i>61</i>	<i>30</i>	
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	65.6	11.8		166	188	210				
DOUG FIR-P	310.6	55.7		2	5	8				
WHEMLOCK	108.3	19.4		47	58	69				
WR CEDAR	220.2	39.5		15	25	34				
R ALDER	373.9	67.1		5	14	23				
BL MAPLE	409.4	73.5		1	5	9				
<b>TOTAL</b>	<i>31.9</i>	<i>5.7</i>		<i>278</i>	<i>295</i>	<i>312</i>	<i>41</i>	<i>21</i>	<i>10</i>	
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	69.0	12.4		42,198	48,158	54,117				
DOUG FIR-P	312.8	56.1		410	934	1,458				
WHEMLOCK	120.7	21.7		8,202	10,470	12,738				
WR CEDAR	238.6	42.8		1,413	2,471	3,529				
R ALDER	354.4	63.6		525	1,441	2,357				
BL MAPLE	409.4	73.5		86	325	564				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
18N	03W	29	DILLYDALLY	0002	64.50	31	168	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	
<b>TOTAL</b>		41.7	7.5	59,028	63,799	68,570	69	35	17	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				225	256	288				
DOUG FIR-P		312.8	56.1	78	177	277				
WHEMLOCK		77.7	14.0	142	181	220				
WR CEDAR		209.4	37.6	58	101	144				
R ALDER		324.9	58.3	37	103	168				
BL MAPLE		158.9	28.5	16	62	107				
<b>TOTAL</b>		176.9	31.7	200	216	233	1,250	638	312	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
18N	03W	30	DILLYDALLY	0003	46.80	26	134	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		26	134	5.2						
CRUISE		15	75	5.0	7,485	1.0				
DBH COUNT										
REFOREST										
COUNT		11	52	4.7						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	40	67.9	18.6	96	29.7	128.1	27,389	26,612	5,876	5,876
DOUG FIR-P	2	3.2	14.5	73	0.9	3.6	487	487	127	127
WHEMLOCK	21	61.7	14.1	64	17.8	66.7	9,601	9,203	2,423	2,423
R ALDER	8	19.5	18.0	62	8.1	34.3	3,768	3,752	1,021	1,021
WR CEDAR	4	7.7	14.7	51	2.4	9.0	751	751	239	239
<b>TOTAL</b>	75	159.9	16.6	77	59.2	241.7	41,995	40,805	9,685	9,686
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	84.5	13.3		633	731	829				
DOUG FIR-P	44.2	41.4		94	160	226				
WHEMLOCK	79.1	17.7		180	219	258				
R ALDER	30.7	11.6		178	201	225				
WR CEDAR	62.5	35.7		84	130	176				
<b>TOTAL</b>	109.6	12.6		423	484	545	479	245	120	
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	96.6	19.3		55	68	81				
DOUG FIR-P	355.9	71.2		1	3	5				
WHEMLOCK	132.6	26.5		45	62	78				
R ALDER	184.6	36.9		12	19	27				
WR CEDAR	233.9	46.8		4	8	11				
<b>TOTAL</b>	60.1	12.0		141	160	179	150	77	38	
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	86.4	17.3		106	128	150				
DOUG FIR-P	353.3	70.6		1	4	6				
WHEMLOCK	122.8	24.6		50	67	83				
R ALDER	183.8	36.8		22	34	47				
WR CEDAR	209.0	41.8		5	9	13				
<b>TOTAL</b>	36.3	7.3		224	242	259	55	28	14	
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	95.4	19.1		21,535	26,612	31,689				
DOUG FIR-P	361.1	72.2		135	487	838				
WHEMLOCK	133.5	26.7		6,746	9,203	11,660				
R ALDER	184.1	36.8		2,371	3,752	5,133				
WR CEDAR	215.8	43.2		427	751	1,075				
<b>TOTAL</b>	51.7	10.3		36,589	40,805	45,021	111	57	28	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	47.9	9.6		168	208	247				
DOUG FIR-P	361.1	72.2		37	135	232				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	DILLYDAL			DATE	6/26/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
18N	03W	30	DILLYDALLY	0003	46.80	26	134	S	W	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		89.1	17.8	101	138	175				
R ALDER		116.9	23.4	69	109	150				
WR CEDAR		189.1	37.8	47	83	119				
<b>TOTAL</b>		<i>176.5</i>	<i>35.3</i>	<i>151</i>	<i>169</i>	<i>186</i>	<i>1,296</i>	<i>661</i>	<i>324</i>	

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

T018 R003 S29 TyROW	.8
T18N R03W S29 Ty000	49.4
T18N R03W S30 Ty000	46.8

**Project DILLYDAL**  
**Acres 161.50**

**Page No 1**  
**Date: 6/26/2019**  
**Time 10:57:59AM**

Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
DOUG FIR	10,198	26,138	35,282	121.39	47.36	1.32	12,380	12,379	5,937	5,717
WHEMLOCK	5,548	11,001	9,060	51.03	25.74	0.75	2,831	2,831	1,200	1,158
R ALDER	2,250	4,178	2,643	42.71	23.00	0.75	961	961	365	360
WR CEDAR	1,263	2,111	1,491	50.33	30.11	1.02	634	635	212	199
DOUG FIR P	329	906	588	62.60	22.77	0.69	206	206	83	83
BL MAPLE	140	140	131	35.42	35.42	1.18	50	50	21	21
<b>Totals</b>	<b>19,728</b>	<b>44,472</b>	<b>49,195</b>	<b>86.49</b>	<b>38.37</b>	<b>1.11</b>	<b>17,062</b>	<b>17,063</b>	<b>7,817</b>	<b>7,538</b>

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
C	17,338	40,155	46,421	92.59	39.98	1.14	16,052	16,053	7,431	7,157
H	2,390	4,317	2,774	42.28	23.41	0.76	1,011	1,011	386	381
<b>Totals</b>	<b>19,728</b>	<b>44,472</b>	<b>49,195</b>	<b>86.49</b>	<b>38.37</b>	<b>1.11</b>	<b>17,062</b>	<b>17,063</b>	<b>7,817</b>	<b>7,538</b>



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

FPA/N No: 2421201

Effective Date: 9/23/2019

Expiration Date: 9/23/2022

Shut Down Zone: 651 N

EARR Tax Credit:  Eligible  Non-eligible

Reference: Dillydally #30-097287

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

[Empty box for conditions on approval or reasons for disapproval]

Issued By: Matt Brady

Region: South Puget Sound

Title: Resource Protection Forester

Date: 9/23/2019

Copies to:     Landowner, Timber Owner and Operator.

Issued in person:     Landowner  Timber Owner  Operator By: *M. Jensen*

**Appeal Information**

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

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

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

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

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

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

And

Department Of Natural Resources  
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.

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

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

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

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

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

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

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

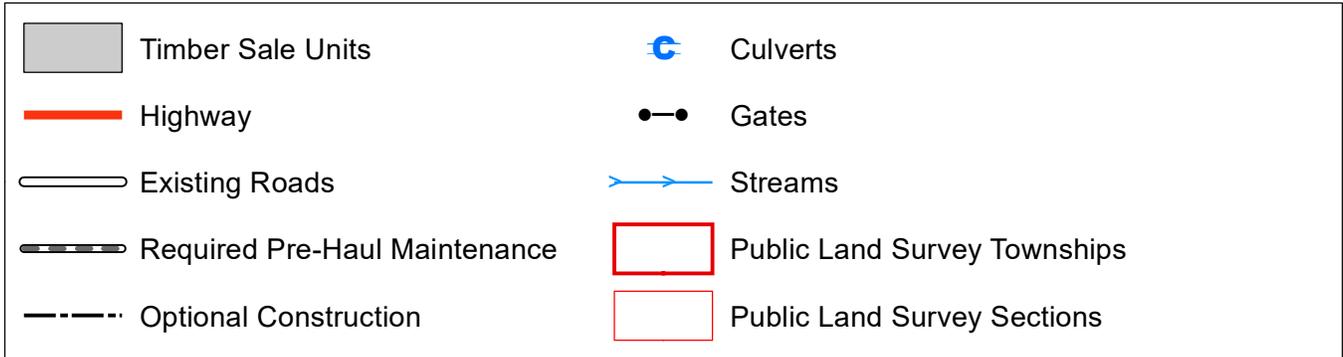
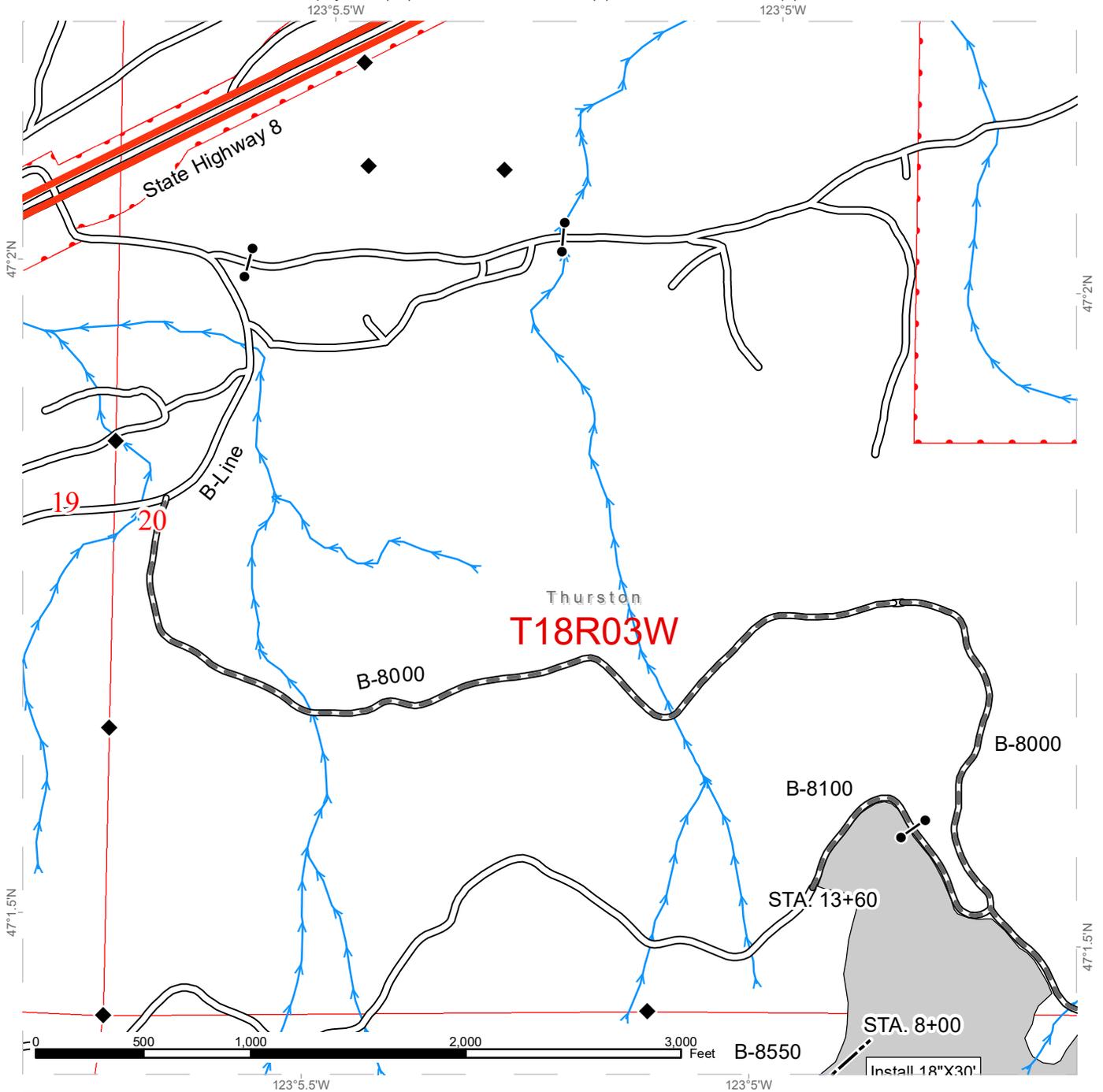
**DNR affidavit of mailing:**

On this day <u>9/23/2019</u> , I placed in the United States mail at <u>Enumclaw</u> , WA,	
(date mm/dd/yyyy)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>2421201</u>	
<u>Meredith Dessens</u>	_____
(Printed name)	(Signature)

# ROAD WORK MAP 1 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

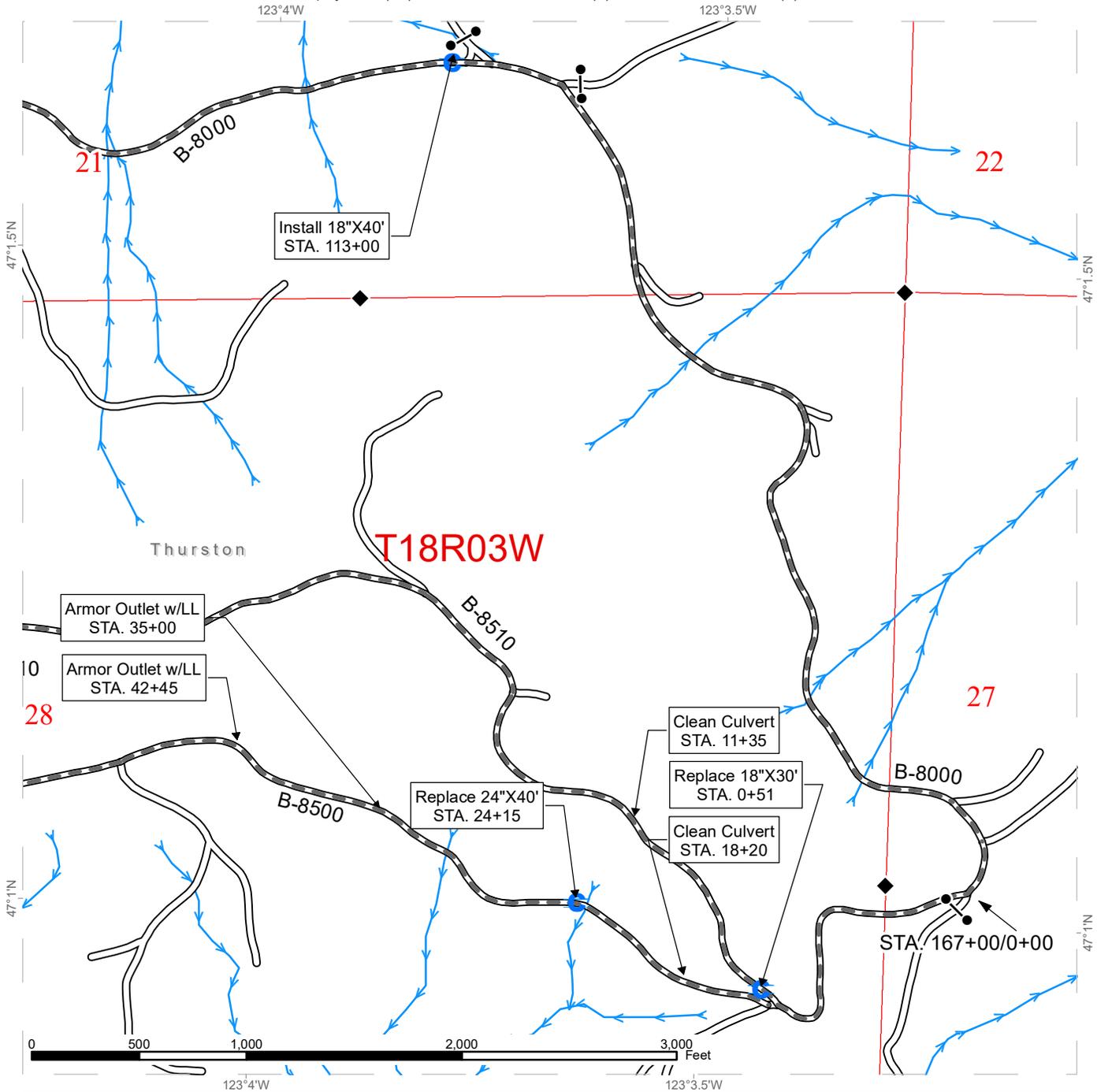
**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



# ROAD WORK MAP 2 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



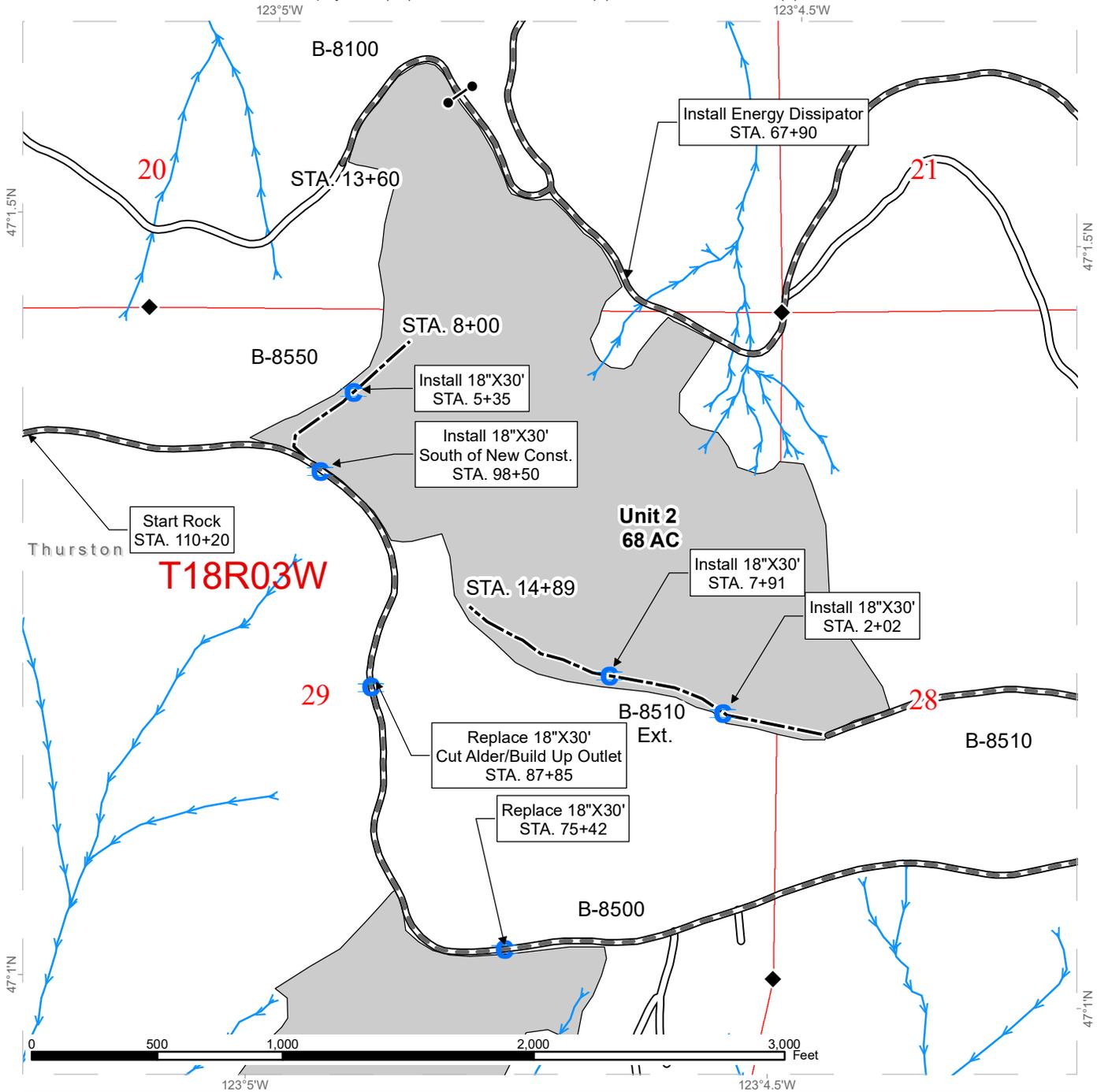
Existing Roads	Streams
Required Pre-Haul Maintenance	Public Land Survey Townships
Culverts	Public Land Survey Sections
Gates	



# ROAD WORK MAP 3 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



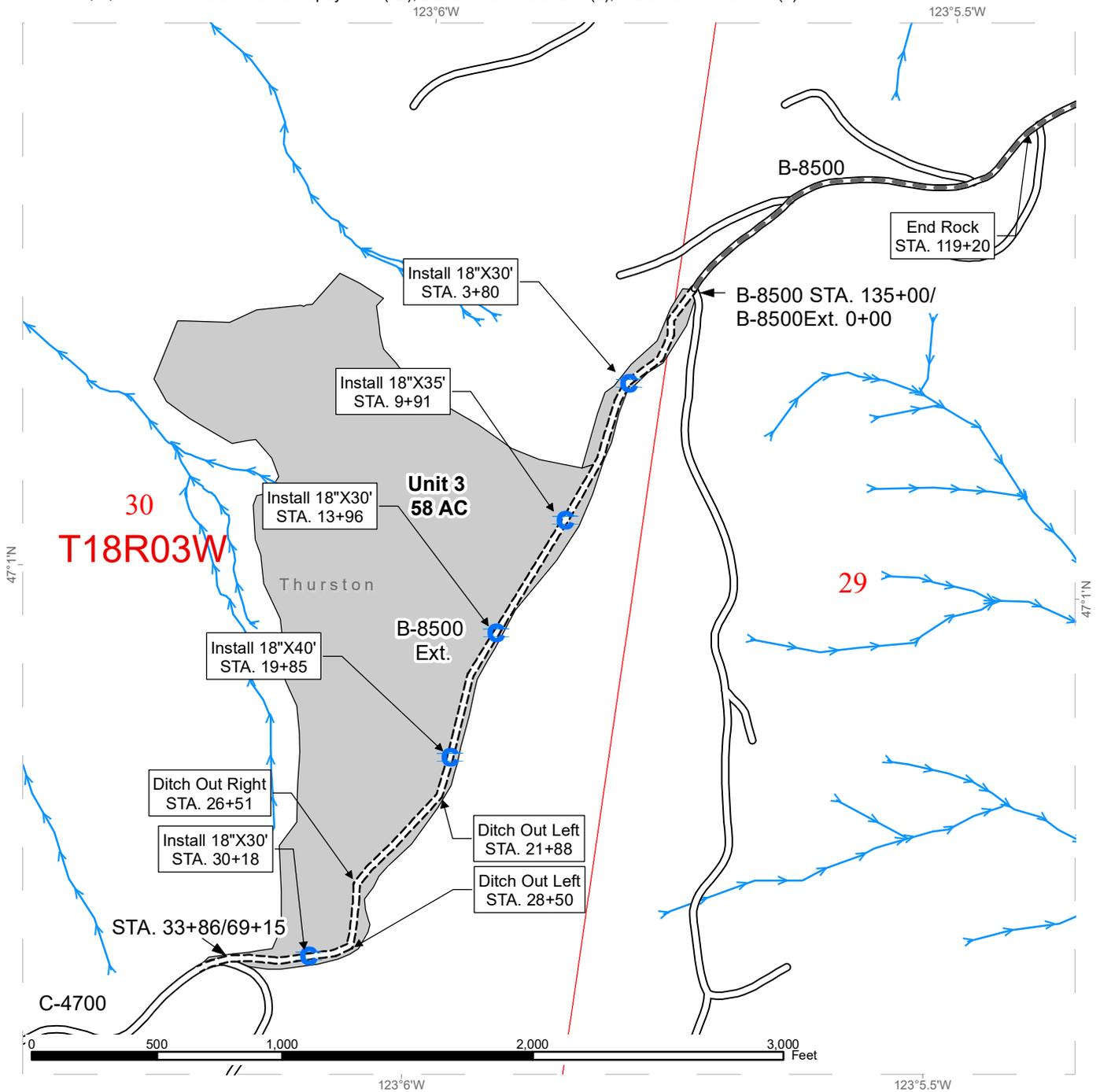
Timber Sale Units	Culverts
Existing Roads	Gates
Required Pre-Haul Maintenance	Streams
Optional Construction	Public Land Survey Townships
	Public Land Survey Sections



# ROAD WORK MAP 4 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



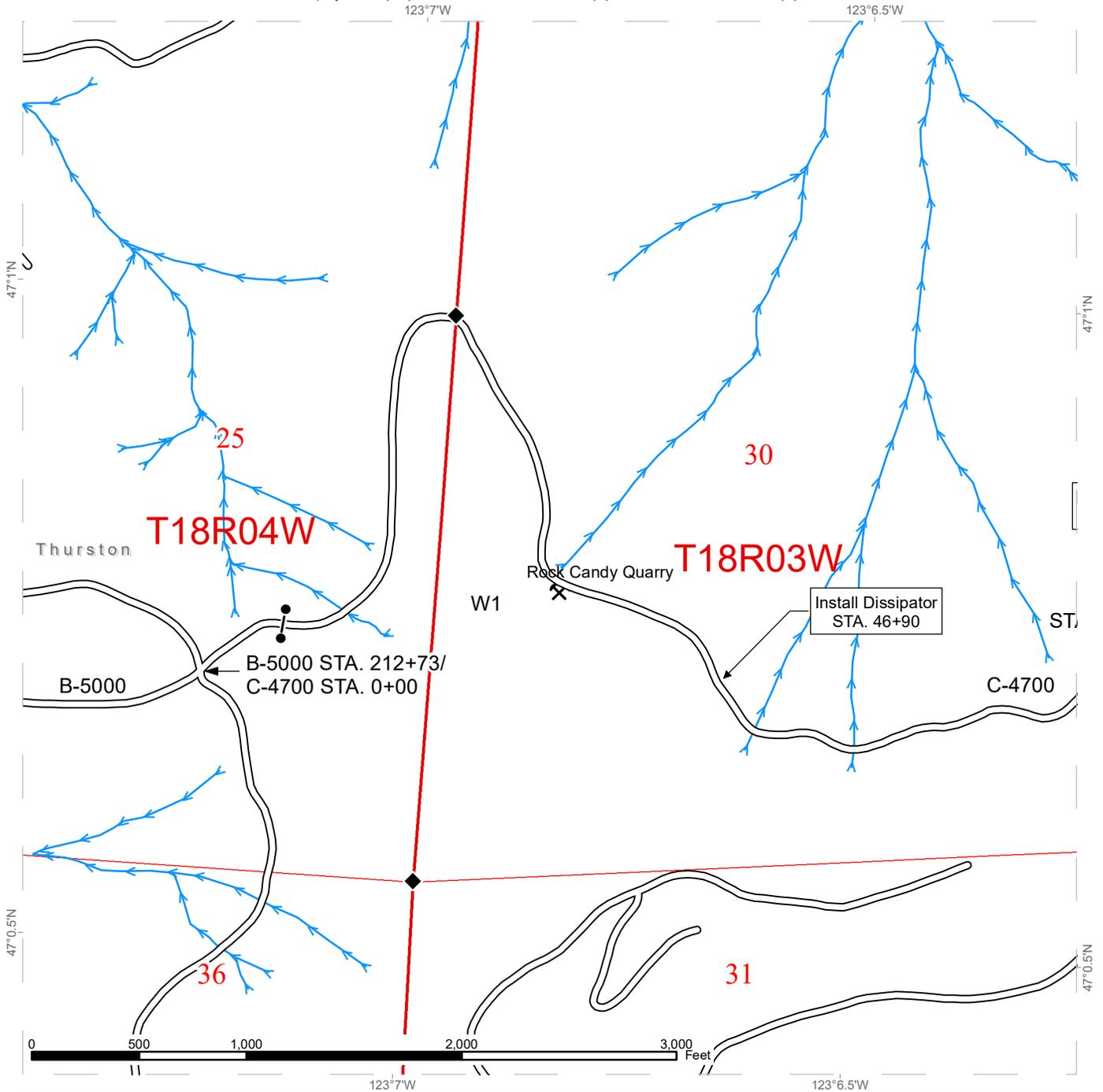
	Timber Sale Units		Culverts
	Existing Roads		Streams
	Required Pre-Haul Maintenance		Public Land Survey Townships
	Required Construction		Public Land Survey Sections



# ROAD WORK MAP 5 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895



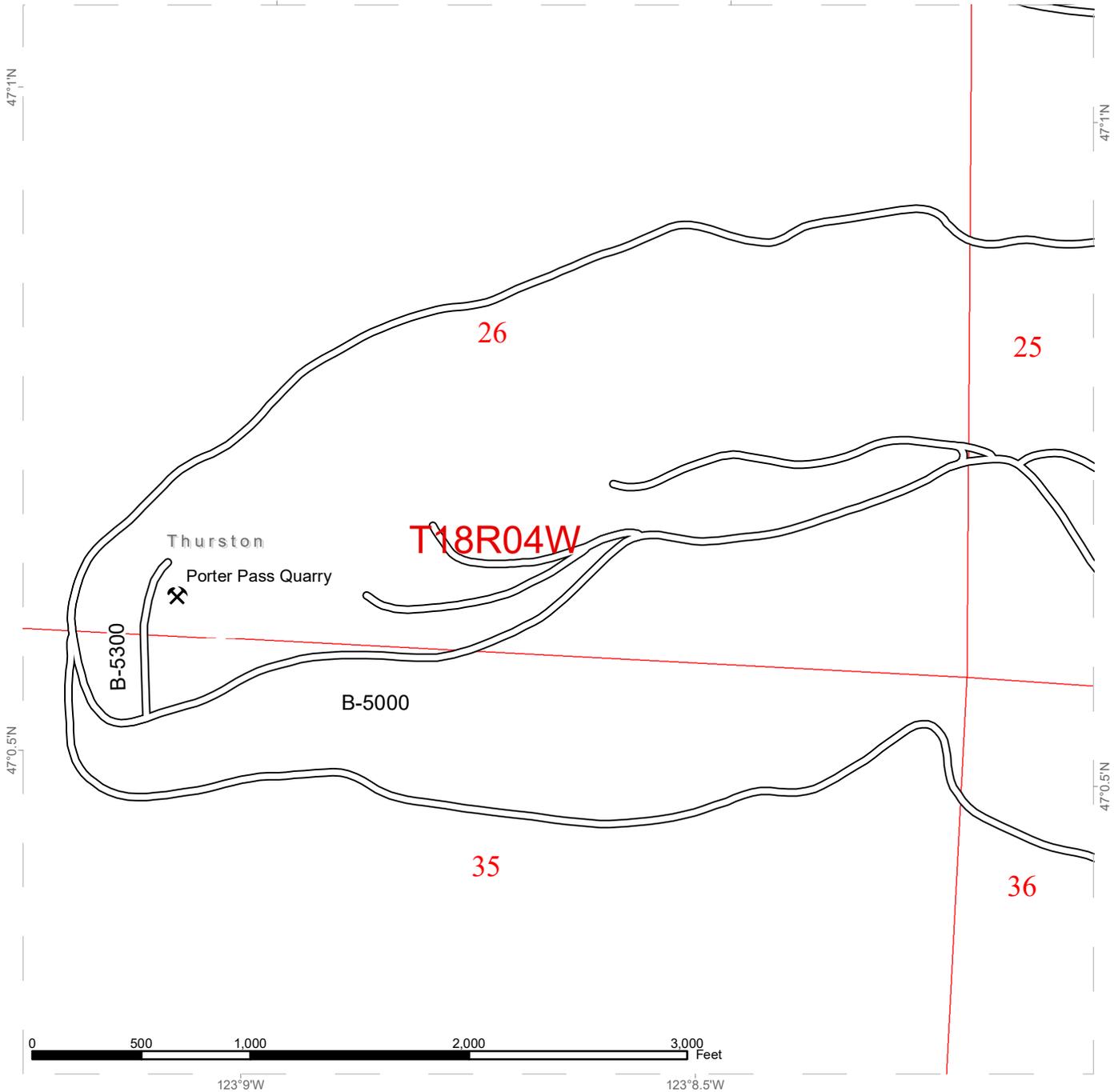
	Existing Roads		Streams
	Gates		Public Land Survey Townships
	Rockpit		Public Land Survey Sections



# ROAD WORK MAP 6 OF 6

**SALE NAME:** DILLYDALLY  
**AGREEMENT #:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895  
 123°9'W                      123°8.5'W



	Existing Roads		Public Land Survey Townships
	Rockpit		Public Land Survey Sections



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

DILLYDALLY TIMBER SALE ROAD PLAN  
THURSTON COUNTY  
DELPHI UNIT  
BLACK HILLS

AGREEMENT NO.: 30-097287

STAFF ENGINEER: JACOB GROSS

DATE: DECEMBER 1, 2018

DRAWN & COMPILED BY: JACOB GROSS

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>
B-8000	0+00 to 167+10	Pre-Haul Maintenance
B-8100	0+00 to 13+60	Pre-Haul Maintenance
B-8500	0+00 to 135+00	Pre-Haul Maintenance
B-8500Ext	0+00 to 33+86	Construction
B-8510	0+00 to 55+40	Pre-Haul Maintenance
B-8510Ext	9+34 to 14+89	Abandonment, if built
C-4700	46+90	Pre-Haul Maintenance

**0-3 OPTIONAL ROADS**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
B-8510Ext	0+00 to 14+89	Construction
B-8550	0+00 to 8+00	Construction

**0-4 CONSTRUCTION**

Construction includes, but is not limited to:

- Clearing
- Grubbing
- Right-of-way debris disposal
- Excavation and/or embankment to subgrade
- Turnout and turnaround construction

- Landing construction
- Acquisition and installation of drainage structures
- Acquisition, manufacture, and application of rock

**0-6 PRE-HAUL MAINTENANCE**

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

- Cleaning ditches
- Cleaning culverts, and catchbasins
- Ditch reconstruction
- Reconstructing headwalls
- Constructing catchbasin and headwall
- Acquisition, manufacture and application of rock
- Cross drain culvert replacement
- Grading and shaping existing road surface and turnouts
- Live stream culvert replacement

**0-10 ABANDONMENT**

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

**0-12 DEVELOP ROCK SOURCE**

Purchaser may develop an existing rock source. Rock source development also involves reducing oversize material, Clearing, Stripping, Drilling, Blasting, and Crushing. 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.
7. Road Plan Maps.

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

**1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS**

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

**1-9 DAMAGED METALLIC COATING**

Any 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.

SUBSECTION ROAD MARKING

**1-15 ROAD MARKING**

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

- Pre-haul activities: 2 in. x 48 in. wooden lath with station and activity
- Construction: Orange ribbon tied eye-height along centerline, w/orange pin flags or wooden lath marking centerline

**1-16 CONSTRUCTION STAKES SET BY STATE**

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

**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.

**SUBSECTION TIMING**

**1-20 COMPLETE BY DATE**

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

**1-21 HAUL APPROVAL**

Purchaser shall not use roads under this road plan for any hauling, other than timber cut on the right-of-way, without written approval from the Contract Administrator.

**1-22 WORK NOTIFICATIONS**

On the following roads, Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before work begins.

<u>Road</u>	<u>Stations</u>
Porter Pass Quarry	Drilling and Blasting

**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

**SUBSECTION RESTRICTIONS**

**1-25 ACTIVITY TIMING RESTRICTION**

No operation of road construction equipment will be 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.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All Roads	Operation of road construction equipment or rock haul	November 1 to April 30

**1-26 OPERATING DURING CLOSURE PERIOD**

If permission is granted to operate during a seasonal closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION and Contract Clause H-140 Special Harvest Requirements, the Purchaser shall comply with a maintenance plan to include further protection of water, soil, roads, and other forest assets at the Purchaser's expense. Preventative measures shall be in place prior to operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these roads, a joint operating plan must be developed. All parties shall follow this plan.

**1-29 SEDIMENT RESTRICTION**

Purchaser shall not allow silt-bearing runoff to enter any streams. Purchaser shall accomplish sediment removal through silt traps, silt fences, settling ponds, or other methods as approved, in writing by the Contract Administrator.

**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.

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

**1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION**

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

Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated for any damage caused by transporting equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

**1-33 SNOW PLOWING RESTRICTION**

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

SUBSECTION OTHER INFRASTRUCTURE

**1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS**

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

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

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 roads, Purchaser shall use a grader to shape the existing surface before rock application and/or timber haul.

<u>Road</u>	<u>Stations</u>
B-8000	0+00 to 167+10
B-8100	0+00 to 13+60
B-8500	0+00 to 135+00
B-8510	0+00 to 55+40

**2-6 CLEANING CULVERTS**

On the following roads, Purchaser shall clean the inlets and outlets of all culverts:

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
B-8500	18+20	Clean Inlet, Organic Debris/Soil
B-8500	35+00	Clean Inlet, Armor per culvert and drainage list
B-8500	42+45	Clean Inlet & Outlet, Organic Debris/Soil. Armor per culvert and drainage list
B-8510	11+35	Clean Inlet & Outlet, Organic Debris/Soil

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

On the following roads, Purchaser shall clean ditches, headwalls, catchbasins, and outlets. Work must be completed before the application of rock and/or timber haul and must be done in accordance with the TYPICAL SECTION SHEET and CULVERT AND DRAINAGE SPECIFICATION DETAIL. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
B-8500	85+85 to 87+85

**SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL**

**SUBSECTION CLEARING**

**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 the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against state owned standing trees.

## SUBSECTION GRUBBING

### **3-10 GRUBBING**

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

## SUBSECTION ORGANIC DEBRIS

### **3-20 ORGANIC DEBRIS DEFINITION**

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

### **3-21 DISPOSAL COMPLETION**

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, before the application of rock 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 slopes greater than 55%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against State owned 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 openings. 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 as approved, in writing, by the Contract Administrator.
- Road pioneering operations may not undercut the final cut slope, deposit excavated material outside the grubbing limits, or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations

#### 4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 6% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

#### 4-5 CUT SLOPE RATIO

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

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (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.

<u>Road</u>	<u>Curve Widening (ft)</u>	<u>Comments</u>
B-8550	6	See attached design pages, minimum of 6 feet outside widening.

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

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

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

**4-21 TURNOUTS**

Purchaser shall construct turnouts as designated on the TURNOUTS AND TURNAROUND LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the TURNOUTS AND TURNAROUND LIST.

**4-22 TURNAROUNDS**

Purchaser shall construct turnarounds on the following road.

<u>Road</u>	<u>Stations</u>
B-8550	7+50 to 8+00

**SUBSECTION DITCH CONSTRUCTION**

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

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

**4-28 DITCH DRAINAGE**

Ditches shall be constructed concurrently with construction of the subgrade. Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

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

## SUBSECTION WASTE MATERIAL (DIRT)

### 4-35 WASTE MATERIAL DEFINITION

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

### 4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris.

### 4-37 WASTE AREA LOCATION

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

<u>Road</u>	<u>Waste Area Location</u>	<u>Comments</u>	<u>Volume</u>
C-4700	Sta. 37+30	South of road, west of the pit floor	1000 cy

### 4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

## SUBSECTION SHAPING

### 4-55 ROAD SHAPING

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

### 4-56 DRY WEATHER SHAPING

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.

## SUBSECTION COMPACTION

**4-60 FILL COMPACTION**

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

**4-61 SUBGRADE COMPACTION**

Purchaser shall compact constructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. On fills deeper than 5 feet at the road shoulder Purchaser shall compact fill material in lifts no greater than 18 inches. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

**4-62 DRY WEATHER COMPACTION**

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

**4-63 EXISTING SURFACE COMPACTION**

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

SECTION 5 – DRAINAGE

**5-1 REMOVAL OF SHOULDER BERMS**

Purchaser shall remove berms from road shoulders to permit escape of runoff.

SUBSECTION CULVERTS

**5-5 CULVERTS**

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

**5-11 UNUSED MATERIALS STATE PROPERTY**

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

SUBSECTION CULVERT INSTALLATION

**5-15 CULVERT INSTALLATION**

Culvert, downspout, flume and energy dissipater 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”.

**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 12%.

**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.

SUBSECTION ENERGY DISSIPATERS

**5-20 ENERGY DISSIPATERS**

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

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT LIST. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. QUARRY SPALLS shall meet the specifications in Clause 6-43.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

**5-25 CATCH BASINS**

Purchaser shall construct catch basins to resist erosion 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 CULVERTS**

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock.

**5-27 ARMORING FOR STREAM CROSSING CULVERTS**

Purchaser shall place inlet and outlet protection in conjunction with or immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on CULVERT LIST. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be by zero-drop-height method only.

**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 300 feet.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

**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 3 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Porter Pass Quarry	SE ¼ SW ¼ of Sec. 26 T18R04W & NE ¼ NW ¼ of Sec. 35 T18R04W	Quarry Spalls, Light Loose Riprap, Select Pit Run, 4 Inch Jaw, 2 ½ Inch Minus
Rock Candy Quarry	NW ¼ SW ¼ of Sec. 30 T18R03W	Quarry Spalls, Light Loose Riprap, Select Pit Run, 4 Inch Jaw, 2 ½ Inch Minus

**6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE**

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity</u>
Porter Pass Quarry	SE ¼ SW ¼ of Sec. 26 T18R04W & NE ¼ NW ¼ of Sec. 35 T18R04W	2 ½ Inch Crushed	1140 CY

**6-5 ROCK FROM COMMERCIAL SOURCE**

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

SUBSECTION ROCK SOURCE DEVELOPMENT

**6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE**

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before starting any operations in the rock source.

<u>Source</u>	<u>Location</u>
Porter Pass Quarry	SE ¼ SW ¼ of Sec. 26 T18R04W & NE ¼ NW ¼ of Sec. 35 T18R04W

**6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER**

Purchaser shall conduct rock source development and use at the following sources, in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source operations. 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 3 calendar days before starting any operations in the rock source.

<u>Source</u>	<u>Location</u>
Rock Candy Quarry	NW ¼ SW ¼ of Sec. 30 T18R03W

Rock source development plans prepared by the Purchaser must show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.
- Rock source reclamation plan describing how the area will be left in a condition that will ensure public safety and minimize environmental impacts.

**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 at the end of operations.

#### 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 600 cubic yards.
- Oversize material is defined as rock fragments larger than two feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be reduced to a smaller size within the rock source.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling. The drilling and shooting plan must include, at a minimum, the mapped location and spacing of all holes to be loaded, the type of blasting agent used, the powder factor calculated and the units of same, stem amount held per hole. After drilling, the type of rock encountered while drilling e.g. hard black, soft brown, etc. shall be amended to submitted plan.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads before blasting operations.

#### SUBSECTION ROCK MANUFACTURE

#### 6-20 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- The crushing operation must be concluded within 30 working days from the time it begins.

**6-23 ROCK GRADATION TYPES**

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

**SUBSECTION ROCK GRADATIONS**

**6-32 2 ½-INCH MINUS CRUSHED ROCK**

- % Passing 2 ½" square sieve 100%
- % Passing 1 ¼" square sieve 55 - 75%
- % Passing U.S. #4 sieve 20 - 45%

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

**6-37 4-INCH JAW RUN ROCK**

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

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

**6-41 SELECT PIT RUN ROCK**

No more than 50 percent of the rock may be larger than 6 inches in any dimension and no rock may be larger than 10 inches in any dimension. Pit Run rock may not contain more than 5 percent by weight of organic debris, and trash. Rock may require processing to meet this specification.

**6-43 QUARRY SPALLS**

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

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

**6-50 LIGHT LOOSE RIP RAP**

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

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

SUBSECTION ROCK MEASUREMENT

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

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

SUBSECTION ROCK APPLICATION

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator for subgrade including: ditches, headwalls, catch basins, culverts, energy dissipaters, ditch-outs, subgrade shaping and compacting before rock application.

**6-71 ROCK APPLICATION**

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

**6-73 ROCK FOR WIDENED PORTIONS**

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

**6-75 OPTIONAL ROCK EXCEPTION**

On the following roads, if hauling takes place from May 1 to October 31 the Purchaser may place less rock than shown on the ROCK LIST, as approved in writing by the Contract Administrator. If less rock is applied, the Purchaser shall submit a written plan, for approval, describing how these roads shall be constructed, used, maintained, and treated post-haul. The Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, or other conditions of the approved plan as required by the Contract Administrator.

<u>Road</u>	<u>Stations</u>
B-8510Ext	9+34 to 14+89

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

**7-5 STRUCTURE DEBRIS**

Purchaser shall not allow debris from the installation or removal of structures to enter any stream. Purchaser shall maintain a clean jobsite, with all materials stored away from the high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream must be removed immediately, and placed in the site(s) designated for stockpiling or disposal. Purchaser shall retrieve all material carried downstream from the jobsite.

**7-6 STREAM CROSSING INSTALLATION**

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements and according to Forest Practice Permit.

**7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES**

Bank protection must be designed and constructed to prevent the undermining of the structure. Bank protection must be approved by Contract Administrator.

SECTION 8 – EROSION CONTROL

**8-1 SEDIMENT CONTROL STRUCTURES**

Sediment control shall be accomplished using sediment traps, silt fences, rock berms, settling ponds or other methods as approved, in writing, by the Contract Administrator.

**8-2 PROTECTION FOR EXPOSED SOIL**

Purchaser shall provide and evenly spread a layer of straw to all exposed soils that have potential to deliver to typed water.

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

**9-1 EARTHEN BARRICADES**

Purchaser shall construct barricades in accordance with the BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
B-8510	9+34

**9-3 CULVERT MATERIAL REMOVED FROM STATE LAND**

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

SUBSECTION POST-HAUL LANDING MAINTENANCE

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

## SUBSECTION DECOMMISSIONING AND ABANDONMENT

### 9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads if constructed before the termination of this contract.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
B-8510Ext	9+34 to 14+89	Abandonment

### 9-22 ABANDONMENT

- 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, or as marked in the field.
- 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 ditch cross drain culverts and leave the resulting trench open.
- Remove culverts from State Land.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Provide and evenly spread a 2-inch layer of straw to all exposed waste material generated by fill removal that is within 30 feet of excavation limits.
- Construct earth barricade as per clause 9-1 EARTHEN BARRICADES.

## SECTION 10 MATERIALS

### SUBSECTION CULVERTS

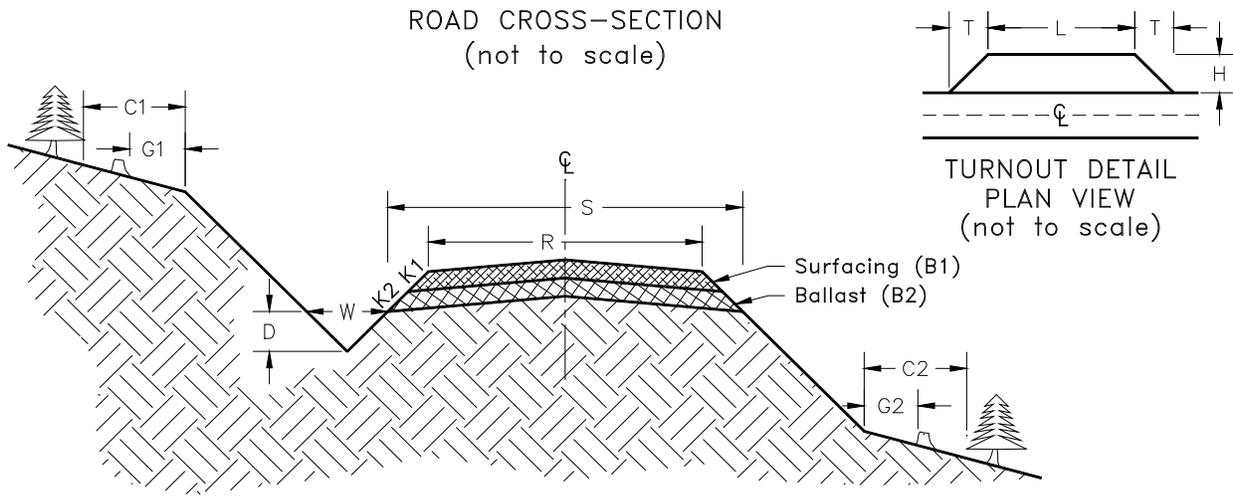
#### 10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culvert segments not specifically labeled as downspouts must be Type S – double walled with a corrugated exterior and smooth interior.

#### 10-22 PLASTIC BAND

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

# TYPICAL SECTION SHEET (pg 1 of 1)



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	Clause	Clause
B-Line	663+73	685+10	A		16	3	1	4	-	-	-	-	4-5	4-6
B-5000	125+80	212+73	A		14	3	1	4					4-5	4-6
B-5300	0+00	7+54	C		12	3	1	4	-	-	-	-	4-5	4-6
B-8000	0+00	167+10	C		14	3	1	4					4-5	4-6
B-8100	0+00	13+60	A		12	3	1	4	-	-	-	-	4-5	4-6
B-8500	0+00	135+00	C		12	3	1	4	-	-	-	-	4-5	4-6
B-8500 Ext	0+00	33+86	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-8510	0+00	55+40	C		12	3	1	4	-	-	-	-	4-5	4-6
B-8510 Ext	0+00	14+89	C	16	12	3	1	4	2	2	5	5	4-5	4-6
B-8550	0+00	8+00	C	16	12	3	1	4	2	2	5	5	4-5	4-6
C-4700	0+00	69+15	C		12	3	1	4	-	-	-	-	4-5	4-6

### TURNOUT AND TURNAROUND LIST

Road Number	Begin L-Station	END L-STATION	TURNOUT WIDTH (H)	FULL WIDTH LENGTH (L)	TAPER LEGNTH (T)	COMMENTS
B-8500EXT.	11+05	12+05	12	50	25	TURNOUT LEFT
B-8500EXT.	26+97	27+97	12	50	25	TURNOUT LEFT
B-8510EXT.	6+00	7+00	12	50	25	TURNOUT LEFT
B-8550	7+50	8+00	30	30	20	TURNAROUND

### COMPACTION LIST

Road	From Station	To Station	Type	Max Depth of Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
All new rock for pre-haul maintenance			Pre-haul rock	6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibrate on	3.5
All new construction and reconstruction			Subgrade, rock	12, 6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibrate on	3.5
All pre-haul maintenance roads			After pre-haul grading	6	Smooth Drum Vibratory Roller	14,000	2 low freq. vibrate on	3.5

# ROCK LIST

## BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
									CW	TO	TA
			K2	B2	<b>4 Inch Jaw Run</b>						
B-8500 Ext.	0+00	33+86	1 ½ :1	12	56	33.86	1896	Porter Pass Quarry/Rock Candy Quarry/Commercial Source		112	
B-8510 Ext.	0+00	9+34	1 ½ :1	12	56	9.34	523			56	
B-8510 Ext.*	9+34	14+89	1 ½ :1	12	56	5.55	311				
B-8550	0+00	8+00	1 ½ :1	6	56	8.00	448		30		30
Landing Rock							750		Landings may use select pit run in place of 4 inch Jaw.		
									<b>Quarry Spalls</b>		
Culvert Headwalls and Dissipaters							20		See CULVERT AND DRAINAGE LIST		
								<b>Light Loose Riprap</b>			
Culvert Headwalls and Dissipaters							13	See CULVERT AND DRAINAGE LIST			

4 Inch Jaw Total 3,178 Cubic Yards  
 Quarry Spalls Total 20 Cubic Yards  
 Light Loose Riprap Total 13 Cubic Yards  
 CW/TO/TA Total 228 Cubic Yards  
 Ballast Total 4,189 Cubic Yards

Included in C.Y. Subtotal

CW – Curve Widening  
 TO – Turn Out  
 TA – Turn Around

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

SURFACE

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
			K1	B1	2 ½ Inch Crushed				CW	TO	TA
B-8500	110+20	119+20	1 ½ :1	6	26	9	234	/Porter Pass Quarry/Rock Candy Quarry/Commercial Source			
B-8500Ext.	0+00	33+86	1 ½ :1	6	26	33.86	880			26	

2 ½ Inch Minus Crushed Total \_\_1,122\_\_ Cubic Yards  
 CW/TO/TA Total \_\_26\_\_ Cubic Yards  
 Surface Total \_\_1,140\_\_ Cubic Yards

Included in C.Y. Total  
 CW – Curve Widening  
 TO – Turn Out  
 TA – Turn Around

NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement. **Apply appropriate factors to determine loose amounts for estimating purposes.** Roads and rock quantities are designed for dry weather use. If Purchaser elects to haul in wet weather additional rock may be obtained from the rock pits listed in Section 6 at the Purchaser's expense and with prior written approval from the Contract Administrator.

## CULVERT AND DRAINAGE LIST, pg 1 of 1

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked *	Remarks
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
B-8000	67+90	-	-	-	-	-	-	3	LL	-			Install Dissipater
	113+00	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
B-8500	24+15	24	PD	40	-	-	1	2	QS	NT			Live Stream
	35+00	-	-	-	-	-	-	5	LL	-			Armor, Build up outlet
	42+45	-	-	-	-	-	-	2	LL	-			Armor Outlet
	75+42	18	PD	30	-	-	1	1.5	QS	NT			Replace Cross Drain Add Extra Dissipater
	87+85	18	PD	30	-	-	1	1.5	QS	NT			Replace Cross Drain Cut surrounding alder, clean ditch.
	98+50	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain East of new construction
	B-8500Ext.	3+80	18	PD	30	-	-	1	1.5	QS	NT		
	9+91	18	PD	35	-	-	1	1.5	QS	NT			Install Cross Drain
	13+96	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	19+85	18	PD	40	-	-	1	1.5	QS	NT			Install Cross Drain
	21+88	-	-	-	-	-	-	-	-	-			Ditch Out Left
	26+51	-	-	-	-	-	-	-	-	-			Ditch Out Right
	28+50	-	-	-	-	-	-	-	-	-			Ditch Out Left
	30+18	18	PD	30	-	-	-	-	-	-			Install Cross Drain
B-8510	0+51	18	PD	30	-	-	1	1.5	QS	NT			Replace Cross Drain
B-8510Ext.	2+02	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
	7+91	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
B-8550	5+35	18	PD	30	-	-	1	1.5	QS	NT			Install Cross Drain
C-4700	46+90	-	-	-	-	-	-	3	LL	-			Install additional energy dissipaters and armor outlet

\* SEE CULVERT AND DRAINAGE SPECIFICATION DETAIL

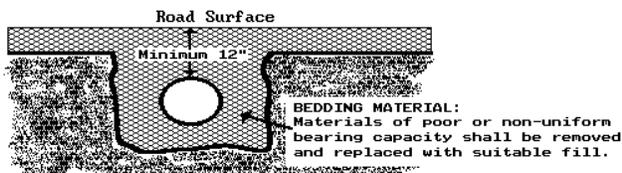
PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648

TEMP = Temporary Culvert

### Key:

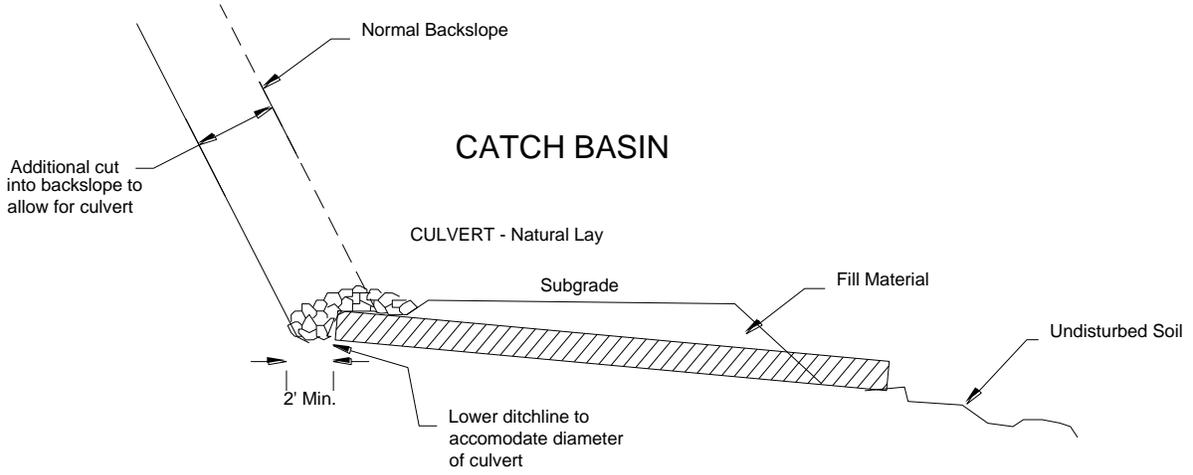
- QS - Quarry Spalls
- LL - Light Loose Riprap
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- Flume - Half round pipe
- Downsput - Full round pipe

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

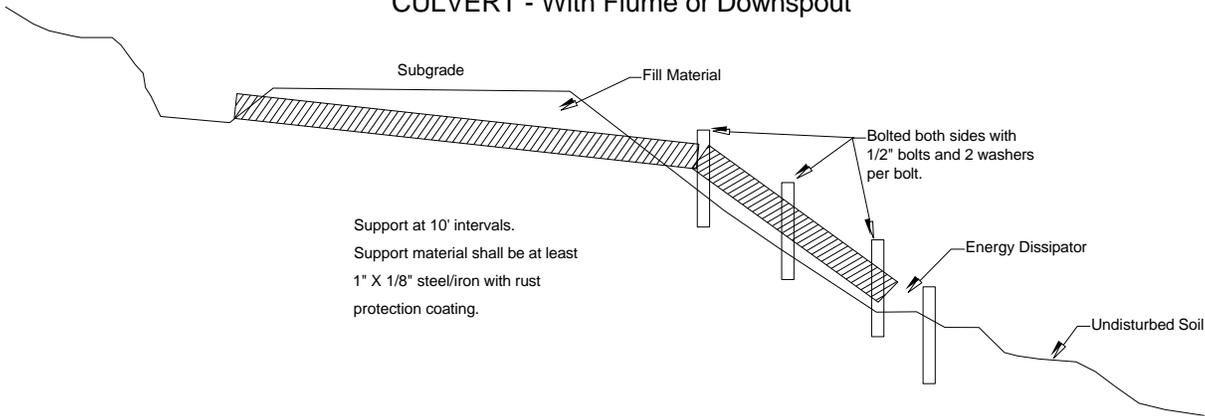


# CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



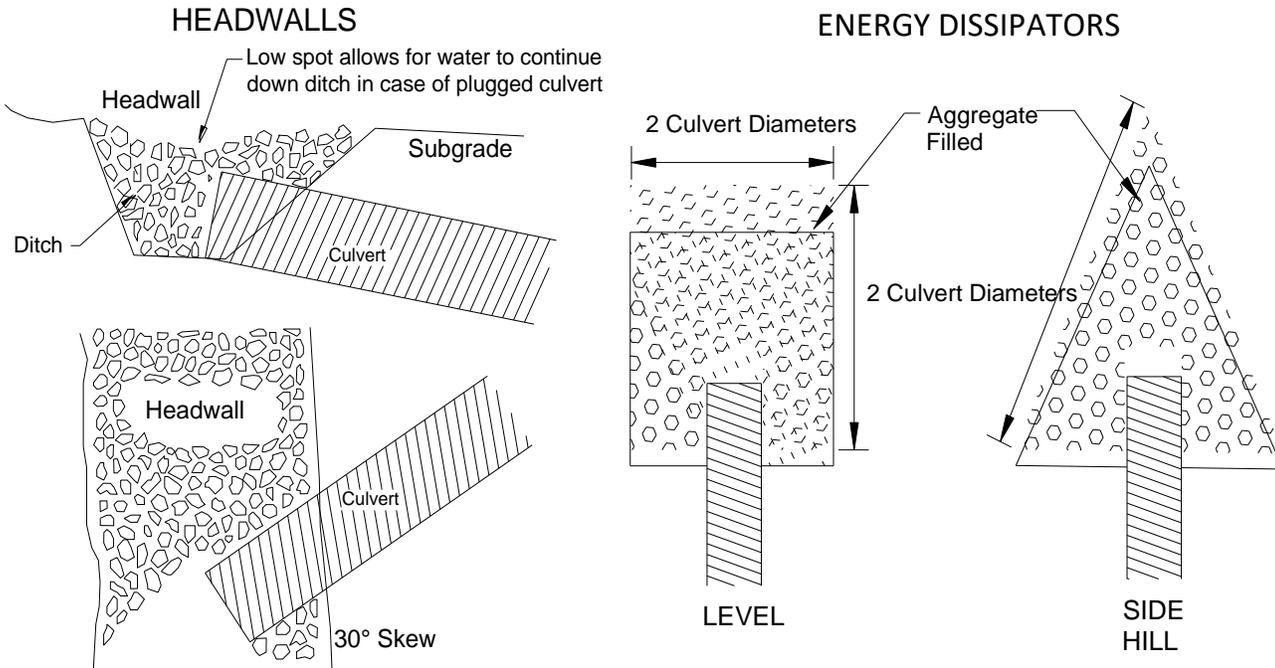
## CULVERT - With Flume or Downspout



## CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 3)

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.

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

## CULVERT AND DRAINAGE SPECIFICATION DETAIL

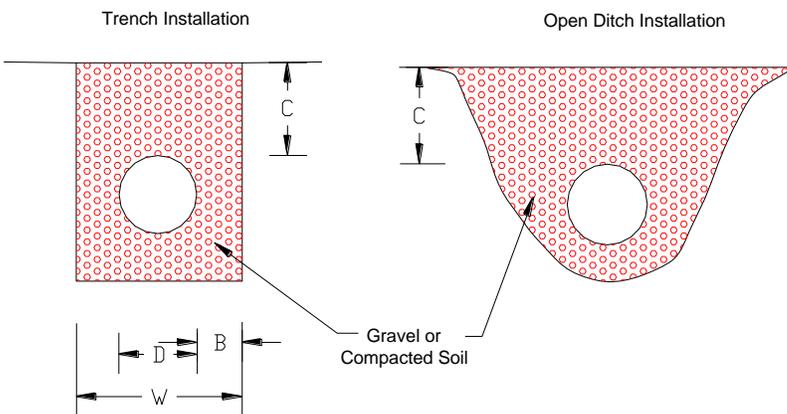
(Page 3 of 3)

### 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 Trench or Open Ditch Installation



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"
6"	6"	12"	54"

## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

(Sheet 1 of 2)

### Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides up to 100 cubic yards in volume from ditches and the roadway. Repair fill-failures with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

### Surface

- Shape the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET to provide a smooth, rut-free traveled surface and maintain surface water runoff in an even, unconcentrated manner.
- Blading shall not undercut the backslope or cut into geotextile fabric on the road.
- If required by the Contract Administrator, water shall be applied as necessary to control dust and retain fine surface rock.
- Surface material shall not be bladed off the roadway. Replace surface material when lost or worn away.
- 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.

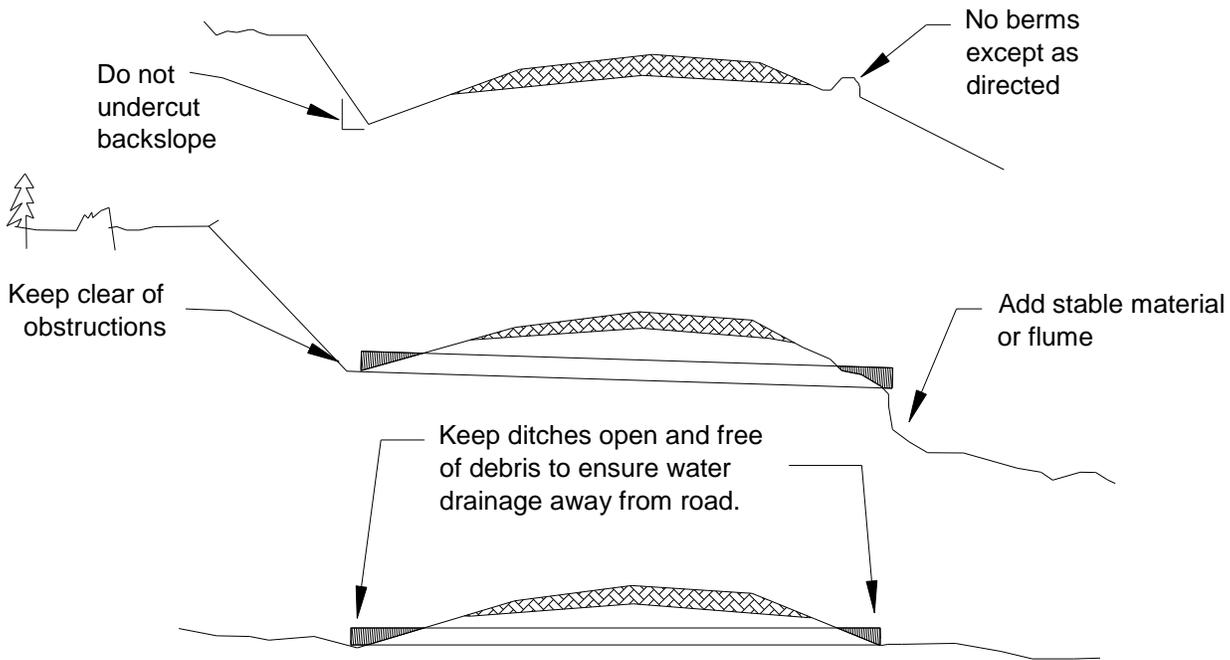
## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS (Sheet 2 of 2)

### Termination of Use or End of Season

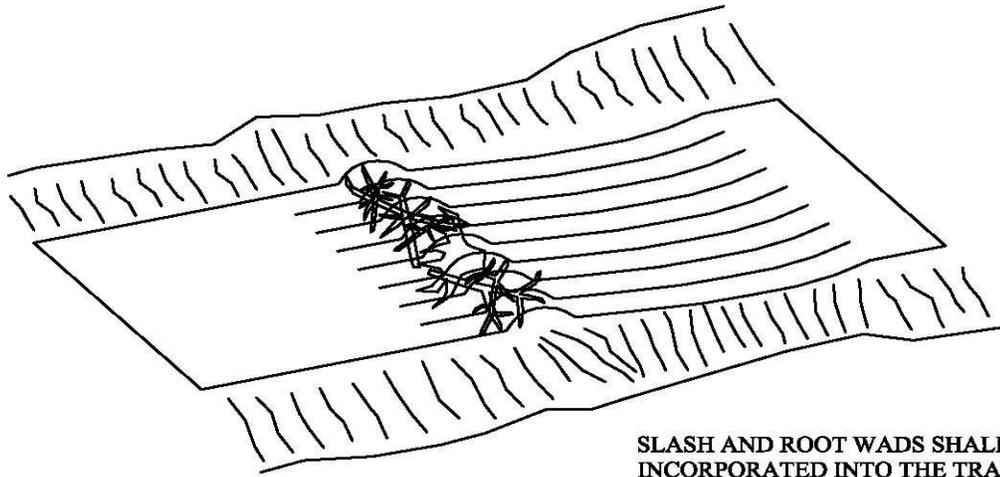
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

### Debris

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

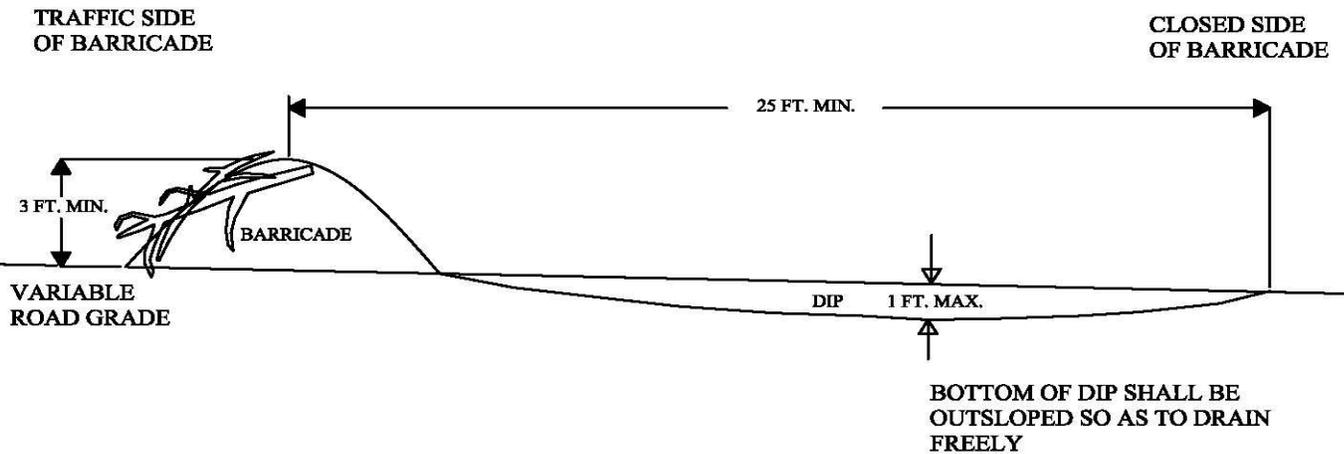


# BARRICADE DETAIL



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

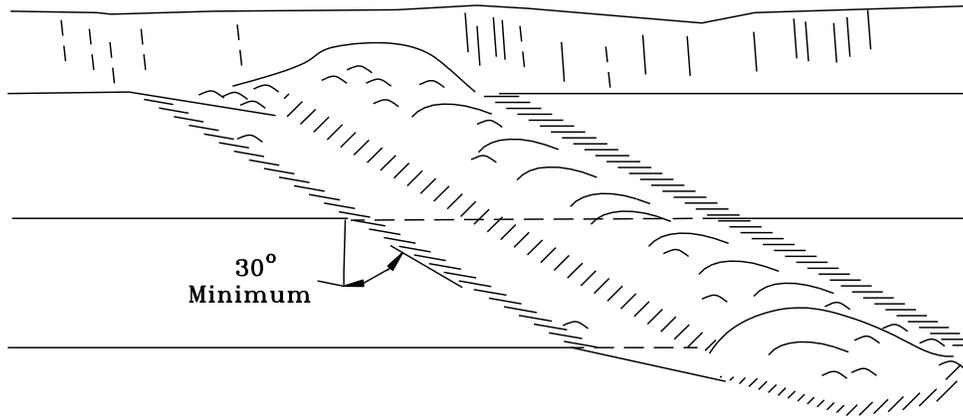
PLAN VIEW



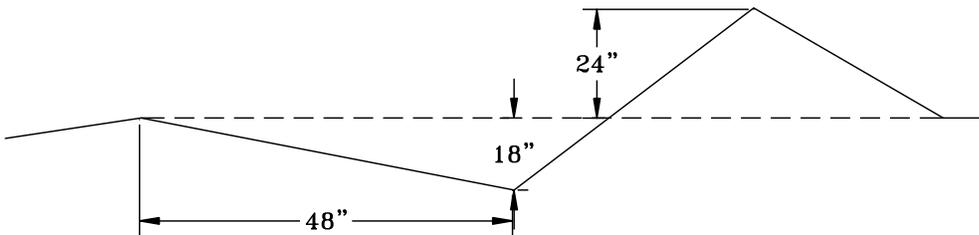
PROFILE VIEW

# Non-Drivable Water Bar Detail

## Cross Ditch



## Cross Section at Centerline

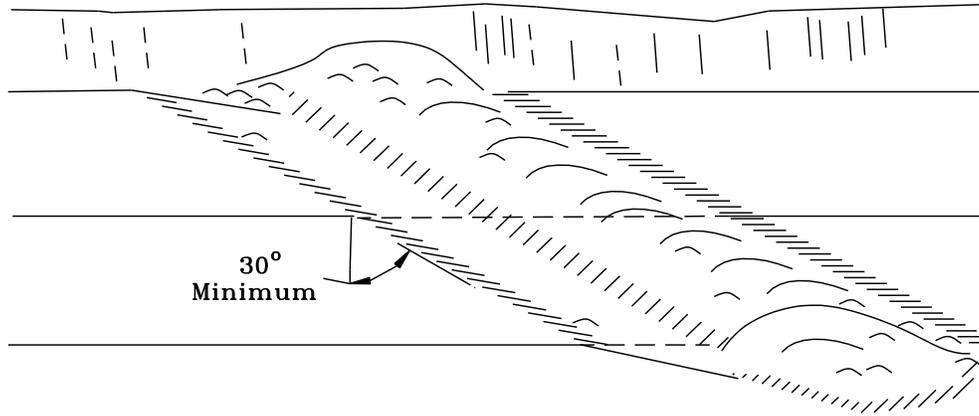


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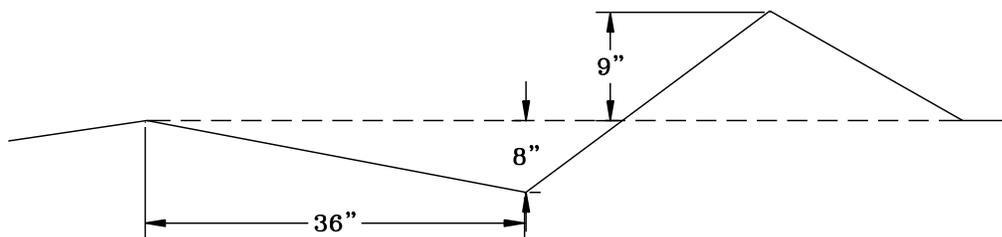
Water Bar Detail	
	WASHINGTON STATE DEPARTMENT OF <b>NATURAL RESOURCES</b>

# Drivable Water Bar Detail

## Cross Ditch



## Cross Section at Centerline



Water Bar Detail

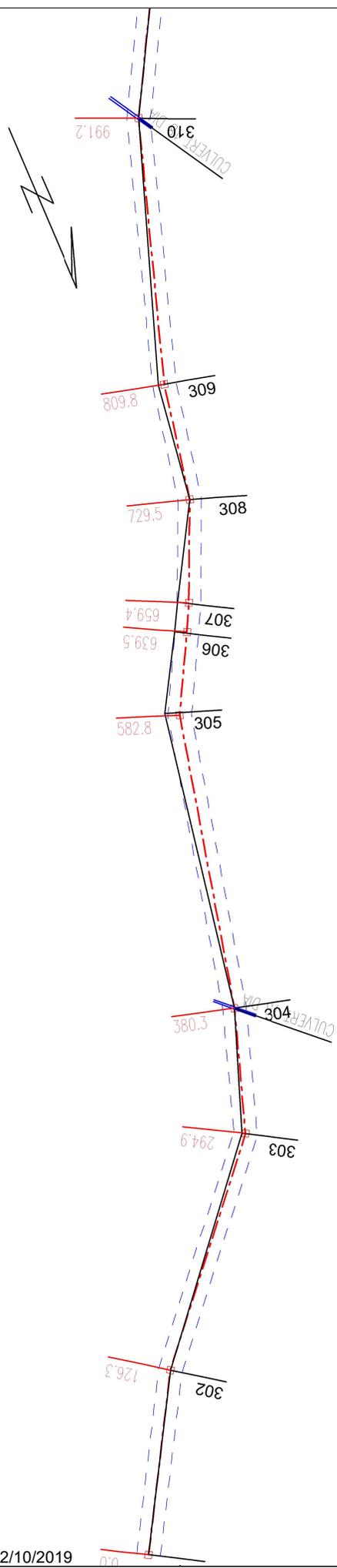
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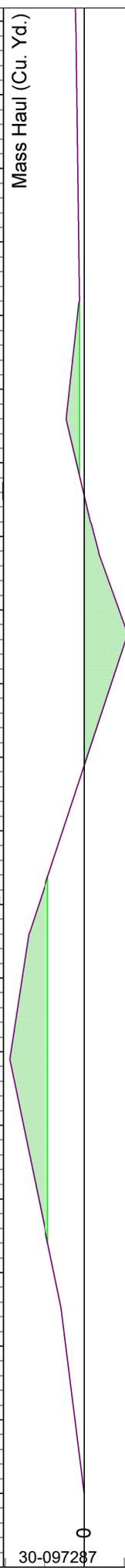
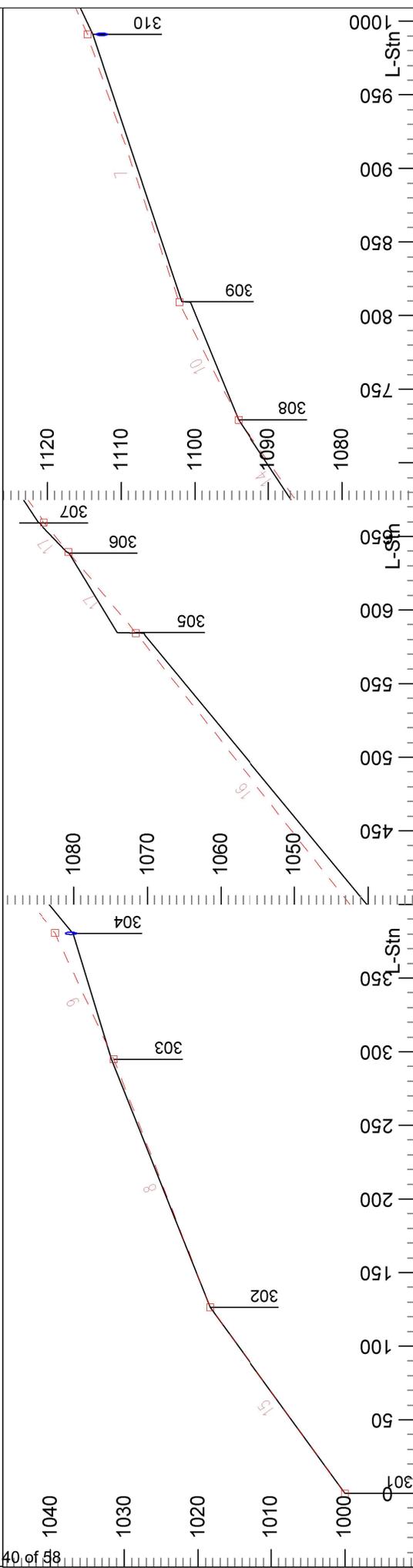
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**NATURAL RESOURCES**

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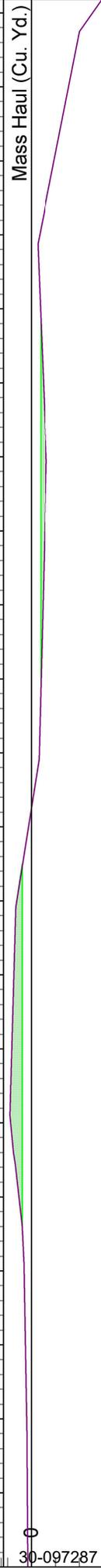
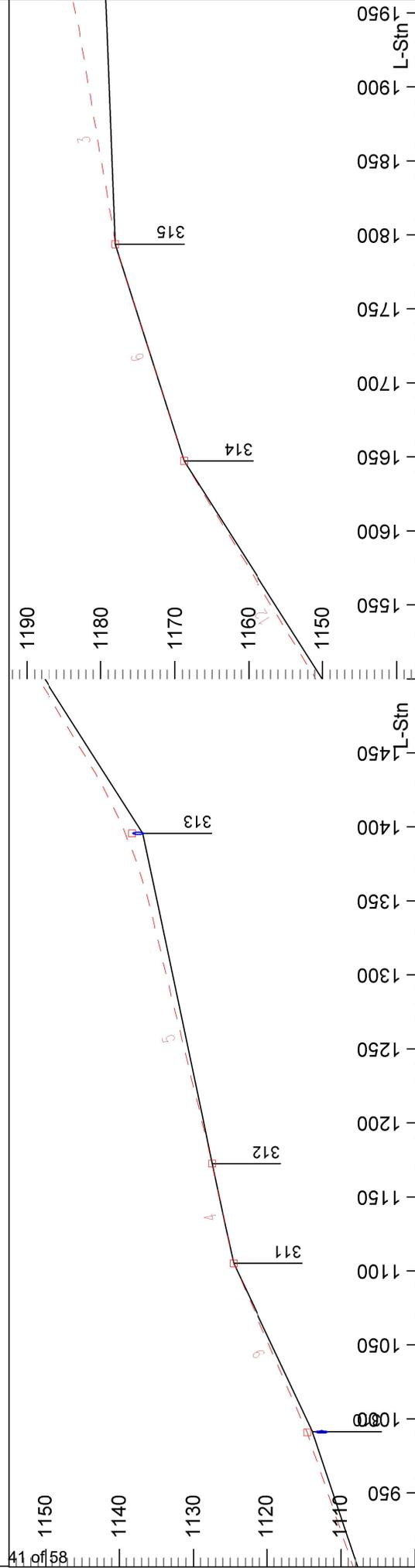
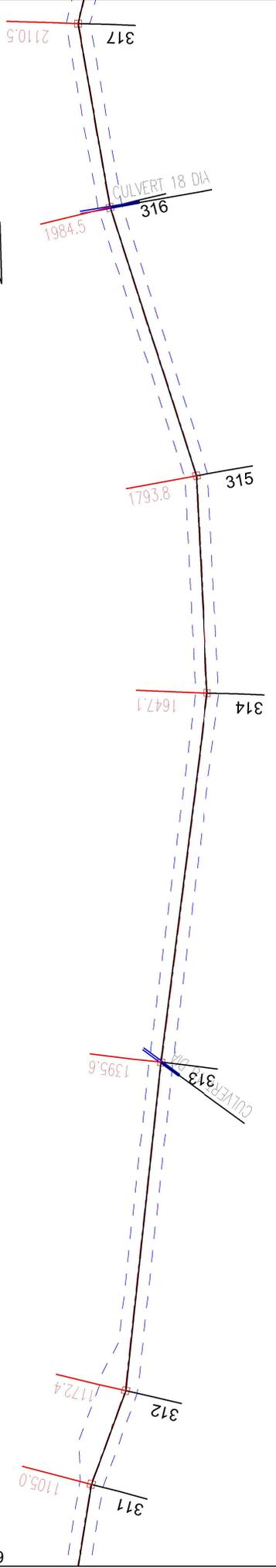
Dillydaily Timber Sale  
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 Contract#: 30-097287

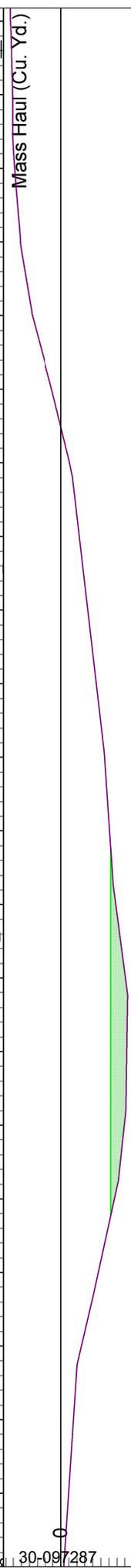
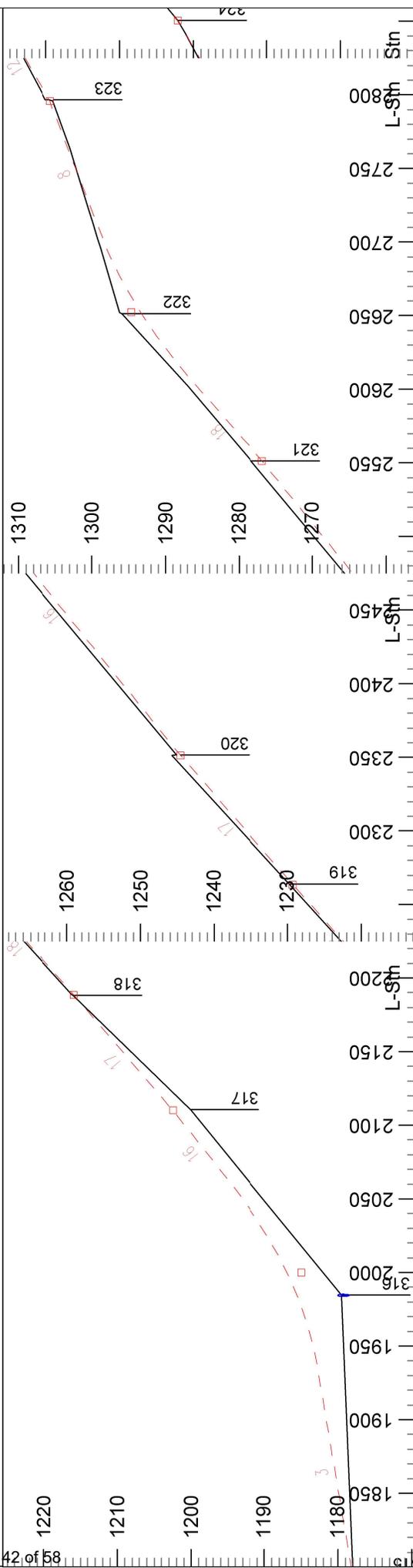
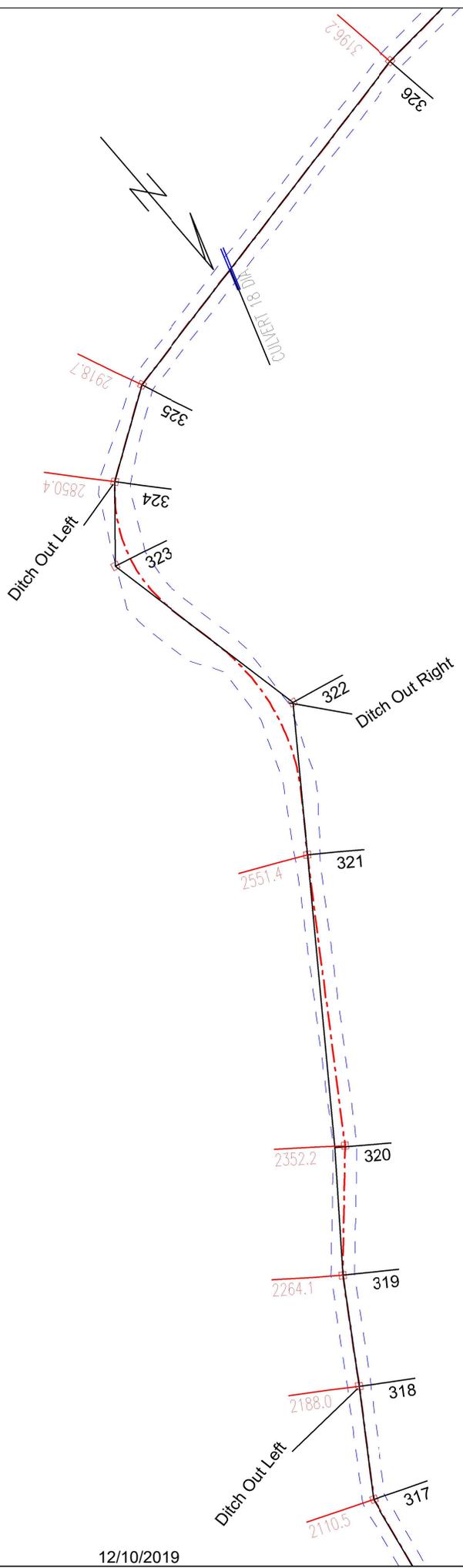
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 South Puget Sound Region



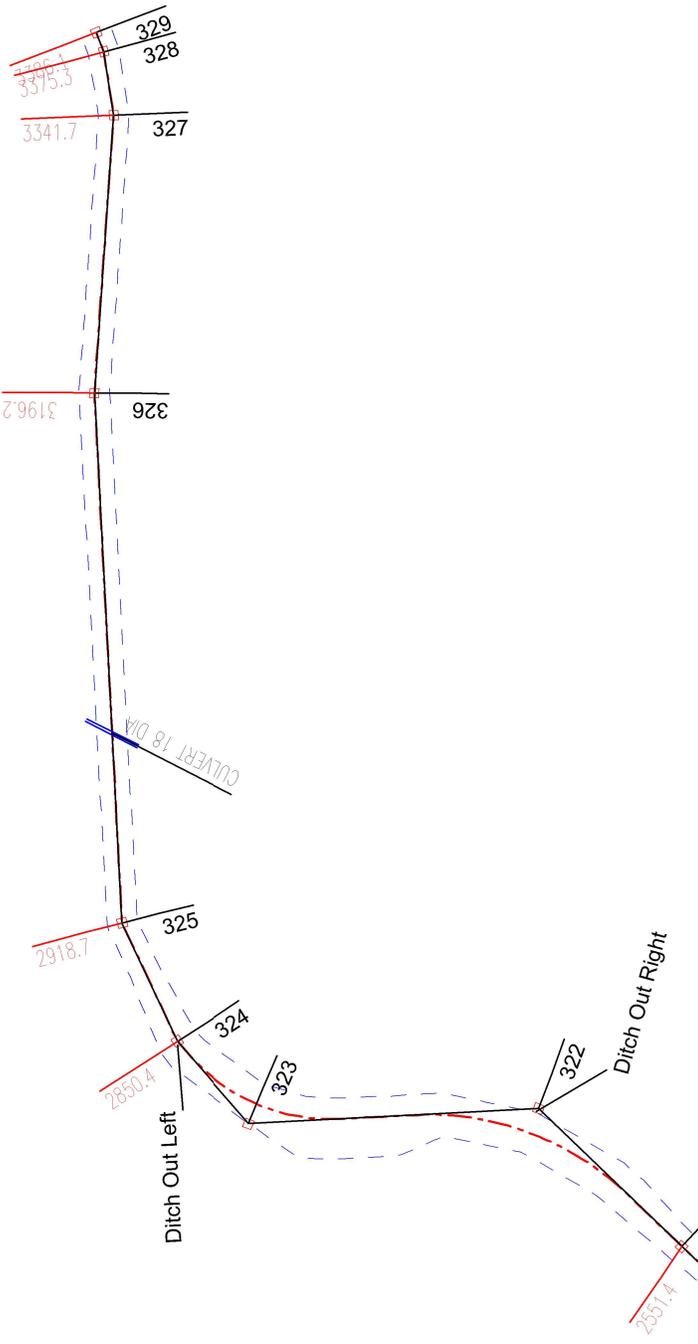
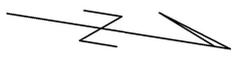
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 Profile Horz Scale 1:1200

Engineer: J. Gross  
 18/12/02



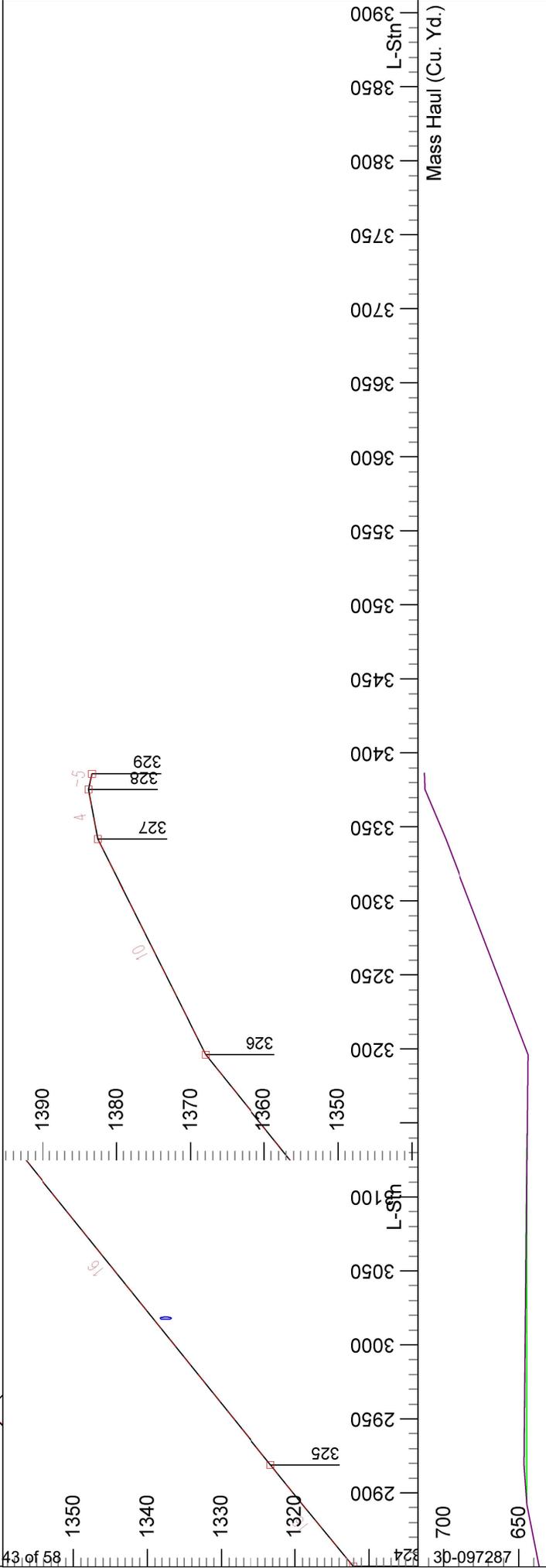


 Washington State Department of Natural Resources South Puget Sound Region	Engineer: J. Gross 18/12/02	Page 3 of 8
	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Dillydally Timber Sale B-8500Ext. Contract#: 30-097287



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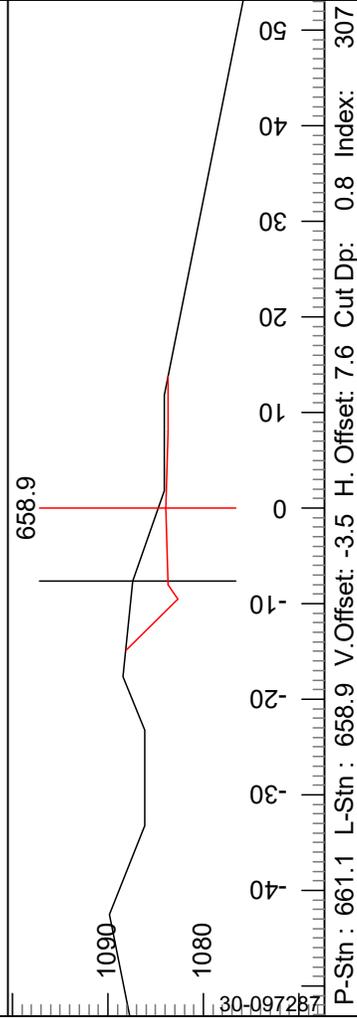
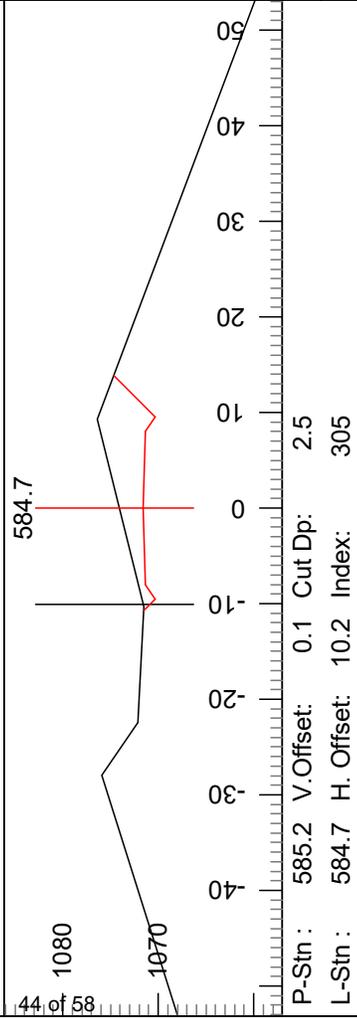
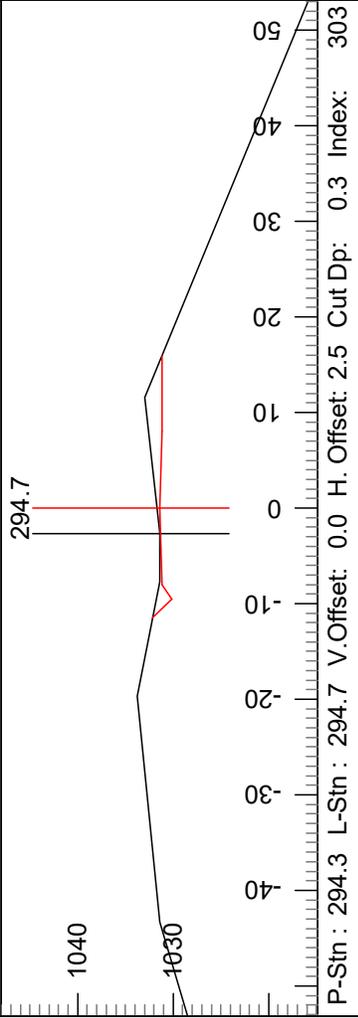
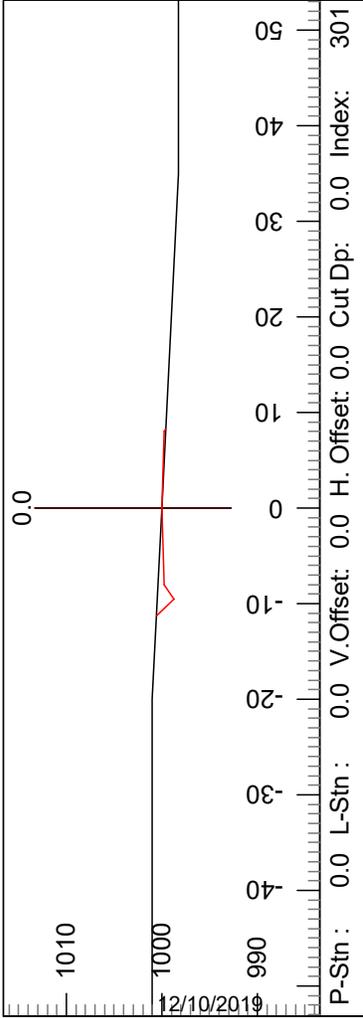
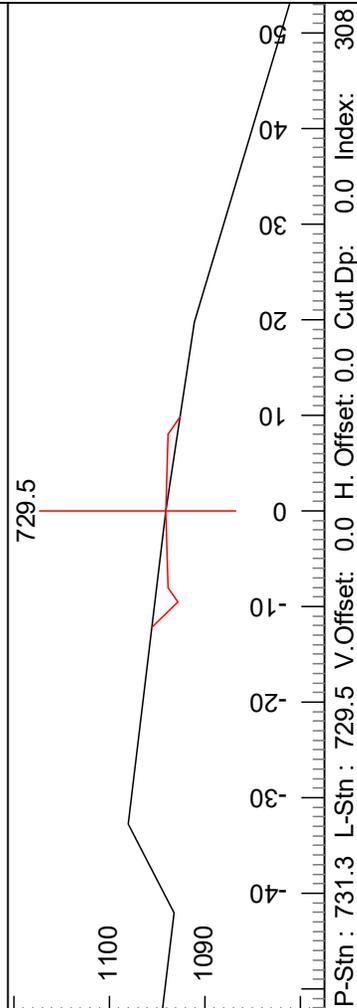
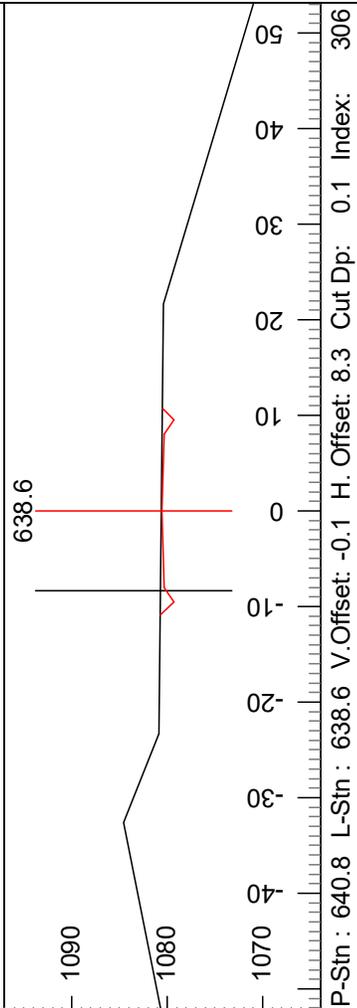
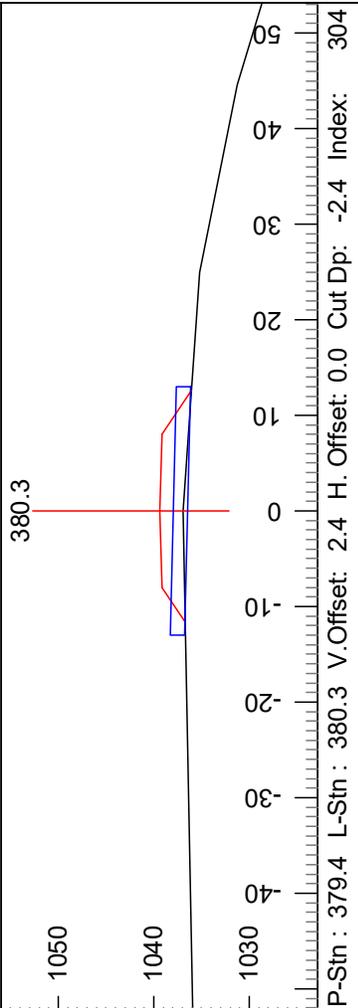
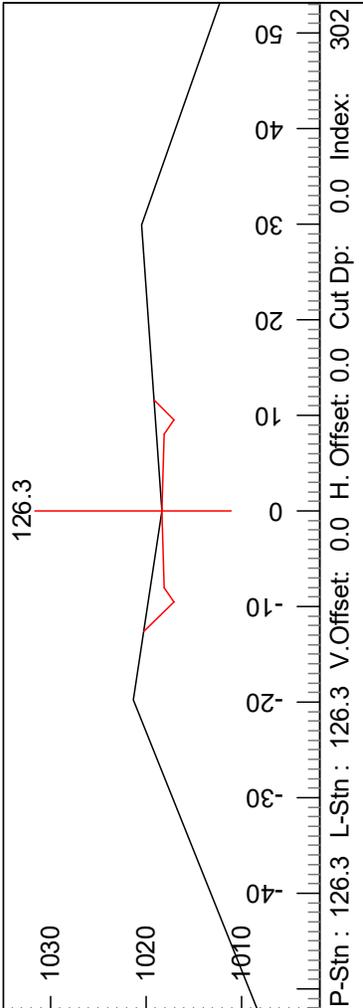
Dillydaily Timber Sale  
 B-8500Ext.  
 Contract#: 30-097287

Washington State Department of Natural Resources  
 South Puget Sound Region

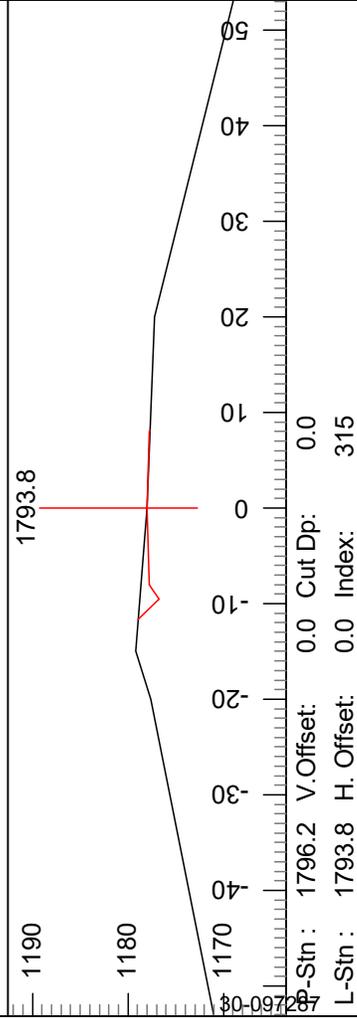
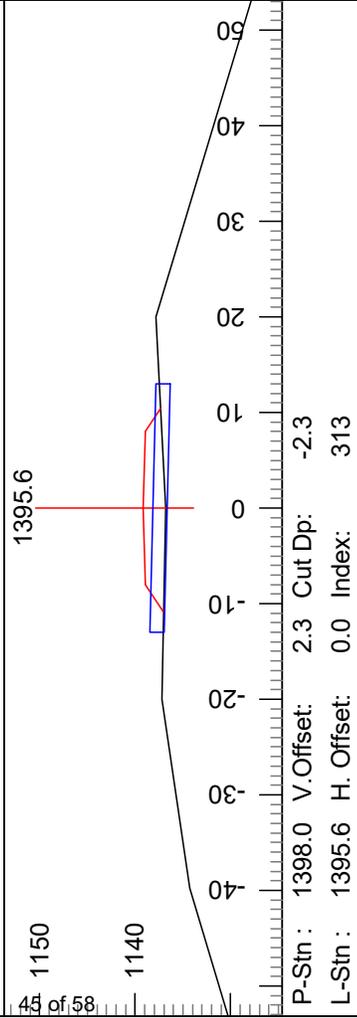
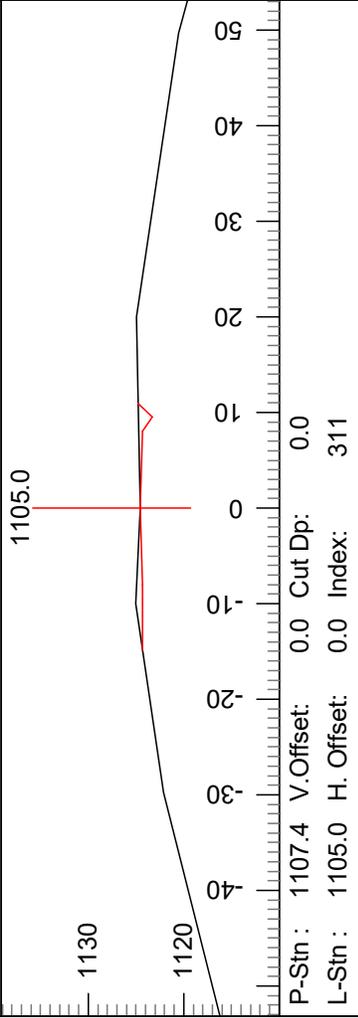
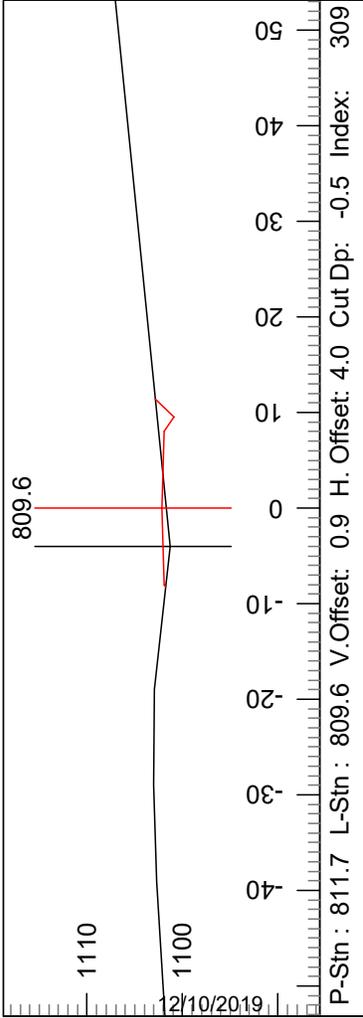
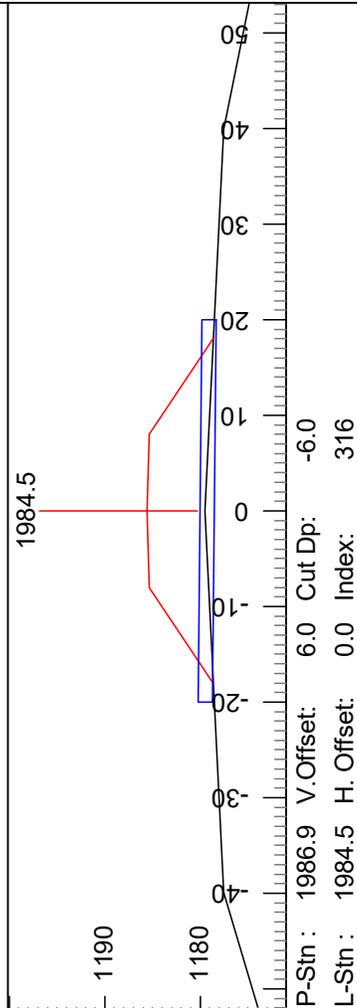
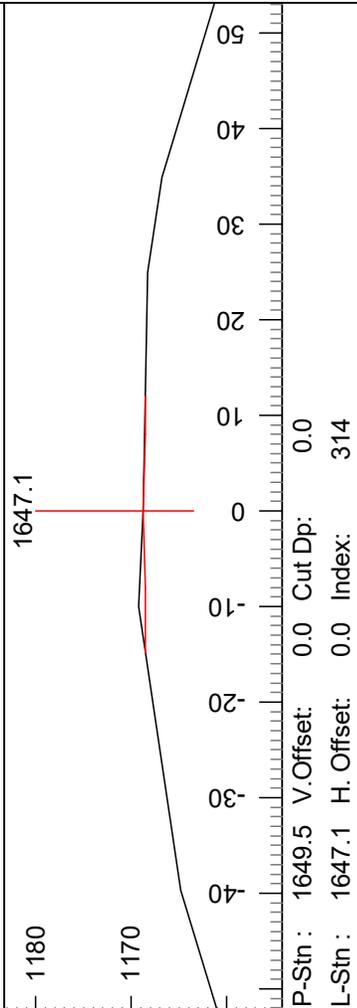
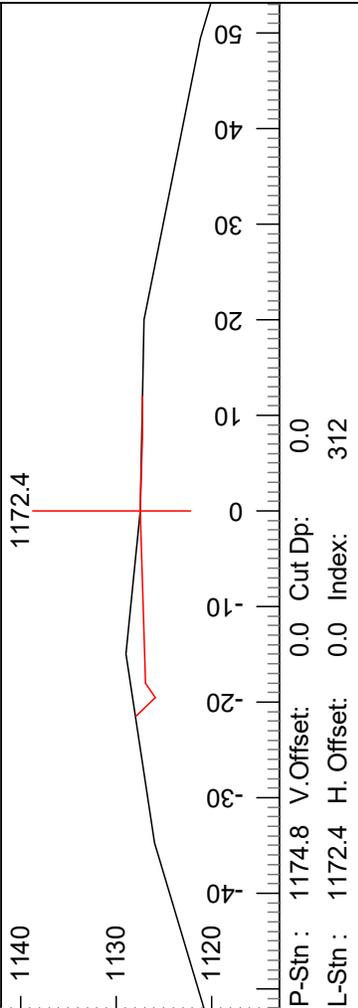
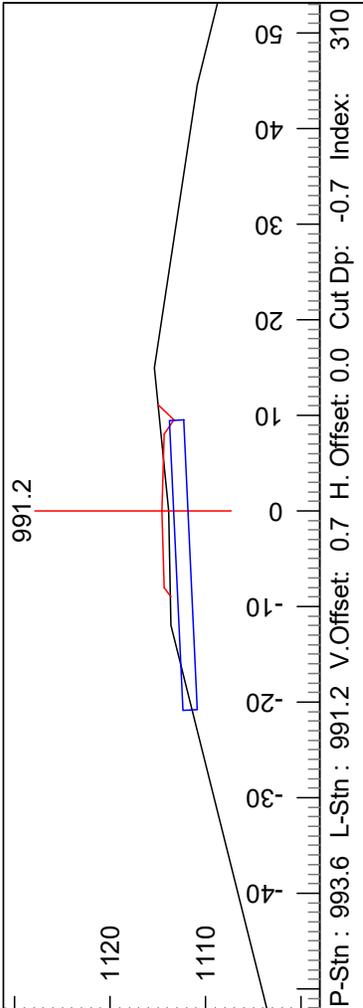
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 Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: J. Gross
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Section Scale 1:240

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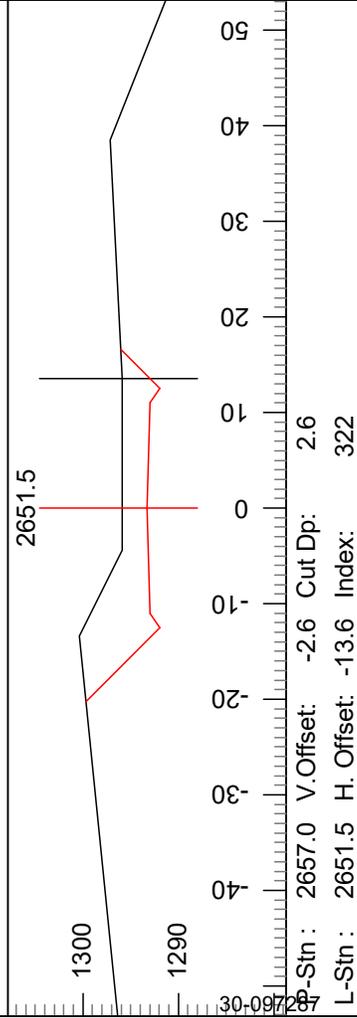
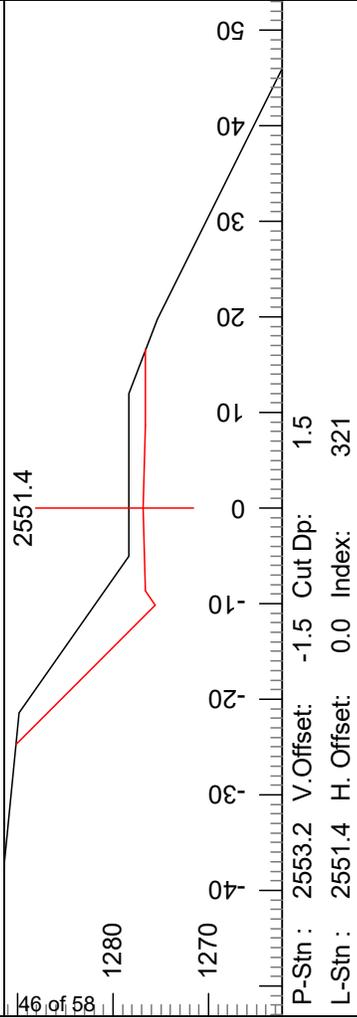
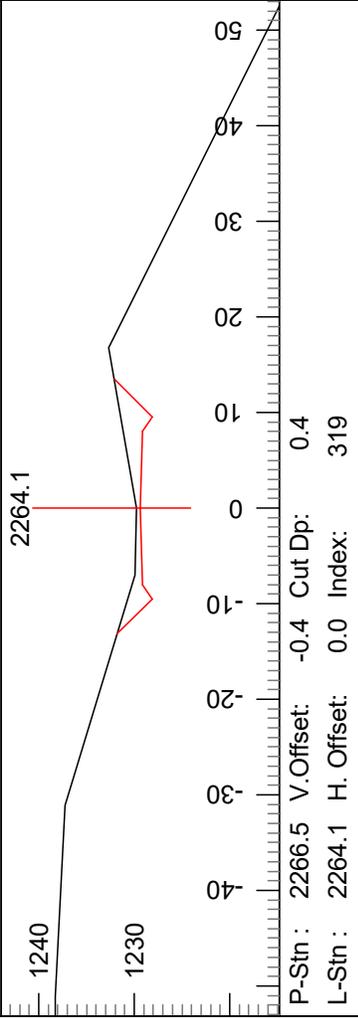
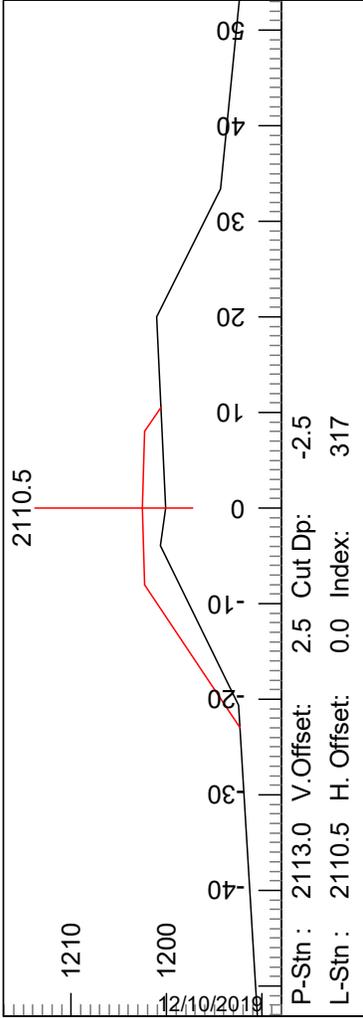
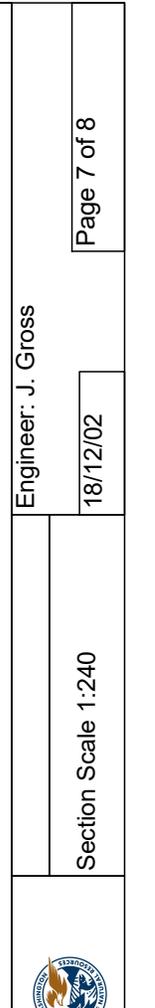
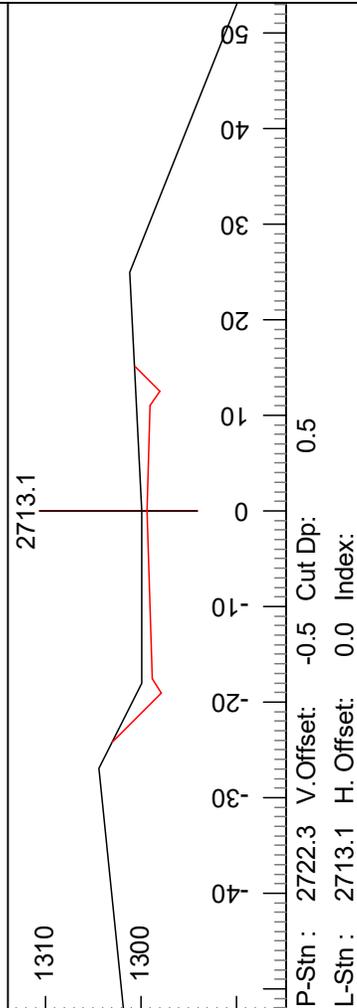
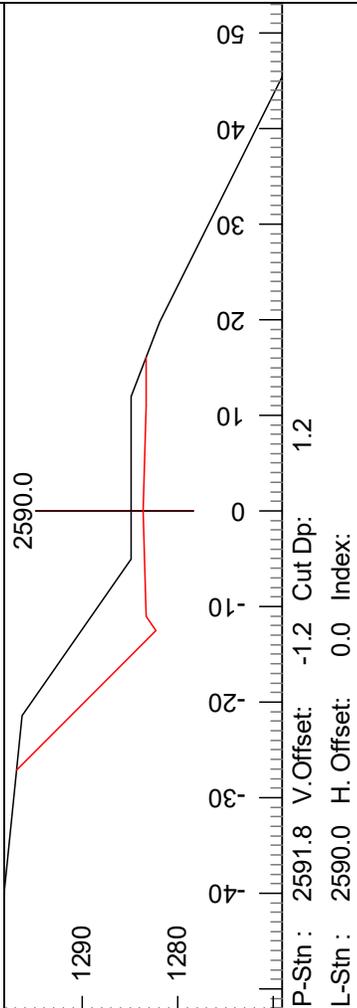
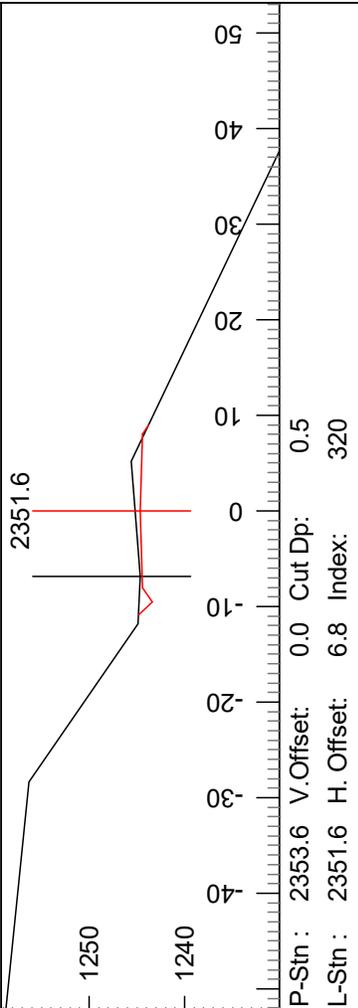
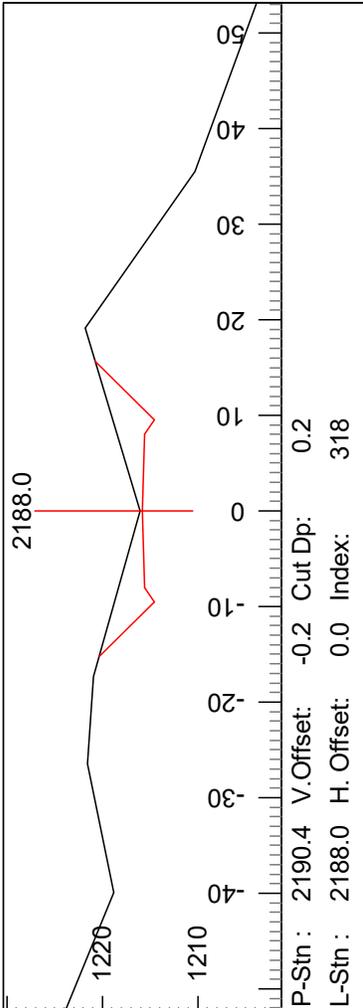
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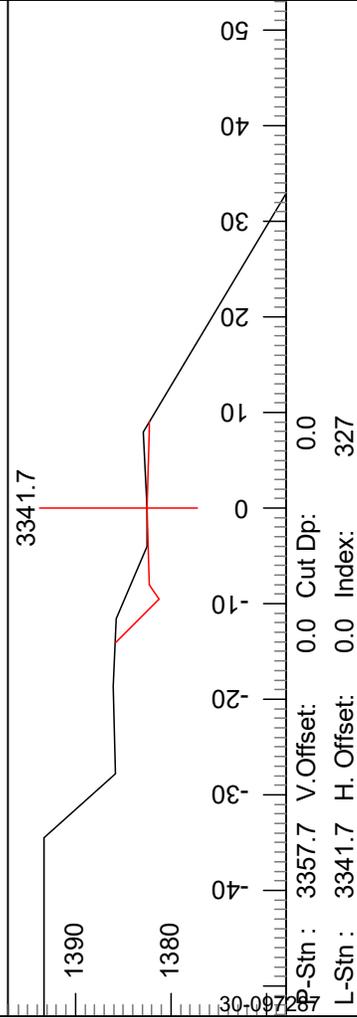
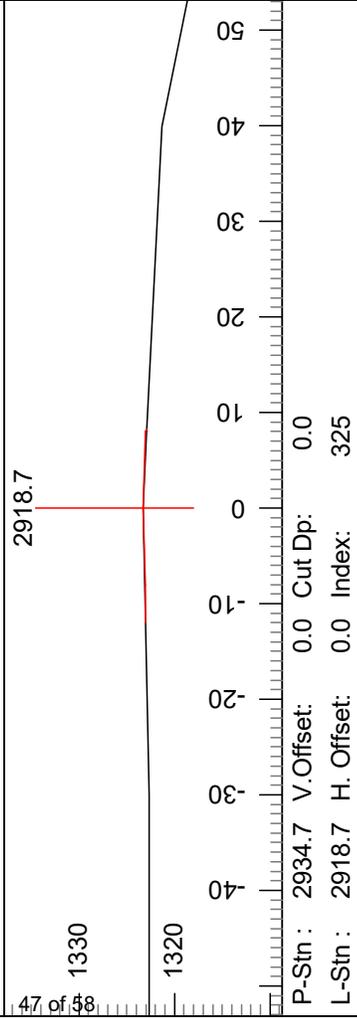
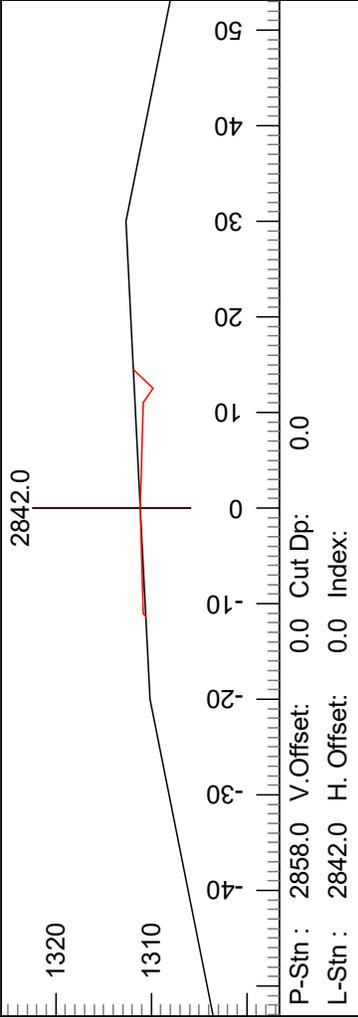
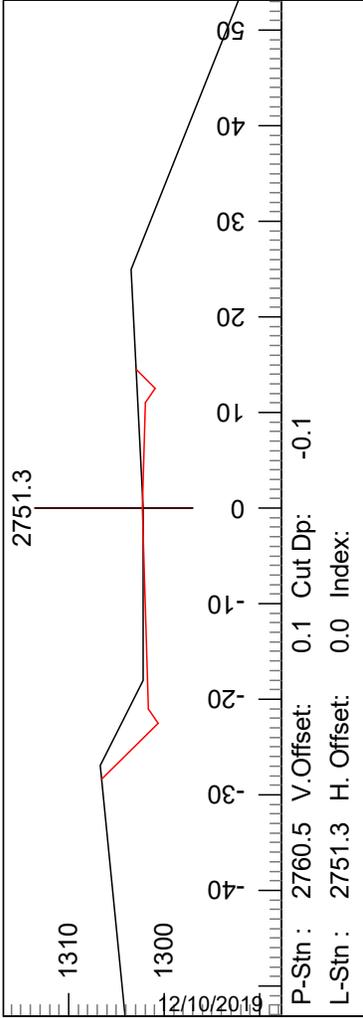
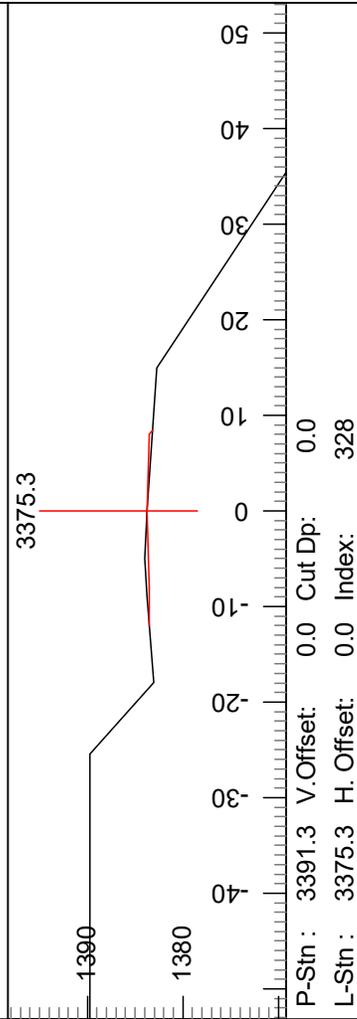
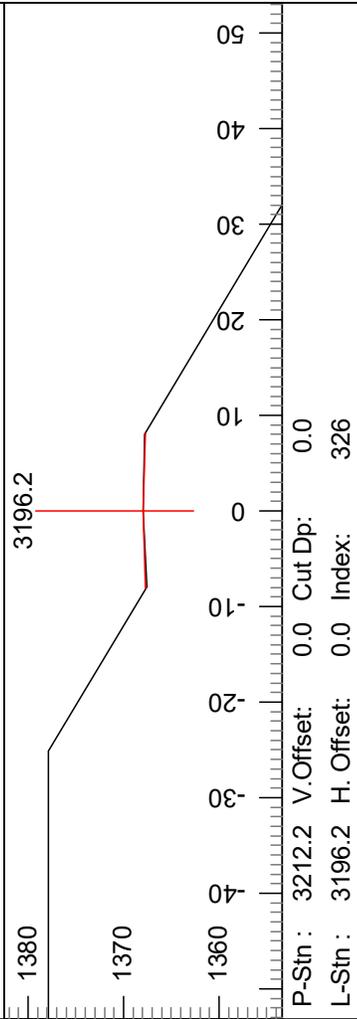
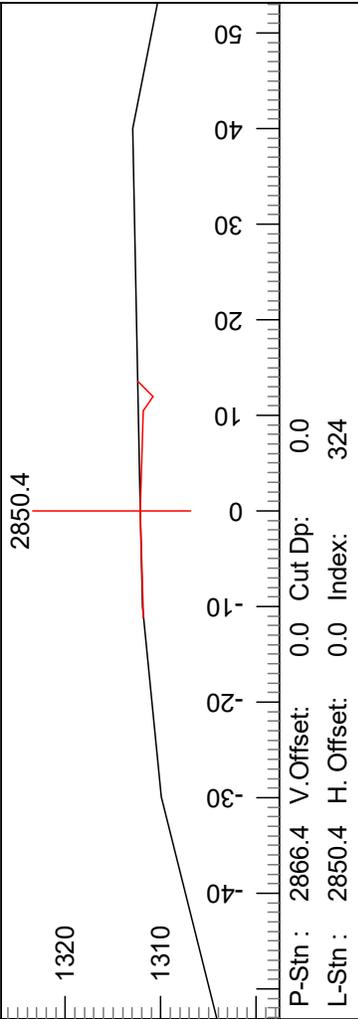
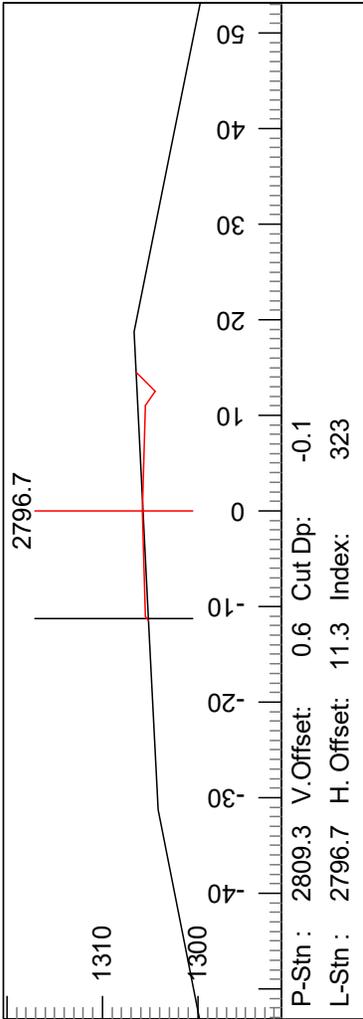
Washington State Department of Natural Resources  
South Puget Sound Region

Engineer: J. Gross

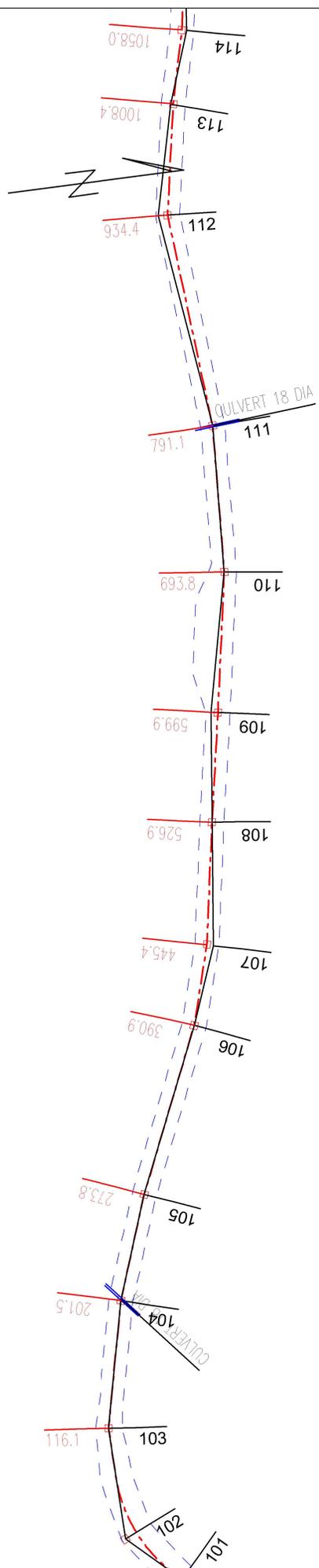
Dillydaily Timber Sale  
B-8500Ext.  
Contract#: 30-097287



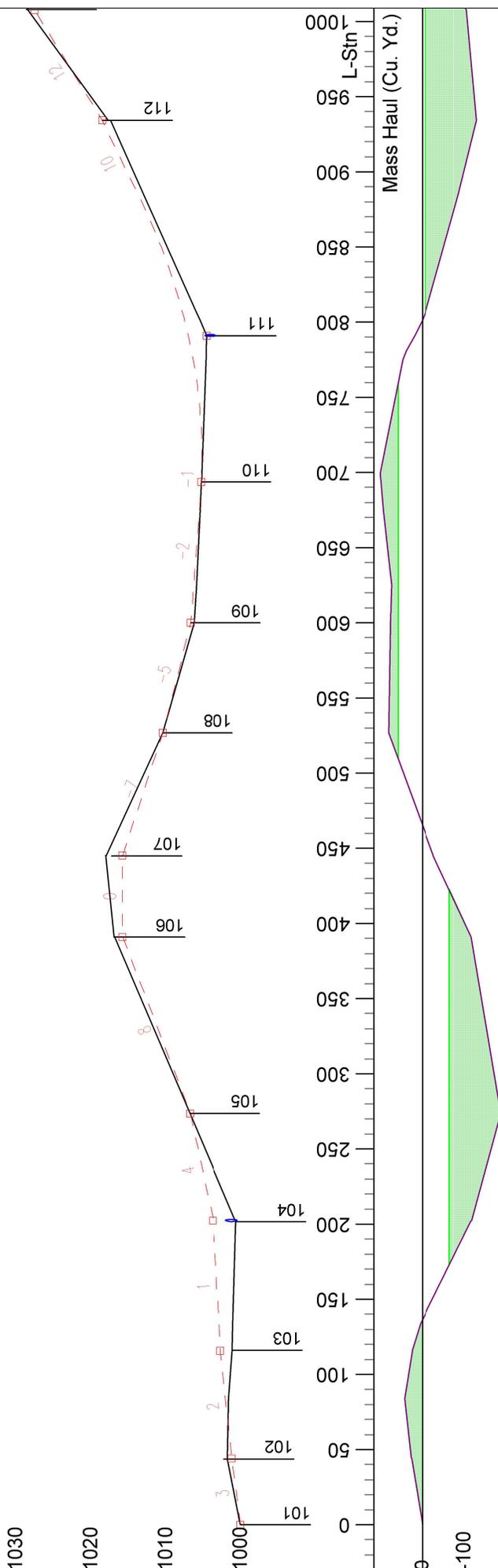




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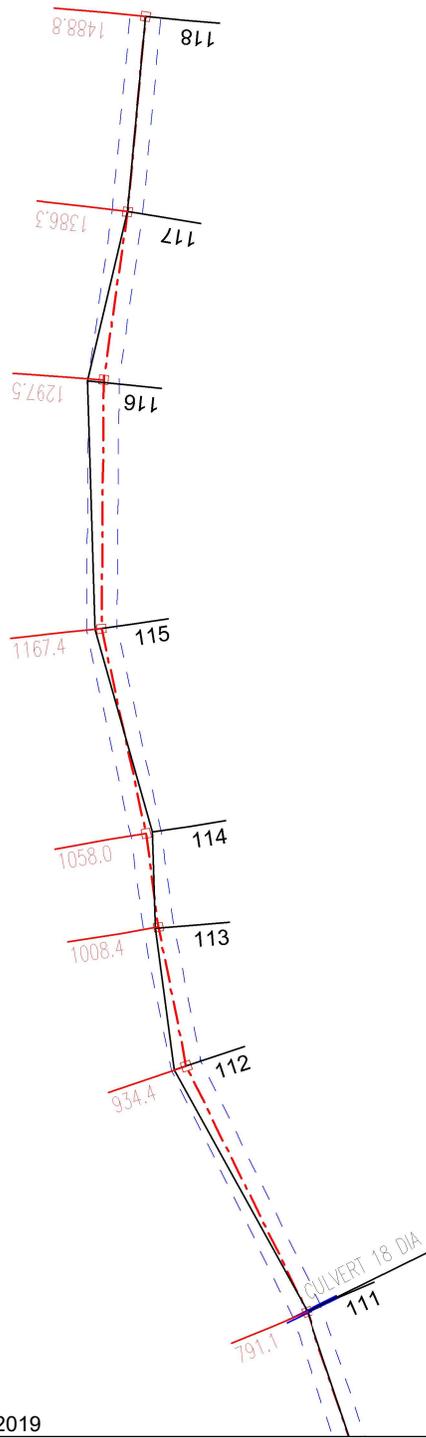
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Washington State Department of Natural Resources  
 South Puget Sound Region



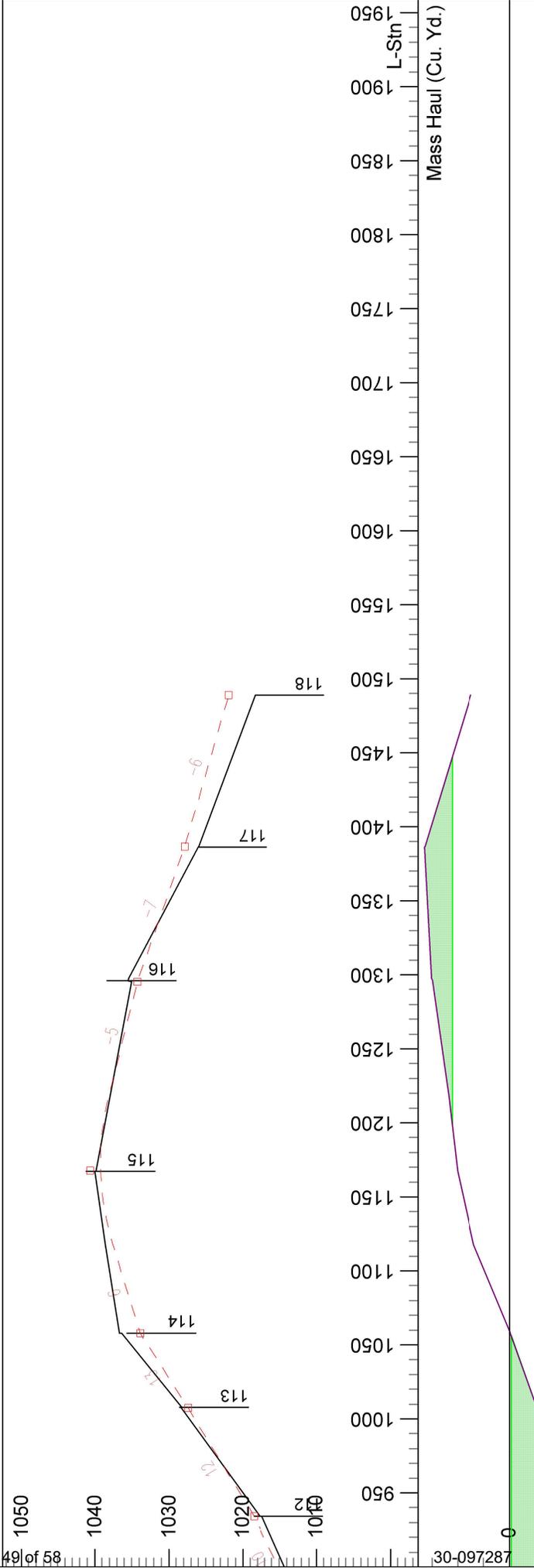
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Mass Haul (Cu. Yd.)

Engineer: J. Gross

Plan Scale 1:1200

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South Puget Sound Region

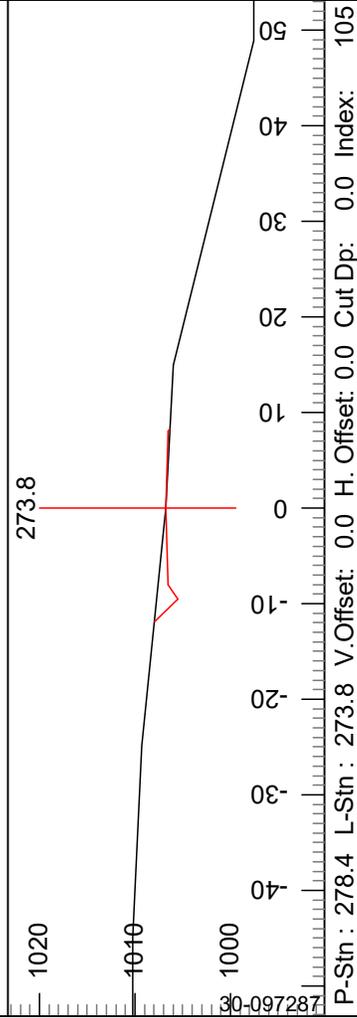
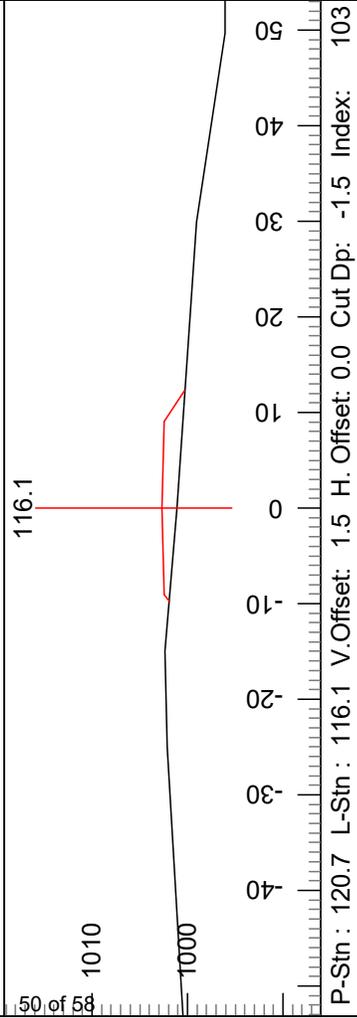
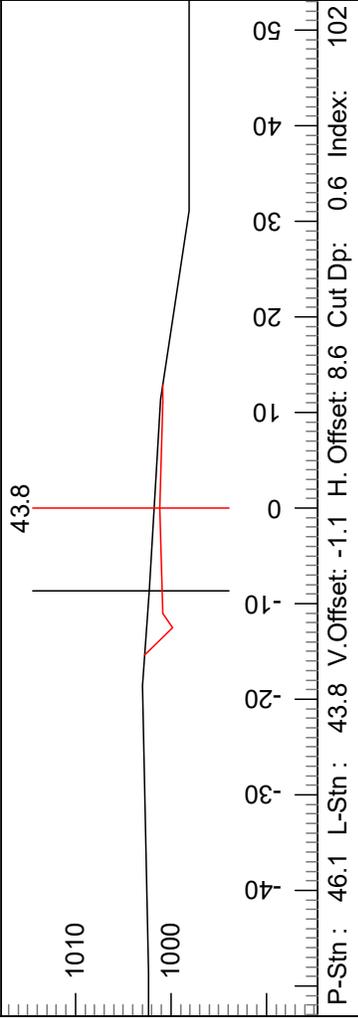
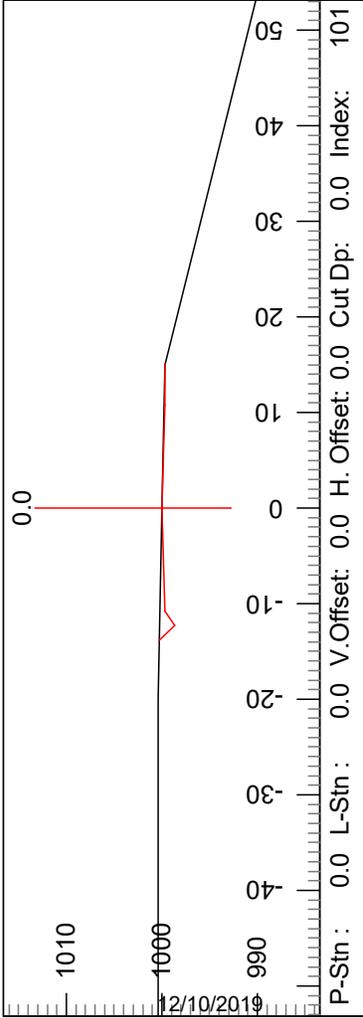
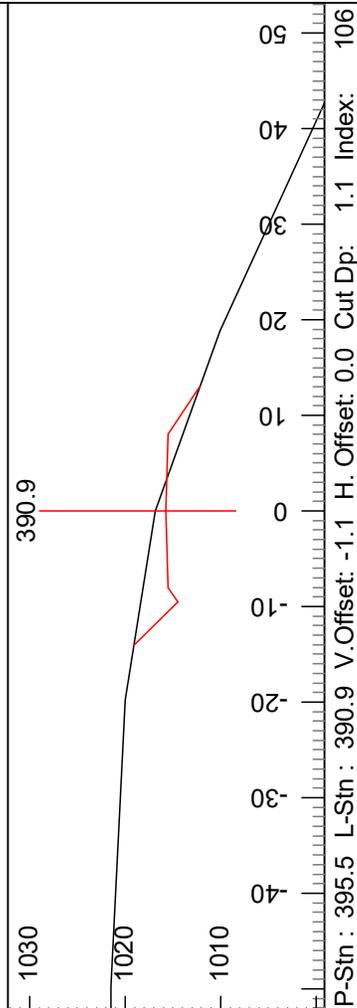
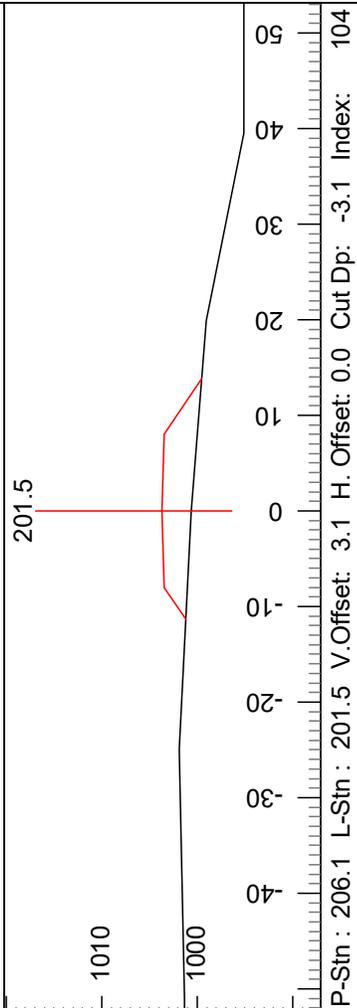
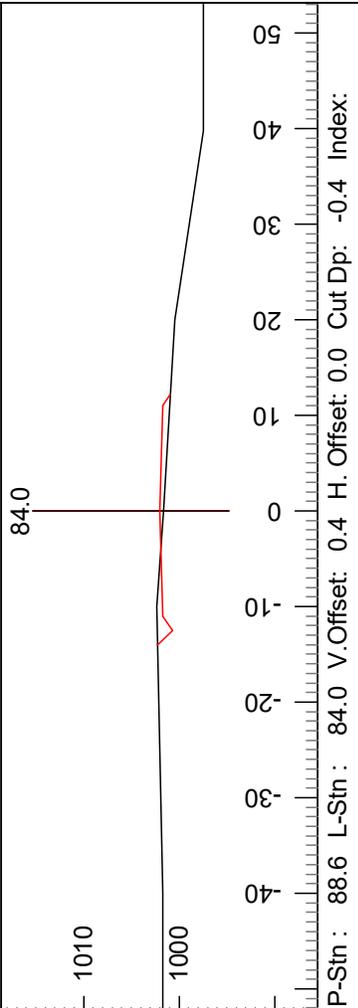
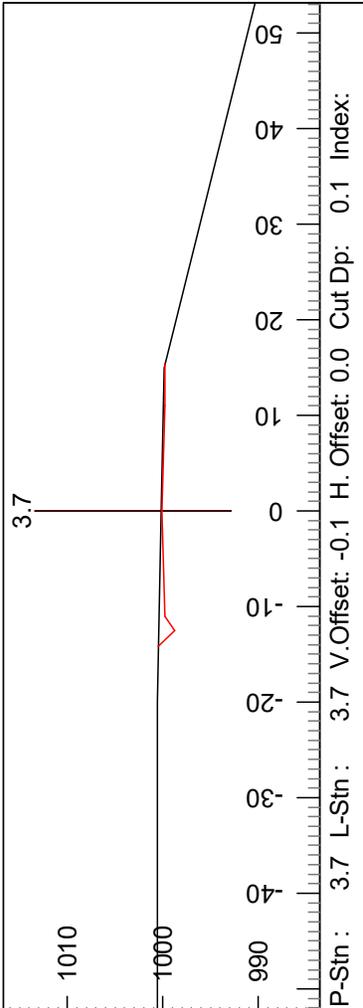
Dillydaily Timber Sale  
B-8510Ext.  
Contract#: 30-097287

Profile Vert Scale 1:240

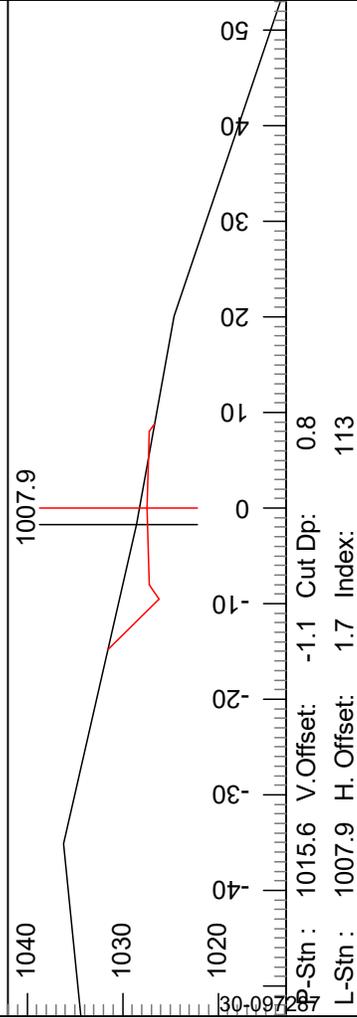
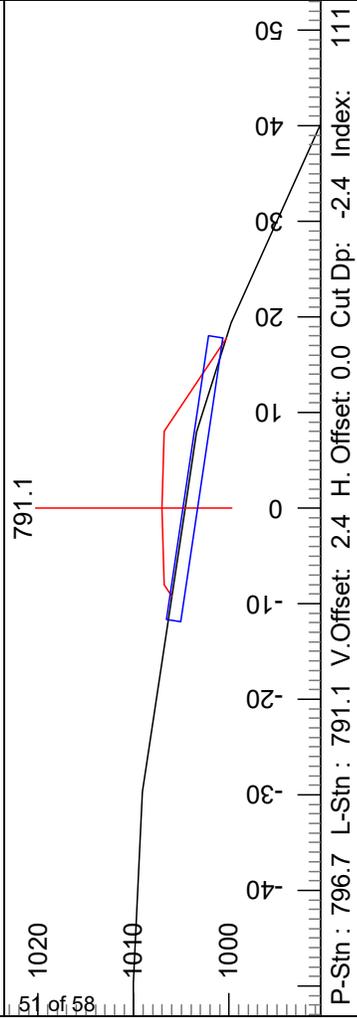
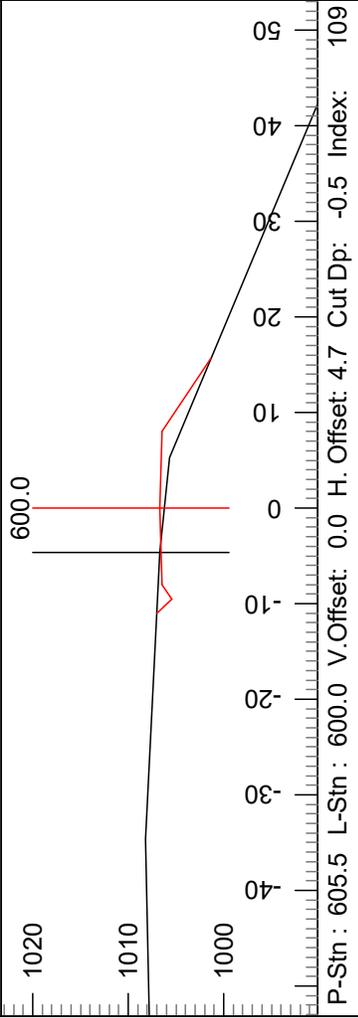
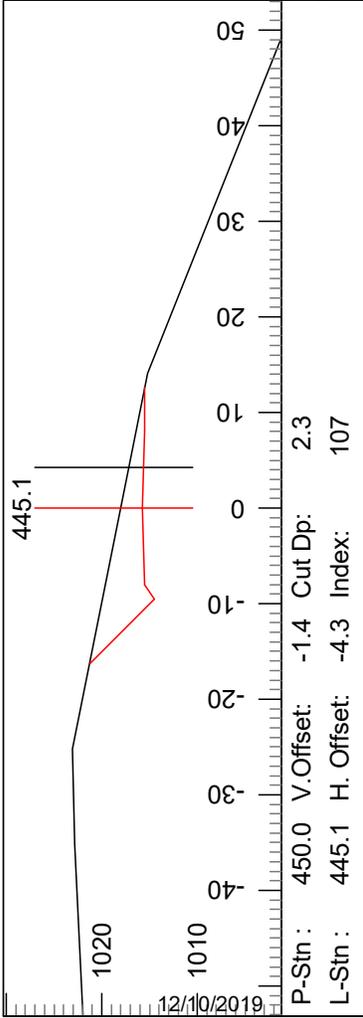
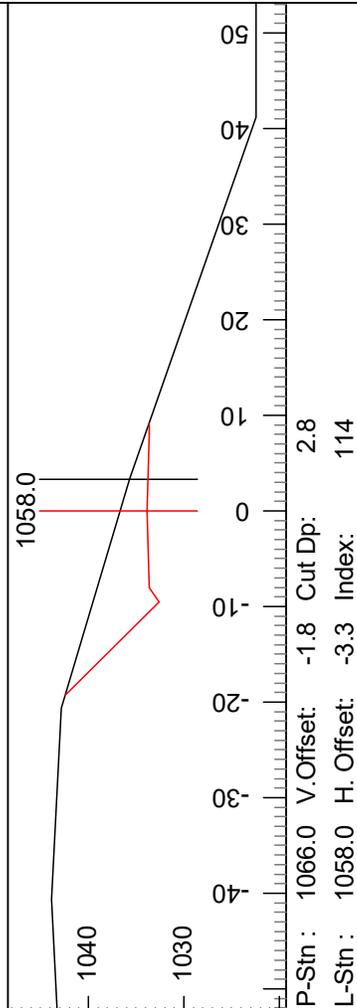
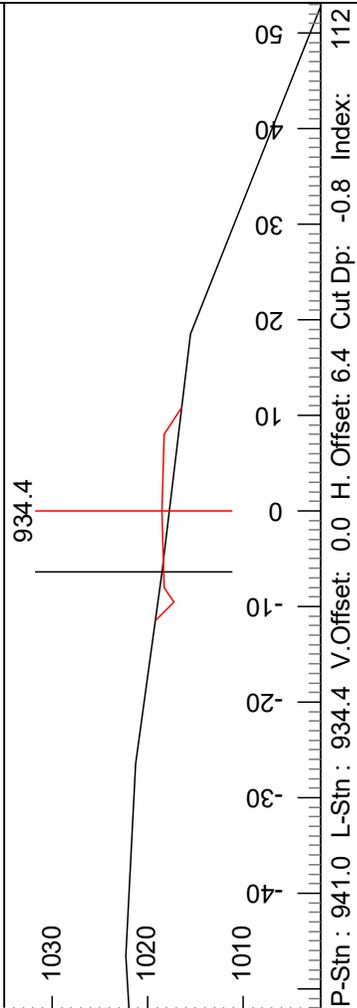
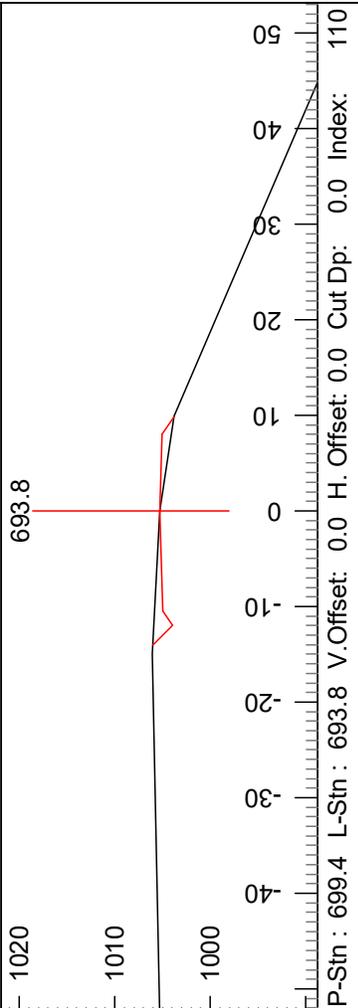
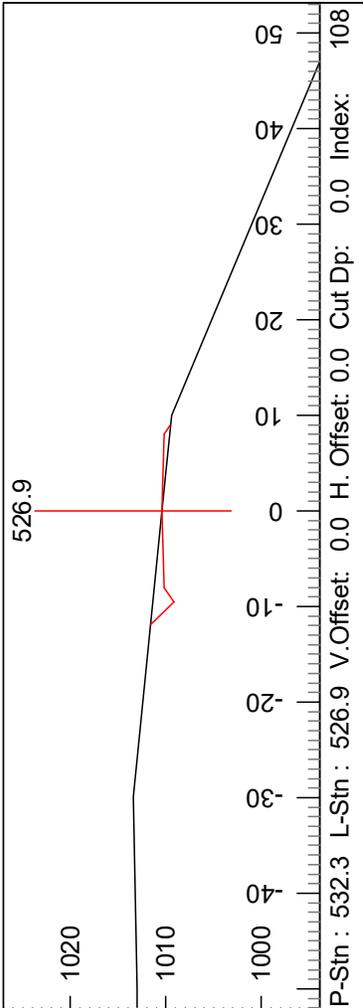
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Dillydaily Timber Sale B-8510Ext. Contract#: 30-097287			



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Engineer: J. Gross

Washington State Department of Natural Resources  
South Puget Sound Region

Dillydaily Timber Sale  
B-8510Ext.  
Contract#: 30-097287

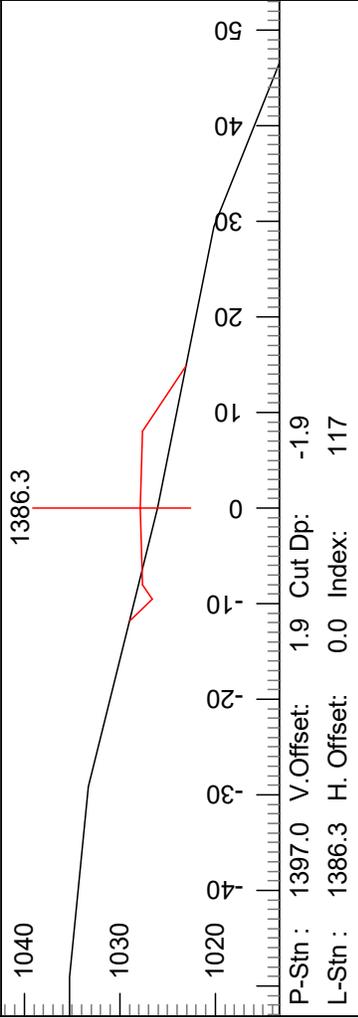
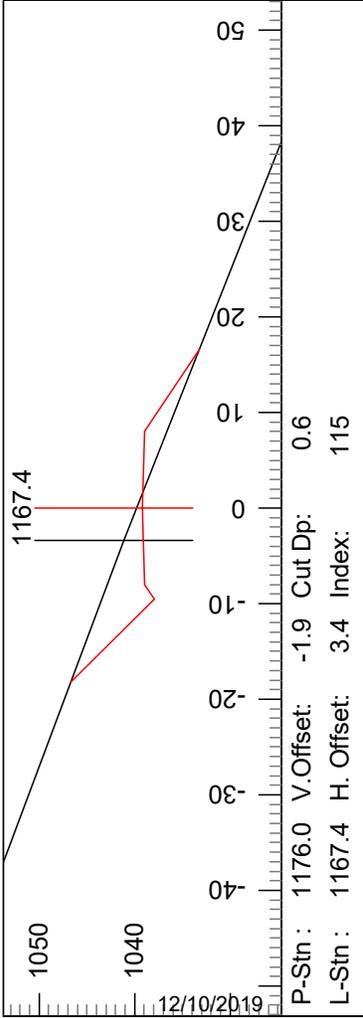
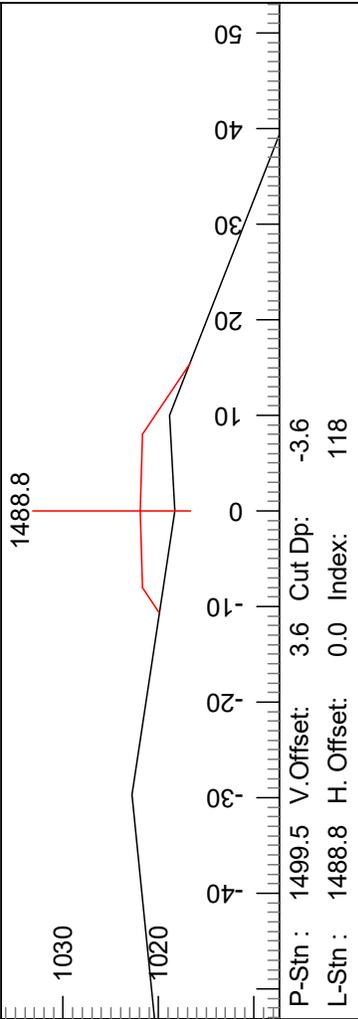
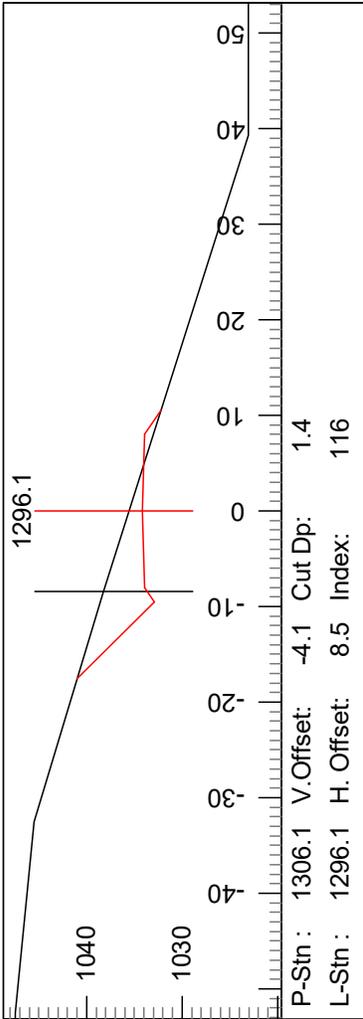
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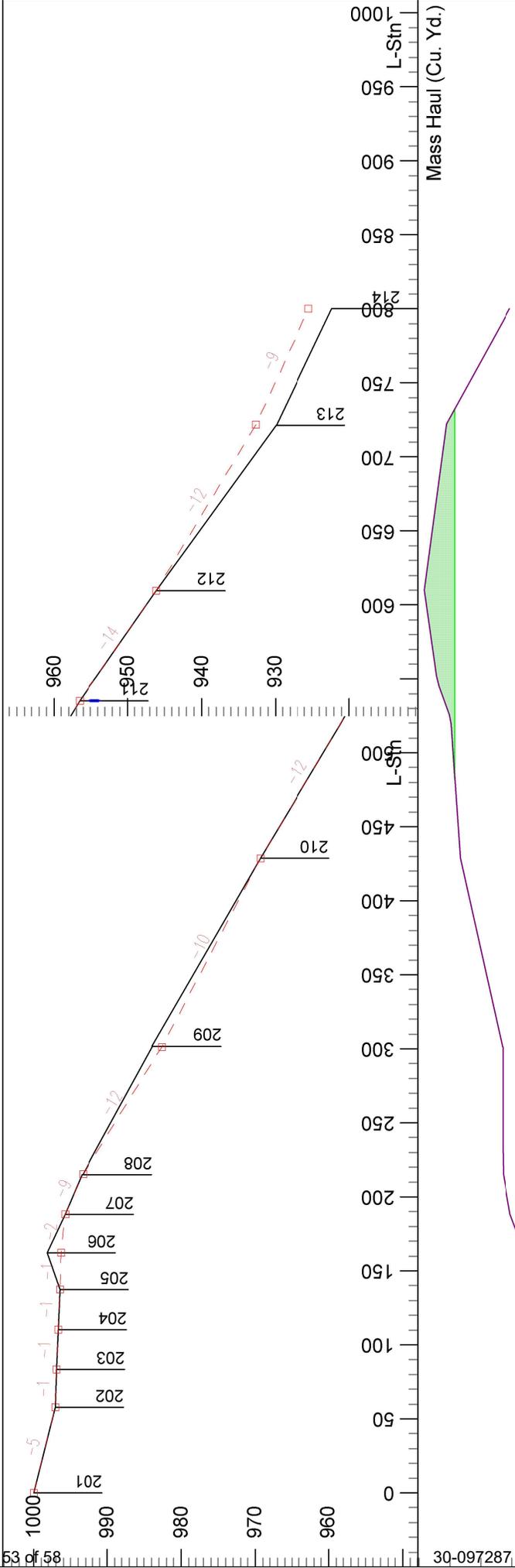
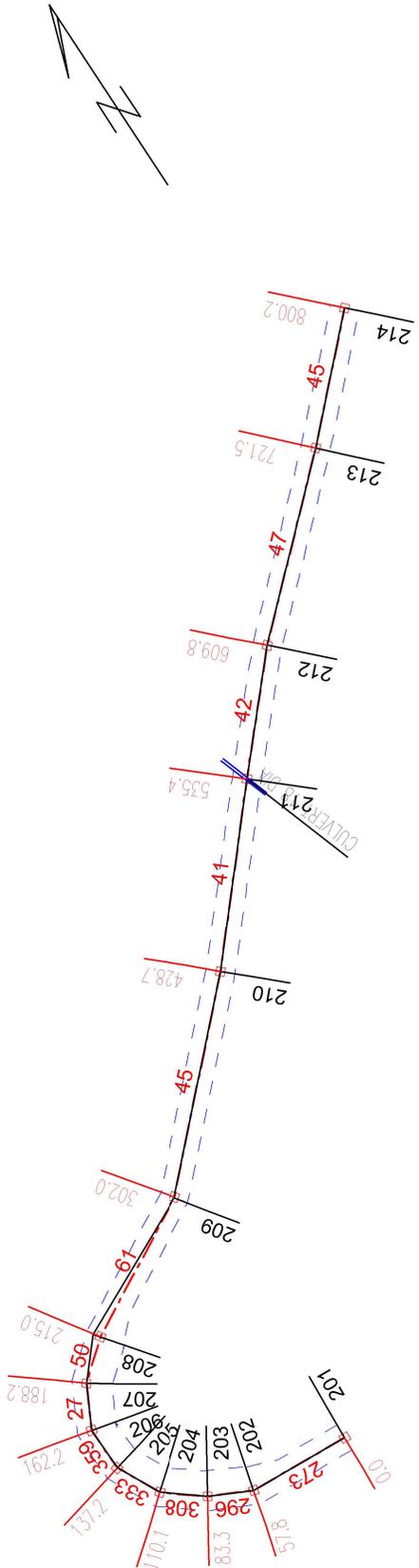
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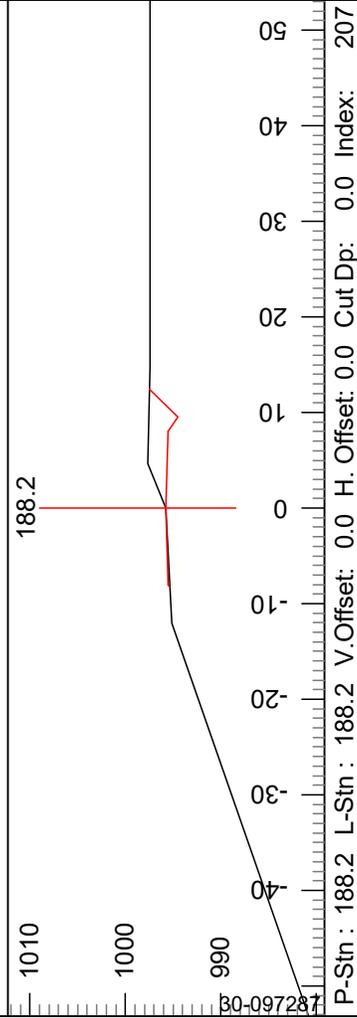
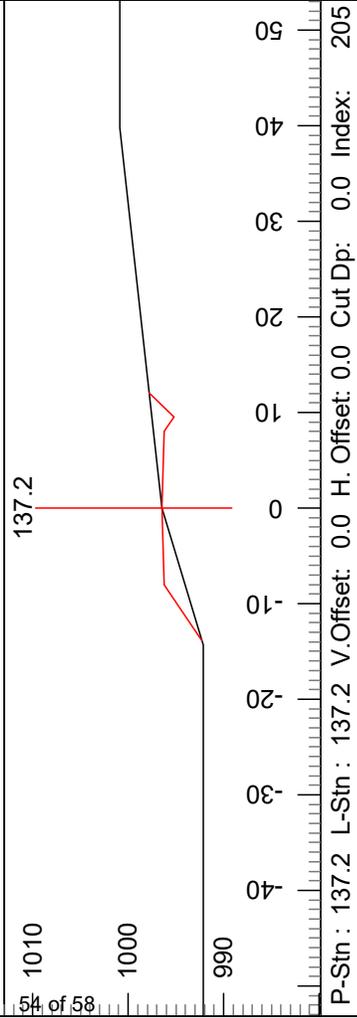
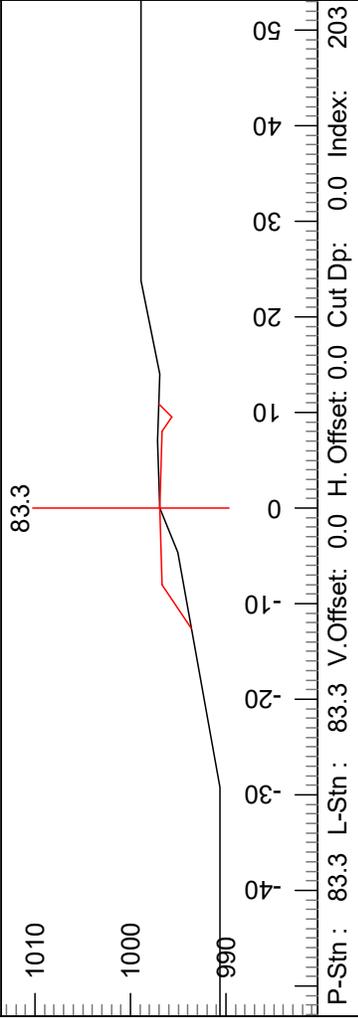
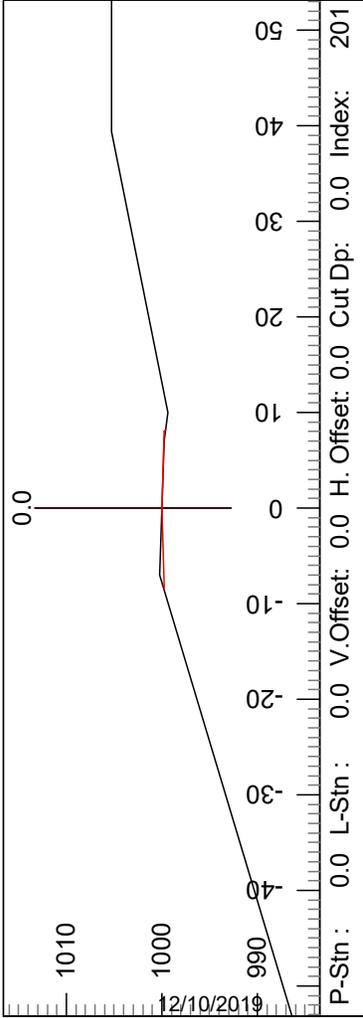
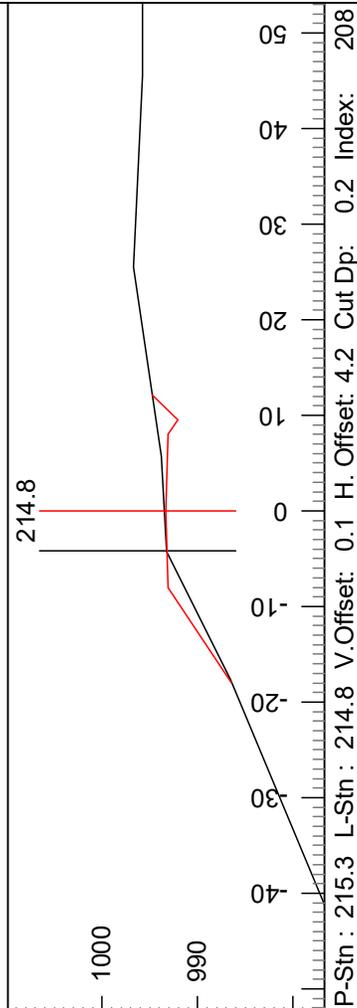
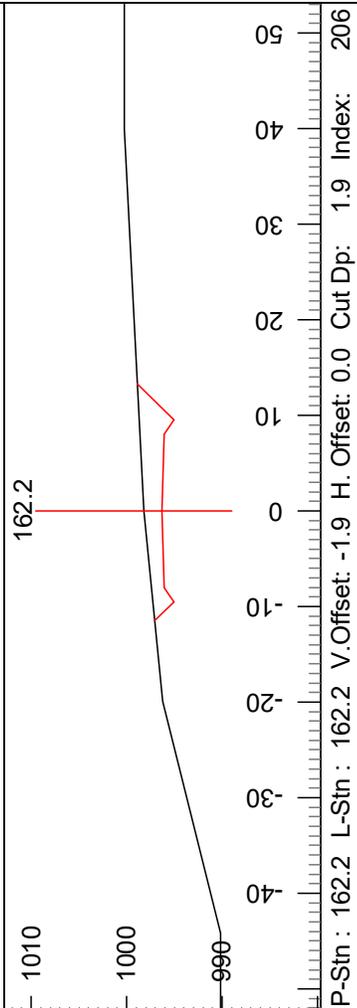
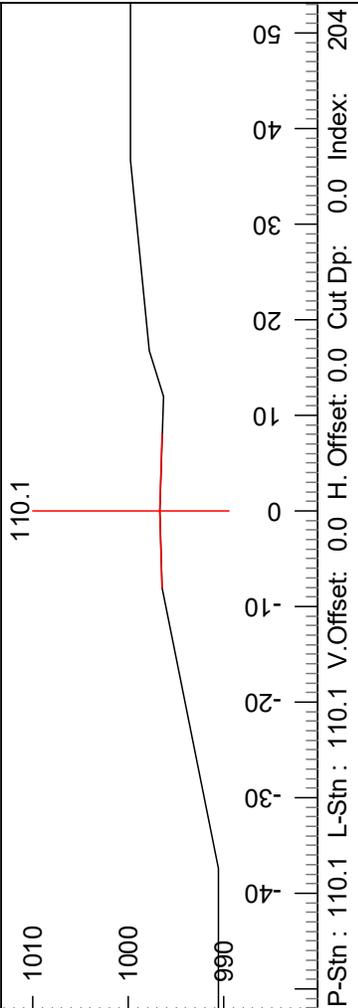
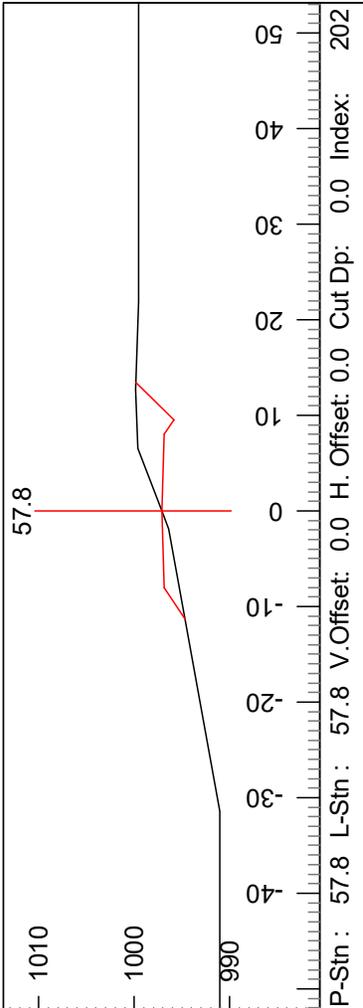
Daily Timber Sale  
 B-8550  
 Contract#: 30-097287

Washington State Department of Natural Resources  
 South Puget Sound Region



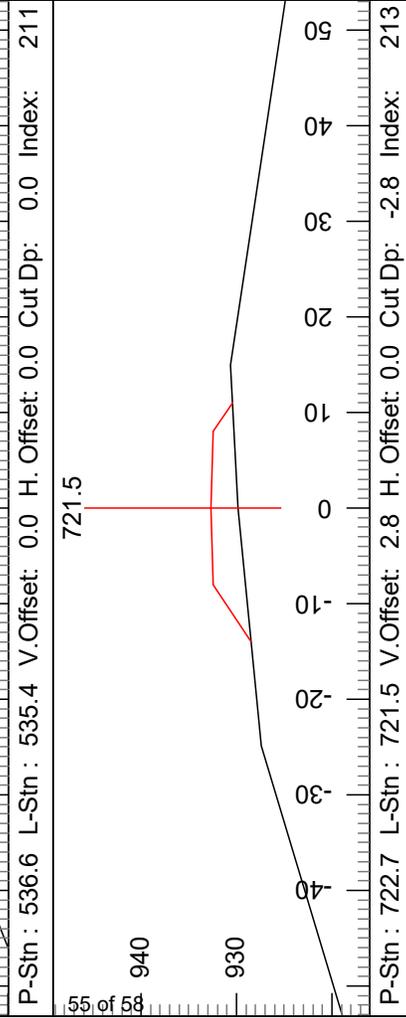
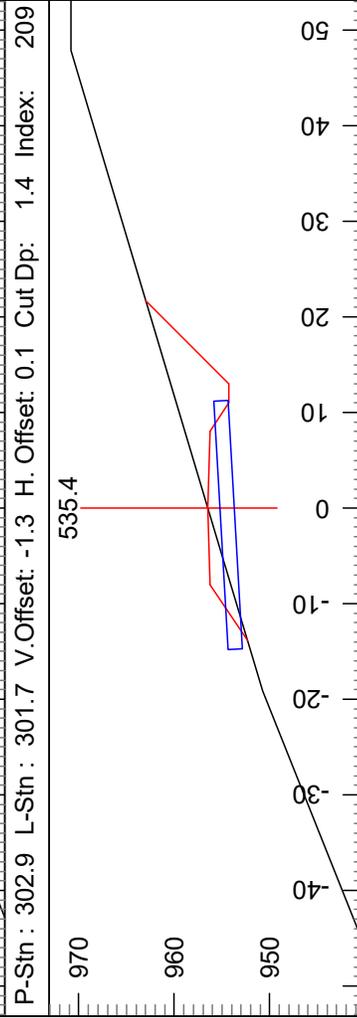
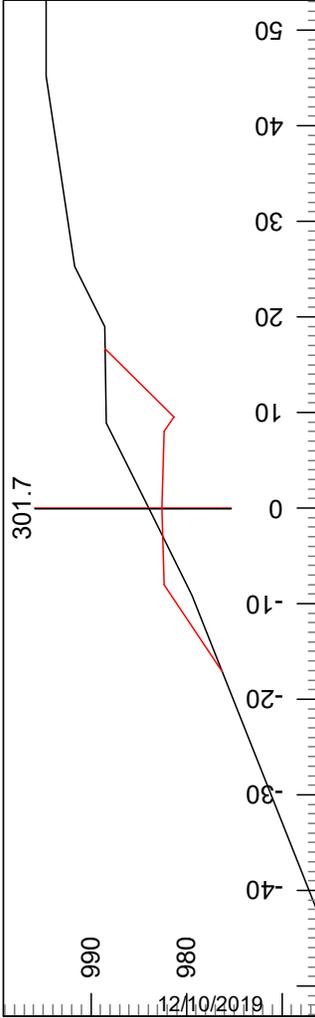
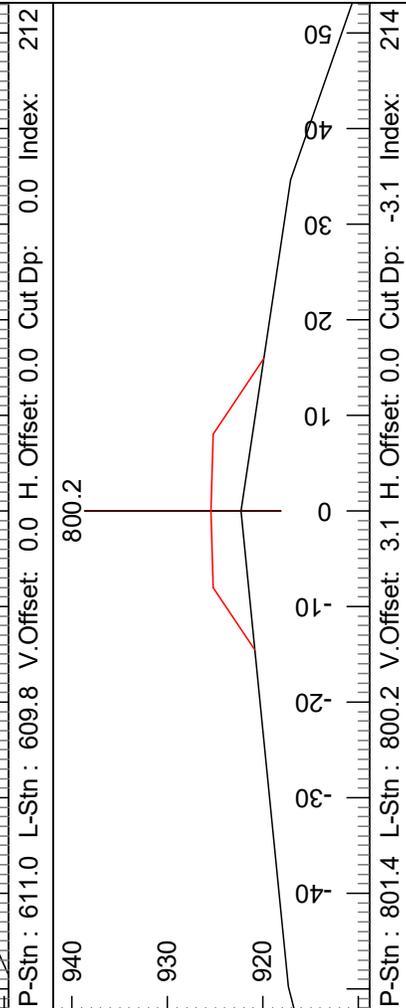
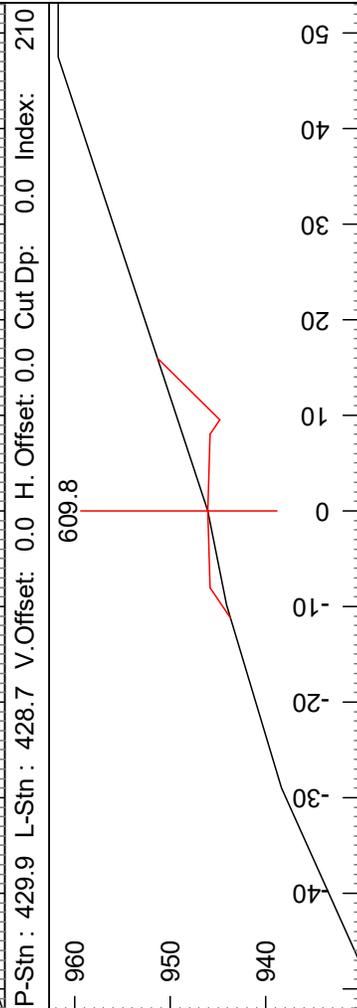
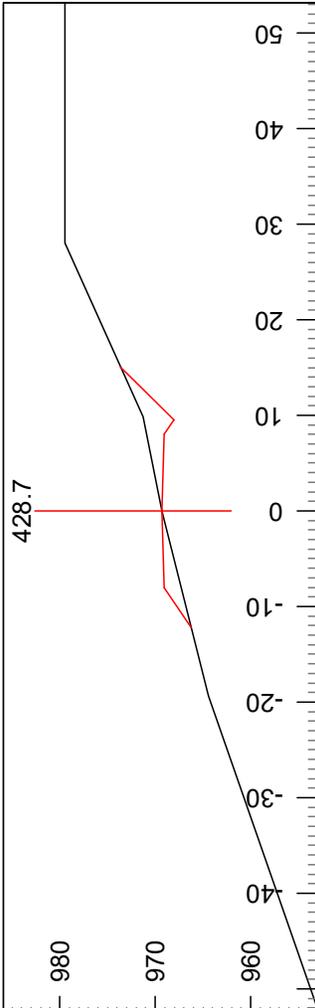
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Engineer: J. Gross  
 18/12/02



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Dillydally Timber Sale  
 B-8550  
 Contract#: 30-097287



12/10/2019

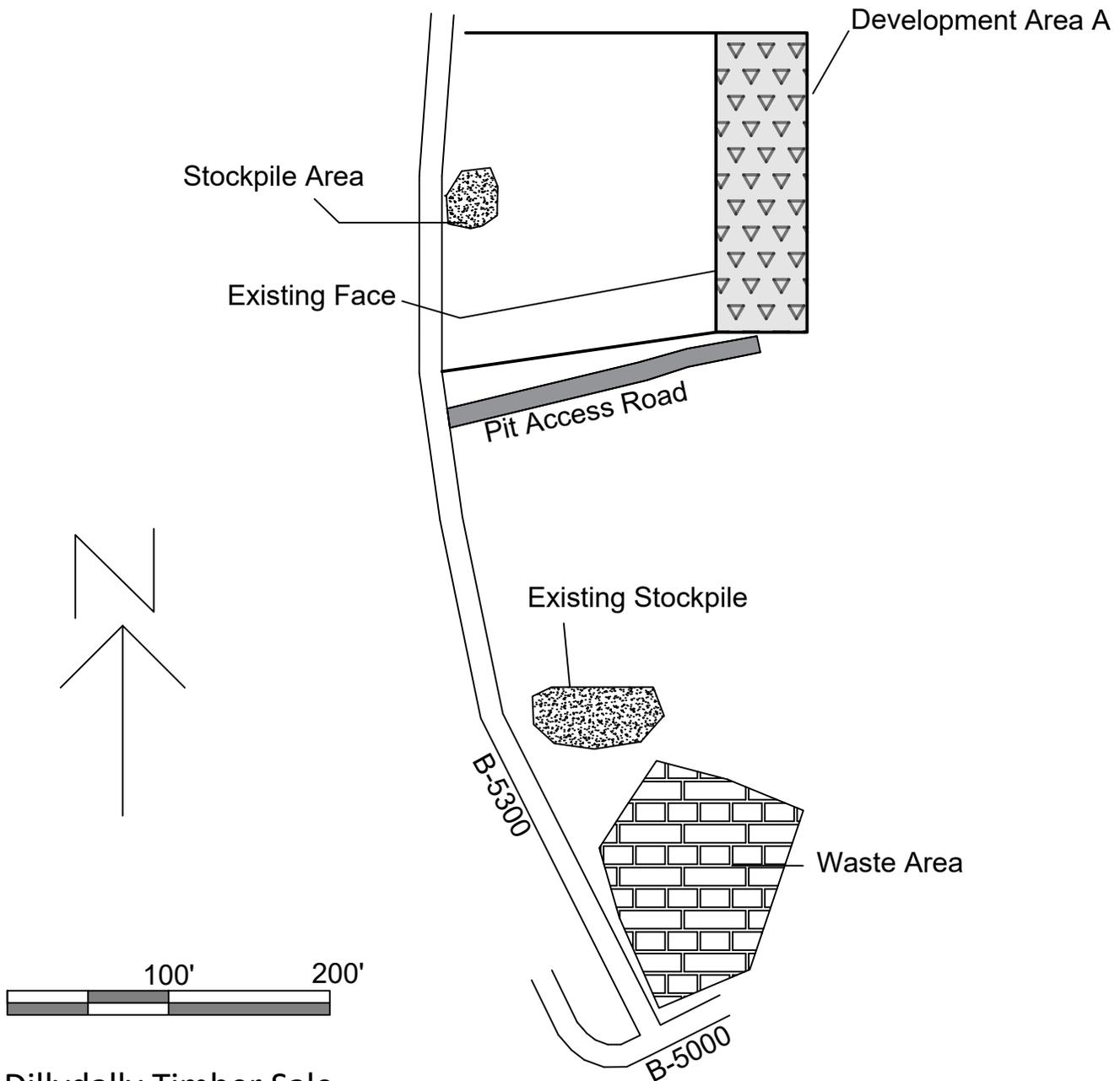
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Dillydaily Timber Sale B-8550 Contract#: 30-097287	 Washington State Department of Natural Resources South Puget Sound Region	Engineer: J. Gross	Page 3 of 3
		Section Scale 1:240	18/12/02

# PORTER PASS QUARRY DEVELOPMENT PLAN

SE  $\frac{1}{4}$  SW  $\frac{1}{4}$  S26 T18N R04W  
NE  $\frac{1}{4}$  NW  $\frac{1}{4}$  S35 T18N R04W



Dillydally Timber Sale  
December 1, 2018  
Drawn by: J. Gross

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES SOUTH PUGET SOUND REGION

PORTER PASS QUARRY DEVELOPMENT PLAN  
SE ¼ SW ¼ T18N R04W; NE ¼ NW ¼ T18N R04W W.M.

1. Rock for manufacture shall be obtained from Area A. If necessary, additional development areas will be approved by the contract administrator.
2. All vegetation including stumps shall be cleared a minimum of 10 feet beyond the top of all working faces. Trees shall be cleared to a minimum of  $\frac{3}{4}$  of the height of the tallest tree adjacent to the pit.
3. Overburden shall be end hauled or end pushed to the designated waste area and compacted. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts. Final placement of waste material shall be approved in writing by the Contract Administrator.
4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled separately in waste area vicinity. Organics debris placement must be approved in writing by the Contract Administrator.
5. Quarry faces shall not exceed 30 feet in height and shall have a slope no steeper than  $\frac{1}{2}$  (H):1 (V).
6. The width of pit benches shall be a minimum of 1.5 times the maximum length of the largest machine used.
7. The surface of pit floors and benches shall be uniform and free-draining at a minimum 2% outslope gradient.
8. Oversize material remaining in the quarry shall not exceed 3% of the total volume mined in the source. Oversize material is defined as rock fragments larger than two feet in any direction. Oversize material shall be placed adjacent to the north face or as approved in writing by the Contract Administrator.
9. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material, benches shall have safety berms constructed, and all access blocked to recreational vehicles.

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES SOUTH PUGET SOUND REGION

PORTER PASS QUARRY DEVELOPMENT PLAN  
SE ¼ SW ¼ T18N R04W; NE ¼ NW ¼ T18N R04W W.M.

10. All operations shall be carried out in compliance with all regulations of:
  - a. "Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations" (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
  - b. "Safety Standards for Construction Work" (296-155 WAC) Washington Department of Labor and Industries.
11. The Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator prior to any drilling (Form #M-126PAC).
12. The quarry area shall be worked and left in a condition such that future operations may proceed in an orderly manner.
13. The quarry site shall be cleared of all temporary structures, equipment, and rubbish upon completion of rock source operations. The quarry site shall be left in a neat and presentable condition.
14. At the completion of rock source operations, Purchaser shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.

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: SPS

UNIT: Delphi

SALE/PROJECT NAME: Dillydally Timber Sale

CONTRACT NUMBER: 30-097287

LEGAL DESCRIPTION:

	B-8500Ext., B-8510Ext., B-8550	No Roads to be Reconstructed	B-8000, B-8100, B-8500, B-8510, C-4700
ROAD NUMBER:	B-8500Ext., B-8510Ext., B-8550	No Roads to be Reconstructed	B-8000, B-8100, B-8500, B-8510, C-4700
ROAD STANDARD:	Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:	56.75	0.00	371.10
SIDESLOPE:	10-45%	30%	0%
CLEARING AND GRUBBING:	\$7,592	\$0	
EXCAVATION AND FILL:	\$12,522	\$0	
MISC. MAINTENANCE:			\$9,494
ROCK TOTALS (Cu. Yds.):			
4 Inch Jaw    4131	\$98,558	\$0	\$0
2 1/2 Inch Minus    1449	\$9,481	\$0	\$2,520
CULVERTS AND FLUMES:	\$6,319	\$0	\$4,210
STRUCTURES:	\$0	\$0	\$0
GENERAL EXPENSES:	\$10,758	\$0	\$1,622
MOBILIZATION:	\$6,640	\$0	\$6,640
TOTAL COSTS:	\$151,868	\$0	\$24,487
COST PER STATION:	\$2,676	\$0	\$66

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$1,584

NOTE<sup>1</sup>: This appraisal has no allowance for profit and risk.

TOTAL (All Roads) = \$177,940

SALE VOLUME MBF = 7,538

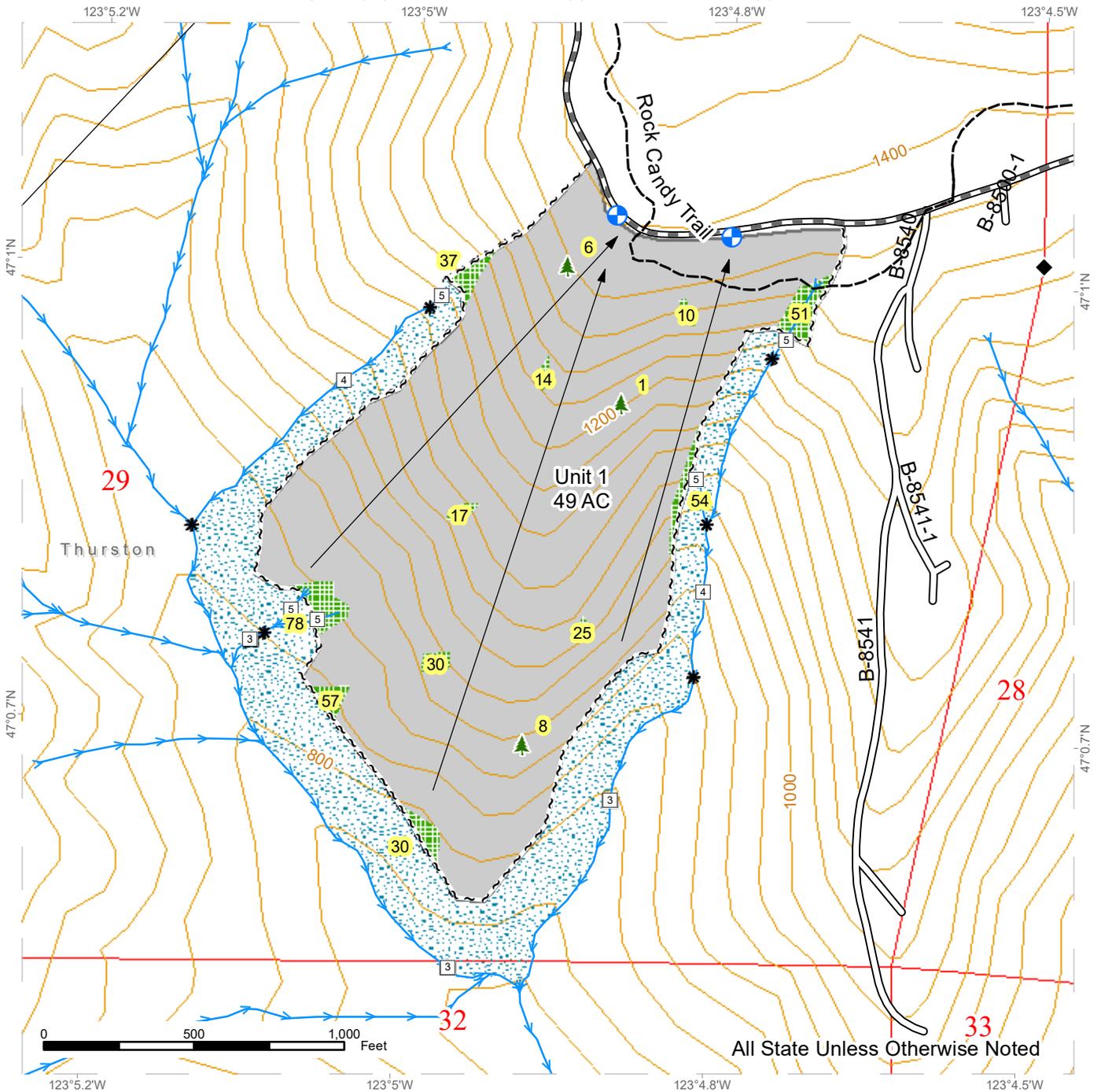
TOTAL COST PER MBF = \$23.61

Date: 12/01/18

# LOGGING PLAN MAP

**SALE NAME:** DILLYDALLY  
**AGREEMENT#:** 30-097287  
**TOWNSHIP(S):** T18R3W  
**TRUST(S):** Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

**REGION:** South Puget Sound Region  
**COUNTY(S):** Thurston  
**ELEVATION RGE:** 768-1895

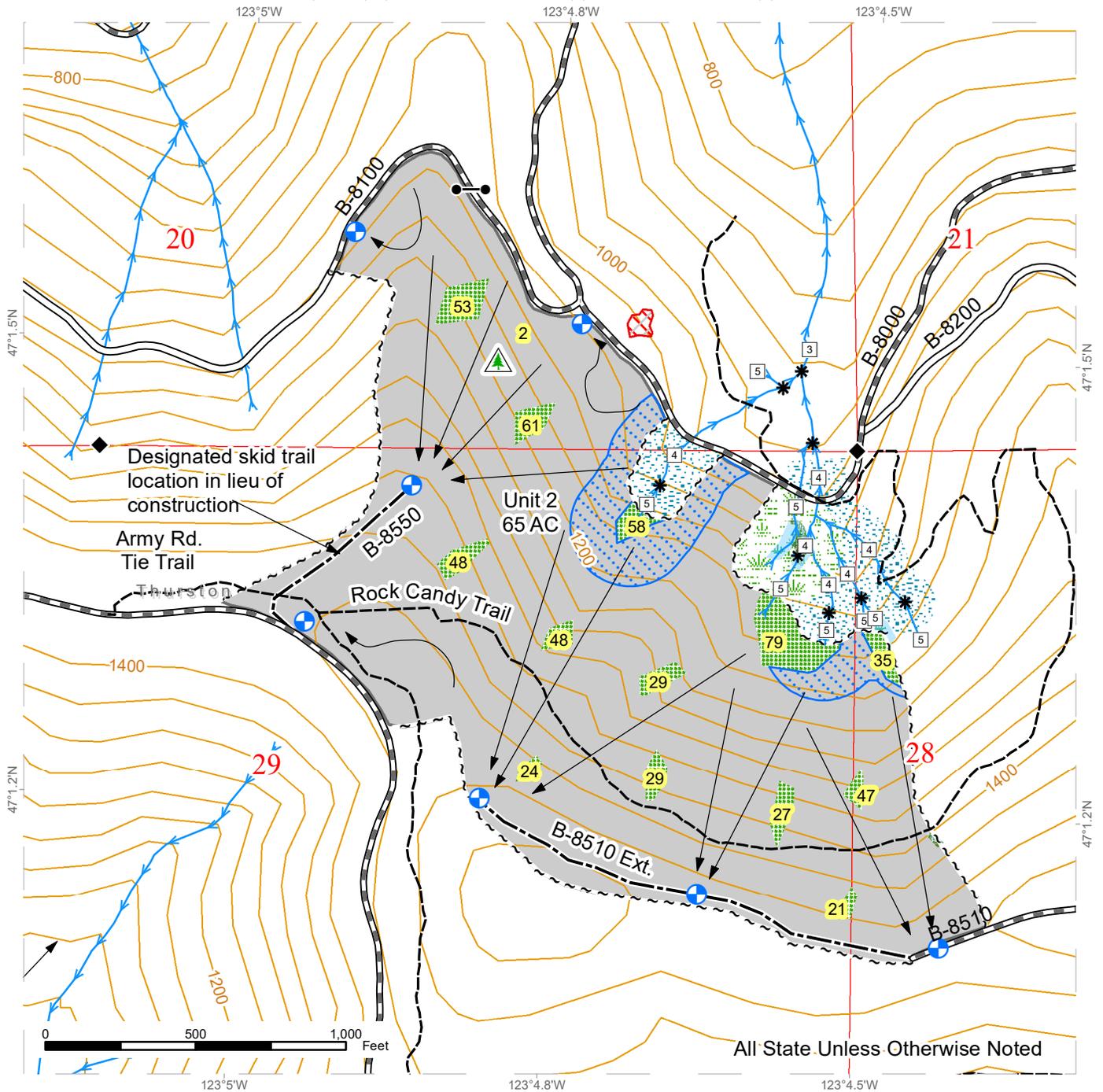


Existing Roads	Landing - Proposed	Streams
Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre	Stream Type
Cable Harvest	Leave Tree Area	Stream Type Break
Sale Boundary Tags	Riparian Mgt Zone	Survey Monument
Sale Area		Recreation Trails
		Contours 40-foot

# LOGGING PLAN MAP

SALE NAME: DILLYDALLY  
 AGREEMENT#: 30-097287  
 TOWNSHIP(S): T18R3W  
 TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): Thurston  
 ELEVATION RGE: 768-1895



All State Unless Otherwise Noted

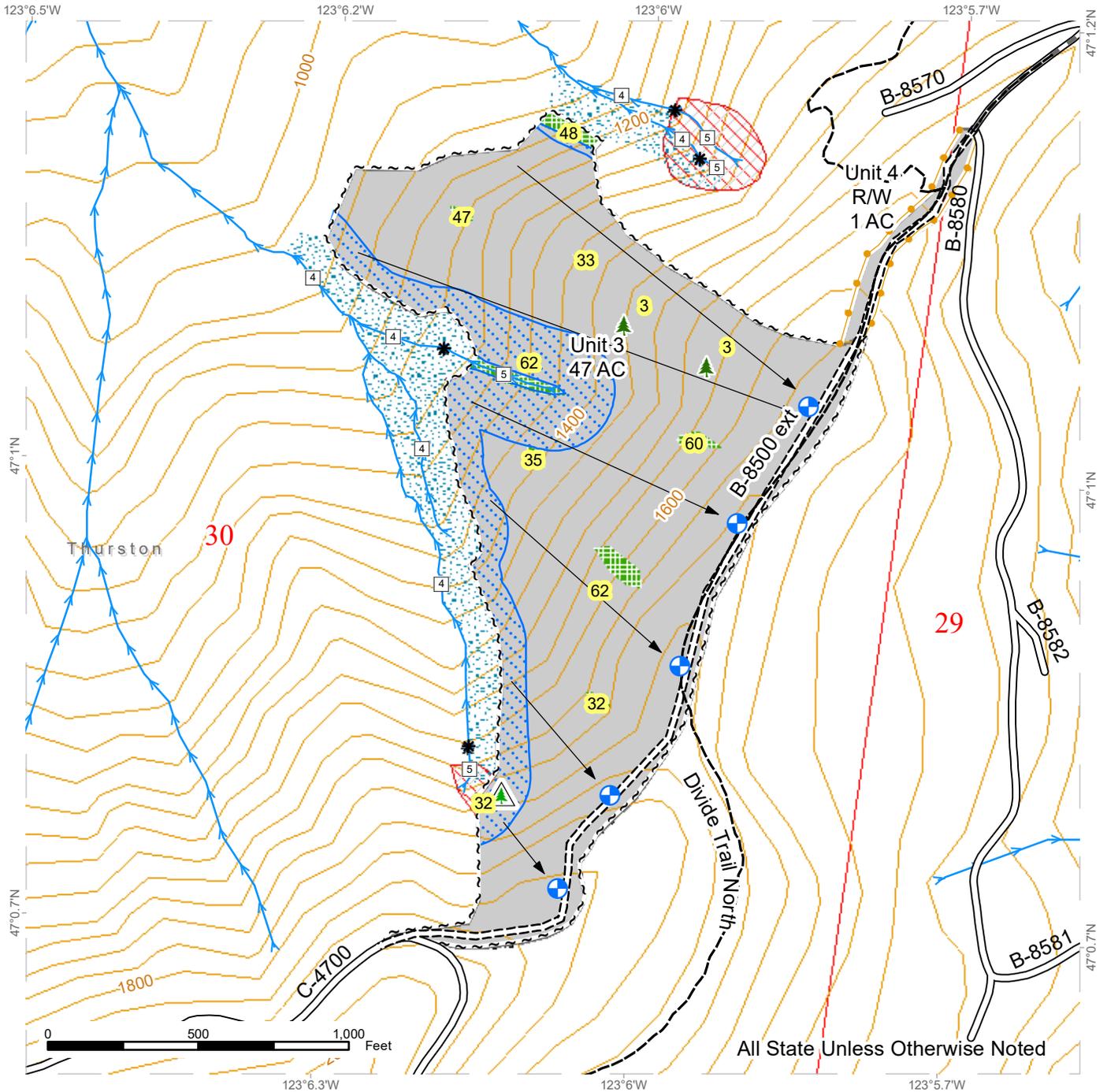
Existing Roads	Gate (Master-957)	Streams
Required Pre-Haul Maintenance	Landing - Proposed	Stream Type
Optional Construction	Non-Tradeable Leave Trees	Stream Type Break
Cable Harvest	Forested Wetland	Survey Monument
Ground Harvest	Leave Tree Area	Recreation Trails
Sale Boundary Tags	Wetland Mgt Zone	Contours 40-foot
Sale Area	Riparian Mgt Zone	
Kennedy Creek Watershed Analysis Prescription Area	Tailhold Restriction Area	



# LOGGING PLAN MAP

SALE NAME: DILLYDALLY  
 AGREEMENT#: 30-097287  
 TOWNSHIP(S): T18R3W  
 TRUST(S): Forest Board Repayment (42), State Forest Purchase (2), State Forest Transfer (1)

REGION: South Puget Sound Region  
 COUNTY(S): Thurston  
 ELEVATION RGE: 768-1895



All State Unless Otherwise Noted

Existing Roads	Landing - Proposed	Streams
Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre	Stream Type
Required Construction	Non-Tradeable Leave Trees	Stream Type Break
Cable Harvest	Leave Tree Area	Recreation Trails
Sale Boundary Tags	Riparian Mgt Zone	Contours 40-foot
Right of Way Tags	Tailhold Restriction Area	
Sale Area		
Kennedy Creek Watershed Analysis Prescription Area		

