

#### TIMBER NOTICE OF SALE

SALE NAME: SASSAFRAS AGREEMENT NO: 30-105887

**AUCTION:** January 25, 2024 starting at 10:00 a.m., **COUNTY:** Cowlitz

Pacific Cascade Region Office, Castle Rock, WA

**SALE LOCATION:** Sale located approximately 22 miles east of Toutle

PRODUCTS SOLD

AND SALE AREA: All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees

marked with blue paint, and all down timber greater than 55 inches diameter or existing 5

years prior to the day of sale, and snags bound by the following;

Unit 1, white "Timber Sale Boundary" tags with pink flagging, reprod, the 4250, and the

4257 roads;

Unit 2, white "Timber Sale Boundary" tags with pink flagging, reprod, the 5105, and the

5102B roads;

Unit 3, white "Timber Sale Boundary" tags with pink flagging, the 5100 and 5100I roads;

Units 4 and 5, white "Timber Sale Boundary" tags with pink flagging, the 5100, and the

5110 roads;

Units 6, 7 and 8, white "Timber Sale Boundary" tags with pink flagging, and the 5110

road;

5102B ROW, orange "Right-of-Way Boundary" tags with pink flagging;

5110 ROW, orange "Right of Way" tags with pink flagging

All forest products above located on part(s) of Sections 12, 13, 14, 22, 23 and 24 all in

Township 9 North, Range 2 East, W.M., containing 121 acres, more or less.

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert

no: BVC-SFIFM-018227)

#### ESTIMATED SALE VOLUMES AND QUALITY:

	Avg I	Ring	Total			N	IBF by	Grad	le			
Species	DBH C	ount	MBF	1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	19.8	8	3,607				143		2,112	1,152	166	34
Hemlock	18.1		1,183						758	359	58	8
Red alder	11.7		79						13	9	57	
Redcedar	26.8		19							18	1	
Maple	11.6		10								10	
Sale Total			4,898									

MINIMUM BID: \$1,018,000.00 BID METHOD: Sealed Bids

**PERFORMANCE** 

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

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#### TIMBER NOTICE OF SALE

**EXPIRATION DATE:** April 30, 2026 **ALLOCATION:** Export Restricted

**BID DEPOSIT:** \$101,800.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised

price.

**HARVEST METHOD:** Cable, Shovel, and Track skidder. This sale is estimated to be 10 percent ground based

harvest and 90 percent cable based harvest systems. Ground-based yarding is restricted to sustained slopes of 45 percent or less, Self-leveling equipment are restricted to slopes of

60 percent or less

**ROADS:** 97.30 stations of required reconstruction. 603.12 stations of required prehaul

maintenance. Rock used in accordance with the quantities on the ROCK LIST may be obtained from the 5100 Pit located in Section 23, T9N, R2E, W.M. on state land at no

charge to the Purchaser.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the 5100 Pit Stockpile located in Section 23, T9N, R2E, W.M. on state land at no charge to the Purchaser. Road construction will not be permitted from October 1 to April 30

unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

**CRUISE METHOD:** The sale acres were determined by GPS. The sale area was cruised using a variable plot

cruise method.

**FEES:** \$83,266.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in

addition to the bid price.

**SPECIAL REMARKS:** The large culvert installation on the 5100 between the sale and the 5100 Pit may not be

installed by the day of sale. It will likely be installed by spring/early summer 2024 as part of the Malarkey Timber Sale. If the crossing is not installed by the beginning of the contract, purchaser may opt to use the 4250 and 4250P Pits as an alternate source as well as use the 4100 to the 4200 to the 4250 to the 5100 as an alternate haul route till the culvert is installed. The delayed culvert installation may also affect the previewing of Unit 2 and may require an early preview due to snow on the 4250 and upper 5100. Units 3-8 can still be accessed most of the year as it is possible to park at the installation site

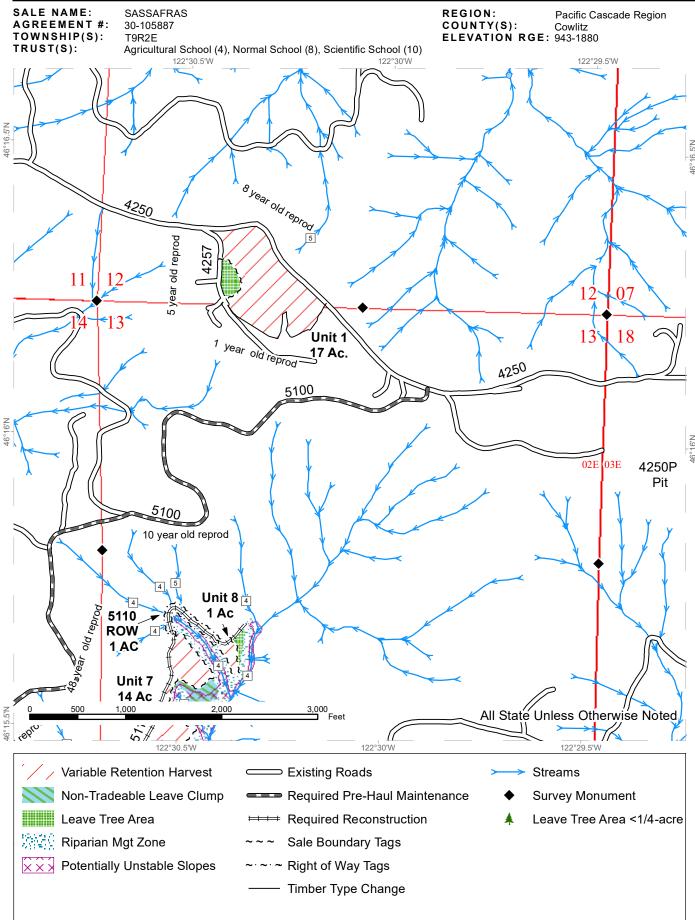
and walk across the creek and into the units.

No trees over 60 inches in diameter shall be felled without CA approval.

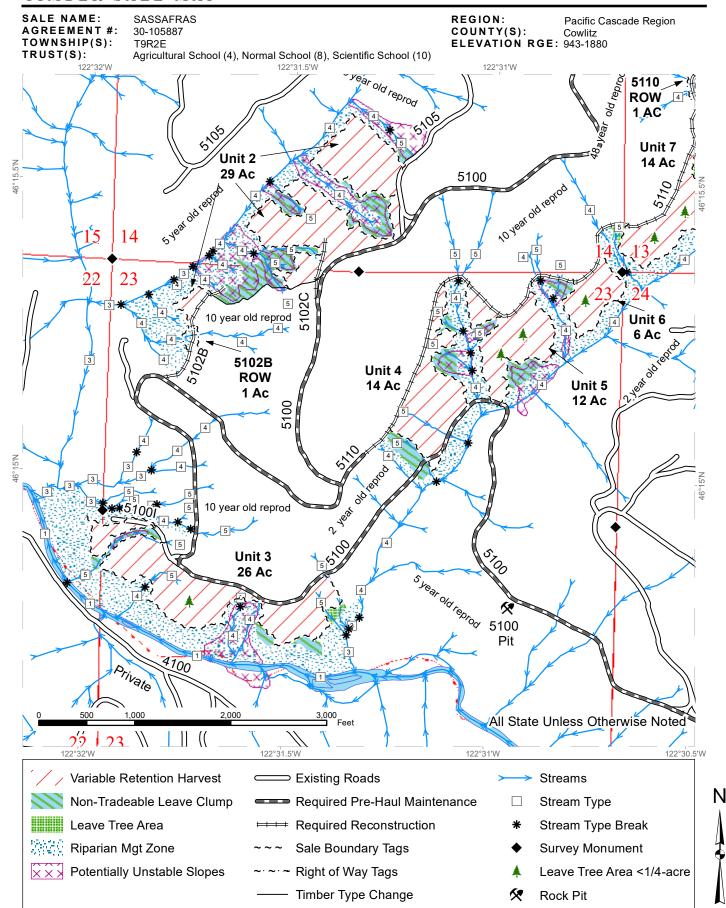
Estimated 143 MBF SM DF, 1,222 MBF HQ 2 Saw, 351 MBF HQ 3 Saw and 17 MBF

DF Poles. See cruise for further details.

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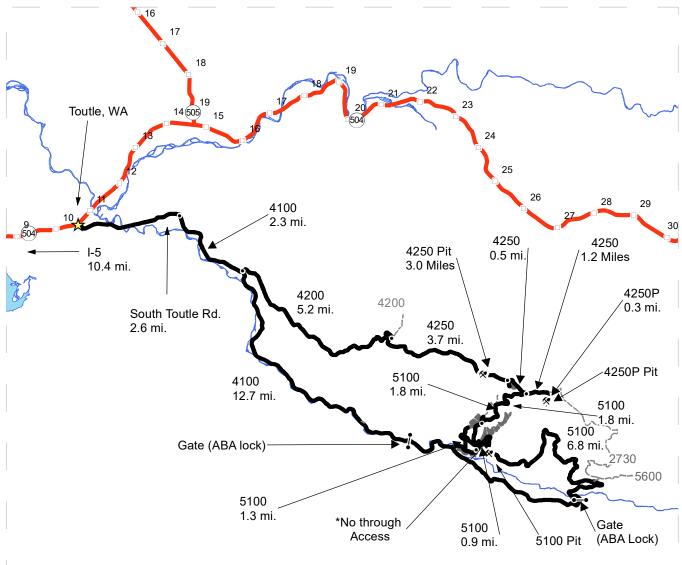
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SALE NAME: SASSAFRAS REGION: Pacific Cascade Region

AGREEMENT#: 30-105887 COUNTY(S): Cowlitz
TOWNSHIP(S): T9R2E ELEVATION RGE: 943-1880

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)



Map may not be to scale



Other Road

---- View Only Route

Milepost Markers

Distance Indicator

• Gate

☆ Town

#### **DRIVING DIRECTIONS:**

From Exit 49 off I-5, follow SR 504 east for 10.4 mi. Turn right onto South Toutle Rd and follow for 2.6 mi. to the 4100. Continue on the 4100 for 2.3 miles to the 4200 Junction.

Unit 1: Turn onto the 4200 from the 4100. Follow for 5.2 miles and turn onto the 4250. Follow for 3.7 miles. The unit will be on the right.

Unit 2: From Unit 1 continue on the 4250 for 0.5 miles and turn right onto the 5100. After 1.8 miles the unit will be on the right.

Unit 3: From the 4100/4200 Junction continue on the 4100 for 12.7 miles then turn lefft onto the 5100. Continue on the 5100 for 7.7 miles. The Unit will be on the left.

Units 4-8 and 5110 ROW: From Unit 3 Continue on the 5100 for 1.3 miles to the 5110 Intersection. All units will be on the right side of the 5110 reconstruction.

5100 Pit. From the 4100/5100 Junction follow the 5100 for 6.8 miles. The pit will be on the left

\*5100 crossing to be installed with the Malarkey TBS between now and Oct 31, 2024.

## STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

# BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-0105887

SALE NAME: SASSAFRAS

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.

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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 January 25, 2024 and the sale was confirmed on \_\_\_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bound by yellow "Leave Tree Area" tags, leave trees marked with blue paint, and all down timber greater than 55 inches diameter or existing 5 years prior to the day of sale, and snags bound by the following:

Unit 1, white "Timber Sale Boundary" tags with pink flagging, reprod, the 4250, and the 4257 roads;

Unit 2, white "Timber Sale Boundary" tags with pink flagging, reprod, the 5105, and the 5102B roads;

Unit 3, white "Timber Sale Boundary" tags with pink flagging, the 5100 and 5100I roads;

Units 4 and 5, white "Timber Sale Boundary" tags with pink flagging, the 5100, and the 5110 roads:

Units 6, 7 and 8, white "Timber Sale Boundary" tags with pink flagging, and the 5110 road;

5102B ROW, orange "Right-of-Way Boundary" tags with pink flagging;

5110 ROW, orange "Right of Way" tags with pink flagging

All forest products above located on approximately 121 acres on part(s) of Sections 12, 13, 14, 22, 23, and 24 all in Township 9 North, Range 2 East W.M. in Cowlitz 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

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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-031 Contract Term

Purchaser shall complete all work required by this contract prior to April 30, 2026.

## 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.

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- b. Completion of all required roads and compliance with all contract and regulatory requirements.
- c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

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

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

- e. Payment of \$1,099.00 per acre per annum for the acres on which an operating release has not been issued .
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.
- G-053 Surveys Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents

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are estimates only, provided solely for administrative and identification purposes.

- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

## G-061 Inadvertent Discovery of Cultural Resources

Purchaser acknowledges that cultural resources as defined in WAC 222-16-010 may exist within the timber sale area and that the existence and location of such resources may be unknown at the time this contract is executed. Purchaser has a duty to exercise due care in its operations and in the event any human skeletal remains are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify local law enforcement in the most expeditious manner possible then notifying the Contract Administrator. In the event cultural resources are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify the Contract Administrator. Any potential resources shall not be removed or disturbed. Purchaser shall resume operations as directed in writing by the Contract Administrator.

#### G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the

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Services' Incidental Take Permit Nos. TE812521-1 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

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

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

## G-063 Incidental Take Permit Notification Requirements

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

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- 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

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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.

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The pricing schedule has not been set for the sale.

#### G-111 Title and Risk of Loss

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

## G-116 Sustainable Forestry Initiative® (SFI®) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative 2022 Forest Management Standard under certificate number: BVC-SFIFM-018227.

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 Standard. Purchaser shall designate in writing the name(s) of the individual(s) who will be on-site and provide proof of their successful completion of an approved training program prior to active operations.

## G-120 Responsibility for Work

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

## G-121 Exceptions

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

The State will bear the cost to repair damages caused by a third party. In all other cases, the Purchaser shall bear responsibility for the costs as described below.

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

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

- 1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued:
- 2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and

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3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. The State may elect to accomplish repairs by means of State-provided resources.

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

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

## G-140 Indemnity

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

#### G-150 Insurance

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

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance

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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:

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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

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expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

## G-160 Agents

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

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

## G-170 Assignment and Delegation

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

#### G-180 Modifications

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

#### G-190 Contract Complete

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

#### G-200 Notice

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

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

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

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#### G-210 Violation of Contract

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

## G-220 State Suspends Operations

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

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

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

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

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## 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

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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; 4100, 4200, 4250, 4250P, 4257, 5100, 5100I, 5102B, 5102C, 5105 and 5110 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, reestablish 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 4100, 4200 and 4250, unless authority is granted in writing by the Contract Administrator.

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#### G-380 Road Easement and Road Use Permit Requirements

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

Easement # 55-000018 between State and Weyerhaeuser dated January 31, 1967.

## G-430 Open Fires

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

#### G-450 Encumbrances

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

#### **DATA MISSING**

## Section P: Payments and Securities

#### P-011 Initial Deposit

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

## P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$127,348.00. The total contract price consists of a \$0.00 contract bid price plus \$127,348.00 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.

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## 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 100 square inches.

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

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

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

H-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-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-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using Cable, Cable-Assist, Shovel, Tracked Skidder, 6 Wheeled Skidder Similar to Eco Tracks. 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.

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#### H-127 Tailholds on Private Land

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

#### H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A. Ground based yarding equipment shall only operate during dry soil conditions.
- B. Shovels must be large enough to pick up one end of the largest log 35 feet from machine.
- C. Ground based yarding equipment will not be permitted on sustained slopes over 45 percent.
- D. Self-Leveling ground based yarding equipment will not be permitted on sustained slopes over 60 percent.
- E. Sediment delivery from roads will not be allowed. Hauling operations will be shut down as needed until conditions improve or work can be completed that eliminates the delivery of sediment.
- F. All trees 60 inches Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons. If trees 60 inches DBH or greater needs to be felled for safety reasons, trees will be left where felled.
- G. 6 Wheeled skidder with tracks similar to ECO-TRACKS<sup>TM</sup>, will not be permitted on sustained slopes over 45 percent.
- H. Cable-assist operations will not be permitted on slopes over 70 percent.
- I. No operations will be permitted, including cable lines, on Ustable Slopes as shown on the Timber Sale Map.

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

## H-190 Completion of Settings

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

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## H-220 Protection of Residual or Adjacent Trees

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

#### H-250 Additional Falling Requirements

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

#### Section C: Construction and Maintenance

#### C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 6/28/2023 are hereby made a part of this contract.

## C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on 4250P, 4257, 5100I, 5102B, 5102C, 5105 and 5110 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 roads not listed in Clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

## C-080 Landing Locations Approved Prior to Construction

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

#### C-140 Water Bars

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

## Section S: Site Preparation and Protection

## S-001 Emergency Response Plan

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

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

#### S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-040 Noxious Weed Control

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

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#### S-130 Hazardous Materials

## a. Hazardous Materials and Waste - Regulatory Compliance

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

Purchaser shall be responsible for restoring the site in the event of a spill or other releases of hazardous material/waste during operations conducted under this contract.

#### b. Hazardous Materials Spill Prevention

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

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

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

#### d. Hazardous Material Release Reporting

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

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

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#### -DNR Contract Administrator

## S-131 Refuse Disposal

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

## Section D: Damages

## D-013 Liquidated Damages or Failure to Perform

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

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

#### D-041 Reserve Tree Excessive Damage

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

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## **SIGNATURES**

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

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

	STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
Purchaser	Scott Sargent Pacific Cascade Region Manager
Print Name	I actific Cascade Region Manager
Date: Address:	Date:

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

STATE OF		)				
COUNTY OF		)				
On thisappeared	_ day of		_, 20,	before m	ne person	nally
			to me	known of the	to be corpora	
that executed the within free and voluntary act are and on oath stated that (h	nd deed of the corpora	tion, for the use	s and purp	oses therei	n mentio	
IN WITNESS WHEREC	OF, I have hereunto se	t my hand and a	ffixed my	official sea	ıl the day	and
		Notary Pul	blic in and	for the Sta	te of	
		My appoin	ntment exp	ires		

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# PRE-CRUISE NARRATIVE

Sale Name: Sassafras	Region: Pacific Cascade
Agreement #: 30-0105887	District: St. Helens
Contact Forester:Jacob Harvey Phone / Location: (360) 703-4896	County(s): Cowlitz, Choose a county
Alternate Contact:Jacob Harvey Phone / Location: (360) 703-4896	Other information: Click here to enter text.

Type of Sale: Lump Sum	
Harvest System: Uphill Cable Click here to enter text.	91%
Harvest System: Ground based Click here to enter text.	9%
Enter % of sale acres	
Harvest System: Select harvest system Click here to enter text.	Click here to enter percent sale acres.

## **UNIT ACREAGES AND METHOD OF DETERMINATION:**

• · · · · · · · · · · · · · · · · · · ·							
Unit	Legal	Gr an	Gr os s	Deductions from Gross Acres	le t	_	
Utill	Legai	9 B	000	(No harvest acres)	2 -	Acreage	

# Harve st R/W or RMZ WMZ	Description (Enter only one legal for each unit) Sec/Twp/Rng			RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		Determinatio n (List method and error of closure if applicable)
1	Sec 12, T09N R02E Sec 13, T09N R02E	04	19	0	2	0	0	17	Garmin
2	Sec 23, T09N R02E, Sec 23, T09N R02E	04, 10	66	26	11	0	0	29	Combination
3	Sec 23, T09N R02E	04, 08	67	38	3	0	0	26	Combination
4	Sec 23, T09N R02E	04	27	9	4	0	0	14	GPS (Garmin)
5	Sec 23, T09N R02E	04	24	9	3	0	0	12	GPS (Trimble)
6	Sec 23, T09N R02E	04	14	7	1	0	0	6	GPS (Trimble)
7	Sec 13, T09N R02E	10	29	13	2	0	0	14	GPS (Trimble)
8	Sec 13, T09N R02E	10	5	4	0	0	0	1	GPS (Trimble)
5102B ROW	Sec 23, T09N R02E	04	1	0	0	0	0	1	GPS (Trimble)
5110 ROW	Sec 13, T09N R02E	10	1	0	0	0	0	1	Garmin
TOTAL ACRES			250	106	26	0	0	121	

## **HARVEST PLAN AND SPECIAL CONDITIONS:**

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Bounded by white "Timber Sale		
	Boundary" tags with pink		
	flagging, the 2450 road, and the 4257 road.	Variable Retention Harvest	161 Clumped Leave Trees
2	Bounded by white "Timber Sale		
	Boundary" tags with pink		
	flagging, the 5100 road, the	Variable Retention	564 Clumped leave
	5102B road, and the 5105 road.	Harvest	trees
3	Bounded by white "Timber Sale		
	Boundary" tags with pink		
	flagging, the 5100I road, and the	Variable Retention	222 Clumped leave
	5100 road.	Harvest	trees
4	Bounded by white "Timber Sale		
	Boundary" tags with pink		
	flagging, the 5100 road, and the	Variable Retention	212 Clumped leave
	5110 road.	Harvest	trees
5	Bounded by white "Timber Sale		
	Boundary" tags with pink		
	flagging, the 5100 road, and the	Variable Retention	159 Clumped, 2
	5110 road.	Harvest	scattered leave trees
6	Bounded by white "Timber Sale		67 Clumped, 2
	Boundary" tags with pink	Variable Retention	scattered leave
_	flagging, and the 5110 road.	Harvest	tree
7	Bounded by white "Timber Sale		
	Boundary" tags with pink	Variable Retention	203 Clumped, 2
•	flagging, and the 5110 road.	Harvest	scattered leave trees
8	Bounded by white "Timber Sale		
	Boundary" tags with pink	Variable Retention	
E400D	flagging, and the 5110 road.	Harvest	23 Clumped leave trees
5102B	Bounded by Orange "Right-of-		
ROW	Way Boundary" tags with pink		
5440	flagging.	Right-of-Way	0
5110	Bounded by orange "Right-of-		
ROW	Way" tags with pink flagging.	Right-of-Way	0

# OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1		4100 to the 4200 to the 4250. The unit is to	
	Douglas fir, western	the right of the road about 3 miles after turning	
	hemlock / 581 MBF	onto the 4250.	See driving map.
		4100 to the 4200 to the 4250 to the 5100.	
		The unit is located to the right of the road,	
	Douglas fir, western	about 1.5 miles after turning onto the 5100	See driving
2	hemlock /1048 MBF	road.	map.
		4100 to the 4200 to the 4250 to the 5100. The	
	Douglas fir, western	unit is located to the right of the road on the	O a a dais in a
2	hemlock / 926	bottom of the 5100 hill, about 3 miles after	See driving
3	MBF	turning onto the 5100 road. 4100 to the 4200 to the 4250 to the 5100 to	map.
		the 5110. The unit is located to the right of the	
	Douglas fir, western	road, about 0.2 miles after turning onto the	See driving
4	hemlock / 490 MBF	5110 road.	map.
7	TICITIOCK / 430 WIDI	4100 to the 4200 to the 4250 to the 5100 to	map.
		the 5110. The unit is located to the right of the	
	Douglas fir, western	road, about 0.5 miles after turning onto the	See driving
5	hemlock / 455 MBF	5110 road.	map.
6		4100 to the 4200 to the 4250 to the 5100 to	•
		the 5110. The unit is located to the right of the	
	Douglas fir, western	road, about 0.7 miles after turning onto the	See driving
	hemlock / 209 MBF	5110 road.	map.
7		4100 to the 4200 to the 4250 to the 5100 to	
		the 5110. The unit is located to the right of the	
	Douglas fir, western	road, about 1 mile after turning onto the 5110	
0	hemlock / 455 MBF	road.	See driving map.
8		4100 to the 4200 to the 4250 to the 5100 to	
	Douglas fir western	the 5110. The unit is located to the right of the	
	Douglas fir, western hemlock / 35 MBF	road, about 1.2 miles after turning onto the 5110 road.	Soo driving man
5102B	Douglas fir, western	311010au.	See driving map.
ROW	hemlock, red alder /	4100 to the 4200 to the 4250 to the 5100 to	
	10 MBF	the 5102B	See Driving Map
5110	Douglas fir, red	4100 to the 4200 to the 4250 to the 5100 to	
ROW	alder, western	the 5110. The unit is located at the end of the	
	hemlock / 20 MBF	road between Units 7 and 8.	See Driving Map
TOTAL	4000		<b>3</b> 1
MBF	4229		

REMARKS:				
		_	_	

Prepared By: Emily Haffner Title: CC:
Date: 05/12/2023 Forester I

# Timber Sale Cruise Report Sassafras

Sale Name: SASSAFRAS Sale Type: LUMP SUM Region: PACIFIC CASC District: ST.HELENS

Lead Cruiser: Dylan Buchanan Other Cruisers:B. Warnstadt

#### Cruise Narrative:

Location: From Exit 49 off I-5, follow SR 504 east for 10.4 mi. Turn right onto South Toutle Rd and follow for 2.6 mi. to the 4100. Continue on the 4100 for 15 mi. to the 5100 and go through the gate (ABA).

Unit 1: Follow the 5100 for 8.5 mi. Unit is on the left. Unit 2: Follow the 5100 for 7.1 mi. Unit on the left.

Unit 3: Follow the 5100 for 7.8 mi. Turn onto the 5110 road and follow for 0.1 mi. The unit is on the right.

Unit 4: Follow the 5110 road for 0.3 mi. The Unit is on the right.

Unit 5: Follow the 5110 road for 0.7 mi. Unit is on the right.

Unit 6: Follow the 5110 road for 0.9 mi. The unit is on your right.

Unit 7: Follow the 5110 road for 1.2 mi. Unit is on your right.

Unit 8 and 5110 ROW: Turn onto the 4200 from the 4100. Follow for 5 miles and turn onto the 4250. Follow for 4.8 miles. The unit is on the right.

Cruise Design: This sale is 8 Variable Retention Harvest Units and Two Right of Ways. All were cruised with variable radius plots with 5110 ROW ITS cruised. Diameters were recorded to the nearest whole inch. Bole heights were measured to a 5" top or estimated break point. Log segments were scaled to a 40' preference for conifers and 30' for hardwoods. This sale has DF averaging 20" DBH, WH at 19" DBH, and RA between 8-14".

Timber Quality: Sassafras is well stocked and comprised mostly of DF with a secondary component of WH. There is a small amount of RA and MA with trace amounts of RC and BC. A decent amount of DF is High Quality B and SM. There is also an opportunity to pull some DF Poles off this sale on its gentler slopes. Observed defects include spike knots and crooks with some old storm and bear damage. Observed little insect damage and saw no conks on live trees. WH has some dwarf mistletoe. RA looks good.

Logging and Stand Conditions: Approximately 91% will need to be cable logged and about 9% will be ground based.

# Timber Sale Notice Volume (MBF)

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility		
DF	19.8	7.7		3,607	143	2,112	1,152	166	34		
WH	18.1			1,183		758	359	58	8		
RA	11.7			79		13	9	57			
RC	26.8			19			18	1			
MA	11.6			10				10			
ALL	18.5	7.8		4,898	143	2,882	1,538	293	42		

## **Timber Sale Notice Weight (tons)**

	Tons by Grade										
Sp	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility					
DF	26,374	908	14,466	9,203	1,511	285					
WH	9,972		5,811	3,512	586	64					
RA	679		106	71	502						
RC	144			134	9						
MA	138				138						
ALL	37,306	908	20,383	12,920	2,746	349					

### **Timber Sale Overall Cruise Statistics**

BA (sq ft/acre)	_		V-BAR SE (%)		
244.3	2.5	164.4	1.0	40,545	2.8

## **Timber Sale Unit Cruise Design**

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
SASSAFRAS U1	B1C: VR, 1 BAF (40) Measure/ Count Plots, Sighting Ht = 4.5 ft	17.0	19.1	17	11	0
SASSAFRAS U2	B1C: VR, 1 BAF (40) Measure/ Count Plots, Sighting Ht = 4.5 ft	29.0	40.3	30	15	0
SASSAFRAS U3	B1C: VR, 1 BAF (40) Measure/ Count Plots, Sighting Ht = 4.5 ft	26.0	28.5	25	15	0
SASSAFRAS U4	B1C: VR, 1 BAF (46.94) Measure/ Count Plots, Sighting Ht = 4.5 ft	14.0	18.2	16	9	0
SASSAFRAS U5	B1C: VR, 1 BAF (46.94) Measure/ Count Plots, Sighting Ht = 4.5 ft	12.0	14.7	15	10	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
SASSAFRAS U6	B1: VR, 1 BAF (46.94) Measure All, Sighting Ht = 4.5 ft	6.0	7.0	6	6	0
SASSAFRAS U7	B1C: VR, 1 BAF (46.94) Measure/ Count Plots, Sighting Ht = 4.5 ft	14.0	16.1	15	10	0
SASSAFRAS U8	B1C: VR, 1 BAF (46.94) Measure/ Count Plots, Sighting Ht = 4.5 ft	1.0	1.3	2	2	0
SASSAFRAS 5102B ROW	B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.6	0.6	2	2	0
5110 ROW	ST: Strip/Percent Sample (1 tree expansion)	1.2		1	1	0
All		120.8	145.8	129	81	0

# Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	15.1	40	7,433	7,130	4.1	6,073.4	861.3
DF	LIVE	2 SAW	HQ-A	14.3	40	1,840	1,838	0.1	1,484.6	222.0
DF	LIVE	2 SAW	HQ-B	14.7	40	8,437	8,274	1.9	6,708.0	999.6
DF	LIVE	2 SAW	Pole	13.1	40	239	239	0.0	200.2	28.9
DF	LIVE	3 SAW	Domestic	8.9	39	6,677	6,493	2.8	6,500.5	784.3
DF	LIVE	3 SAW	HQ-B	10.3	40	2,941	2,909	1.1	2,563.8	351.4
DF	LIVE	3 SAW	Pole	8.3	39	138	138	0.0	139.0	16.6
DF	LIVE	4 SAW	Domestic	6.1	27	1,409	1,376	2.3	1,511.3	166.3
DF	LIVE	CULL	Cull	6.2	6	135	0	100.0	0.0	0.0
DF	LIVE	SPECIAL MILL	HQ-A	16.4	40	1,186	1,183	0.3	907.7	142.9
DF	LIVE	UTILITY	Pulp	6.8	14	278	277	0.1	285.5	33.5
MA	LIVE	4 SAW	Domestic	5.0	36	103	81	21.6	137.8	9.8
RA	LIVE	2 SAW	Domestic	14.0	30	132	106	19.2	105.6	12.8
RA	LIVE	3 SAW	Domestic	11.0	30	81	77	5.1	71.1	9.3
RA	LIVE	4 SAW	Domestic	5.8	28	506	473	6.4	501.9	57.1
RA	LIVE	CULL	Cull	5.1	3	5	0	100.0	0.0	0.0
RC	LIVE	3 SAW	Domestic	12.4	38	149	146	1.9	134.2	17.7
RC	LIVE	4 SAW	Domestic	5.8	24	9	9	0.0	9.4	1.1
WH	LIVE	2 SAW	Domestic	14.6	40	6,594	6,272	4.9	5,811.3	757.6
WH	LIVE	3 SAW	Domestic	8.8	39	3,071	2,972	3.2	3,511.4	359.0
WH	LIVE	4 SAW	Domestic	5.6	26	489	484	1.0	585.8	58.5
WH	LIVE	CULL	Cull	6.8	5	51	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	7.2	13	67	67	0.0	63.5	8.1

# Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Cull	6.0	5	0	100.0	0.0	0.0
DF	5 - 7	LIVE	Domestic	6.4	31	2,547	1.7	2,851.3	307.6
DF	5 - 7	LIVE	Pulp	6.6	14	242	0.1	240.6	29.2
DF	5 - 7	LIVE	Pole	6.8	40	38	0.0	45.8	4.6
DF	8 - 11	LIVE	Cull	8.3	7	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Pulp	8.4	14	36	0.0	44.9	4.3
DF	8 - 11	LIVE	Pole	9.6	39	100	0.0	93.2	12.0
DF	8 - 11	LIVE	Domestic	9.7	38	5,262	3.2	5,108.0	635.6
DF	8 - 11	LIVE	HQ-B	10.2	40	2,874	1.0	2,531.8	347.2
DF	12 - 19	LIVE	Pole	13.1	40	239	0.0	200.2	28.9
DF	12 - 19	LIVE	HQ-A	14.6	40	2,864	0.2	2,291.8	346.0
DF	12 - 19	LIVE	HQ-B	14.6	40	7,876	1.8	6,432.7	951.4
DF	12 - 19	LIVE	Domestic	15.0	40	7,115	4.1	6,074.6	859.5
DF	20+	LIVE	Domestic	20.5	40	76	0.0	51.1	9.2
DF	20+	LIVE	HQ-B	20.5	40	433	4.7	307.3	52.4
DF	20+	LIVE	HQ-A	21.0	40	156	0.0	100.5	18.9
MA	5 - 7	LIVE	Domestic	5.1	37	81	21.6	137.8	9.8
RA	5 - 7	LIVE	Cull	5.1	3	0	100.0	0.0	0.0
RA	5 - 7	LIVE	Domestic	5.4	27	339	5.6	345.1	40.9
RA	8 - 11	LIVE	Domestic	9.3	30	211	7.2	228.0	25.5
RA	12 - 19	LIVE	Domestic	13.9	30	106	19.2	105.6	12.8
RC	5 - 7	LIVE	Domestic	5.9	24	9	0.0	9.4	1.1
RC	8 - 11	LIVE	Domestic	9.6	37	36	1.7	47.3	4.4
RC	12 - 19	LIVE	Domestic	15.6	40	58	3.6	54.1	7.0
RC	20+	LIVE	Domestic	20.2	40	52	0.0	32.8	6.3
WH	5 - 7	LIVE	Domestic	6.0	31	1,147	1.2	1,495.8	138.5
WH	5 - 7	LIVE	Pulp	6.1	13	30	0.0	32.4	3.6
WH	5 - 7	LIVE	Cull	6.4	5	0	100.0	0.0	0.0
WH	8 - 11	LIVE	Cull	8.4	5	0	100.0	0.0	0.0
WH	8 - 11	LIVE	Pulp	8.5	14	9	0.0	12.5	1.1
WH	8 - 11	LIVE	Domestic	9.7	39	2,309	3.8	2,601.5	279.0
WH	12 - 19	LIVE	Domestic	14.5	40	5,937	5.0	5,562.7	717.2
WH	20+	LIVE	Domestic	20.7	40	335	2.2	248.6	40.4
WH	20+	LIVE	Pulp	21.8	12	29	0.0	18.6	3.5

Unit Sale Notice Volume (MBF): SASSAFRAS U1

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility	
DF	20.9	8.0		478	42	279	134	15	8	
WH	19.3			70		46	20	5		
ALL	20.6	8.0		548	42	325	153	20	8	

Unit Cruise Design: SASSAFRAS U1

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	17.0	19.1	17	11	0

Unit Cruise Summary: SASSAFRAS U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	52	79	4.6	1
WH	11	13	0.8	0
ALL	63	92	5.4	1

**Unit Cruise Statistics: SASSAFRAS U1** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	185.9	34.8	8.4	151.3	15.7	2.2	28,120	38.2	8.7
WH	30.6	135.0	32.7	134.9	14.5	4.4	4,128	135.8	33.0
ALL	216.5	30.7	7.4	149.0	16.0	2.0	32,248	34.6	7.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	52	ALL	20.9	88	112	29,155	28,120	3.5	78.0	185.9	40.7	478.0
WH	LIVE	CUT	11	ALL	19.3	77	96	4,323	4,128	4.5	15.1	30.6	7.0	70.2
ALL	LIVE	CUT	63	ALL	20.6	86	110	33,478	32,248	3.7	93.1	216.5	47.6	548.2
ALL	ALL	ALL	63	ALL	20.6	86	110	33,478	32,248	3.7	93.1	216.5	47.6	548.2

### Unit Sale Notice Volume (MBF): SASSAFRAS U2

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility			
DF	20.5	8.0		675	41	403	201	25	6			
WH	17.4			442		271	146	23	2			
RA	9.4			22		4		18				
RC	29.0			4			4					
MA	8.0			3				3				
ALL	17.2	8.0		1,146	41	678	351	69	7			

### Unit Cruise Design: SASSAFRAS U2

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	29.0	40.3	30	15	0

### Unit Cruise Summary: SASSAFRAS U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	56	102	3.4	1
WH	34	65	2.2	0
RA	6	6	0.2	0
RC	1	1	0.0	0
MA	1	1	0.0	0
ALL	98	175	5.8	1

### Unit Cruise Statistics: SASSAFRAS U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	136.0	58.1	10.6	171.1	20.3	2.7	23,265	61.6	11.0
WH	86.7	93.2	17.0	175.7	20.2	3.5	15,224	95.3	17.4
RA	8.0	242.1	44.2	94.7	26.4	10.8	758	243.6	45.5
RC	1.3	547.7	100.0	112.9	0.0	0.0	151	547.7	100.0
MA	1.3	547.7	100.0	88.8	0.0	0.0	118	547.7	100.0
ALL	233.3	29.2	5.3	169.4	23.6	2.4	39,516	37.6	5.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	56	ALL	20.5	89	114	23,920	23,265	2.7	59.3	136.0	30.0	674.7
MA	LIVE	CUT	1	ALL	8.0	55	67	141	118	16.2	3.8	1.3	0.5	3.4
RA	LIVE	CUT	6	ALL	9.4	44	59	793	758	4.5	16.6	8.0	2.6	22.0
RC	LIVE	CUT	1	ALL	29.0	73	92	151	151	0.0	0.3	1.3	0.2	4.4
WH	LIVE	CUT	34	ALL	17.4	77	103	15,998	15,224	4.8	52.5	86.7	20.8	441.5
ALL	LIVE	CUT	98	ALL	18.0	77	102	41,002	39,516	3.6	132.5	233.3	54.1	1,146.0
ALL	ALL	ALL	98	ALL	18.0	77	102	41,002	39,516	3.6	132.5	233.3	54.1	1,146.0

Unit Sale Notice Volume (MBF): SASSAFRAS U3

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility			
DF	19.3	7.0		1,175	22	667	422	60	5			
WH	19.0			226		138	75	11	2			
RA	12.0			2				2				
ALL	19.1	7.0		1,404	22	805	497	73	7			

Unit Cruise Design: SASSAFRAS U3

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (40) Measure/Count Plots, Sighting Ht = 4.5 ft	26.0	28.5	25	15	0

Unit Cruise Summary: SASSAFRAS U3

Sp	<b>Cruised Trees</b>	All Trees	Trees/Plot	Ring-Count Trees
DF	80	144	5.8	1
WH	21	28	1.1	0
RA	1	1	0.0	0
ALL	102	173	6.9	1

**Unit Cruise Statistics: SASSAFRAS U3** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	230.4	37.3	7.5	196.2	15.3	1.7	45,204	40.3	7.6
WH	44.8	173.5	34.7	194.1	20.2	4.4	8,697	174.7	35.0
RA	1.6	500.0	100.0	49.7	0.0	0.0	79	500.0	100.0
ALL	276.8	32.3	6.5	195.0	17.9	1.8	53,981	36.9	6.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	80	ALL	19.3	101	130	46,320	45,204	2.4	113.4	230.4	52.4	1,175.3
RA	LIVE	CUT	1	ALL	12.0	37	47	79	79	0.0	2.0	1.6	0.5	2.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
WH	LIVE	CUT	21	ALL	19.0	95	119	9,121	8,697	4.6	22.8	44.8	10.3	226.1
ALL	LIVE	CUT	102	ALL	19.2	99	127	55,521	53,981	2.8	138.2	276.8	63.2	1,403.5
ALL	ALL	ALL	102	ALL	19.2	99	127	55,521	53,981	2.8	138.2	276.8	63.2	1,403.5

Unit Sale Notice Volume (MBF): SASSAFRAS U4

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility		
DF	20.5	8.0		346	8	205	118	11	4		
WH	17.2			93		53	34	4	1		
RA	11.8			13		3		10			
MA	13.5			6				6			
ALL	17.8	8.0		457	8	261	152	31	5		

Unit Cruise Design: SASSAFRAS U4

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	14.0	18.1	16	9	0

Unit Cruise Summary: SASSAFRAS U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	39	53	3.3	1
WH	14	16	1.0	0
RA	4	4	0.3	0
MA	3	5	0.3	0
ALL	60	78	4.9	1

**Unit Cruise Statistics: SASSAFRAS U4** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	155.5	54.8	13.7	158.9	18.8	3.0	24,708	57.9	14.0
WH	46.9	154.9	38.7	140.8	30.4	8.1	6,608	157.9	39.6
RA	11.7	230.9	57.7	75.8	19.6	9.8	890	231.8	58.6
MA	14.7	253.8	63.5	30.9	57.8	33.4	454	260.3	71.7
ALL	228.8	27.9	7.0	142.7	32.9	4.3	32,659	43.2	8.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	39	ALL	20.5	87	111	25,359	24,708	2.6	67.8	155.5	34.3	345.9
MA	LIVE	CUT	3	ALL	13.5	39	48	598	454	24.2	14.8	14.7	4.0	6.4
RA	LIVE	CUT	4	ALL	11.8	38	50	1,047	890	15.0	15.5	11.7	3.4	12.5
WH	LIVE	CUT	14	ALL	17.2	75	93	7,098	6,608	6.9	29.1	46.9	11.3	92.5
ALL	LIVE	CUT	60	ALL	18.2	73	92	34,102	32,659	4.2	127.2	228.8	53.1	457.2
ALL	ALL	ALL	60	ALL	18.2	73	92	34,102	32,659	4.2	127.2	228.8	53.1	457.2

Unit Sale Notice Volume (MBF): SASSAFRAS U5

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility		
DF	17.1	7.0		304	8	170	95	27	3		
WH	16.0			168		111	47	10			
RA	13.7			15		4	3	9			
RC	24.0			4			3	1			
ALL	16.4	7.0		490	8	285	148	46	3		

Unit Cruise Design: SASSAFRAS U5

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	12.0	14.7	15	10	0

Unit Cruise Summary: SASSAFRAS U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	30	48	3.2	1
WH	24	31	2.1	0
RA	4	4	0.3	0
RC	1	1	0.1	0
ALL	59	84	5.6	1

**Unit Cruise Statistics: SASSAFRAS U5** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	150.2	55.7	14.4	168.6	23.2	4.2	25,318	60.3	15.0
WH	97.0	110.4	28.5	144.2	19.4	4.0	13,993	112.1	28.8
RA	12.5	222.6	57.5	99.0	24.6	12.3	1,240	224.0	58.8
RC	3.1	387.3	100.0	97.7	0.0	0.0	306	387.3	100.0
ALL	262.9	20.0	5.2	155.4	25.0	3.3	40,857	32.1	6.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	30	ALL	17.1	80	102	25,906	25,318	2.3	94.2	150.2	36.3	303.8
RA	LIVE	CUT	4	ALL	13.7	55	72	1,324	1,240	6.4	12.2	12.5	3.4	14.9
RC	LIVE	CUT	1	ALL	24.0	69	87	328	306	6.7	1.0	3.1	0.6	3.7
WH	LIVE	CUT	24	ALL	16.0	63	78	14,317	13,993	2.3	69.5	97.0	24.3	167.9
ALL	LIVE	CUT	59	ALL	16.5	71	91	41,875	40,857	2.4	176.9	262.9	64.6	490.3
ALL	ALL	ALL	59	ALL	16.5	71	91	41,875	40,857	2.4	176.9	262.9	64.6	490.3

Unit Sale Notice Volume (MBF): SASSAFRAS U6

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw		
DF	19.6	9.0		232	14	133	71	14		
WH	21.5			63		52	10	0		
RC	31.0			7			7			
RA	25.0			2		2		0		
ALL	20.3	9.0		304	14	187	89	14		

Unit Cruise Design: SASSAFRAS U6

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1: VR, 1 BAF (46.94) Measure All, Sighting Ht = 4.5 ft	6.0	7.0	6	6	0

**Unit Cruise Summary: SASSAFRAS U6** 

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	27	27	4.5	1
WH	8	8	1.3	0
RC	1	1	0.2	0
RA	1	1	0.2	0
ALL	37	37	6.2	1

**Unit Cruise Statistics: SASSAFRAS U6** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	211.2	50.2	20.5	182.7	22.7	4.4	38,602	55.1	20.9
WH	62.6	175.4	71.6	166.5	12.4	4.4	10,418	175.8	71.7
RC	7.8	244.9	100.0	156.9	0.0	0.0	1,228	244.9	100.0
RA	7.8	244.9	100.0	51.0	0.0	0.0	399	244.9	100.0
ALL	289.5	19.0	7.7	175.0	24.4	4.0	50,646	30.9	8.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	27	ALL	19.6	93	119	39,396	38,602	2.0	100.8	211.2	47.7	231.6
RA	LIVE	CUT	1	ALL	25.0	51	57	656	399	39.2	2.3	7.8	1.6	2.4
RC	LIVE	CUT	1	ALL	31.0	74	94	1,228	1,228	0.0	1.5	7.8	1.4	7.4
WH	LIVE	CUT	8	ALL	21.5	88	111	11,091	10,418	6.1	24.8	62.6	13.5	62.5
ALL	LIVE	CUT	37	ALL	20.3	91	116	52,371	50,646	3.3	129.4	289.5	64.2	303.9
ALL	ALL	ALL	37	ALL	20.3	91	116	52,371	50,646	3.3	129.4	289.5	64.2	303.9

Unit Sale Notice Volume (MBF): SASSAFRAS U7

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility		
DF	20.3	9.0		331	8	213	93	10	7		
WH	20.3			114		80	25	6	4		
RA	11.4			19			6	13			
RC	18.0			3			3	1			
ALL	19.1	9.0		468	8	292	127	29	11		

Unit Cruise Design: SASSAFRAS U7

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	14.0	16.1	15	10	0

Unit Cruise Summary: SASSAFRAS U7

Sp	<b>Cruised Trees</b>	All Trees	Trees/Plot	Ring-Count Trees
DF	34	51	3.4	1
WH	14	18	1.2	0
RA	3	5	0.3	0
RC	1	1	0.1	0
ALL	52	75	5.0	1

Unit Cruise Statistics: SASSAFRAS U7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	159.6	49.5	12.8	148.1	20.9	3.6	23,630	53.7	13.3
WH	56.3	110.0	28.4	144.8	12.1	3.2	8,158	110.7	28.6
RA	15.6	244.9	63.2	87.5	23.9	13.8	1,369	246.1	64.7
RC	3.1	387.3	100.0	77.5	0.0	0.0	243	387.3	100.0
ALL	234.7	22.7	5.9	142.3	22.2	3.1	33,399	31.8	6.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	34	ALL	20.3	83	108	24,701	23,630	4.3	71.0	159.6	35.4	330.8
RA	LIVE	CUT	3	ALL	11.4	46	60	1,512	1,369	9.5	22.1	15.6	4.6	19.2
RC	LIVE	CUT	1	ALL	18.0	64	80	248	243	2.1	1.8	3.1	0.7	3.4
WH	LIVE	CUT	14	ALL	20.3	77	98	8,550	8,158	4.6	25.1	56.3	12.5	114.2
ALL	LIVE	CUT	52	ALL	18.9	74	97	35,011	33,399	4.6	120.0	234.7	53.3	467.6
ALL	ALL	ALL	52	ALL	18.9	74	97	35,011	33,399	4.6	120.0	234.7	53.3	467.6

Unit Sale Notice Volume (MBF): SASSAFRAS U8

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	20.0	8.0		44	28	14	3	0			
WH	21.3			7	6	2					
ALL	20.2	8.0		51	33	15	3	0			

Unit Cruise Design: SASSAFRAS U8

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	1.0	1.3	2	2	0

**Unit Cruise Summary: SASSAFRAS U8** 

Sp	<b>Cruised Trees</b>	All Trees	Trees/Plot	Ring-Count Trees
DF	10	10	5.0	1
WH	2	2	1.0	0
ALL	12	12	6.0	1

**Unit Cruise Statistics: SASSAFRAS U8** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	234.7	0.0	0.0	187.9	12.9	4.1	44,100	12.9	4.1
WH	46.9	141.4	100.0	156.1	4.8	3.4	7,326	141.5	100.1
ALL	281.6	23.6	16.7	182.6	13.8	4.0	51,426	27.3	17.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	10	ALL	20.0	96	123	45,123	44,100	2.3	107.6	234.7	52.5	44.1
WH	LIVE	CUT	2	ALL	21.3	84	104	7,872	7,326	6.9	19.0	46.9	10.2	7.3
ALL	LIVE	CUT	12	ALL	20.2	94	120	52,995	51,426	3.0	126.6	281.6	62.7	51.4
ALL	ALL	ALL	12	ALL	20.2	94	120	52,995	51,426	3.0	126.6	281.6	62.7	51.4

### Cruise Unit Report SASSAFRAS 5102B ROW

### Unit Sale Notice Volume (MBF): SASSAFRAS 5102B ROW

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility				
DF	18.3			11	8	2	1	0				
RA	10.0			3			3					
ALL	14.5			14	8	2	4	0				

### Unit Cruise Design: SASSAFRAS 5102B ROW

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.6	0.6	2	2	0

### Unit Cruise Summary: SASSAFRAS 5102B ROW

Sp	<b>Cruised Trees</b>	All Trees	Trees/Plot	Ring-Count Trees
DF	6	6	3.0	0
RA	2	2	1.0	0
ALL	8	8	4.0	0

#### **Unit Cruise Statistics: SASSAFRAS 5102B ROW**

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	120.0	47.1	33.3	151.8	34.7	14.2	18,222	58.5	36.2
RA	40.0	141.4	100.0	129.3	7.0	5.0	5,170	141.6	100.1
ALL	160.0	0.0	0.0	146.2	31.4	11.1	23,392	31.4	11.1

### Unit Summary: SASSAFRAS 5102B ROW

Sp	Status	Rx	Ν	D	DBH	BL	THT	<b>BF Gross</b>	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	6	ALL	18.3	69	87	18,286	18,222	0.4	65.7	120.0	28.1	10.9
RA	LIVE	CUT	2	ALL	10.0	55	82	5,354	5,170	3.4	73.3	40.0	12.6	3.1
ALL	LIVE	CUT	8	ALL	14.5	62	84	23,640	23,392	1.0	139.0	160.0	40.7	14.0
ALL	ALL	ALL	8	ALL	14.5	62	84	23,640	23,392	1.0	139.0	160.0	40.7	14.0

# Cruise Unit Report 5110 ROW

Unit Sale Notice Volume (MBF): 5110 ROW

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility				
DF	17.3			12	7	4	1	0				
RA	11.1			3	0	0	3					
WH	17.4			1	1	0	0					
ALL	14.8			16	8	4	4	0				

Unit Cruise Design: 5110 ROW

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
ST: Strip/Percent Sample (1 tree expansion)	1.2		1	1	0

Unit Cruise Summary: 5110 ROW

Sp	<b>Cruised Trees</b>	All Trees	Trees/Plot	Ring-Count Trees
DF	20	47	47.0	0
RA	9	44	44.0	0
WH	3	5	5.0	0
ALL	32	96	96.0	0

**Unit Cruise Statistics: 5110 ROW** 

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	63.9	0.0	0.0	150.6	20.5	4.6	9,629	20.5	4.6
RA	24.4	0.0	0.0	110.7	10.2	3.4	2,702	10.2	3.4
WH	6.9	0.0	0.0	116.9	12.7	7.4	808	12.7	7.4
ALL	95.3	0.0	0.0	137.9	20.8	3.7	13,138	20.8	3.7

Unit Summary: 5110 ROW

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	20	ALL	17.3	79	100	10,209	9,629	5.7	39.2	63.9	15.4	11.6
RA	LIVE	CUT	9	ALL	11.1	61	75	2,845	2,702	5.0	36.3	24.4	7.3	3.2
WH	LIVE	CUT	3	ALL	17.4	61	79	860	808	6.1	4.2	6.9	1.7	1.0

Sp	Status	Rx	N	D	DBH	BL	THT	<b>BF Gross</b>	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	32	ALL	14.8	70	87	13,914	13,138	5.6	79.7	95.3	24.4	15.8
ALL	ALL	ALL	32	ALL	14.8	70	87	13,914	13,138	5.6	79.7	95.3	24.4	15.8



Forest Practices Application/Notification			Effective Date:	10/23/2023
		Expiration Date:	10/23/2026	
		ation	Shut Down Zone:	660 ; .
Notice of	Decision		EARR Tax Credit:	11,12,13,14,22,23,24-9-2E;
				Sassafras TBS 30-105887
Decision				
☐ Notification Accepted	Operations shall ne	ot begin before t	he effective date.	
■ Approved	This Forest Practic	es Application is	s subject to the con	ditions listed below.
☐ Disapproved	This Forest Practic	es Application is	s disapproved for th	e reasons listed below.
□ Withdrawn	Applicant has with	drawn the Fores	t Practices Applicat	ion/Notification (FPA/N).
□ Closed	All forest practices	obligations are	met.	
FPA/N Classification  Class II Class III	☐ Class IVG ☐	Class IVS	1575	ars Granted on Multi-Year Request
Class III	LI Class IVG	J Class IVS	☐ 4 years	☐ 5 years
Conditions on Approval/R	easons for Disapp	roval		
No additional conditions.				
Issued By: Jon Byerly			Region: Pacif	ic Cascade Region
Title: Forest Practices For	rester	- 00 <u>- 00 - 00</u> 0	Date: 10/23/202	23
Copies to:	downer, Timber Owi	ner, and Operato	or	
Issued in person: ■ LO ■	TO ■ OP By:	Tonya Johnst	on Da	te: 10/23/2023

FPA/N No: 2941934

2023 January - FPA/N Notice of Decision

Amh

Page 1 of 2

#### **Appeal Information**

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

#### You must file your appeal at all three addresses below:

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

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

#### Other Applicable Laws

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

#### <u>Transfer of Forest Practices Application/Notification (WAC 222-20-010)</u>

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

Continuing Forestland Obligations (RCW 76.09.060, RCW 76.09.070, RCW 76.09.390, and WAC 222-20-055)
Obligations include reforestation, road maintenance and abandonment plans, conversions of forestland to non-forestry use and/or harvest strategies on perennial non-fish habitat (Type Np) waters in Eastern Washington.

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

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

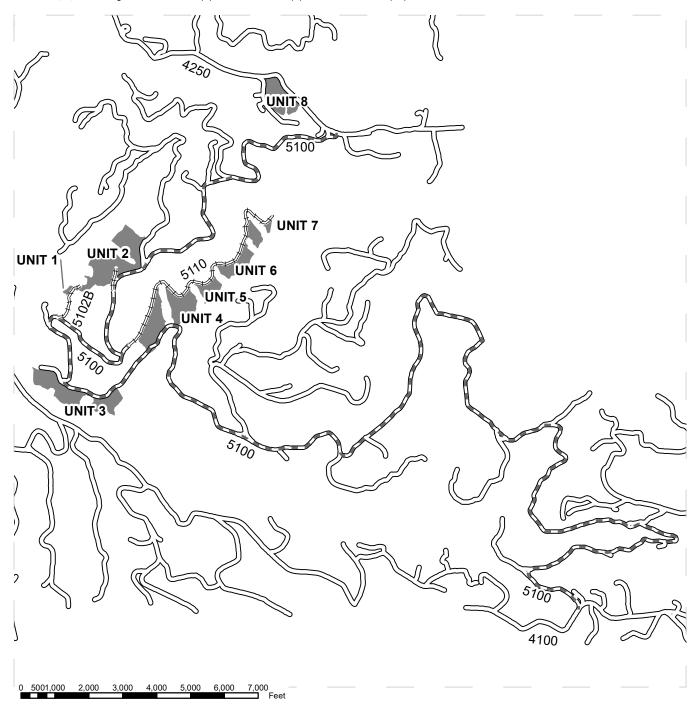
Failure by the seller to send the required notice to DNR at the time of sale will be prima facie evidence in an action by the buyer against the seller for costs related to the continuing forestland obligation prior to sale.

DNR Declaration of Mailing				
caused the Notice of Decision for FPA/N No to be placed in the United States mail at Castle Rock, WA, postage paid. I declare under penalty of perjury of the laws of the State of Washington, that the foregoing is true and correct.				
10/23/2023	Castle Rock, WA	(Cinnalius)		
(Date)	(City & State where signed)	(Signature)		

SASSAFRAS REGION: COUNTY(S): SALE NAME: Pacific Cascade Region

AGREEMENT#: 30-105887 Cowlitz TOWNSHIP(S): T9R2E ELEVATION RGE: 943-1880

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)

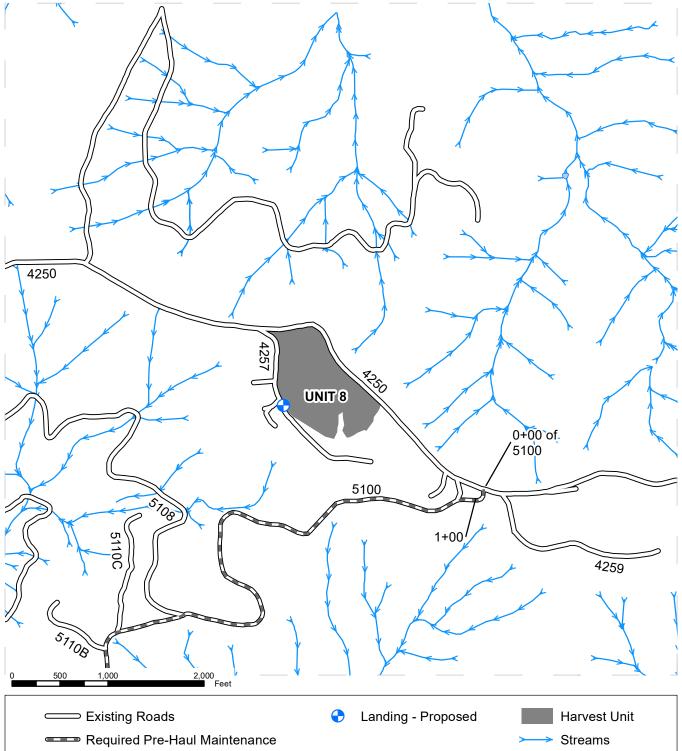


Harvest Unit Required Pre-Haul Maintenance

Required Reconstruction

REGION: Pacific Ca COUNTY(S): Cowlitz ELEVATION RGE: 943-1880 TOWNSHIP(S): T9R2E

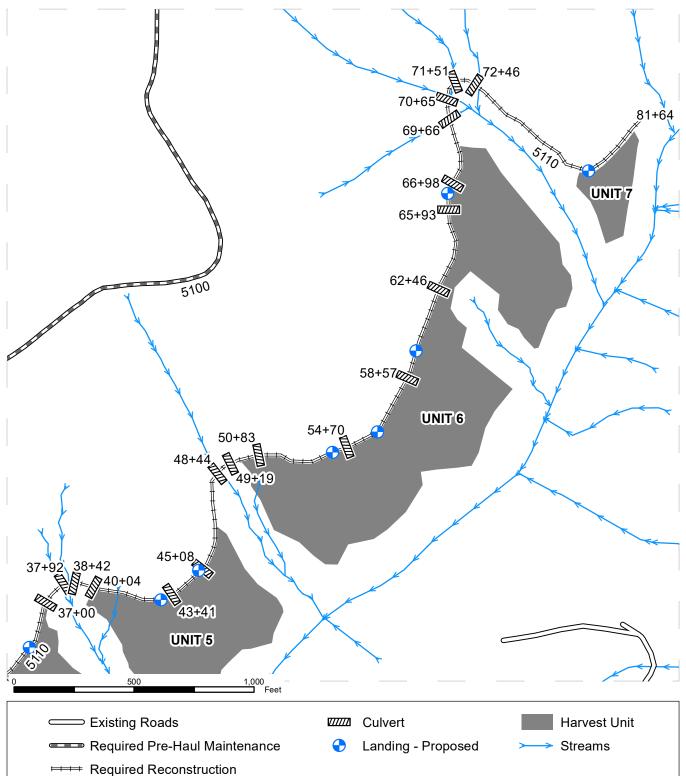
TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)

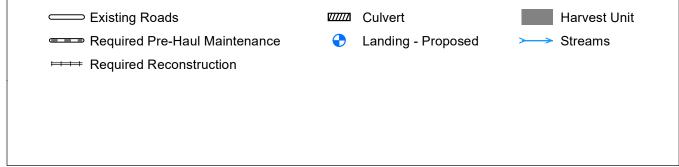


SALE NAME: SASSAFRAS REGION: Pacific Cascade Region

AGREEMENT#: 30-105887 COUNTY(S): Cowlitz
TOWNSHIP(S): T9R2E ELEVATION RGE: 943-1880

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)

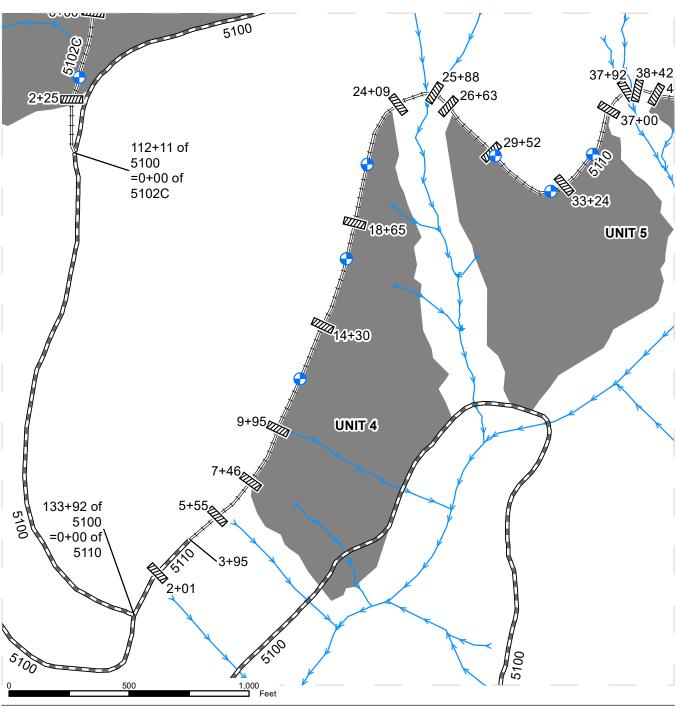


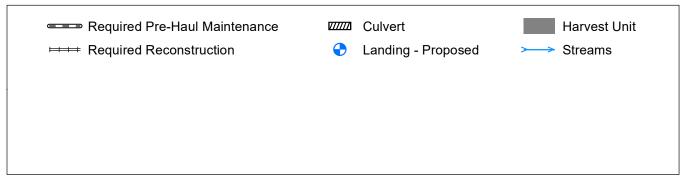


Prepared By: accc490 Modification Date: 9/20/2023

SALE NAME: SASSAFRAS
AGREEMENT#: 30-105887
TOWNSHIP(S): T9R2E
TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)

REGION: Pacific Cascade Region
COUNTY(S): Cowlitz
ELEVATION RGE: 943-1880





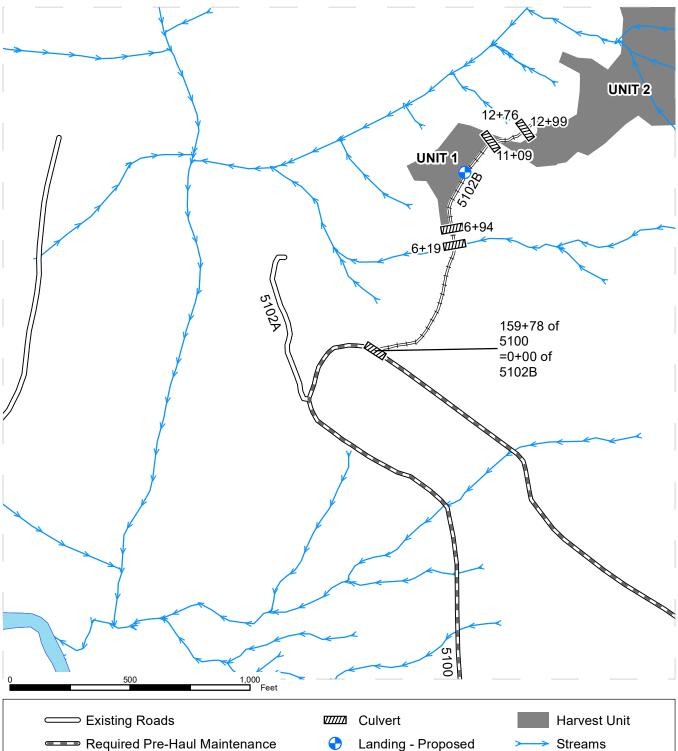
REGION: COUNTY(S): SASSAFRAS SALE NAME: Pacific Cascade Region AGREEMENT#: 30-105887 Cowlitz TOWNSHIP(S): T9R2E ELEVATION RGE: 943-1880 TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10) UNIT 2 6+62 6+00 UNIT 2 2+25 112+11 of UNIT 1 5100 =0+00 of 5102C 面494 6+19 4 ⊃ Existing Roads ////// Culvert Harvest Unit ■ Required Pre-Haul Maintenance Landing - Proposed Streams Required Reconstruction

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SASSAFRAS REGION: COUNTY(S): SALE NAME: Pacific Cascade Region

AGREEMENT#: 30-105887 Cowlitz TOWNSHIP(S): T9R2E ELEVATION RGE: 943-1880

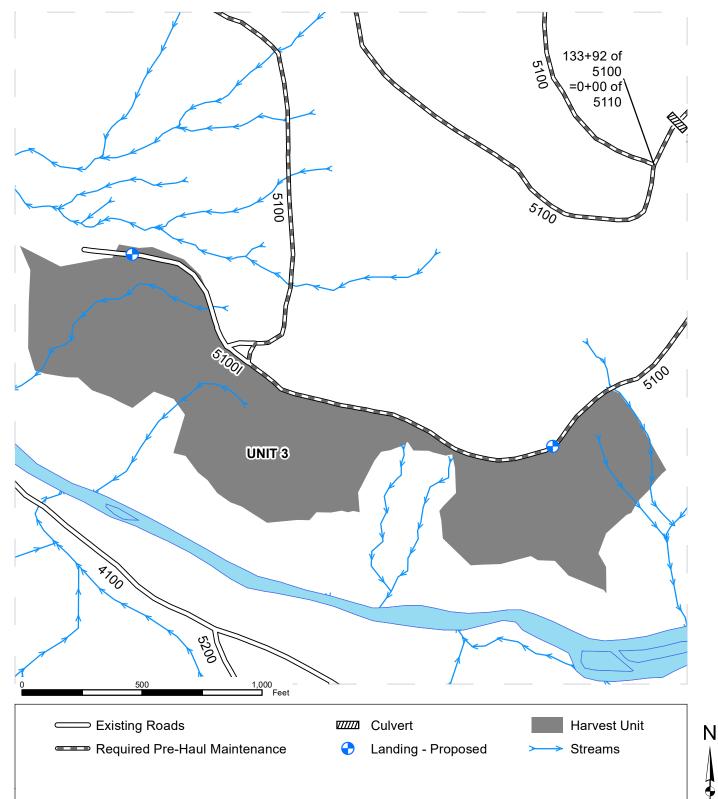
TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)



Landing - Proposed Required Reconstruction

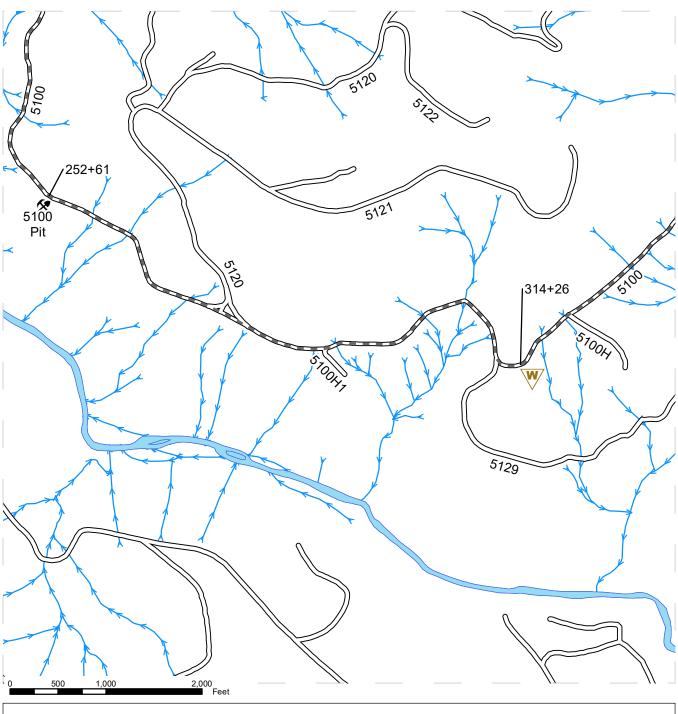
REGION: Pacific Ca COUNTY(S): Cowlitz ELEVATION RGE: 943-1880 TOWNSHIP(S): T9R2E

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)



REGION: Pacific Ca COUNTY(S): Cowlitz ELEVATION RGE: 943-1880 TOWNSHIP(S): T9R2E

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)

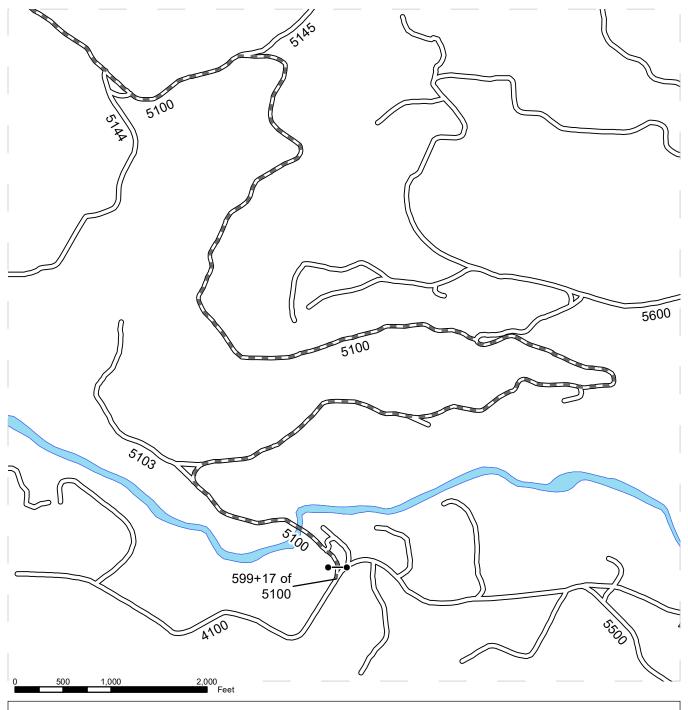


R Rock Pit Required Pre-Haul Maintenance Waste Area Streams

Ν

REGION: Pacific Ca COUNTY(S): Cowlitz ELEVATION RGE: 943-1880 TOWNSHIP(S): T9R2E

TRUST(S): Agricultural School (4), Normal School (8), Scientific School (10)



Gate (PCP 1-1) ⊃ Existing Roads

Required Pre-Haul Maintenance

# STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

# SASSAFRAS TIMBER SALE ROAD PLAN COWLITZ COUNTY ST. HELENS DISTRICT PACIFIC CASCADE REGION

AGREEMENT NO.: 30-105887 STAFF ENGINEER: CHACE JOHANSON

DRAWN & COMPILED BY: ALICIA COMPTON

#### 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>	
5100	0+00 to 599+17	Pre-haul maintenance	
5110	0+00 to 3+95	Pre-haul maintenance	
5102B	0+00 to 12+99	Reconstruction	
5102C	0+00 to 6+62	Reconstruction	
5110	3+95 to 81+64	Reconstruction	

#### 0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>		
5110	3+95 to 81+64	Clearing and grubbing, widening the road prism, culverts in accordance with		
5102B	0+00 to 12+99	CULVERT LIST, shaping and compaction, rock in accordance with ROCK LIST,		
5102C	0+00 to 6+62	erosion control in accordance with Clause 8-1		

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#### 0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
5100	0+00 to 599+17	Maintenance grading, rock in accordance with ROCK LIST, compact,
5110	0+00 to 3+95	ditching in accordance with Clause 2-7

#### 0-7 POST-HAUL MAINTENANCE

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

#### 0-12 DEVELOP ROCK SOURCE

Purchaser shall develop an existing rock source. Rock source development will involve clearing, grubbing, organic debris disposal, stripping overburden, waste material disposal, ripping, and blasting. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

#### SECTION 1 - GENERAL

#### 1-1 ROAD PLAN CHANGES

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

#### 1-2 UNFORESEEN CONDITIONS

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

#### 1-3 ROAD DIMENSIONS

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

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#### 1-4 ROAD TOLERANCES

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

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

#### 1-6 ORDER OF PRECEDENCE

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

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

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

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

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

#### 1-9 DAMAGED METALLIC COATING

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

#### 1-15 ROAD MARKING

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

Stakes, orange ribbon, orange paint, aluminum tags, ROW tags

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#### 1-18 REFERENCE POINT DAMAGE

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

#### 1-20 COMPLETE BY DATE

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

#### 1-21 HAUL APPROVAL

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

#### 1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 3 business days before work begins.

#### 1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction and drainage installation
- Rock application and compaction
- Waste area construction
- Rock pit development
- Post-construction and reconstruction erosion control application

#### 1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure period(s) unless authorized in writing by the Contract Administrator.

<u>Activity</u>	<u>Closure Period</u>	
Road Reconstruction	October 1 to April 30	

#### 1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense.

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#### 1-29 SEDIMENT RESTRICTION

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

#### 1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on jaw or pit run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 8 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

#### 1-32 BRIDGE OR 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.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surface(s) and have surface(s) evaluated by the Contract Administrator or their designee 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 Contact Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

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#### SECTION 2 – MAINTENANCE

#### 2-1 GENERAL ROAD MAINTENANCE

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

#### 2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

#### 2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

#### 2-4 PASSAGE OF LIGHT VEHICLES

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

#### 2-5 MAINTENANCE GRADING – EXISTING ROAD

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

Road <u>Stations</u>		<u>Requirements</u>
5100	0+00 to 599+17	Grade, shape, compact
5110	0+00 to 3+95	

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

On the following road(s), Purchaser shall clean ditches. Work must be completed before rock application and must be done in accordance with the TYPICAL SECTION SHEET. Pulling ditch material across the road or mixing in with the road surface is not allowed.

Road	<u>Stations</u>
5100	0+00 to 26+43
5110	0+00 to 3+95

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

#### 3-5 CLEARING

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

#### 3-7 RIGHT-OF-WAY DECKING

Purchaser shall deck all right-of-way timber. Decks must be parallel to the road centerline and placed within the cleared right-of-way. Decks must be free of dirt, limbs, and other right-of-way debris, and removable by standard log loading equipment from the roadbed.

#### 3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 25 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees.

#### 3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Stumps over 22 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

#### 3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the grubbing limits, on the downhill side of the road, and in compliance with all other clauses in this road plan.

#### 3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

#### 3-20 ORGANIC DEBRIS DEFINITION

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

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#### 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, except by burning, before timber haul.

#### 3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 25 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.
- On the uphill side of the road.

#### 3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

#### 3-25 SCATTERING ORGANIC DEBRIS

Contractor shall scatter organic debris outside of the grubbing limits on the downhill side of the road, unless otherwise detailed in this road plan, or as directed by the Contract Administrator.

#### **SECTION 4 – EXCAVATION**

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

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 12% in 100 feet.
- Maximum grade change for crest vertical curves is 8% in 100 feet.

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#### 4-5 CUT SLOPE RATIO

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

	<u>Excavation</u>	Excavation Slope
Material Type	Slope Ratio	<u>Percent</u>
Common Earth	1:1	100
Fractured or loose rock	½:1	200
Hardpan or solid rock	<b>½:1</b>	400

#### 4-6 EMBANKMENT SLOPE RATIO

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

	<u>Embankment</u>	<u>Embankment</u>
<u>Material Type</u>	Slope Ratio	Slope Percent
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	11/4:1	80

#### 4-7 SHAPING CUT AND FILL SLOPE

Purchaser shall construct excavation and embankment slopes to a uniform line and left rough for easier revegetation.

#### 4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 feet for curves of 50 to 79 feet radius.
- 4 feet for curves of 80 to 100 feet radius.

#### 4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

#### 4-10 WIDEN THE EXISTING SUBGRADE

Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches. Pulling excavation material across the road or mixing in with the existing road surface is not allowed.

#### 4-22 TURNAROUNDS

Purchaser shall construct turnarounds as designated on the ROCK LIST. Turnarounds must be no larger than 30 feet long and 30 feet wide.

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#### 4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

#### 4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits.

#### 4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

#### 4-35 WASTE MATERIAL DEFINITION

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

#### 4-36 DISPOSAL OF WASTE MATERIAL

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

#### 4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. 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>	Waste Area Location
5100	314+26 Right

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#### 4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

#### 4-48 NATIVE MATERIAL

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

#### 4-55 ROAD SHAPING

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

#### 4-56 DRY WEATHER SHAPING

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

#### 4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. 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 reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before timber haul.

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#### 4-62 DRY WEATHER COMPACTION

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

#### 4-63 EXISTING SURFACE COMPACTION

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

#### **SECTION 5 – DRAINAGE**

#### 5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-17 through 10-22.

#### 5-6 CULVERT TYPE

Purchaser shall install culverts made of plastic in accordance with Clauses 10-17 through 10-22.

### 5-10 CULVERT MARKER INSTALLATION

Purchaser shall provide and install culvert markers in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at locations specifying culvert markers on the CULVERT LIST.

#### 5-12 UNUSED MATERIALS STATE PROPERTY

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

#### 5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Culverts shall be banded using lengths of no less than 10 feet, and no more than one length less than 20 feet. Shorter section of banded culvert shall be installed at the inlet end.

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#### 5-17 CROSS DRAIN SKEW AND SLOPE

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

#### 5-18 CULVERT DEPTH OF COVER

All culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point.

#### 5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts that specify the placement of rock at the outlet. 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.

#### 5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL.

#### 5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts on the CULVERT LIST that specify the placement of rock at the inlet. Rock may not restrict the flow of water into culvert inlets or catch basins. The type and quantity of rock used for headwalls shall be as specified on the CULVERT LIST.

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

Purchaser shall place inlet armor in conjunction with or immediately following construction of the embankment at culverts designated as stream crossings on the CULVERT LIST. The type of armor and the amount of material must be consistent with the specifications listed on the CULVERT LIST. Rock must be placed around culvert inlet. Rock may not restrict the flow of water into culvert inlets. Armor installation is subject to approval by the Contract Administrator.

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#### SECTION 6 – ROCK AND SURFACING

#### 6-2 ROCK SOURCE ON STATE LAND

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

<u>Source</u>	<u>Location</u>	Rock Type
5100 Pit	S23 T9N R2E	4-INCH JAW RUN ROCK

## 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 more than the quantity listed in the ROCK LIST without approval from the Contract Administrator. Other stockpiles may not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	Rock Type	*Additional
			<u>Quantity</u>
5100 Pit Stockpile	S23 T9N R2E	STOCKPILED CRUSHED	60CY
		ROCK	

<sup>\*</sup>Additional quantity is on an as needed basis subject to approval by the Contract Administrator.

#### 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 DEVELOPMET PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 5 business days before starting any operations in the rock source.

<u>Source</u>
5100 Pit

### 6-22 FRACTURE REQUIREMENT FOR ROCK

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

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#### 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. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

#### 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.

#### 6-55 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 loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

#### 6-56 ROCK MEASURMENT BY TRUCK VOLUME

Measurement of culvert backfill and energy dissipater rock is on a cubic yard truck measure basis. Purchaser shall measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator on a weekly basis during rocking operations.

#### 6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade construction before rock application.

#### 6-71 ROCK APPLICATION

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

#### 6-73 ROCK FOR WIDENED PORTIONS

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

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#### 6-75 OPTIONAL ROCK EXCEPTION

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

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

Road	<u>Stations</u>	<u>Type</u>
4257	9+12	Landing
5105	6+01	Landing
51001	9+23	Landing

#### 6-76 DRY WEATHER ROCK COMPACTION

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

#### **SECTION 7 – STRUCTURES**

#### 7-6 STREAM CROSSING INSTALLATION

Purchaser shall install stream crossing structures in accordance with the LIVE STREAM CULVERT INSTALLATION PROCEDURE, CULVERT AND DRAINAGE SPECIFICATION DETAIL, and any other requirements in this road plan.

#### 7-70 GATE CLOSURE

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

Road	<u>Station</u>	<u>Comment</u>
4100	511+60	DNR ACCESS PROCEDURES THROUGH WEYERHAEUSER'S
5100	1+00	LONGVIEW AREA GATE LOCKING PROCEDURE

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#### SECTION 8 – EROSION CONTROL

#### 8-1 SEDIMENT CONTROL STRUCTURES

Purchaser shall install EROSION ROCK in accordance with the CULVERT LIST at the inlet and outlet of all new culverts. Sediment control shall be accomplished using 4-INCH JAW RUN, or pit run as approved in writing by the Contract Administrator.

#### 8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils within 50 feet of a stream or wetland.

#### 8-15 REVEGETATION

Contractor shall spread grass seed on all exposed soils resulting from road work activities. Required seed not spread by the termination of this contract will become the property of the state.

Road	Qty (lbs)*	<u>Location</u>	<u>Type</u>	<u>Comments</u>
5110	357	-	Grass Seed	-
5102B	60	-	Grass Seed	-
5102C	30	-	Grass Seed	-

<sup>\*</sup>Quantities are estimates only. Actual quantities may vary and are the responsibility of the Purchaser.

#### 8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed.

#### 8-17 REVEGETATION TIMING

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

#### 8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause, restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no additional cost to the state.

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#### 8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

Kind and Variety of Seed	% by Weight
<u>in Mixture</u>	
Perennial Rye	35-45
Red Fescue	30-40
Highland Bent	5-15
White Clover	10-20
Inert and Other Crop	0.5

SECTION 9 – POST-HAUL ROAD WORK

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

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

#### 9-5 POST-HAUL MAINTENANCE

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

#### 9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

#### 9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

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#### **SECTION 10 MATERIALS**

#### 10-17 CORRUGATED PLASTIC CULVERT

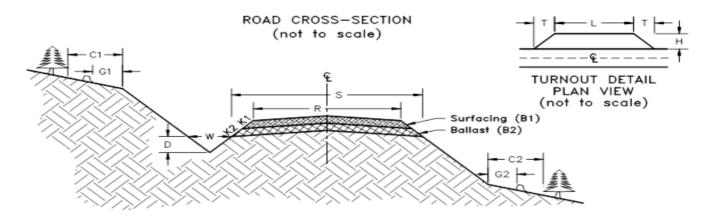
Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culverts must be Type S – double walled with a corrugated exterior and smooth interior.

#### 10-22 PLASTIC BAND

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

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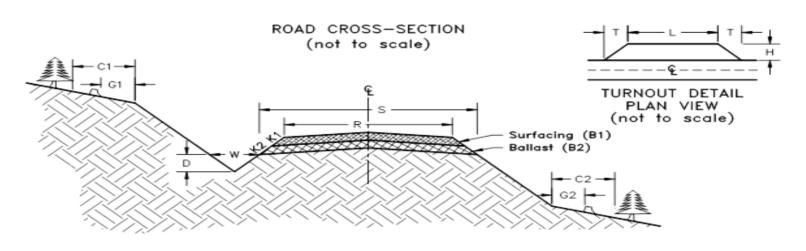
#### **TYPICAL SECTION SHEET**



				Width (ft)		Ditch (ft)			Grubb	ing	Clearing	
<u>Road</u>	<u>From</u>	<u>To</u>	<u>Tolerance</u>	Subgrade Road W		<u>Width</u>	<u>Depth</u>		Limits (ft)		Limits (ft)	
<u>Name</u>	Station	Station	Class	<u>S</u>	<u>R</u>	<u>W</u>	<u>D</u>	Crown (%)	<u>G1</u>	<u>G2</u>	<u>C1</u>	<u>C2</u>
5100	0+00	599+17	Α	-	12	-	-	4	-	-	-	-
5110	0+00	3+95	Α	-	12	-	-	4	-	-	-	-
5110	3+95	81+64	В	16	12	3	1	4	5	5	10	10
5102B	0+00	12+99	В	16	12	3	1	4	5	5	10	10
5102C	0+00	6+62	В	16	12	3	1	4	5	5	10	10

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# ROCK LIST (Page 1 of 2)



#### STOCKPILED CRUSHED ROCK

			Compacted				<u>Rock</u>			
			<u>Rock</u>	CY/	No.	<u>CY</u>	<u>Source</u>			(ft)
<u>Road</u>	<u>From</u>	<u>To</u>	Depth (in)	<u>Station</u>	<u>Stations</u>	<u>Subtotal</u>	Stockpile	L_L	<u>H</u>	_T_
5100	0+00	599+17	Sı	pot Rock		840	5100 Pit Stockpile			
5110	Culvert	2+01		Backfill		20	5100 Pit Stockpile			
						-				

REQUIRED STOCKPILED CRUSHED ROCK TOTAL

860

**Cubic Yards** 

# ROCK LIST (Page 2 of 2)

## 4-INCH JAW RUN ROCK

				<u>Compacted</u>				<u>Rock</u>			
				<u>Rock</u>	CY/	No.	<u>CY</u>	<u>Source</u>	Tu	rnout	(ft
<u>Road</u>		<u>From</u>	<u>To</u>	Depth (in)	<u>Station</u>	<u>Stations</u>	<u>Subtotal</u>	5100 Pit	_ <u>L</u>	<u>H</u>	
5110		0+00	3+95	8	43	3.95	171				
5110		Culvert	-	-	-	-	2				
5110		3+95	81+64	8	43	77.69	3,367				
5110		Turnaround	34+24	-	-	-	28				
5110		Turnaround	51+83	-	-	-	28				
5110		Turnaround	64+00	-	-	-	28				
5110		Turnaround	78+14	-	-	-	28				Г
5110		Landing	12+23	-	-	-	42				Г
5110		Landing	17+60	-	-	-	42				Г
5110		Landing	21+64	-	-	-	42				Г
5110		Landing	29+83	-	-	-	42				Г
5110		Landing	32+73	-	-	-	42				Г
5110		Landing	35+11	-	-	-	42				Г
5110		Landing	42+39	-	-	-	42				Г
5110		Landing	44+40	-	-	-	42				Г
5110		Landing	53+91	-	-	-	42				Г
5110		Landing	55+99	-	-	-	42				Г
5110		Landing	59+72	-	-	-	42				Г
5110		Landing	66+67	-	-	-	42				Г
5110		Landing	78+60	-	-	-	42				Г
5110		Culvert	-	-	-	-	98				Г
5102B		0+00	12+99	12	65	12.99	844				Г
5102B		Turnaround	10+59	-	-	-	42				Г
5102B		Landing	9+40	-	-	-	63				Г
5102B		Culvert	-	-	-	-	16				Г
5102C		0+00	6+62	12	65	6.62	430				Г
5102C		Turnaround	5+62	-	-	-	42				Г
5102C		Landing	3+22	-	-	-	63				Г
5102C		Landing	6+62	-	-	-	63				Г
5102C		Culvert	-	-	-	-	4				Г
51001	*	Landing	9+23	12	-	-	63				Т
5105	*	Landing	6+01	12	-	-	63				Г
4257	*	Landing	9+12	12	-	-	63				Г
5100	$\top$	Landing	199+14	12	-	-	63				Т

REQUIRED 4-INCH JAW RUN ROCK TOTAL 6114

Cubic Yards

### **CULVERT LIST**

Road		Culvert	Length (ft)	<u>Er</u>	osion rock		Bec	dding/backfill	Construction	Culvert	marker	
Name	Station	Diameter (in)	Culvert	Inlet (CY)	Outlet (CY)	Type	(CY)	Туре	Staked (Y/N)	Inlet (Y/N)	Outlet (Y/N)	<u>Remarks</u>
5110	2+01	18	30	1	1	JR		SCR	N	Y	Υ	Cross Drain
5110	5+55	18	30	1	1	JR		NT	N	Y	Υ	Cross Drain
5110	7+46	18	30	1	1	JR		NT	N	Y	Υ	Cross Drain, Replace
5110	9+95	18	30	1	1	JR		NT	N	Υ	Υ	Cross Drain
5110	14+30	18	30	1	1	JR		NT	N	Υ	Υ	Cross Drain
5110	18+65	18	30	1	1	JR		NT	N	Υ	Υ	Cross Drain, Replace
5110	24+09	18	30	1	1	JR		NT	N	Υ	Υ	Cross Drain, Replace
5110	25+88	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing, Replace
5110	26+63	18	30	1	1	JR		NT	N	Y	Y	Disconnect
5110	29+52	18	30	1	1	JR		NT	N	Y	Y	Cross Drain, Replace
5110	33+24	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	37+00	18	30	1	1	JR		NT	N	Y	Y	Disconnect
5110	37+92	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing, Replace
5110	38+42	18	30	1	1	JR		NT	N	Y	Y	Disconnect
5110	40+04	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	43+41	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	45+08	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	48+44	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing, Replace
5110	49+19	18	30	1	1	JR		NT	N	Y	Y	Disconnect
5110	50+83	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	54+70	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	58+57	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	62+46	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	65+93	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	66+98	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5110	69+66	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing
5110	70+65	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing
5110	71+51	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing
5110	72+46	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing
5102B	0+00	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
5102B	6+19	24	60	4	4	JR		NT	N	Y	Y	Stream Crossing
5102B	6+94	18	30	1	1	JR		NT	N	Υ	Y	Disconnect
5102B	11+09	18	30	1	1	JR		NT	N	Υ	Y	Cross Drain
5102B	12+76	18	30	1	1	JR		NT	N	Υ	Y	Cross Drain
5102C	2+25	18	30	1	1	JR		NT	N	Υ	Y	Cross Drain
5102C	6+00	18	30	1	1	JR		NT	N	Y	Y	Cross Drain
		-										
	Key											

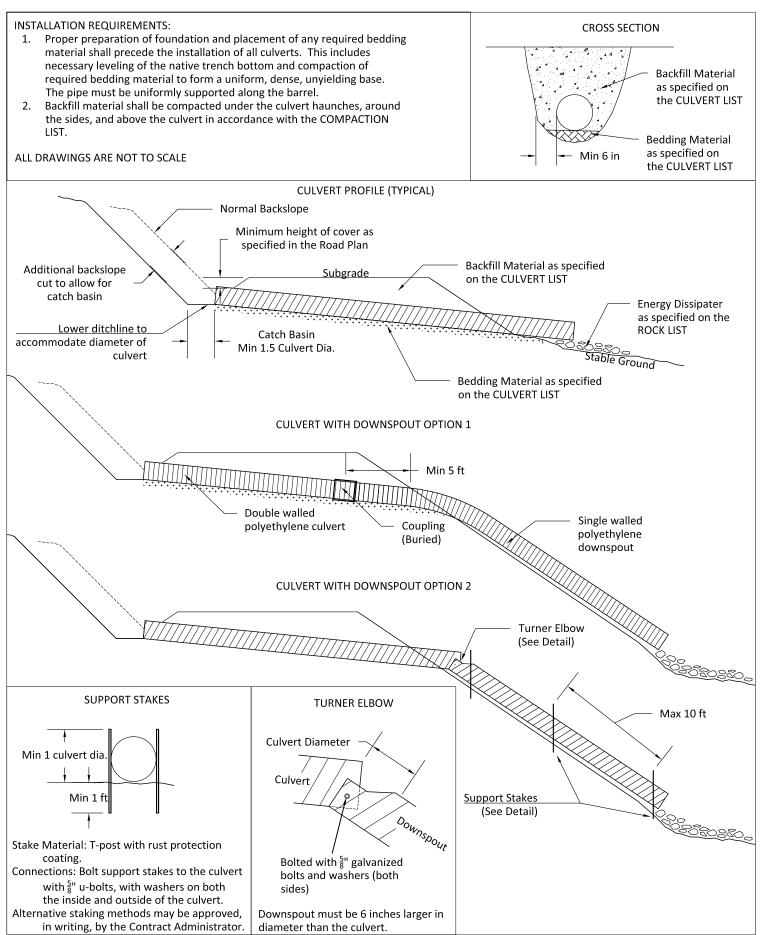
JR- 4-INCH JAW RUN ROCK JR- 4-INCH JAW RON ROCK
NT- NATIVE MATERIAL
DOL- Ditchout left
DOR- Ditchout right
SCR - STOCKPILED CRUSHED ROCK

## **COMPACTION LIST**

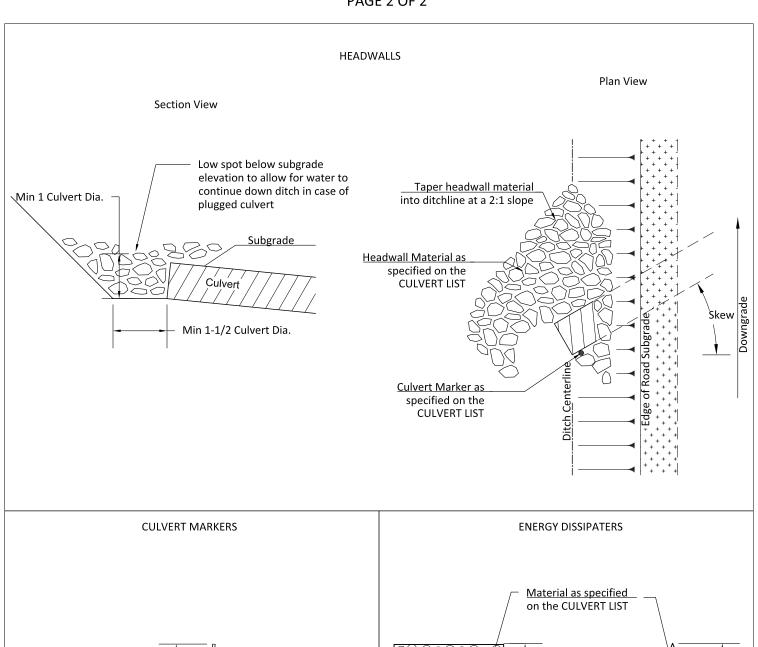
				<u>Maximum</u>				<u>Maximum</u>	<u>Maximum</u>
				<u>Depth</u>		<u>Equipment</u>	<u>Minimum</u>	<b>Operating</b>	Amount of
Road	<u>From</u>	<u>To</u>		Per Lift	Equipment	Weight	Number	Speed	<u>Deflection</u>
<u>Name</u>	<u>Station</u>	<u>Station</u>	<u>Type</u>	(inches)	<u>Type</u>	(pounds)	of Passes	<u>(MPH)</u>	(inches)
					Vibratory				
All	-	-	Pre-haul	6	Smooth	20000	5	3	1
					Drum				
					Vibratory				
All	-	-	Subgrade	12	Smooth	20000	4	3	1
					Drum				
All	-	-	Embankment	12	Excavation	30000	4	3	2
All	-	-	Fill	24	Excavation	30000	4	3	2
					Vibratory				
All	_	-	Rock	12	Smooth	20000	5	3	1
					Drum				
All	-	-	Waste Area	24	Excavation	30000	-	-	4

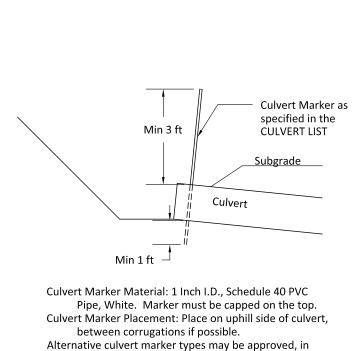
SASSAFRAS

## CULVERT AND DRAINAGE SPECIFICATION DETAIL PAGE 1 OF 2

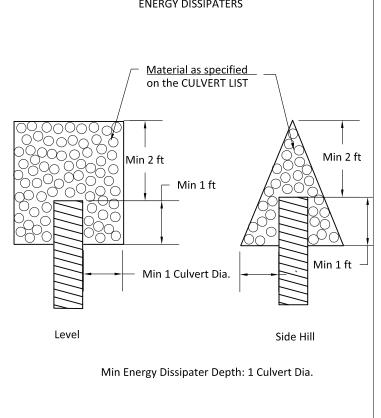


## CULVERT AND DRAINAGE SPECIFICATION DETAIL PAGE 2 OF 2





writing, by the Contract Administrator.



## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS Page 1 of 2

#### **Cuts and Fills**

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

#### Surface

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

#### **Drainage**

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

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# FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS Page 2 of 2

#### **Preventative Maintenance**

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

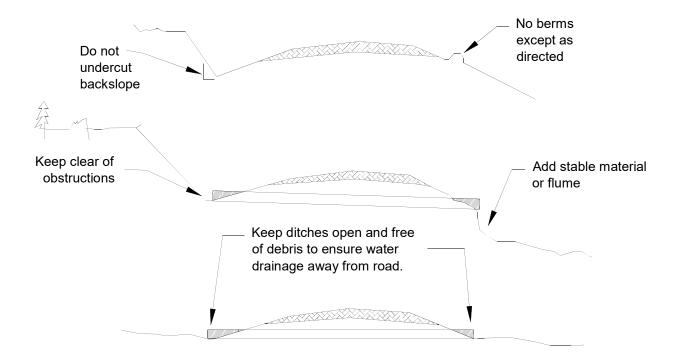
#### **Termination of Use or End of Season**

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

#### Debris

**SASSAFRAS** 

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



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# DNR Access Procedures through Weyerhaeuser's Longview Area Gate Locking Procedure

The gate tag procedure is to improve Weyerhaeuser tree farm security and restrict unauthorized public access.

Gates that would allow the public to access Weyerhaeuser ownership are to remain locked unless they need to be open for active timber sales or operations. If you go through a gate on the perimeter of Weyerhaeuser ownership that is open and not tagged, please close it after passing through.

#### **GATES:**

- Gates will be locked with specific Weyerhaeuser/ DNR locks currently stamped with ABA. These keys will only open the specific DNR easement gates.
- ABA keys will be checked out to prospective purchasers, contractors, and personnel having business on DNR property. Keys may be obtained from Pacific Cascade Region, Asset Management Staff. At the conclusion of DNR operations or contracts, keys are to be returned to DNR region office.
- During active operations when there is a specific safety or operational need to leave gates open during business hours, a blue aluminum tag will be affixed by locking it to the open gate. This will notify security personnel, Weyerhaeuser employees, and DNR staff that a gate is being left open for business purposes.
- Blue tags are available from the Contract Administrator.
- If multiple operations are using the same access point, each contractor shall post their tag to the open gate.
- Each flag color represents a unique landowner. Weyerhaeuser- Yellow, Weyerhaeuser
- contractor Green, DNR Blue, and Weyerhaeuser Security Orange
- Tags for Weyerhaeuser Security (Orange), will be locked on gates that are to be left open for public access such as during hunting seasons.
- Buncher operators, cutters, cruisers, prospective purchasers or anyone that does not need to leave the gate open for haul traffic are not required to tag the gate open. The gate maybe LOCKED behind them for the day to keep unauthorized vehicles out if they are the only one working in the area.
- Anyone going through an open gate and not tagging the gate open should lock it behind them if there is no tag present.

#### Keys:

Keys are to be used for business and authorized activity only. (Personal use of a key is not allowed) Keys are not to be loaned out for any reason without authorization from DNR.

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#### LIVE STREAM CULVERT INSTALLATION PROCEDURE

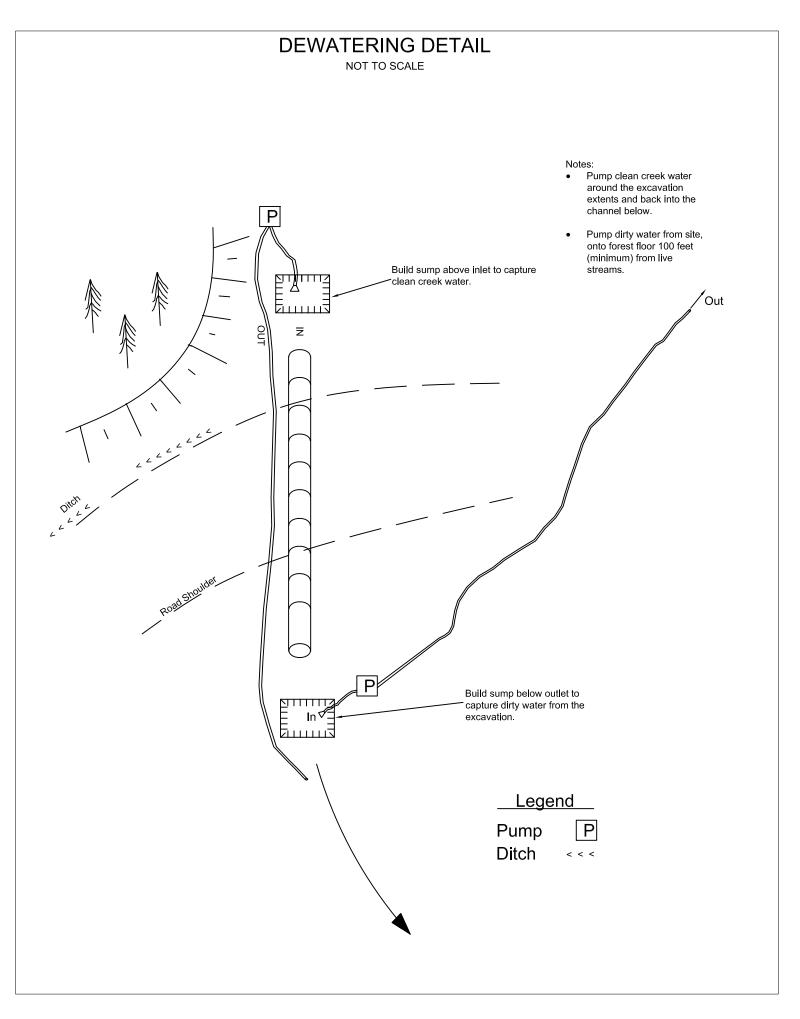
Order of work is as follows, deviations shall be approved, in writing, by the Contract Administrator.

- Contractor shall notify the Contract Administrator of intent to install each live stream culvert.
- 2) Assemble the items on the Materials List onsite before proceeding.
- 3) Culvert installation may not start during rain or forecast of rain.
- 4) Manage stream water according to the DEWATERING DETAIL.
- 5) Establish culvert lay, install energy dissipater, install culvert, build road fill, and place fill armor.
- 6) Backfill sumps.
- 7) Apply erosion control according to Section 8 of the Road Plan.

## **Materials List:**

- pumps
- erosion rock
- culvert
- fill material
- armor
- grass seed
- straw bales

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## STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

## SASSAFRAS ROCK SOURCE DEVELOPMENT PLAN 5100 Pit Page 1 of 3

- 1. Vegetation shall be cleared a minimum of 10 feet beyond the top of the overburden top of cut.
- 2. Stumps shall be grubbed a minimum of 5 feet beyond the top of the overburden top of cut.
- 3. Overburden shall be stripped to rock a minimum of 5 feet beyond the top of all pit faces and sloped no steeper than a 1:1 to daylight.
- 4. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator prior to any drilling. (Form #M-126PAC)
- 5. Drilling and rock extraction may begin when the Contract Administrator has approved the clearing and grubbing, overburden removal, and informational drilling and shooting plan.
- 6. Pit faces shall not exceed 20 feet in height. Faces shall be sloped at 1/4:1. Working bench width shall be a minimum of 20 feet.
- 7. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
- 8. No sediment shall enter live water.
- 9. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.
- 10. Oversize material remaining in the pit at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed as directed by the Contract Administrator.
- 11. 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.

SASSAFRAS 30-105887 FINALIZED DATE: SEPTEMBER 20, 2023 Page 32 of 37

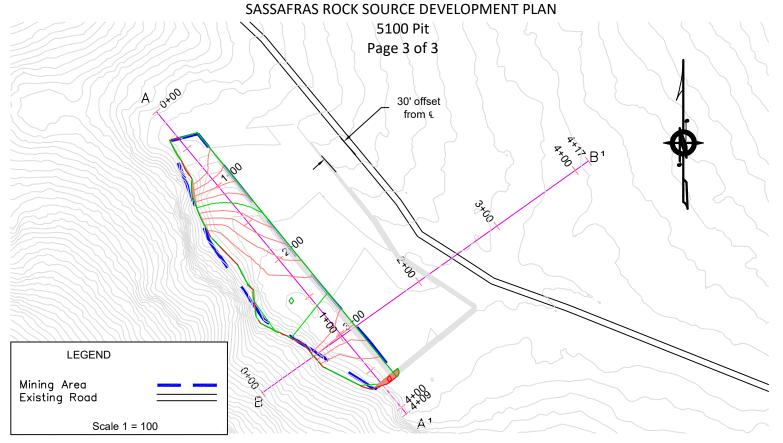
## STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

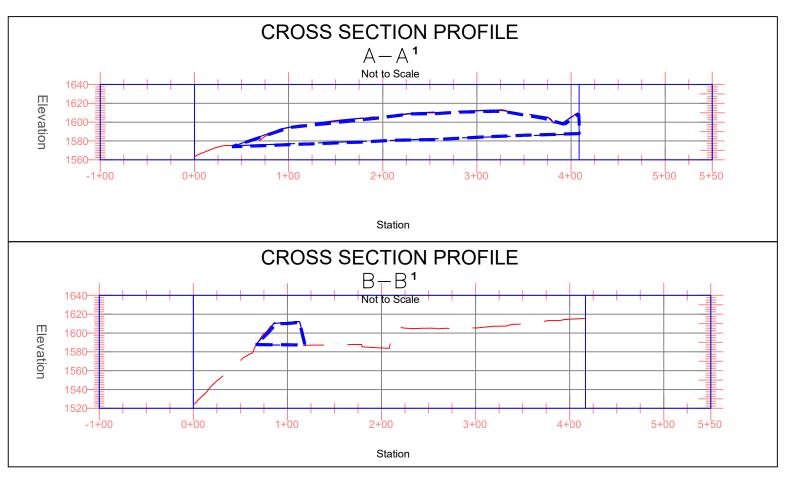
## SASSAFRAS ROCK SOURCE DEVELOPMENT PLAN 5100 Pit Page 2 of 3

- 12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
- 13. All exposed soil in the waste area shall be revegetated in accordance with ROAD PLAN clause 8-15 through 8-25.
- 14. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.
- 15. Upon completion of operations, the site shall be cleared of all temporary structures and left in a neat and presentable condition. Access shall be blocked with rip rap as directed by the Contract Administrator.
- 16. At the completion of rock source operations, the Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan.

SASSAFRAS 30-105887 FINALIZED DATE: SEPTEMBER 20, 2023 Page 33 of 37

# STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES





## STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES PACIFIC CASCADE REGION

## INFORMATIONAL BLASTING PLAN

Tim	ber Sale/Project Name:	App./Project No.:	
1.	Blaster-in-Charge: Name:		
	Company:		
	Address:		
	Telephone:		
2.	Quarry Name/Location:		
3.	Total Estimated Cubic Yards in Blast (loose):		_
4.	Hole Spacing:		
5.	Burden:		
6.	Hole Diameter:		
7.	Hole Depth:		
8.	Sub Drill:		
9.	Number of Holes:		
10.	Stemming Depth:		
	Explosive (mfg., name, density, %, V.O.D.):		
12.	Type and Size of Primer (if applicable):		
	Total Weight of Primers for Shot:		
14.	Calculated Powder Factor/Cubic Yard:		
15.	Number of Delays (in M.S.):		

M-126PAC (03/04)

# INFORMATIONAL BLASTING PLAN Page 2 of 3

16.	Number of Holes Fired on Each Delay:
17.	Total Amount of Explosives Fired on Each Delay:
18.	Type of Blasting Machine:
19.	Date, Start Drilling:
20.	Date and Time, Start Loading:
21.	Date and Time of Blast (approx.):

FINALIZED DATE: SEPTEMBER 20, 2023

# INFORMATIONAL BLASTING PLAN Page 3 of 3

22.	Detail drawing of delay system (show hole pattern and delays in milliseconds) required:	. Attach additional sheets if
23.	Typical cross-section of hole (show primer, main charge, sub drill, and stemm	ing):
	Submitted by:	
	Received by:	Date:
	e: Attach copies of manufacturer=s data sheet(s) for explosive and caps.  26PAC (03/04)	

SASSAFRAS 30-105887 FINALIZED DATE: SEPTEMBER 20, 2023 Page 37 of 37

## SUMMARY Road Development Estimate REGION Pacific Cascade DISTRICT St Helens

SALE/PROJECT NAME Sassafras

AGREEMENT NO. 30-105887

ROAD NAME	51001, 5105, 4257 511		5110, 510	.10, 5102B, 5102C		0, 5110	
ROAD STANDARD	Const	ruction	Reconst	ruction	Mair	ntenance	
NUMBER OF STATIONS		0.00	97.3	30	6	03.12	
CLEARING & GRUBBING	\$	-	\$ 17	,605	\$	-	
EXCAVATION AND FILL	\$	852	\$ 29	,457	\$	284	
MISC. MAINTENANCE	\$	-	\$ 4	,267	\$	20,449	
ROAD ROCK	-	5,381	Ć 156	626	\$	-	
	Required \$ Total \$	5,381	\$ 156 \$ 159		\$ \$	36,861 36,861	
ROCK STOCKPILE PROD	\$	-	\$	-	\$	-	
CULVERTS AND FLUMES	\$	-	\$ 40	,578	\$	684	
STRUCTURES	\$	-	\$	-	\$	-	
MOBILIZATION	\$	-	\$ 4	,550	\$	4,550	
TOTAL COSTS	ć	c 222	ć 255	002	¢	(2.929	
TOTAL COSTS	\$	6,233	\$ 255		\$	62,828	
COST PER STATION	\$	-		,630	\$	104	
ROAD DE	ACTIVATION &	ABANDONMENT COS	STS \$	-			

TOTAL (All Roads) \$324,944
TOTAL (Minus Optional Rock) \$319,563
SALE VOLUME MBF 4882

TOTAL \$/MBF \$ 66.56

TOTAL \$/MBF (Minus Optional Rock) \$ 65.46

**ESTIMATED BY Chace Johanson** 

### ROCK SOURCE SUMMARY

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887

PIT NAME 5100 Pit LOCATION S23 T9N R2E

Distance to waste area (feet) 0

## ASSUMED ROCK SWELL FACTOR LOOSE/COMPACTED 1.25 ASSUMED ROCK DENSITY TONS/CY 1.3

### MISCELLANEOUS

ROCK PIT PREPARATION	4222.22	_	Å 4 400
Grubbing w/ large excavator	\$ 280.00 per hour x	5	\$ 1,400
Stripping overburden w/ large excavator	\$ 280.00 per hour x	5	\$ 1,400
	MISCELLANEOUS TO	OTAL	\$ 2,800

#### **MOBILIZATION**

# SALE/PROJECT NAME Sassafras CONTRACT # 30-105887

### PRE-HAUL/CONSTRUCTION EQUIPMENT

#### **MOBILIZATION**

Grader	\$ 2	1,000	each x	1	\$ 1,000
Loader	\$ 2	1,000	each x	1	\$ 1,000
Dump truck	\$	100	each x	6	\$ 600
Dozer, small	\$	500	each x	1	\$ 500
Dozer, large	\$ 2	1,000	each x	1	\$ 1,000
Excavator, small	\$	500	each x	1	\$ 500
Excavator, large	\$ 2	1,000	each x	1	\$ 1,000
Roller	\$	500	each x	1	\$ 500
Rock drill	\$ 2	1,000	each x	1	\$ 1,000
Jaw	\$ 2	2,000	each x	1	\$ 2,000
PRE-HAUL/CONSTR	RUC	TION	SUBTOT	AL	\$ 9,100

MOBILIZATION TOTAL \$ 9,100

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5100

## Required pre-haul maintenance (stations) 599+17 Distance to 5100 Pit (miles) 0.00

#### REQUIRED PRE-HAUL MAINTENANCE

EXCAVATION AND FILL Landing	\$	284.00	each y	1		\$	284	1
Lunding	7	204.00	Cucii x	-		Y	20-	•
MISC. MAINTENANCE								
Ditch cleaning	\$	29.40	per station x	26.43		\$	777	7
Maintenance grading	\$	18.03	per station x	599.17		\$	10,803	3
Maintenance rolling	\$	14.39	per station x	599.17		\$	8,624	1
ROAD ROCK								
REQUIRED								
4-INCH JAW RUN ROCK	\$	12.27	per CY x	63		\$	773	3
Rock haul	\$	165.00	per hour x	2 round trip haul (miles	) 2.00	\$	382	L
Spread & compact rock	\$	3.06	per CY x	63		\$	193	3
STOCKPILED CRUSHED ROCK	\$	1.64	per CY x	840		\$	1,382	L
Rock haul	\$	145.00	per hour x	205 round trip haul (miles	) 11.35	\$	29,674	1

TOTAL ROAD COST \$ 52,890

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5110

Total road length (stations) 81+64
Required pre-haul maintenance (stations) 3+95
Distance to 5100 Pit Stockpile (miles) 2.25
Required reconstruction (stations) 77+69
Distance to 5100 Pit (miles) 2.32
Distance to waste area (miles) 3.42

#### REQUIRED PRE-HAUL MAINTENANCE

MISC. MAINTENANCE							
Ditch cleaning	\$	29.40	per station x	3.95		\$	116.13
Maintenance grading	\$		per station x	3.95		\$	71.22
Maintenance rolling	\$		per station x	3.95		\$	56.86
•	·		•			·	
ROAD ROCK							
REQUIRED							
4-INCH JAW RUN ROCK	\$	12.27	per CY x	173		\$	2,124.15
Rock haul	\$	165.00	per hour x	11	round trip haul (miles) 4.49	\$	1,759.16
STOCKPILED CRUSHED ROCK	\$	1.64	per CY x	20		\$	32.80
Place erosion rock	\$	10.25	per CY x	2		\$	20.50
Spread & compact rock	\$	3.06	per CY x	171		\$	523.28
CULVERTS AND FLUMES	_		<i>i</i> .			_	
18" Polyethylene, double wall	\$		per foot x	30		\$	626.82
Culvert marker	\$	28.50	each x	2		\$	57.00
			REQU	JIRED PRE	-HAUL MAINTENANCE SUBTOTAL	\$	5,387.92
							•
		REQUIRE	D RECONSTRUCTIO	N			
CLEARING & GRUBBING							
Clearing & grubbing	\$	128.80	per station x	77.69		\$	10,006.47
EXCAVATION AND FILL							
Reconstruction	\$	202.50	per station x	77.69		\$	15,732.23
Landing	\$	284.00	each x	13		\$	3,692.00
Turnaround	\$	284.00	each x	4		\$	1,136.00
Shape & compact subgrade	\$	36.03	per station x	77.69		\$	2,798.93
MISC. MAINTENANCE							
Grass seeding	\$	2.64	per pound x	357		\$	1,298.40
S	۶ \$		per pound x	0.7		\$	2,310.98
Straw mulching	Ş	3,301.40	per acre x	0.7		Ş	2,510.96
ROAD ROCK							
REQUIRED							
4-INCH JAW RUN ROCK	\$	12.27	per CY x	4122		\$	50,558.64
Rock haul	\$	165.00	per hour x	321	round trip haul (miles) 6.11	\$	52,895.29
Spread & compact rock	\$	3.06	per CY x	4024		\$	12,300.96
Place erosion rock	\$		per CY x	98		\$	1,004.50
CULVERTS AND FLUMES							
18" Polyethylene, double wall	\$	20.89	per foot x	630		\$	13,163.28
24" Polyethylene, double wall	\$	28.26	per foot x	420		\$	11,868.93
Live water installation, diversion/pumping	\$	1,140.00	each x	7		\$	7,980.00
Culvert marker	\$	28.50	each x	56		\$	1,596.00

REQUIRED RECONSTRUCTION SUBTOTAL \$ 188,342.61

TOTAL ROAD COST \$ 193,730.53

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5102C

TOTAL ROAD COST \$ 22,794

Required construction (stations) 6+62 Distance to 5100 Pit (miles) 2.66 Distance to waste area (miles) 3.84

#### REQUIRED RECONSTRUCTION

CLEARING & GRUBBING							
Clearing & grubbing	\$	387.50	per station x	6.62		\$	2,565
5V64V451641 4415 5111							
EXCAVATION AND FILL							
Reconstruction	\$	202.50	per station x	6.62		\$	
Landing	\$	284.00	each x	2		\$	568
Turnaround	\$	284.00	each x	1		\$	
Shape & compact subgrade	\$	36.03	per station x	6.62		\$	238
MISC. MAINTENANCE							
	<b>.</b>	2.64		20		4	111
Grass seeding	\$	3.64	per pound x	30		\$	111
ROAD ROCK							
REQUIRED							
4-INCH JAW RUN ROCK	\$	12.27	per CY x	602		\$	7,384
Rock haul	\$	165.00	per hour x	43 rour	nd trip haul (miles)	5.45 \$	7,066
Spread & compact rock	\$	3.06	per CY x	598		\$	1,828
Place erosion rock	\$	10.25	per CY x	4		\$	41
CULVERTS AND FLUMES							
18" Polyethylene, double wall	\$	20.80	per foot x	60		\$	1,254
	\$		•			\$	
Culvert marker	Ş	28.50	each x	4		Ş	114

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5102B

Required construction (stations) 12+99
Distance to 5100 Pit (miles) 1.76
Distance to waste area (miles) 2.93

#### REQUIRED RECONSTRUCTION

CLEARING & GRUBBING						
Clearing & grubbing	\$ 387.50	per station x	12.99		\$	5,034
EXCAVATION AND FILL						
Reconstruction	\$ 202.50	per station x	12.99		\$	2,630
Landing	\$ 284.00	each x	1		\$	284
Turnaround	\$ 284.00	each x	1		\$	284
Shape & compact subgrade	\$ 36.03	per station x	12.99		\$	468
MISC. MAINTENANCE						
Grass seeding	\$ 3.64	per pound x	60		\$	217
Straw mulching	\$ 3,301.40	per acre x	0.1		\$	330
ROAD ROCK						
REQUIRED						
4-INCH JAW RUN ROCK	\$ 12.27	per CY x	965		\$	11,837
Rock haul	\$ 165.00	per hour x	52 round	trip haul (miles)	3.76 \$	8,644
Spread & compact rock	\$ 3.06	per CY x	949		\$	2,901
Place erosion rock	\$ 10.25	per CY x	16		\$	164
CULVERTS AND FLUMES						
18" Polyethylene, double wall	\$ 20.89	per foot x	120		\$	2,507
24" Polyethylene, double wall	\$ 28.26	per foot x	60		\$	1,696
Live water installation, diversion/pumping	\$ 114.00	each x	1		\$	114
Culvert marker	\$ 28.50	each x	10		\$	285

TOTAL ROAD COST \$ 37,396

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5100I

Optional construction (stations) 0+00 Distance to 5100 Pit (miles) 1.28

#### OPTIONAL CONSTRUCTION

EXCAVATION AND FILL Landing	\$ 284.00 each x	1	\$	284
ROAD ROCK OPTIONAL				
4-INCH JAW RUN ROCK	\$ 12.27 per CY x	63	\$	773
Rock haul	\$ 165.00 per hour x	3 round trip haul (miles)	2.56 \$	439
Spread & compact rock	\$ 3.06 per CY x	63	\$	193

TOTAL ROAD COST \$ 1,689

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 5105

Optional construction (stations) 0+00 Distance to 5100 Pit (miles) 2.90

#### OPTIONAL CONSTRUCTION

EXCAVATION AND FILL Landing	\$ 284.00 each x	1	\$	284
ROAD ROCK OPTIONAL				
4-INCH JAW RUN ROCK	\$ 12.27 per CY x	63	\$	773
Rock haul	\$ 165.00 per hour x	5 round trip haul (miles)	5.80 \$	776
Spread & compact rock	\$ 3.06 per CY x	63	\$	193

TOTAL ROAD COST \$ 2,025

#### SALE/PROJECT NAME Sassafras CONTRACT # 30-105887 ROAD NAME 4257

TOTAL ROAD COST \$ 2,519

Optional construction (stations) 0+00 Distance to 5100 Pit (miles) 5.27

#### OPTIONAL CONSTRUCTION

EXCAVATION AND FILL Landing	\$ 284.00 €	each x	1	9	\$ 2	284
ROAD ROCK						
OPTIONAL						
4-INCH JAW RUN ROCK	\$ 12.27 p	oer CY x	63	ç	\$ 7	773
Rock haul	\$ 165.00 p	oer hour x	8 round trip haul (miles)	10.55	\$ 1,2	270
Spread & compact rock	\$ 3.06 p	oer CY x	63	Ç	\$ 1	193



#### WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

#### FOREST EXCISE TAX ROAD SUMMARY SHEET

Timber Sale Name:	
Application Number:	
EXCISE TAX APPLICABLE ACTIVITIES	
Construction:	linear feet
Road to be constructed (optional and required) but not aban	ndoned
Reconstruction:	linear feet
Road to be reconstructed (optional and required) but not ab	andoned
<b>Abandonment:</b>	linear feet
Abandonment of existing roads not reconstructed under the	contract
<b>Decommission:</b>	linear feet
Road to be made undriveable but not officially abandoned.	
Pre-Haul Maintenance:	linear feet
Existing road to receive maintenance work (optional and re	quired) prior to haul

**EXCISE TAX EXEMPT ACTIVITIES** 

linear feet **Temporary Construction:** 

Roads to be constructed (optional and required) and

then abandoned

**Region:** 

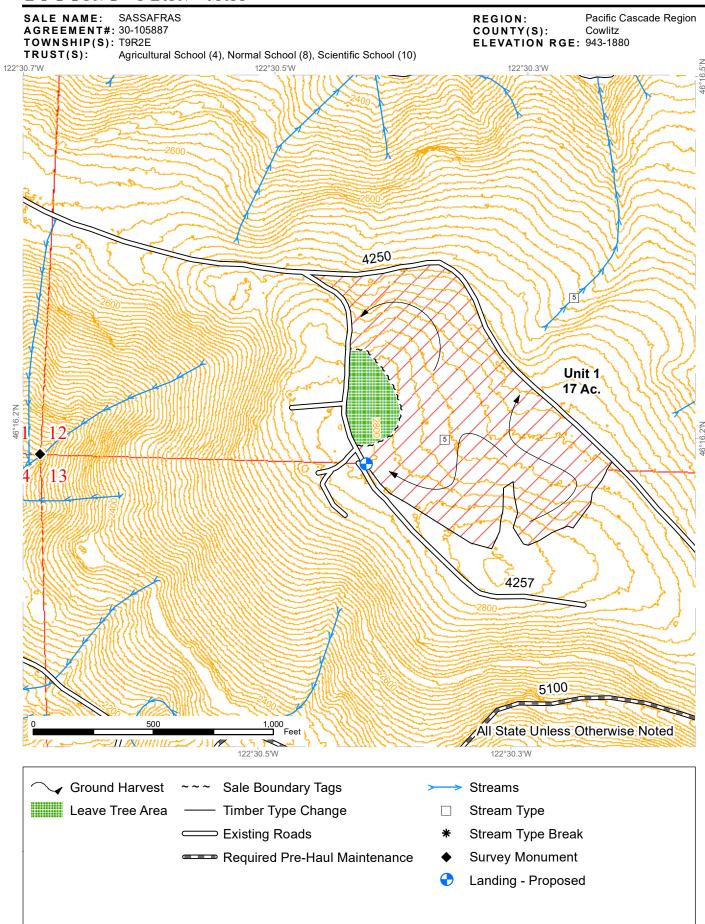
linear feet

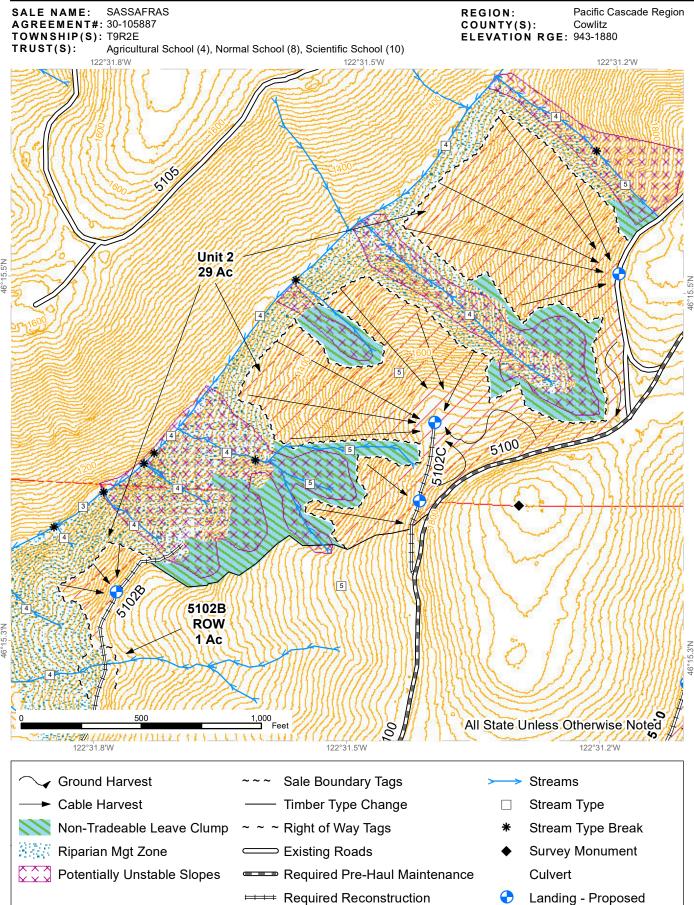
**Temporary Reconstruction:** 

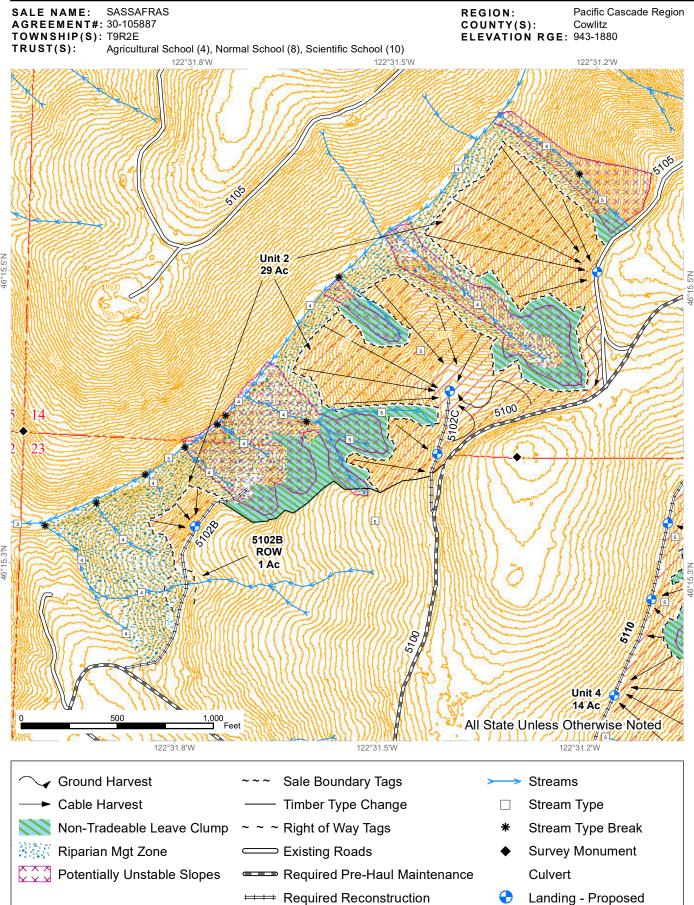
Roads to be reconstructed (optional and required) and then abandoned

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. 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.

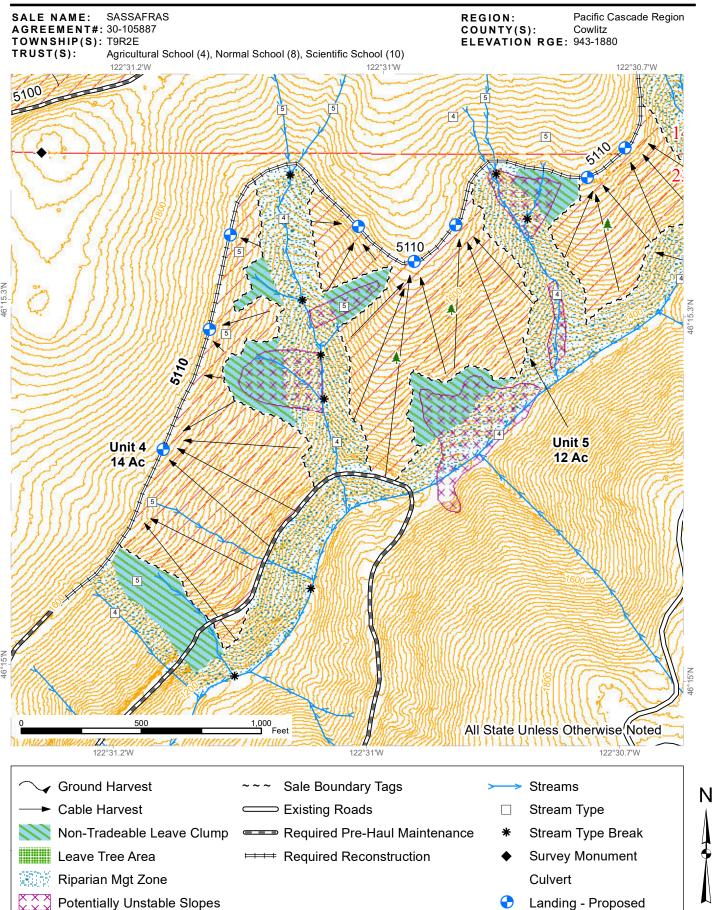
(Revised 9/18)



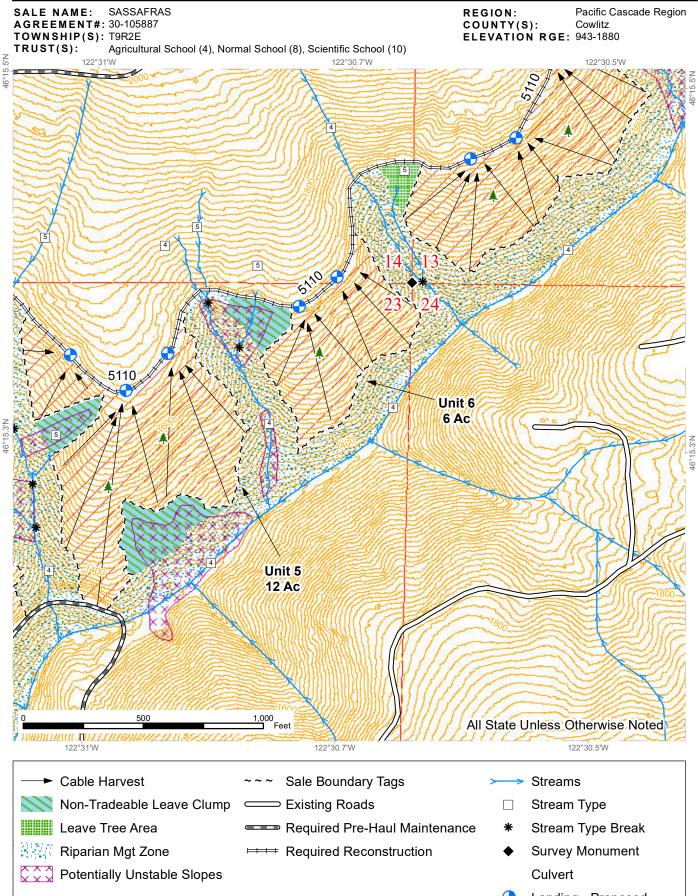


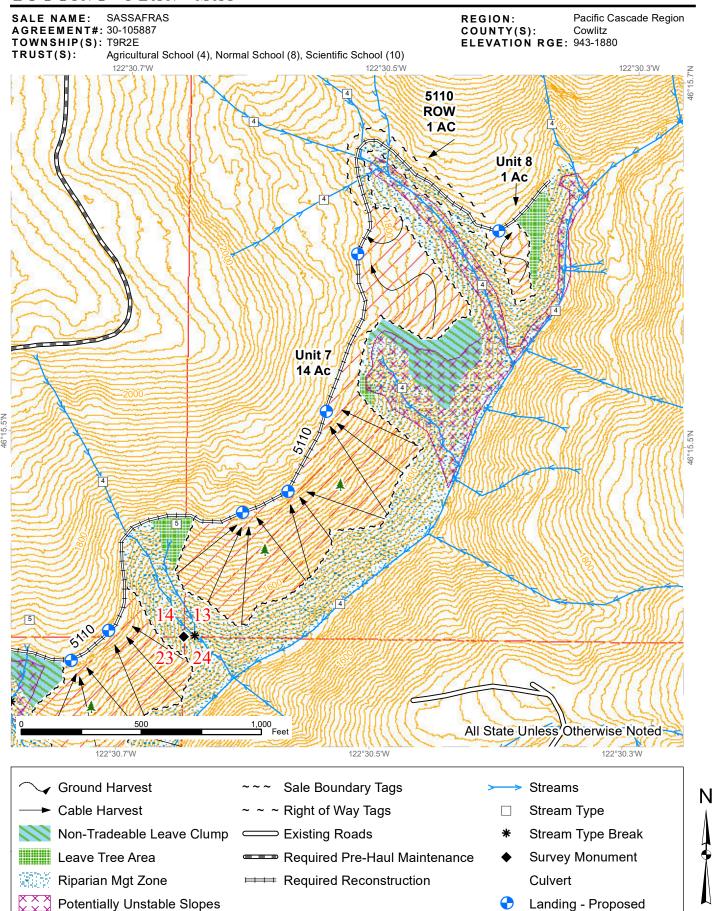


Leave Tree Area



Leave Tree Area





Leave Tree Area