



TIMBER NOTICE OF SALE

SALE NAME: Q WOODSPUR

AGREEMENT NO: 30-95800

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

COUNTY: Stevens

SALE LOCATION: Sale located approximately 52 miles north of Colville, WA

**PRODUCTS SOLD
AND SALE AREA:**

All green conifer species (excluding ponderosa pine and red cedar) 7 inches and greater in diameter at breast height; all green ponderosa pine and green red cedar 8 inches and greater in diameter at breast height not banded with purple paint in Units 1, 2 and 3 and not banded with blue paint in Units 4, 5 and 6 bounded by white timber sale tags; and all right of way timber bounded by orange right of way boundary tags on part(s) of Sections 15, 21 and 22 all in Township 40 North, Range 41 East, W.M., containing 329 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: PwC-SFIFM-513)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg Ring DBH Count	Total MBF	MBF by Grade									
			P	SM	1S	2S	3S	4S	5S	6S	UT	
Douglas fir	15.6	4,287				1,906	1,903		478			
Red cedar	12.6	735						535	200			
Grand fir	12.9	470				117	295		58			
Larch	16	455				154	250		51			
Hemlock	11.7	93				4	68		21			
Ponderosa pine	26.4	26							22	4		
Sale Total		6,066										

MINIMUM BID: \$929,000.00

BID METHOD: Sealed Bids

PERFORMANCE

SECURITY: \$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2022

ALLOCATION: Export Restricted

BID DEPOSIT: \$92,900.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable, and Ground based equipment. Falling and Yarding will not be permitted from February 1 to May 1 unless authorized in writing by the Contract Administrator due to spring breakup.

ROADS: 37.39 stations of required construction. 23.52 stations of required reconstruction. 13.86 stations of optional construction. 1.20 stations of optional reconstruction. 399.30 stations of required prehaul maintenance. 27.87 stations of required post haul maintenance. 13.86 stations of decommission if constructed. Road construction will not be permitted from November 15 to May 31 unless authorized in writing by the Contract Administrator due to frozen conditions and spring breakup. The hauling of forest



TIMBER NOTICE OF SALE

products will not be permitted from February 1 to May 1 unless authorized in writing by the Contract Administrator due to spring breakup.

ACREAGE DETERMINATION

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

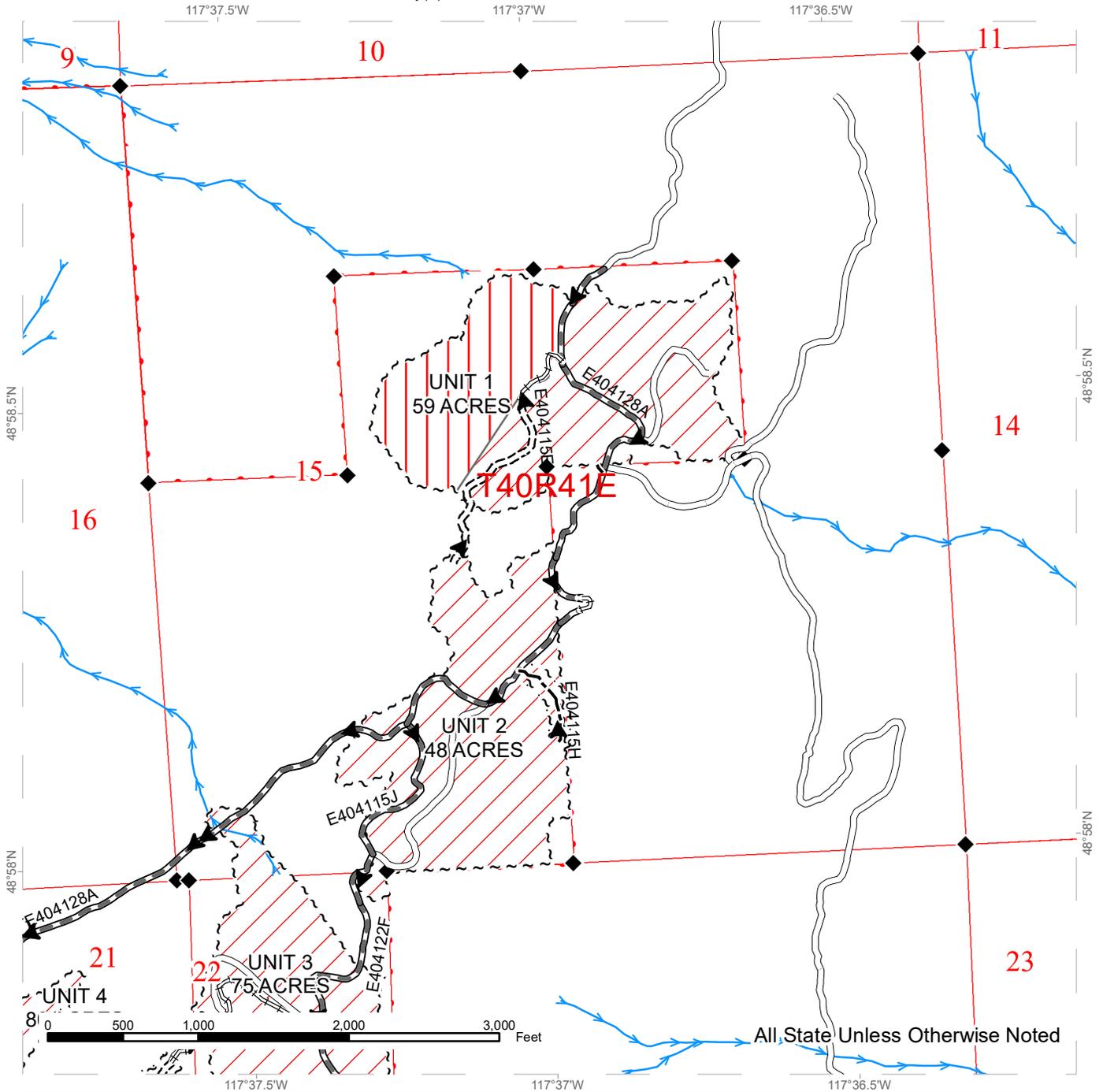
FEES: \$103,122.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: Hand falling or tether equipment will be required in the designated cable yarding areas in Units 1, 4, 5 and 6 (approximately 120 acres).

TIMBER SALE MAP

SALE NAME: Q WOODSPUR
AGREEMENT #: 30-095800
TOWNSHIP(S): T40R41E
TRUST(S): Common School and Indemnity(3)

REGION: Northeast Region
COUNTY(S): STEVENS
ELEVATION RGE: 2416-4092



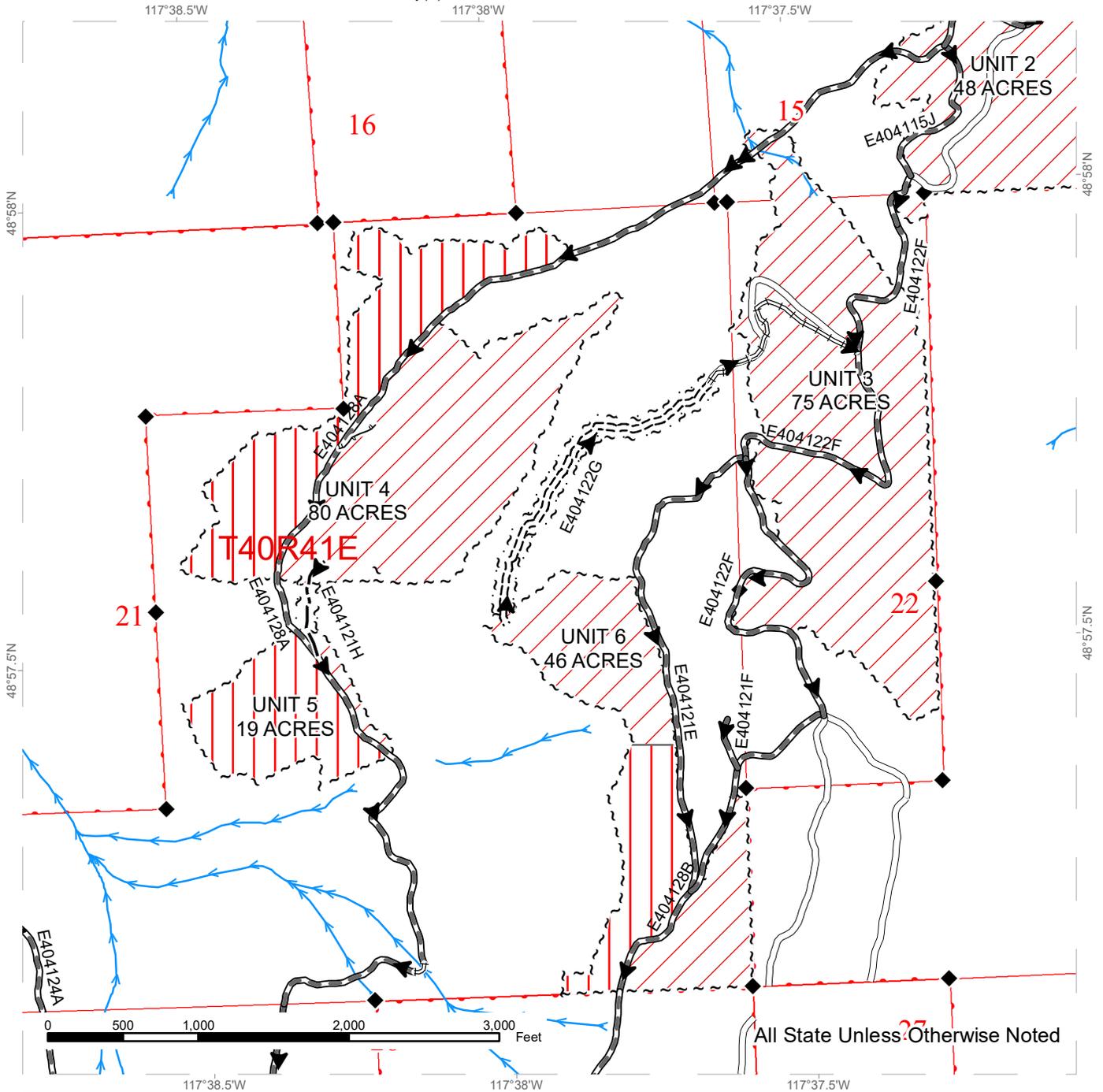
Ground Based Logging	Required Pre-Haul Maintenance
Cable or Tether Logging	Required Construction
Sale Boundary Tags	Required Reconstruction
Right of Way Tags (2 Acres)	Optional Construction
	Haul_Route
	Streams
	Survey Monument

All Units are Variable Retention Harvest

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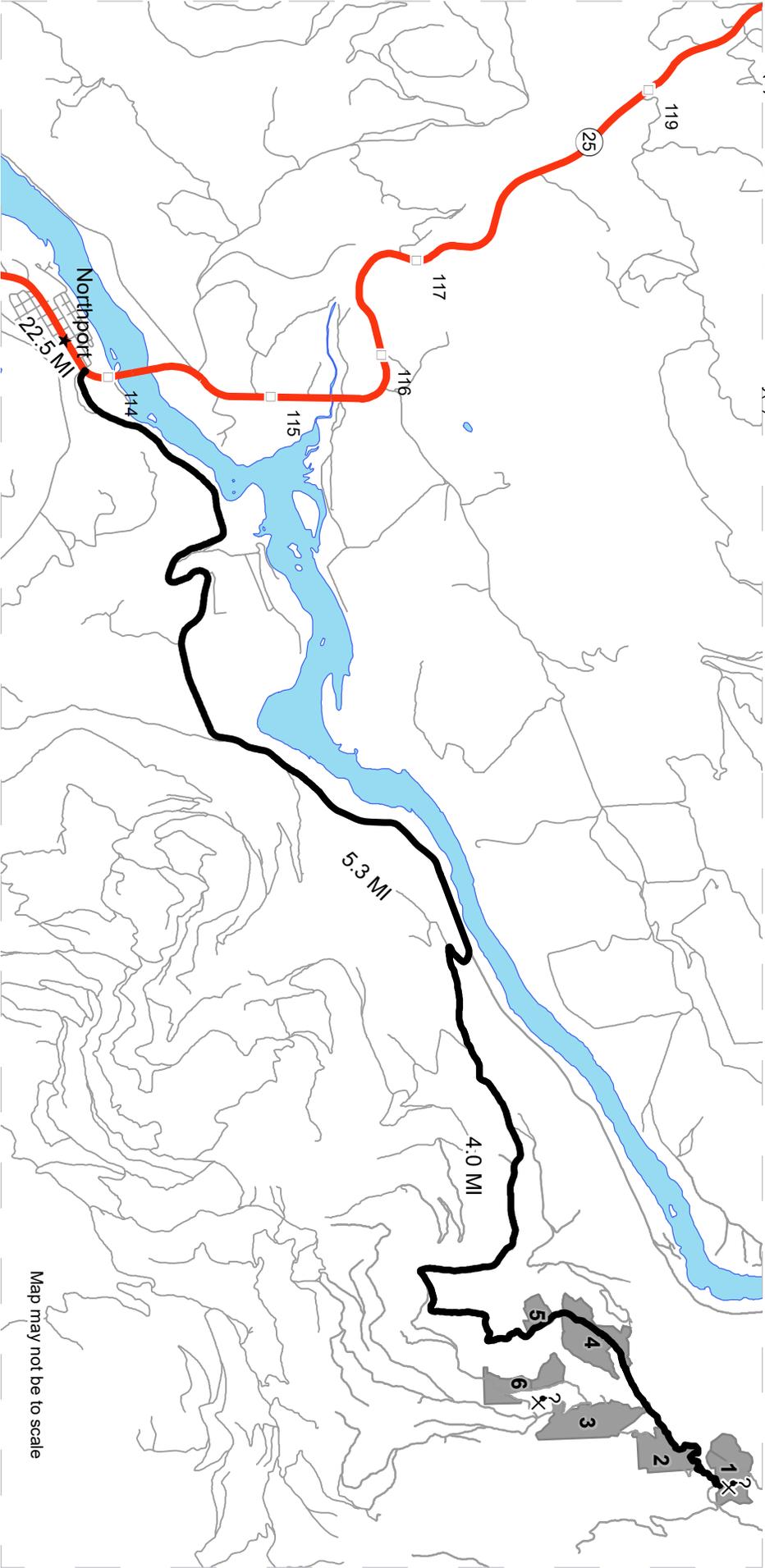
Ground Based Logging	Required Pre-Haul Maintenance	Streams
Cable or Tether Logging	Required Construction	Survey Monument
Sale Boundary Tags	Required Reconstruction	
Right of Way Tags (2 Acres)	Optional Construction	
	Designated Skid Trail	
	Haul Route	

All Units are Variable Retention Harvest

DRIVING MAP

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Map may not be to scale

-  Timber Sale Unit
-  Highway
-  Haul Route
-  Other Road
-  Milepost Markers
-  Potential Rock Source

DRIVING DIRECTIONS:

From the town of Colville, travel west on Highway 395 two miles to Williams Lake Rd. Turn right onto Williams Lake Rd. and travel north 17.8 miles to Highway 25. Travel north on Highway 25 for 22.5 miles to Northport. On the north end of Northport, turn right on to Northport Waneta Rd. and travel 5.3 miles to Woodspur Rd. Turn right onto Woodspur Rd. travel 4.0 miles to the sale area. There will be signage to the different units.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-095800

SALE NAME: Q WOODSPUR

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on April 28, 2020 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 green conifer species (excluding ponderosa pine and red cedar) 7 inches and greater in diameter at breast height; all green ponderosa pine and green red cedar 8 inches and greater in diameter at breast height not banded with purple paint in Units 1, 2 and 3 and not banded with blue paint in Units 4, 5 and 6 bounded by white timber sale tags; and all right of way timber bounded by orange right of way boundary tags, located on approximately 329 acres on part(s) of Sections 15, 21, and 22 all in Township 40 North, Range 41 East W.M. in Stevens County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

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

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

- e. Payment of \$346.00 per acre per annum for the acres on which an operating release has not been issued .
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any

threatened or endangered species, or the presence of their habitat, within the sale area.

- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: The State shall

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-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-102 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 shall become a part of this contract and the Scribner log scale volume, as defined by the Northwest Log Rules Eastside, shall be determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per MBF Scribner log scale.

Contract Item	Appraised Price	Overbid Factor	Price	Fees	Contract Payment Rate
Douglas fir	\$155.10	0	\$0.00	\$9.00	\$9.00
Grand fir	\$149.47	0	\$0.00	\$9.00	\$9.00
Hemlock	\$144.43	0	\$0.00	\$9.00	\$9.00
Larch	\$157.16	0	\$0.00	\$9.00	\$9.00
Ponderosa pine	\$123.78	0	\$0.00	\$9.00	\$9.00
Red cedar	\$281.18	0	\$0.00	\$9.00	\$9.00
Other	\$125.89	0	\$0.00	\$9.00	\$9.00

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

G-160 Agents

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; Woodspur road, E404024A, E404115E, E404115J, E404121E, E404121F, E404122F, E404122G, E404128A, E4041128B, E404115H, E404121H and E404128A. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-320 Erosion Control

Purchaser shall deliver 350 pounds of grass seed to a location designated by the Contract Administrator. Seed provided shall meet the following specifications.

40% Timothy, 10% Ladak Alfalfa, 20% Alsike Clover, 30% Hard Fescue
Seed shall be certified weed free, premixed and delivered to the Northeast Region Office in 50 pound bags clearly labeled with the timber sale name on each bag.

G-330 Pre-work Conference

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

the plan of operations is adequate for Purchaser's purposes or complies with applicable laws.

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-380 Road Easement and Road Use Permit Requirements

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

Easement 001413 with Moore dated August 2, 1977

Easement 90081 with Vaagen Bros. Lumber dated August 11, 2014

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:

Resource, including the terms and provisions thereof,

For: Archeological Site

In Favor of: Archeological Site - Resource RCW 27.53

Disclosed by Application No.: 07-000155

Granted: 6/15/1979

Expires: Indefinite

Easement, including the terms and provisions thereof,

For: Road

In Favor of: B. J. Carney & Company

Disclosed by Application No.: 50-041051

Granted: 10/19/1978

Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Vaagen Bros. Lumber, Inc.
Disclosed by Application No.: 50-090082
Granted: 8/11/2014
Expires: Indefinite

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 \$157,716.00. The total contract price consists of a \$0.00 contract bid price plus \$157,716.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

Advance payments made under P-045 or P-045.2 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report

of charges. Refunds not made within the 30 day period will accrue interest at the interest rate, as established by WAC 332-100-030, computed on a daily basis until paid.

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

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

H-013 Reserve Tree Damage Definition

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

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

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

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

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

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. Skid trails will not exceed 12 feet in width, including rub trees.
- b. Skid trails shall not cover more than 10 percent of the total acreage on one unit.
- c. Skid trail location will be pre-approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.
- h. Side hill cut skid trails that are constructed on slopes steeper than 50% will be rehabbed to natural slope.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 8 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

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

H-050 Rub Trees

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

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using hand falling, cable or tether equipment in the designated areas in Units 1, 4, 5 and 6. Units 2, 3 and non-cable areas forest products shall be harvested and removed using ground based equipment D6 equivalent or smaller. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted from February 1 to May 1 unless authorized 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.

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-260 Fall Leaners

Trees within 100 feet of all roads that have been pushed over in falling or skidding operations shall be felled.

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

Road construction and associated work provisions of the Road Plan for this sale, dated 11/20/2017 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on Woodspur road, E404024A, E404115E, E404115J, E404121E, E404121F, E404122F, E404122G, E404128A, E4041128B, E404115H, E404121H and E404128A roads. All work shall be completed to the specifications detailed in the Road Plan.

C-080 Landing Locations Approved Prior to Construction

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

C-140 Water Bars

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

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

An Emergency Response Plan (ERP) shall be provided to the Contract Administrator containing but not limited to, valid contact numbers and procedures for medical

emergencies, fire, hazardous spills, forest practice violations and any unauthorized or unlawful activity on or in the vicinity of the sale area. The Contract Administrator and the State shall be promptly notified whenever an incident occurs requiring an emergency response.

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-040 Noxious Weed Control

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-110 Resource Protection

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

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000
(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

ECY - Southwest Region:
1-360-407-6300
(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

ECY - Central Region:
1-509-575-2490
(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

ECY - Eastern Region:
1-509-329-3400
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

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

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Ken McNamee

Print Name

Northeast Region Manager

Date: _____

Date: _____

Address:

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

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northeast

Timber Sale Name: Q Woodspur

Application Number: 30- 095800

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 5,125 linear feet
Road to be constructed (optional and required) but not abandoned

Reconstruction: 2,472 linear feet
Road to be reconstructed (optional and required) but not abandoned

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

Decommission: 1,386 linear feet
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 39,930 linear feet
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

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

0 linear feet

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

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

(Revised 9/18)

PRE-CRUISE NARRATIVE

Sale Name: Woodspur	Region: Northeast
Agreement #: 30-095800	District: North Columbia
Contact Forester: Bery Beardslee Phone / Location: (509)684-7474	County(s): Stevens, Choose a county
Alternate Contact: Tony Flanagan Phone / Location: (509)684-7474	Other information: Units are all accessible by vehicle

Type of Sale: Lump Sum	
Harvest System: Uphill Cable Click here to enter text.	28%
Harvest System: Ground based Click here to enter text.	68%
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 Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	15/40/41E	03	60.48	NA	NA	2.2	NA	58.28	GPS (Garmin)
2	15/40/41E	03	51.11	NA	NA	3.0	NA	48.11	GPS (Garmin)
3	22/40/41E	03	77.83	NA	NA	2.7	NA	75.13	GPS (Garmin)
4	21/40/41E	03	81.16	NA	NA	1.8	NA	79.36	GPS (Garmin)
5	21/40/41E	03	20.05	NA	NA	.8	NA	19.25	GPS (Garmin)
6	21/40/41E	03	46.78	NA	NA	.7	NA	46.08	GPS (Garmin)
R/W U7		03		NA	NA	2.4	NA		
TOTAL ACRE			339.81			9.0		326.21	

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HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Cut all timber not marked with purple paint and all dead standing and down timber , except for 2-2-2 (required forest practice	when possible) Leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
2	Cut all timber not marked with purple paint and all dead standing and down timber , except for 2-2-2 (required forest practice	when possible) Leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
3	Cut all timber not marked with purple paint and all dead standing and down timber , except for 2-2-2 (required forest practice	when possible) Leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
4	Cut all timber not marked with blue paint and all dead standing and down timber , except for 2-2-2 (required forest practice	when possible) Leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
5	Cut all timber not marked with blue paint and all dead standing and down timber , except for 2-2-2 (required forest practice	When possible) leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
6	Cut all timber not marked with blue paint and all dead standing and down timber , except for 2-2-2 (required forest practice	When possible) leave the two largest snags per acre, preferred snags are western larch and Douglas fir	6-7
R/W	Cut all timber between R/W tags		

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF,RC, 1.0	Woodspur County Road all Units.	
2	DF,GF, 841		
3	DF,GF, 1.2		
4	DF,PP 1.9		
5	DF,PP 340		
6	DF,WL 1.4		
TOTAL MBF	6.8		

REMARKS:

Gross acres 339.81	Net acres 326.21
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Prepared By: Berny Beardslee Date: 9/7/2017	Title: NRS 1	CC:
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Cruise Narrative

Sale Name: Woodspur	Region: Northeast
Agreement Number: 30-095800	District: North Columbia
Lead Cruiser: Jim Putnam	Completion Date: 4/24/18
Other Cruisers on sale: Dylan Worlock, Berny Beardslee	Legal: Sections 15, 21 and 22, T40N, R41E WM.

Unit Acreage Specifications:

Unit #	Gross Acres	Net Acres	Total Deletions	RMZ / WMZ	Leave Tree Acres	Existing Roads	Other
1	60.5	58.3	2.2			2.2	
2	51.1	48.1	3.0			3.0	
3	77.8	75.1	2.7			2.7	
4	81.2	79.4	1.8			1.8	
5	20.1	19.3	0.8			0.8	
6	46.8	46.1	0.7			0.7	
ROW7	2.4	2.4	0.0				
Total	339.9	328.7	11.2	0.0	0.0	11.2	0.0

Cruise Sample Design:

This timber sale was cruised using the **variable plot** sampling method. The double basal area system was employed; a small BAF to determine Basal Area (count trees) and a large BAF to determine the Volume-Basal Area Ratio (cruise trees). Each plot was a full plot. Plot locations were created using a computer generated grid, and found using a hand held GPS unit.

Unit #	Small BAF (count)	Large BAF (cruise)	Sighting height	Grid size (plot spacing in feet)	% Cruise to count Target	% Cruise to count Actual	Total number of Plots
1a/1b	33.61/40	134.44/160	D4H	260' x 260'	25%	41.5%	35
2	33.61	134.44	D4H	260' x 260'	25%	17.5%	29
3	33.61	134.44	D4H	260' x 260'	25%	25%	49
4	40	160	D4H	260' x 260'	25%	34.3%	51
5	40	80.28	D4H	260' x 260'	50%	47.7%	11
6	40	160	D4H	260' x 260'	25%	24%	29
ROW7	33.61	134.44	D4H	200'	25%	46.2%	16
Total					29%	30.8%	220

Cruise Specifications:

Minor species cruise intensity:	We grade the first tree of all minor species encountered with the smaller BAF; then followed through with the small BAF to large BAF ratio.
Minimum top dib:	<p>Ponderosa pine and western redcedar: Trees less than 17.5" DBH have a minimum top of 5.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p> <p>All other species: Trees less than 17.5" DBH have a minimum top of 4.6" dib. Trees 17.6" and greater DBH have a minimum top dib of 40% of DOB at 16' or a 6" top whichever is greater.</p>
Minimum dbh:	Ponderosa pine and western redcedar: 8.0 inches DBH All other species: 7.0 inches DBH
Log lengths:	Saw logs: 32 feet where possible, minimum of 12 feet
Take / Leave tree description:	Harvest all green conifers that meet the minimum cruise specifications and are not banded with blue paint (Units 4, 5 and 6) and purple paint (Units 1, 2 and 3). Cut all timber between ROW tags in right-of-way.
Commercial species observed in sale area, but not in cruise:	Western white pine
Utility wood:	N/A
Status codes used:	none
Sort codes used	D – saw log
Species table used:	NE
Grade table used:	NEGRADE
Other tables used (cruise adjustment):	WIND- Volume adjustment in Units 2, 4 and 5, which were cruised before heavy snow and wind caused blowdown and breakage. DF and GF volume were reduced by 1%, other species were not affected enough to warrant an adjustment.

Field Observations:

Location:	Northeastern Stevens County, 7 miles northeast of Northport, Washington.
Aspect:	North, East, South, and West
Elevation:	2600' to 4100'
Slope:	Unit 1 – 0% to 85%, Average 35% Unit 2 – 0% to 45%, Average 20% Unit 3 – 0% to 45%, Average 25% Unit 4 – 0% to 65%, Average 40% Unit 5 – 0% to 40%, Average 30% Unit 6 – 0% to 60%, Average 35%
Harvest Methods:	70% ground base yarding with the longest skidding of 1200 feet. 30% uphill cable.
Stand Composition:	The stands are second growth Douglas-fir with larger residual trees. Most ponderosa pine on site are marked as leave trees. There is a minor component of western red-cedar, grand fir, western larch, western hemlock and ponderosa pine.
Stand Health:	Prevalent broken tops due to wind and winter snow-load. Wind-throw throughout the units. Root rot was evident in parts of Units 2, 3, 4 and 6. Some bark beetle activity was noted, but very light damage.
Timber Quality:	The timber is a mix of domestic quality Douglas-fir (71%), western red cedar (12%), grand fir (8%), western larch (7%), western hemlock (2%) and ponderosa pine (<1%).
Non-board Foot Volume:	
Other Considerations:	

Trust and Counties:

Entire sale located in Stevens County trust 03.

Prepared by: Dylan Worlock

Title: Forest Check Cruiser 1

CC: Timber Sales Document Center & File #30-095800

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
<div style="border: 1px solid black; padding: 5px;"> T40N R41E S15 Ty00U2 THRU T40N R41E S22 Ty00U3 </div>				Project: 1WOODSPU										Page 1							
				Acres 328.70										Date 11/13/2019		Time 2:50:48PM					
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2		44	4.8	6,091	5,798	1,906			75	25		1		99	32	14	273	1.88	21.2
DF	D	3		44	2.6	5,946	5,791	1,903			98	2		0	1	99	32	8	98	0.68	59.2
DF	D	4		12	4.5	1,521	1,454	478		75	25			30	33	38	23	5	27	0.31	53.7
DF Totals				71	3.8	13,558	13,043	4,287		8	46	34	11	4	4	92	28	8	97	0.78	134.1
GF	D	2		24	7.5	383	355	117			100				100	32	13	198	1.27	1.8	
GF	D	3		63	2.0	916	898	295			95	5			6	94	32	8	89	0.59	10.1
GF	D	4		13	2.8	182	177	58		100				58	15	27	20	5	22	0.24	8.2
GF Totals				8	3.5	1,482	1,430	470		12	60	28		7	6	87	27	7	71	0.56	20.2
RC	D	3		72	2.7	1,674	1,629	535			73	25	2	1	11	88	31	9	105	0.88	15.5
RC	D	4		28	20.4	764	608	200			100			34	66		21	7	27	0.32	22.8
RC Totals				12	8.2	2,438	2,237	735			80	19	1	10	26	64	25	7	59	0.59	38.2
WH	D	2		4	26.3	18	13	4			100				100	32	12	140	1.38	.1	
WH	D	3		73	3.4	213	206	68			100				9	91	32	8	96	0.65	2.1
WH	D	4		23	4.3	67	64	21		96	4			21	74	4	22	5	24	0.28	2.7
WH Totals				2	5.0	298	283	93		22	74	5		5	23	72	26	7	58	0.50	4.9
WL	D	2		33	3.3	486	470	154			46	54			100	32	15	308	1.78	1.5	
WL	D	3		55	3.4	785	758	249			100				100	32	9	101	0.68	7.5	
WL	D	4		12		156	156	51		88	12			22	40	38	23	5	30	0.27	5.2
WL Totals				7	3.0	1,427	1,384	455		10	56	16	18	3	5	93	29	8	97	0.69	14.2
PP	D	4		82	2.2	66	64	21			43	57		1	1	99	31	17	406	2.37	.2
PP	D	5		18	.4	13	13	4			100			13	2	85	24	8	92	0.80	.1
PP Totals				0	1.9	79	78	26			17	36	47	3	1	96	28	13	256	1.73	.3
Totals					4.3	19,283	18,455	6,066		8	53	30	10	5	7	88	27	8	87	0.72	211.9

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT 1WOODSPU							DATE	11/13/2019	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	15	WOODSPUR	00U2	THR	328.70	220	783	S	E	
40N	41E	22	WOODSPUR	00U3							
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL			220	783	3.6						
CRUISE			135	241	1.8	36,607	.7				
DBH COUNT REFOREST											
COUNT			67	203	3.0						
BLANKS			18								
100 %											
STAND SUMMARY											
SAMPLE TREES		TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	159	66.6	15.6	75	22.4	88.5	13,558	13,043	2,942	2,927	
WR CEDAR	34	26.8	12.6	49	6.5	23.1	2,438	2,237	612	570	
GR FIR	19	9.5	12.9	80	2.4	8.7	1,482	1,430	304	302	
W LARCH	13	5.3	16.0	100	1.9	7.4	1,427	1,384	282	282	
P PINE	9	.1	26.4	64	0.1	.5	79	78	15	15	
WHEMLOCK	7	3.0	11.7	59	0.6	2.2	298	283	64	64	
TOTAL	241	111.4	14.7	70	34.1	130.4	19,283	18,455	4,218	4,160	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		75.3	6.0	304	323	342					
WR CEDAR		93.0	16.2	144	171	199					
GR FIR		79.0	18.6	163	200	237					
W LARCH		77.7	22.4	282	364	445					
P PINE		65.8	23.2	611	796	980					
WHEMLOCK		56.1	22.8	93	120	147					
TOTAL		87.4	5.7	289	306	324	305	76	34		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		67.1	5.4	67	71	75					
WR CEDAR		86.7	15.1	38	45	51					
GR FIR		67.2	15.8	34	41	47					
W LARCH		65.3	18.8	59	72	86					
P PINE		45.5	16.1	119	141	164					
WHEMLOCK		64.5	26.2	21	29	37					
TOTAL		73.9	4.8	63	66	69	218	54	24		
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		74.7	5.0	63	67	70					
WR CEDAR		186.1	12.5	23	27	30					
GR FIR		253.5	17.1	8	10	11					
W LARCH		260.8	17.6	4	5	6					
P PINE		864.1	58.2	0	0	0					
WHEMLOCK		537.4	36.2	2	3	4					
TOTAL		31.4	2.1	109	111	114	39	10	4		
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR		69.2	4.7	84	88	93					
WR CEDAR		173.4	11.7	20	23	26					
GR FIR		243.2	16.4	7	9	10					
W LARCH		240.4	16.2	6	7	9					

TC PSTATS		PROJECT STATISTICS							PAGE	2		
		PROJECT 1WOODSPU							DATE	11/13/2019		
TWP	RGE	SC	TRACT	TYPE		ACRES			PLOTS	TREES	CuFt	BdFt
40N	41E	15	WOODSPUR	00U2	THR	328.70			220	783	S	E
40N	41E	22	WOODSPUR	00U3								
CL	68.1		COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.			INF. POP.		
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15		
P PINE			855.2	57.6	0	1	1					
WHEMLOCK			505.7	34.1	1	2	3					
TOTAL			20.0	1.3	129	130	132	16	4	2		
CL	68.1		COEFF	NET BF/ACRE			# OF PLOTS REQ.			INF. POP.		
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR			72.6	4.9	12,405	13,043	13,680					
WR CEDAR			175.9	11.8	1,972	2,237	2,502					
GR FIR			254.2	17.1	1,185	1,430	1,674					
W LARCH			241.6	16.3	1,159	1,384	1,609					
P PINE			833.0	56.1	34	78	121					
WHEMLOCK			517.9	34.9	185	283	382					
TOTAL			30.1	2.0	18,080	18,455	18,829	36	9	4		
CL	68.1		COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.			INF. POP.		
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR			71.6	4.8	2,786	2,927	3,068					
WR CEDAR			173.3	11.7	503	570	636					
GR FIR			250.3	16.9	251	302	353					
W LARCH			241.5	16.3	236	282	327					
P PINE			836.1	56.3	6	15	23					
WHEMLOCK			506.4	34.1	42	64	86					
TOTAL			27.2	1.8	4,084	4,160	4,236	30	7	3		
CL	68.1		COEFF	V_BAR/ACRE			# OF PLOTS REQ.			INF. POP.		
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR					140	147	155					
WR CEDAR					85	97	108					
GR FIR			108.0	7.3	137	165	193					
W LARCH			76.6	5.2	156	186	216					
P PINE			811.8	54.7	67	152	238					
WHEMLOCK			329.5	22.2	83	128	172					
TOTAL			28.2	1.9	139	142	144	32	8	4		

TC PSCSTGR **Species, Sort Grade - Board Foot Volumes (Type)**

T40N R41E S15 Ty0U1A 24.70 T40N R41E S15 Ty0U1B 33.60	Project: 1WOODSPU Acres 58.30	Page 1 Date 11/13/2019 Time 3:18:28PM
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S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2	43	5.8	5,278	4,972	290			70	30	4		96	31	14	263	2.04	18.9	
DF	D	3	43	3.4	5,187	5,008	292		100				2	98	32	8	93	0.68	53.7	
DF	D	4	14	.5	1,528	1,520	89	90	10			23	54	23	23	5	25	0.28	60.0	
DF Totals			82	4.1	11,993	11,501	670	12	45	30	13	5	8	87	28	8	87	0.75	132.7	
GF	D	2	23		316	316	18			100				100	32	15	305	1.53	1.0	
GF	D	3	63		831	831	48		100					100	32	8	96	0.60	8.6	
GF	D	4	14		175	175	10	100				15	85		22	5	25	0.24	7.1	
GF Totals			9		1,321	1,321	77	13	63	24		2	11	87	28	7	79	0.55	16.7	
RC	D	3	100		866	866	51		53	26	21			5	95	32	10	171	1.51	5.1
RC Totals			6		866	866	51		53	26	21			5	95	32	10	171	1.51	5.1
WL	D	3	88		278	278	16		100					100	32	10	120	0.81	2.3	
WL	D	4	12		35	35	2	100						100	24	5	30	0.24	1.2	
WL Totals			2		312	312	18	11	89					11	89	29	8	90	0.66	3.5
Totals				3.4	14,493	14,001	816	11	48	29	12	4	8	88	28	8	89	0.75	157.9	

T TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page 1											
Project: 1WOODSPU										Date 11/13/2019												
										Time 2:50:48PM												
T40N R41E S15 T00U2										T40N R41E S15 T00U2												
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt													
40N	41E	15	WOODSPUR	00U2	48.10	29	21	S	E													
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft				
DF		D	2	41	4.4	5,613	5,367				69	31			100	32	14	262	1.72		20.5	
DF		D	3	51	2.0	6,701	6,569				100				100	32	8	102	0.69		64.3	
DF		D	4	8	1.0	1,002	992		83	17			53	20	27	21	5	24	0.29		40.5	
DF	Totals			67	2.9	13,316	12,928		6	52	29	13	4	2	94	28	8	103	0.78		125.2	
RC		D	3	69	2.3	1,888	1,845				76	24			100	32	8	104	0.77		17.7	
RC		D	4	31	51.9	1,663	799				100		8	92		22	8	21	0.31		38.3	
RC	Totals			14	25.5	3,551	2,644			84	16		2	28	70	25	8	47	0.49		55.9	
GF		D	2	39	13.0	1,498	1,303				100				100	32	12	184	1.23		7.1	
GF		D	3	54	1.0	1,821	1,803				100				100	32	9	101	0.64		17.8	
GF		D	4	7	1.0	208	206		100				100			17	5	17	0.25		12.4	
GF	Totals			17	6.1	3,527	3,312		6	54	39		6		94	27	8	89	0.69		37.3	
WL		D	3	66		255	255				100				100	32	7	60	0.41		4.2	
WL		D	4	34		127	127		6	100					100	26	5	30	0.20		4.2	
WL	Totals			2		382	382		18	33	67				33	29	6	45	0.31		8.5	
WH		D	2	82	26.3	125	92				100				100	32	12	140	1.38		.7	
WH		D	4	18	50.0	39	20				100				100	32	6	30	0.49		.7	
WH	Totals			1	32.0	164	111			18	82				100	32	9	85	0.93		1.3	
Type Totals					7.5	20,941	19,378		932	6	57	29	9	4	5	90	27	8	85	0.69		228.3

T40N R41E S22 T00U3 **T40N R41E S22 T00U3**
 Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt BdFt
 40N 41E 22 WOODSPUR 00U3 75.10 49 42 S E

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net BdFt	Def%	Gross	Net	Total Net MBF	Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/Lf	
													4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
RC	D	3	75	3.5	4,393	4,238	318	75	25			18	82	30	9	93	0.79	45.5							
RC	D	4	25		1,406	1,406	106	100			61	39		19	6	24	0.34	58.2							
RC	Totals		39	2.7	5,799	5,645	424	81	19		15	23	62	24	7	54	0.59	103.7							
DF	D	2	29	1.8	1,193	1,172	88		100				100	32	13	248	1.84	4.7							
DF	D	3	52	2.8	2,114	2,056	154		100				100	32	9	121	0.85	17.0							
DF	D	4	19	2.0	737	723	54	18	82		14	6	80	27	6	40	0.38	17.9							
DF	Totals		27	2.3	4,044	3,950	297	3	67	30	3	1	96	30	8	100	0.79	39.6							
GF	D	2	19		473	473	36		100				100	32	12	190	1.27	2.5							
GF	D	3	60	2.8	1,476	1,435	108		100			11	89	32	8	80	0.55	18.0							
GF	D	4	21	4.2	498	478	36	100			56		44	21	5	24	0.25	19.6							
GF	Totals		16	2.5	2,447	2,385	179	20	60	20	11	7	82	26	7	59	0.49	40.1							
WH	D	3	77	3.4	925	893	67		100			9	91	32	8	97	0.65	9.2							
WH	D	4	23		265	265	20	100			21	79		21	5	24	0.27	11.0							
WH	Totals		8	2.7	1,190	1,158	87	23	77		5	25	70	26	7	57	0.48	20.3							
WL	D	2	36		497	497	37		38	62			100	32	18	465	2.39	1.1							
WL	D	3	54		719	719	54		100				100	32	9	109	0.72	6.6							
WL	D	4	10		129	129	10	63	37		28	72		20	6	34	0.32	3.8							
WL	Totals		9		1,346	1,346	101	6	57	14	23	3	7	28	9	117	0.80	11.5							
Type Totals				2.3	14,826	14,484	1,088	7	71	20	2	9	13	78	26	7	67	0.61	215.2						

T40N R41E S21 T00U4										T40N R41E S21 T00U4				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
40N	41E	21	WOODSPUR	00U4	79.40	51	55	S	E					

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
				Def%	Gross	Net		Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	
DF	D	2	43	4.7	6,663	6,349	504		91	9			100	32	14	271	1.87	23.4		
DF	D	3	45	2.8	6,798	6,609	525		94	6			1	99	32	8	100	0.67	66.1	
DF	D	4	12	4.5	1,690	1,615	128	80	20				28	20	52	23	5	31	0.32	51.5
DF	Totals		75	3.8	15,152	14,572	1,157	9	45	43	4		3	3	94	29	8	103	0.79	141.0
WL	D	2	26	.0	691	691	55		36	64			100	32	15	305	1.71	2.3		
WL	D	3	59	3.3	1,611	1,558	124		100				100	32	9	106	0.70	14.7		
WL	D	4	15		373	373	30	91	9				16	18	66	25	5	34	0.29	10.9
WL	Totals		14	2.0	2,675	2,622	208	13	61	10	17		2	3	95	29	8	94	0.65	27.9
RC	D	3	54		805	805	64		70	30			9		91	30	11	157	1.34	5.1
RC	D	4	46	15.1	803	682	54		100					100		29	7	46	0.29	14.9
RC	Totals		8	7.5	1,608	1,487	118		84	16			5	46	49	29	8	74	0.56	20.0
GF	D	3	95	4.8	559	532	42		66	34			15	85		31	8	99	0.66	5.4
GF	D	4	5	1.0	27	27	2	100					100			12	5	10	0.18	2.7
GF	Totals		3	4.7	586	559	44	5	63	33			5	14	81	25	7	69	0.59	8.1
PP	D	4	64		92	92	7		100					100		32	16	370	2.14	.2
PP	D	5	36	.0	50	50	4		100				10	90		24	9	100	0.83	.5
PP	Totals		1		141	141	11		35	65			4	96		27	11	190	1.35	.7
Type Totals				3.9	20,162	19,382	1,539	9	50	36	5		3	6	90	29	8	98	0.74	197.7

T40N R41E S21 T00U5										T40N R41E S21 T00U5				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
40N	41E	21	WOODSPUR	00U5	19.30	11	21	S	E					

Spp	Sp	T	So	Gr	ad	%	Net	Percent Net Board Foot Volume										Average Log				Logs Per /Acre			
								Bd. Ft. per Acre			Total	Log Scale Dia.				Log Length				Ln	Dia		Bd	CF/	
								Def%	Gross	Net		4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						Ft
DF			D		2	16	3.1	3,489	3,380		65			50	50			100			32	15	365	2.23	9.3
DF			D		3	66	3.0	14,219	13,793		266			100				0	100		32	8	96	0.70	143.8
DF			D		4	18	2.4	3,644	3,558		69	92	8					32	53	15	23	5	25	0.27	142.1
DF	Totals					98	2.9	21,352	20,731		400	16	68	8	8			6	9	85	27	7	70	0.59	295.1
PP			D		4	100		397	397		8			100					100		32	18	490	2.87	.8
PP	Totals					2		397	397		8			100					100		32	18	490	2.87	.8
Type Totals							2.9	21,749	21,128		408	16	67	8	10			6	9	85	28	7	71	0.59	296.0

T40N R41E S21 T00U6										T40N R41E S21 T00U6				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
40N	41E	21	WOODSPUR	00U6	46.10	29	32	S	E					

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre					
								Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
													4-5	6-11	12-16	17+	12-20	21-30	31-35						36-99
DF	D	2	61	5.2	15,618	14,805	682			66	34			100	32	14	280	1.86	52.9						
DF	D	3	31	1.8	7,542	7,406	341		100					3	97	32	8	89	0.62	83.3					
DF	D	4	8	12.5	2,166	1,894	87	69	31					34	38	29	21	5	22	0.32	85.2				
DF	Totals		90	4.8	25,326	24,105	1,111	5	33	41	21			3	4	93	28	8	109	0.88	221.5				
WL	D	2	56	8.0	1,424	1,311	60			60	40			100	32	14	260	1.63	5.0						
WL	D	3	40	10.0	1,009	908	42		100					100	32	8	90	0.65	10.1						
WL	D	4	4	.0	82	82	4	100					100		16	5	14	0.23	5.7						
WL	Totals		9	8.5	2,515	2,301	106	4	39	34	23			4		96	28	9	111	0.86	20.8				
GF	D	3	100		198	198	9		100					100	32	6	50	0.49	4.0						
GF	Totals		1		198	198	9		100					100	32	6	50	0.49	4.0						
RC	D	3	81		137	137	6		100					100	32	8	90	0.71	1.5						
RC	D	4	19		30	30	1		100				100	14	6	20	0.27		1.5						
RC	Totals		1		167	167	8		100				18		82	23	7	55	0.58	3.0					
Type Totals				5.1	28,206	26,771	1,234	5	35	39	21			3	4	94	28	8	107	0.87	249.3				

T40N R41E S21 TROW7										T40N R41E S21 TROW7				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
40N	41E	21	WOODSPUR	ROW7	2.40	16	30	S	E					

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF	D	2		60	2.5	7,693	7,501	18			69	31			100			32	15	319	1.95	23.5
DF	D	3		30	2.5	3,743	3,650	9		100					100			32	8	101	0.71	36.3
DF	D	4		10	3.0	1,270	1,233	3	77	23				53	6	41		21	5	29	0.32	42.4
DF	Totals			60	2.5	12,706	12,383	30	8	32	42	19		5	1	94		27	9	121	0.92	102.3
RC	D	3		96	14.2	3,735	3,205	8		46	54				5	95		31	10	143	1.44	22.4
RC	D	4		4		130	130	0		100				100				16	7	30	0.41	4.3
RC	Totals			16	13.7	3,865	3,334	8	48	52				4	5	92		29	10	125	1.35	26.7
PP	D	4		93	7.0	2,785	2,590	6			31	69		3	2	95		30	16	370	2.16	7.0
PP	D	5		7	4.1	198	190	0		100				39	22	38		23	8	55	0.67	3.4
PP	Totals			14	6.8	2,982	2,779	7	7	29	64			5	3	91		28	13	266	1.76	10.5
WL	D	2		58		722	722	2			100					100		32	12	180	1.48	4.0
WL	D	3		35		441	441	1		100						100		32	9	110	0.61	4.0
WL	D	4		7		80	80	0	100					100				18	5	20	0.29	4.0
WL	Totals			6		1,243	1,243	3	6	35	58			6		94		27	9	103	0.88	12.0
GF	D	3		77		319	319	1			100					100		32	7	70	0.35	4.6
GF	D	4		23		91	91	0	100					100				20	5	20	0.20	4.6
GF	Totals			2		410	410	1	22	78				22		78		26	6	45	0.30	9.1
WH	D	3		71		238	238	1			100					100		32	6	50	0.32	4.8
WH	D	4		29		95	95	0	100					100				20	5	20	0.17	4.8
WH	Totals			2		333	333	1	29	71				29		71		26	6	35	0.26	9.5
Type Totals					4.9	21,539	20,483	49	6	33	41	20		6	2	93		27	9	120	0.98	170.1

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

T40N R41E S15 Ty00U2	48.1
T40N R41E S15 Ty0U1	24.7
T40N R41E S22 Ty00U	75.1

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Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
DOUG FIR	21,890	44,083	27,557	43.95	21.83	0.78	9,669	9,622	4,457	4,287
WR CEDAR	8,808	12,570	4,729	21.26	14.90	0.59	2,012	1,873	802	735
GR FIR	3,136	6,626	2,861	31.70	15.00	0.57	998	994	487	470
W LARCH	1,756	4,674	2,222	52.73	19.81	0.70	926	926	469	455
WHEMLOCK	974	1,607	676	21.67	13.13	0.50	211	211	98	93
P PINE	44	100	115	108.24	48.09	1.72	48	48	26	26
Totals	36,607	69,660	38,160	37.35	19.63	0.72	13,865	13,673	6,338	6,066

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
				Tree	Log		Gross	Net	Gross	Net
C	36,607	69,660	38,160	37.35	19.63	0.72	13,865	13,673	6,338	6,066
Totals	36,607	69,660	38,160	37.35	19.63	0.72	13,865	13,673	6,338	6,066

Log Stock Table - MBF

T40N R41E S15 Ty00U2
 THRU
 T40N R41E S22 Ty00U3

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches													
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+		
DF		D	2	16	12	7.1	11	.3						11								
DF		D	2	32	1,990	4.8	1,895	44.2					723	375	687	88	22					
DF		D	3	20	2	15.1	1	.0				1										
DF		D	3	24	11		11	.3			8	3										
DF		D	3	26	3	16.7	3	.1			3											
DF		D	3	30	10		10	.2			4	6										
DF		D	3	32	1,929	2.6	1,879	43.8			456	671	718	33								
DF		D	4	12	13		13	.3		11	2											
DF		D	4	14	37	1.8	37	.9		22	12	3										
DF		D	4	16	28	2.6	28	.6		18	6	4										
DF		D	4	18	10		10	.2		6	5											
DF		D	4	20	56		56	1.3		44	9	3										
DF		D	4	24	42		42	1.0		29	14											
DF		D	4	26	49		49	1.1		43	5											
DF		D	4	28	56	12.6	49	1.1		49												
DF		D	4	30	16		15	.4		9	6											
DF		D	4	32	193	6.7	180	4.2		126	53											
DF		Totals			4,457	3.8	4,287	70.7		357	581	690	719	756	386	687	88	22				
GF		D	2	32	126	7.5	117	24.8				105		11								
GF		D	3	30	18		18	3.9		18												
GF		D	3	32	283	2.1	277	58.9		57	156	49	14									
GF		D	4	12	2	1.0	2	.4		2												
GF		D	4	14	5		5	1.1		5												
GF		D	4	16	4		3	.7		3												
GF		D	4	18	13		13	2.7		13												
GF		D	4	20	10		10	2.2		10												
GF		D	4	24	5		5	1.0		5												
GF		D	4	26	4		4	.9		4												
GF		D	4	32	17	9.0	16	3.3		16												
GF		Totals			487	3.5	470	7.7		58	76	156	49	120		11						
RC		D	3	18	5		5	.7				5										
RC		D	3	24	34		34	4.6				34										
RC		D	3	26	6		6	.9		6												
RC		D	3	28	19		19	2.6			19											
RC		D	3	32	486	3.1	471	64.0		107	85	132	63	23	61							

Log Stock Table - MBF

T40N R41E S15 Ty00U2
 THRU
 T40N R41E S22 Ty00U3

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches										
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39
RC		D	4	12	3		3	.4			3								
RC		D	4	14	31	74.1	8	1.1		8									
RC		D	4	16	60	47.2	32	4.3		32									
RC		D	4	18	8		8	1.0		8									
RC		D	4	20	19		19	2.6		19									
RC		D	4	24	12		12	1.7		12									
RC		D	4	26	27		27	3.6		27									
RC		D	4	28	42		42	5.7		42									
RC		D	4	30	50		50	6.9		50									
RC		Totals			802	8.2	735	12.1		313	137	138	63	23	61				
WH		D	2	32	6	26.3	4	4.7					4						
WH		D	3	30	6		6	6.5		6									
WH		D	3	32	64	3.7	62	66.1		14	16	31							
WH		D	4	12	2		2	2.0		2									
WH		D	4	18	2		2	2.5		2									
WH		D	4	20	0		0	.2		0									
WH		D	4	24	5		5	5.9		5									
WH		D	4	26	10		10	10.9		10									
WH		D	4	32	2	50.0	1	1.0		1									
WH		Totals			98	5.0	93	1.5		20	21	16	31	4					
WL		D	2	32	160	3.3	154	33.9				40	32	60	23				
WL		D	3	32	258	3.4	249	54.8		47	88	115							
WL		D	4	12	1		1	.3		1									
WL		D	4	14	2		2	.5		2									
WL		D	4	16	3		3	.6		3									
WL		D	4	18	0		0	.0		0									
WL		D	4	20	5		5	1.1		2	3								
WL		D	4	24	14		14	3.2		11	4								
WL		D	4	26	6		6	1.3		6									
WL		D	4	32	19		19	4.3		19									
WL		Totals			469	3.0	455	7.5		45	49	91	115	40	32	60	23		
PP		D	4	20	0	42.9	0	.6					0						
PP		D	4	26	0	10.0	0	.5				0							
PP		D	4	32	21	1.6	21	81.7				1	1	17	2	1			

Log Stock Table - MBF

T40N R41E S15 Ty00U2
 THRU
 T40N R41E S22 Ty00U3

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Spp	S T	So rt	Gr de	Log Len	Gross MBF	Def %	Net MBF	% Spc	Net Volume by Scaling Diameter in Inches															
									2-3	4-5	6-7	8-9	10-11	12-13	14-15	16-19	20-23	24-29	30-39	40+				
PP		D	5	16	0		0	1.7			0	0												
PP		D	5	18	0		0	.2				0												
PP		D	5	20	0		0	.4			0	0												
PP		D	5	26	0		0	.4					0											
PP		D	5	32	4		4	14.5				0	4											
PP		Totals			26	1.9	26	.4			0	0	4	1	1	17	2	1						
Total		All Species			6,338	4.3	6,066	100.0		481	1041	1092	1055	984	441	835	113	23						

TC PSTATS					STATISTICS					PAGE	1
					PROJECT	IWOODSPU				DATE	11/13/2019
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
40N	41E	15	WOODSPUR	OU1A	58.30	35	101	S	E		
40N	41E	15	WOODSPUR	OU1B							
					TREES	ESTIMATED	PERCENT				
					PER PLOT	TOTAL	SAMPLE				
					PLOTS	TREES	TREES				
TOTAL			35	101	2.9						
CRUISE			23	42	1.8	5,125	.8				
DBH COUNT											
REFOREST											
COUNT			8	15	1.9						
BLANKS			4								
100 %											
STAND SUMMARY											
SAMPLE		TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC		
DOUG FIR	33	75.7	14.7	67	23.3	89.2	11,993	11,501	2,739	2,739	
WR CEDAR	4	4.0	19.5	51	1.9	8.3	866	866	243	243	
GR FIR	4	7.1	13.2	88	1.9	6.7	1,321	1,321	253	253	
W LARCH	1	1.2	17.1	112	0.4	1.8	312	312	67	67	
TOTAL	42	87.9	14.9	68	27.5	106.1	14,493	14,001	3,302	3,301	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		70.2	13.0	251	288	326					
WR CEDAR		74.3	42.4	184	320	456					
GR FIR		98.2	56.1	131	298	464					
W LARCH											
TOTAL		70.7	11.3	259	292	325	199	50			22
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		68.8	12.8	60	69	78					
WR CEDAR		68.1	38.9	53	88	122					
GR FIR		86.8	49.6	27	54	80					
W LARCH											
TOTAL		68.5	11.0	62	69	77	187	47			21
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		63.9	10.8	68	76	84					
WR CEDAR		282.9	47.8	2	4	6					
GR FIR		289.0	48.8	4	7	11					
W LARCH		412.1	69.6	0	1	2					
TOTAL		44.6	7.5	81	88	95	80	20			9
CL	68.1	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		54.2	9.2	81	89	97					
WR CEDAR		255.6	43.2	5	8	12					
GR FIR		262.1	44.3	4	7	10					
W LARCH		412.1	69.6	1	2	3					
TOTAL		26.5	4.5	101	106	111	28	7			3
CL	68.1	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10			15
DOUG FIR		59.9	10.1	10,337	11,501	12,665					
WR CEDAR		251.0	42.4	499	866	1,234					
GR FIR		263.1	44.4	734	1,321	1,908					
W LARCH		412.1	69.6	95	312	530					

STATISTICS
PROJECT IWOODSPU

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	15	WOODSPUR	0U1A	58.30	35	101	S	E	
40N	41E	15	WOODSPUR	0U1B						
CL	68.1		COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.00		VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL			34.3	5.8	13,190	14,001	14,812	47	12	5
CL	68.1		COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR			59.8	10.1	2,462	2,739	3,015			
WR CEDAR			251.4	42.5	140	243	346			
GR FIR			259.7	43.9	142	253	364			
W LARCH			412.1	69.6	20	67	113			
TOTAL			32.8	5.5	3,118	3,301	3,484	43	11	5
CL	68.1		COEFF		V_BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD:	1.0		VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR					116	129	142			
WR CEDAR			118.6	20.0	60	104	149			
GR FIR			198.7	33.6	109	196	283			
W LARCH			282.5	47.7	51	169	287			
TOTAL			29.2	4.9	124	132	140	34	9	4

TC TSTATS				STATISTICS						PAGE	1
				PROJECT	1WOODSPU				DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
40N	41E	15	WOODSPUR	00U2	48.10	29	120	S	E		
				TREES	ESTIMATED	PERCENT					
				PER PLOT	TOTAL	SAMPLE					
				PLOTS	TREES	TREES	TREES				
TOTAL		29	120	4.1							
CRUISE		14	21	1.5	5,168		.4				
DBH COUNT											
REFOREST											
COUNT		12	51	4.3							
BLANKS		3									
100 %											
STAND SUMMARY											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
DOUG FIR	12	54.0	16.6	83	19.9	81.1	13,316	12,928	2,800	2,772	
WR CEDAR	4	36.1	13.7	44	10.0	37.1	3,551	2,644	934	691	
GR FIR	3	12.4	16.0	101	4.3	17.4	3,527	3,312	703	696	
W LARCH	1	4.2	10.0	92	0.7	2.3	382	382	78	78	
WHEMLOCK	1	.7	18.0	66	0.3	1.2	164	111	39	39	
TOTAL	21	107.4	15.4	72	35.4	139.1	20,941	19,378	4,554	4,276	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL: 68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	64.9	19.6	259	322	385						
WR CEDAR	76.4	43.6	69	122	176						
GR FIR	22.3	15.4	234	277	320						
W LARCH											
WHEMLOCK											
TOTAL	70.8	15.8	218	259	300	210	53	23			
CL: 68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	57.0	17.1	56	67	79						
WR CEDAR	70.4	40.2	18	30	42						
GR FIR	21.7	15.0	50	58	67						
W LARCH											
WHEMLOCK											
TOTAL	61.2	13.7	49	56	64	157	39	17			
CL: 68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	72.0	13.6	47	54	61						
WR CEDAR	131.8	24.9	27	36	45						
GR FIR	169.0	31.9	8	12	16						
W LARCH	373.9	70.6	1	4	7						
WHEMLOCK	538.5	101.7	1	1	1						
TOTAL	26.4	5.0	102	107	113	29	7	3			
CL: 68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	71.3	13.5	70	81	92						
WR CEDAR	128.9	24.3	28	37	46						
GR FIR	168.4	31.8	12	17	23						
W LARCH	373.9	70.6	1	2	4						
WHEMLOCK	538.5	101.7	1	1	2						
TOTAL	23.0	4.4	133	139	145	22	5	2			
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			
DOUG FIR	71.3	13.5	70	81	92						
WR CEDAR	128.9	24.3	28	37	46						
GR FIR	168.4	31.8	12	17	23						
W LARCH	373.9	70.6	1	2	4						
WHEMLOCK	538.5	101.7	1	1	2						
TOTAL	23.0	4.4	133	139	145	22	5	2			
CL: 68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.			
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15			

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	15	WOODSPUR	00U2	48.10	29	120	S	E	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		71.8	13.6	11,175	12,928	14,681				
WR CEDAR		130.1	24.6	1,995	2,644	3,293				
GR FIR		168.5	31.8	2,258	3,312	4,365				
W LARCH		373.9	70.6	112	382	653				
WHEMLOCK		538.5	101.7		111	225				
TOTAL		<i>34.0</i>	<i>6.4</i>	<i>18,135</i>	<i>19,378</i>	<i>20,620</i>	<i>48</i>	<i>12</i>	<i>5</i>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		71.5	13.5	2,398	2,772	3,147				
WR CEDAR		131.1	24.7	520	691	862				
GR FIR		168.4	31.8	475	696	918				
W LARCH		373.9	70.6	23	78	132				
WHEMLOCK		538.5	101.7		39	79				
TOTAL		<i>30.5</i>	<i>5.7</i>	<i>4,030</i>	<i>4,276</i>	<i>4,522</i>	<i>38</i>	<i>10</i>	<i>4</i>	
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				138	159	181				
WR CEDAR				54	71	89				
GR FIR				130	190	251				
W LARCH		254.4	48.0	49	165	282				
WHEMLOCK		538.5	101.7		96	194				
TOTAL		<i>583.2</i>	<i>110.1</i>	<i>130</i>	<i>139</i>	<i>148</i>	<i>14,065</i>	<i>3,516</i>	<i>1,563</i>	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	1WOODSPU			DATE	11/13/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
40N	41E	22	WOODSPUR	00U3	75.10	49	168	S	E		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		49	168	3.4							
CRUISE		27	42	1.6	9,936	.4					
DBH COUNT											
REFOREST											
COUNT		17	54	3.2							
BLANKS		5									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
WR CEDAR	16	73.1	11.7	52	16.0	54.9	5,799	5,645	1,460	1,461	
DOUG FIR	10	20.1	16.0	77	7.0	28.1	4,044	3,950	921	921	
GR FIR	8	22.9	11.5	72	4.9	16.5	2,447	2,385	516	516	
WHEMLOCK	5	12.4	11.5	59	2.6	8.9	1,190	1,158	254	254	
W LARCH	3	3.8	18.1	105	1.6	6.9	1,346	1,346	259	259	
TOTAL	42	132.3	12.6	62	32.4	115.2	14,826	14,484	3,410	3,411	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	116.7	30.1		86	124	161					
DOUG FIR	57.4	19.1		210	260	310					
GR FIR	66.0	24.9		113	150	187					
WHEMLOCK	62.1	30.9		83	120	157					
W LARCH	89.0	61.6		193	503	813					
TOTAL	100.4	15.5		159	188	217	402	101	45		
CL:	68.1 %	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	90.5	23.3		24	31	38					
DOUG FIR	54.1	18.0		50	61	72					
GR FIR	62.3	23.5		25	32	40					
WHEMLOCK	56.6	28.1		19	26	33					
W LARCH	77.2	53.4		43	92	141					
TOTAL	83.3	12.8		37	42	47	277	69	31		
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	80.0	11.4		65	73	81					
DOUG FIR	125.7	17.9		16	20	24					
GR FIR	160.1	22.8		18	23	28					
WHEMLOCK	251.4	35.9		8	12	17					
W LARCH	206.2	29.4		3	4	5					
TOTAL	14.6	2.1		130	132	135	8	2	1		
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	76.8	11.0		49	55	61					
DOUG FIR	122.8	17.5		23	28	33					
GR FIR	156.6	22.4		13	16	20					
WHEMLOCK	240.6	34.3		6	9	12					
W LARCH	199.5	28.5		5	7	9					
TOTAL				115	115	115					
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
WR CEDAR	78.7	11.2		5,011	5,645	6,279					
DOUG FIR	124.2	17.7		3,250	3,950	4,650					

TC TSTATS				STATISTICS			PAGE	2		
				PROJECT	1WOODSPU		DATE	11/13/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	22	WOODSPUR	00U3	75.10	49	168	S	E	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
GR FIR		162.2	23.1	1,833	2,385	2,937				
WHEMLOCK		245.1	35.0	753	1,158	1,564				
W LARCH		200.4	28.6	961	1,346	1,730				
TOTAL				<i>14,484</i>	<i>14,484</i>	<i>14,484</i>				
CL:	68.1 %	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WR CEDAR		77.3	11.0	1,300	1,461	1,622				
DOUG FIR		123.6	17.6	758	921	1,084				
GR FIR		159.8	22.8	398	516	634				
WHEMLOCK		242.5	34.6	166	254	342				
W LARCH		199.7	28.5	185	259	333				
TOTAL				<i>3,411</i>	<i>3,411</i>	<i>3,411</i>				
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
WR CEDAR				91	103	114				
DOUG FIR				116	140	165				
GR FIR		44.6	6.4	111	145	178				
WHEMLOCK		136.5	19.5	84	130	175				
W LARCH		71.7	10.2	140	196	252				
TOTAL		<i>372.0</i>	<i>53.1</i>	<i>126</i>	<i>126</i>	<i>126</i>	<i>5,526</i>	<i>1,382</i>	<i>614</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	21	WOODSPUR	00U4	79.40	51	160	S	E	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		51	160	3.1						
CRUISE		33	55	1.7	7,692		.7			
DBH COUNT										
REFOREST										
COUNT		16	35	2.2						
BLANKS		2								
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	42	67.4	16.0	77	23.5	94.1	15,152	14,572	3,236	3,204
W LARCH	4	10.9	15.4	98	3.6	14.1	2,675	2,622	531	531
WR CEDAR	6	15.7	12.5	38	3.8	13.3	1,608	1,487	355	325
GR FIR	2	2.7	14.6	100	0.8	3.1	586	559	119	118
P PINE	1	.2	24.1	80	0.2	.8	141	141	27	27
TOTAL	55	96.9	15.4	74	32.0	125.5	20,162	19,382	4,268	4,204
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	61.8	9.5		296	327	358				
W LARCH	69.5	39.7		192	318	443				
WR CEDAR	66.0	32.8		134	200	266				
GR FIR	32.1	30.1		152	218	283				
P PINE										
TOTAL	62.5	8.5		288	315	342	156	39	17	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	57.1	8.8		65	71	78				
W LARCH	62.1	35.5		41	64	86				
WR CEDAR	73.0	36.3		31	48	65				
GR FIR	32.5	30.4		32	46	60				
P PINE										
TOTAL	57.9	7.9		63	68	74	134	33	15	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	30.9	4.3		64	67	70				
W LARCH	182.1	25.5		8	11	14				
WR CEDAR	285.0	39.9		9	16	22				
GR FIR	349.7	48.9		1	3	4				
P PINE	714.1	99.9		0	0	0				
TOTAL				97	97	97				
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	22.2	3.1		91	94	97				
W LARCH	177.6	24.8		11	14	18				
WR CEDAR	252.2	35.3		9	13	18				
GR FIR	346.2	48.4		2	3	5				
P PINE	714.1	99.9		0	1	2				
TOTAL				125	125	125				
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	27.2	3.8		14,018	14,572	15,127				
W LARCH	177.9	24.9		1,970	2,622	3,274				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	21	WOODSPUR	00U4	79.40	51	160	S	E	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
WR CEDAR		259.2	36.3	948	1,487	2,026				
GR FIR		346.3	48.5	288	559	830				
P PINE		714.1	99.9	0	141	282				
TOTAL				<i>19,382</i>	<i>19,382</i>	<i>19,382</i>				
CL:	68.1 %	COEFF	NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		25.5	3.6	3,090	3,204	3,318				
W LARCH		177.6	24.8	399	531	663				
WR CEDAR		259.9	36.4	207	325	443				
GR FIR		346.3	48.5	61	118	175				
P PINE		714.1	99.9	0	27	54				
TOTAL				<i>4,204</i>	<i>4,204</i>	<i>4,204</i>				
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				149	155	161				
W LARCH				140	186	232				
WR CEDAR		106.6	14.9	71	112	152				
GR FIR		234.3	32.8	92	178	264				
P PINE		714.1	99.9	0	180	360				
TOTAL		<i>257.7</i>	<i>36.1</i>	<i>154</i>	<i>154</i>	<i>154</i>	<i>2,652</i>	<i>663</i>	<i>295</i>	

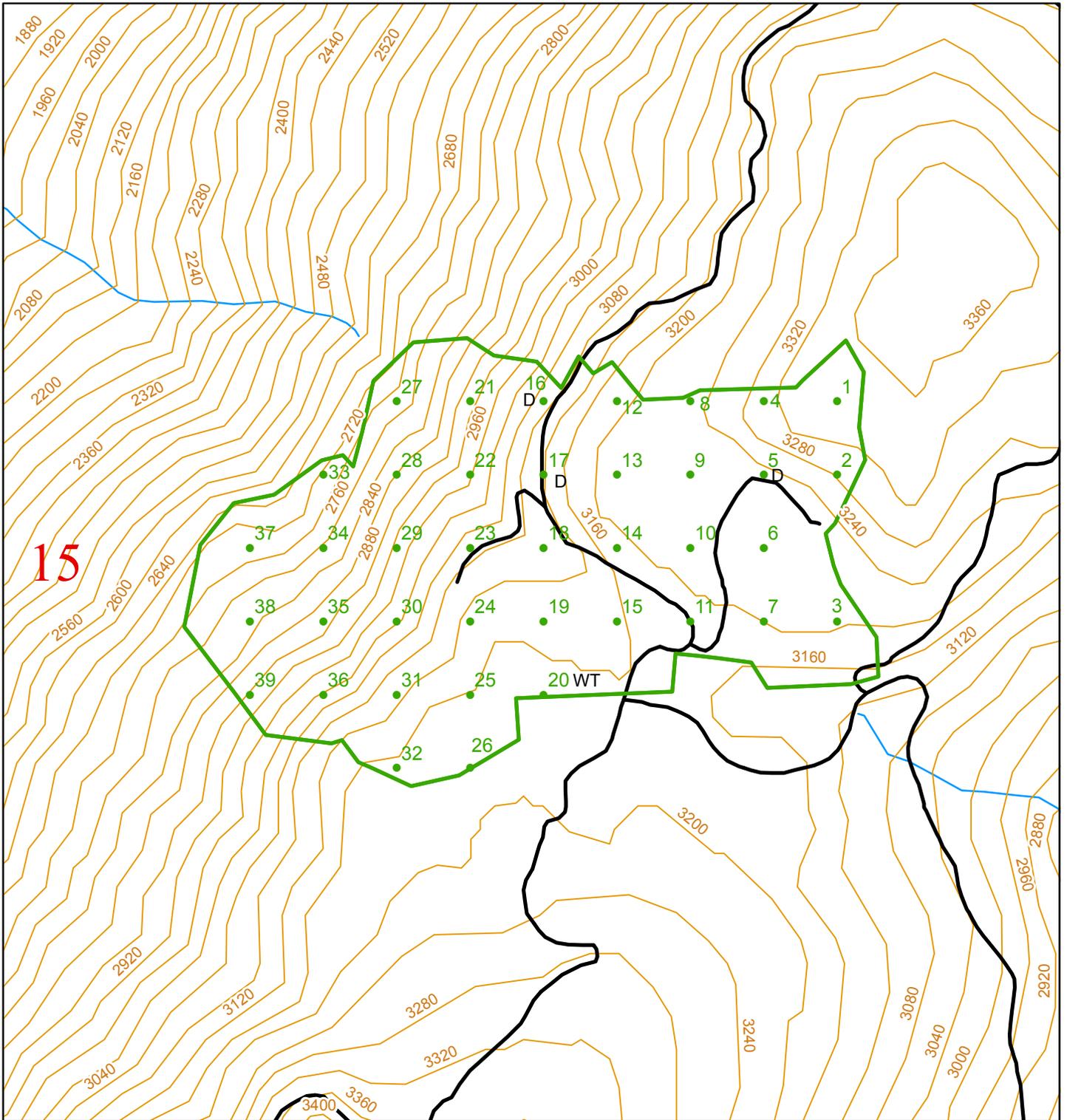
TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	21	WOODSPUR	00U5	19.30	11	44	S	E	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		11	44	4.0						
CRUISE		10	21	2.1	3,045		.7			
DBH COUNT										
REFOREST										
COUNT										
BLANKS		1								
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	20	157.0	13.5	75	42.5	156.4	21,352	20,731	4,802	4,753
P PINE	1	.8	28.7	34	0.7	3.6	397	397	74	74
TOTAL	21	157.8	13.6	74	43.3	160.0	21,749	21,128	4,876	4,828
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	141.7	32.5		152	226	299				
P PINE										
TOTAL	133.1	29.7		167	238	309	743	186	83	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR	111.6	25.6		36	48	60				
P PINE										
TOTAL	106.0	23.7		38	50	62	471	118	52	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				157	157	157				
P PINE	331.7	104.8			1	2				
TOTAL				158	158	158				
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				156	156	156				
P PINE	331.7	104.8			4	7				
TOTAL				160	160	160				
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				20,731	20,731	20,731				
P PINE	331.7	104.8			397	812				
TOTAL				21,128	21,128	21,128				
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				4,753	4,753	4,753				
P PINE	331.7	104.8			74	152				
TOTAL				4,828	4,828	4,828				
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				133	133	133				
P PINE	331.7	104.8			109	223				
TOTAL	149.5	47.2		132	132	132	981	245	109	

TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	1WOODSPU			DATE	11/13/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
40N	41E	21	WOODSPUR	00U6	46.10	29	125	S	E		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		29	125	4.3							
CRUISE		16	30	1.9	5,446	.6					
DBH COUNT											
REFOREST											
COUNT		11	42	3.8							
BLANKS		2									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	25	105.7	16.4	78	38.4	155.9	25,326	24,105	5,370	5,372	
W LARCH	3	6.9	18.1	104	2.9	12.4	2,515	2,301	492	492	
GR FIR	1	4.0	11.3	50	0.8	2.8	198	198	62	62	
WR CEDAR	1	1.5	12.9	78	0.4	1.4	167	167	40	40	
TOTAL	30	118.1	16.4	78	42.6	172.4	28,206	26,771	5,964	5,967	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	69.3	14.1		341	398	454					
W LARCH	82.3	56.9		184	427	670					
GR FIR											
WR CEDAR											
TOTAL	73.7	13.7		327	379	431	225	56	25		
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	64.2	13.1		75	86	98					
W LARCH	67.0	46.3		47	87	127					
GR FIR											
WR CEDAR											
TOTAL	67.3	12.5		72	82	92	188	47	21		
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	34.0	6.4		99	106	113					
W LARCH	178.1	33.6		5	7	9					
GR FIR	373.9	70.6		1	4	7					
WR CEDAR	538.5	101.7			2	3					
TOTAL	9.0	1.7		116	118	120	3	1	0		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	30.2	5.7		147	156	165					
W LARCH	174.4	32.9		8	12	17					
GR FIR	373.9	70.6		1	3	5					
WR CEDAR	538.5	101.7			1	3					
TOTAL				172	172	172					
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	32.9	6.2		22,607	24,105	25,603					
W LARCH	176.6	33.3		1,533	2,301	3,068					
GR FIR	373.9	70.6		58	198	338					
WR CEDAR	538.5	101.7			167	337					
TOTAL	11.3	2.1		26,200	26,771	27,342	5	1	1		

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	21	WOODSPUR	00U6	46.10	29	125	S	E	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR		31.5	6.0	5,052	5,372	5,692				
W LARCH		175.1	33.1	329	492	654				
GR FIR		373.9	70.6	18	62	106				
WR CEDAR		538.5	101.7		40	81				
TOTAL		4.6	.9	5,915	5,967	6,018	1	0	0	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR. %	S.E. %	LOW	AVG	HIGH	5	10	15	
DOUG FIR				145	155	164				
W LARCH		39.1	7.4	124	185	247				
GR FIR		254.4	48.0	21	72	122				
WR CEDAR		538.5	101.7		121	244				
TOTAL		418.4	79.0	152	155	159	7,240	1,810	804	

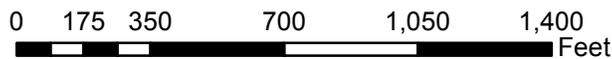
TC TSTATS				STATISTICS				PAGE	1		
				PROJECT	1WOODSPU			DATE	11/13/2019		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
40N	41E	21	WOODSPUR	ROW7	2.40	16	65	S	E		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		16	65	4.1							
CRUISE		12	30	2.5	197	15.3					
DBH COUNT											
REFOREST											
COUNT		3	6	2.0							
BLANKS		1									
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	17	49.8	16.7	70	18.5	75.6	12,706	12,383	2,582	2,582	
WR CEDAR	3	15.1	20.2	55	7.5	33.6	3,865	3,334	1,035	1,035	
P PINE	7	3.8	26.8	80	2.8	14.7	2,982	2,779	512	513	
W LARCH	1	4.0	19.6	85	1.9	8.4	1,243	1,243	290	290	
GR FIR	1	4.6	9.2	82	0.7	2.1	410	410	70	70	
WHEMLOCK	1	4.8	9.0	81	0.7	2.1	333	333	64	64	
TOTAL	30	81.9	17.5	70	32.7	136.5	21,539	20,483	4,553	4,554	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	SAMPLE TREES - BF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	68.4	17.1		345	416	488					
WR CEDAR	68.4	47.3		139	263	388					
P PINE	66.4	27.0		636	871	1,107					
W LARCH											
GR FIR											
WHEMLOCK											
TOTAL	86.3	16.0		404	481	558	308	77	34		
CL:	68.1 %	COEFF	SAMPLE TREES - CF			# OF TREES REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	60.0	15.0		72	84	97					
WR CEDAR	51.4	35.6		53	82	111					
P PINE	45.1	18.3		125	153	181					
W LARCH											
GR FIR											
WHEMLOCK											
TOTAL	65.6	12.2		84	95	107	178	44	20		
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	90.8	23.4		38	50	61					
WR CEDAR	183.4	47.3		8	15	22					
P PINE	275.7	71.1		1	4	6					
W LARCH	178.9	46.1		2	4	6					
GR FIR	400.0	103.2		5	9	10					
WHEMLOCK	400.0	103.2		5	10	10					
TOTAL	24.4	6.3		77	82	87	25	6	3		
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15		
DOUG FIR	65.9	17.0		63	76	88					
WR CEDAR	182.6	47.1		18	34	49					
P PINE	276.4	71.3		4	15	25					
W LARCH	178.9	46.1		5	8	12					
GR FIR	400.0	103.2		2	4	4					
WHEMLOCK	400.0	103.2		2	4	4					

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	1WOODSPU			DATE	11/13/2019	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
40N	41E	21	WOODSPUR	ROW7	2.40	16	65	S	E	
CL:	68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15	
TOTAL				137	137	137				
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		69.5	17.9	10,163	12,383	14,603				
WR CEDAR		184.0	47.5	1,752	3,334	4,917				
P PINE		281.8	72.7	759	2,779	4,800				
W LARCH		178.9	46.1	669	1,243	1,817				
GR FIR		400.0	103.2		410	832				
WHEMLOCK		400.0	103.2		333	676				
TOTAL				20,483	20,483	20,483				
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR		65.9	17.0	2,144	2,582	3,021				
WR CEDAR		182.8	47.2	547	1,035	1,523				
P PINE		279.1	72.0	144	513	882				
W LARCH		178.9	46.1	156	290	424				
GR FIR		400.0	103.2		70	142				
WHEMLOCK		400.0	103.2		64	131				
TOTAL				4,554	4,554	4,554				
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15	
DOUG FIR				134	164	193				
WR CEDAR				52	99	146				
P PINE		281.8	72.7	52	189	326				
W LARCH		.0	.0	80	148	216				
GR FIR		400.0	103.2		195	396				
WHEMLOCK		400.0	103.2		158	322				
TOTAL				150	150	150	1,242	311	138	



FMA POLYGON AND SAMPLE POINT INFORMATION

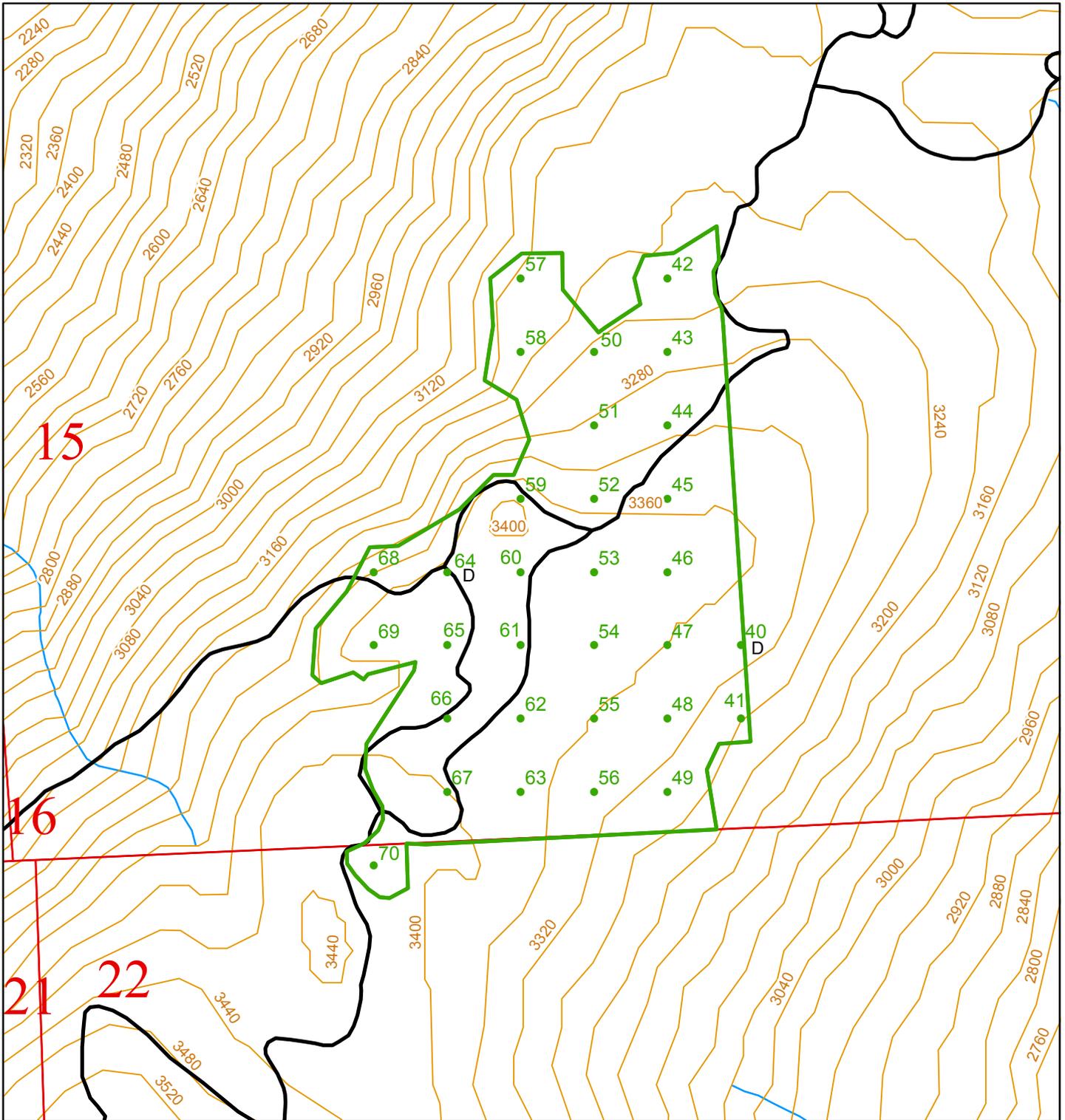
FMA_NM:	WOODSPUR U1	Township:	T40R41E
FMA_ID:	255369	DNR Region:	NORTHEAST
Acres:	59	Total Sample Points:	39
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
Walkthrough Plot	WT	Point Rotation Degrees:	0
Deleted Plot	D		



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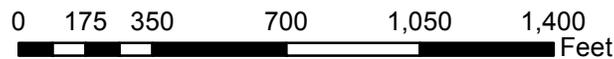
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

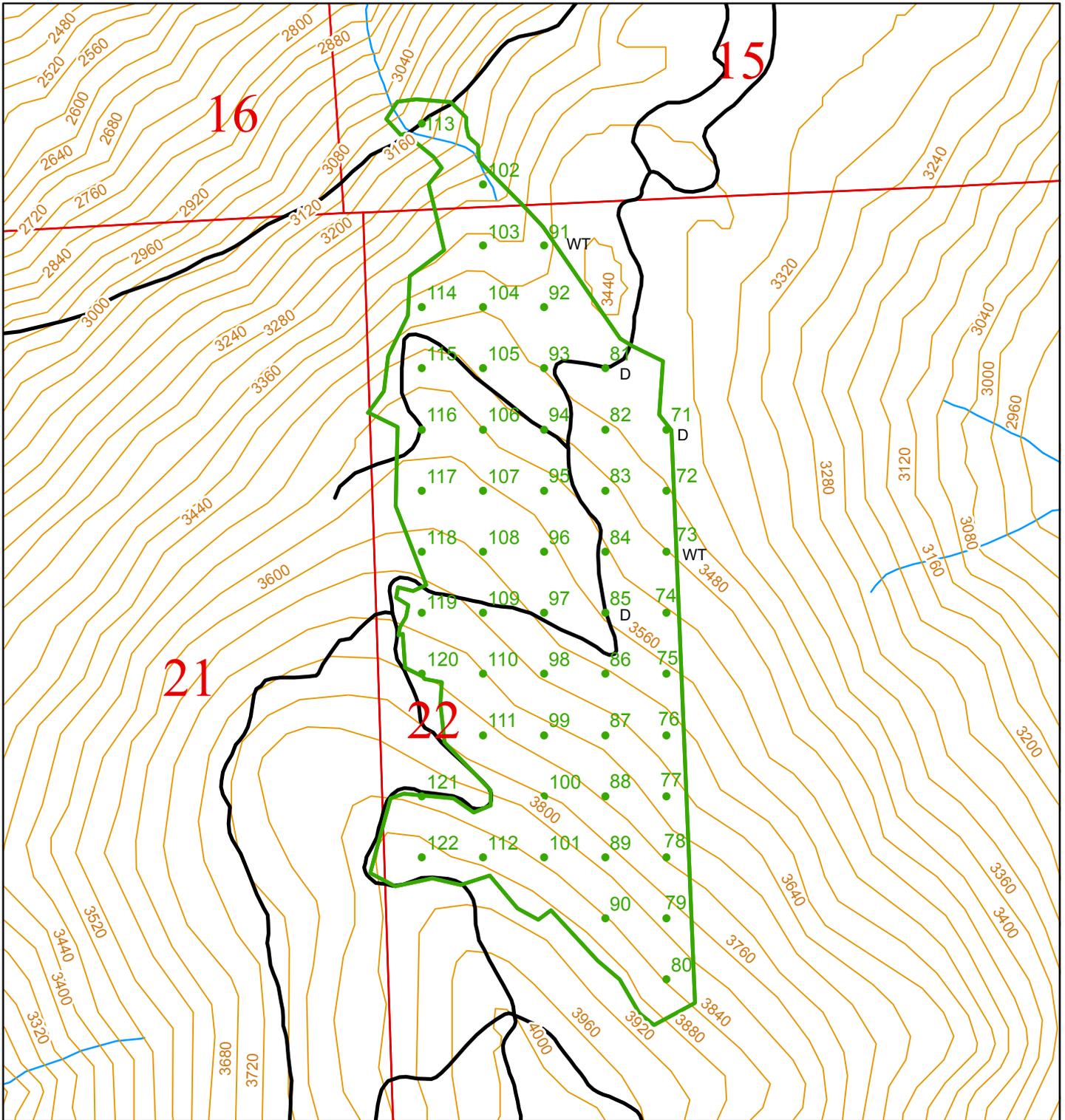
FMA_NM:	WOODSPUR U2	Township:	T40R41E
FMA_ID:	255370	DNR Region:	NORTHEAST
Acres:	51	Total Sample Points:	31
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
Deleted Plot	D	Point Rotation Degrees:	0



Scale 1:6,000

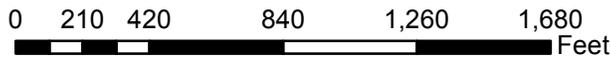
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- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

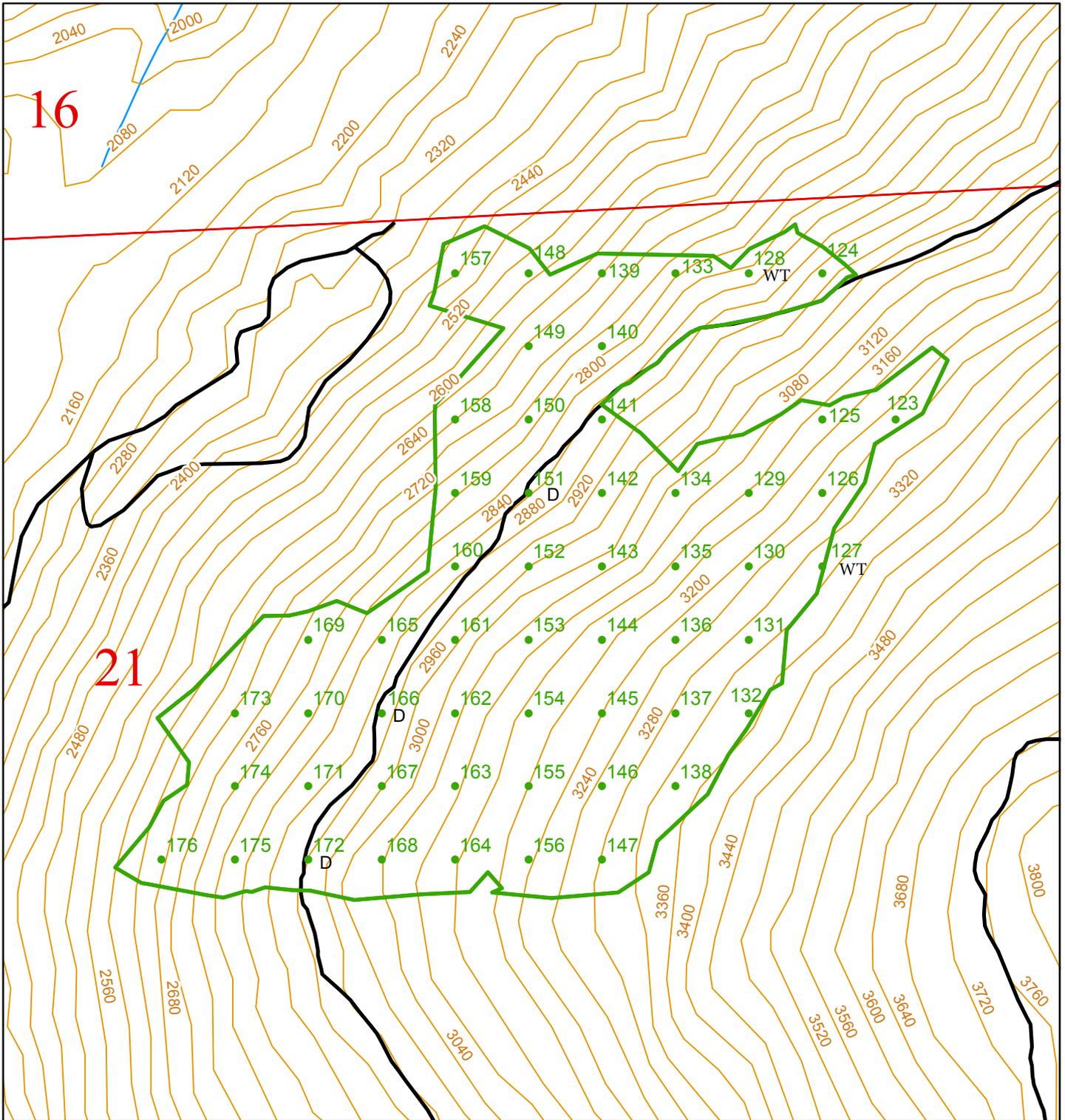
FMA_NM:	WOODSPUR U3	Township:	T40R41E
FMA_ID:	255371	DNR Region:	NORTHEAST
Acres:	78	Total Sample Points:	52
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
Deleted Plot	D	Point Rotation Degrees:	0
Walkthrough Plot	WT		



Scale 1:7,200

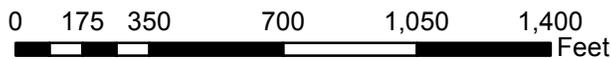
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

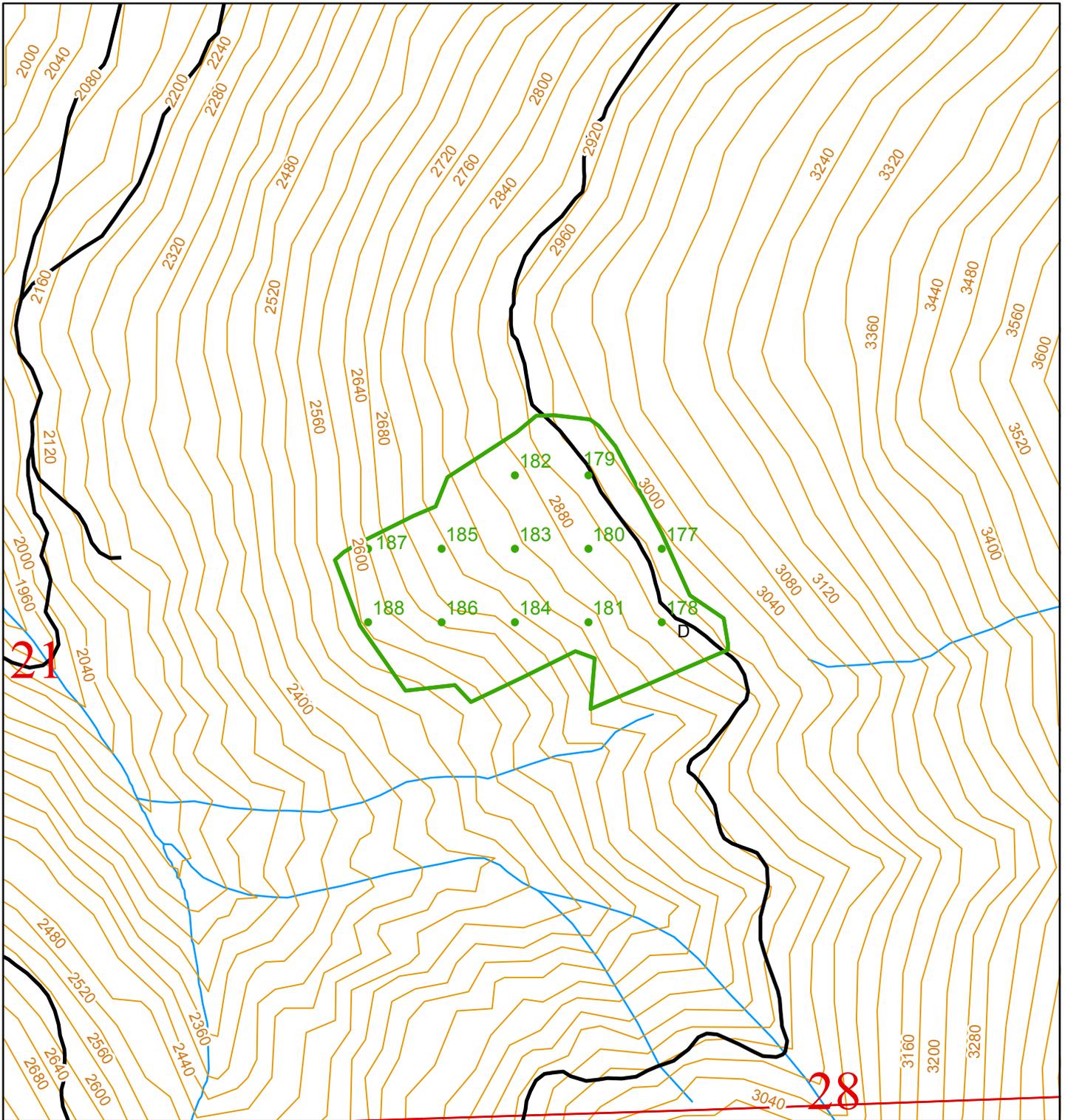
FMA_NM:	WOODSPUR U4	Township:	T40R41E
FMA_ID:	255372	DNR Region:	NORTHEAST
Acres:	81	Total Sample Points:	54
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
Deleted Plot	D	Point Rotation Degrees:	0
Walkthrough Plot	WT		



Scale 1:6,000

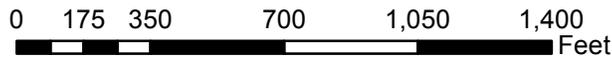
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

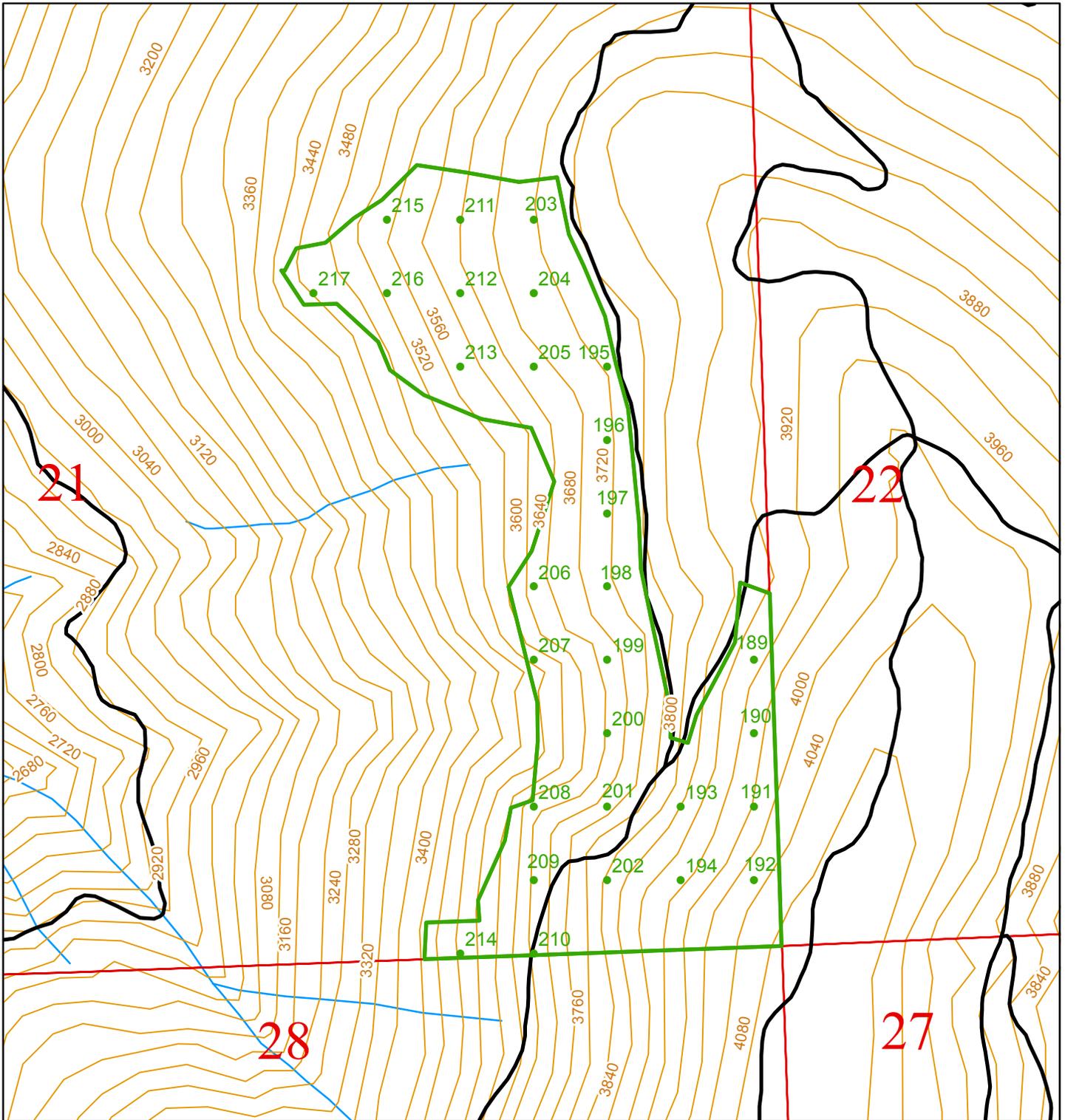
FMA_NM:	WOODSPUR U5	Township:	T40R41E
FMA_ID:	255373	DNR Region:	NORTHEAST
Acres:	20	Total Sample Points:	12
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
Deleted Plot	D	Point Rotation Degrees:	0



Scale 1:6,000

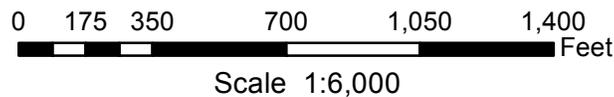
Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot



FMA POLYGON AND SAMPLE POINT INFORMATION

FMA_NM:	WOODSPUR U6	Township:	T40R41E
FMA_ID:	255374	DNR Region:	NORTHEAST
Acres:	47	Total Sample Points:	29
County:	STEVENS	Spacing Between Points:	Width: 260 Height: 260
		Point Rotation Degrees:	0



Legend

- Sample Points
- FMA polys
- Public Land Survey Sections
- Contours 40-foot

Appeal Information

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

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

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

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

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

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

And

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

Other Applicable Laws

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

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

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

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

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

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

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

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

DNR affidavit of mailing:

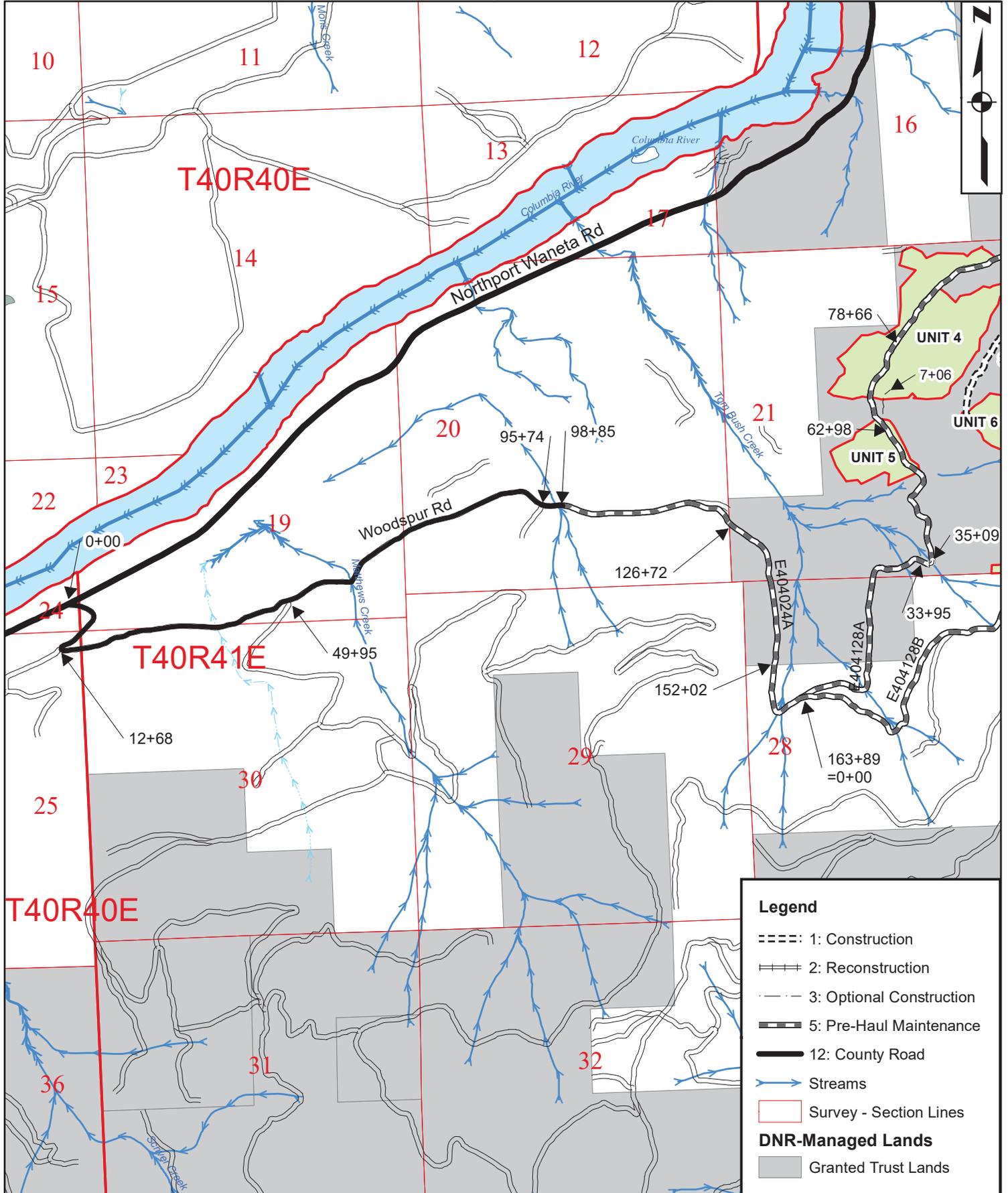
On this day _____, I placed in the United States mail at _____ Colville _____, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # _____ 3022996
_____ (Printed name) _____ (Signature)

Washington State Department of Natural Resources

Sale Name :Woodspur
 Agreement No.: 30-0095800

Road Plan Map
 Page 1 of 3

Region: Northeast
 County: Stevens



0 1,000 2,000 4,000
 Feet

1 inch = 2,000 feet

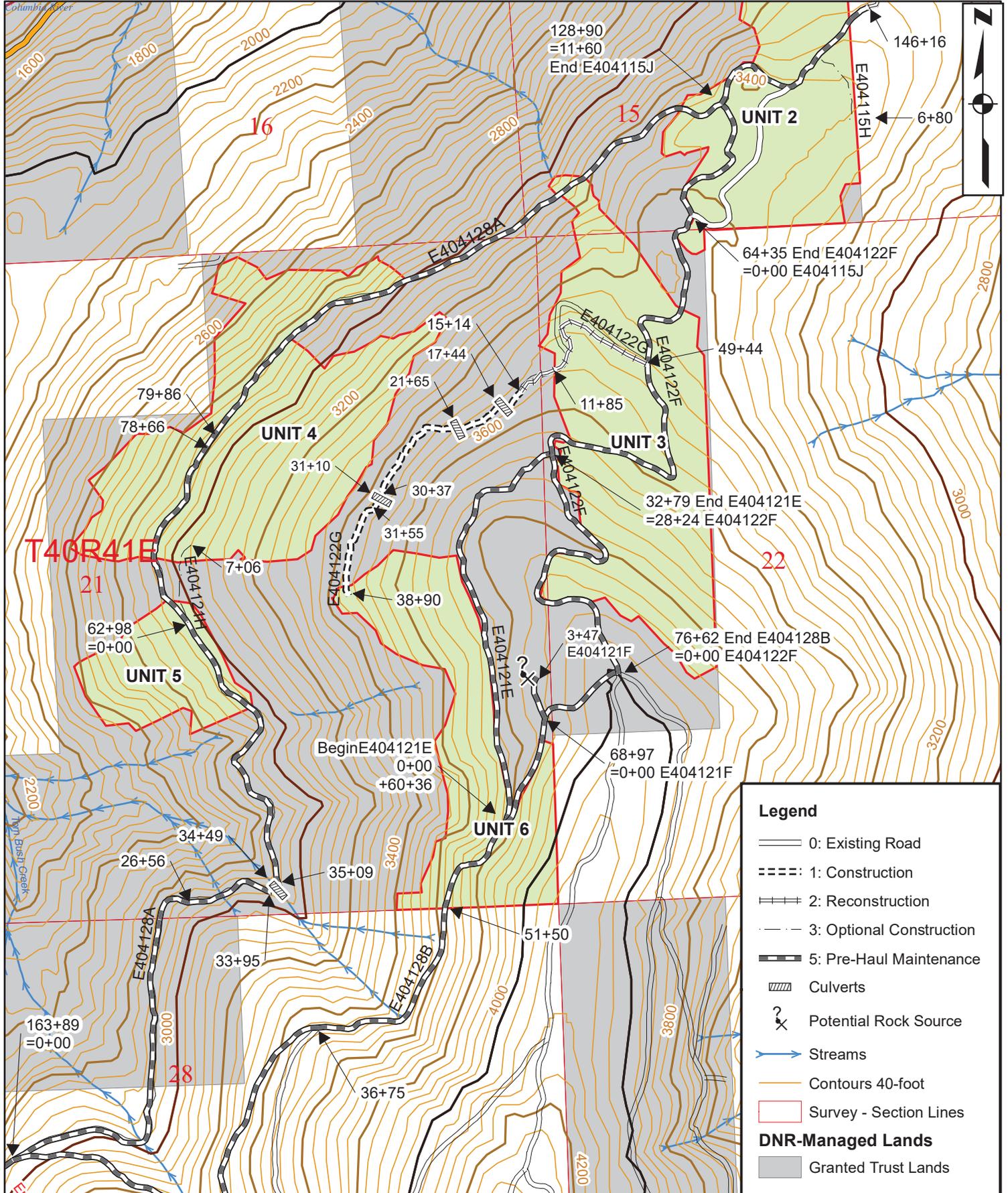
Date: 9/9/2018

Washington State Department of Natural Resources

Sale Name :Woodspur
 Agreement No.: 30-0095800

Road Plan Map
 Page 2 of 3

Region: Northeast
 County: Stevens



0 500 1,000 2,000
 Feet

1 inch = 1,000 feet

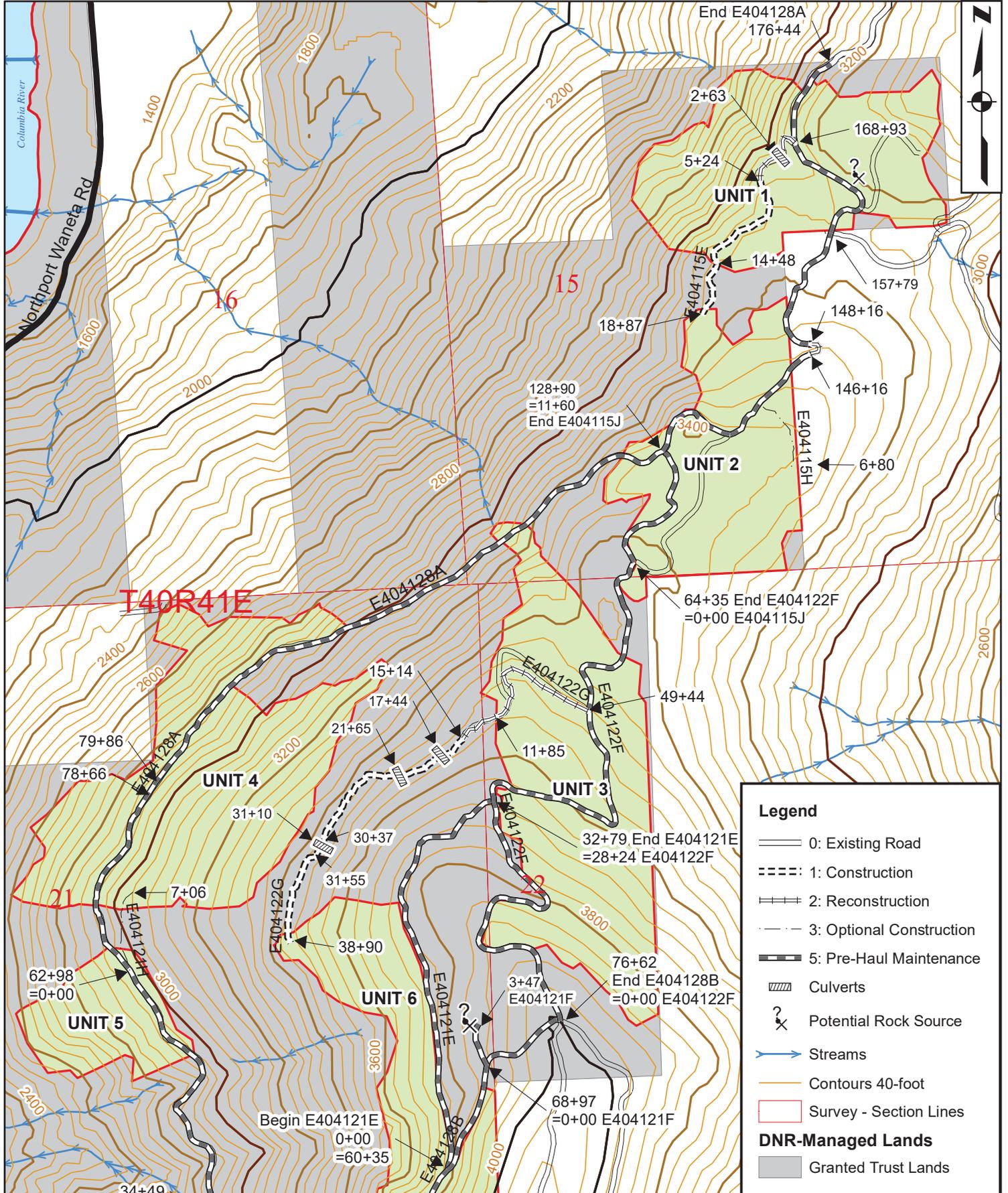
Date: 9/9/2018

Washington State Department of Natural Resources

Sale Name :Woodspur
 Agreement No.: 30-0095800

Road Plan Map
 Page 3 of 3

Region: Northeast
 County: Stevens



0 500 1,000 2,000
 Feet

1 inch = 1,000 feet

Date: 9/9/2018

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

WOODSPUR TIMBER SALE ROAD PLAN
STEVENS COUNTY
NORTH COLUMBIA DISTRICT

AGREEMENT NO.: 30-095800

STAFF ENGINEER: GENE GIBBS

DATE: 11-20-2017

DRAWN & COMPILED BY: JIM ENGLISH

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>
Woodspur Road	98+85 to 126+72	Post-Haul Maintenance
E404024A	126+72 to 163+89	Pre-Haul Maintenance
E404115E	0+00 to 5+24	Reconstruction
	5+24 to 18+87	Construction
E404115J	0+00 to 11+60	Pre-Haul Maintenance
E404121E	0+00 to 32+79	Pre-Haul Maintenance
E404121F	0+00 to 3+47	Pre-Haul Maintenance
E404122F	0+00 to 64+35	Pre-Haul Maintenance
E404122G	0+00 to 15+14	Reconstruction
E404122G	15+14 to 38+90	Construction
E404128A	0+00 to 33+95	Pre-Haul Maintenance
	33+95 to 35+09	Reconstruction
	35+09 to 146+16	Pre-Haul Maintenance
	146+16 to 148+16	Reconstruction
	148+16 to 176+44	Pre-Haul Maintenance
E404128B	0+00 to 76+62	Pre-Haul Maintenance

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
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E404115H	0+00 to 6+80	Optional Construction
E404121H	0+00 to 7+06	Optional Construction
E404128A	78+66 to 79+86	Optional Reconstruction

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E404115E	5+24 to 18+87	New Construction. Install waterbars and or rolling dips as directed by Contract Administrator.
E404122G	15+14 to 38+90	New Construction. Install waterbars and or rolling dips as directed by Contract Administrator.
	17+44	Install cross drain
	18+90 to 19+50	Full Bench Construction
	21+65	Install cross drain
	31+10	Install cross drain
	30+37 to 31+55	Install geotextile-fabric and rock
E404115H	0+00 to 6+80	Optional Construction:
E404121H	0+00 to 7+06	Optional Construction:

Construction includes, but is not limited to clearing & grubbing, pioneering & decking logs, subgrade construction and compaction, rolling dip, cross drain, and culvert installation, Fish passage structure installation, cut & fill, embankment construction, riprap and rock application. Construct roads to the TYPICAL SECTION SHEET, ROCK LIST, and CULVERT & DRAINAGE LIST, for general specifications, unless otherwise specified in design details.

0-5 RECONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E404128A	33+95 to 35+09	Reconstruct and widen curve, and install new stream crossing culvert. See Plan and Profile Drawings for Curve Reconstruction and Np Stream Crossing Culvert Replacement.
	34+41	Install French Drain; see detail.
	35+09	Install rocked rolling dip. 10 cy surface rock.
E404128A	78+66 to 79+86	Optional Road Widening. Construct Landing and Decking area up to 45' by 120'. See Plan and Profile, and Clauses 4-60, 4-61 & 4-62.
	146+16 to 148+16	Reconstruct and widen curve for truck haul as needed.

E404115E	0+00to 5+24	Reconstruction of old grade. Heavy Brushing and grubbing, light grading.
	0+00 to 0+75	Clear and grub road in accordance to the Typical Section to accommodate truck tracking with the E404128A road.
	0+75 to 5+24	Heavy brushing and grubbing, light grading
	2+63	Install 18" x 35' cross drain culvert.
E404122G	0+00 to 15+14	Reconstruct old road grade, heavy brush and grubbing, light grading.

Reconstruction includes, but is not limited to clearing & grubbing, subgrade reconstruction, rolling dip, cross drain, and culvert installation, bridge installation, cut & fill, embankment construction, culvert and ditch cleaning, riprap and rock application. Reference the TYPICAL SECTION SHEET, ROCK LIST, and CULVERT & DRAINAGE LIST, for general specifications.

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>
Woodspur Rd/E44124A	98+85 to 126+72	Post-Haul Grading
E404024A	126+72 to 163+89	Brush, grade and shape road surface, improve drainage, clean ditches and culvert inlets. Reshape turnouts a needed. Apply spot patch rock.
E404115J	0+00 to 11+60	Brush, shape road surface, improve drainage, clean ditches.
E404121E	0+00 to 32+79	Brush, shape road surface, improve drainage, clean ditches.
E404121F	0+00 to 3+47	Brush, shape road surface, improve drainage.
E404122F	0+00 to 64+35	Brush, shape road surface, improve drainage, clean ditches.
E404128A	0+00 to 33+95	Brush, grade and shape road surface, improve drainage, clean ditches.
	35+09 to 146+16	Brush, grade and shape road surface, improve drainage, clean ditches.
	148+16 to 176+44	Brush, grade and shape road surface, improve drainage, clean ditches.
E404128B	0+00 to 76+62	Brush, shape road surface, improve drainage, clean ditches.

Maintenance includes, but is not limited to brushing, clearing, grubbing, subgrade reshaping. Rolling dip, cross drain and culvert installation, cleaning culverts and ditches, grading, rip rap and rock application. Reference the TYPICAL SECTION SHEET, ROCK LIST and CULVERT & DRAINAGE LIST for general specifications.

0-7 POST-HAUL MAINTENANCE

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

0-9 DECOMMISSIONING

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

0-12 EXISTING ROCK SOURCE

Purchaser may utilize an existing rock source. Accessing a rock source may involve overburden removal, rock removal, and stabilizing slopes upon completion. 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. The State must approve the submitted plans before roadwork begins.

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

Purchaser shall perform roadwork within the tolerances listed below. The tolerance class for each road are 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
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1-5 DESIGN DATA

Design data is available upon request at the Department of Natural Resources Northeast Region Office in Colville, WA.

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 Work Maps.

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Orange flagging for construction centerline.
- Blue flagging for culvert locations.
- Reconstruction marked on orange ribbon and/or pink tags.
- Construction Stakes for Construction centerline and slope stakes.

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work on the following road(s) in accordance with the construction stakes and/or reference points set in the field for grade and alignment.

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

Purchaser shall not use roads under this road plan for timber hauling, rock hauling, 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 14 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

1-25 ACTIVITY TIMING RESTRICTION

Construction restrictions apply to this contract. All construction, reconstruction and transportation of heavy equipment and/or trucks is prohibited between the following dates, except as may be authorized in writing by the Contract Administrator.

November 15 to May 31

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTIONS, the Purchaser shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan, in writing, before operation in the closure period.

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 roadwork or hauling right-of-way timber, forest products, or rock under the following conditions:

- Wheel track rutting exceeds 4 inches on jaw run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 6 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.
- 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, the Purchaser will be required to cease operations, or perform corrective maintenance or repairs, subject to specifications within this road plan. Before and during any suspension, Purchaser shall protect the work from damage or deterioration.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request.

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.

2-4 PASSAGE OF LIGHT VEHICLES

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

2-5 MAINTENANCE GRADING – EXISTING ROAD

Purchaser shall use a grader to shape the existing surface before commencement of haul and upon completion of the sale. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

2-6 CLEANING CULVERTS

Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before beginning hauling activities or rock application.

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean ditches, headwalls, and catch basins. Work shall be completed before commencement of haul and upon completion of the sale and shall be subject to the written approval of the Contract Administrator. Work shall be done in accordance with the Culvert and Drainage Detail. Pulling ditch material across crushed rock road surfaces or mixing in with the road surface is not allowed.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

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

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 3 inches DBH or over 6 feet high between the marked right-of-way boundaries and within waste and debris areas. If not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees.

3-10 GRUBBING

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

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 Clauses G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the grubbing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, except by burning, before the application of rock or timber haul.

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris shall be located within the cleared right-of-way or in natural openings, or in areas approved in writing by the Contract Administrator.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

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

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-30 EXCLUSION OF DOZER BLADES

Dozer blades are not permitted for the piling of organic debris.

3-31 PILING

Right-of-way debris shall be piled. Debris piles shall be made to be burnable, clean, tight, and free of rock or soil. Piles shall be made no closer than 20 feet from standing timber, and no higher than 10 feet. Debris piles shall be placed within the cleared right-of-way, or in natural openings, as designated by the Contract Administrator. Placement of debris piles outside of the right-of-way limits is subject to the written approval of the Contract Administrator. No piling within the Riparian Management Zone (RMZ).

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work, unless authorized, in writing, by the Contract Administrator.

4-2 PIONEERING

Pioneering shall not extend past construction that will be completed during the current construction season. Pioneering shall not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions shall be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

The following road grade and alignment standards shall be followed.

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

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees.

Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

Purchaser shall construct excavation slopes no steeper than shown on the following table, unless construction staked or designed:

<u>Material Type</u>	<u>Excavation Slope Ratio</u>	<u>Excavation Slope Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	¾:1	133
Common Earth (on slopes over 70%)	½:1	200
Fractured or loose rock	½:1	200
Hardpan or solid rock	¼:1	400

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table unless construction staked or designed:

<u>Material Type</u>	<u>Embankment Slope Ratio</u>	<u>Embankment Slope Percent</u>
Sandy Soils	2:1	50
Common Earth and Rounded Gravel	1½:1	67
Angular Rock	1¼:1	80

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 7 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 1 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

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

4-11 KEYED EMBANKMENT

On the following optional road, Purchaser shall key embankments into the native slope in accordance with the EMBANKMENT KEY DETAIL and Optional E404128A Road Widening Details. Use for optional landing. Purchaser shall obtain written permission from the Contract Administrator beginning construction.

<u>Road</u>	<u>Stations</u>
E404128A	78+66 to 79+86

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. For slopes over 55% refer to Clause 4-36. If designated, Purchaser shall end haul waste material to a location designated by the Contract Administrator.

4-21 TURNOUTS

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

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified in the road plan, and as needed, or as directed by the Contract Administrator. Ditchouts shall be constructed in a manner that diverts ditch water onto the forest floor and shall have excavation backslopes no steeper than a 1:1 ratio. Locations shall not be changed without written approval from the Contract Administrator.

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 55% 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.

4-37 WASTE AREA LOCATION

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

4-38 PROHIBITED WASTE DISPOSAL AREAS

Waste material shall not be deposited 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.
- On side slopes steeper than 35%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

4-45 SELECT BORROW

Select borrow consists of granular material, either naturally occurring or processed, and contains no more than 5% clay, organic debris, or trash by volume.

4-46 COMMON BORROW

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

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL

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

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material. Minimum acceptable compaction is achieved by placing embankments in 1 foot or shallower lifts, and routing excavation equipment over the entire width of each lift.

Except as otherwise specified in this plan, a vibratory plate compactor or tamper shall be used for areas specifically requiring keyed embankment construction, and for embankment segments too narrow to accommodate equipment. Compaction with a plate compactor shall be made by a minimum of three full coverages; each lift shall not exceed 6 inches in depth.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed or reconstructed subgrades by routing equipment over the entire width. Subgrade compaction shall be approved, in writing, by the Contract Administrator before rock application or timber haul.

4-62 DRY WEATHER COMPACTION

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

4-70 SUBGRADE REINFORCEMENT

On the following road(s), Purchaser shall provide and install geotextile fabric as specified in the Engineers design. Subgrade reinforcement must be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geotextile fabric must overlap by a minimum of 2 feet at all joints. The geotextile fabric must be covered with a minimum of 12 inches of compacted rock as specified in Clause 6-38 4-INCH IN-PLACE ROCK. Purchaser shall apply rock in one-foot lift(s) over the geotextile in accordance with the manufacturer's specifications. Geotextile fabric must meet the specifications in Clause 10-3 GEOTEXTILE FOR STABILIZATION. Geogrid must meet the specifications in Clause 10-9 BIAXIAL GEOGRID FOR STABILIZATION .

Purchaser shall provide one roll of woven geotextile (minimum 4,500 sq. ft./roll), and provide three rolls of geogrid (minimum 3,223 sq. ft./roll). Unused material will remain the property of the state.

Note: Roll dimensions may vary by manufacturer, it is the Purchaser's responsibility to select and provide the suitable materials to meet these specifications. Unused material will become the property of the state.

<u>Road</u>	<u>Stations</u>
E404122G	30+37 to 31+55
E404128A	33+95 to 35+09

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Berms shall be removed from road shoulders to permit the escape of runoff. The construction of ditchouts will be required where ponding will result from the effects of sidecast debris.

5-5 CULVERTS

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

5-9 BEVELED ENDS

The following culvert must have their ends beveled as specified in the Culvert Bevel/Miter Detail.

<u>Road</u>	<u>Stations</u>	<u>Bevel Type</u>
E404128A	34+49	See Detail

5-11 STATE SUPPLIED MATERIALS

The following materials will be supplied by the state and are available at Northeast Region Headquarters.

<u>Road</u>	<u>Stations</u>	<u>Material</u>
E404128A	34+49	Amerdrain wick drain: One 4" x 1000' roll for use with culvert installation and reinforced fill construction.

Unused material will remain the property of the state.

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT & DRAINAGE LIST that are not installed will become the property of the state. Purchaser shall stockpile materials at Northeast Region Headquarters in Colville.

5-15 CULVERT INSTALLATION

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

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 30 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts shall be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts shall be installed with a depth of cover specified in the Engineer's design, or to the minimum depth recommended by the culvert manufacturer for the type of cover material over the pipe, whichever is greater.

5-20 ENERGY DISSIPATERS

Energy dissipaters shall be installed to prevent erosion and are subject to approval by the Contract Administrator. The type of energy dissipater and the amount of material shall be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Headwalls shall also be constructed at all culverts identified on the CULVERT AND DRAINAGE LIST that specifies the placement of rock. Rock shall be placed by zero drop height methods. Minimum specifications require that rock be placed at a width of one

culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert.

5-30 DRIVABLE WATERBAR CONSTRUCTION

Drivable waterbars shall be constructed in accordance with the DRIVABLE WATERBAR DETAIL and as specified on the CULVERT AND DRAINAGE LIST or as marked in the field. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition.

5-31 ROLLING DIP CONSTRUCTION

Rolling dips shall be constructed in accordance with the ROLLING DIP DETAIL and as specified on the CULVERT & DRAINAGE LIST. Rolling dips shall be installed concurrently with construction of the subgrade and shall be maintained in an operable condition. Minimum frequency of rolling dips shall be at a maximum spacing of 400 feet horizontal or one for every 10 feet of vertical change or as directed by the Contract Administrator.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be water barred by November 15. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 300 feet.

SECTION 6 – ROCK AND SURFACING

6-1 ROCK SOURCE NOT ON STATE LAND

Purchaser shall obtain written approval from the Contract Administrator for the use of material from any alternate source. Rock used in accordance with the quantities on the ROCK LIST. Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the listed locations.

6-2 ROCK SOURCE ON STATE LAND

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

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Potential Rock	SE ¼ Section 21, T40N R41E. Near Sta 3+47 E404121F Rd.	Potential Pit Run & surface rock, possibly ripable.

Potential Rock	NE ¼ Section 15, T40N R41E. Near Sta 163+00 E404128A Rd.	Potential Pit Run & surface rock, possibly ripable.
Small Stockpile	SW ¼ Section 21, T40N R41E. Near Sta 27+56 E404128A Rd.	Light Loose riprap available for use. About 20-25 c.y.

6-5 ROCK FROM COMMERCIAL SOURCE

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

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale shall not exceed 5% of the total volume mined in that source.

- Oversize material is defined as rock fragments larger than three feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount shall be reduced and stockpiled.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads and trails before blasting operations.

6-20 ROCK GRADATION TYPES

Purchaser shall provide or manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock shall meet the following specifications for gradation and uniform quality. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-21 IN-PLACE PROCESSING

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

6-22 FRACTURE REQUIREMENT FOR ROCK

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

6-28 SELECT BEDDING MATERIAL

% Passing 1 ¼" square sieve	100%
% Passing 3/8" square sieve	80 - 100%
% Passing U.S. #4 sieve	25 - 50%
% Passing U.S. #200 sieve	5%

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.

6-38 4-INCH IN-PLACE ROCK

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

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 40 percent of rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension.

6-40 SELECT ROCK FILL

No more than 20 percent of the rock may be larger than 6 inches in any dimension and no rock may be larger than 8 inches in any dimension. Select Rock Fill may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-50 LIGHT LOOSE RIP RAP

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

<u>At Least/Not More Than</u>	<u>Weight Range</u>	<u>Size Range</u>
20% / 90%	300 lbs. to 1 ton	20" - 36"
80% / --	50 lbs. to ½ ton	12" - 30"
10% / 20%	<u>50</u> lbs. max	3" - 8"

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for approved completion of subgrade and drainage installations before rock application.

6-71 ROCK APPLICATION

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

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

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

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the NE SPOILS BERM DETAIL.

<u>Road</u>	<u>Stations</u>
E404115H	Optional rd. 0+00
E404121H	Optional rd. 0+00

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface as approved, in writing, by the Contract Administrator.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

9-12 LANDING EMBANKMENT REMOVAL

On the following road(s), Purchaser shall reduce or relocate landing embankment, in a manner approved, in writing, by the Contract Administrator. Excavated material shall be end hauled to a designated waste area.

9-20 ROAD DECOMMISSIONING

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
E404115H	0+00 to 6+80	Optional road, decommission only if constructed.
E404121H	0+00 to 7+06	Optional road, decommission only if constructed.

9-22 LIGHT DECOMMISSIONING

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no

more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.

- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades according to the attached NE SPOILS BERM DETAIL.

SECTION 10 MATERIALS

10-3 GEOTEXTILE FOR STABILIZATION

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Woven
Apparent opening size	D 4751	No. 40 max
Water permittivity	D 4491	0.10 sec ⁻¹
Grab tensile strength	D 4632	315 lb.
Grab tensile elongation	D 4632	<50%
Puncture strength	D 6241	620 lb.
Tear strength	D 4533	112 lb.
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

10-9 BIAXIAL GEOGRID FOR STABILIZATION

Biaxial geogrids must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material must be free of defects, cuts, and tears.

Type	<u>ASTM Test</u>	<u>MD¹ Values</u>	<u>XMD¹ Values</u>
Polypropylene Geogrid	--		
Aperture Dimensions ²	-	1.5 in.	1.5 in.
Tensile strength @ 5% Strain ³	D6637M-15	890 lbs./ft.	890 lbs./ft.
Ultimate Tensile Strength ³	D6637M-15	1370 lbs./ft.	1370 lbs./ft.
Junction Efficiency ⁴	D7737-11	93%	
Overall Flexural Rigidity ⁵	D7748	700,000 mg-cm	
Aperture Stability ⁶	D7864	0.45 m-N/deg	

1. Values are minimum average roll value in accordance with ASTM D4759-02. MD Values are in the machine direction, and XMD values are in the cross machine direction.
2. Nominal dimensions.

3. Determined in accordance with ASTM D6637-10 Method A.
4. Load transfer capability expressed as a percentage of ultimate tensile strength.
5. Resistance to bending force in accordance with ASTM D7748/D7748M-14.
6. Resistance to in-plane rotational movement.

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be galvanized (zinc-coated meeting AASHTO M-218).

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-18 CORRUGATED STEEL STRUCTURAL PLATE

Structural plate culverts must be galvanized steel meeting AASHTO M-167 (ASTM A-761) specifications.

10-19 CORRUGATED ALUMINUM STRUCTURAL PLATE

Structural plate culverts must be aluminum alloy meeting AASHTO M-219 (ASTM A-746) specifications.

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes shall meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes shall be Type S – double walled with a corrugated exterior and smooth interior.

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

Unless otherwise stated in the engineer's design, metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 ² / ₃ " X 1/2"
24" to 48"	14 (0.079")	2 ² / ₃ " X 1/2"
54" to 96"	12 (0.109")	3" X 1"

SECTION 11 SPECIAL NOTES

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

Preventative Maintenance

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

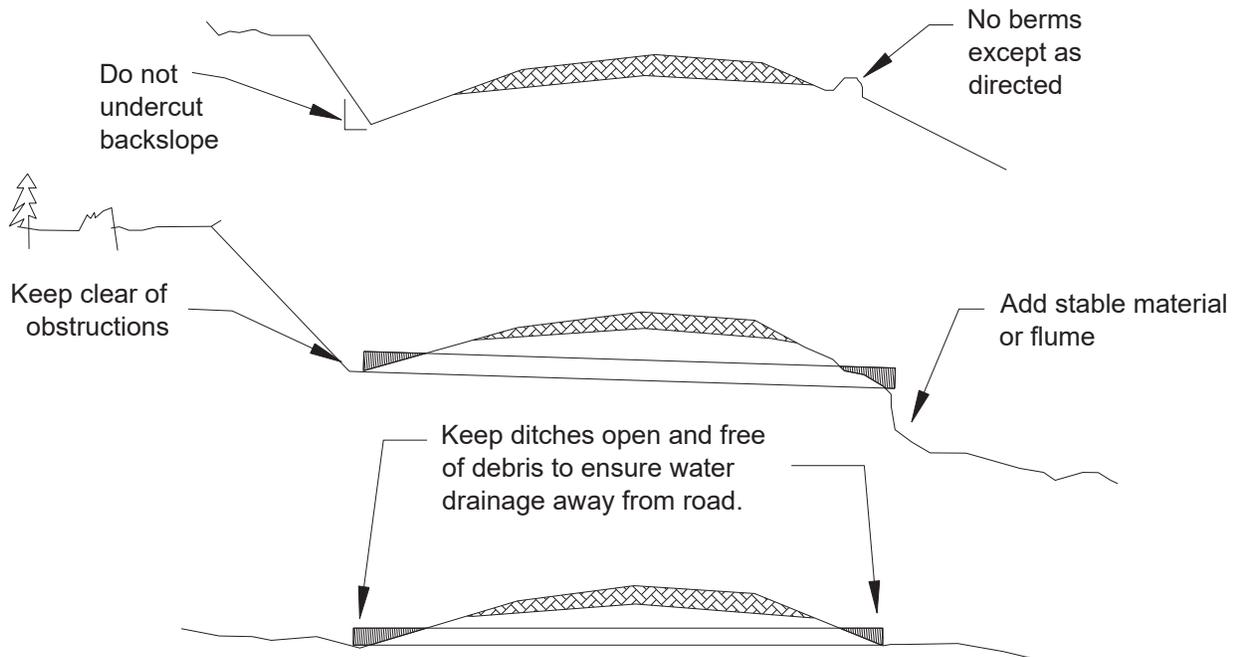
FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Termination of Use or End of Season

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

Debris

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

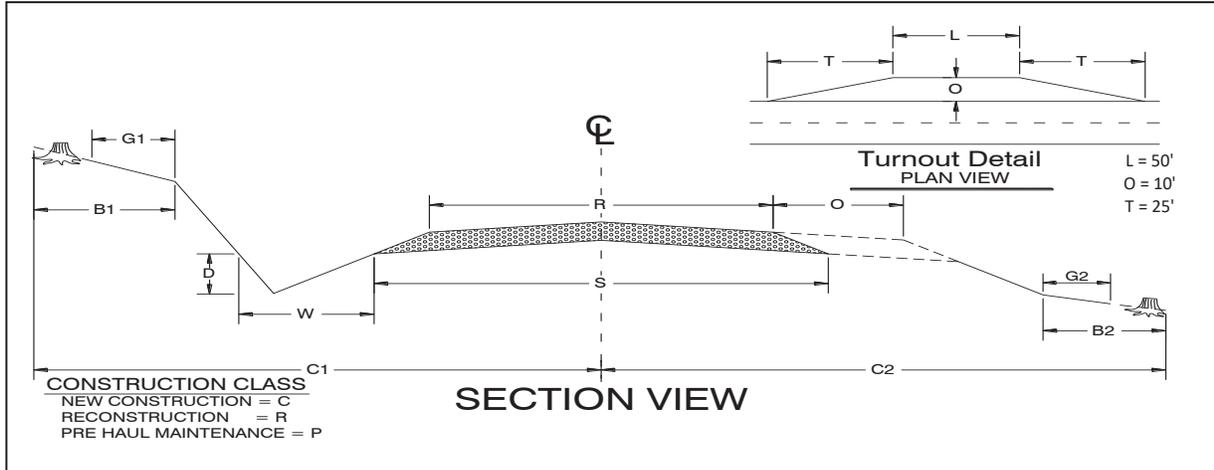


DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-095800

Name of Sale: Woodspur

TYPICAL SECTION SHEET



MAINTENANCE=M

ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	FULL BENCH	TOLERANCE CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	INSLOPE "/>10'	OUTSLOPE "/>10'	CROWN " AT CL	DITCH WIDTH (W)	DITCH DEPTH (D)	DITCH 2 SIDES	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (B1)	ROAD FILL CLEARING (B2)	RW CUT CLEARING (C1)	RW FILL CLEARING (C2)
Woodspur Road	98+85	126+72	P		C	12'		4"											
E404024A	126+72	163+89	P		C	14' 12'		3"	3'	1'		3'	3'	3'	6'	6'			
E404115E	0+00	0+75	R		C	18' 16'		4"						6'	6'	6'	6'		
	0+75	5+24	R		C	14' 12'		4"						3'	3'	6'	6'		
	5+24	18+87	C		C	14' 12'		4"						3'	3'	6'	6'		
E404115H*	0+00	6+80	C		C	14' 12'		4"						3'	3'	6'	6'		
E404115J	0+00	11+60	P		C	14' 12'		4"								6'	6'		
E404121E	0+00	32+79	P		C	14' 12'		4"								6'	6'		
E404121F	0+00	3+47	P		C	14' 12'		4"								6'	6'		
E404121H*	0+00	7+06	C		C	14' 12'		4"						3'	3'	6'	6'		
E404122F	0+00	64+35	P		C	14' 12'		4"								6'	6'		
E404122G	0+00	15+14	R		C	14' 12'		4"								6'	6'		
	15+14	38+90	C		C	14' 12'			3"	3'	1'			3'	3'	6'	6'		
E404128A	0+00	33+95	P		C	14' 12'		4"								6'	6'		
	33+95	35+09	R		C	14' 12'			3"	3'	1'			3'	3'	6'	6'		
	35+09	78+66	P		C	14' 12'		4"								6'	6'		
E404128A*	78+66	79+86	R		C	14' 12'			Optional Road Widening						6'	6'			
	79+86	146+16	P		C	14' 12'		4"								6'	6'		
	146+16	148+16	R		C	14' 12'			3"	3'	1'			3'	3'	6'	6'		
	148+16	176+44	P		C	14' 12'		4"								6'	6'		
E404128B	0+00	76+62	P		C	14' 12'			3"	3'	1'			3'	3'	6'	6'		

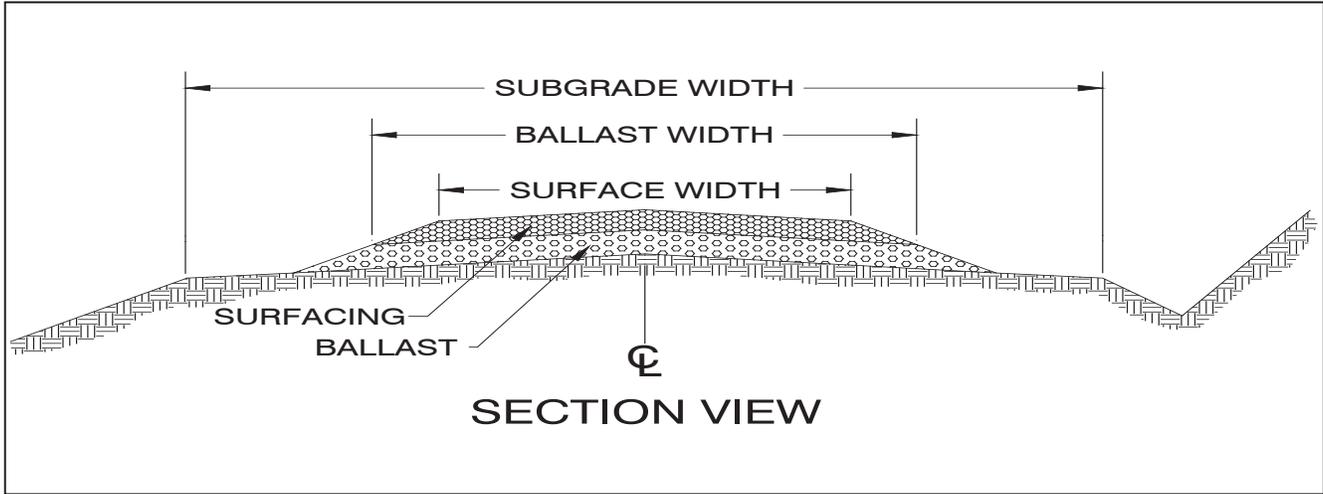
** or R-O-W Tags

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-095800

Name of Sale: Woodspur

ROCK LIST



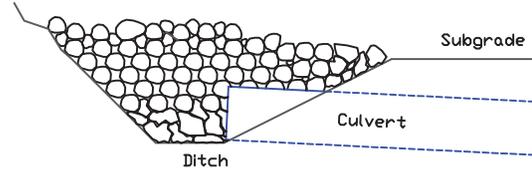
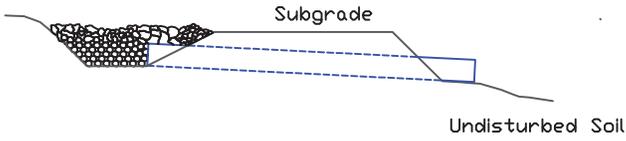
1. ROCK DEPTHS ARE DEFINED AS COMPACTED DEPTHS.
2. LOOSE YARD QUANTITIES ARE DEPENDANT ON SOURCE.
3. ROCK SLOPES SHALL BE 1.5(H) : 1(V).
4. ALL ROCK SOURCES ARE SUBJECT TO APPROVAL BY THE CONTRACT ADMINISTRATOR.

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	BALLAST SOURCE	BALLAST WIDTH (ft)	BALLAST DEPTH (in)	BALLAST QTY (cu.yd./sta)	SURFACE SOURCE	SURFACE WIDTH (ft)	SURFACE DEPTH (in)	SURFACE QTY (cu.yd./sta)	FABRIC WIDTH (ft)	
E404115E	0+00	18+87											
E404115H	0+00	6+80											
E404115J	0+00	11+60											
E404121E	0+00	32+79											
E404121H	0+00	7+06											
E404122F	0+00	64+35											
E404122G	30+37	31+55			14	12	63					16	
Woodspur Rd.	98+85	126+72											
E404024A	126+72	163+72						80 c.y surface rock for spotpatching.					
E404128A	33+95	35+09								6	35	16	
E404128A	33+95	35+09						Additional 35 c.y. for curve widening					
	33+73							10 c.y surface rock for rolling dip					
	34+41							10 c.y drain rock, 6 cy surface rock for French drain.					
	35+09							10 c.y surface rock for rolling dip					
E404128B	46+16	48+16						Additional 20 c.y. for curve reconstruction					
E404128B	0+00	76+62						Additional 20 c.y. for spotpatching					
Additional Rock													
E404128A	34+49							30 c.y Light Loose Riprap for Np Culvert Replacement					
Cross Drain Installations								7 c.y Light Loose Riprap for headwalls and outlets.					
Additional Surface Rock								140 c.y for spotpatching as directed by the C. A.					

DATE:11-20-2017

CULVERT AND DRAINAGE SPECIFICATIONS DETAIL - D1

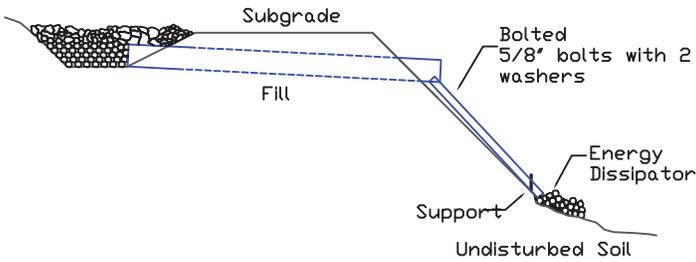
HEADWALLS



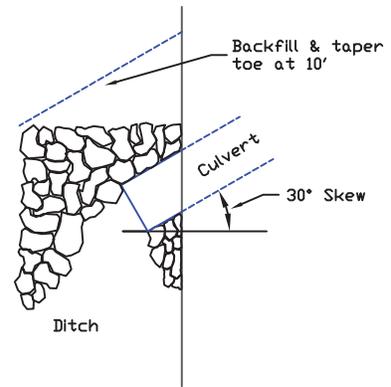
Headwall to be constructed of material that will resist erosion

FLUME

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

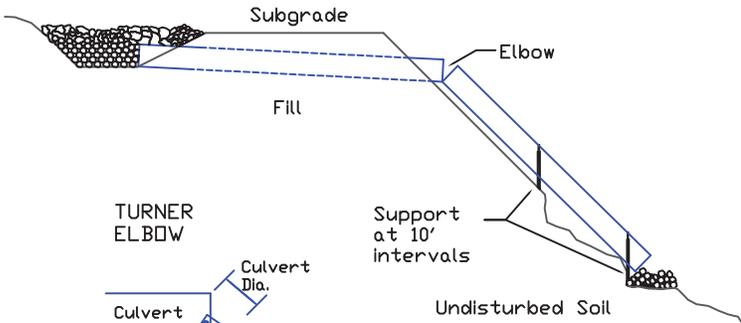


PLAN VIEW



DOWNSPOUT

Use where ground conditions are irregular.



TURNER ELBOW



Bolted 5/8" bolts with bridge washers on both sides

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

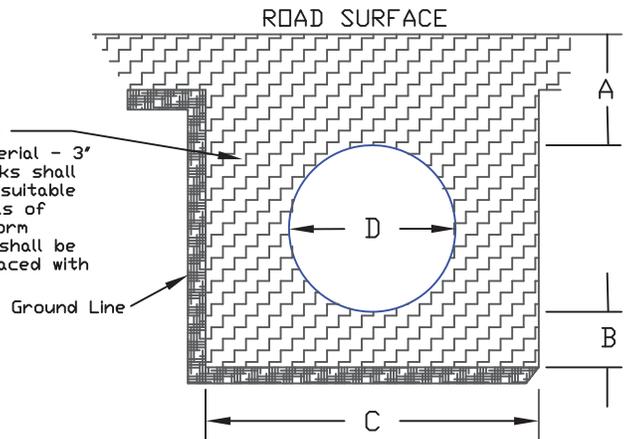
Minimum Cover	Minimum Bed Depth	Min. Trench Width	Nominal Diameter
A	B	C	D
12"	6"	36"	18"
12"	6"	42"	24"
12"	6"	48"	30"
12"	6"	54"	36"

DISSIPATOR SPEC'S Size In Culvert Diameters

Area	2 X 2
Depth	1
Aggregate	1/3



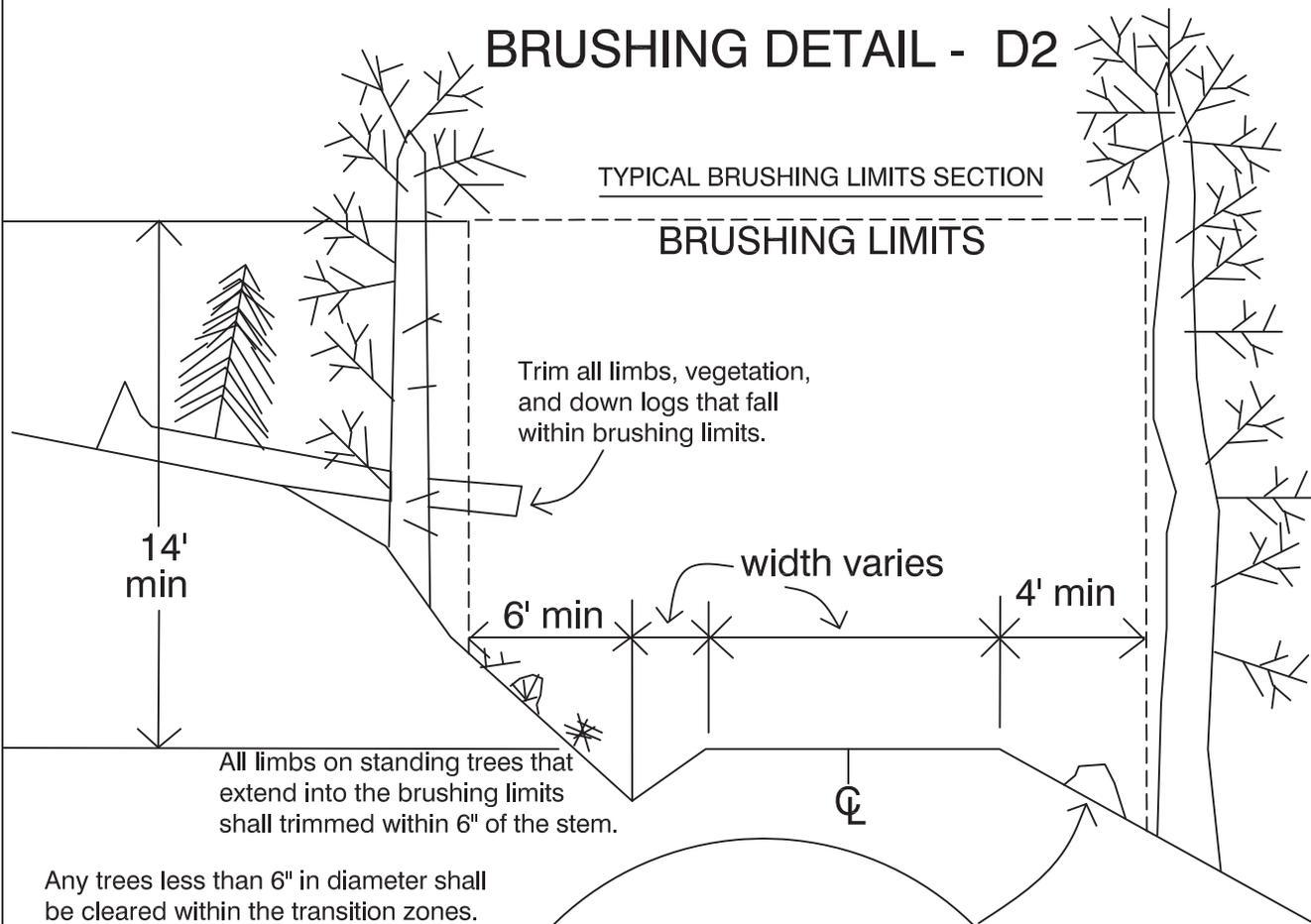
BEDDING MATERIAL:
Use granular material - 3" minus. Large rocks shall be replaced with suitable material. Materials of poor or non-uniform bearing capacity shall be removed and replaced with suitable fill.



BRUSHING DETAIL - D2

TYPICAL BRUSHING LIMITS SECTION

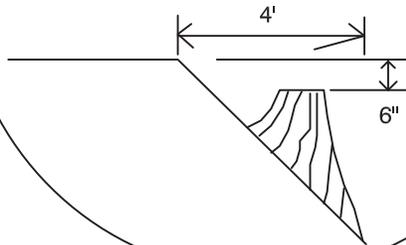
BRUSHING LIMITS



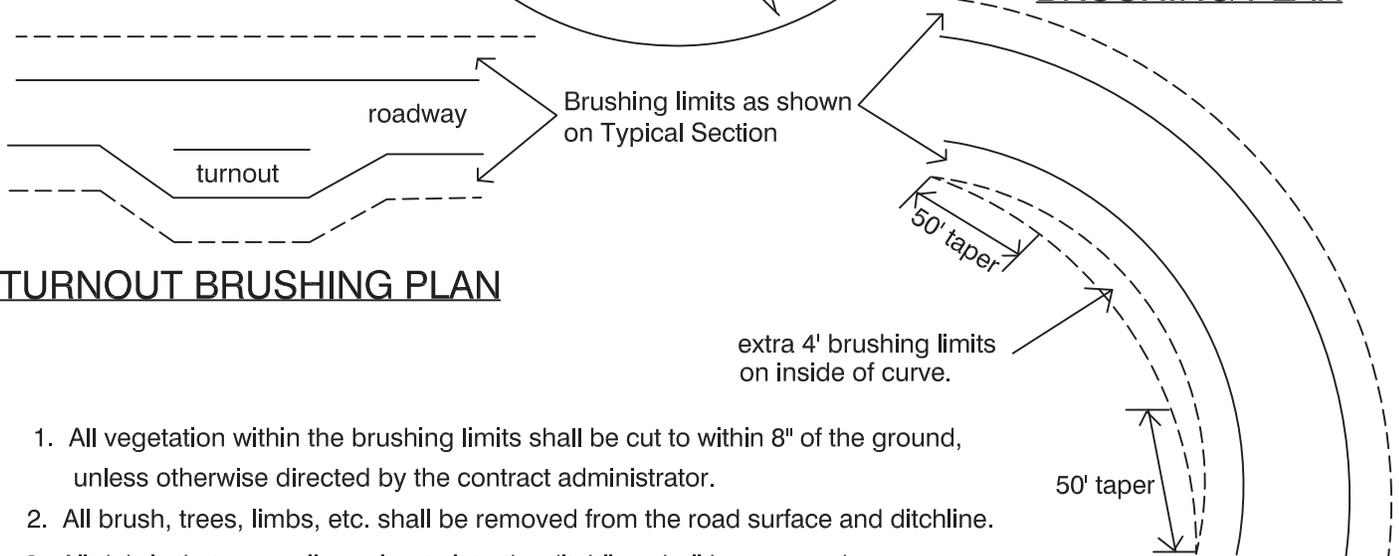
All limbs on standing trees that extend into the brushing limits shall be trimmed within 6" of the stem.

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

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



CURVE BRUSHING PLAN

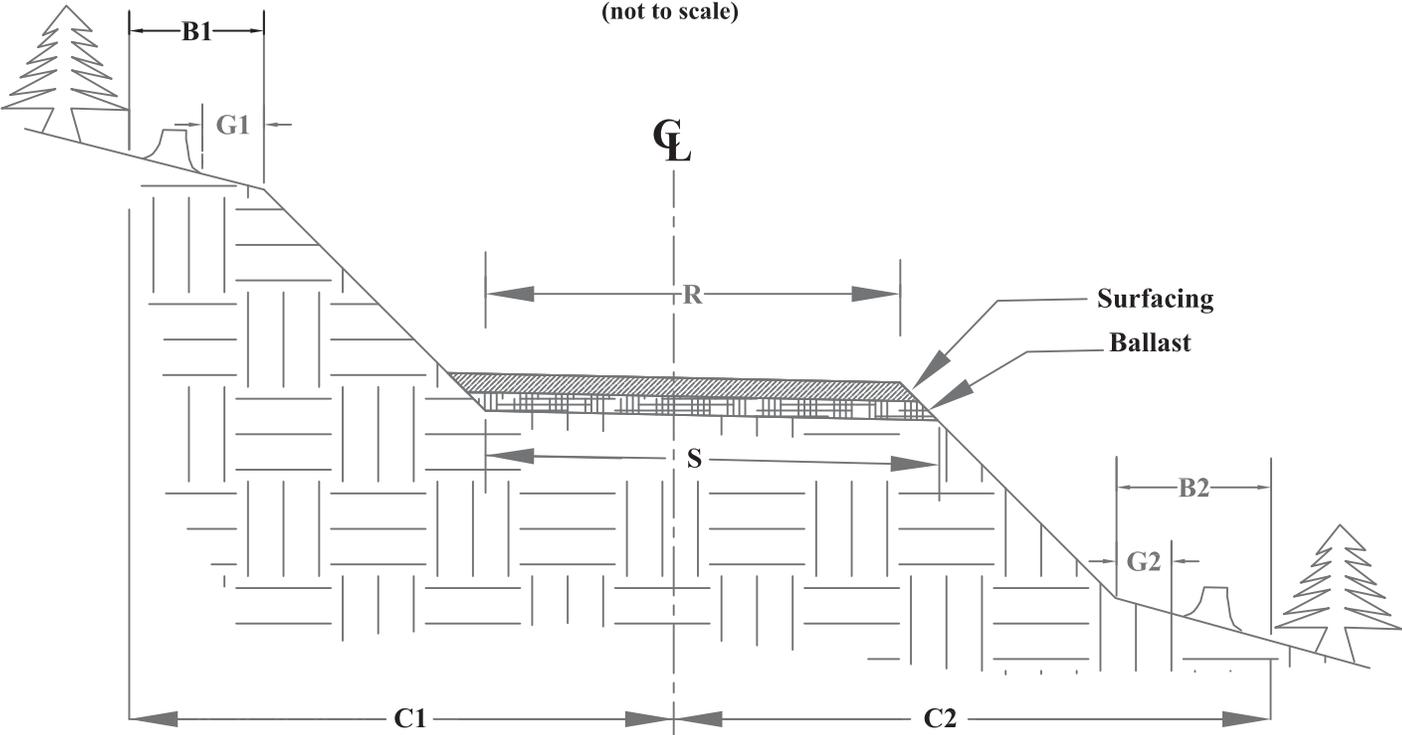


TURNOUT BRUSHING PLAN

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

OUTSLOPED ROAD CROSS-SECTION

DETAIL D3



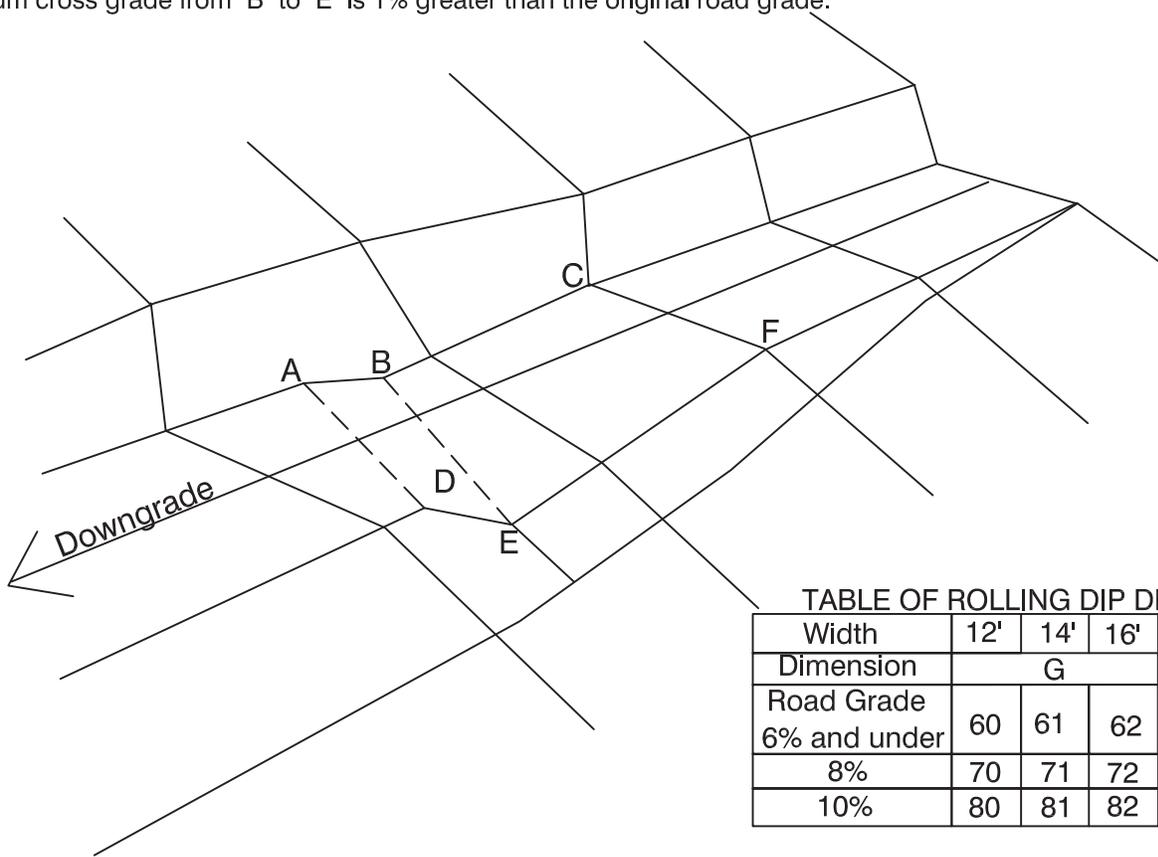
Drawn by: JBB 2/18/03

Revised: JE 07/06/2017

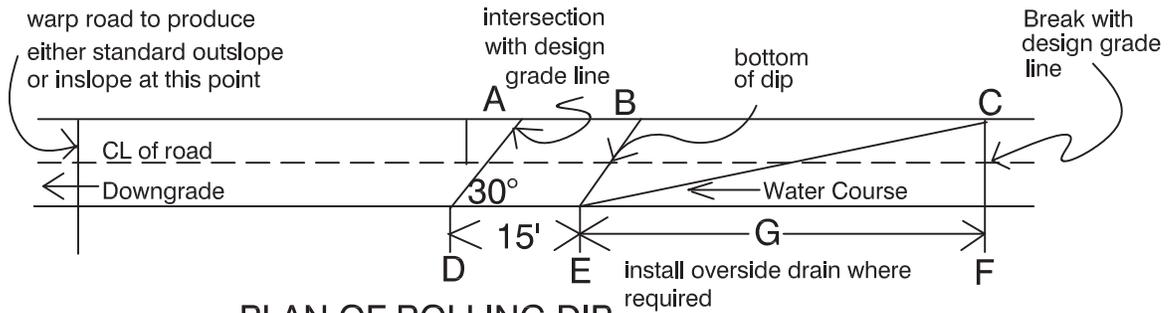
STANDARD 30° ROLLING DIP - D5

Note: Plan of dip shown is for an outsloped rolling dip. Dips may be either insloped or outsloped. When insloped, dips shall discharge into a culvert, drop inlet, overside drain, or drainage ditch. When outsloped, they shall discharge into an overside drain or on to natural ground. Minimum skew is 30°, and the maximum skew is 45°.

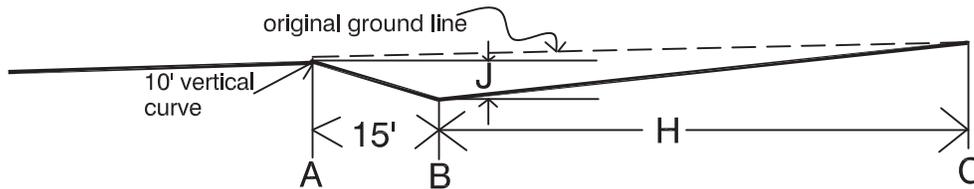
The minimum cross grade from "B" to "E" is 1% greater than the original road grade.



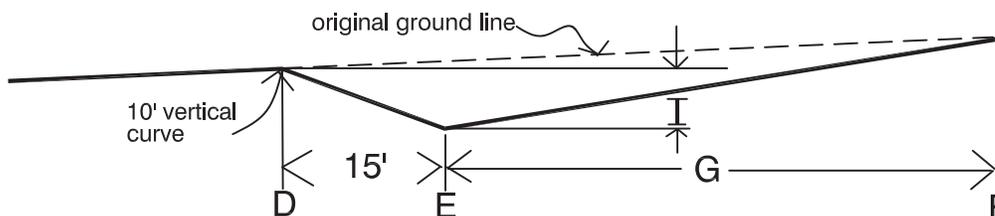
Width	12'	14'	16'	ALL		
Dimension	G			H	I	J
Road Grade 6% and under	60	61	62	52	.8	0.3
8%	70	71	72	62	1.0	0.2
10%	80	81	82	72	1.1	0.1



PLAN OF ROLLING DIP



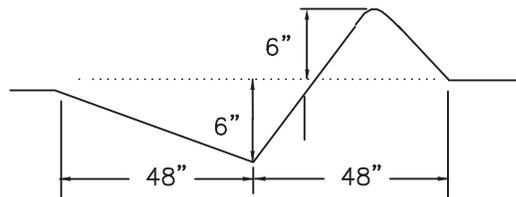
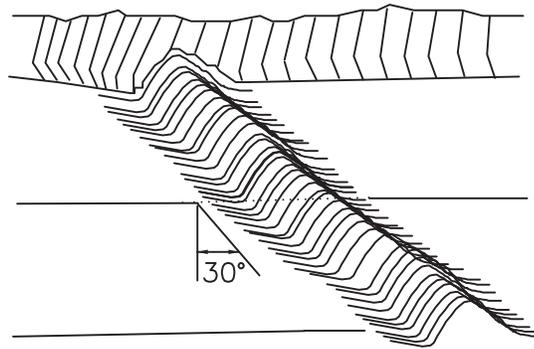
ROAD PROFILE ALONG A-B-C OF ROLLING DIP



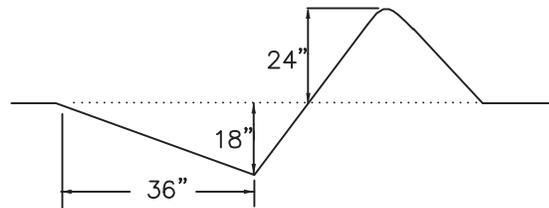
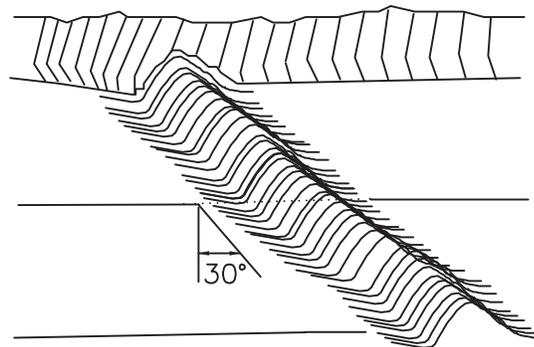
ROAD PROFILE ALONG D-E-F OF ROLLING DIP

WATERBAR DETAIL—D6

DRIVABLE WATERBAR



NON DRIVABLE WATERBAR

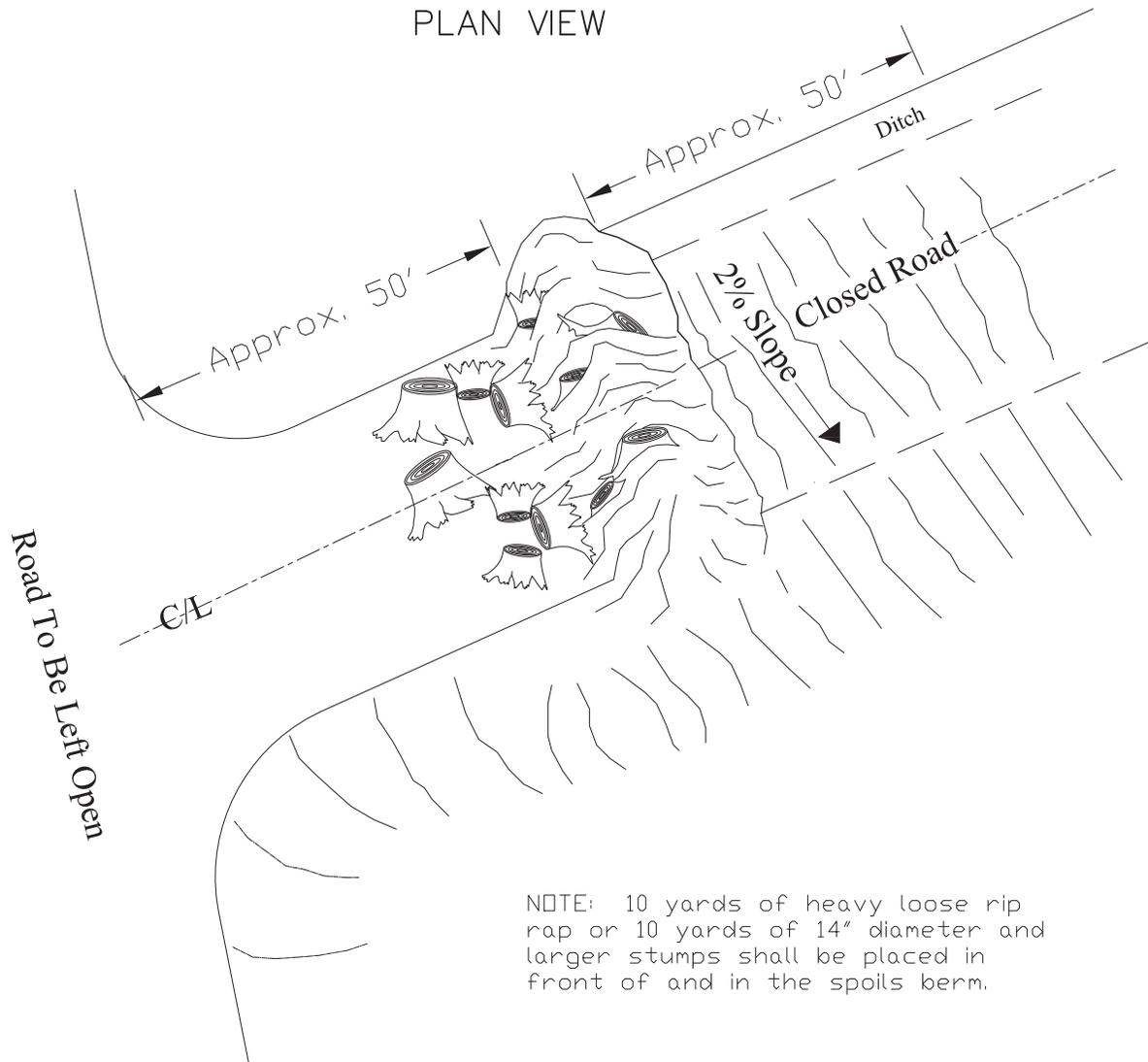


1. Waterbar construction for forest roads Specifications are average and may be adjusted to conditions.
2. Waterbar shall keyed into the bank.
3. The waterbar shall be outsloped for proper drainage.
4. Rock outlet if fill slope is present.

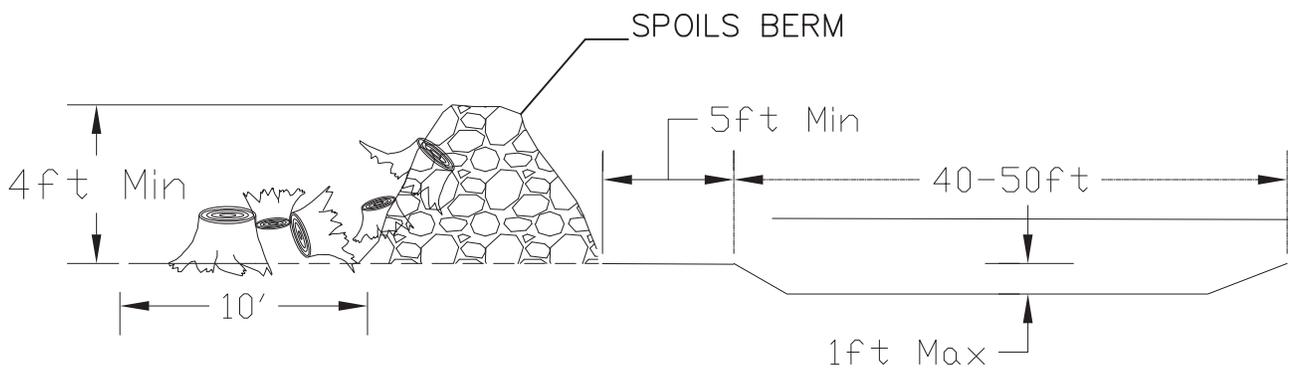
Revised: 05/21/2012

SPOILS BERM DETAIL-D8

PLAN VIEW

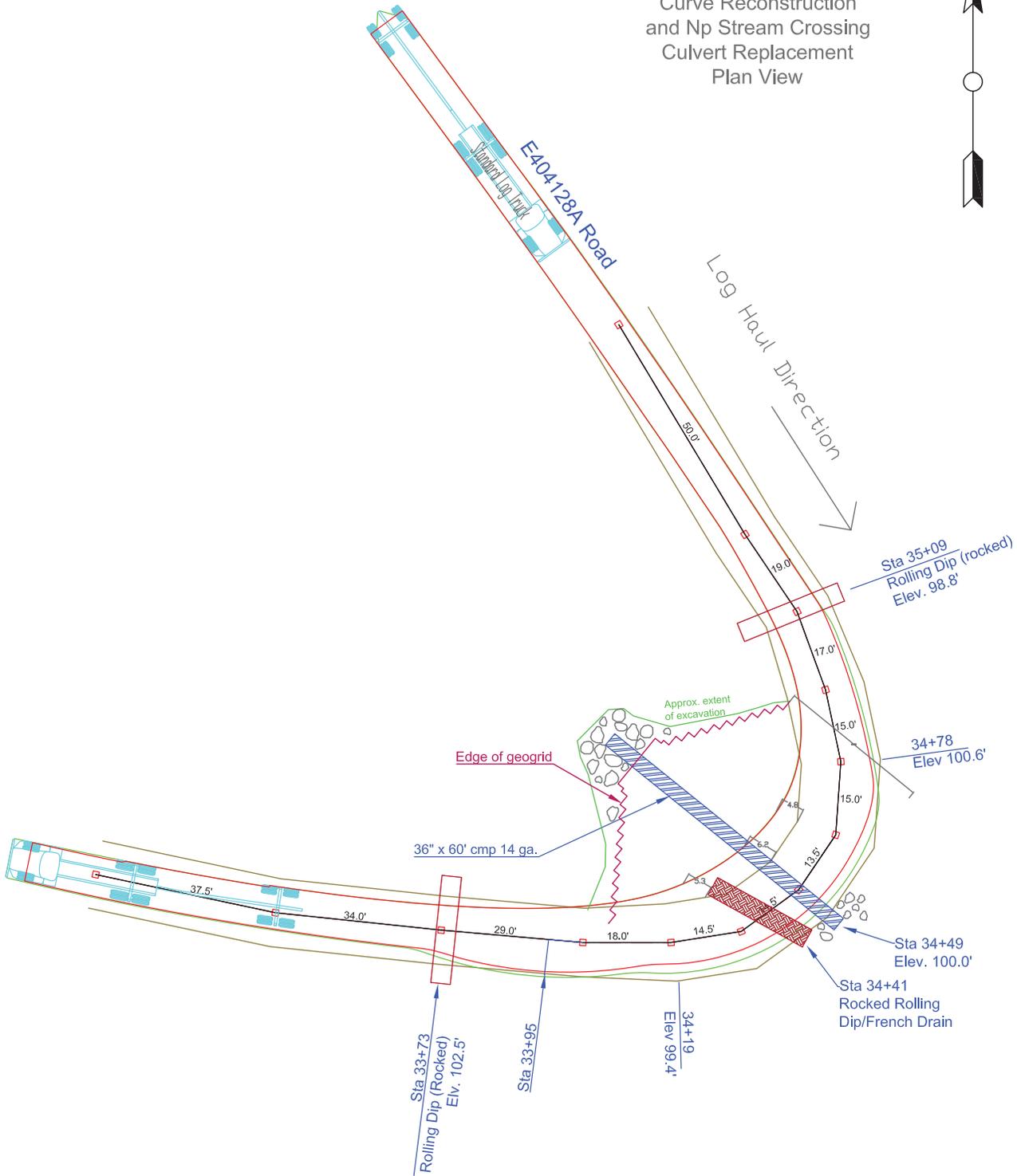


NOTE: 10 yards of heavy loose rip rap or 10 yards of 14" diameter and larger stumps shall be placed in front of and in the spoils berm.

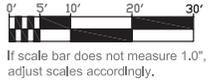


Note: $\frac{1}{3}$ of stumps or rip rap shall be partially buried in the spoils berm and/or road surface.

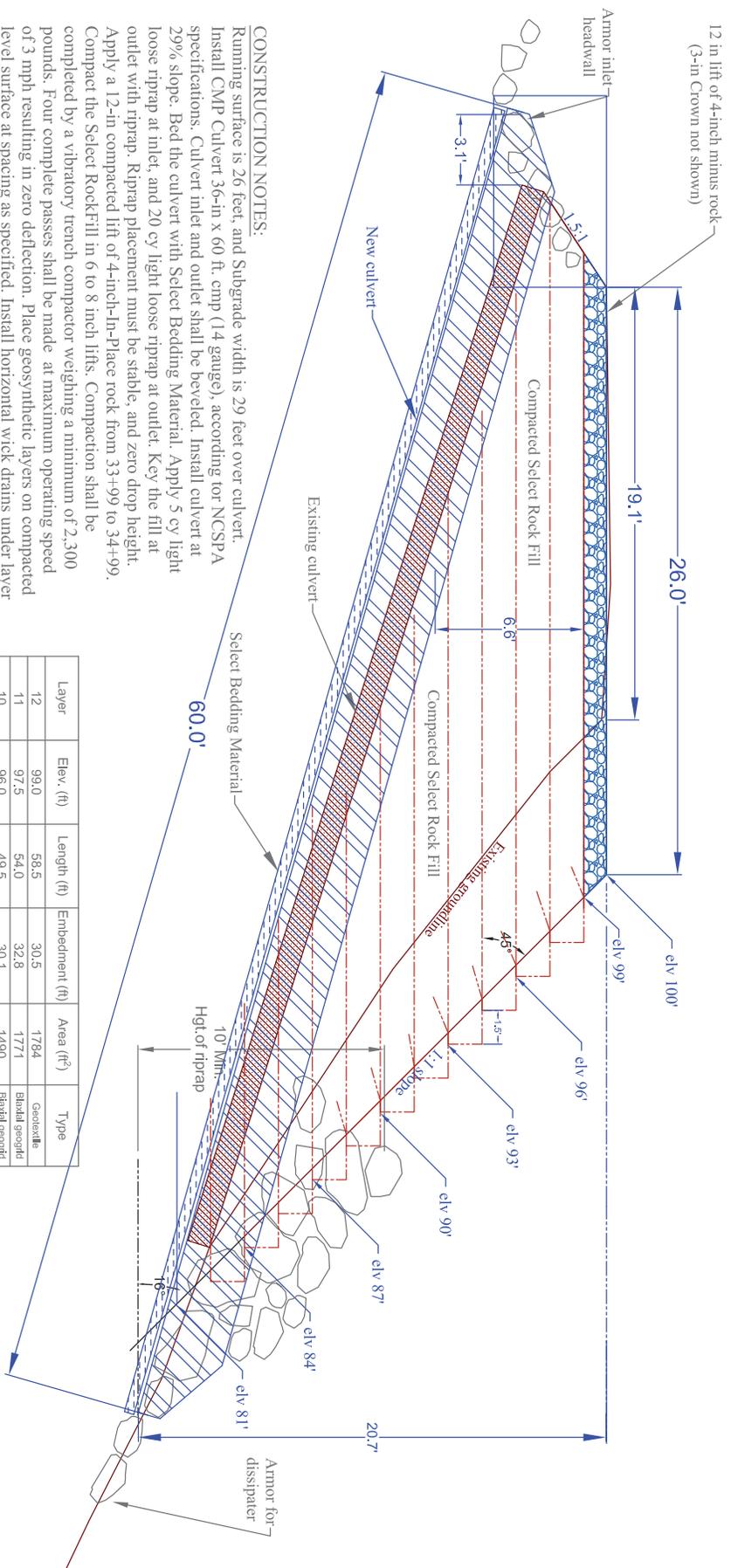
Woodspur Timber Sale
 E404128A Road
 Curve Reconstruction
 and Np Stream Crossing
 Culvert Replacement
 Plan View



Plan View	Timber Sale:	Woodspur	Agreement No.:	30-095800
Page 1 of 5	Drawn By:	Jim English	Date:	9/10/2018



Woodspur Timber Sale
 Np Stream Crossing Culvert Installation
 Sta 34+49 E404128A Road
 Profile View



CONSTRUCTION NOTES:
 Running surface is 26 feet, and Subgrade width is 29 feet over culvert.
 Install CMP Culvert 36-in x 60 ft. cnp (14 gauge), according to NCSIPA specifications. Culvert inlet and outlet shall be beveled. Install culvert at 29% slope. Bed the culvert with Select Bedding Material. Apply 5 cy light loose riprap at inlet, and 20 cy light loose riprap at outlet. Key the fill at outlet with riprap. Riprap placement must be stable, and zero drop height. Apply a 12-in compacted lift of 4-inch-In-Place rock from 33+99 to 34+99. Compact the Select RockFill in 6 to 8 inch lifts. Compaction shall be completed by a vibratory trench compactor weighing a minimum of 2,300 pounds. Four complete passes shall be made at maximum operating speed of 3 mph resulting in zero deflection. Place geosynthetic layers on compacted level surface at spacing as specified. Install horizontal wick drains under layer 12 and layer 10. Three layers, each spaced 10 to 12 feet apart. Minimum 2 ft overlap for geotextile, 1 ft for geogrid or the per manufacturer's specifications. Wrap layer face with geogrid as shown in drawing. No tracked equipment on layers until a minimum cover of 12 inches. Install geotextile and geogrids per the plans and road plan.
 Note: If stream is flowing, diversion of pumping of the flow from the work site will be required in accordance to Forest Practice rules.

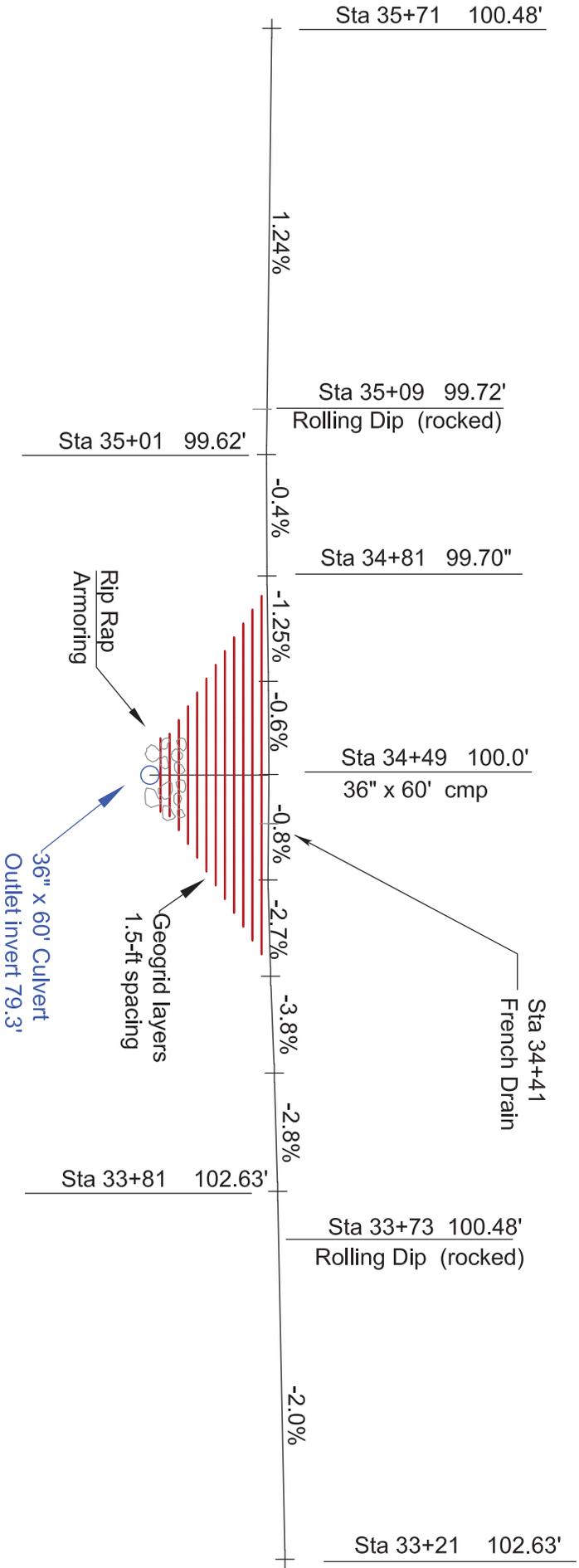
Layer	Elev. (ft)	Length (ft)	Embedment (ft)	Area (ft ²)	Type
12	99.0	58.5	30.5	1784	Geotextile
11	97.5	54.0	32.8	1771	Blasted geogrid
10	96.0	49.5	30.1	1490	Blasted geogrid
9	94.5	45.0	27.4	1233	Blasted geogrid
8	93.0	40.5	24.7	1000	Blasted geogrid
7	91.5	36.0	22.0	792	Blasted geogrid
6	90.0	31.5	19.3	608	Blasted geogrid
5	88.5	27.0	16.6	448	Blasted geogrid
4	87.0	22.5	13.9	313	Blasted geogrid
3	85.5	18.0	11.2	202	Blasted geogrid
2	84.0	13.5	8.5	115	Blasted geogrid
1	82.5	12.0	6.2	75	Blasted geogrid
Total (Not including overlaps & lap lengths)					9831

If scale bar does not measure 1.0",
 adjust scales accordingly.



Profile View	Timber Sale:	Woodspur	Agreement No.:	30-0958800
Page 2 of 5	Drawn By:	Jim English	Date:	9/10/2018

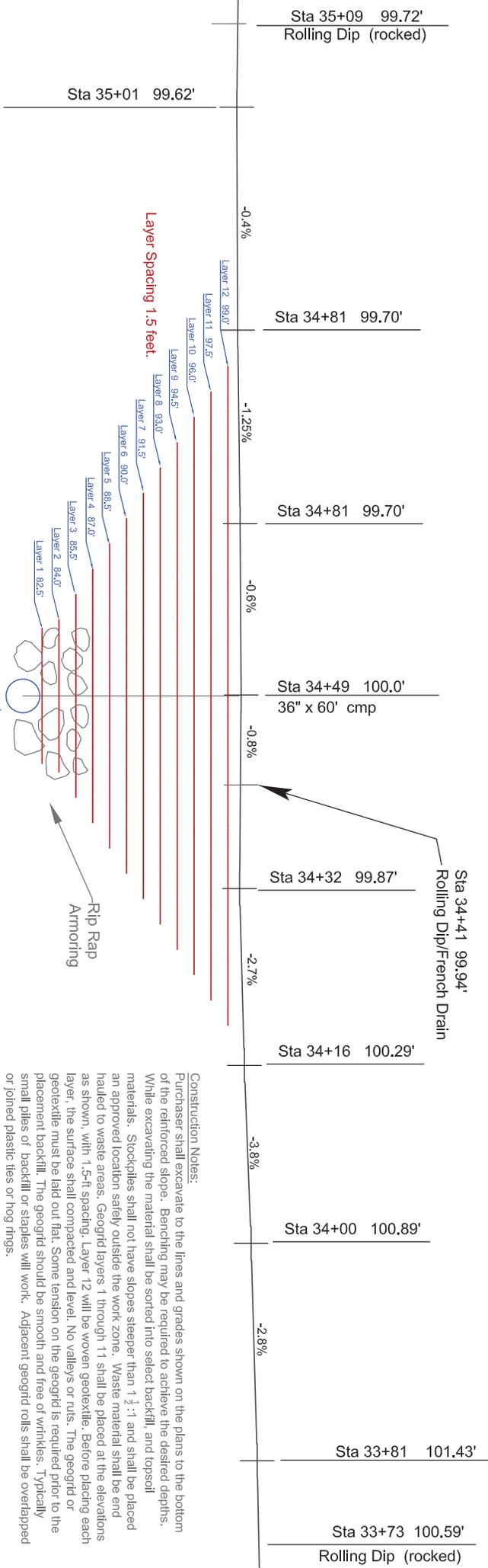
Woodspur Timber Sale
 E404128A Road
 Np Stream Culvert Installation
 Road Profile View
 (Looking Upstream)



Road Profile View	Timber Sale:	Woodspur	Agreement No.:	30-095800
Page 3 of 5	Drawn By:	Jim English	Date:	9/10/2018



Woodspur Timber Sale
 E404128A Road
 Np Stream Culvert Installation
 Road Profile View
 (Looking Upstream)



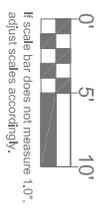
Construction Notes:

Purchaser shall excavate to the lines and grades shown on the plans to the bottom of the reinforced slope. Benching may be required to achieve the desired depths. While excavating the material shall be sorted into select backfill, and topsoil materials. Stockpiles shall not have slopes steeper than 1 1/2 :1 and shall be placed an approved location safely outside the work zone. Waste material shall be end hauled to waste areas. Geogrid layers 1 through 11 shall be placed at the elevations as shown, with 1.5-ft spacing. Layer 12 will be woven geotextile. Before placing each layer, the surface shall be compacted and level. No valleys or ruts. The geogrid or geotextile must be laid out flat. Some tension on the geogrid is required prior to the placement backfill. The geogrid should be smooth and free of wrinkles. Typically small piles of backfill or staples will work. Adjacent geogrid rolls shall be overlapped or joined plastic ties or hog rings.

Compaction of embankment and subgrade material shall be required. Spread and level the Select Rock Fill. The Select Rock Fill shall be compacted in lifts not to exceed 8 loose inches. Compaction shall be completed by a vibratory trench compactor weighing a minimum of 2,300 pounds. A minimum of four complete passes shall be made at a maximum operating speed of 3 mph resulting in zero deflection. Within two feet of culvert use portable tamper or plate compactor for compaction. Compact in 6-inch lift, minimum four complete passes. Do not operate tracked equipment on exposed geogrid.

Purchaser shall add water to achieve optimum moisture conditions during compaction of embankment, ballast and surfacing.

Finished subgrade shall be crowned, uniform, firm, rut-free and shaped to ensure surface runoff in an even, unconcentrated manner.



Road Profile View	Timber Sale:	Woodspur	Agreement No.:	30-095800
Page 4 of 5	Drawn By:	Jim English	Date:	9/10/2018

Woodspur Timber Sale
E404128A Road
Np Stream Culvert Installation
Construction Notes

CONSTRUCTION NOTES:

Purchaser shall excavate to the lines and grades shown on the plans to the bottom of the reinforced slope. Divert or pump around live water to remove existing culvert in the dry. Excavate to required elevations, remove muck or unsuitable material, endhaul to waste area. Pile excavated material well back from work area in safe and stable manner. Create a smooth bed with a uniform grade for the new culvert. Apply 6-inches Select Bedding Material to the culvert bed, the upper half of the bedding lift should be relatively loose to allow the corrugations to seat into the bedding. Install 36-in x 60-ft cmp beveled culvert at about 29% as shown on plans. Follow NCSIPA Specifications, taking care to compact the soil around the haunches of the culvert. May require hand tamping. Maintain the shape control and uniform slope of the culvert. No sags, deflection or distortions. Keeps rocks larger than 4 inches from direct contact with culvert. No construction loads over culvert with out minimum cover of 3 feet. Backfill evenly and enough to begin installation of riprap, and fill to beginning geogrid layer elevation.

Benching may be required to achieve the desired depths. While excavating the material shall be sorted into select backfill, and topsoil materials. Stockpiles shall not have slopes steeper than 1.5:1 and shall be placed an approved location safely outside the work zone. Waste material shall be end hauled to waste areas.

Geogrid layers 1 through 11 shall be placed at the elevations as shown, with 1.5-ft spacing. Layer 12 will be woven geotextile. Before placing each layer, the surface shall compacted and level. No valleys or ruts. The geogrid or geotextile must be laid out flat. Some tension on the geogrid is required prior to the placement backfill. The geogrid should be smooth and free of wrinkles. Typically small piles of backfill or staples will work. Adjacent geogrid rolls shall be overlapped or joined plastic ties or hog rings. Wrap fill slope ends of geogrid layers as shown on drawings. (minimum 2 ft overlap).

Compaction of embankment and subgrade material shall be required. Spread and level the Select Rock Fill. The Select Rock Fill shall be compacted in lifts not to exceed 8 loose inches. Compaction shall be completed by a vibratory trench compactor weighing a minimum of 2,300 pounds. A minimum of four complete passes shall be made at a maximum operating speed of 3 mph resulting in zero deflection. Within two feet of culvert use portable tamper or plate compacter for compaction. Compact in 6-inch lift, minimum four complete passes.

Backfill Summary

- Use good backfill material.
- Ensure good backfill and adequate compaction under haunches.
- Maintain adequate width of backfill.
- Place material in uniform layers (lifts less than 8 inches).
- Balance fill on either side of culvert as backfilling progresses.
- Compact each layer before adding the next layer.
- Monitor design shape and modify backfill procedures to if required.
- Do not operate tracked equipment on exposed geogrid.
- Do not allow heavy equipment over the structure without adequate cover.

Purchaser shall add water to achieve optimum moisture conditions during compaction of embankment, ballast and surfacing.

Finished subgrade shall be crowned, uniform, firm, rut-free and shaped to ensure surface runoff in an even, unconcentrated manner.

MATERIALS AND COMPACTON:

Select Bedding Material:

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

Compact in 6 inch or shallower lifts. Minimum three full coverages. Use portable plate compactor or tamper.

Select Rock Fill:

% Passing 8" square sieve	100%
% Passing 6" square sieve	80 %

Compact in 8 inch or shallower lifts with vibratory trench compactor, minimum weight 2,300 lbs. Four complete passes made at maximum operating speed of 3 mph.

4-Inch In Place Rock:

% Passing 12" square sieve	100%
% Passing 6" square sieve	60 %
% Passing 4" square sieve	90% of top 4 inches.

Compact in 12 inch or shallower lifts with vibratory trench compactor, minimum weight 2,300 lbs. Minimum of four complete passes made at maximum operating speed of 3 mph.

Rip Rap:

Use material from small stockpile near Station 27+56 E404128A Road, about 20 cy. Additional Rip rap, shall meet the specifications of Clause 6-50 Light Loose Rip Rap. Potential sources are near Station 3+47 E404121F Road, and Station 163+00 E44128A Road.

Geotextile: See Clause 10-8 Geotextile For Stabilization.

Biaxial Geogrid: See Clause 10-9 Biaxial Geogrid For Stabilization.

Wick Drain: Amerdrain Wick Drain is supplied by the State, and available at the Northeast Region Headquarters. Apply as shown on drawings.

Culvert:

Dimensions: Diameter 36 inches; length 60 feet
 Type: Galvanized Steel Corrugated metal Culvert
 Gauge: 14 gauge.

Mitered Ends : See Culvert Bevel/Miter Detail.
 Existing Culvert: Remove from State property and dispose.

Waste Areas: Located near station 128+90 E44128A, or in stable areas along the E404128A Road must be approved by the Contract Administrator.

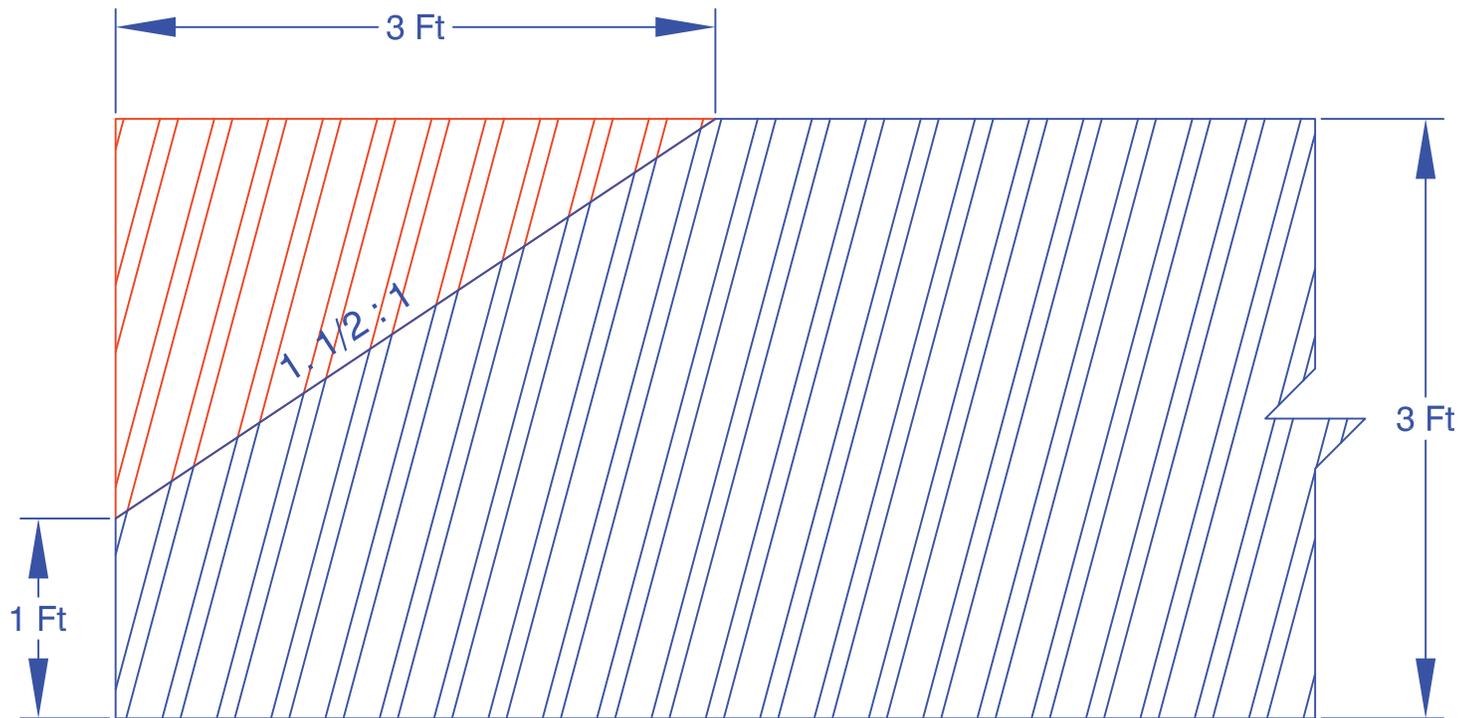
Construction Notes	Timber Sale:	Woodspur	Agreement No.:	30-095800
Page 5 of 5	Drawn By:	Jim English	Date:	9/10/2018

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Application No.: 30-095800

Name of Sale: Woodspur

Culvert Bevel/Miter Detail



Notes:

Culvert Installation at Station 34+49 E404128A Road, 36-in x 60-ft CMP

This culvert shall be mitered at both the inlet and outlet as shown in the drawing.

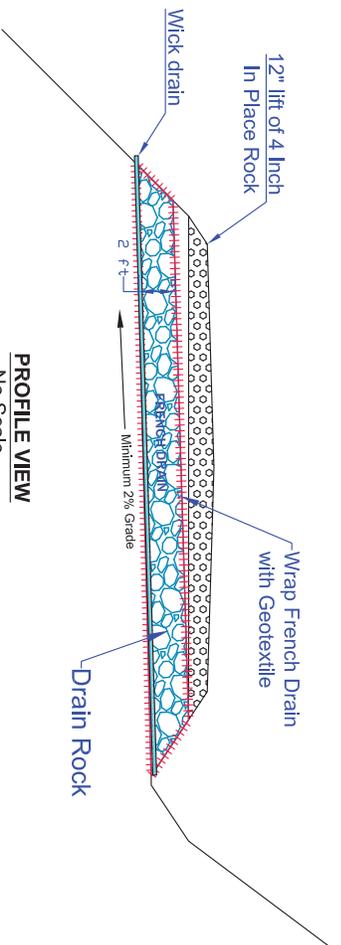
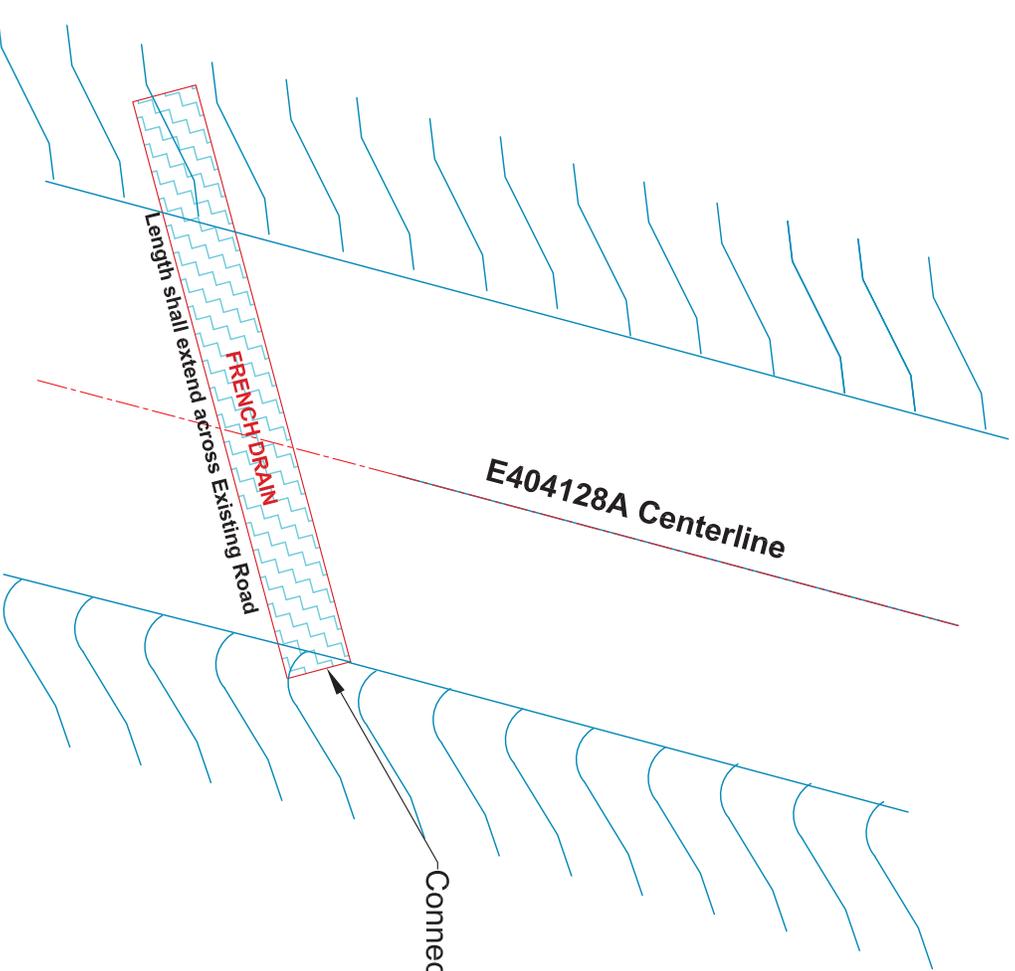
Leave a 1-foot step at each end and mitered at a $1\frac{1}{2} : 1$ slope for 3 feet on each end.

Treat ends as recommended by manufacturer. Work should have burrs and sharp edges removed.

DATE: August 24, 2018

French Drain Detail

PLAN VIEW
No Scale



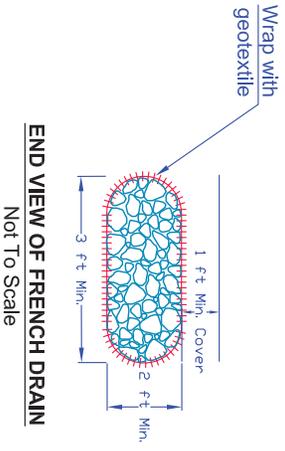
PROFILE VIEW
No Scale

NOTE:
Install at approx. Sta 34+41 E404128A Road.
Armor and establish ditch to Sta 34+49.
Place Amerdrain wick drain below Drain Rock and on top of geotextile.
French drain will intercept Geogrid reinforcement layer(s).
Adjust geogrid layer above or below the French Drain as appropriate.
Construct French Drain in conjunction with installations of Geogrid layers 10 and 12 (Elevations 97.5' & 96.0'). Any questions, consult with the Engineer and Contract Administrator for guidance.

GEOTEXTILE REQUIREMENTS
Refer To Road Plan Clause
10-3 Geotextile for Stabilization.
Wrap geotextile around drain rock as shown.

DRAIN ROCK SPECIFICATION
Minimum Size: 3 inches
Maximum Size: 10 inches

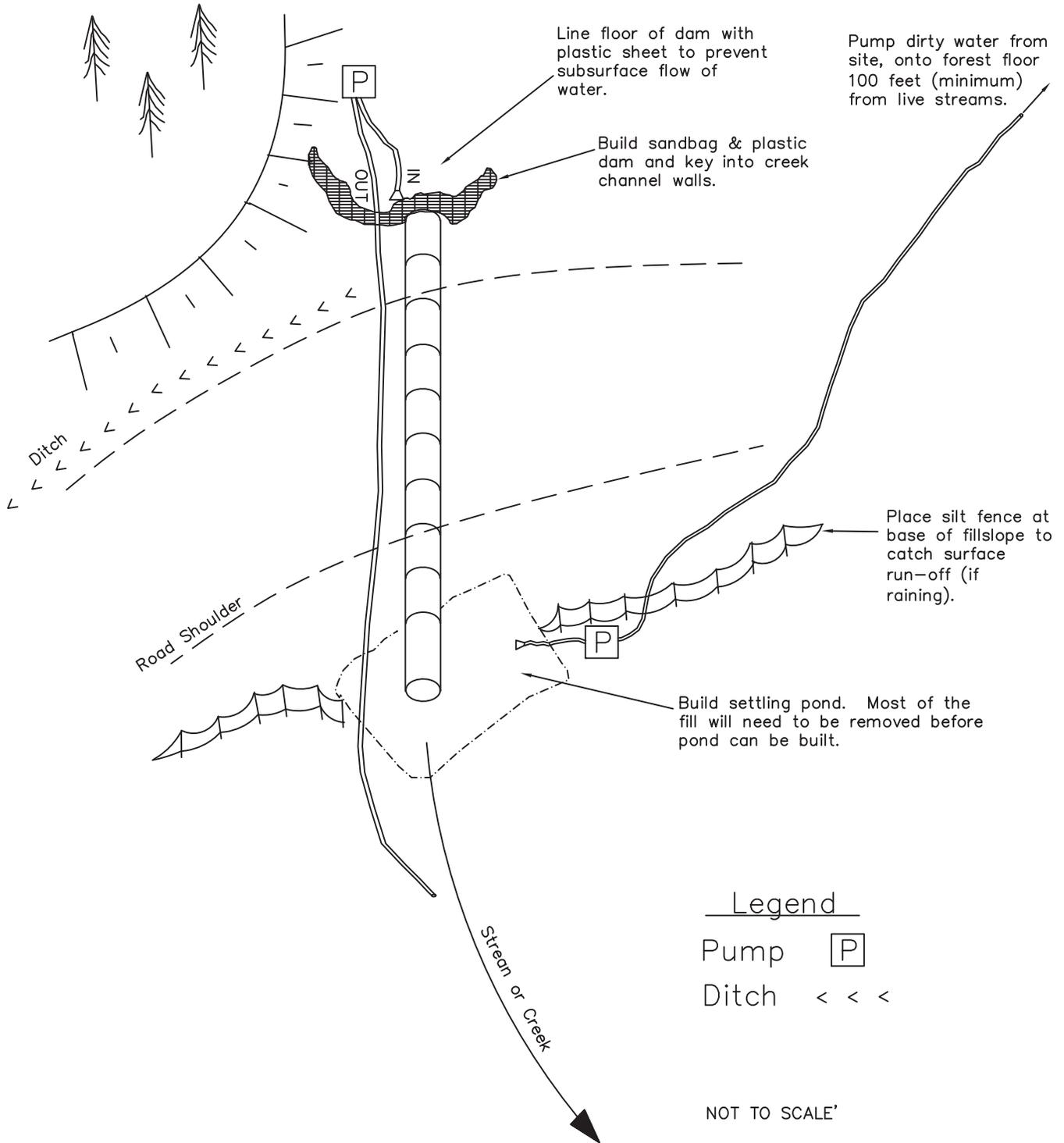
No more than 50% of the Drain Rock shall be less than 6 inches.



END VIEW OF FRENCH DRAIN
Not To Scale

FRENCH DRAIN	Timber Sale: Woodspur	Agreement No.:	30-095800
DETAIL	Drawn By: Jim English	Date:	9/10/2018

SETTLING POND AND PUMP DETAIL



GEOSYNTHETIC INSTALLATION SPECIFICATIONS

GEOTEXTILE OR GEOGRID INSTALLATION

PREPARATION

- A. Foundation soil shall be excavated to the line and grades as shown on the construction drawings or as directed by the Engineer. Over-excavated areas shall be filled with compacted backfill material as per project specifications or as directed by the Engineer. As a minimum, foundation soil shall be proof rolled prior to backfill and geosynsthetics placement.

INSTALLATION

- A. Geotextile or geogrid shall be installed at the proper elevation and orientation as shown on the drawings or as directed by the Engineer. Contractor shall verify correct orientation of the geosynsthetics.
- B. Geotextile or geogrid may be temporarily secured in-place with staples, pins, sand bags or backfill as required by fill properties, fill placement procedure or weather condition, or as directed by the Engineer.
- C. Primary geotextile may **not** be overlapped or connected mechanically to form splices in the primary strength direction, unless approved by the engineer. Single panel lengths are preferred in the primary strength direction. A minimum overlap of 2 feet is required between adjacent rolls unless otherwise specified by the Engineer. Lengths and widths of geotextile shall be chosen to minimize the required number of overlaps or seams.
- D. Backfill material shall be placed in lifts and compacted as directed under project specifications. Backfill shall be placed, spread and compacted in such a manner as to minimize the development of wrinkles in and/or movement of the geosynsthetics. A minimum fill thickness of 6 inches is required prior to the operation of tracked vehicles over the geotextile. Fill placement and spreading on geotextile shall not be performed against the direction of geotextile overlap.
- E. Turning of tracked vehicles should be kept to minimum to prevent tracks from displacing the fill and damaging the geotextile or geogrid. Rubber tired equipment may pass over the geosynsthetics reinforcement at low speeds, less than five mph. Sudden braking and sharp turns shall be avoided. Any geotextile damaged during installation shall be replaced by the Contractor at no additional cost to the Owner.
- F. Damaged or punctured geotextile shall be replaced or patched to the satisfaction of the engineer. Patches may be sewn or overlapped. Unsown patch overlaps beyond the area of damage shall exceed roll overlap requirements of this section by at least 12 inches (300 mm). Consult with engineer for repair or mitigation for damage to geogrids.
- H. Compaction shall be in 6- inch lifts a minimum of four complete coverages.

GEOSYNTHETIC INSTALLATION SPECIFICATIONS

GEOGRID INSTALLATION

The area that the geogrid is placed should be cleared of any objects that will create a void condition. The geogrid needs to be in direct contact with the soil. The geogrid must be placed in accordance with the drawings. Place the correct geogrid at the elevations shown on the drawings.

Some tension on the geogrid is required prior to the placement of the fill material. Anchor the geogrid with small piles aggregate or backfill or stake or staple it in place if needed. The geogrid should be smooth and free of wrinkles. Any method of tension is acceptable. **DO NOT DAMAGE THE GEOGRID WITH WOOD STAKES OR OTHER TYPE OF MECHANICAL FASTENERS.** If staples or stakes are used, they need to be placed through the openings of the geogrid. Tension should be maintained until soil cover is compacted.

The geogrid shall be laid smooth without wrinkles or folds on the prepared subgrade in the direction of construction traffic (Machine Direction).

Adjacent geogrid rolls shall be overlapped, or joined as required in the plans. Nylon Zip Ties or 7/16" polypropylene rope may be used to join adjacent or over lapping rolls. Overlaps shall be in the direction as shown on the plans. Tension should be maintained in the geogrid until at least 70% of the grid area is covered with fill.

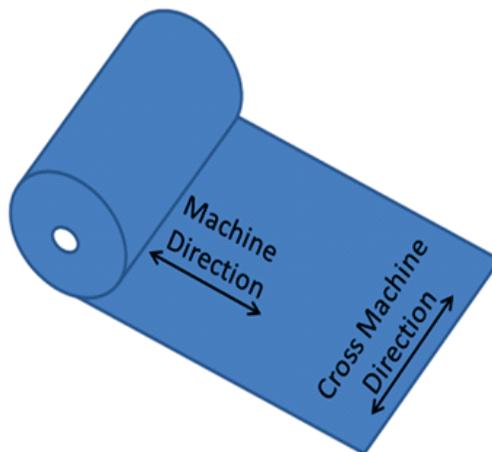
Backfill material shall be placed in 6-8 inch lifts and compacted as directed under project specifications. Backfill shall be placed, spread and compacted in such a manner as to minimize the development of wrinkles in and/or movement of the geosynsthetics. A minimum fill thickness of 6 inches is required prior to the operation of tracked vehicles over the geogrid.

NOTES:

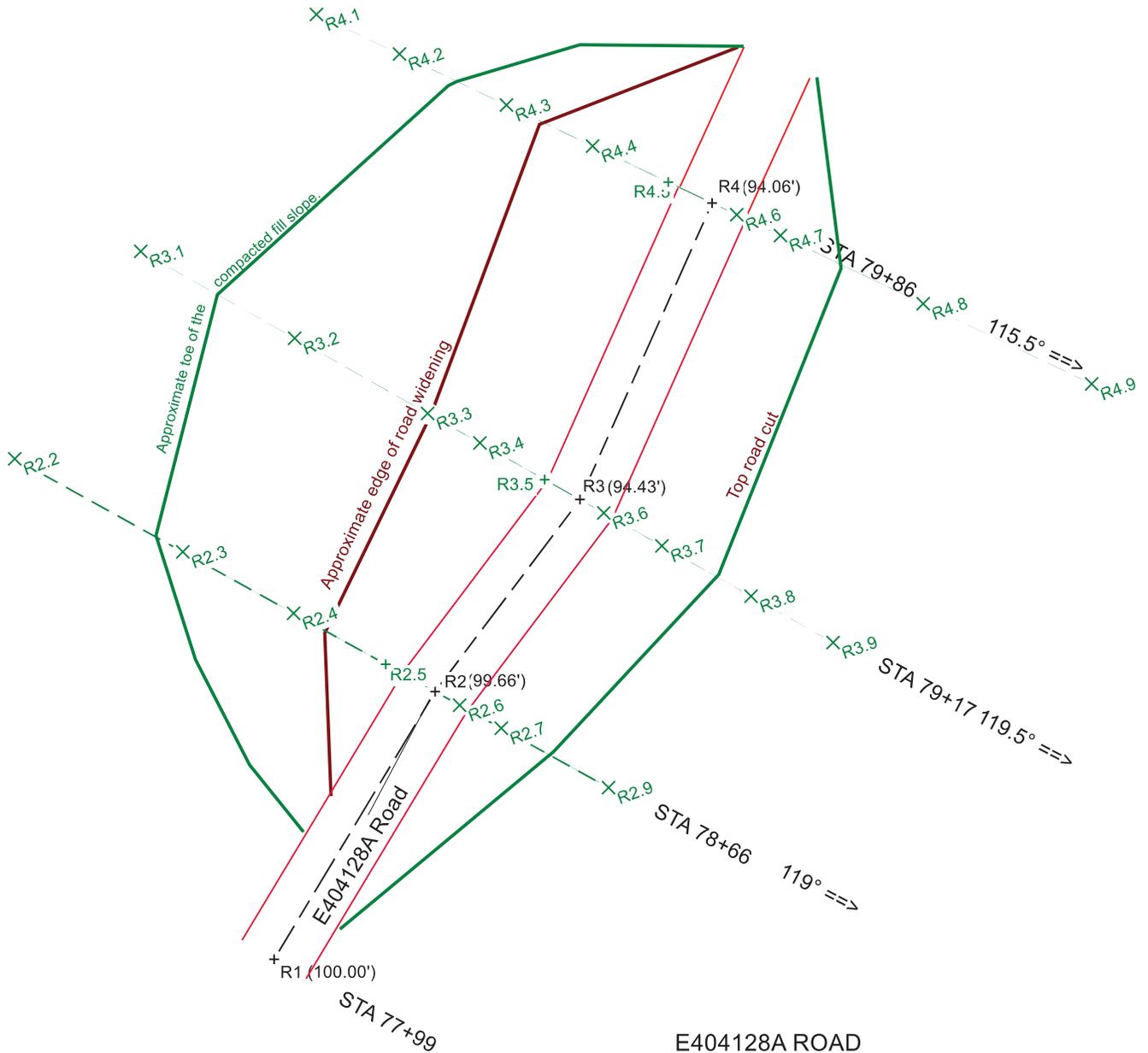
The Cross Machine Direction (CD) is the direction perpendicular to the long, machine or manufactured direction.

Machine Direction (MD) is the direction in a machine-made fabric parallel to the direction of movement the fabric followed in the manufacturing process (*lengthwise, or long direction, and for woven geotextiles, warp direction*).

Overlap is the distance measured perpendicular from the overlapping edge of one sheet to the underlying edge of the adjacent sheet.



WOODSPUR TIMBER SALE
 E404128A ROAD
 Sta 78+66 to 79+86
 Plan View

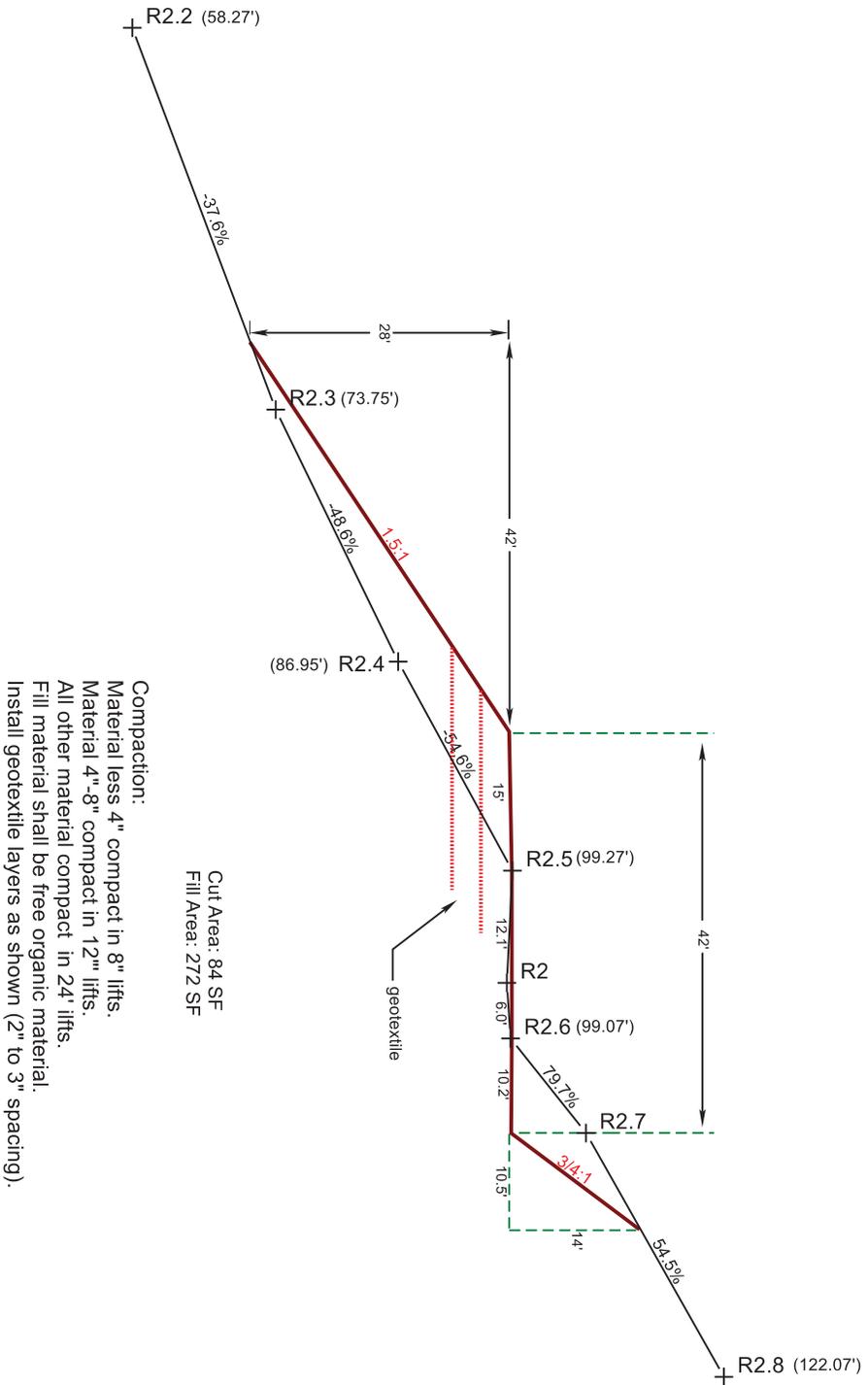


E404128A ROAD
 Sta 78+66 to 79+86
 Optional Road Widening
 To Create 40' Wide by about 120' Long
 Landing and Decking Area

FILE NAME		
Woodspur Large Fill.TRV		
SCALE	DATE	DRAWN BY
35 Ft/In	11-21-2017	Jim English
JOB	REVISION	SHEET
\$JOB	1/1	1/4



WOODSPUR TIMBER SALE
 Cross-Section Profile At Pt. R2
 E404128A Road ~Sta 78+66



Cut Area: 84 SF
 Fill Area: 272 SF

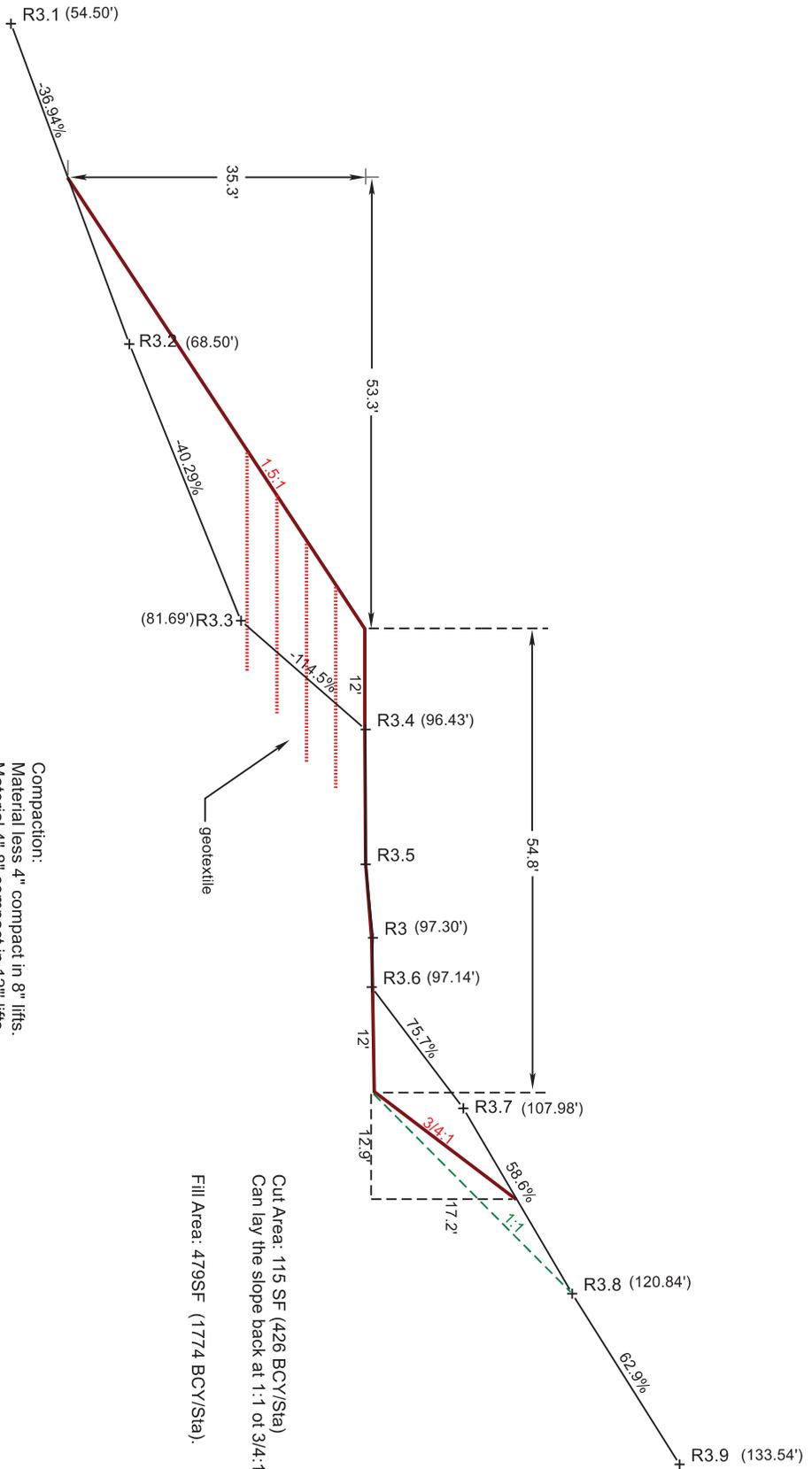
Compaction:
 Material less 4" compact in 8" lifts.
 Material 4"-8" compact in 12" lifts.
 All other material compact in 24" lifts.
 Fill material shall be free organic material.
 Install geotextile layers as shown (2" to 3" spacing).

FILE NAME			
Woodspur Large Fill TRV			
SCALE	DATE	DRAWN BY	
20 F/In	11-21-2017	Jim English	
JOB	REVISION	SHEET	
\$JOB	1/1	2/4	

This map drawn with TRAVERSE PC, Software



WOODSPUR TIMBER SALE
 Cross-Section Profile At Pt. R3
 E404128A Road ~Sta 78+66



Compaction:
 Material less 4" compact in 8" lifts.
 Material 4"-8" compact in 12" lifts.
 All other material compact in 24" lifts.
 Fill material shall be free organic material.
 Install geotextile layers as shown (2" to 3" spacing).

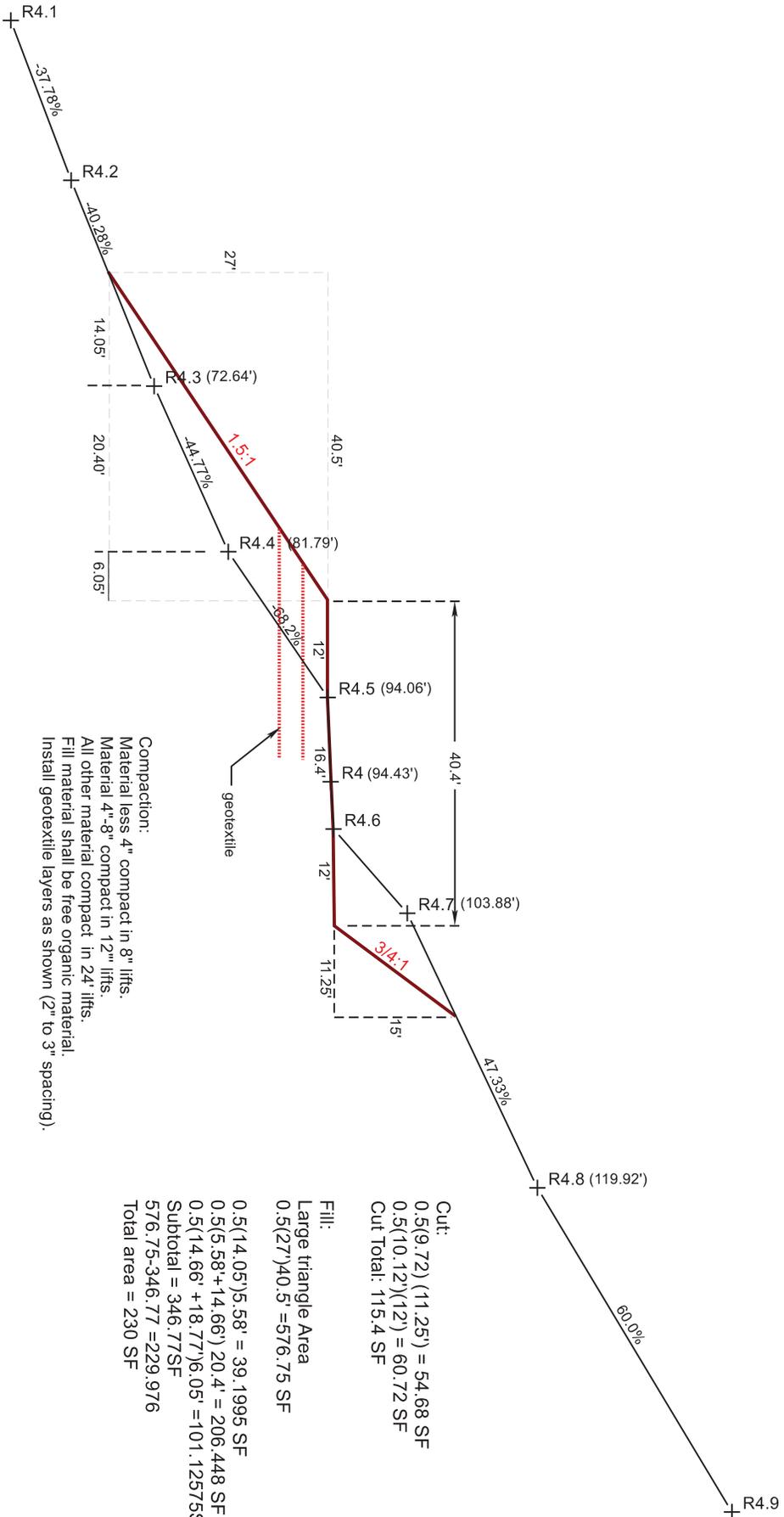
Cut Area: 115 SF (426 BCY/Sta)
 Can lay the slope back at 1:1 or 3/4:1 here.
 Fill Area: 479SF (1774 BCY/Sta).

FILE NAME		Woodspur Large Fill.TRV	
SCALE	DATE	DRAWN BY	
20 Ft/In	11-21-2017	Jim English	
JOB	REVISION	SHEET	
\$JOB	1/1	3/4	

This map drawn with TRAVERSE PC, Software



WOODSPUR TIMBER SALE
Cross-Section Profile At Pt. R4
E404128A Road ~Sta 79+86



Compaction:
 Material less 4" compact in 8" lifts.
 Material 4"-8" compact in 12" lifts.
 All other material compact in 24" lifts.
 Fill material shall be free organic material.
 Install geotextile layers as shown (2" to 3" spacing).

Cut:
 0.5(9.72)(11.25) = 54.68 SF
 0.5(10.12)(12) = 60.72 SF
 Cut Total: 115.4 SF

Fill:
 Large triangle Area
 0.5(27)(40.5) = 576.75 SF

0.5(14.05)(5.58) = 39.1995 SF
 0.5(5.58+14.66)(20.4) = 206.448 SF
 0.5(14.66+18.77)(6.05) = 101.12575 SF
 Subtotal = 346.77 SF
 576.75-346.77 = 229.976
 Total area = 230 SF

FILE NAME		Woodspur Large Fill TRV	
SCALE	DATE	DRAWN BY	
20 Ft/in	11-21-2017	Jim English	
JOB	REVISION	SHEET	
\$JOB	1/1	4/4	

This map drawn with TRAVERSE PC, Software

