Washington DNR Timber Sales Program

Updated information is being provided for (T3 Upper Manor) timber sale documents as follows:

Documents amended:

Brief Description	DATE	Initials
Expiration Date is 10/31/2025	03/21/2023	kp

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: T3 UPPER MANOR* ***AGREEMENT NO**: 30-102263*

AUCTION: April 26, 2023 starting at 10:00 a.m., Olympic Region Office, Forks, WA **COUNTY:** Jefferson

SALE LOCATION: Sale located approximately 44 miles southeast of Forks

PRODUCTS SOLD AND SALE AREA: All timber, except trees marked with a band of blue paint or bounded out by leave tree area tags, downed cedar, all timber that has been on the ground for 5 years or more shall be left undisturbed and not yarded (five years is defined by more than 1.5 inches of sap rot) bounded by timber sale boundary tags and the C-1000 in Unit 1; bounded by timber sale boundary tags, special management area tags, the C-1000 and the 3+60 Spur in Unit 2.

All timber as described in Schedule D except as described in Schedule C bounded by timber sale boundary tags and special management area tags in Unit 3, 4 and 5.

All forest products above located on part(s) of Sections 14, 15, 22 and 23 all in Township 25 North, Range 11 West, W.M., containing 95 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 DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	15.9		1,692						486	980	215	12
Douglas fir	15.7		1,692						571	845	260	16
Silver fir	14		115							90	25	
Spruce	8		20									20
Red alder	18		14						11			3
Sale Total			3,533									

MINIMUM BID: $543,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2025 **ALLOCATION:** Export Restricted

BID DEPOSIT: $54,300.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground 30% Cable 70% Rubber tire skidders will only be allowed if skidding and rutting requirements can be met and a harvest plan is submitted and approved by the Contract Administrator. 30' equipment limitation zones on all typed waters.

ROADS: 8.20 stations of optional construction. 126.90 stations of optional prehaul maintenance. Any road work, right-of-way timber falling and yarding, rock pit operations or operation of heavy equipment on the C-1000 (see road plan for stations) performed during the

marbled murrelet nesting season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset. This restriction does not apply to hauling timber, rock or equipment.

ACREAGE DETERMINATION

CRUISE METHOD: Sale acreage was 99% GPS'd and 1% photo traversed. Sale units were cruised using a variable plot sample.

FEES: $60,061.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This timber sale is associated with the T3 research experiment (a collaboration with the University of Washington), see the H-140 clause for contract requirements.

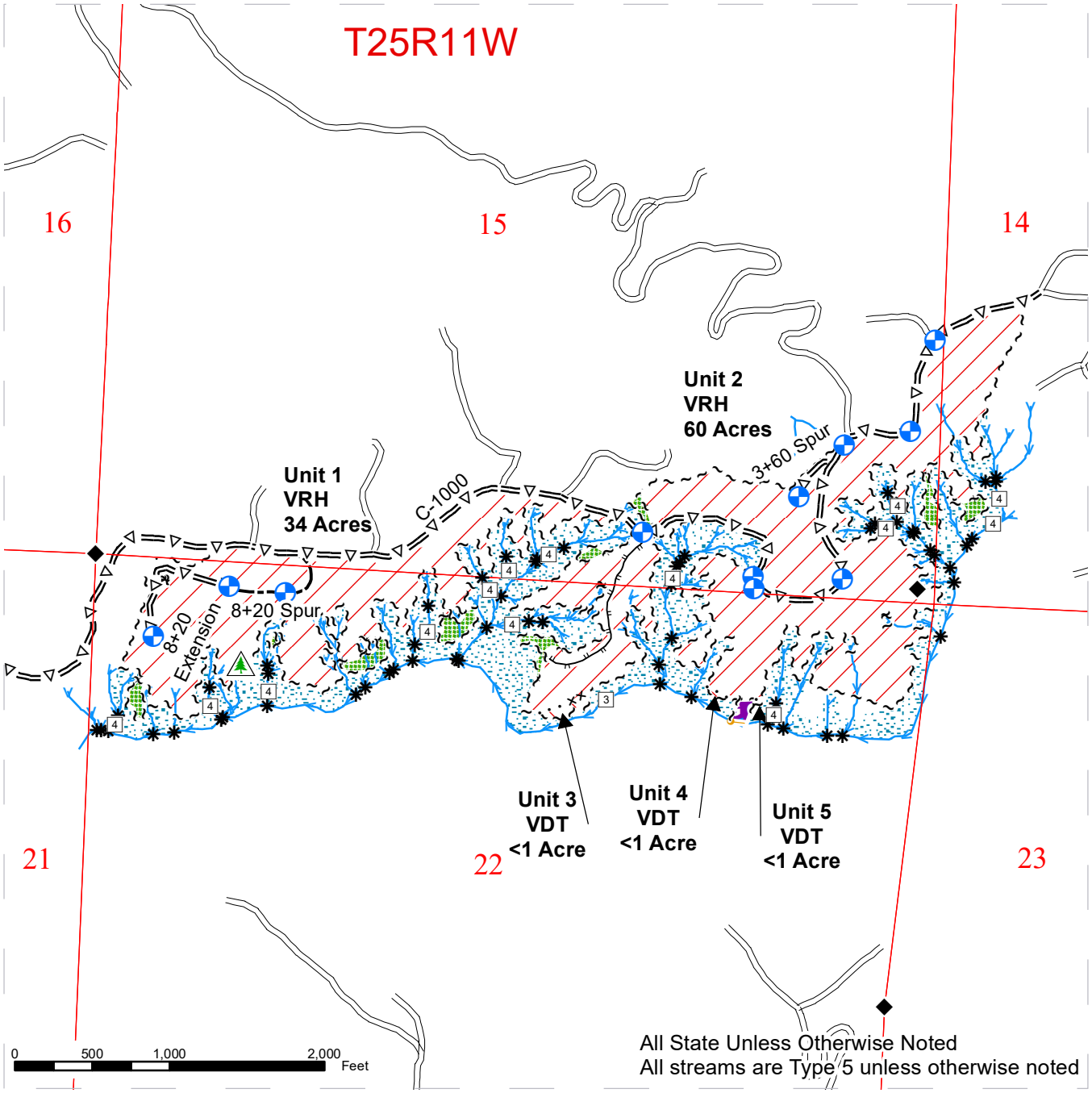
Trees marked with yellow paint (acoustic monitoring plot centers associated with the T3 experiment) are to be cut to a minimum stump height of 4.5 ft. or higher when safe to do so.

Trees marked with red and/or pink paint, "Hi-stump" written in pink paint and pink and blue ribbon (trees associated with survey markers) are to be cut to a minimum stump height of 4.5 ft. or higher when safe to do so.

Timber Sale Map

SALE NAME: T3 UPPER MANOR
AGREEMENT#: 30-102263
TOWNSHIP(S): T25R11W
TRUST(S): Common School and Indemnity (3)

REGION: Olympic Region
COUNTY(S): Jefferson
ELEVATION RGE: 600'-1600'



- Variable Retention Harvest
- Variable Density Thinning
- Gap
- Leave Tree Area
- Riparian Mgt Zone
- Sale Boundary Tags
- Gap Last Tree Tags
- Special Mgmt Area
- Leave Tree Tags
- Right of Way Tags
- Existing Roads
- Optional Pre-Haul Maintenance
- Optional Construction
- Designated Skid Trail
- Streams
- Stream Type
- Stream Type Break
- Survey Monument
- Landing - Proposed
- Non-Tradeable Leave Trees
- Public Land Survey Sections
- Public Land Survey Townships
- DNR Managed Lands

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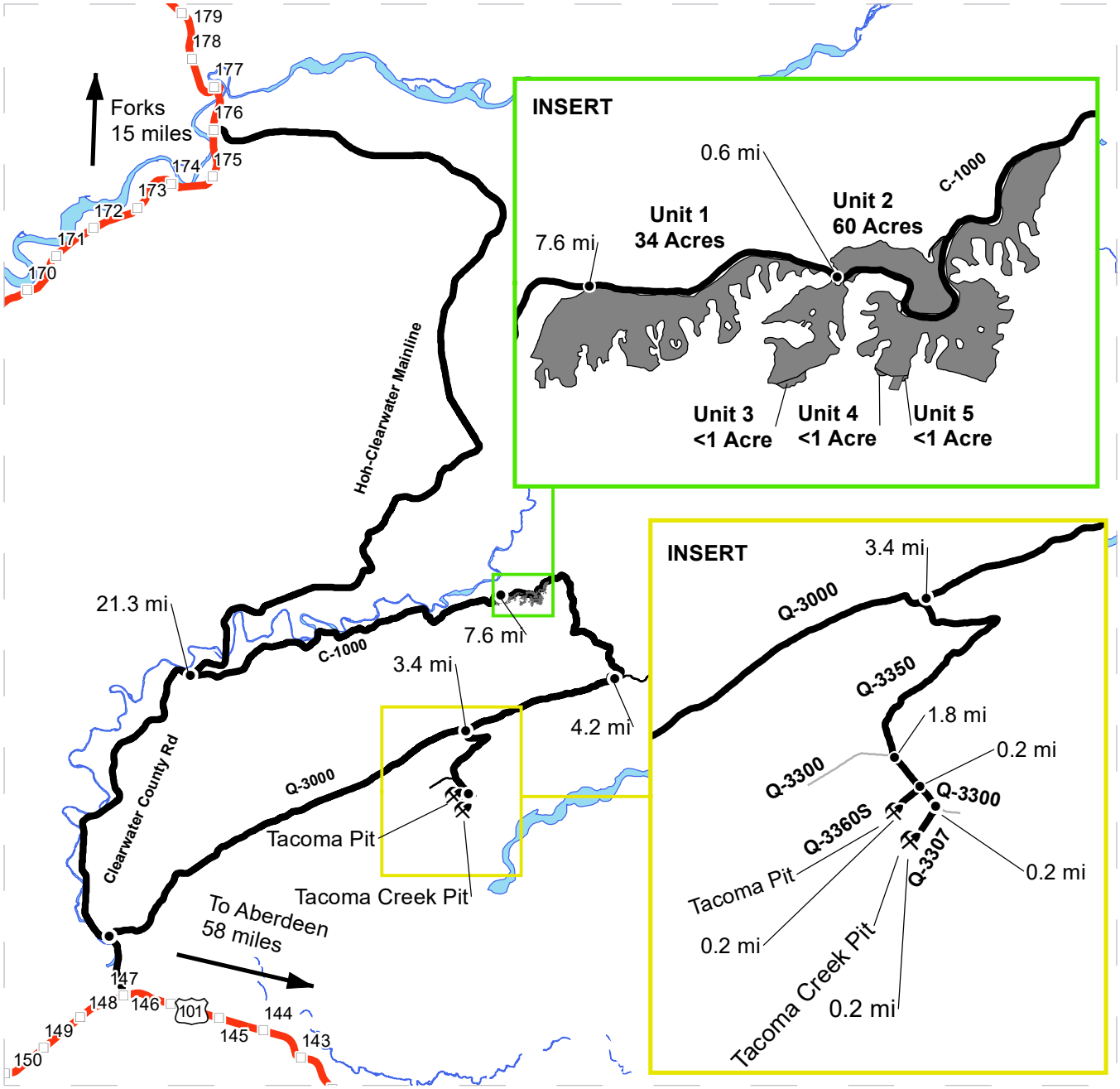
Prepared By: bbss490

Modification Date: bbss490 1/13/2023

DRIVING MAP

SALE NAME: T3 UPPER MANOR
AGREEMENT#: 30-0102263
TOWNSHIP(S): T25R11W
TRUST(S): Common School and Indemnity (3)

REGION: Olympic Region
COUNTY(S): Jefferson
ELEVATION RGE: 600'-1600'



- Timber Sale Unit
- Open Water
- Highway
- Haul Route
- Other Road
- Milepost Markers
- Distance Indicator
- Rock Pit

DRIVING DIRECTIONS:

Unit 1: From Forks WA, drive south on Highway 101 for 15 miles.
At milepost 176 turn onto the Hoh-Clearwater Mainline and drive for 21.3 miles.
Turn left onto C-1000 and drive for 7.6 miles to Unit 1.
Unit 2: Continue driving C-1000 for 0.56 miles.
Units 3, 4 and 5 are thinning units within Unit 2.

Tacoma Pit: Continue driving C-1000 for 4.24 miles.
Turn right onto Q-3000 and drive for 3.4 miles
Turn left onto Q-3350 and drive for 1.8 miles
Merge left onto Q-3300 and drive for 0.2 miles
Turn right onto Q-3360S and drive for 0.2 miles to Tacoma pit

Tacoma Creek Pit: From the Q-3360S turnoff, continue driving on the Q-3300 for 0.2 miles
Turn right onto Q-3307 for 0.2 miles to Tacoma Creek pit

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Prepared By: bbss490

Modification Date: bbss490 11/7/2022

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-0102663

SALE NAME: T3 UPPER MANOR

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 March 29, 2023 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except trees marked with a band of blue paint or bounded out by leave tree area tags, downed cedar, all timber that has been on the ground for 5 years or more shall be left undisturbed and not yarded (five years is defined by more than 1.5 inches of sap rot) bounded by timber sale boundary tags and the C-1000 in Unit 1; bounded by timber sale boundary tags, special management area tags, the C-1000 and the 3+60 Spur in Unit 2.

All timber as described in Schedule D except as described in Schedule C bounded by timber sale boundary tags and special management area tags in Unit 3, 4 and 5.

All forest products above located on approximately 95 acres on part(s) of Sections 14, 15, 22, and 23 all in Township 25 North, Range 11 West W.M. in Jefferson County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value of the forest products, formed after their own examination and inspection of both the timber sale area and the forest products being sold. Purchaser also warrants to the State

that they enter this contract without any reliance upon the volume estimates, acreage estimates, appraisals, pre-bid documentation, or any other representations by the State Department of Natural Resources.

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	SLASH PILING SPECIFICATIONS
B	GREEN TREE RETENTION PLAN
C	LEAVE TREE SELECTION CRITERIA
D	CUT TREE SELECTION CRITERIA
E	UNIT TARGET TABLE

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2024.

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 $981.00 per acre per annum for the acres on which an operating release has not been issued.

f. In no event will the extension charge be less than $200.00.

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.

b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.

d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.

f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.

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

h. Items contained in any other documents prepared for or by the State.

G-061 Inadvertent Discovery of Cultural Resources

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

G-062 Habitat Conservation Plan

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

ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

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

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

G-063 Incidental Take Permit Notification Requirements

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

b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.

c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

The State shall adjust the total contract price by subtracting from the total contract price an amount determined in the following manner: The State shall cause the timber sale area subject to governmental regulation or order to be measured. The State shall calculate the percentage of the total sale area subject to the governmental regulation or order. The State shall reduce the total contract price by that calculated percentage. However, variations in

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: PwC-SFIFM-513.

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;

2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

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

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

2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

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

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

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

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

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

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

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

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

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

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

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

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than $1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or

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

G-160 Agents

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.

c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.

d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operations

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

a. In the event of a dispute, Purchaser must make a written request to the Region Manager for resolution prior to seeking other relief.

b. The Region Manager will issue a written decision on Purchaser's request within ten business days.

c. Within ten business days of receipt of the Region Manager's decision, Purchaser may make a written request for resolution to the Deputy Supervisor - Uplands of the Department of Natural Resources.

d. Unless otherwise agreed, a conference will be held by the Deputy Supervisor - Uplands within 30 calendar days of the receipt of Purchaser's request for review of the Region Manager's written decision. Purchaser and the Region Manager will have an opportunity to present their positions. The Deputy Supervisor - Uplands will issue a decision within a reasonable time of being presented with both Parties' positions.

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; Hoh-Clearwater Mainline, C-1000, Q-3000, Q-3307, Q-3307.4, Q-3350, Q-3360S, C-1300, 8+20 Spur and the 3+60 Spur. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the C-1000 road on weekends and holidays, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

55-000467 Bert and Norma Cole

55-093231 Nature Conservancy

55-000051 Rayonier Q 3000

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of $91,858.00. The total contract price consists of a $0.00 contract bid price plus $91,858.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations

Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria

or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

Excessive damage for leave trees is defined in clause H-012.
Excessive damage for reserve trees is defined in clause H-013.

Excessive skid trail damage is defined in clause H-015 or H-016.

When leave tree damage exceeds the limits set forth in clause H-012, Purchaser shall be subject to liquidated damages (clause D-040)
When reserve tree damage exceeds the limits set forth in clause H-013, Purchaser shall be subject to liquidated damages (clause D-041).

H-012 Leave Tree Damage Definition

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

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

a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 12 square inches.

b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.

c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

H-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.

b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 17 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using ground and cable based methods. Rubber tire skidders will not be allowed unless skidding and rutting requirements can be met and a harvest plan is submitted and approved. 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-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. While felling timber, two Warning signs must be posted on the C-1000 road.

2. The Purchaser shall notify all employees and contractors working on this sale that any danger tree, marked or unmarked may be felled. Any felled marked danger tree shall be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

3. Yarding equipment shall not cross live streams without an FPHP.

4. Special requirements associated with the T3 project:

- Within the riparian thinning; 3 log jams are to be placed within the stream channel in each of the stream adjacent gaps. Each log jam is to consist of 3 to 5 trees (preferably with root ball intact) and have a portion of each tree in contact with the stream water or channel as approved by the Contract Administrator. Prior to log jams placement, a 24 hour notice must be given to the Contract Administrator so that they can be on site for the wood placement.

  * Trees to be felled and left within the gap not associated with log jams are to be high stumped and felled perpendicular with the stream. The first row of trees may require bucking to create continual contact between the bowel of the tree and the ground. The Contract Administrator must be given a 24 hour notice before starting work and may require being on site for implementation.

- Trees marked with yellow paint (acoustic monitoring plot centers associated with the T3 experiment) are to be cut to a minimum stump height of 4.5 ft. or higher when safe to do so.

- Trees marked with red and/or pink paint, "Hi-stump" written in pink paint and pink and blue ribbon (trees associated with survey markers) are to be cut to a minimum stump height of 4.5 ft. or higher when safe to do so.

- Researchers (DNR and/or non-DNR staff) may be on site as observers and data recorders and/or may leave recording devices during the harvest and shipping of timber within the research areas.

- Documentation (a simple form will be provided) may be required for the accounting of daily activities and projected costs. Data collected and stored by logging equipment (such as but not limited to processors and feller bunchers) are required to be made available upon request.

F. Provide removal volume and species information upon request for designated research areas.

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

H-142 Wildlife Timing Restrictions

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

Any road work, right-of-way timber falling and yarding, rock pit operations or operation of heavy equipment on the C-1000 (see road plan for stations) performed during the marbled murrelet nesting season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset. This restriction does not apply to hauling timber, rock or equipment.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 11/4/2022 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all roads listed in the Road Plan authorized in clause G-310, and are not listed in clause C-060. All work shall be completed to the specifications detailed in the Road plan. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the C-1000: stations 0+00 – 403+00, Q-3000: 468+00 – 647+20, Q-3350: all of the Q-3300: 0+00 – 15+00, Q-3360S: 0+00 – 10+00, Q-3307: 0+00 – 7+00 and all other roads not listed in clause C-050). Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The

State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters any typed stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and

deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-110 Resource Protection

No equipment may operate within 30' unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any stream.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of $500.00 per tree for all damaged trees in Units 3, 4 and 5.

D-041 Reserve Tree Excessive Damage

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

SIGNATURES

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

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

	STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
_____	_____
Purchaser	Mona Griswold Olympic Region Manager
_____ Print Name	
Date: _____	Date: _____
Address:	

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

STATE OF _____)
)
COUNTY OF _____)

On this _____ day of _____, 20___, before me personally appeared _____
_____ to me known to be the _____ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
SLASH PILING SPECIFICATIONS

The areas shall be piled by creating circular piles of slash and brush conforming to the following specifications:

A. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 16 feet wide. Piles shall be cone shaped and stable.

B. Piles shall be free of topsoil, large rotten logs and large stumps. No material larger than 8 inches in diameter shall be piled. Any burnable material shall be well scattered.

C. Piles shall not be placed on large stumps or logs.

D. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave trees, and any standing timber; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.

E. Piling shall be completed using an approved hydraulic shovel and grapples.

F. Slash and displaced soil shall be removed from swales and natural drainage channels concurrent with yarding.

G. Slash generated during cable yarding shall be stacked in dirt free piles and shall not block roads or interfere with functioning of drainage structures, ditches, or stream channels.

Schedule B
GREEN TREE RETENTION PLAN

Leave the following as directed by the Contract Administrator:

1. All trees marked with a blue band of paint and all leave tree area clumps shall remain standing.
The perimeter of the leave tree clumps are designated by Leave Tree Area tags. The tags face outward from the leave tree clumps.

Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	22	5	250	272
2	14	5	466	480

Permission to substitute leave trees must be granted by the Contract Administrator

Schedule C
LEAVE TREE SELECTION CRITERIA

For Units 3, 4 and 5

1. Leave trees are defined as follows:

All trees greater than or equal to 20 inches in diameter at a 12 inch stump height.

Trees greater than or equal to 16 inches in diameter at a 12 inch stump height, with good form shall only be felled if leaving them results in a residual stand of higher relative density than shown in the Unit Target Table (Schedule E).

All trees less than 16 inches in diameter at a 12 inch stump height needed to achieve relative densities as shown in the Unit Target Table.

All trees within the non-operational areas as shown on the timber sale maps.

2. Leave trees shall be well distributed at the relative density and spacing shown in the Unit Target Table (Schedule E), and will consist of the largest diameter and best formed trees available.

Best form is defined as follows:

1. Tallest trees.
2. Straightest boles.
3. Smaller diameter limbs

3. Leave trees will be identified by comparing their characteristics with other trees in the stand. Spacing will be varied to insure the best trees available are left as leave trees. Felling of trees shall not result in creating an opening in the stand greater than 36 feet in diameter. If openings in the stand approach this diameter, then sufficient trees shall be left on the perimeter of the opening to maintain the target density or spacing (Unit Target Table).

Schedule D
CUT TREE SELECTION CRITERIA

For Units 3, 4 and 5

Cut trees are defined as all trees in the sale area, as shown on the timber sale maps that meet the following criteria:

All trees less than 20 inches in diameter at a 12 inch stump height provided that enough evenly distributed trees per acre remain to achieve the relative densities shown in the Unit Target Table (Schedule E).

Schedule E
UNIT TARGET TABLE

Unit Target Table for Units 3, 4 and 5

Unit	Acres	Stems/acre	Approx. Spacing	Relative Density	Basal Area
3	<1	70	25'	35	160
4	<1	140	18'	35	140
5	<1	140	18'	35	160

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Olympic

Timber Sale Name: T3 Upper Manor

Application Number: 30- 102263

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 820 **linear feet**
Road to be constructed (optional and required) but not abandoned

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

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

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

Pre-Haul Maintenance: 12,690 **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

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

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

PRE-CRUISE NARRATIVE

Sale Name: **T3 Upper Manor**	Region: **Olympic**
Agreement #: **30-102263**	District: Coast
Contact Forester:Benjamin Burgess Phone / Location: 360-640-9983, Forks	County(s): Jefferson
Alternate Contact:Kevin Alexander Phone / Location: 360-640-5506, Forks	Other information:
Alternate Contact: Bill Wells Phone / Location: 360-640-3066	Other information:

Type of Sale: Lump Sum	
Harvest System: Ground based	30%
Harvest System: Uphill Cable	69%
Harvest System: Cable thinning	1%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # **Harvest R/W or RMZ WMZ**	**Legal Description** (Enter only one legal for each unit) **Sec/Twp/Rng**	**Grant or Trust**	**Gross Proposal Acres**	**Deductions from Gross Acres (No harvest acres)**			**Net Harvest Acres**	**Acreage Determination** (List method and error of closure if applicable)
				RMZ/ WMZ Acres	**Leave Tree Acres**	**Existing Road Acres**		
U1 VRH	S15 T25 R11	03	1	0	0	<1	1	GPS (Garmin)
U1 CZ VRH	S22 T25 R11	03	57	21	2	1	33	GPS (Garmin)
U2 VRH	S15 T25 R11	03	<1	0	0	<1	<1	GPS (Garmin)
T3 U2 VRH	S22 T25 R11	03	106	41	2	2	60	GPS (Garmin)
T3 U3 VDT	S22 T25 R11	03	<1	<1	0	0	<1	GPS (Garmin)
T3 U4 VDT	S22 T25 R11	03	<1	<1	0	0	<1	GPS (Garmin)
T3 U5	S22 T25 R11	03	<1	<1	0	0	<1	GPS (Garmin)
TOTAL ACRES			166	63	4	4	95	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
U1 VRH	VRH **Harvest Boundaries:** Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads **Leave Tree Areas:** Leave tree area tags, pink flagging, red flashers, and blue paint. **Individual Leave Trees:** Blue paint **Road Boundaries:** C-1000	none	0 leave trees
T3 U1 VRH	VRH **Harvest Boundaries:** Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads **Leave Tree Areas:** Leave tree area tags, pink flagging, red flashers, and blue paint. **Individual Leave Trees:** Blue paint **Road Boundaries:** C-1000	CZ basin	22 scattered leave Trees, 250 leave trees in 5 LTA's 272 total leave trees
U2 VRH	VRH **Harvest Boundaries:** Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads **Leave Tree Areas:** Leave tree area tags, pink flagging, red flashers, and blue paint. **Individual Leave Trees:** Blue paint **Road Boundaries:** C-1000	none	0 leave trees
T3 U2 VRH	VRH **Harvest Boundaries:** Timber sale boundary tags, pink flagging, red flashers, blue paint, and roads **Leave Tree Areas:** Leave tree area tags, pink flagging, red flashers, and blue paint. **Individual Leave Trees:** Blue paint **Road Boundaries:** C-1000	CZ basin	14 scattered leave trees, 466 leave trees in 5 LTA's. 752 total leave trees
T3 U3 VDT	VDT **Harvest Boundaries:** Special management zone tags, pink flagging, red flashers, blue paint, and roads	CZ basin Thinned to RD 35	Thin RMZ to RD 35

T3 U4 VDT	VDT **Harvest Boundaries:** Special management zone tags, pink flagging, red flashers, blue paint, and roads	CZ basin Thinned to RD 35	Thin RMZ to RD 35
T3 U5 VDT, gap	VDT, gap **Felling Boundaries:** Timber sale boundary tags, pink flagging, red flashers, blue and/or yellow paint	CZ basin Thinned to RD 35	Thin RMZ to RD 35 Fell all trees in gap

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
U1	Western Hemlock, Douglas Fir 20 MBF	no gates or locks	See Cruise Maps
T3 U1	Western Hemlock, Douglas Fir 892 MBF	no gates or locks	See Cruise Maps
U2	Western Hemlock, Douglas Fir 5 MBF	no gates or locks	See Cruise Maps
T3 U2	Western Hemlock, Douglas Fir 1616 MBF	no gates or locks	See Cruise Maps
T3 U3	Western Hemlock, Douglas Fir 14 MBF	no gates or locks	See Cruise Maps
T3 U4	Western Hemlock, Douglas Fir 3 MBF	no gates or locks	See Cruise Maps
T3 U5	Western Hemlock, Douglas Fir 2 MBF	no gates or locks	See Cruise Maps
TOTAL MBF	2552 MBF		

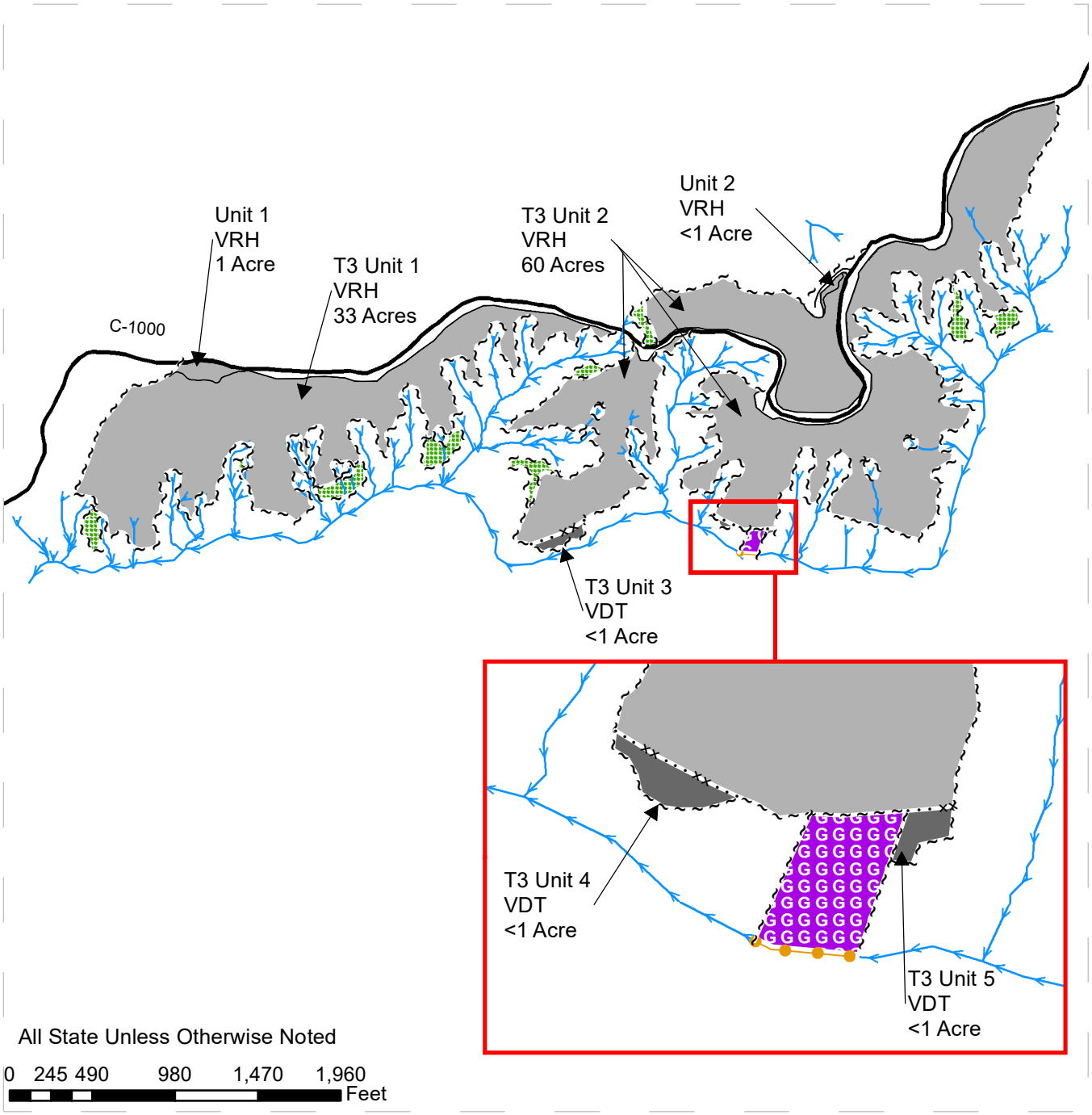
REMARKS:

Prepared By: Benjamin Burgess **Date:** 9/8/2022	**Title:** Forester	**CC:**

Pre-Cruise Map

SALE NAME: T3 UPPER MANOR
AGREEMENT#: 30-102263
TOWNSHIP(S): T25R11W
TRUST(S): Common School and Indemnity (3)

REGION: Olympic Region
COUNTY(S): Jefferson
ELEVATION RGE: 600'-1600'



Prepared By: bbss490

Modification Date: bbss490 11/7/2022

Timber Sale Cruise Report
T3 Upper Manor

Sale Name: T3 UPPER MANOR

Sale Type: LUMP SUM

Region: OLYMPIC

District: COAST

Lead Cruiser: Kevin Peterson

Other Cruisers:

Cruise Narrative:
Location:
This sale is located in the Clearwater Block off of the C-1000. There are no keys needed for this sale and access is pretty good to all units.

Cruise Design:
I used a 54.44/40 BAF for this sale. The 40 BAF was used to cruise RA.

Merch height was determined at 40% of the diameter at 16'ft. All logs were cruised in 40' lengths.

Timber Quality:
This sale contains a mixture of 50 year old DF/WH with some SF at the tops of the ridges and SS towards bottom of the slopes.

Common defects were sweep, spike knots and forked tops

Logging and Stand Conditions:
This sale is 70% uphill cable and 30% ground based harvest. Some parts of the sale are extremely steep,

General Remarks:
This sale is part of the T3 experiment.

Timber Sale Notice Volume (MBF)

				MBF Volume by Grade				
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility
WH	15.9			1,692	486	980	215	12
DF	15.7			1,692	571	845	260	16
SF	14.0			115		90	25	
SS	8.0			20				20
RA	18.0			13	11			3
ALL	15.2			3,533	1,067	1,914	501	51

Timber Sale Notice Weight (tons)

	Tons by Grade				
Sp	All	2 Saw	3 Saw	4 Saw	Utility
WH	18,011	4,965	10,697	2,254	95

	Tons by Grade				
Sp	All	2 Saw	3 Saw	4 Saw	Utility
DF	16,450	5,271	8,455	2,471	254
SF	1,078		903	175	
RA	107	69			38
SS	93				93
ALL	35,740	10,305	20,055	4,900	480

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
354.8	3.5	105.7	1.7	37,491	3.9

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
UPPER MANOR U1	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.8	0.8	1	1	0
T3 UPPER MANOR U1	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.0	18	9	0
T3 UPPER MANOR U2	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	59.9	59.9	30	15	0
UPPER MANOR U2	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.2	0.2	1	1	0
T3 UPPER MANOR U3	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.5	0.5	1	1	0
T3 UPPER MANOR U4	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.1	0.1	1	1	0
T3 UPPER MANOR U5	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.4	0.4	1	1	0
All		94.9	94.9	53	29	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.8	40	6,692	6,013	10.1	5,270.9	570.6
DF	LIVE	3 SAW	Domestic	8.4	40	9,381	8,901	5.1	8,454.9	844.7
DF	LIVE	4 SAW	Domestic	5.2	29	2,834	2,745	3.2	2,471.2	260.5
DF	LIVE	UTILITY	Pulp	5.0	39	171	171	0.0	253.5	16.2
RA	LIVE	2 SAW	Domestic	13.3	20	111	111	0.0	69.2	10.5
RA	LIVE	UTILITY	Pulp	5.6	28	27	27	0.0	38.2	2.6
SF	LIVE	3 SAW	Domestic	8.4	40	943	943	0.0	903.2	89.5
SF	LIVE	4 SAW	Domestic	5.0	23	268	268	0.0	174.8	25.4
SS	LIVE	UTILITY	Pulp	5.6	16	214	214	0.0	93.2	20.3
WH	LIVE	2 SAW	Domestic	13.4	40	5,562	5,120	7.9	4,965.3	485.9
WH	LIVE	3 SAW	Domestic	8.5	39	10,892	10,329	5.2	10,697.0	980.2
WH	LIVE	4 SAW	Domestic	5.2	27	2,280	2,262	0.8	2,253.9	214.7
WH	LIVE	UTILITY	Pulp	5.1	25	120	120	0.0	94.8	11.4

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 8	LIVE	Pulp	5.0	39	171	0.0	253.5	16.2
DF	5 - 8	LIVE	Domestic	6.1	33	7,286	4.1	6,984.6	691.4
DF	9 - 11	LIVE	Domestic	10.1	40	4,360	5.6	3,941.5	413.7
DF	12 - 14	LIVE	Domestic	13.3	40	4,794	10.9	4,362.2	455.0
DF	15 - 19	LIVE	Domestic	16.1	40	1,219	7.1	908.7	115.7
RA	5 - 8	LIVE	Pulp	5.6	28	27	0.0	38.2	2.6
RA	12 - 14	LIVE	Domestic	13.3	20	111	0.0	69.2	10.5
SF	5 - 8	LIVE	Domestic	6.7	32	1,211	0.0	1,078.0	114.9
SS	5 - 8	LIVE	Pulp	5.6	16	214	0.0	93.2	20.3
WH	5 - 8	LIVE	Pulp	5.1	25	120	0.0	94.8	11.4
WH	5 - 8	LIVE	Domestic	6.2	32	7,089	3.7	7,604.3	672.8
WH	9 - 11	LIVE	Domestic	10.5	40	5,502	5.3	5,346.6	522.1
WH	12 - 14	LIVE	Domestic	13.2	40	4,591	7.7	4,513.6	435.7
WH	15 - 19	LIVE	Domestic	15.2	40	529	9.9	451.8	50.2

Cruise Unit Report
UPPER MANOR U1

Unit Sale Notice Volume (MBF): UPPER MANOR U1

				MBF Volume by Grade			
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw
WH	14.8			13	4	4	4
DF	14.2			11		9	1
ALL	14.5			23	4	14	6

Unit Cruise Design: UPPER MANOR U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.8	0.8	1	1	0

Unit Cruise Summary: UPPER MANOR U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	3	3	3.0	0
DF	3	3	3.0	0
ALL	6	6	6.0	0

Unit Cruise Statistics (Cut + Leave Trees): UPPER MANOR U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	95.3	34.0	19.6	15,567	34.0	19.6
DF	163.3	0.0	0.0	82.2	10.1	5.8	13,419	10.1	5.8
ALL	326.6	0.0	0.0	88.7	25.2	10.3	28,986	25.2	10.3

Unit Summary: UPPER MANOR U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	3	ALL	14.2	62	76	14,244	13,419	5.8	148.5	163.3	43.3	10.7
WH	LIVE	CUT	3	ALL	14.8	58	71	16,440	15,567	5.3	136.7	163.3	42.5	12.5
ALL	LIVE	CUT	6	ALL	14.5	60	74	30,683	28,986	5.5	285.2	326.6	85.8	23.2
ALL	ALL	ALL	6	ALL	14.5	60	74	30,683	28,986	5.5	285.2	326.6	85.8	23.2

Cruise Unit Report
T3 UPPER MANOR U1

Unit Sale Notice Volume (MBF): T3 UPPER MANOR U1

				MBF Volume by Grade				
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility
WH	16.0			614	175	362	72	6
DF	15.3			546	201	253	85	7
SS	8.0			10				10
RA	18.0			6	5			1
ALL	14.9			1,177	381	615	156	24

Unit Cruise Design: T3 UPPER MANOR U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.0	18	9	0

Unit Cruise Summary: T3 UPPER MANOR U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		1	0.1	0
WH	24	54	3.0	0
DF	29	55	3.1	0
SS	2	2	0.1	0
RA	1	1	0.1	0
ALL	56	113	6.3	0

Unit Cruise Statistics (Cut + Leave Trees): T3 UPPER MANOR U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	3.0	424.3	100.0						
WH	163.3	69.5	16.4	114.0	14.3	2.9	18,617	71.0	16.6
DF	166.3	69.6	16.4	99.5	23.6	4.4	16,550	73.5	17.0
SS	6.0	291.0	68.6	48.7	0.0	0.0	295	291.0	68.6
RA	2.2	424.3	100.0	85.5	0.0	0.0	190	424.3	100.0
ALL	341.0	22.5	5.3	105.5	22.5	3.0	35,971	31.8	6.1

Unit Summary: T3 UPPER MANOR U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	29	ALL	15.3	65	81	17,683	16,550	6.4	130.3	166.3	42.5	546.2
RA	LIVE	CUT	1	ALL	18.0	50	60	190	190	0.0	1.3	2.2	0.5	6.3
SF	LIVE	CUT	0	ALL								3.0		
SS	LIVE	CUT	2	ALL	8.0	20	21	295	295	0.0	17.3	6.0	2.1	9.7
WH	LIVE	CUT	24	ALL	16.0	72	89	19,765	18,617	5.8	117.0	163.3	40.8	614.4
ALL	LIVE	CUT	56	ALL	15.3	65	81	37,932	35,652	6.0	265.9	341.0	86.0	1,176.5
ALL	ALL	ALL	56	ALL	15.3	65	81	37,932	35,652	6.0	265.9	341.0	86.0	1,176.5

Cruise Unit Report
T3 UPPER MANOR U2

Unit Sale Notice Volume (MBF): T3 UPPER MANOR U2

				MBF Volume by Grade				
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility
DF	15.9			1,123	365	580	170	9
WH	15.9			1,050	305	604	136	6
SF	14.0			115		90	25	
SS	8.0			11				11
RA	18.0			7	6			1
ALL	15.4			2,306	675	1,273	331	27

Unit Cruise Design: T3 UPPER MANOR U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	59.9	59.9	30	15	0

Unit Cruise Summary: T3 UPPER MANOR U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	49	101	3.4	0
WH	41	86	2.9	0
SF	1	10	0.3	0
SS	2	2	0.1	0
RA	1	1	0.0	0
ALL	94	200	6.7	0

Unit Cruise Statistics (Cut + Leave Trees): T3 UPPER MANOR U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	183.3	68.2	12.5	102.3	20.7	3.0	18,752	71.3	12.8
WH	156.1	72.0	13.1	112.3	15.6	2.4	17,530	73.6	13.4
SF	18.1	253.3	46.2	105.7	0.0	0.0	1,918	253.3	46.2
SS	3.6	380.6	69.5	48.7	0.0	0.0	177	380.6	69.5
RA	1.3	547.7	100.0	85.5	0.0	0.0	114	547.7	100.0
ALL	362.5	25.4	4.6	106.2	20.3	2.1	38,491	32.5	5.1

Unit Summary: T3 UPPER MANOR U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	49	ALL	15.9	68	85	20,080	18,752	6.6	132.9	183.3	46.0	1,123.3
RA	LIVE	CUT	1	ALL	18.0	50	60	114	114	0.0	0.8	1.3	0.3	6.8
SF	LIVE	CUT	1	ALL	14.0	69	87	1,918	1,918	0.0	17.0	18.1	4.8	114.9
SS	LIVE	CUT	2	ALL	8.0	20	21	177	177	0.0	10.4	3.6	1.3	10.6
WH	LIVE	CUT	41	ALL	15.9	70	87	18,481	17,530	5.1	113.2	156.1	39.1	1,050.0
ALL	LIVE	CUT	94	ALL	15.6	67	83	40,770	38,491	5.6	274.3	362.5	91.5	2,305.6
ALL	ALL	ALL	94	ALL	15.6	67	83	40,770	38,491	5.6	274.3	362.5	91.5	2,305.6

Cruise Unit Report
UPPER MANOR U2

Unit Sale Notice Volume (MBF): UPPER MANOR U2

				MBF Volume by Grade			
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw
WH	15.4			7	2	4	1
ALL	15.4			7	2	4	1

Unit Cruise Design: UPPER MANOR U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.2	0.2	1	1	0

Unit Cruise Summary: UPPER MANOR U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	6	6	6.0	0
ALL	6	6	6.0	0

Unit Cruise Statistics (Cut + Leave Trees): UPPER MANOR U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	326.6	0.0	0.0	105.7	16.2	6.6	34,526	16.2	6.6
ALL	326.6	0.0	0.0	105.7	16.2	6.6	34,526	16.2	6.6

Unit Summary: UPPER MANOR U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	6	ALL	15.4	67	83	35,717	34,526	3.3	252.5	326.6	83.2	6.9
ALL	LIVE	CUT	6	ALL	15.4	67	83	35,717	34,526	3.3	252.5	326.6	83.2	6.9
ALL	ALL	ALL	6	ALL	15.4	67	83	35,717	34,526	3.3	252.5	326.6	83.2	6.9

Cruise Unit Report
T3 UPPER MANOR U3

Unit Sale Notice Volume (MBF): T3 UPPER MANOR U3

				MBF Volume by Grade			
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw
DF	19.5			6	5	1	1
WH	16.5			6		4	1
ALL	17.8			12	5	5	2

Unit Cruise Design: T3 UPPER MANOR U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.5	0.5	1	1	0

Unit Cruise Summary: T3 UPPER MANOR U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	2	5	5.0	0
DF	2	2	2.0	0
ALL	4	7	7.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 UPPER MANOR U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	272.2	0.0	0.0	101.3	6.5	4.6	27,580	6.5	4.6
DF	108.9	0.0	0.0	117.0	7.0	5.0	12,742	7.0	5.0
ALL	381.1	0.0	0.0	105.8	10.3	5.2	40,322	10.3	5.2

Unit Summary: T3 UPPER MANOR U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	19.5	85	108	13,295	12,742	4.2	52.5	108.9	24.7	6.4
WH	LIVE	CUT	2	ALL	16.5	71	88	12,052	11,032	8.5	73.3	108.9	26.8	5.5
WH	LIVE	LEA	3	ALL	21.0	85	106	18,079	16,548	8.5	67.9	163.3	35.6	8.3
ALL	LIVE	CUT	4	ALL	17.8	77	96	25,347	23,774	6.2	125.8	217.8	51.5	11.9
ALL	LIVE	LEA	3	ALL	21.0	85	106	18,079	16,548	8.5	67.9	163.3	35.6	8.3
ALL	ALL	ALL	7	ALL	19.0	79	100	43,426	40,322	7.1	193.7	381.1	87.1	20.2

Cruise Unit Report
T3 UPPER MANOR U4

Unit Sale Notice Volume (MBF): T3 UPPER MANOR U4

				MBF Volume by Grade		
Sp	DBH	Rings/In	Age	All	3 Saw	4 Saw
WH	12.9			1	1	0
DF	11.0			0	0	0
ALL	12.2			1	1	0

Unit Cruise Design: T3 UPPER MANOR U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.1	0.1	1	1	0

Unit Cruise Summary: T3 UPPER MANOR U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	2	4	4.0	0
DF	1	2	2.0	0
ALL	3	6	6.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 UPPER MANOR U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	217.8	0.0	0.0	91.9	14.1	9.9	20,012	14.1	9.9
DF	108.9	0.0	0.0	78.8	0.0	0.0	8,579	0.0	0.0
ALL	326.6	0.0	0.0	87.5	13.5	7.8	28,591	13.5	7.8

Unit Summary: T3 UPPER MANOR U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	11.0	59	73	5,362	4,289	20.0	82.5	54.4	16.4	0.4
DF	LIVE	LEA	1	ALL	13.0	62	77	5,362	4,289	20.0	59.1	54.4	15.1	0.4
WH	LIVE	CUT	2	ALL	12.9	62	77	10,907	10,006	8.3	120.0	108.9	30.3	1.0
WH	LIVE	LEA	2	ALL	15.3	68	84	10,907	10,006	8.3	85.3	108.9	27.8	1.0
ALL	LIVE	CUT	3	ALL	12.2	61	75	16,269	14,296	12.1	202.5	163.3	46.7	1.4
ALL	LIVE	LEA	3	ALL	14.4	65	81	16,269	14,296	12.1	144.4	163.3	42.9	1.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	6	ALL	13.1	63	78	32,539	28,591	12.1	346.9	326.6	89.7	2.9

Cruise Unit Report
T3 UPPER MANOR U5

Unit Sale Notice Volume (MBF): T3 UPPER MANOR U5

				MBF Volume by Grade		
Sp	DBH	Rings/In	Age	All	3 Saw	4 Saw
DF	10.6			5	1	4
WH	11.0			2	1	1
ALL	10.7			7	3	4

Unit Cruise Design: T3 UPPER MANOR U5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.4	0.4	1	1	0

Unit Cruise Summary: T3 UPPER MANOR U5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	3	6	6.0	0
WH	1	1	1.0	0
ALL	4	7	7.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 UPPER MANOR U5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	326.6	0.0	0.0	77.3	6.7	3.9	25,243	6.7	3.9
WH	54.4	0.0	0.0	92.4	0.0	0.0	5,032	0.0	0.0
ALL	381.1	0.0	0.0	79.4	10.9	5.5	30,275	10.9	5.5

Unit Summary: T3 UPPER MANOR U5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	3	ALL	10.6	57	70	13,922	12,622	9.3	266.5	163.3	50.2	5.0
DF	LIVE	LEA	3	ALL	14.5	63	79	13,922	12,622	9.3	142.4	163.3	42.9	5.0
WH	LIVE	CUT	1	ALL	11.0	62	76	6,352	5,032	20.8	82.5	54.4	16.4	2.0
ALL	LIVE	CUT	4	ALL	10.7	58	71	20,274	17,654	12.9	349.0	217.8	66.6	7.1
ALL	LIVE	LEA	3	ALL	14.5	63	79	13,922	12,622	9.3	142.4	163.3	42.9	5.0

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	7	ALL	11.9	60	73	34,196	30,275	11.5	491.4	381.1	109.5	12.1

Forest Practices Application/Notification

Notice of Decision

FPA/N No: 2617713

Effective Date: 12/4/2022

Expiration Date: 12/4/2025

Shut Down Zone: 650

EARR Tax Credit: ☒ Eligible ☐ Non-eligible

Reference: DNR
T3 Upper Manner

Decision

☐ **Notification Accepted**	Operations shall not begin before the effective date.
☒ **Approved**	This Forest Practices Application is subject to the conditions listed below.
☐ **Disapproved**	This Forest Practices Application is disapproved for the re asons listed below.
☐ **Withdrawn**	Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
☐ **Closed**	All forest practices obligations are met.

FPA/N Classification

☐ Class II ☒ Class III ☐ Class IVG ☐ Class IVS

Number of Years Granted on Multi-Year Request

☐ 4 years ☐ 5 years

Conditions on Approval/Reasons for Disapproval

Issued By: Jennifer Garstang **Region:** Olympic

Title: Forest Practice Forester **Date:** 12/4/2022

Copies to: ☐ Landowner, ☐ Timber Owner ☐ Operator

Issued in person: ☒ Landowner ☒ Timber Owner ☒ Operator **By:** Katelynn Kerschner

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

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	**Office of the Attorney General Natural Resources Division**	**Department Of Natural Resources** Olympic Region
Physical Address 1111 Israel Road, SW Suite 301 Tumwater, WA 98501 Mailing address Post Office Box 40903 Olympia, WA 98504-0903	Physical Address 1125 Washington Street, SE Olympia, WA 98504 Mailing Address Post Office Box 40100 Olympia, WA 98504-0100	Physical & Mailing Address 411 Tillicum Lane Forks, WA 98331

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

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

Transfer of Forest Practices Application/Notification (WAC 222-20-010)
Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and. Notify DNR of new Operators within 48 hours.

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

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

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

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

DNR Affidavit of Mailing

On this day, I placed in the United States mail at **Forks**, WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2617713**

Choose an item.

(Printed Name)

(Signature)

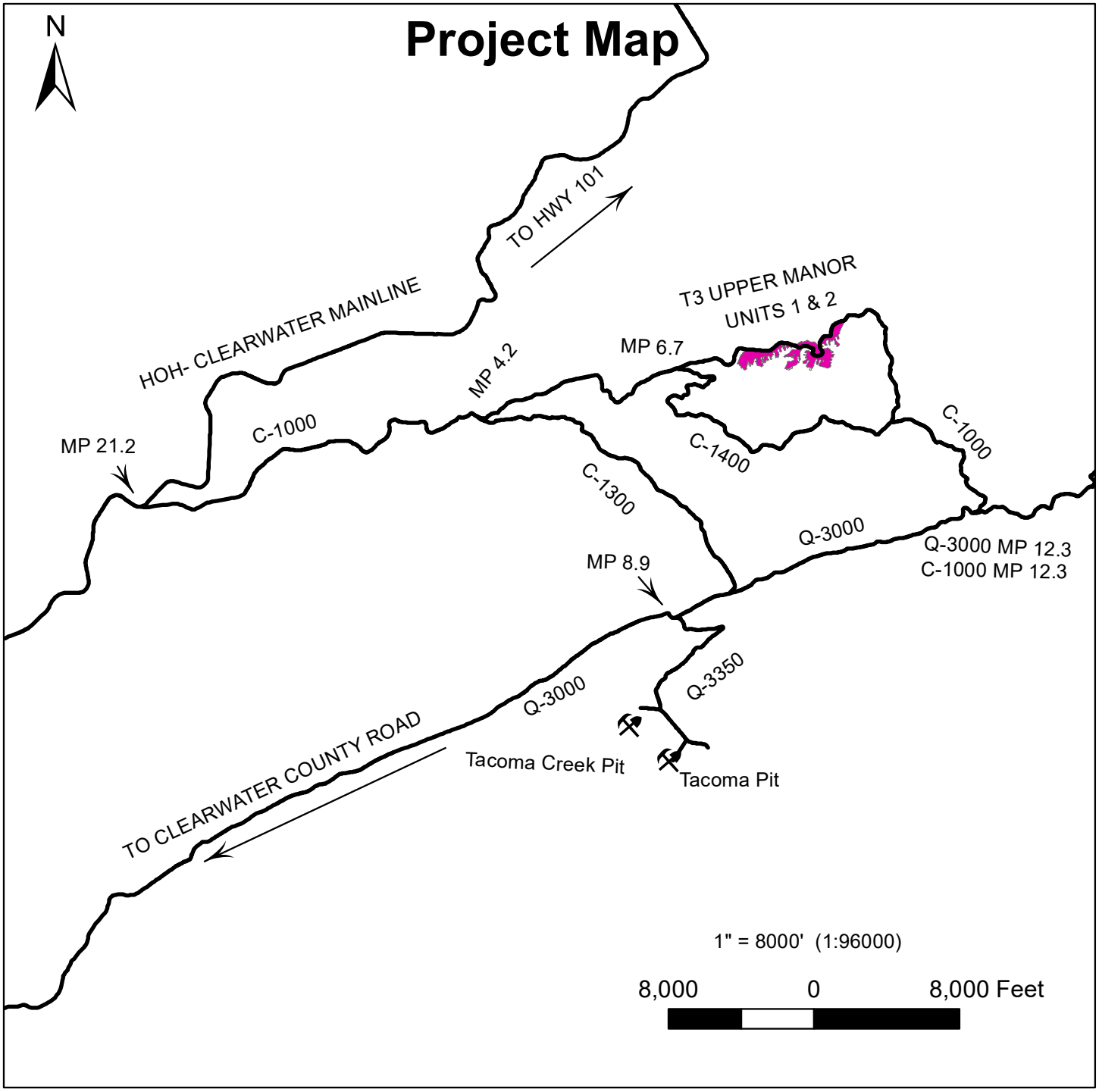
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

T3 UPPER MANOR TIMBER SALE ROAD PLAN

JEFFERSON COUNTY
COAST DISTRICT

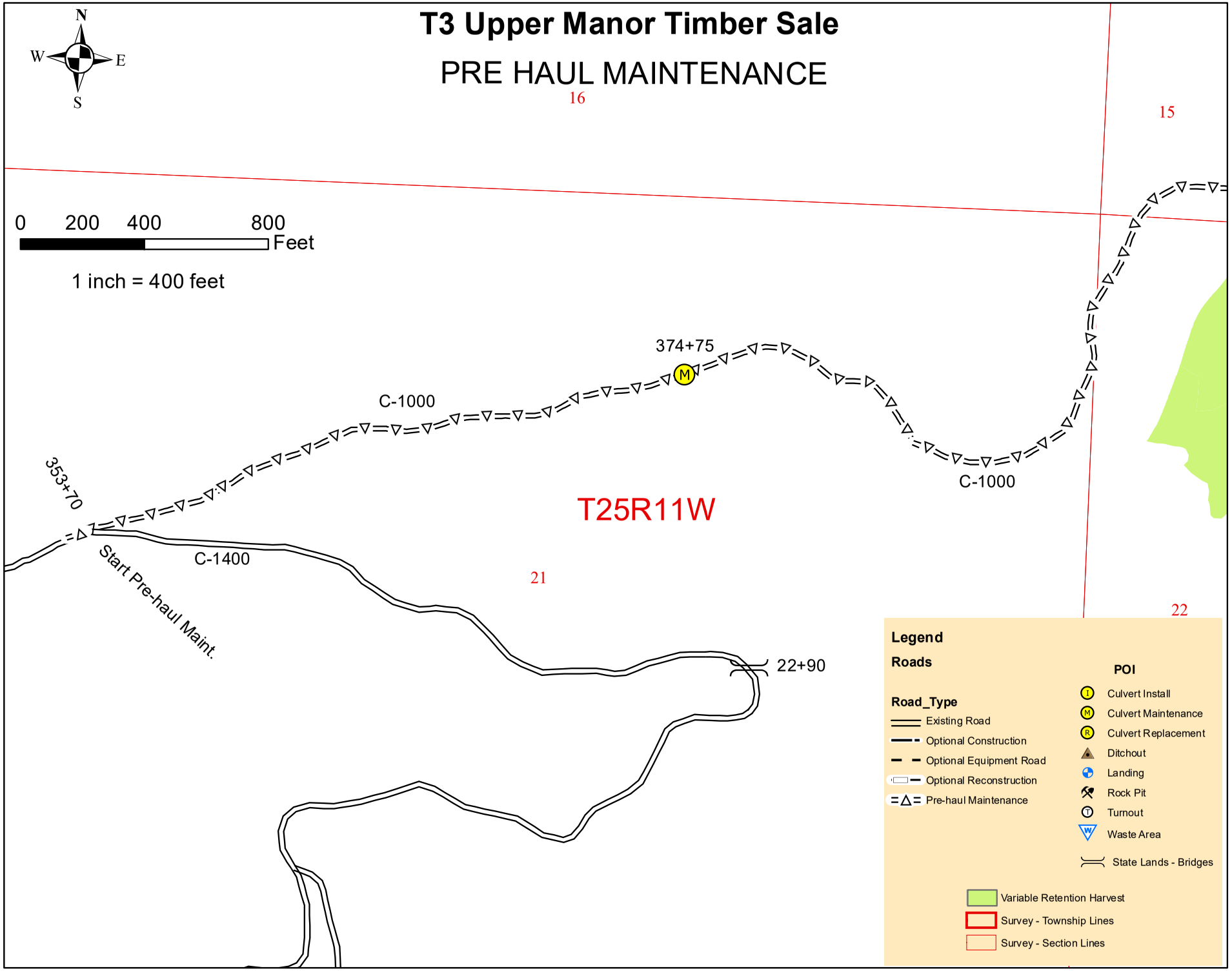
AGREEMENT NO.: 30-102263 DISTRICT ENGINEER: BILL MEHL

DATE: 13 JAN 2023 DRAWN AND COMPILED BY: RACHEL MATTHES



T3 Upper Manor Timber Sale

PRE HAUL MAINTENANCE

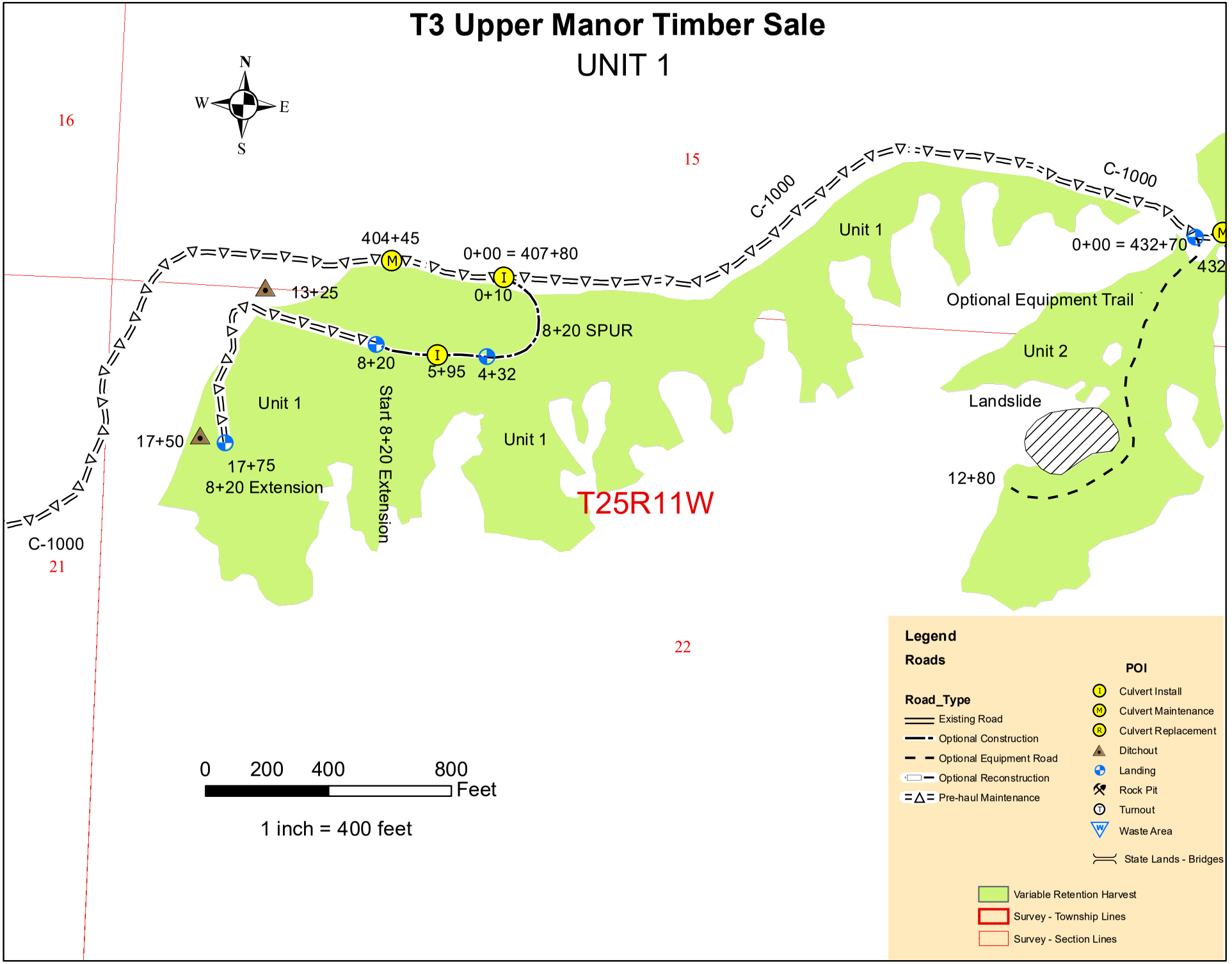


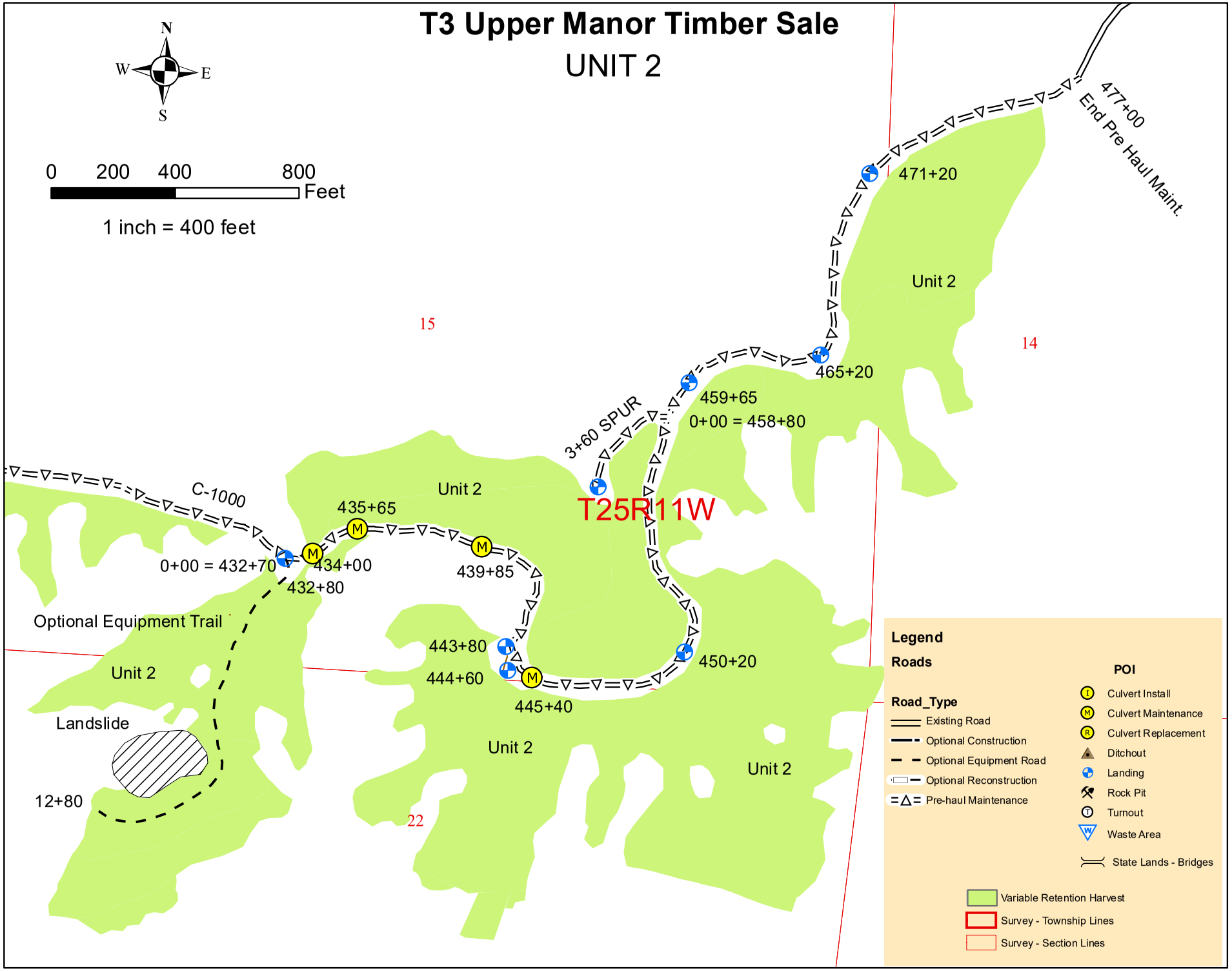
01/13/2023

T3 Upper Manor Timber Sale
Contract No. 30-102263

T3 Upper Manor Timber Sale

UNIT 1




T3 Upper Manor Timber Sale
UNIT 2
N
W
E
S
0 200 400 800
Feet
1 inch = 400 feet
477+00
End Pre Haul Maint.
471+20
Unit 2
15
14
465+20
459+65
0+00 = 458+80
3+60 SPUR
T25R11W
C-1000
435+65
Unit 2
0+00 = 432+70
434+00
432+80
439+85
Optional Equipment Trail
443+80
444+60
450+20
445+40
Unit 2
Landslide
Unit 2
Unit 2
12+80
22
Legend
Roads
Road_Type
Existing Road
Optional Construction
Optional Equipment Road
Optional Reconstruction
Pre-haul Maintenance
POI
Culvert Install
Culvert Maintenance
Culvert Replacement
Ditchout
Landing
Rock Pit
Turnout
Waste Area
State Lands - Bridges
Variable Retention Harvest
Survey - Township Lines
Survey - Section Lines

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.

0-3 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.

Road	Stations	Type
C-1000	123.30	Pre-haul Maintenance
8+20 SPUR	8.20	Construction
8+20 Extension	9.55	Pre-haul Maintenance
3+60 SPUR	3.60	Pre-haul Maintenance

0-4 CONSTRUCTION

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

Road	Stations	Requirements
8+20 SPUR	0+00 – 8+20	Construction
Total:	8.20	

Construction includes, but is not limited to:
Clearing, grubbing, right-of-way debris disposal, excavation and/or embankment to subgrade, end hauling material for construction, compacting road surfaces, constructing ditchlines, constructing ditchouts, constructing turnouts and turnarounds, curve widening, acquisition and installation of drainage structures, application of rock, spreading grass seed and hay.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
C-1000	353+70 – 477+00	Grade, shape, and compact non-paved portions of road in accordance with Clause 2-5. Clean culverts in accordance with Clause 2-6 and Culvert List. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
3+60 SPUR	0+00 – 3+60	Grade, shape, and compact road in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Embankment widening in accordance with Clause 4-9. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.

8+20 Extension	8+20 – 17+75	Remove all vegetative material with a minimum loss of rock in accordance with Clause 2-9 and 3-23. Construct and/or clean ditches in accordance with Clause 2-7 and 4-38. Construct ditch outs in accordance with Clause 4-29 and 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Compaction List.
Total:	136.45	

Maintenance includes, but is not limited to:
Brushing right-of-way, right-of-way debris disposal, cleaning ditches, constructing ditches, installing additional culverts, widening road segments, constructing headwalls, cleaning culvert inlets and outlets, cross drain culvert replacement, installing erosion control materials and sediment removal structures, spot rocking, grading and shaping existing road surface and turnouts, constructing additional turnouts, compaction of road surface, application of rock, acquisition and application of grass seed and hay.

0-7 POST-HAUL MAINTENANCE

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

0-13 STRUCTURES

The Purchaser shall acquire and install all structures. Requirements for these structures are listed in Section 7 Structures.

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 shall be submitted, in writing, to the Contract Administrator for consideration. The State must approve the submitted plans before road work 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

Unless controlled by construction stakes or design data (plan, profile, and cross-sections), road work shall be performed in accordance with the dimensions shown on the Typical Section Sheet and the specifications within this Road Plan.

1-5 DESIGN DATA

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

1-6 ORDER OF PRECEDENCE

Any conflict or inconsistency in this Road Plan shall be resolved by giving the documents precedence in the following order:

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

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

1-7 TEMPORARY ROAD CLOSURE

The Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Road work shall not close any road for more than 3 consecutive days.

Road	Number of Allowable Closed Days
C-1000	Weekdays, allow for after hours and weekend traffic.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

The Purchaser is responsible for the repair or replacement of all materials, roadway infrastructure, and road components damaged during roadwork or operation activities. Repairs and replacements shall be directed by the Contract Administrator. Repairs to structural materials will be made according to the manufacturer's recommendation, and shall 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.

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to "WSDOT Standard Specifications" mean the Washington State Department of Transportation's Standard Specifications for Road, Bridge, and Municipal Construction 2018 (M41-10).

1-12 SURVEY MONUMENTS

At no time during construction, reconstruction, or maintenance shall survey monuments, witness trees, or bearing trees be disturbed or damaged. If damaged or disturbed, Purchaser shall hire a licensed land surveyor to repair, replace, and/or reset them.

1-14 NON-SALE ASSOCIATED CLOSURE

Asphalt patching work is currently scheduled to take place on the Q-3000 sometime during the 2023 or 2024 construction seasons, which will result in the road being closed for up to 2 to 3 days. State shall give at least 2 weeks notice to Purchaser before closure begins.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

Road work must be in accordance with the State's marked location. All road work is marked as follows:

- Orange ribbon and paint for construction centerlines.
- Construction stakes for everything else.

1-18 REFERENCE POINT DAMAGE

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

SUBSECTION TIMING

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

The Purchaser shall not use roads under this Road Plan without written approval from the Contract Administrator.

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

Written approval by Contract Administrator needs to be given at these phases of road work:

- Subgrade approval
- Drainage installation
- Subgrade compaction
- Rock application
- Rock compaction

SUBSECTION RESTRICTIONS

1-27 TIMING RESTRICTION FOR MARBLED MURRELET

On portions of the below listed Roads; Any road work, right-of-way timber falling and yarding, rock pit operations or operation of heavy equipment performed during the marbled murrelet nesting season (April 1 through September 23) is restricted to two hours after sunrise to two hours before sunset. This restriction does not apply to hauling timber, rock or equipment.

Road	Stations
C-1000	143+99 – 171+51, 187+86 – 201+00, 241+35 – 246+74, 289+55 – 320+97, 385+84 – 403+06, 477+69 – 478+62
8+20 Extension	12+50 – 14+75

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 shall suspend road work or hauling of right-of-way timber, forest products, or rock under the following conditions:

- 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, the Purchaser shall protect the work from damage or deterioration.

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road work and hauling operations. Any dirt, rock, or other material tracked or spilled on bridge or asphalt surface(s) shall be removed immediately. Any damage to the surface(s) shall be repaired at the Purchaser's expense as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

On all roads, snow plowing shall be permitted only after the execution of a Snow Plowing Agreement, which is available from the Contact Administrator upon request. Purchaser shall request a Snow Plowing Agreement each time plowing occurs. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

C-060 Designated Roads

Road	Stations
C-1000	0+00 – 353+70
Q-3000	468+00 – 647+20
Q-3350	All
Tacoma Pit Road	All

2-4 PASSAGE OF LIGHT VEHICLES

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

Road	Stations
C-1000	0+00 -- 477+00

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), a grader shall be used to shape the existing surface.

Road	Stations	Requirements
C-1000	353+70 – 477+00	Grade, shape, compact, Continue as needed to keep road maintained during harvest activities.
3+60 SPUR	0+00 – 3+60	Grade, shape, compact

2-6 CLEANING CULVERTS

On the following road(s), all inlets and outlets of culverts shall be cleaned before the start of timber haul and shall be subject to the written approval of the Contract Administrator.

Road	Stations
C-1000	See Culvert List

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean and/or construct the ditches, headwalls, and catch basins. Work shall be completed before the start of timber haul and shall be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface will not be allowed. Ditchlines, headwalls, and catch basins shall not encroach into the existing road.

Road	Stations	Left or Right	Comments
8+20 Extension	8+20 – 17+50	R	

2-8 MAINTAINING EROSION CONTROL STRUCTURES

On the following road(s), Purchaser shall clean and maintain all erosion control devices. Work shall be completed before the start of timber haul and shall be done in accordance with all pertaining clauses contained in this Road Plan. Excavated material shall be disposed of in accordance with Clause 4-35 through Clause 4-38.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), vegetative material up to 5 inches in diameter, including limbs, shall be cut as shown on the Brushing Detail. Brushing shall be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation shall not be disturbed unless directed by the Contract Administrator.

Road	Stations
C-1000	353+90 – 477+00
3+60 SPUR	0+00 – 3+60

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal shall not be used for brushing. Excavator buckets, log loaders and similar equipment shall not be used for brushing.

3-3 BRUSH REMOVAL

Remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets. Brush should be disposed of so that it will not fall back onto the road prism.

SUBSECTION CLEARING

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 5 inches DBH or over 15 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

Right-of-way timber shall not be decked 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 unless approved by the Contract Administrator.

SUBSECTION GRUBBING

3-10 GRUBBING

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. Stump removal shall be accomplished using a hydraulic mounted excavator unless authorized, in writing, by the Contract Administrator. Grubbing shall be completed before starting excavation and embankment.

3-12 STUMP PLACEMENT

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

SUBSECTION ORGANIC DEBRIS

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 Typical Section Sheet.

3-21 DISPOSAL COMPLETION

All disposal of organic debris, shall be completed before the application of rock.

3-23 PROHIBITED DISPOSAL AREAS

Organic debris shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades road prism excavation and embankment slopes**.**
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush will fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

Organic debris shall not be buried unless otherwise stated in this Road Plan.

3-25 SCATTERING ORGANIC DEBRIS

Organic debris shall be scattered outside of the grubbing limits in accordance with Clause 3-23 unless otherwise detailed in this Road Plan and as directed by the Contract Administrator.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

All roads shall be constructed, reconstructed, and maintained using a track mounted hydraulic excavator unless stated otherwise within this Road Plan, or permission to do otherwise is granted 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 shall have smooth continuity, without abrupt changes in direction.
- Maximum grade shall not exceed 18 percent favorable and 16 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Sag vertical curves shall not have a grade change greater than 5% in 100 feet.
- Crest vertical curves shall not have a grade change greater than 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. The following standards for switchbacks shall be followed:

- Adverse grades on switchbacks shall not exceed 10%.
- Favorable grades through switchbacks shall not exceed 12%.
- Transition grades entering and leaving switchbacks shall not exceed a 5% grade change.
- Transition grades required to meet switchback grade limitations shall be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

Unless construction staked or designed excavation slopes shall be constructed no steeper than shown on the following table:

Material Type	Excavation Slope Ratio	Excavation Slope Percent
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

Unless construction staked or designed embankment slopes shall be constructed no steeper than shown on the following table:

Material Type	Embankment Slope Ratio	Embankment Slope Percent
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

Excavation and embankment slopes shall be constructed to a uniform line and left rough for easier revegetation.

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

4-12 FULL BENCH CONSTRUCTION

On roads where side slopes exceed 45%, purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. If designated, purchaser shall end haul waste material to the location specified in Clause 4-37.

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

Turnouts shall be intervisible with maximum of 1,000 feet between turnouts unless shown otherwise on drawings. Locations shall be adjusted to fit the final subgrade alignment and sight distances. Turnout locations shall be subject to written approval by the Contract Administrator.

4-22 TURNAROUNDS

Turnarounds shall be no larger than 50 feet long and 30 feet wide. Locations shall be subject to written approval by the Contract Administrator.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

The Purchaser shall construct ditches into the subgrade as specified on the Typical Section Sheet. Excavated slopes shall be consistent with Clause 4-5 Cut Slope Ratio. Ditches shall be constructed concurrently with construction of the subgrade.

4-27 DITCH WORK – MATERIAL USE PROHIBITED

On all roads, pulling ditch material across the road or mixing in with the road surface will not be allowed. Excavated material shall be disposed of as specified in Clause 4-36 through Clause 4-38.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Ditchouts shall be constructed at locations shown on the list below, and as needed to fit as built conditions. 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. L or R denotes ditchout left or ditchout right heading in.

Road	Stations
8+20 Extension	13+20R, 17+50R

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

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

4-38 PROHIBITED WASTE DISPOSAL AREAS

Waste material shall not be deposited in the following areas:

- Within 5 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

SUBSECTION BORROW

4-46 COMMON BORROW

Common borrow shall consist of soil, and/or aggregate that is non-plastic and shall contain no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines (passes the U.S. #40 sieve) 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 shall be excavated material free of organic debris, trash, and rocks greater than 12" in any dimension.

4-48 BORROW MATERIAL

Borrow material shall contain no more than 5% clay, organic debris, or trash by volume.

SUBSECTION SHAPING

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

SUBSECTION COMPACTION

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the Compaction List by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction, and embankment segments too narrow to accommodate equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the Compaction List by routing equipment over the entire width, except ditch. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before placement of rock.

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

4-64 WASTE MATERIAL COMPACTION

All waste material shall be compacted by running equipment over it or bucket tamping.

4-65 CULVERT BACKFILL COMPACTION

Culvert backfills shall be accomplished by using a jumping jack compactor, performing at least 2 passes per lift, in lifts not to exceed 8 inches.

4-66 COMPACTION BY METHOD

Compaction shall consist of three complete passes over the entire width of each lift with a vibratory drum roller weighing a minimum of 6,000 pounds at a maximum operating speed of 3 mph. For embankment segments too narrow to accommodate a drum roller, a plate compactor shall be used.

SECTION 5 – DRAINAGE

5-4 PUNCHEON RESTRICTED

At no time shall puncheon be used in the subgrade, unless approved by the Contract Administrator.

SUBSECTION CULVERTS

5-5 CULVERTS

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

5-11 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the Culvert List and Rock List that are not installed shall become the property of the State. Purchaser shall stockpile materials as directed by the Contract Administrator**.**

5-12 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and will be available for installation on any road listed in the TYPICAL SECTION SHEET as directed by the Contract Administrator. Unused pipes will be located at the DNR sawmill, located by the junction of the Hoh-Clearwater Mainline and the C-2000 road.

Road	Size
As Directed by C/A	(1) 18” x 30’

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Installation shall be in accordance with the Typical Cross Drain Culvert Installation Detail, Typical Type Ns Np Culvert Installation Detail**,** the National Corrugated Metal Pipe Association’s "Installation Manual for Corrugated Steel Drainage Structures"**,** and the Corrugated Polyethylene Pipe Association’s “Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings”. Corrugated Polyethylene pipe shall be installed in a manner consistent with the manufacturer’s recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Installation of culverts 30 inches in diameter and over shall be subject to written approval by the District Engineer or their designee before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains on road grades in excess of 3% shall 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. Where the cross drain is at the low point in the road, culverts shall not be skewed. Cross drain culverts shall 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 18 inches of compacted depth 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, Type Ns Np Typical Detail Sheet, or to the minimum depth recommended by the culvert manufacturer for the type of cover material over the pipe, whichever is greater.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

Energy dissipaters shall be installed to prevent erosion and are subject to approval by the Contract Administrator. Rock shall weigh at least 10 pounds and be placed by zero-drop-height method. Energy dissipater shall extend a minimum of ¾ foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 10 feet shall be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts or 1 ½" X 3/16" angle iron, and fastened securely to the posts with No. 10 galvanized smooth wire, or bolted using minimum 5/16" bolts and 2 washers per bolt, in accordance with the Culvert Installation Typical Details Page.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Catch basins shall be constructed to resist erosion. Approximate dimensions are 1-2 feet deep, 1-2 feet wide, and 2-4 feet long.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Headwalls shall be constructed in accordance with the Typical Cross Drain Culvert Installation Detail at all cross drain culverts that specify the placement of rock. Rock used for headwalls shall consist of oversize or quarry spall material. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets. Rock shall not restrict the flow of water into culvert inlets or catch basins. No end dumping of rock is allowed.

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the Rock List may be obtained from the following source(s) on state land at no charge to the Purchaser. 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.

Source	Location	Rock Type
Tacoma Pit	T24N R11W Sec 9	Pitrun
Tacoma Creek Pit	T24N R11W Sec 9	Crushed

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the Rock List may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall remove no more than 300 cubic yards of 1 ¼" minus crushed rock, unless authorized by the Contract Administrator.

Source	Location	Quantity (yd^3)
Tacoma Creek Pit	T24N R11W Sec 9	300 yd^3

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

All rock source development and use shall be in accordance with a written Rock Source Development and Reclamation Plan prepared by the State and included in this Road Plan**.** Rock source operations shall be conducted as directed by the Contract Administrator and in accordance with the plan. Upon completion of operations, the rock source shall be left in the condition specified in the Rock Source Development and Reclamation Plan, and approved in writing by the Contract Administrator. The Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before starting any operations in the rock source.

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources shall be in accordance with the following unless otherwise specified in Rock Source Development and reclamation plan:

- Pit walls shall not be undermined or over-steepened. The maximum slope of the walls shall 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 shall be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches shall be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches shall be uniform and free-draining at a minimum 2% outslope gradient.
- All operations shall 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.
- Block all vehicle access to the top of the pit faces.

SUBSECTION ROCK GRADATIONS

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼” square sieve	100%
% Passing 5/8” square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	5%

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

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths are defined as the compacted depth(s) using the compaction methods required in this Road Plan. Estimated quantities specified in the Rock List are estimated truck yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

SUBSECTION ROCK APPLICATION

6-67 ROCK STOCKPILE SPECIFICATIONS

Rock stockpiles Locations shall meet the following specifications and be subject to C/A approval before using.:

- Before placing aggregates upon the stockpile site, the site shall be cleared of vegetation, trees, stumps, brush, rocks or other debris and the ground leveled to a smooth, firm, uniform surface.
- When completed, the stockpile shall be neat and regular in shape.
- The stockpile height shall be limited to a maximum of 30 feet.
- Stockpiles in excess of 500 cubic yards shall be built up in layers not more than 8 feet in depth. Stockpile layers shall be constructed by trucks, clamshells, or other methods approved, in writing, by the Contract Administrator.
- Each layer shall be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates shall not be dumped so that they run down and over the lower layers in the stockpile. The method of dropping from a bucket or spout in one location so as to form a cone shaped pile will not be permitted.
- Stockpiles of different types or sizes of aggregate shall be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

6-70 APPROVAL BEFORE ROCK APPLICATION

Subgrade drainage installation including grading and compaction, shall be completed and approved in writing by the Contract Administrator, before rock application.

6-71 ROCK APPLICATION

Rock shall be applied in accordance with the specifications and quantities shown on the Rock List. Rock shall be spread, shaped, and compacted full-width concurrent with rock hauling operations. Rock shall be compacted in accordance with Compaction List, in lifts not to exceed 6 inches.

6-72 ROCK APPLICATION AFTER HAULING

On the following road(s), upon completion of all hauling operations, Purchaser shall apply 1 ¼" minus crushed rock in accordance with the quantities shown on the Rock List.

Road	Stations	Amount
C-1000	As designated by C/A	300 yd^3

6-73 ROCK FOR WIDENED PORTIONS

Turnarounds, turnouts, and areas with curve widening shall have rock applied to the same depth and specifications as the traveled way.

6-78 ROCK FOR SPOT PATCHING

Rock for spot patching shall be applied before any grading is done and before any rock lifts are applied. Once applied, spot patches shall be graded into the existing running surface.

SECTION 7 – STRUCTURES

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

The Purchaser shall ensure that debris from the installation or removal of structures does not enter any stream. Components removed from the existing structures(s) shall be placed at designated site(s), as directed in writing by the Contract Administrator. The Purchaser is responsible for maintaining a clean jobsite, with all materials stored away from any high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream shall be removed immediately and placed in the site(s) designated for stockpiling or disposal. The Purchaser is responsible for retrieving all material carried downstream from the jobsite by the stream current.

7-6 STREAM CROSSING INSTALLATION

Installation of stream crossing structures shall be in accordance with the manufacturer's requirements, and as directed by the District Engineer or their designee.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Bank protection shall be designed and constructed to prevent the undermining of the structure.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall furnish and evenly spread a 3-inch layer of straw to all exposed soils at stream culvert installations**.** Soils shall not be allowed to sit exposed during any rain event.

SUBSECTION REVEGETATION

8-15 REVEGETATION

Purchaser shall grass seed and hay mulch all exposed soils including, but not limited to, stream culverts, waste areas, sidecast pull back areas, stream crossing removals, bridge installations, and other areas directed by the Contract Administrator. Revegetation of exposed soils shall be accomplished by manual dispersal of grass seed unless

otherwise detailed in this Road Plan. Other methods of revegetation must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

All seed**,** mulch**,** hay, matting, etc. will be provided by the Purchaser.

8-17 REVEGETATION TIMING

Purchaser shall perform revegetation during the first available opportunity. Soils shall not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator. Soils shall not be allowed to sit exposed during any rain event.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover over the revegetated area. The protective cover may consist of, but not be limited to, such items as dispersed hay mulch 3" thick or jute matting.

8-19 ASSURANCE FOR SEEDED AREA

The Purchaser shall be responsible to ensure a uniform and dense crop of grass. The Purchaser shall reapply the seed and/or mulch in areas that have been damaged through any cause, before approval from the Contract Administrator. The Purchaser shall restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and/or mulch at no additional cost to the state.

SUBSECTION SEED, FERTILIZER, AND MULCH

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soils at a rate of 60 pounds per acre of exposed soil.

Seed Species	% by Weight
• Perennial Ryegrass	40.00
• Creeping Red Fescue	40.00
• White Dutch Clover	10.00
• Colonial Bentgrass	10.00

Grass seed shall meet the following specifications:

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

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

Post-haul maintenance shall be performed in accordance with the Forest Access Road Maintenance Specifications and as specified below.

Road	Stations	Additional Requirements
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator
C-1000		Clean Bridge decks on Deception and Manor Creek Bridges.
C-1000	All	Apply post haul rock as per Clause 6-72.

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

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

9-11 LANDING EMBANKMENT

On all roads, landing embankments shall be sloped to original construction specifications.

SECTION 10 MATERIALS

SUBSECTION GEOTEXTILES

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

Geotextiles shall meet the following minimum requirements for strength and property qualities, and shall be designed by the manufacturer to be used for filtration. Woven slit-film geotextiles will not be allowed. Material shall be free of defects, cuts, and tears.

	ASTM Test	Requirements
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.
Water permittivity	D 4491	0.02 sec^{-1}
Grab tensile strength	D 4632	180 lb in machine direction, 100lb in cross-machine direction
Grab tensile elongation	D 4632	30% max. at 180 lb or more
Ultraviolet stability	D 4355	70% retained after 500 hours of exposure

SUBSECTION CULVERTS

10-15 CORRUGATED STEEL CULVERT

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

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts shall meet AASHTO M-294 specifications. Culverts shall be Type S – double walled with a corrugated exterior and smooth interior.

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 shall meet the AASHTO specification designated for the culvert and shall have matching corrugations. On culverts 24 inches and smaller, bands shall have a minimum width of 12 inches. On culverts over 24 inches, bands shall have 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.

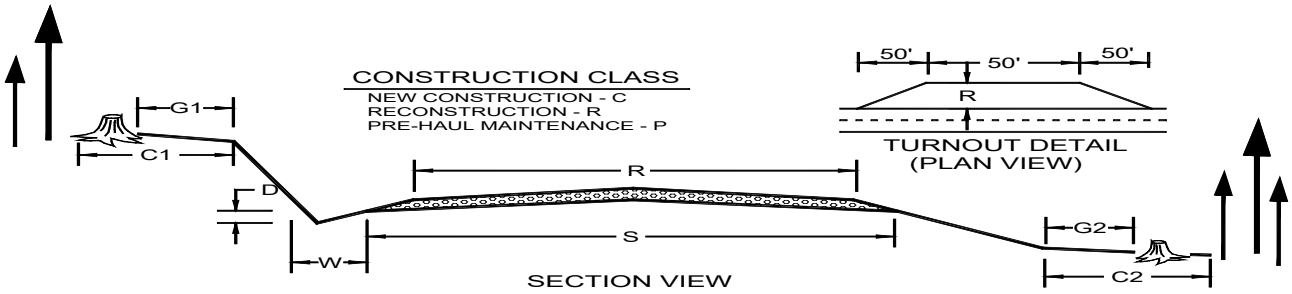
10-24 GAGE AND CORRUGATION

Metal culverts shall conform to the following specifications for gage and corrugation as a function of diameter.

Diameter	Gage	Corrugation
18"	16 (0.064”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
24" to 48”	14 (0.079”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
54”	12	5” X 1”
60” +	10	5” X 1”

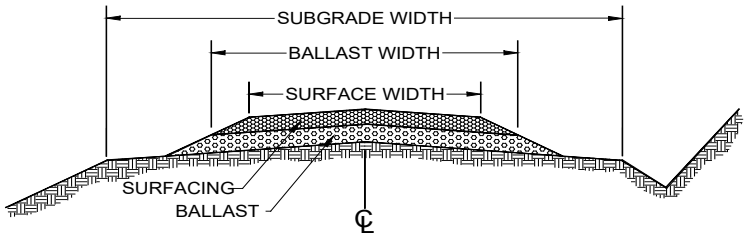
..

TYPICAL SECTION SHEET



ROAD NAME	START STATION	END STATION	CONSTRUCTION CLASS	SUBGRADE WIDTH (S)	ROAD WIDTH (R)	CROWN AT CL (in)	DITCH WIDTH (W)	DITCH DEPTH (D)	GRUBBING CUT BANK (G1)	GRUBBING FILL TOE (G2)	ROAD CUT CLEARING (C1)	ROAD FILL CLEARING (C2)
C-1000	353+7	477+00	P		14’	3”	3’	1’				
8+20 SPUR	0+00	8+20	C	17’	12’	3”	3’	1’	5’	5’	10’	5’
8+20 Extension	8+20	17+75	P		14’	3”	3’	1’				
3+60 SPUR	0+00	3+60	P		14’	3”	3’	1’				

ROCK LIST SHEET



SECTION VIEW

1. Rock quantities, subtotals and totals are “truck measure” estimates. Rock shall be applied to at least the depths listed.
2. All depths are compacted depths.
3. Rock slopes shall be 1½ (H) : 1 (V).
4. All rock sources are subject to approval by the Contract Administrator.
5. Pitrun is defined as pitrun or ballast per Line 6. Crushed is defined as any crushed rock from ¼” minus to 4” minus per Line 6. Oversize is defined as oversize, quarry spalls, light loose rip rap, or heavy loose rip rap per Line 6.
6. Rock sources = 1: Tacoma Pit pitrun, 2: Tacoma Creek Pit 1 ¼” crushed

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd^3/sta)	Pitrun SUBTOTAL(yd^3)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd^3/sta)	Crushed Subtotal(yd^3)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd^3)
C-1000															
Landing	432+80			1				100							
Landing	443+80			1				50							
Landing	444+60			1				50							
Landing	450+20			1				50							
Landing	459+65			1				50							
Landing	465+20			1				50							
Landing	471+20			1				50							
Cont pipe				1				20							
Post-Haul									2				300		
8+20 SPUR															
Lift	0+00	8+20		1		18	110	910							
Cross Drain	0+10			1				30							
Cross Drain	5+95			1				20							
Landing	4+32			1				50							
Landing	8+20			1				50							
8+20 Extension	8+20	17+75		1		12	70	670							
Landing	17+75			1				50							
3+60 SPUR	0+00	3+60		1		6	35	130							
Landing	3+60			1				50							
Totals:								2380					300		
	GRAND TOTALS:							**2380 CY Pitrun**	**300 CY 1 ¼” Crushed**						

CULVERT LIST

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)	RIP RAP - INLET (cy)	RIP RAP – OUTLET (cy)	BACKFILL MATERIAL	NOTES
C-1000	374+75							Clean Inlet
C-1000	404+45							Clean Inlet
C-1000	434+00							Clean Inlet
C-1000	435+65							Clean Inlet
C-1000	439+85							Clean Inlet
C-1000	445+40							Clean Flume
8+20 SPUR	0+10	18”	60’				PR	Install
8+20 SPUR	5+95	18”	30’				PR	Install
Contingency Culvert (1)		18”	30’				PR	Install as Directed by C/A

All rip rap shall be Oversize unless specified in the Rock List, or in the field.
All backfill shall be native material (NT) unless specified otherwise. CR= 1 ¼”- crushed rock, PR = pit run.

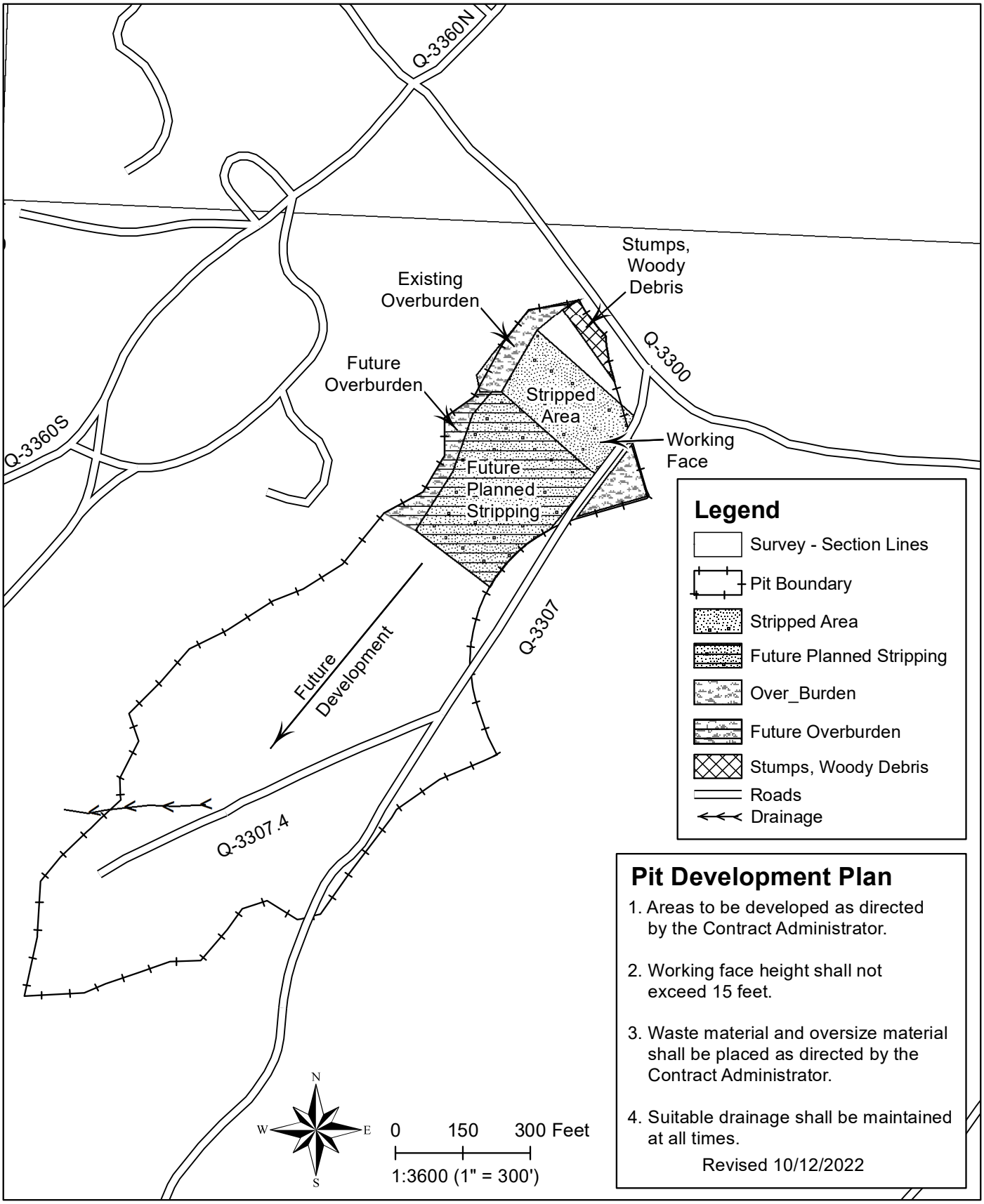
SUMMARY - Road Development Costs

SALE NAME:	T3 Upper Manor		CONTRACT#:	30-102263		REGION:	Olympic		DISTRICT:	Olympic							
	LEGAL DESCRIPTION:		0														
ROAD NAME:			8+20 SPUR	C-1000	3+60 SPUR	8+20 Ext	C-1000								TOTAL:		
ROAD TYPE:			Construction	Prehaul	Prehaul	Prehaul	Posthaul										
NUMBER OF STATIONS:			8	123	4	10	477								621.65		
SIDESLOPE:			5%	0%	0%	0%	0%								5%		
CLEARING AND GRUBBING:			$1,140	$0	$0	$0	$0								$1,140		
ROAD BRUSHING:			$0	$2,216	$65	$0	$0								$2,281		
EXCAVATION AND FILL:			$1,158	$0	$2,000	$0	$0								$3,158		
ROAD GRADING:			$0	$800	$23	$0	$3,101								$3,924		
DITCH CLEANING/CONSTRUCTION:			$0	$0	$0	$372	$0								$372		
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:																	
Ballast:	2380	2,380	1,060	420	180	720	0								2379.5	CY	
			$19,345	$7,665	$3,285	$13,131	$0								$30,295		
Surface:	300	300	0	0	0	0	300								300	CY	
			$0	$0	$0	$0	$5,400								$5,400		
Oversize:	0		0	0	0	0	0								0		
			$0	$0	$0	$0	$0										
CULVERTS AND FLUMES:			$2,340	$780	$0	$0	$0								$3,120		
STRUCTURES:			$0	$0	$0	$0	$0								$0		
MISC. EXPENSES:			$48	$312	$0	$1,025	$0								$1,385		
OVERHEAD:			$2,163	$1,060	$484	$1,308	$935								$5,949		
TOTAL COSTS:			$26,195	$12,833	$5,857	$15,836	$9,436								$70,156		
COST PER STATION:			$3,194	$104	$1,627	$1,658	$20								$113		
MOBILIZATION:					$6,900												
ROAD DEACTIVATION AND ABANDONMENT COSTS:					$0												
Pit Work				$0		Road Standard	Const.	Reconst.	Prehaul	Posthaul				TOTAL (All Roads) =	$77,056		
						Total Costs =	$28,495	$0	$36,826	$11,736				SALE VOLUME MBF =	3,530		
NOTE: This appraisal has no allowance for profit and risk.						Total Sta. =	8	0	136	477				TOTAL COST PER MBF =	$21.83		
Sheet 1 of 1						Cost per Sta. =	$3,475	$0	$270	$25				TOTAL COST PER STATION=	$123.95		
Plans to be furnished by:		Mehl				Compiled by:	Rachel Matthes							Date:	1/11/2023		

COMPACTION LIST

Road	Stations	Type	Max Depth Per Lift (inches)	Equipment Type	Minimum Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Waste Areas	All	Waste Areas	24	Dozer/ Excavator	6000	2	3
Construction	All	Subgrade	6	Vibratory Smooth Drum	6000	2	3
Reconstruction	All	Fill					
Pre-Haul Maintenance	All	Pre-haul Surface					
Construction, Reconstruction, Pre-Haul Maintenance, Post-Haul Maintenance	All	Rock					
Reconstruction	Keyed Embankment	Embankment					
Post-Haul Maintenance	All	Post-haul Surfaces					
Pre-Haul Maintenance, Reconstruction	All	Culvert Backfills		Jumping Jack	N/A	3	N/A

Tacoma Pit Plan
Sec. 9, T24N R11W



Legend

- Survey - Section Lines
- Pit Boundary
- Stripped Area
- Future Planned Stripping
- Over_Burden
- Future Overburden
- Stumps, Woody Debris
- Roads
- Drainage

Pit Development Plan

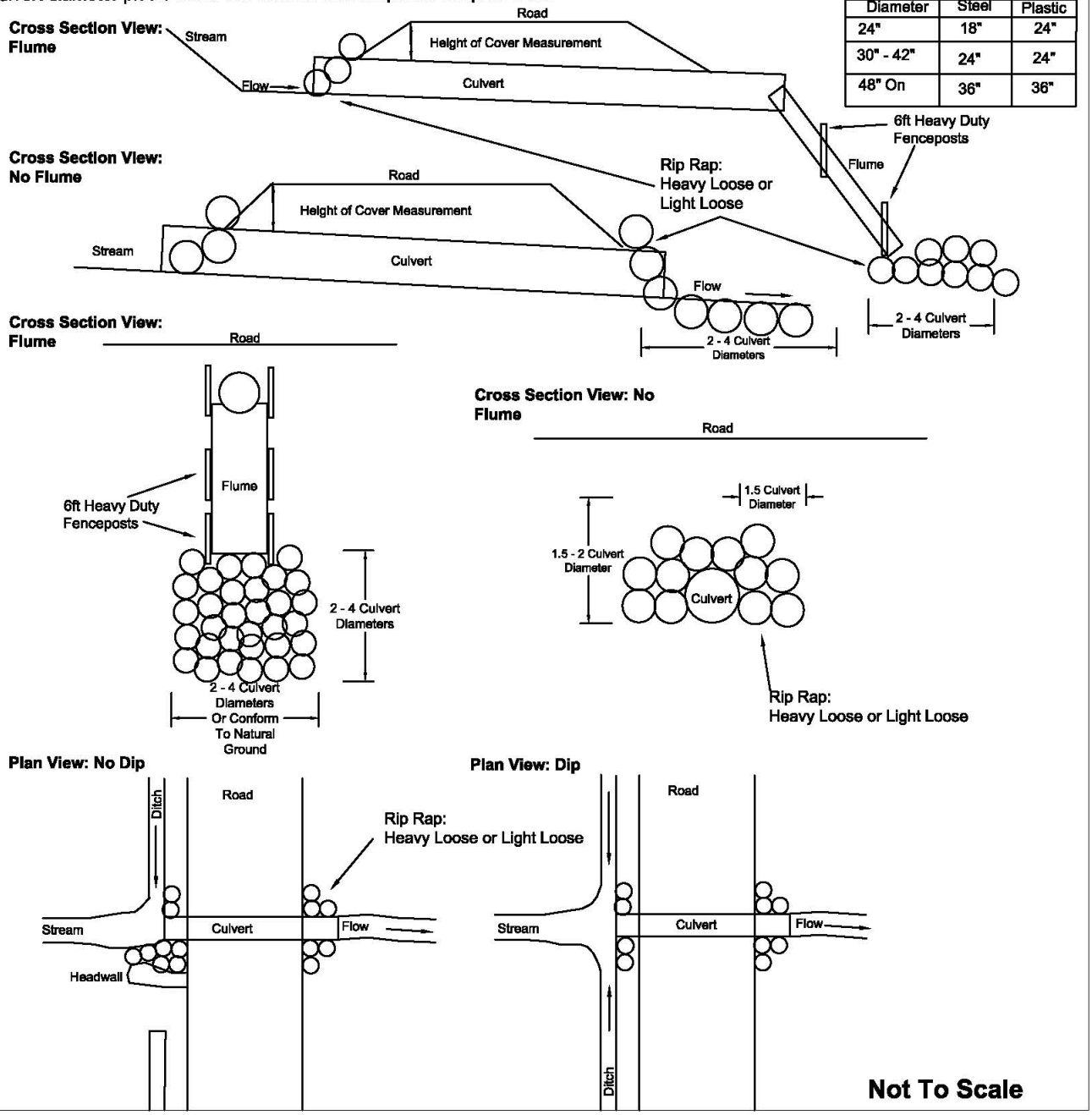
1. Areas to be developed as directed by the Contract Administrator.
2. Working face height shall not exceed 15 feet.
3. Waste material and oversize material shall be placed as directed by the Contract Administrator.
4. Suitable drainage shall be maintained at all times.

Revised 10/12/2022

Typical Type Ns, Np Culvert Installation Detail Sheet.

-Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.
-Culvert lay shall match stream gradient up to 5%.
-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
-Rip rap shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
-Rip rap shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume rip rap shall be placed along the fill at the outlet, unless there is stream drop or it is called for in the Road Plan, at which point it will be installed as an energy dissipater at the end of the culvert as specified in this Detail. All rip rap distance to be determined by the Contract Administrator or the District Engineer.
-Backfill compaction shall be achieved using a jumping jack, walk behind vibratory roller, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus 3 times the width of the compactor footprint used.

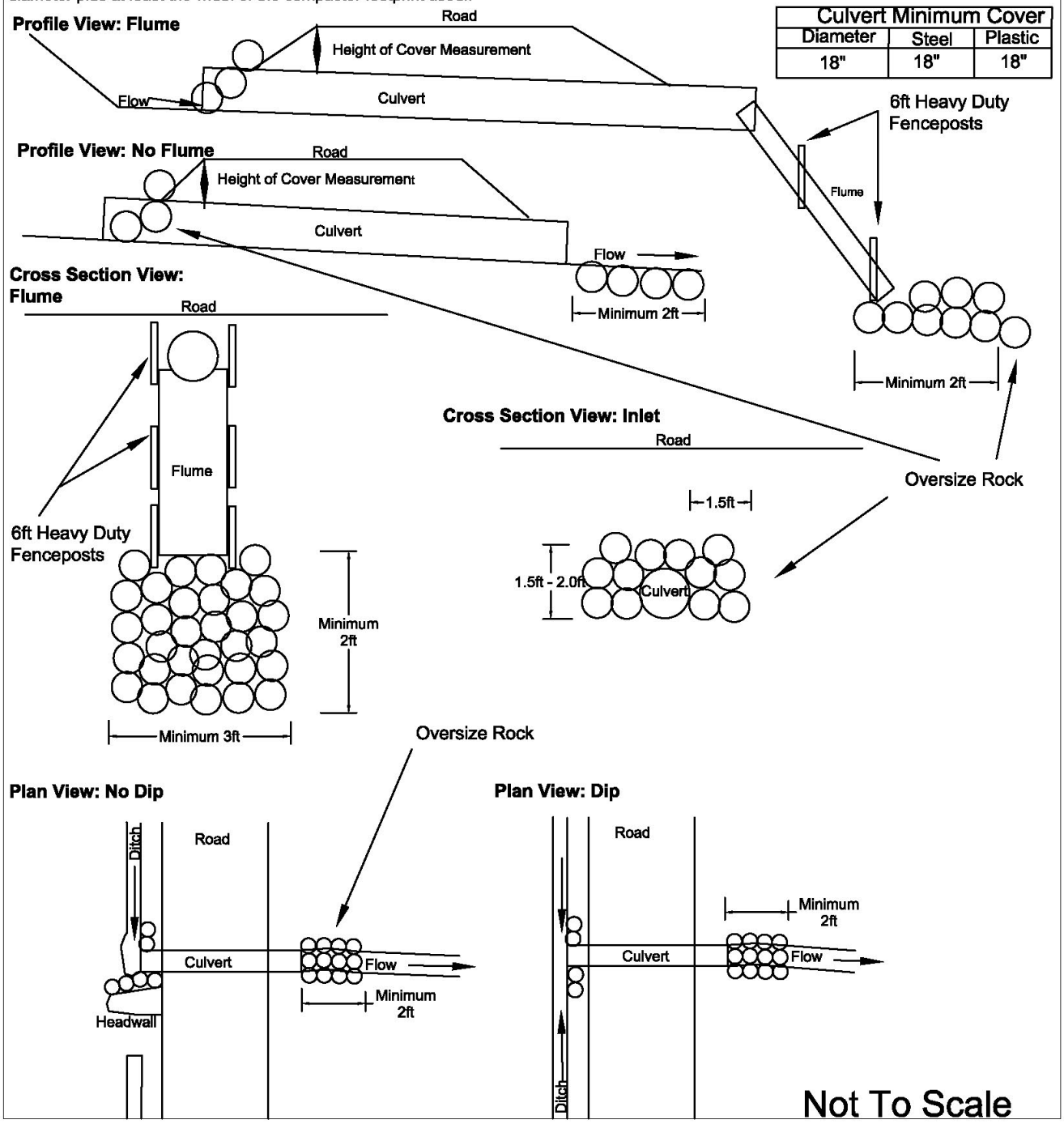
Culvert Minimum Cover		
Diameter	Steel	Plastic
24"	18"	24"
30" - 42"	24"	24"
48" On	36"	36"



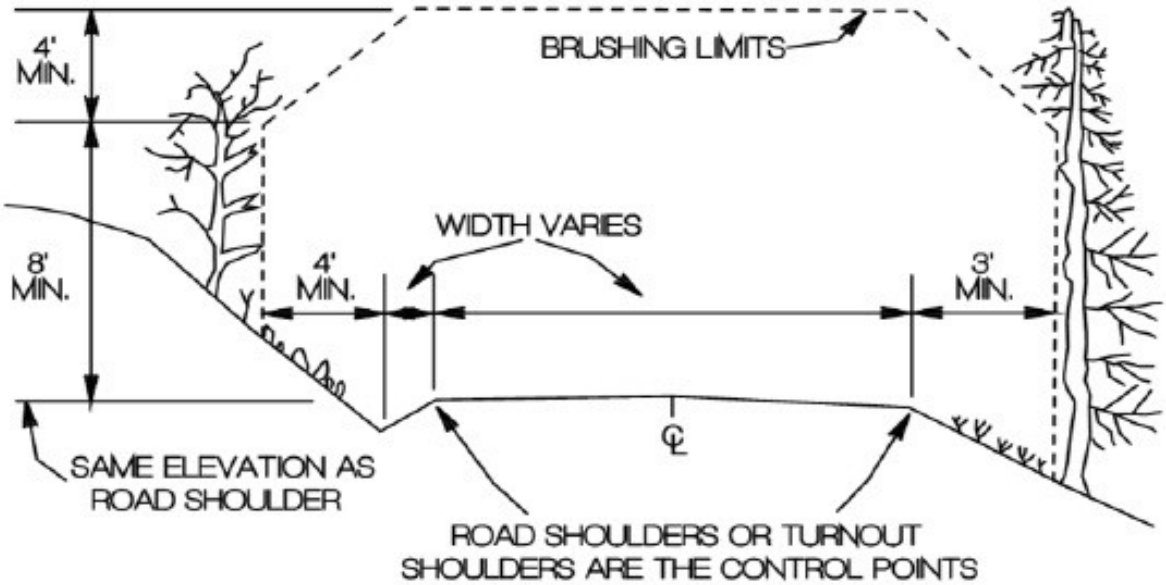
Typical Cross Drain Culvert Installation Detail Sheet

-Culvert lay shall not exceed 10%.
-Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty steel fence posts, and fastened securely to the posts with No. 10 galvanized smooth wire or bolted to the fence posts.
-Oversize shall be placed using a "zero height drop method", and shall be set in conjunction with the culvert installation.
-Oversize shall be placed at headwalls, along the fill at the inlet, and at the end off flumes in accordance with this Detail. On culverts with no flume oversize shall be placed at the outlet as an energy dissipater as specified in this Detail. All oversize distance to be determined by the Contract Administrator.
-Backfill compaction for installations on existing roads shall be achieved using a jumping jack, or plate compactor on lifts not to exceed 8in. 3 complete passes per lift is required for compaction. Backfill shall be placed and compacted evenly on both sides of the culvert. Care shall be taken to ensure adequate compaction of backfill material under the haunches of the pipe. Excavation trench width shall be at least culvert diameter plus at least the width of the compactor footprint used..

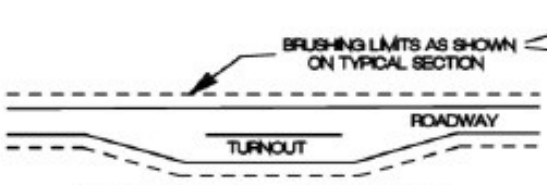
Culvert Minimum Cover		
Diameter	Steel	Plastic
18"	18"	18"



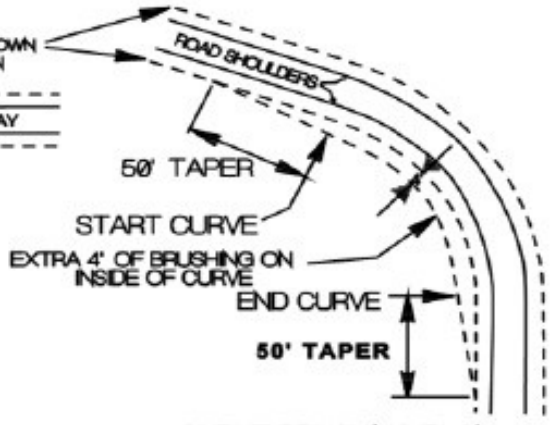
BRUSHING DETAIL



TYPICAL BRUSHING LIMITS SECTION



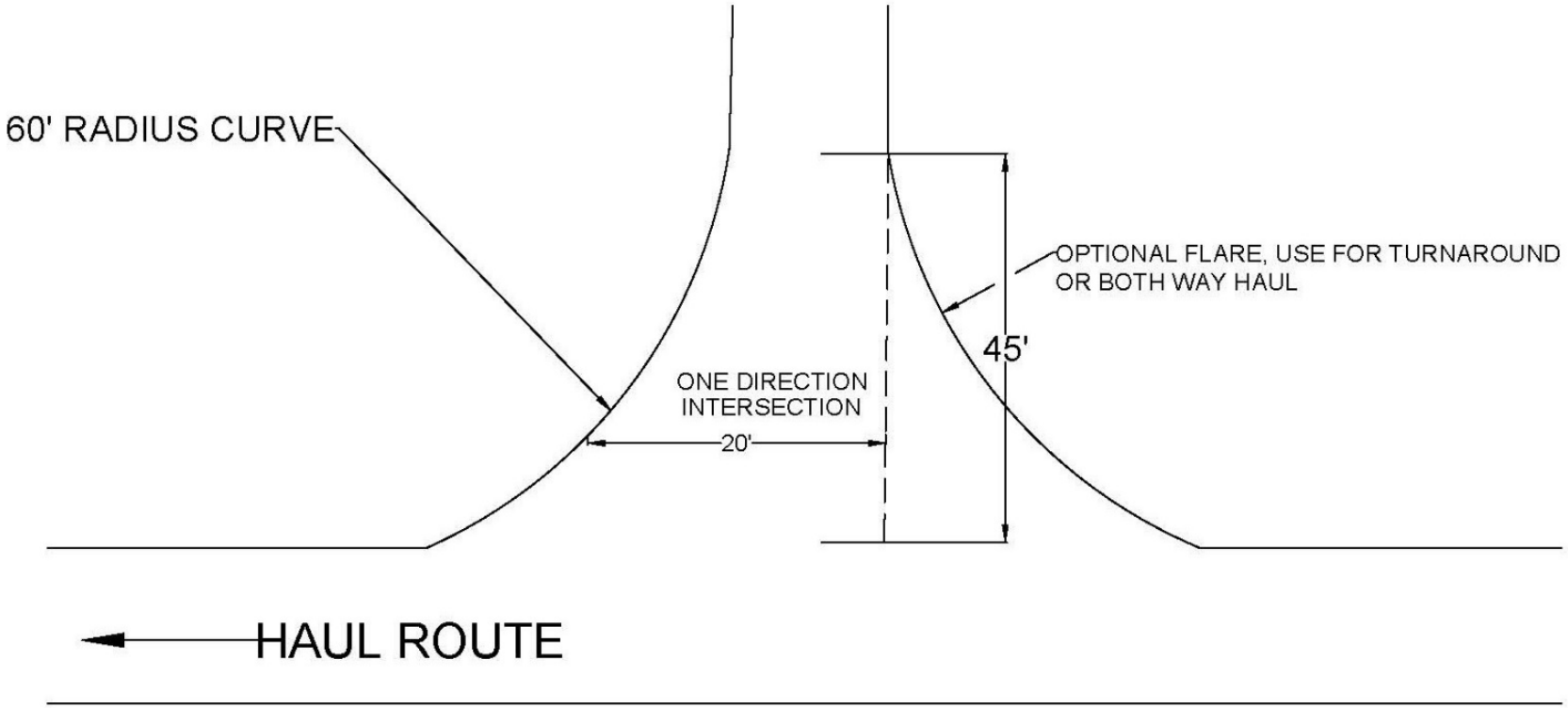
TURNOUT BRUSHING PLAN



CURVE 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.
3.) ALL BRUSH, TREES, LIMBS, ETC. THAT MAY RESTRICT THE FLOW OF WATER SHALL BE REMOVED FROM THE DITCH LINE.
4.) ALL DEBRIS THAT MAY ROLL OR MIGRATE INTO THE DITCHLINE SHALL BE REMOVED.

TYPICAL INTERSECTION



NOT TO SCALE

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the cut slope/fill slope ratios. Remove slides from ditches and the roadway. Repair fill-failures in accordance with Clause 4-6 Embankment Slope Ratio, and with 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, shape, 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 culvert headwalls to a level slightly below the road shoulder with material that will resist erosion. This is to allow for culverts that are overtopped to keep the water in the ditchline.
- Maintain energy dissipaters at culvert outlets with non-erodible material or rock.
- Keep ditches, culverts, and other drainage structures clear of obstructions and functioning as intended.
- Inspect and clean culverts at least monthly, with additional inspections during storms and periods of high runoff. This shall be done even during periods of inactivity.

Preventative Maintenance

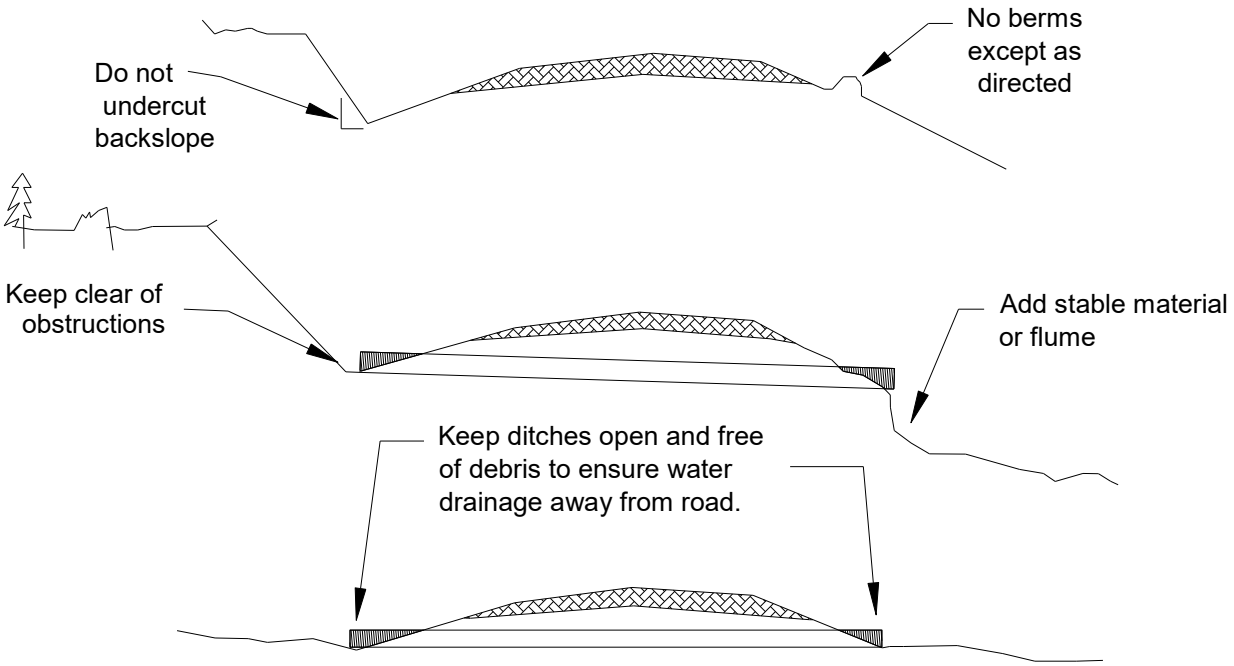
Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

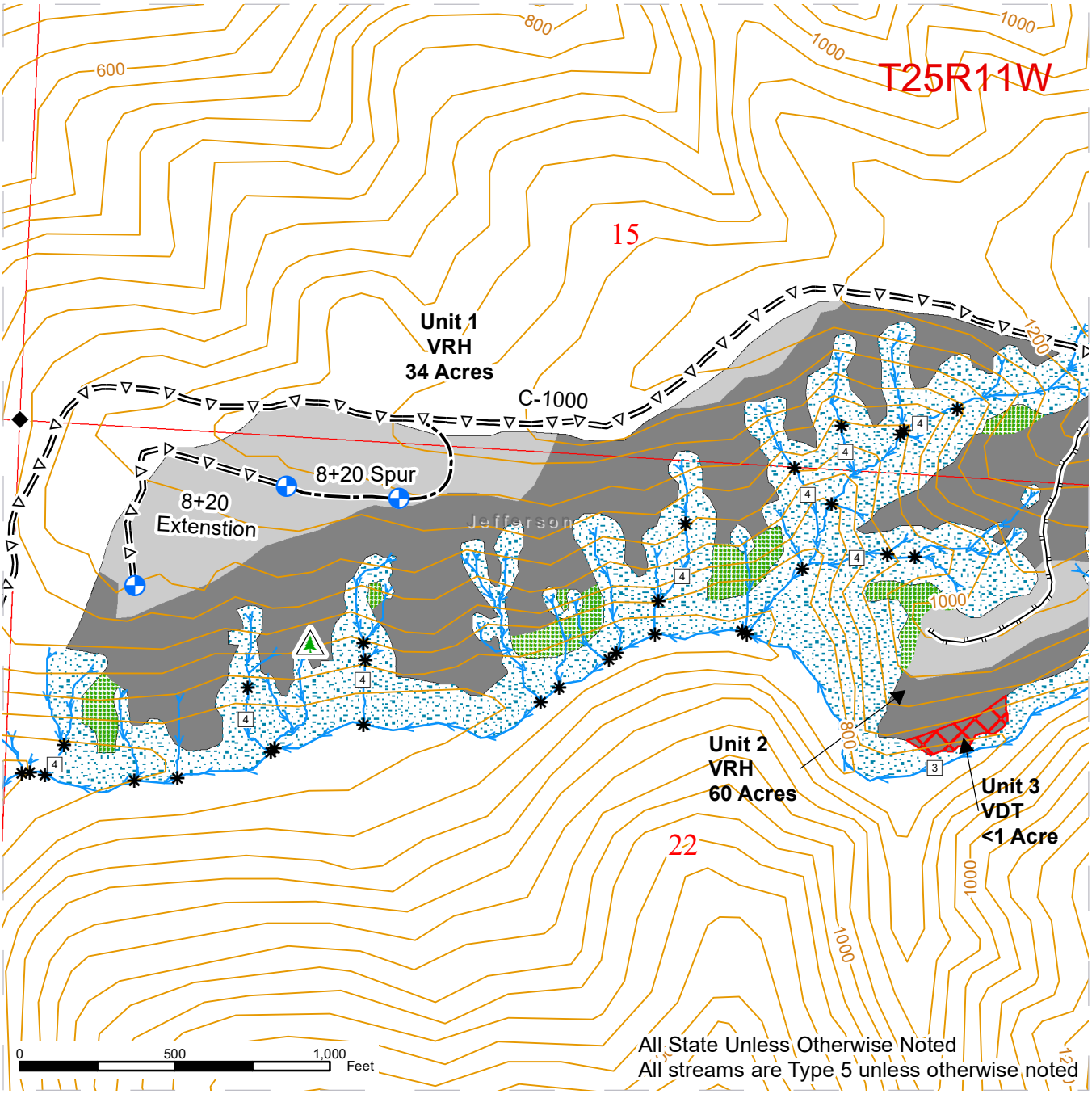
Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



Logging Plan Map

SALE NAME: T3 UPPER MANOR
AGREEMENT#: 30-0102263
TOWNSHIP(S): T25R11W
TRUST(S): Common School and Indemnity (3)

REGION: Olympic Region
COUNTY(S): Jefferson
ELEVATION RGE: 600'-1600'



- Ground VRH
- Cable VRH
- Cable VDT
- Open Water
- Leave Tree Area
- Riparian Mgt Zone
- Optional Pre-Haul Maintenance
- Optional Construction
- Designated Skid Trail
- Contours 40-foot
- Streams
- Survey Monument
- Stream Break
- Stream Type
- Landing - Proposed
- Non-Tradeable Leave Trees
- Public Land Survey Sections
- Public Land Survey Townships
- DNR Managed Lands

N

Prepared By: bbss490

Modification Date: bbss490 1/13/2023

Logging Plan Map

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AGREEMENT#: 30-0102263
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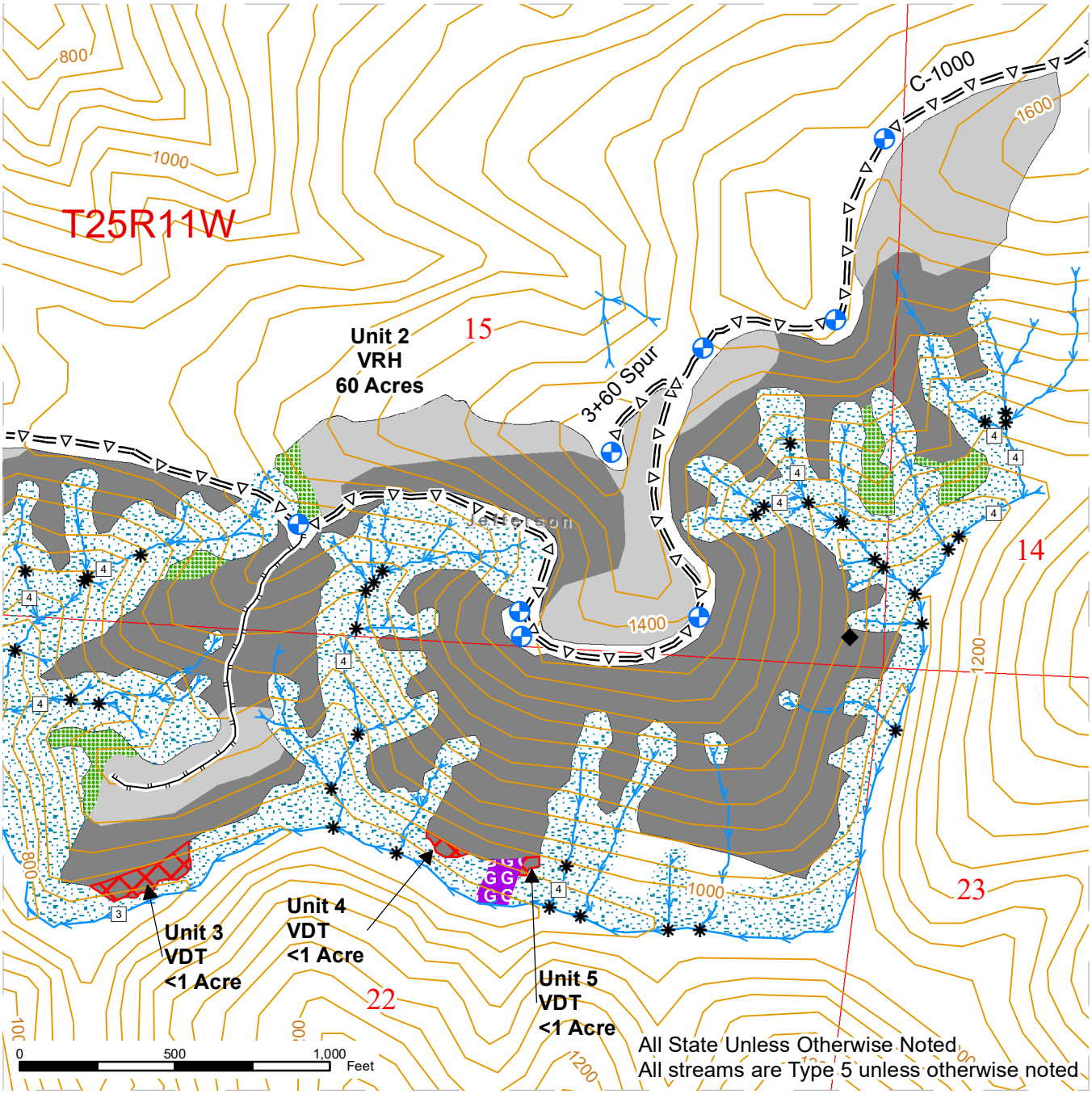

- Ground VRH
- Cable VRH
- Cable VDT
- Open Water
- Gap
- Leave Tree Area
- Riparian Mgt Zone
- Optional Pre-Haul Maintenance
- Designated Skid Trail
- Contours 40-foot
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N

Prepared By: bbss490

Modification Date: bbss490 11/2/2022