Washington DNR Timber Sales Program

Updated information is being provided for <u>T3 C-1400</u> timber sale documents as follows:

Documents amended:

Brief Description	DATE	Initials
EXPIRATION DATE HAS BEEN CHANGED TO 07/31/2026	03/21/2023	MH



COUNTY: Jefferson

TIMBER NOTICE OF SALE

SALE NAME: T3 C-1400 VRH VDT **AGREEMENT NO**: 30-102252

AUCTION: March 29, 2023 starting at 10:00 a.m.,

Olympic Region Office, Forks, WA

SALE LOCATION: Sale located approximately 47 miles southeast of Forks WA

PRODUCTS SOLD

AND SALE AREA: All timber, except trees marked with a band of blue paint, or bounded out by leave tree

area tags, bounded by timber sale boundary tags and special management unit boundary

tags in Units 1, 3, 4 and 7; timber sale boundary tags in Unit 5.

All timber as described in Schedule C, except those trees described in Schedules D and E, bounded by timber sale boundary tags, special management unit boundary tags, skip boundaries (blue painted slashes and equipment trail in Unit 2; timber sale boundary tags, the C-1400 Road and skip boundaries (blue painted slashes) in Unit 6; timber sale boundary tags and the Q-3000 Road in Unit 8; timber sale boundary tags and special

management unit boundary tags in Units 9, 10, 11, 12 and 13.

All timber bounded by right of way boundary tags.

All forest products above located on part(s) of Sections 21, 22, 23, 25, 26, 27 and 28 all in Township 25 North, Range 11 West, W.M., containing 499 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:

	Avg Ring Total			MBF by Grade								
Species	DBH C	ount	MBF	1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	14.3	6	8,414						1,242	4,716	2,231	224
Hemlock	11.3	6	2,370						196	936	1,225	13
Red alder	12.7		43							3	39	1
Silver fir	8		20								20	
Sale Total			10,847									

MINIMUM BID: \$1,010,000.00 BID METHOD: Sealed Bids

PERFORMANCE

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

EXPIRATION DATE: July 31, 2026 ALLOCATION: Export Restricted

BID DEPOSIT: \$101,000.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised

price.

HARVEST METHOD: Cable 95%/Ground 5%. 30' Equipment limitation zones on all typed water. Rubber tired

skidders will only be allowed if rutting and skidding requirements can be met and a

harvest plan is submitted and approved by the Contract Administrator.

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TIMBER NOTICE OF SALE

Units 6 & 8 have multiple prescription requirements within each unit. These boundaries are marked with black and yellow ribbon.

As shown on the timber sale map for Units 7, 12 and 13 - any road work, 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.

ROADS:

20.20 stations of optional construction. 4.80 stations of optional reconstruction. 838.80 stations of optional pre-haul maintenance. 4.80 stations of abandonment. 1.00 stations of decommissioning. The bridge installation and removal on the C-1400 Road (33+10) is restricted from October 1 through June 30. Reconstruction, construction and abandonment on the C-1405 Road (24+20 - 29+00) must be completed in one season and will not be permitted from October 15 to April 15 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

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

plot sample.

FEES: \$184,399.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in

addition to the bid price.

SPECIAL REMARKS: Special – Acoustic Monitoring - Trees which have been marked with yellow paint ring at

dbh, and shown on timber sale maps, are part of an on-going T3 research project. These trees are to be high stumped. High stumps should be at least 4.5 feet high or higher. The

trees with yellow paint are typically a small diameter tree.

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TIMBER SALE MAP SALE NAME: T3 C-1400 REGION: Olympic Region **AGREEMENT#**: 30-102252 COUNTY(S): Jefferson TOWNSHIP(S): T25R11W ELEVATION RGE: 450'-2100' TRUST(S): Common School and Indemnity (3) 16 Bridge out Post-Haul Abandonment 80' Modular Bridge Temporary Install T25R11W Jnit 1 VRH Unit 9 VDT 1 Acre 20 21

All Streams Type 5 Unless Otherwise Noted GGGG GGGGGGap Stream Type Streams Leave Tree Area Tags ⊃Existing Road Right of Way Tags Skip Stream Break Leave Tree Area Survey Monuments — Equipment Trail Prescription Boundary Modular Bridge Install Opt New Construction Skip Boundary Riparian Mgt Zone Public Land Survey Sections Leave Tree Area <1/4-acre $=\Delta ==$ Opt Pre-Haul Maint. Variable Retention Harvest Road Blocked Opt Reconstruction Variable Density Thinning Public Land Survey Townships Proposed Landing ~ ~ ~ ~ Sale Boundary Tags Slash Manipulation Special Mgt Area Waste Area · · · ×× · Special Mgmt Area Tags

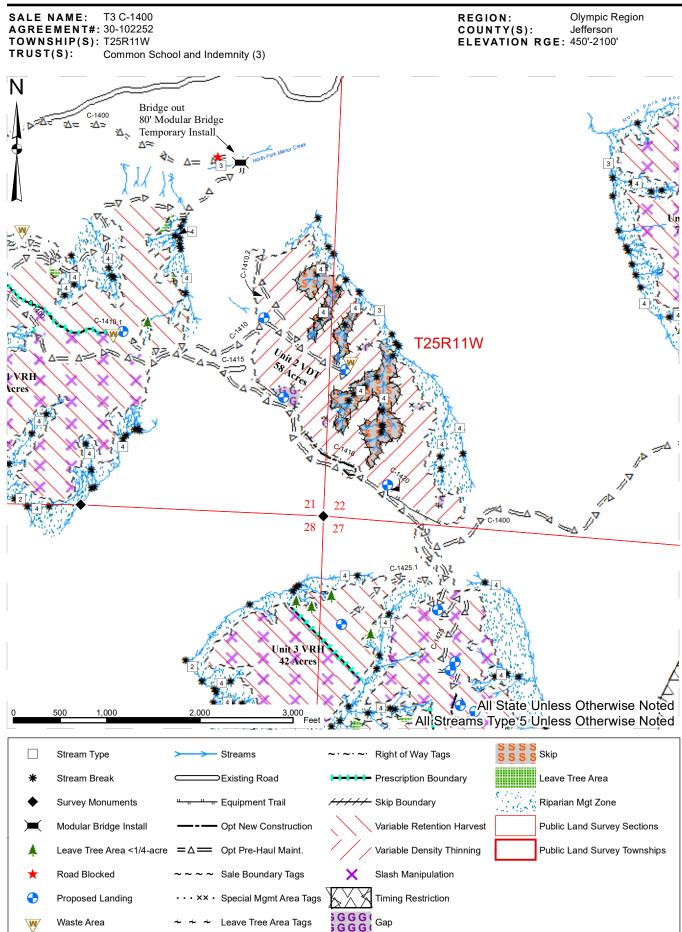
3,000 Feet

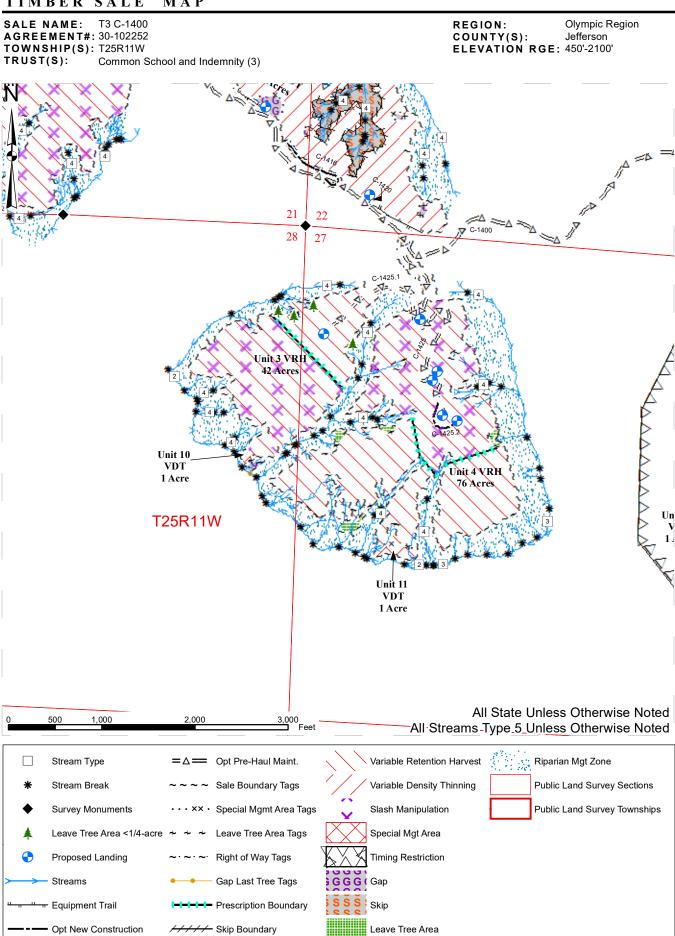
2,000

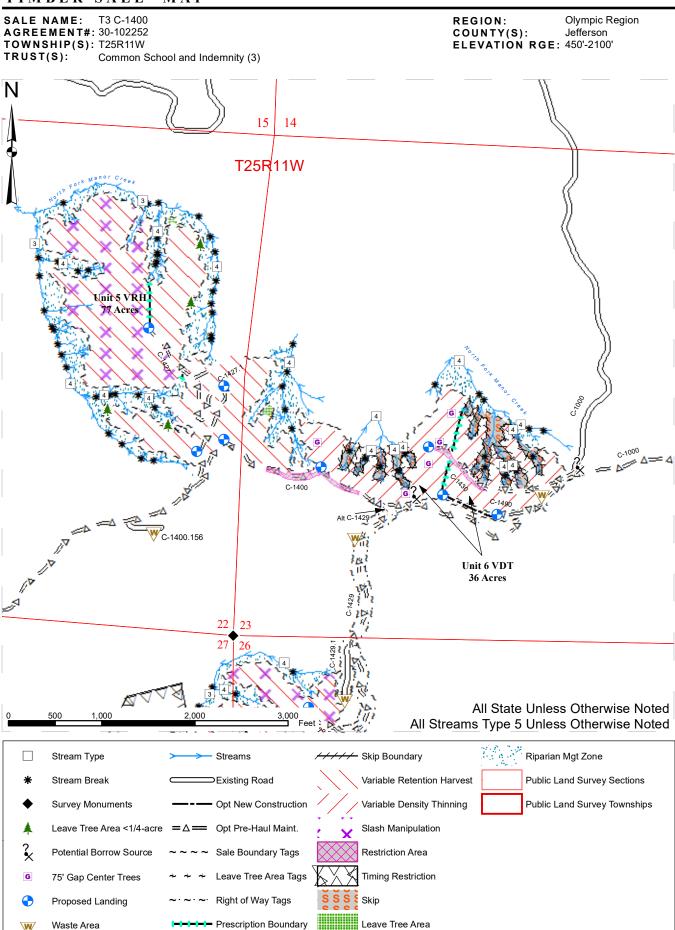
29

28

All State Unless Otherwise Noted







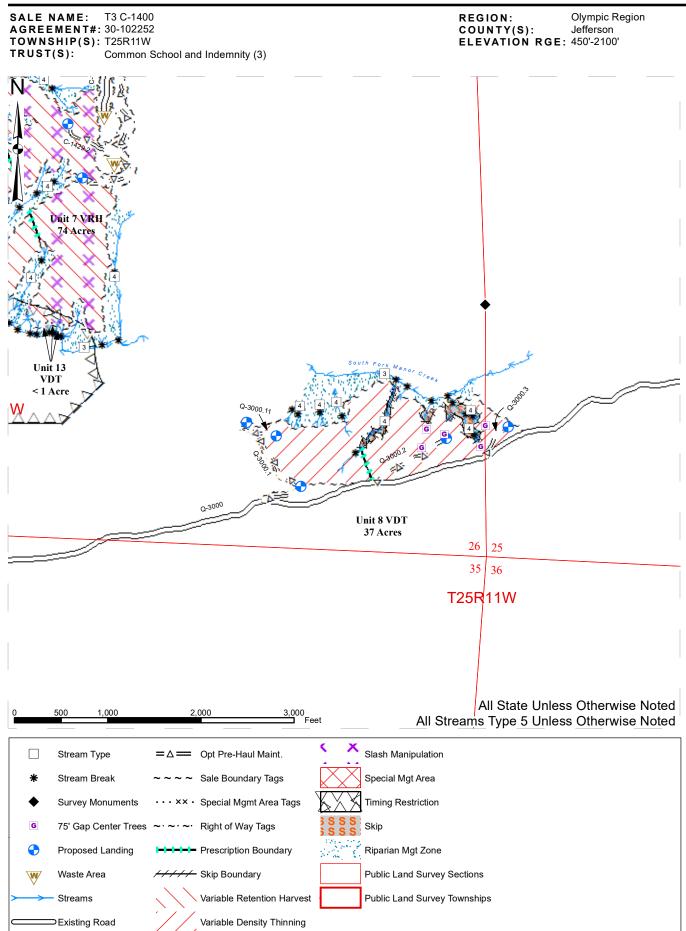
TIMBER SALE MAP T3 C-1400 SALE NAME: REGION: Olympic Region **AGREEMENT#**: 30-102252 COUNTY(S): Jefferson TOWNSHIP(S): T25R11W ELEVATION RGE: 450'-2100' TRUST(S): Common School and Indemnity (3) C-1400.156 Unit 6 VDT 36 Acres V A Dait 7 VRH 74 Acres Unit 12 VDT 1 Acre Unit 13 VDT < 1 Acre All State Unless Otherwise Noted 2,000 3,000 Feet All Streams Type:5°Unless Otherwise Noted Skip Stream Type Streams Prescription Boundary Stream Break ⊃Existing Road Skip Boundary Leave Tree Area Survey Monuments Opt New Construction Variable Retention Harvest Riparian Mgt Zone Variable Density Thinning Public Land Survey Sections Leave Tree Area <1/4-acre $= \Delta ==$ Opt Pre-Haul Maint. Potential Borrow Source $\sim \sim \sim \sim$ Sale Boundary Tags Slash Manipulation Public Land Survey Townships Restriction Area G 75' Gap Center Trees • ×× • Special Mgmt Area Tags Special Mgt Area → Leave Tree Area Tags Proposed Landing

Timing Restriction

Waste Area

~·~·~ Right of Way Tags

TIMBER SALE MAP

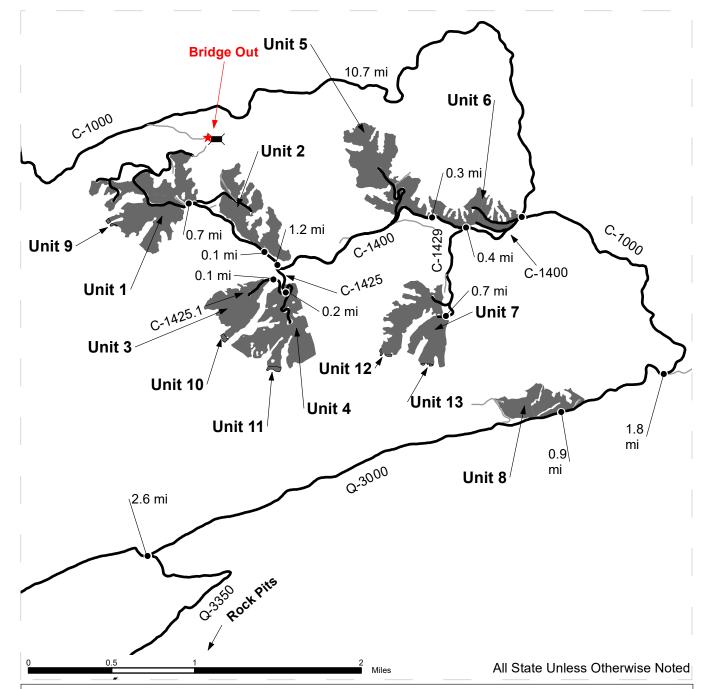


SALE NAME: T3 C-1400 **AGREEMENT #:** 30-102252 **TOWNSHIP (S):** T25R11W, T2

TOWNSHIP (S): T25R11W, T24R11W
TRUST (S): Common School and Indemnity (3)

REGION: COUNTY (S): CELEVATION RGE: 4

Olympic Region Jefferson 450' - 2100'



Driving Directions:

Unit 6: Travel South from Forks, WA on US 101 for 15 miles. Turn left onto Hoh-Clearwater Mainline and continue for 21.3 miles. Turn left onto C-1000 and continue for 10.7 miles.

Unit 7: From Unit 6 turn right on C-1400 and continue for 0.4 miles. Turn left on C-1429 and continue for 0.7 miles. Units 12 and 13 are riparian treatments in Unit 7.

Unit 5: From the C-1400 and C-1429 junction continue on the C-1400 for 0.3 miles.

Unit 4: From Unit 5 continue on C-1400 for 1.2 miles. Turn left onto C-1425 and continue for 0.2 miles. Unit 11 is a riparian treatment in Unit 4.

Unit 3: From Unit 4 turn right on C-1425.1 and continue for 0.1 miles. Unit 10 is a riparian treatment in Unit

Unit 2: From the C-1400 and C-1425 junction continue on C-1400 for 0.1 miles.

Unit 1: Continue on C-1400 for 0.7 miles. Unit 9 is a riparian treatment in Unit 1.

Unit 8: From the C-1000 and C-1400 junction turn right onto C-1000 and continue for 1.8 miles. Turn right on the Q-3000 and continue for 0.9 miles.

Tacoma Creek Pit: From Unit 8 continue on Q-3000 for 2.6 miles. Turn left on Q-3350 and continue for 1.8 miles. Merge left onto Q-3300 and continue for 0.3 miles. Turn right onto Q-3360S.

Tacoma Pit: From the Q-3360S and Q-3350 junction continue on the Q-3350 for 0.2 miles. Turn right onto Q-3307.

Distance Indicator

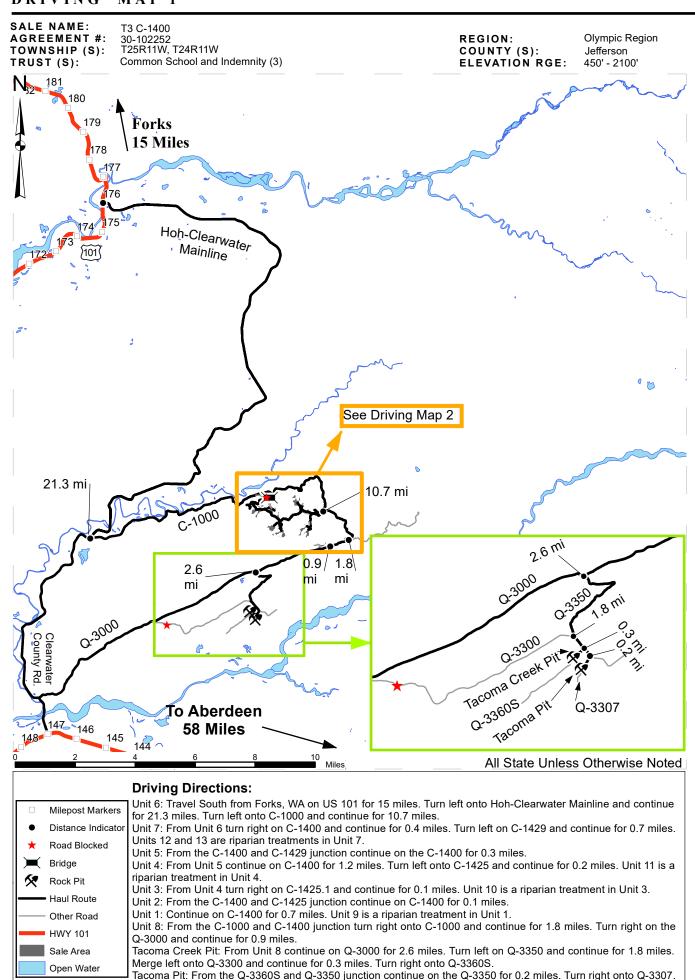
Road Blocked

Bridge

Haul Route

Other Road

Sale Area



STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-0102252

SALE NAME: T3 C-1400 VRH VDT

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on 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, bounded by timber sale boundary tags and special management unit boundary tags in Units 1, 3, 4 and 7; timber sale boundary tags in Unit 5.

All timber as described in Schedule C, except those trees described in Schedules D and E, bounded by timber sale boundary tags, special management unit boundary tags, skip boundaries (blue painted slashes and equipment trail in Unit 2; timber sale boundary tags, the C-1400 Road and skip boundaries (blue painted slashes) in Unit 6; timber sale boundary tags and the Q-3000 Road in Unit 8; timber sale boundary tags and special management unit boundary tags in Units 9, 10, 11, 12 and 13.

All timber bounded by right of way boundary tags.

All forest products above located on approximately 499 acres on part(s) of Sections 21, 22, 23, 25, 26, 27, and 28 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.

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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:

Title
Slash Piling Specifications
Green Tree Retention Plan
Leave Tree Selection Criteria
Unit Target Table

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to July 31, 2026.

G-040 Contract Term Adjustment - No Payment

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

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

G-051 Contract Term Extension - Payment

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

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- 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."

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- 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

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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.

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- c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

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The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-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.

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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.

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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

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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

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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.

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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.

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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.

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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, C-1400, C-1405, C-1405.2, C-1410, C-1410.1, C-1410.2, C-1416, C-1420, C-1425, C-1425.1, C-1425.2, C-1427, C-1427.1, C-1429, C-1429.1, C-1429.2, C-1430, C-1490, Q-3000, Q-3000.1, Q-3000.11, Q-3000.2, Q-3000.3, Q-3300, Q-3307, Q-3307.4, Q-3350, Q-3360S, Alt C-1429. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

Any legal land subdivision survey corners and witness objects are to be preserved. If such are destroyed or disturbed, the Purchaser shall, at the Purchaser's own expense, reestablish them through a licensed land surveyor in accordance with U.S. General Land

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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 and/or the Q-3000, 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:

Hoh-Clearwater Mainline: 55-000467 Bert and Norma Cole

Q-3000: 55-000051 Rayonier, 55-093231 Nature Conservancy

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.

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 \$282,022.00. The total contract price consists of a \$0.00 contract bid price plus \$282,022.00 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,

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

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Section H: Harvesting Operations

H-001 Operations Outside the Sale Boundaries

No operations shall occur outside the sale boundaries, as described within the contract, unless approved in writing by the State.

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 100 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.

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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-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

- a. Skid trails will not exceed 12 feet in width, including rub trees.
- b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.
- c. Skid trail location will be pre-approved by the Contract Administrator.
- d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

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

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for utilizing rubber tired skidders in sale area. The plan shall address the timing and location of desired use, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

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

H-051 Branding and Painting

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

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

H-060 Skid Trail Locations

Locations of skid trails must be marked by Purchaser and approved by the Contract Administrator prior to the felling of timber.

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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 equipment with rubber tired skidders only being allowed if rutting and skidding requirements can be met and a harvest plan is submitted and approved by the Contract Administrator. 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. Quinault Fawn Lily restriction areas as shown on timber sale map in Units 5 and 6:
 - a. Limited ditch cleaning
 - b. Whole log yarding only
 - c. Equipment exclusion zone
 - d. No ground disturbance such as log decking, storing tools or parking
- 2. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.
- 3. While felling timber, two warning signs must be posted on the C-1400 Road.
- 4. Yarding equipment shall not cross live streams without an FPHP.
- 5. Timber cut for yarding corridors outside of sale boundaries, shall not be yarded, processed or removed from the site.
- 6. Whole tree yarding is required within Quinault fawn-lily restriction areas.
- 7. Log stringers removed from the bridge site (and not used as in stream wood) are to be decked on the north side of North Fork Manor Creek. Please notify the Contract Administrator as soon as this has taken place.
- 8. 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.
- 9. If the Optional Borrow Source is used, any felled timber must be decked and left on site per the Contract Administrator.

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- 10. Special requirements associated with the T3 research project:
- a. Areas designated for slash manipulation: Units 1, 3, 4, 5 and 7 require 10-20 tree tops (minimum 5 inches in diameter) cut and left prior to yarding. Tops are to be distributed evenly across the unit, they are to average at least 15 tops per acre, not to exceed 20 tops on any given acre and not be less than 10 on any given acre. Tops cut are to be left in the slash manipulation area and are not to be piled. Whole trees of merchantable size may be substituted for tops at a rate of 5 trees to 20 tops (or a 1:4) ratio). Substitution trees are to be a minimum of 10 inches in diameter at the large.
- b. Within the riparian thinning, 3 log jams are to be placed within the stream channel in each of the 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 jam placements, a 24 hour notice must be given to the Contract Administrator so that they can be on site for the wood placement.
- c. 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 feet or higher when safe to do so.
- d. Within the thinning units, gap trees are marked with blue and orange paint rings. All trees without blue paint rings within 75 feet (slope distance) of the gap tree are to be felled.
- e. 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.
- f. 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.
- g. Provide removal volume and species information 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.

In Units 7, 12 and 13, any road work, timber falling and yarding, rock pit operations or operation of heavy equipment 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.

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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 11/2/2022 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 Hoh-Clearwater Mainline STA 0+00 – 1357+50, Q-3000 MP 0.00 - MP 12.28, C-1000 STA 0+00 – STA 354+30 and STA 564+50 – STA 657-30, Q-3300 STA 204+70 – 225+40, C-3307 (Tacoma Pit Road), Q-3307.4 (Tacoma Pit Road), Q-3350, and Q-3360S (Tacoma Creek Pit Road) 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.

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Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

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S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

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-DNR Contract Administrator

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-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 2, 6 and 8 through 13.

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 Units 1, 3, 4, 5 and 7.

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SIGNATURES

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

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

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

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

STATE OF _)		
COUNTY OF _)		
On this	day of			before me personally
			to me	known to be the of the corporation that
oath stated that (he/	leed of the corporation, (she was) (they were) audiented tree (she was) (they were) audiented tree (she was) (they were)	thorized to execu	ute said instru	ment.
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		Notary 	Public in and	for the State of
		My app	ointment exp	ires

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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, culverts, 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, irrigation ditches, natural drainage channels, and access roads concurrent with yarding.

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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.

	# of Individually		# of Trees	Total # of
Unit #	Marked Trees	# of Clumps	Clumped	Leave Trees
			200	0.60
1	668	6	300	968
3	391	4	65	456
4	440	4	308	748
5	585	6	191	776
7	636	3	136	772

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Schedule C Leave Tree Selection Criteria

Leave Tree Selection Criteria

- 1. Leave trees are defined as follows:
- a. All trees greater than or equal to 20 inches in diameter at a 12 inch stump height.
- b. 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 D).
- c. 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 (Schedule D).
- 2. Leave trees shall be well distributed at the relative density and spacing as shown in the Unit Target Table (Schedule D), and will consist of the largest diameter and best formed trees available.

Best form is defined as follows:

- a. Largest Diameter
- b. Largest Tree Crown
- c. Species Douglas Fir, Western Hemlock
- 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).

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Schedule D Unit Target Table

Unit	Acres	Stems/acre	Approx Spacing	Relative Density	Basal Area
2-Rx: A	58	156	17'	50	200
6-Rx: B	10	66	26'	N/A	N/A
6-Rx:C	26	74	24'	N/A	N/A
8-Rx:C	18	77	24'	N/A	N/A
8-Rx:B	19	66	26'	N/A	N/A
9-Rx: RMZ	1	100	21'	N/A	N/A
10-Rx:RMZ	1	100	21'	N/A	N/A
11-Rx:RMZ	1	100	21'	N/A	N/A
12-Rx:RMZ	1	100	21'	N/A	N/A
13-Rx:RMZ	<1	100	21'	N/A	N/A

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WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Timber Sale Name:	
Application Number:	
EXCISE TAX APPLICABLE ACTIVITIES	
Construction: Road to be constructed (optional and required) but not aband	linear feet doned
Reconstruction: Road to be reconstructed (optional and required) but not aba	linear feet indoned
Abandonment: Abandonment of existing roads not reconstructed under the	linear feet contract
Decommission: Road to be made undriveable but not officially abandoned.	linear feet
Pre-Haul Maintenance: Existing road to receive maintenance work (optional and req	linear feet wired) prior to haul
EXCISE TAX EXEMPT ACTIVITIES	
Temporary Construction: Roads to be constructed (optional and required) and then all	linear feet bandoned
Temporary Reconstruction: Roads to be reconstructed (optional and required) and then	linear feet 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)

Region:

Timber Sale Cruise Report T3 C-1400

Sale Name: T3 C1400 VRH VDT

Sale Type: LUMP SUM

Region: OLYMPIC
District: COAST

Lead Cruiser: Kevin Peterson

Other Cruisers: Cruise Narrative:

Location:

This sale is located South of Queets on the C-1400 road system. Access to all units is good, no gate keys needed.

Cruise Design:

I used a 54.44/40 BAF for all units on this sale. Merch height was determined at 40% of diameter at 16' and all logs were cruised in 40' lengths.

Units 2,6 and 8 are thinning units and were thinned down to the Rx in the precuise packet

Timber Quality:

This sale is comprised of 40 to 50 year timber. The sale is roughly 80% DF and 20% WH. Some RA and SF were found sparsely throughout the sale.

Common defects were sweep, forked tops and spike knots.

Logging and Stand Conditions:

This sale is 96% cable harvest and 4% ground based. Most of the sale is very steep and rocky in areas. The ground is mostly free of brush.

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	
DF	14.3	6.0		8,414	1,242	4,716	2,231	224	
WH	11.3	6.3		2,370	196	936	1,225	13	
RA	12.7			43		3	39	1	
SF	8.0			20			20		
ALL	13.0	6.1		10,847	1,437	5,655	3,516	238	

Timber Sale Notice Weight (tons)

		Tons by Grade						
Sp	All 2 Saw 3 Saw		3 Saw	4 Saw	Utility			
DF	82 643	11 838	48 683	20 159	1 963			

	Tons by Grade							
Sp	All	2 Saw	3 Saw	4 Saw	Utility			
WH	24,885	2,161	10,670	11,871	184			
RA	565		26	531	8			
SF	130			130				
ALL	108,222	13,999	59,379	32,690	2,154			

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)			V-BAR SE (%)		
305.2	1.8	87.0	0.9	26,532	2.0

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
C1400 U1	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	28.0	28.0	15	8	0
T3 C1400 U1 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	15.0	15.1	8	4	0
T3 C1400 U1 CES AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	52.0	51.9	26	12	0
T3 C1400 U2 SVDT CZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	56.0	72.6	27	13	0
T3 C1400 U2 GAPS	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		2	2	0
T3 C1400 U3 CES AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	30.0	30.1	14	7	0
T3 C1400 U3 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	12.0	12.7	8	4	0
T3 C1400 U4 CES AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.0	16	8	0
T3 C1400 U4 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	43.0	45.1	22	10	0
T3 C1400 U5 CES CZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots,	40.0	39.5	20	10	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
	Sighting Ht = 0 ft					
T3 C1400 U5 CZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	37.0	38.5	19	10	0
T3 C1400 U6 AVDT CZ EAST	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	15.5	21.8	9	9	0
T3 C1400 U6 AVDT CZ WEST	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	18.5	23.9	11	11	0
T3 C1400 U6 WEST GAPS	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		1	1	0
T3 C1400 U7 CES AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	45.0	45.0	22	10	0
T3 C1400 U7 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	29.0	30.0	15	7	0
T3 C1400 U8 AVDT AZ EAST	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	16.0	20.7	9	8	0
T3 C1400 U8 EAST GAPS	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		2	2	0
T3 C1400 U8 AVDT AZ WEST	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	19.0	18.9	10	10	0
T3 C1400 U9 AZ	B2C: VR, 2 BAF (40, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	0.7	1	1	0
T3 C1400 U10 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.6	0.8	1	1	0
T3 C1400 U10 AZ GAPS	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.4		1	1	0
T3 C1400 U11 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	1.2	1	1	0
T3 C1400 U12 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	0.7	1	1	0
T3 C1400 U13 AZ	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	0.5	1	1	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
All		500.0	530.7	262	152	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	13.2	40	2,639	2,483	5.9	11,837.9	1,241.7
DF	LIVE	3 SAW	Domestic	8.8	39	10,079	9,432	6.4	48,682.7	4,716.1
DF	LIVE	4 SAW	Domestic	5.2	26	4,625	4,463	3.5	20,159.1	2,231.4
DF	LIVE	CULL	Cull	8.9	40	152	0	100.0	0.0	0.0
DF	LIVE	UTILITY	Pulp	5.1	32	449	449	0.0	1,962.9	224.6
RA	LIVE	3 SAW	Domestic	10.8	30	6	5	13.2	26.0	2.6
RA	LIVE	4 SAW	Domestic	5.8	40	84	79	5.8	530.8	39.3
RA	LIVE	UTILITY	Pulp	6.1	24	2	2	0.0	7.9	0.9
SF	LIVE	4 SAW	Domestic	5.1	23	39	39	0.0	129.7	19.7
WH	LIVE	2 SAW	Domestic	13.3	40	440	391	11.0	2,161.2	195.6
WH	LIVE	3 SAW	Domestic	7.9	40	1,904	1,873	1.7	10,669.8	936.3
WH	LIVE	4 SAW	Domestic	5.2	28	2,463	2,451	0.5	11,870.8	1,225.6
WH	LIVE	UTILITY	Pulp	6.9	40	26	26	0.0	183.5	12.9

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	5.1	32	449	0.0	1,962.9	224.6
DF	5 - 8	LIVE	Domestic	6.0	30	8,946	4.3	45,147.1	4,473.1
DF	5 - 8	LIVE	Cull	8.9	40	0	100.0	0.0	0.0
DF	9 - 11	LIVE	Domestic	10.2	39	4,949	7.5	23,694.7	2,474.4
DF	12 - 14	LIVE	Domestic	13.0	40	2,119	6.7	10,577.6	1,059.5
DF	15 - 19	LIVE	Domestic	15.2	40	364	1.0	1,260.2	182.1
RA	5 - 8	LIVE	Domestic	5.9	36	76	6.0	517.8	38.0
RA	5 - 8	LIVE	Pulp	6.1	24	2	0.0	7.9	0.9
RA	9 - 11	LIVE	Domestic	10.1	35	8	9.2	38.9	4.0
SF	5 - 8	LIVE	Domestic	5.1	23	39	0.0	129.7	19.7
WH	5 - 8	LIVE	Domestic	5.7	30	3,870	0.5	20,090.5	1,934.8
WH	5 - 8	LIVE	Pulp	6.9	40	26	0.0	183.5	12.9
WH	9 - 11	LIVE	Domestic	10.1	40	454	5.1	2,450.1	227.2
WH	12 - 14	LIVE	Domestic	13.2	40	391	11.0	2,161.2	195.6

Cruise Unit Report C1400 U1

Unit Sale Notice Volume (MBF): C1400 U1

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility		
WH	13.0	7.0		521	76	283	149	13		
DF	16.2	6.0		203	53	109	35	6		
ALL	13.8	6.5		724	129	392	184	19		

Unit Cruise Design: C1400 U1

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	28.0	28.0	15	8	0

Unit Cruise Summary: C1400 U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	26	61	4.1	1
DF	12	21	1.4	1
ALL	38	82	5.5	2

Unit Cruise Statistics (Cut + Leave Trees): C1400 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	221.4	38.8	10.0	91.5	18.1	3.5	20,251	42.8	10.6
DF	76.2	144.9	37.4	95.2	37.4	10.8	7,258	149.6	38.9
ALL	297.6	19.4	5.0	92.4	25.7	4.2	27,509	32.2	6.5

Unit Summary: C1400 U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	16.2	67	83	7,931	7,258	8.5	53.2	76.2	18.9	203.2
WH	LIVE	CUT	26	ALL	13.0	55	67	19,338	18,591	3.9	220.5	203.2	56.4	520.5
WH	LIVE	LEA	0	ALL	15.6			1,727	1,660	3.9	13.7	18.1	4.6	46.5
ALL	LIVE	CUT	38	ALL	13.7	57	71	27,269	25,849	5.2	273.7	279.5	75.3	723.8
ALL	LIVE	LEA	0	ALL	15.6			1,727	1,660	3.9	13.7	18.1	4.6	46.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	ALL	ALL	38	ALL	13.8	57	71	28,995	27,509	5.1	287.4	297.6	79.9	770.2

Cruise Unit Report T3 C1400 U1 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U1 AZ

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility		
DF	17.5	6.0		298	96	160	34	9		
WH	11.1	6.0		109	19	38	52			
ALL	14.3	6.0		407	114	198	86	9		

Unit Cruise Design: T3 C1400 U1 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	15.0	15.1	8	4	0

Unit Cruise Summary: T3 C1400 U1 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	12	32	4.0	1
WH	6	12	1.5	1
ALL	18	44	5.5	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U1 AZ

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	217.8	48.2	17.0	97.4	34.7	10.0	21,204	59.4	19.8
WH	81.7	100.8	35.6	88.6	19.8	8.1	7,239	102.7	36.5
ALL	299.4	29.2	10.3	95.0	30.6	7.2	28,443	42.3	12.6

Unit Summary: T3 C1400 U1 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	12	ALL	17.5	71	89	21,837	19,879	9.0	122.2	204.2	48.8	298.2
DF	LIVE	LEA	0	ALL	15.0			1,456	1,325	9.0	11.1	13.6	3.5	19.9
WH	LIVE	CUT	6	ALL	11.1	51	62	7,425	7,239	2.5	121.5	81.7	24.5	108.6
ALL	LIVE	LEA	0	ALL	15.0			1,456	1,325	9.0	11.1	13.6	3.5	19.9
ALL	LIVE	CUT	18	ALL	14.7	61	76	29,262	27,118	7.3	243.7	285.8	73.3	406.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	ALL	ALL	18	ALL	14.7	61	76	30,718	28,443	7.4	254.8	299.4	76.8	426.6

Cruise Unit Report T3 C1400 U1 CES AZ

Unit Sale Notice Volume (MBF): T3 C1400 U1 CES AZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	17.2	6.0		945	246	566	117	16			
WH	10.5	6.0		363	25	122	215				
RA	12.0			4			4				
ALL	13.9	6.0		1,312	272	688	337	16			

Unit Cruise Design: T3 C1400 U1 CES AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	52.0	51.9	26	12	0

Unit Cruise Summary: T3 C1400 U1 CES AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	34	94	3.6	1
WH	18	44	1.7	1
RA	1	1	0.0	0
ALL	53	139	5.3	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U1 CES AZ

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	196.8	53.1	10.4	98.6	23.6	4.0	19,414	58.1	11.2
WH	87.7	127.3	25.0	81.5	19.3	4.6	7,147	128.8	25.4
RA	1.5	509.9	100.0	49.7	0.0	0.0	76	509.9	100.0
ALL	286.0	29.1	5.7	93.1	24.8	3.4	26,637	38.3	6.7

Unit Summary: T3 C1400 U1 CES AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	34	ALL	17.2	70	87	19,365	18,175	6.1	114.2	184.3	44.4	945.1
DF	LIVE	LEA	0	ALL	17.1			1,320	1,239	6.1	7.9	12.6	3.0	64.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	12.0	49	59	84	76	9.3	2.0	1.5	0.4	4.0
WH	LIVE	CUT	18	ALL	10.5	47	57	7,050	6,976	1.0	142.3	85.6	26.4	362.8
WH	LIVE	LEA	0	ALL	16.0			172	171	1.0	1.5	2.1	0.5	8.9
ALL	LIVE	LEA	0	ALL	16.9			1,493	1,410	5.6	9.4	14.7	3.6	73.3
ALL	LIVE	CUT	53	ALL	13.9	57	70	26,499	25,227	4.8	258.5	271.4	71.3	1,311.8
ALL	ALL	ALL	53	ALL	14.0	57	70	27,992	26,637	4.8	267.9	286.0	74.8	1,385.1

Cruise Unit Report T3 C1400 U2 SVDT CZ

Unit Sale Notice Volume (MBF): T3 C1400 U2 SVDT CZ

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	3 Saw	4 Saw	Utility			
WH	9.3			184	18	166				
DF	14.6			102	80	18	5			
RA	12.0			8		8				
ALL	10.5			294	98	192	5			

Unit Cruise Design: T3 C1400 U2 SVDT CZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	56.0	72.6	27	13	0

Unit Cruise Summary: T3 C1400 U2 SVDT CZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	6	72	2.7	1
WH	11	60	2.2	1
RA	1	2	0.1	0
ALL	18	134	5.0	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U2 SVDT CZ

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	145.2	76.4	14.7	82.4	10.6	4.3	11,966	77.2	15.3
WH	116.7	110.7	21.3	75.7	11.2	3.4	8,840	111.3	21.6
RA	3.0	360.3	69.3	49.7	0.0	0.0	147	360.3	69.3
ALL	264.8	30.0	5.8	79.1	13.9	3.3	20,953	33.1	6.6

Unit Summary: T3 C1400 U2 SVDT CZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	6	ALL	14.7	63	79	1,904	1,828	4.0	18.8	22.2	5.8	102.4
DF	LIVE	LEA	27	ALL	18.0	72	90	10,560	10,138	4.0	69.6	123.0	29.0	567.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	12.0	49	59	162	147	9.3	3.8	3.0	0.9	8.2
WH	LIVE	CUT	11	ALL	9.2	44	53	3,279	3,279	0.0	93.8	43.3	14.3	183.6
WH	LIVE	LEA	18	ALL	12.5	55	67	5,561	5,561	0.0	86.1	73.4	20.8	311.4
ALL	LIVE	LEA	45	ALL	15.2	62	77	16,120	15,698	2.6	155.7	196.4	49.8	879.1
ALL	LIVE	CUT	18	ALL	10.4	48	58	5,345	5,254	1.7	116.4	68.4	20.9	294.2
ALL	ALL	ALL	63	ALL	13.4	56	69	21,466	20,953	2.4	272.1	264.8	70.7	1,173.4

Cruise Unit Report T3 C1400 U2 GAPS

Unit Sale Notice Volume (MBF): T3 C1400 U2 GAPS

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw				
DF	17.6	6.0		43	11	26	6				
WH	11.4	6.0		18	5	6	7				
ALL	14.4	6.0		61	16	31	13				

Unit Cruise Design: T3 C1400 U2 GAPS

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		2	2	0

Unit Cruise Summary: T3 C1400 U2 GAPS

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	7	7	3.5	1
WH	4	4	2.0	1
ALL	11	11	5.5	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U2 GAPS

Sp	BA (sq ft/acre)	BA CV (%)		V-BAR (bf/sq ft)	V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	190.5	20.2	14.3	112.1	18.5	7.0	21,365	27.4	15.9
WH	108.9	0.0	0.0	82.1	35.2	17.6	8,938	35.2	17.6
ALL	299.4	12.9	9.1	101.2	26.8	8.1	30,303	29.8	12.2

Unit Summary: T3 C1400 U2 GAPS

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	7	ALL	17.6	74	93	22,456	21,365	4.9	112.8	190.5	45.4	42.7
WH	LIVE	CUT	4	ALL	11.4	45	54	9,348	8,938	4.4	153.6	108.9	32.2	17.9
ALL	LIVE	CUT	11	ALL	14.4	57	71	31,805	30,303	4.7	266.4	299.4	77.7	60.6
ALL	ALL	ALL	11	ALL	14.4	57	71	31,805	30,303	4.7	266.4	299.4	77.7	60.6

Cruise Unit Report T3 C1400 U3 CES AZ

Unit Sale Notice Volume (MBF): T3 C1400 U3 CES AZ

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility				
DF	11.8			798	43	407	311	37				
WH	10.9			18		9	9					
ALL	11.7			816	43	417	320	37				

Unit Cruise Design: T3 C1400 U3 CES AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	30.0	30.1	14	7	0

Unit Cruise Summary: T3 C1400 U3 CES AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	30	92	6.6	0
WH	2	3	0.2	0
ALL	32	95	6.8	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U3 CES AZ

Sp	BA (sq ft/acre)	BA CV (%)		V-BAR (bf/sq ft)	V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	357.7	34.7	9.3	83.4	18.3	3.4	29,841	39.2	9.8
WH	11.7	374.2	100.0	78.6	2.9	2.0	917	374.2	100.0
ALL	369.4	30.1	8.1	83.3	17.8	3.2	30,758	35.0	8.6

Unit Summary: T3 C1400 U3 CES AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	30	ALL	11.8	53	66	28,073	26,598	5.3	419.9	318.9	92.8	797.9
DF	LIVE	LEA	7	ALL	15.1	67	83	3,424	3,244	5.3	31.3	38.9	10.0	97.3
WH	LIVE	CUT	2	ALL	10.9	53	65	611	611	0.0	12.0	7.8	2.4	18.3
WH	LIVE	LEA	1	ALL	16.0	66	82	306	306	0.0	2.8	3.9	1.0	9.2
ALL	LIVE	LEA	8	ALL	15.2	67	83	3,729	3,549	4.8	34.1	42.8	11.0	106.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	LIVE	CUT	32	ALL	11.8	53	65	28,684	27,209	5.1	431.9	326.6	95.2	816.3
ALL	ALL	ALL	40	ALL	12.1	54	67	32,413	30,758	5.1	466.0	369.4	106.2	922.7

Cruise Unit Report T3 C1400 U3 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U3 AZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw				
DF	13.6			288	34	162	93				
WH	14.5			17		14	3				
ALL	13.7			305	34	176	96				

Unit Cruise Design: T3 C1400 U3 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	12.0	12.7	8	4	0

Unit Cruise Summary: T3 C1400 U3 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	17	44	5.5	0
WH	2	2	0.3	0
ALL	19	46	5.8	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U3 AZ

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	299.4	19.4	6.9	86.0	18.3	4.4	25,761	26.7	8.2
WH	13.6	282.8	100.0	104.8	12.6	8.9	1,426	283.1	100.4
ALL	313.0	15.4	5.5	86.9	18.7	4.3	27,187	24.2	6.9

Unit Summary: T3 C1400 U3 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	17	ALL	13.6	58	72	25,586	24,005	6.2	276.6	279.0	75.7	288.1
DF	LIVE	LEA	2	ALL	15.9	65	82	1,872	1,756	6.2	14.8	20.4	5.1	21.1
WH	LIVE	CUT	2	ALL	14.5	64	78	1,451	1,426	1.8	11.9	13.6	3.6	17.1
ALL	LIVE	CUT	19	ALL	13.6	59	72	27,037	25,430	5.9	288.5	292.6	79.2	305.2
ALL	LIVE	LEA	2	ALL	15.9	65	82	1,872	1,756	6.2	14.8	20.4	5.1	21.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	ALL	ALL	21	ALL	13.8	59	73	28,909	27,187	6.0	303.3	313.0	84.3	326.2

Cruise Unit Report T3 C1400 U4 CES AZ

Unit Sale Notice Volume (MBF): T3 C1400 U4 CES AZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw				
DF	13.6			697	35	440	222				
WH	14.5			47		38	8				
ALL	13.7			744	35	478	231				

Unit Cruise Design: T3 C1400 U4 CES AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	33.0	33.0	16	8	0

Unit Cruise Summary: T3 C1400 U4 CES AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	36	80	5.0	0
WH	4	4	0.3	0
ALL	40	84	5.3	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U4 CES AZ

Sp	BA (sq ft/acre)				V-BAR CV (%)			Vol CV (%)	Vol SE (%)
DF	272.2	23.1	5.8	85.0	15.4	2.6	23,151	27.7	6.3
WH	13.6	273.3	68.3	103.6	11.9	5.9	1,410	273.5	68.6
ALL	285.8	21.4	5.4	85.9	16.3	2.6	24,560	26.9	5.9

Unit Summary: T3 C1400 U4 CES AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	36	ALL	13.6	59	72	22,360	21,125	5.5	246.2	248.4	67.4	697.1
DF	LIVE	LEA	0	ALL	17.3			2,144	2,026	5.5	14.6	23.8	5.7	66.8
WH	LIVE	CUT	4	ALL	14.5	64	78	1,451	1,410	2.9	11.9	13.6	3.6	46.5
ALL	LIVE	CUT	40	ALL	13.6	59	73	23,811	22,535	5.4	258.1	262.0	70.9	743.6
ALL	LIVE	LEA	0	ALL	17.3			2,144	2,026	5.5	14.6	23.8	5.7	66.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	ALL	ALL	40	ALL	13.9	59	73	25,955	24,560	5.4	272.7	285.8	76.7	810.5

Cruise Unit Report T3 C1400 U4 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U4 AZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	12.6			1,175	116	620	405	35			
WH	10.9			50		26	25				
ALL	12.5			1,225	116	645	430	35			

Unit Cruise Design: T3 C1400 U4 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	43.0	45.1	22	10	0

Unit Cruise Summary: T3 C1400 U4 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	46	135	6.1	0
WH	2	7	0.3	0
ALL	48	142	6.5	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U4 AZ

Sp	BA (sq ft/acre)			V-BAR (bf/sq ft)	V-BAR CV (%)			Vol CV (%)	Vol SE (%)
DF	334.1	36.4	7.8	85.0	16.9	2.5	28,379	40.1	8.1
WH	17.3	327.3	69.8	78.6	2.9	2.0	1,362	327.3	69.8
ALL	351.4	30.9	6.6	84.6	16.7	2.4	29,741	35.1	7.0

Unit Summary: T3 C1400 U4 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	46	ALL	12.6	55	68	28,908	27,328	5.5	371.5	321.7	90.6	1,175.1
DF	LIVE	LEA	0	ALL	16.7			1,112	1,051	5.5	8.1	12.4	3.0	45.2
WH	LIVE	CUT	2	ALL	10.9	53	65	1,167	1,167	0.0	22.9	14.8	4.5	50.2
WH	LIVE	LEA	1	ALL	16.0	66	82	195	195	0.0	1.8	2.5	0.6	8.4
ALL	LIVE	LEA	1	ALL	16.6	66	82	1,306	1,246	4.7	9.9	14.8	3.6	53.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	LIVE	CUT	48	ALL	12.5	55	68	30,075	28,495	5.3	394.4	336.5	95.1	1,225.3
ALL	ALL	ALL	49	ALL	12.6	55	68	31,382	29,741	5.2	404.3	351.4	98.8	1,278.8

Cruise Unit Report T3 C1400 U5 CES CZ

Unit Sale Notice Volume (MBF): T3 C1400 U5 CES CZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	17.0	6.0		712	177	431	89	16			
WH	10.5	6.0		310	22	104	184				
RA	12.0			4			4				
ALL	13.4	6.0		1,026	198	536	276	16			

Unit Cruise Design: T3 C1400 U5 CES CZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	40.0	39.5	20	10	0

Unit Cruise Summary: T3 C1400 U5 CES CZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	26	73	3.7	1
WH	18	38	1.9	1
RA	1	1	0.1	0
ALL	45	112	5.6	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U5 CES CZ

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	198.7	56.4	12.6	97.6	25.6	5.0	19,397	62.0	13.6
WH	97.7	108.7	24.3	81.5	19.3	4.6	7,960	110.4	24.7
RA	2.0	447.2	100.0	49.7	0.0	0.0	99	447.2	100.0
ALL	298.4	27.4	6.1	92.0	25.7	3.8	27,456	37.5	7.2

Unit Summary: T3 C1400 U5 CES CZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	26	ALL	17.0	70	87	19,213	17,803	7.3	115.7	182.4	44.2	712.1
DF	LIVE	LEA	0	ALL	17.7			1,721	1,594	7.3	9.6	16.3	3.9	63.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	12.0	49	59	109	99	9.3	2.5	2.0	0.6	4.0
WH	LIVE	CUT	18	ALL	10.5	47	57	7,819	7,738	1.0	157.9	94.9	29.3	309.5
WH	LIVE	LEA	0	ALL	16.0			224	222	1.0	1.9	2.7	0.7	8.9
ALL	LIVE	CUT	45	ALL	13.6	57	70	27,142	25,640	5.5	276.1	279.3	74.1	1,025.6
ALL	LIVE	LEA	0	ALL	17.4			1,945	1,816	6.6	11.5	19.1	4.6	72.6
ALL	ALL	ALL	45	ALL	13.8	57	70	29,086	27,456	5.6	287.6	298.4	78.7	1,098.2

Cruise Unit Report T3 C1400 U5 CZ

Unit Sale Notice Volume (MBF): T3 C1400 U5 CZ

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility				
DF	17.0	6.0		631	157	382	79	14				
WH	10.5	6.0		301	21	101	179					
RA	12.0			4			4					
ALL	13.4	6.0		937	178	484	261	14				

Unit Cruise Design: T3 C1400 U5 CZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	37.0	38.5	19	10	0

Unit Cruise Summary: T3 C1400 U5 CZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	26	65	3.4	1
WH	18	38	2.0	1
RA	1	1	0.1	0
ALL	45	104	5.5	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U5 CZ

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	186.2	58.7	13.5	97.6	25.6	5.0	18,180	64.1	14.4
WH	102.8	103.5	23.8	81.5	19.3	4.6	8,378	105.3	24.2
RA	2.1	435.9	100.0	49.7	0.0	0.0	105	435.9	100.0
ALL	291.1	29.2	6.7	91.6	25.8	3.8	26,663	39.0	7.7

Unit Summary: T3 C1400 U5 CZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	26	ALL	17.0	70	87	18,413	17,062	7.3	110.9	174.8	42.4	631.3
DF	LIVE	LEA	0	ALL	16.3			1,207	1,119	7.3	7.9	11.5	2.8	41.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	12.0	49	59	115	105	9.3	2.7	2.1	0.6	3.9
WH	LIVE	CUT	18	ALL	10.5	47	57	8,231	8,145	1.0	166.2	99.9	30.8	301.4
WH	LIVE	LEA	0	ALL	14.0			236	234	1.0	2.7	2.9	8.0	8.6
ALL	LIVE	LEA	0	ALL	15.7			1,443	1,352	6.3	10.6	14.3	3.6	50.0
ALL	LIVE	CUT	45	ALL	13.5	56	69	26,759	25,311	5.4	279.8	276.8	73.8	936.5
ALL	ALL	ALL	45	ALL	13.6	56	69	28,202	26,663	5.5	290.4	291.1	77.4	986.5

Cruise Unit Report T3 C1400 U6 AVDT CZ EAST

Unit Sale Notice Volume (MBF): T3 C1400 U6 AVDT CZ EAST

				MBF Volume by Grade								
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility				
WH	14.2			81	16	40	24					
DF	14.4	6.5		68	16	26	23	4				
SF	8.0			13			13					
ALL	13.0	6.5		162	31	66	60	4				

Unit Cruise Design: T3 C1400 U6 AVDT CZ EAST

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	15.5	21.8	9	9	0

Unit Cruise Summary: T3 C1400 U6 AVDT CZ EAST

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	9	27	3.0	2
WH	10	18	2.0	0
SF	2	3	0.3	0
ALL	21	48	5.3	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U6 AVDT CZ EAST

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	163.3	78.2	26.1	80.7	31.6	10.5	13,181	84.3	28.1
WH	108.9	100.0	33.3	85.9	15.1	4.8	9,350	101.1	33.7
SF	18.1	150.0	50.0	70.2	2.9	2.0	1,274	150.0	50.0
ALL	290.3	28.1	9.4	82.0	23.1	5.0	23,804	36.4	10.6

Unit Summary: T3 C1400 U6 AVDT CZ EAST

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	9	ALL	14.4	56	69	4,762	4,394	7.7	48.1	54.4	14.3	68.1
DF	LIVE	LEA	18	ALL	22.0	78	98	9,524	8,787	7.7	41.2	108.9	23.2	136.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	2	ALL	8.0	34	41	849	849	0.0	34.7	12.1	4.3	13.2
SF	LIVE	LEA	1	ALL	24.0	70	88	425	425	0.0	1.9	6.0	1.2	6.6
WH	LIVE	CUT	10	ALL	14.2	58	71	5,483	5,194	5.3	55.0	60.5	16.1	80.5
WH	LIVE	LEA	8	ALL	19.8	70	87	4,387	4,156	5.3	22.6	48.4	10.9	64.4
ALL	LIVE	CUT	21	ALL	13.0	51	62	11,094	10,437	5.9	137.8	127.0	34.7	161.8
ALL	LIVE	LEA	27	ALL	21.3	75	94	14,335	13,367	6.8	65.7	163.3	35.3	207.2
ALL	ALL	ALL	48	ALL	16.2	59	73	25,430	23,804	6.4	203.5	290.3	70.0	369.0

Cruise Unit Report T3 C1400 U6 AVDT CZ WEST

Unit Sale Notice Volume (MBF): T3 C1400 U6 AVDT CZ WEST

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	14.3	6.5		121	24	60	33	4			
WH	13.6			46	8	20	18				
SF	8.0			7			7				
ALL	13.4	6.5		173	32	80	57	4			

Unit Cruise Design: T3 C1400 U6 AVDT CZ WEST

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	18.5	23.9	11	11	0

Unit Cruise Summary: T3 C1400 U6 AVDT CZ WEST

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	15	45	4.1	2
WH	6	13	1.2	0
SF	1	2	0.2	0
ALL	22	60	5.5	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U6 AVDT CZ WEST

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	222.7	57.3	17.3	88.0	29.3	7.6	19,600	64.4	18.9
WH	64.3	140.7	42.4	82.9	20.0	8.2	5,332	142.1	43.2
SF	9.9	222.5	67.1	71.6	0.0	0.0	709	222.5	67.1
ALL	296.9	23.7	7.1	86.3	26.5	5.7	25,641	35.6	9.1

Unit Summary: T3 C1400 U6 AVDT CZ WEST

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	15	ALL	14.3	58	72	6,956	6,533	6.1	66.6	74.2	19.6	120.9
DF	LIVE	LEA	30	ALL	22.0	79	100	13,912	13,066	6.1	56.2	148.5	31.7	241.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
SF	LIVE	CUT	1	ALL	8.0	36	43	354	354	0.0	14.2	4.9	1.7	6.6
SF	LIVE	LEA	1	ALL	24.0	70	88	354	354	0.0	1.6	4.9	1.0	6.6
WH	LIVE	CUT	6	ALL	13.6	57	70	2,567	2,461	4.1	29.4	29.7	8.1	45.5
WH	LIVE	LEA	7	ALL	19.6	68	85	2,994	2,871	4.1	16.5	34.6	7.8	53.1
ALL	LIVE	LEA	38	ALL	21.5	77	96	17,261	16,292	5.6	74.3	188.1	40.5	301.4
ALL	LIVE	CUT	22	ALL	13.5	55	68	9,877	9,349	5.3	110.2	108.9	29.4	173.0
ALL	ALL	ALL	60	ALL	17.2	64	79	27,138	25,641	5.5	184.5	296.9	69.9	474.4

Cruise Unit Report T3 C1400 U6 WEST GAPS

Unit Sale Notice Volume (MBF): T3 C1400 U6 WEST GAPS

				MBF Volume by Grade					
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw		
DF	18.9			70	52	14	5		
ALL	18.9			70	52	14	5		

Unit Cruise Design: T3 C1400 U6 WEST GAPS

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		1	1	0

Unit Cruise Summary: T3 C1400 U6 WEST GAPS

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

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U6 WEST GAPS

Sp	BA (sq ft/acre)				V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	326.6	0.0	0.0	107.4	29.3	12.0	35,069	29.3	12.0
ALL	326.6	0.0	0.0	107.4	29.3	12.0	35,069	29.3	12.0

Unit Summary: T3 C1400 U6 WEST GAPS

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	6	ALL	18.9	70	88	37,708	35,069	7.0	167.7	326.6	75.1	70.1
ALL	LIVE	CUT	6	ALL	18.9	70	88	37,708	35,069	7.0	167.7	326.6	75.1	70.1
ALL	ALL	ALL	6	ALL	18.9	70	88	37,708	35,069	7.0	167.7	326.6	75.1	70.1

Cruise Unit Report T3 C1400 U7 CES AZ

Unit Sale Notice Volume (MBF): T3 C1400 U7 CES AZ

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility		
DF	12.3			1,201	100	630	433	38		
WH	10.9			53		27	26			
ALL	12.3			1,253	100	657	459	38		

Unit Cruise Design: T3 C1400 U7 CES AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	45.0	45.0	22	10	0

Unit Cruise Summary: T3 C1400 U7 CES AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	43	132	6.0	0
WH	2	7	0.3	0
ALL	45	139	6.3	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U7 CES AZ

Sp	BA (sq ft/acre)			V-BAR (bf/sq ft)	V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	326.6	37.8	8.1	84.2	17.3	2.6	27,513	41.6	8.5
WH	17.3	327.3	69.8	78.6	2.9	2.0	1,362	327.3	69.8
ALL	344.0	32.5	6.9	83.9	17.0	2.5	28,875	36.7	7.4

Unit Summary: T3 C1400 U7 CES AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	43	ALL	12.6	55	68	28,277	26,679	5.7	365.8	316.7	89.2	1,200.6
DF	LIVE	LEA	3	ALL	18.0	65	82	884	834	5.7	5.6	9.9	2.3	37.5
WH	LIVE	CUT	2	ALL	10.9	53	65	1,167	1,167	0.0	22.9	14.8	4.5	52.5
WH	LIVE	LEA	1	ALL	16.0	66	82	195	195	0.0	1.8	2.5	0.6	8.8
ALL	LIVE	LEA	4	ALL	17.5	66	82	1,078	1,028	4.6	7.4	12.4	3.0	46.3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	LIVE	CUT	45	ALL	12.5	55	68	29,444	27,846	5.4	388.7	331.6	93.7	1,253.1
ALL	ALL	ALL	49	ALL	12.6	55	68	30,522	28,875	5.4	396.1	344.0	96.7	1,299.4

Cruise Unit Report T3 C1400 U7 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U7 AZ

				MBF Volume by Grade							
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility			
DF	12.1			794	64	413	283	34			
WH	10.9			50		25	24				
ALL	12.0			843	64	438	308	34			

Unit Cruise Design: T3 C1400 U7 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	29.0	30.0	15	7	0

Unit Cruise Summary: T3 C1400 U7 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	32	94	6.3	0
WH	2	7	0.5	0
ALL	34	101	6.7	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U7 AZ

Sp	BA (sq ft/acre)	BA CV (%)		V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	341.2	37.9	9.8	84.7	18.0	3.2	28,903	41.9	10.3
WH	25.4	267.0	68.9	78.6	2.9	2.0	1,997	267.0	69.0
ALL	366.6	29.4	7.6	84.3	17.6	3.0	30,900	34.3	8.2

Unit Summary: T3 C1400 U7 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	32	ALL	12.1	54	66	29,092	27,365	5.9	404.5	323.0	92.9	793.6
DF	LIVE	LEA	0	ALL	16.7			1,634	1,537	5.9	11.9	18.1	4.4	44.6
WH	LIVE	CUT	2	ALL	10.9	53	65	1,712	1,712	0.0	33.6	21.8	6.6	49.6
WH	LIVE	LEA	1	ALL	16.0	66	82	285	285	0.0	2.6	3.6	0.9	8.3
ALL	LIVE	CUT	34	ALL	12.0	54	66	30,804	29,077	5.6	438.1	344.8	99.5	843.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	LIVE	LEA	1	ALL	16.6	66	82	1,920	1,823	5.1	14.5	21.8	5.3	52.9
ALL	ALL	ALL	35	ALL	12.2	54	66	32,724	30,900	5.6	452.6	366.6	104.8	896.1

Cruise Unit Report T3 C1400 U8 AVDT AZ EAST

Unit Sale Notice Volume (MBF): T3 C1400 U8 AVDT AZ EAST

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	3 Saw	4 Saw	Utility			
DF	16.1			102	81	19	3			
WH	9.8			83	18	65				
ALL	11.9			185	98	84	3			

Unit Cruise Design: T3 C1400 U8 AVDT AZ EAST

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	16.0	20.7	9	8	0

Unit Cruise Summary: T3 C1400 U8 AVDT AZ EAST

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	10	27	3.0	1
WH	11	18	2.0	1
ALL	21	45	5.0	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U8 AVDT AZ EAST

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	163.3	70.7	23.6	87.9	38.9	12.3	14,354	80.7	26.6
WH	96.0	110.7	36.9	78.1	15.5	4.7	7,504	111.8	37.2
ALL	259.4	30.8	10.3	84.3	29.8	6.5	21,858	42.9	12.2

Unit Summary: T3 C1400 U8 AVDT AZ EAST

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	10	ALL	16.1	68	84	7,286	6,380	12.4	51.3	72.6	18.1	102.1
DF	LIVE	LEA	12	ALL	18.3	72	90	9,108	7,974	12.4	49.7	90.7	21.2	127.6
WH	LIVE	CUT	11	ALL	10.1	47	56	5,194	5,170	0.5	118.9	66.2	20.8	82.7
WH	LIVE	LEA	6	ALL	14.3	60	73	2,345	2,334	0.5	26.8	29.9	7.9	37.3
ALL	LIVE	LEA	18	ALL	17.0	67	84	11,453	10,309	10.0	76.5	120.6	29.1	164.9

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
ALL	LIVE	CUT	21	ALL	12.2	53	65	12,481	11,550	7.5	170.2	138.8	38.9	184.8
ALL	ALL	ALL	39	ALL	13.9	57	71	23,934	21,858	8.7	246.7	259.4	68.0	349.7

Cruise Unit Report T3 C1400 U8 EAST GAPS

Unit Sale Notice Volume (MBF): T3 C1400 U8 EAST GAPS

				M	MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw				
WH	12.9			52	5	30	17				
ALL	12.9			52	5	30	17				

Unit Cruise Design: T3 C1400 U8 EAST GAPS

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	2.0		2	2	0

Unit Cruise Summary: T3 C1400 U8 EAST GAPS

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	11	11	5.5	0
ALL	11	11	5.5	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U8 EAST GAPS

Sp	BA (sq ft/acre)				V-BAR CV (%)				Vol SE (%)
WH	299.4	38.6	27.3	87.0	15.2	4.6	26,064	41.5	27.7
ALL	299.4	38.6	27.3	87.0	15.2	4.6	26,064	41.5	27.7

Unit Summary: T3 C1400 U8 EAST GAPS

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
WH	LIVE	CUT	11	ALL	12.9	53	65	27,363	26,064	4.7	329.9	299.4	83.4	52.1
ALL	LIVE	CUT	11	ALL	12.9	53	65	27,363	26,064	4.7	329.9	299.4	83.4	52.1
ALL	ALL	ALL	11	ALL	12.9	53	65	27,363	26,064	4.7	329.9	299.4	83.4	52.1

Cruise Unit Report T3 C1400 U8 AVDT AZ WEST

Unit Sale Notice Volume (MBF): T3 C1400 U8 AVDT AZ WEST

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw	Utility		
DF	16.2			153	17	107	23	6		
WH	9.5			71		17	54			
RA	12.0			4			4			
ALL	12.4			227	17	123	82	6		

Unit Cruise Design: T3 C1400 U8 AVDT AZ WEST

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	19.0	18.9	10	10	0

Unit Cruise Summary: T3 C1400 U8 AVDT AZ WEST

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	15	32	3.2	1
WH	10	15	1.5	1
RA	1	1	0.1	0
ALL	26	48	4.8	2

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U8 AVDT AZ WEST

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	174.2	56.7	17.9	98.4	18.9	4.9	17,137	59.7	18.6
WH	70.1	148.6	47.0	76.8	15.9	5.0	5,384	149.5	47.3
RA	4.0	316.2	100.0	49.7	0.0	0.0	199	316.2	100.0
ALL	248.3	32.2	10.2	91.5	22.7	4.4	22,720	39.4	11.1

Unit Summary: T3 C1400 U8 AVDT AZ WEST

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	15	ALL	16.2	69	86	8,449	8,033	4.9	57.1	81.7	20.3	152.6
DF	LIVE	LEA	17	ALL	18.5	71	89	9,576	9,104	4.9	49.6	92.5	21.5	173.0

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	12.0	49	59	219	199	9.3	5.1	4.0	1.2	3.8
WH	LIVE	CUT	10	ALL	9.5	42	51	3,737	3,737	0.0	98.9	48.7	15.8	71.0
WH	LIVE	LEA	5	ALL	14.7	59	73	1,647	1,647	0.0	18.2	21.4	5.6	31.3
ALL	LIVE	CUT	26	ALL	12.4	52	63	12,406	11,969	3.5	161.1	134.3	37.2	227.4
ALL	LIVE	LEA	22	ALL	17.6	68	85	11,223	10,751	4.2	67.8	114.0	27.1	204.3
ALL	ALL	ALL	48	ALL	14.1	57	70	23,628	22,720	3.8	228.9	248.3	64.3	431.7

Cruise Unit Report T3 C1400 U9 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U9 AZ

				MBF Volume by Grad				
Sp	DBH	Rings/In	Age	All	3 Saw	Utility		
RA	16.0			4	3	1		
ALL	16.0			4	3	1		

Unit Cruise Design: T3 C1400 U9 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (40, 40 for some species) Measure/ Count Plots, Sighting Ht = 0 ft	1.0	0.7	1	1	0

Unit Cruise Summary: T3 C1400 U9 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA	1	5	5.0	0
ALL	1	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U9 AZ

Sp	BA (sq ft/acre)				V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RA	200.0	0.0	0.0	87.4	0.0	0.0	17,477	0.0	0.0
ALL	200.0	0.0	0.0	87.4	0.0	0.0	17,477	0.0	0.0

Unit Summary: T3 C1400 U9 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
RA	LIVE	CUT	1	ALL	16.0	60	73	3,896	3,495	10.3	28.6	40.0	10.0	3.5
RA	LIVE	LEA	4	ALL	14.2	53	64	15,586	13,981	10.3	145.5	160.0	42.5	14.0
ALL	LIVE	LEA	4	ALL	14.2	53	64	15,586	13,981	10.3	145.5	160.0	42.5	14.0
ALL	LIVE	CUT	1	ALL	16.0	60	73	3,896	3,495	10.3	28.6	40.0	10.0	3.5
ALL	ALL	ALL	5	ALL	14.5	54	65	19,482	17,477	10.3	174.1	200.0	52.5	17.5

Cruise Unit Report T3 C1400 U10 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U10 AZ

				MBF Volume by Gra			
Sp	DBH	Rings/In	Age	All	4 Saw		
RA	10.0			2	2		
ALL	10.0			2	2		

Unit Cruise Design: T3 C1400 U10 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	0.6	0.8	1	1	0

Unit Cruise Summary: T3 C1400 U10 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		2	2.0	0
RA	1	3	3.0	0
ALL	1	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U10 AZ

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	108.9	0.0	0.0						
RA	120.0	0.0	0.0	66.0	0.0	0.0	7,921	0.0	0.0
ALL	228.9	0.0	0.0	66.0	0.0	0.0	15,107	0.0	0.0

Unit Summary: T3 C1400 U10 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	LEA	2	ALL	18.0	67	83				61.6	108.9	25.7	_
RA	LIVE	CUT	1	ALL	10.0	43	51	2,640	2,640	0.0	73.3	40.0	12.6	1.6
RA	LIVE	LEA	2	ALL	14.9	58	71	5,280	5,280	0.0	66.1	80.0	20.7	3.2
ALL	LIVE	LEA	4	ALL	16.5	62	77	5,280	5,280	0.0	127.7	188.9	46.4	3.2
ALL	LIVE	CUT	1	ALL	10.0	43	51	2,640	2,640	0.0	73.3	40.0	12.6	1.6
ALL	ALL	ALL	5	ALL	14.4	55	67	7,921	7,921	0.0	201.0	228.9	59.0	4.8

Cruise Unit Report T3 C1400 U10 AZ GAPS

Unit Sale Notice Volume (MBF): T3 C1400 U10 AZ GAPS

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	2 Saw	3 Saw	4 Saw			
DF	18.0			4	2	2	0			
RA	12.6			4			4			
ALL	14.4			8	2	2	4			

Unit Cruise Design: T3 C1400 U10 AZ GAPS

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

Unit Cruise Summary: T3 C1400 U10 AZ GAPS

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	2	2	2.0	0
RA	3	3	3.0	0
ALL	5	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U10 AZ GAPS

Sp	BA (sq ft/acre)	BA CV (%)		V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	108.9	0.0	0.0	100.2	4.0	2.8	10,915	4.0	2.8
RA	120.0	0.0	0.0	77.2	23.5	13.6	9,260	23.5	13.6
ALL	228.9	0.0	0.0	88.1	20.6	9.2	20,174	20.6	9.2

Unit Summary: T3 C1400 U10 AZ GAPS

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	CUT	2	ALL	18.0	67	83	10,915	10,915	0.0	61.6	108.9	25.7	4.4
RA	LIVE	CUT	3	ALL	12.6	50	60	9,260	9,260	0.0	138.6	120.0	33.8	3.7
ALL	LIVE	CUT	5	ALL	14.5	55	67	20,174	20,174	0.0	200.2	228.9	59.5	8.1
ALL	ALL	ALL	5	ALL	14.5	55	67	20,174	20,174	0.0	200.2	228.9	59.5	8.1

Cruise Unit Report T3 C1400 U11 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U11 AZ

				MBF Volume by Grade						
Sp	DBH	Rings/In	Age	All	4 Saw					
RA	13.6			5	5					
ALL	13.6			5	5					

Unit Cruise Design: T3 C1400 U11 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	1.2	1	1	0

Unit Cruise Summary: T3 C1400 U11 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		2	2.0	0
RA	2	3	3.0	0
ALL	2	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U11 AZ

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	108.9	0.0	0.0						
RA	120.0	0.0	0.0	63.9	20.3	14.3	7,668	20.3	14.3
ALL	228.9	0.0	0.0	63.9	20.3	14.3	14,626	20.3	14.3

Unit Summary: T3 C1400 U11 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	LEA	2	ALL	18.9	72	91				55.9	108.9	25.0	
RA	LIVE	CUT	2	ALL	13.6	52	63	5,112	5,112	0.0	79.3	80.0	21.7	5.1
RA	LIVE	LEA	1	ALL	14.0	52	63	2,556	2,556	0.0	37.4	40.0	10.7	2.6
ALL	LIVE	LEA	3	ALL	17.1	64	80	2,556	2,556	0.0	93.3	148.9	35.7	2.6
ALL	LIVE	CUT	2	ALL	13.6	52	63	5,112	5,112	0.0	79.3	80.0	21.7	5.1
ALL	ALL	ALL	5	ALL	15.6	58	72	7,668	7,668	0.0	172.6	228.9	57.4	7.7

Cruise Unit Report T3 C1400 U12 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U12 AZ

				MBF	Volume b	y Grade
Sp	DBH	Rings/In	Age	All	3 Saw	4 Saw
DF	12.5			8	4	4
ALL	12.5			8	4	4

Unit Cruise Design: T3 C1400 U12 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	0.7	1	1	0

Unit Cruise Summary: T3 C1400 U12 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	2	5	5.0	0
ALL	2	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U12 AZ

Sp	BA (sq ft/acre)				V-BAR CV (%)		Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	272.2	0.0	0.0	75.8	19.8	14.0	20,623	19.8	14.0
ALL	272.2	0.0	0.0	75.8	19.8	14.0	20,623	19.8	14.0

Unit Summary: T3 C1400 U12 AZ

Sp	Status	Rx	Ν	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	12.5	55	68	8,249	8,249	0.0	127.8	108.9	30.8	8.2
DF	LIVE	LEA	3	ALL	16.9	65	81	12,374	12,374	0.0	104.8	163.3	39.7	12.4
ALL	LIVE	CUT	2	ALL	12.5	55	68	8,249	8,249	0.0	127.8	108.9	30.8	8.2
ALL	LIVE	LEA	3	ALL	16.9	65	81	12,374	12,374	0.0	104.8	163.3	39.7	12.4
ALL	ALL	ALL	5	ALL	14.6	60	74	20,623	20,623	0.0	232.6	272.2	70.5	20.6

Cruise Unit Report T3 C1400 U13 AZ

Unit Sale Notice Volume (MBF): T3 C1400 U13 AZ

				MBF Volun	ne by Grade
Sp	DBH	Rings/In	Age	All	4 Saw
RA	13.6			5	5
ALL	13.6			5	5

Unit Cruise Design: T3 C1400 U13 AZ

Design	Cruise	FMA	N	N Cruise	N Void
	Acres	Acres	Plots	Plots	Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 0 ft	1.0	0.5	1	1	0

Unit Cruise Summary: T3 C1400 U13 AZ

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		2	2.0	0
RA	2	3	3.0	0
ALL	2	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): T3 C1400 U13 AZ

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	108.9	0.0	0.0						
RA	120.0	0.0	0.0	63.9	20.3	14.3	7,668	20.3	14.3
ALL	228.9	0.0	0.0	63.9	20.3	14.3	14,626	20.3	14.3

Unit Summary: T3 C1400 U13 AZ

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	ВА	RD	MBF Net
DF	LIVE	LEA	2	ALL	18.9	72	91				55.9	108.9	25.0	
RA	LIVE	CUT	2	ALL	13.6	52	63	5,112	5,112	0.0	79.3	80.0	21.7	5.1
RA	LIVE	LEA	1	ALL	14.0	52	63	2,556	2,556	0.0	37.4	40.0	10.7	2.6
ALL	LIVE	LEA	3	ALL	17.1	64	80	2,556	2,556	0.0	93.3	148.9	35.7	2.6
ALL	LIVE	CUT	2	ALL	13.6	52	63	5,112	5,112	0.0	79.3	80.0	21.7	5.1
ALL	ALL	ALL	5	ALL	15.6	58	72	7,668	7,668	0.0	172.6	228.9	57.4	7.7



	스타		FPA/N No:	2617712			
	TIL S		Effective Date:	12/4/2022			
OF NATU	RALRE		Expiration Date:	12/4/2027			
Forest Practices Ap	plication/Notif	ication s	ihut Down Zone:	650			
Notice of	Decision	n e	ARR Tax Credit:	⊠ Eligible	☐ Non-eligible		
			Reference:	DNR			
				T3 C-1400			
<u>Decision</u>							
☐ Notification Accepted	Operations shall	not begin before the	e effective date.				
Approved	This Forest Prac	tices Application is	subject to the cond	ditions listed be	low.		
☐ Disapproved	This Forest Prac	tices Application is	disapproved for th	e reasons listed	I below.		
☐ Withdrawn	Applicant has wi	thdrawn the Forest I	Practices Applicati	ion/Notification	(FPA/N).		
☐ Closed	All forest practice	es obligations are m	et.				
FPA/N Classification	***************************************		Number of Ye	ears Granted o	n Multi-Year Request		
□ Class II ☑ Class III	☐ Class IVG	☐ Class IVS	☐ 4 years	⊠ 5 years			
Conditions on Approval/Re	easons for Disap	proval					
 Timing Limitations on Type S and Type F waters: Removal of the log stringer bridge and placement of the two stringer ends in the stream shall only occur between July 1 and September 30. Debris shall not be allowed to touch the stream bed or waters of the State during installation or removal of the bridges. Installation of the bridge over bridge may occur at any time provided that:							
ssued By: Jennifer Garst Title: Forest Practice For			Region: Olymp Date: 12/4/202				
Copies to:	☐ Timber Owner	☐ Operator					
ssued in person: 🗵 Land	lowner 🛭 Timber (Owner ⊠ Operator	By: Katelynn K	erschner	Mir-		

Appeal information

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

You must file your appeal at all three addresses below:

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

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 <u>Forks</u> , WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>2617712</u>
Choose an item.

(Signature)

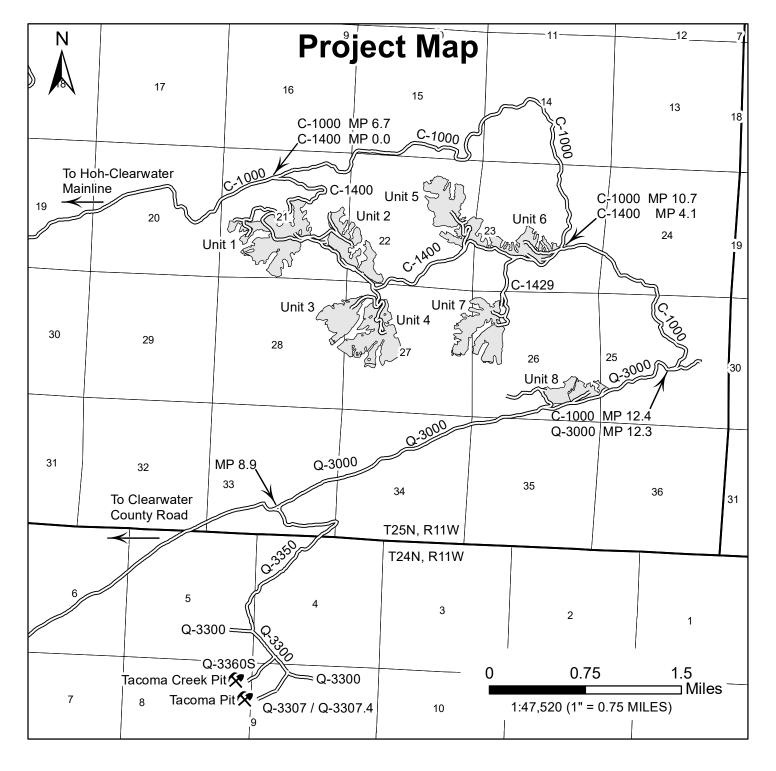
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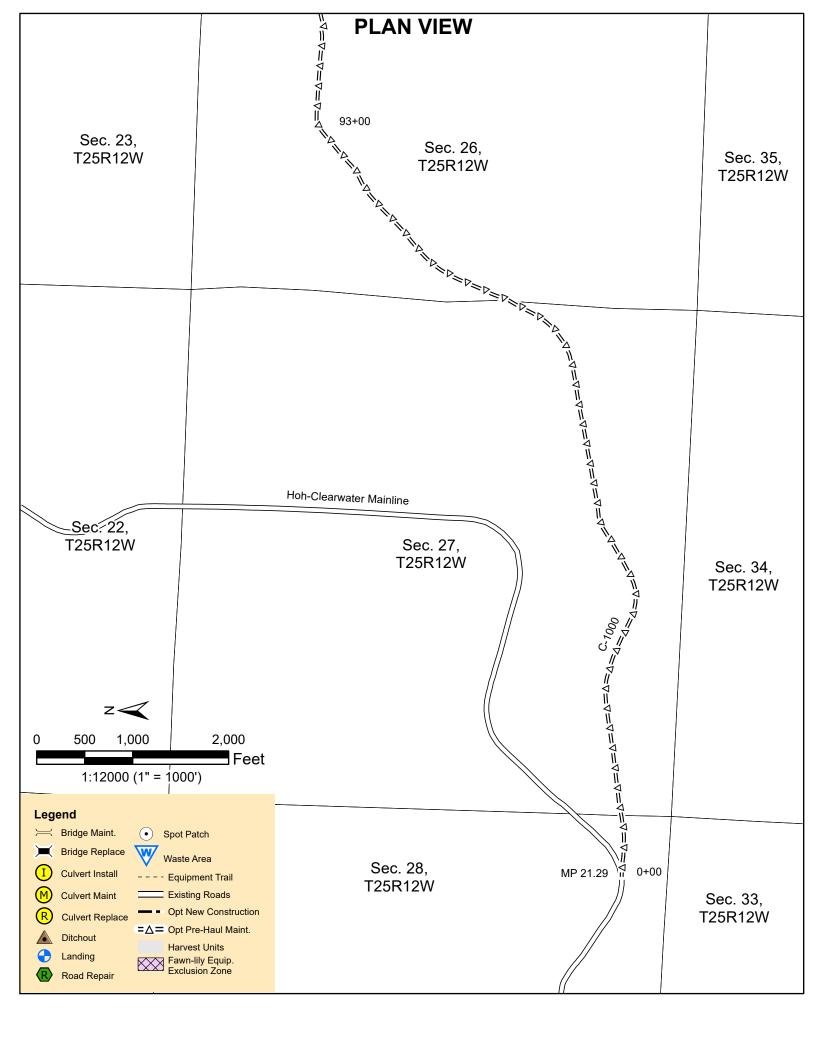
STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES

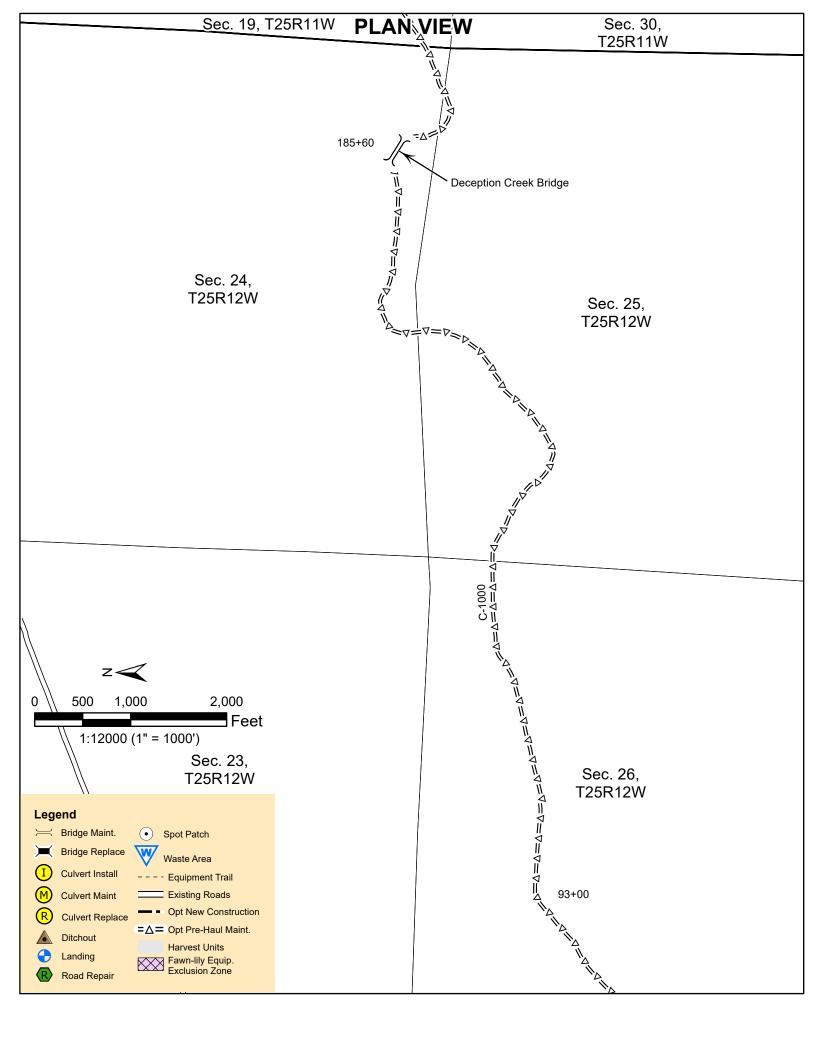
T3 C-1400 TIMBER SALE ROAD PLAN JEFFERSON COUNTY COAST DISTRICT

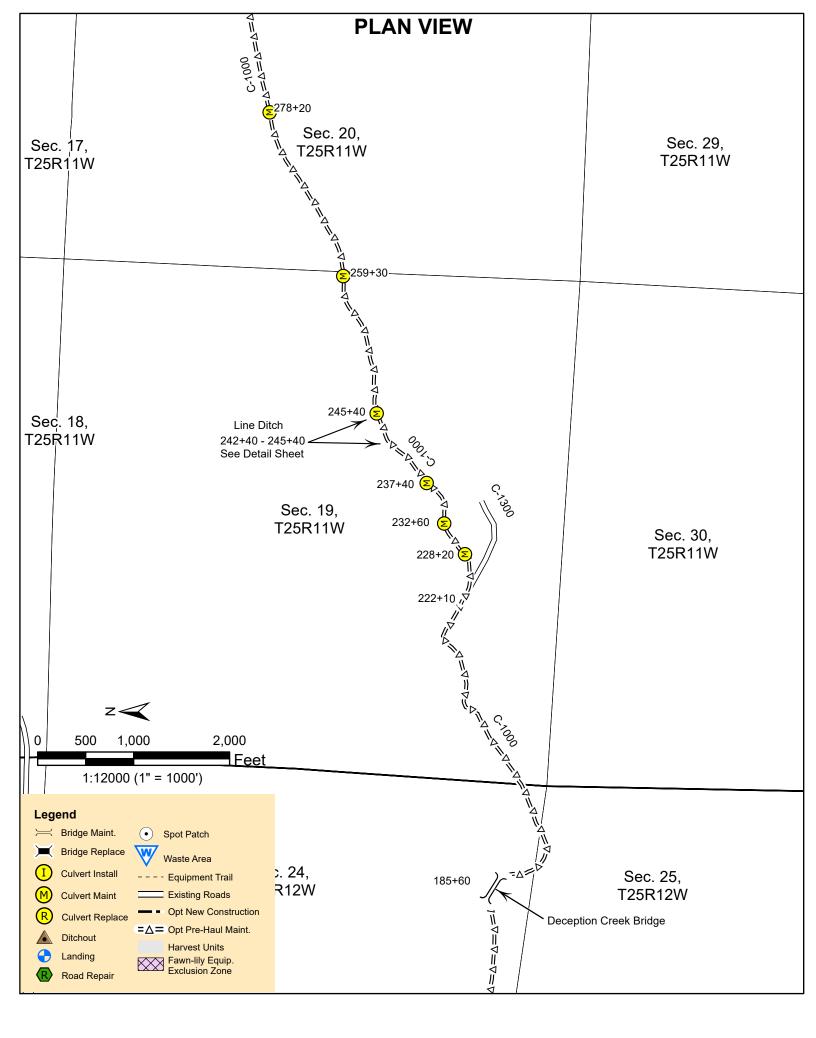
AGREEMENT NO.: 30-102252 DISTRICT ENGINEER: BILL MEHL

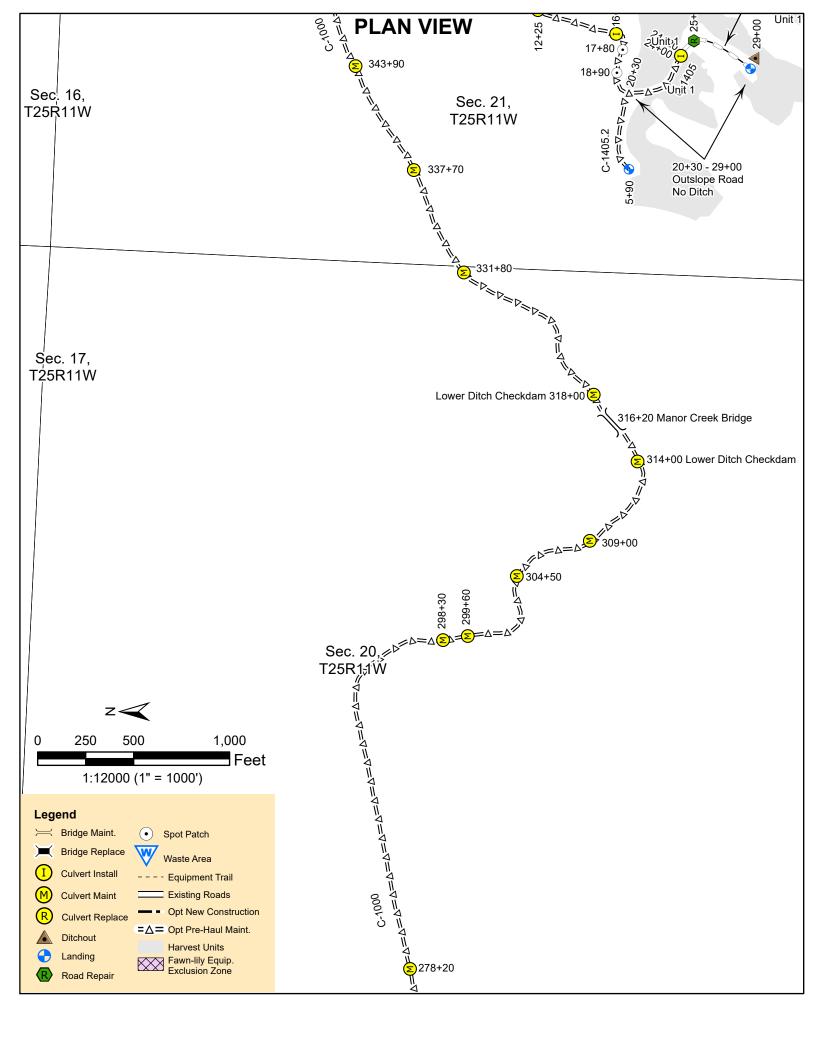
DATE: JANUARY 23, 2023 DRAWN AND COMPILED BY: KEITH WYATT

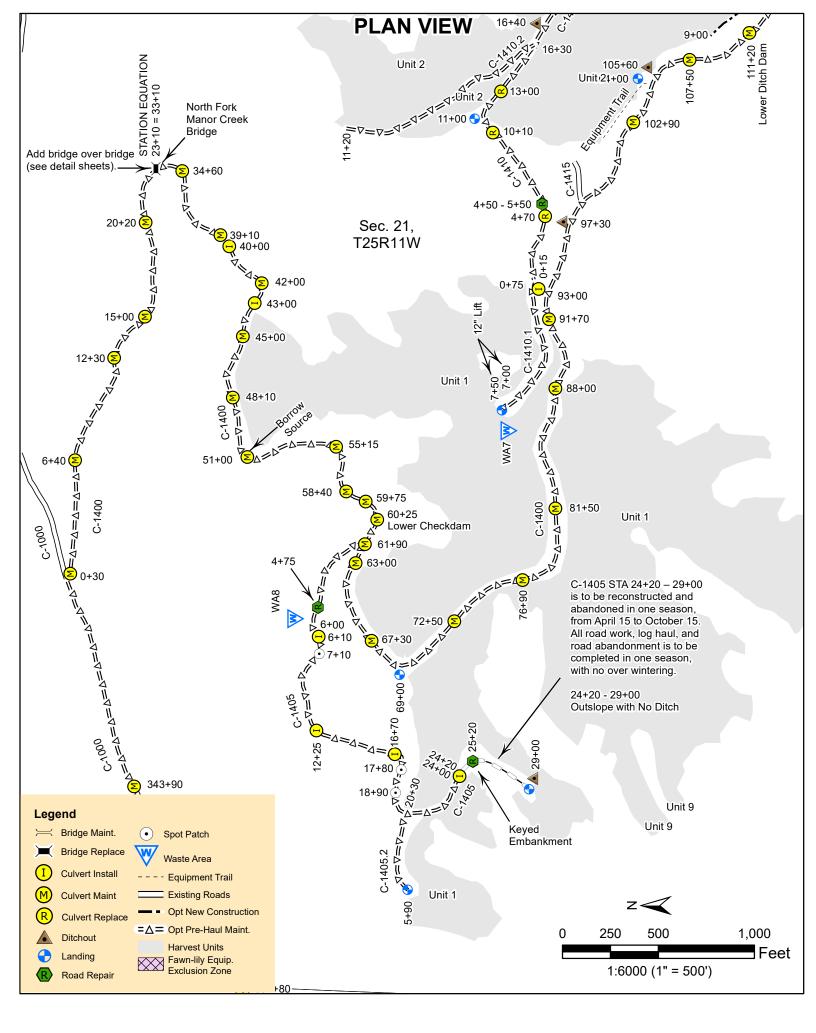


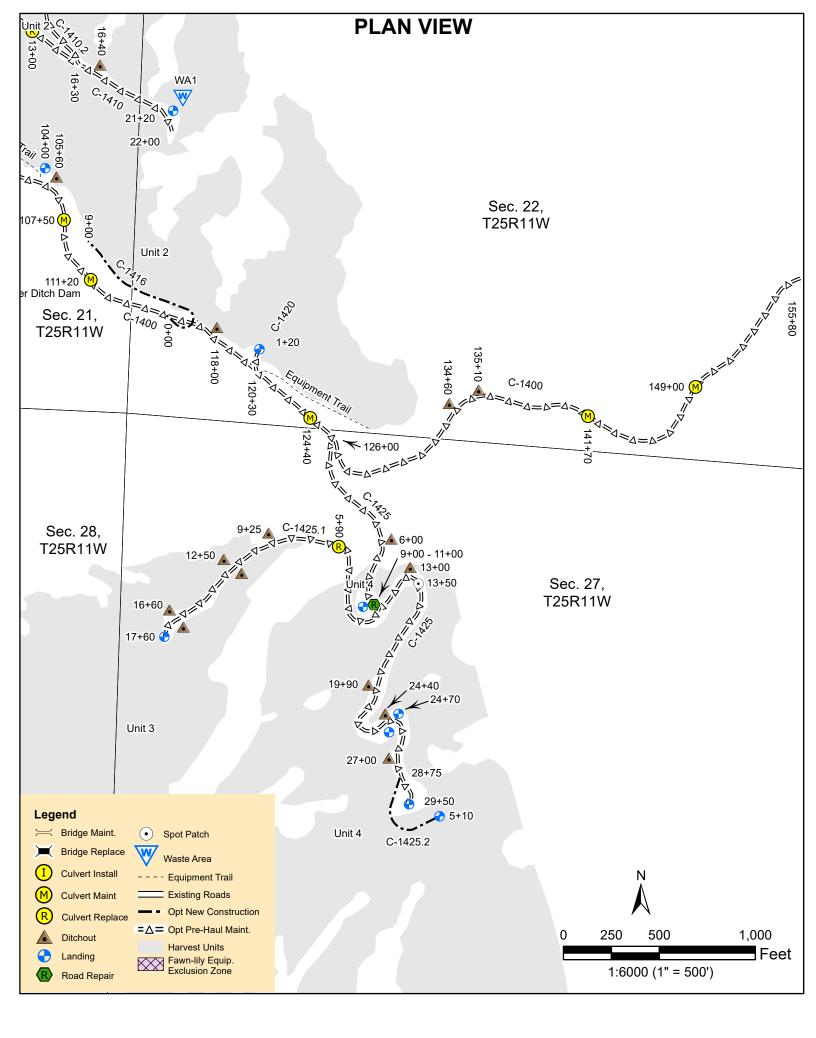


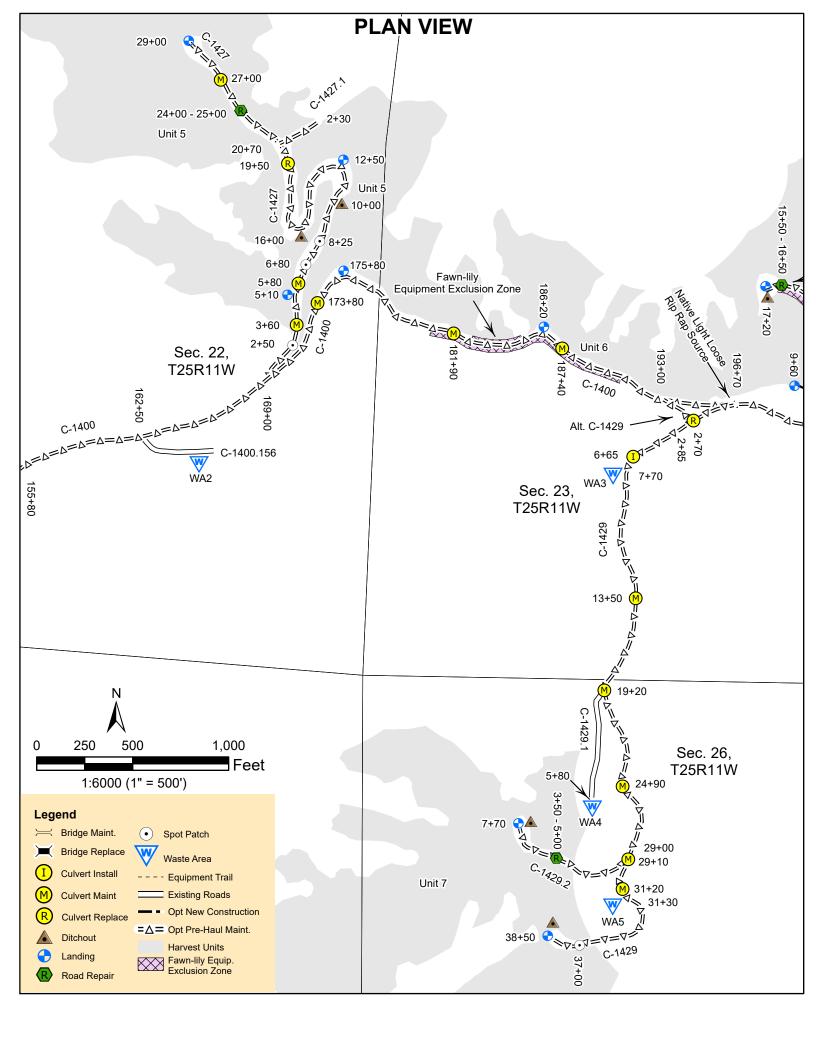


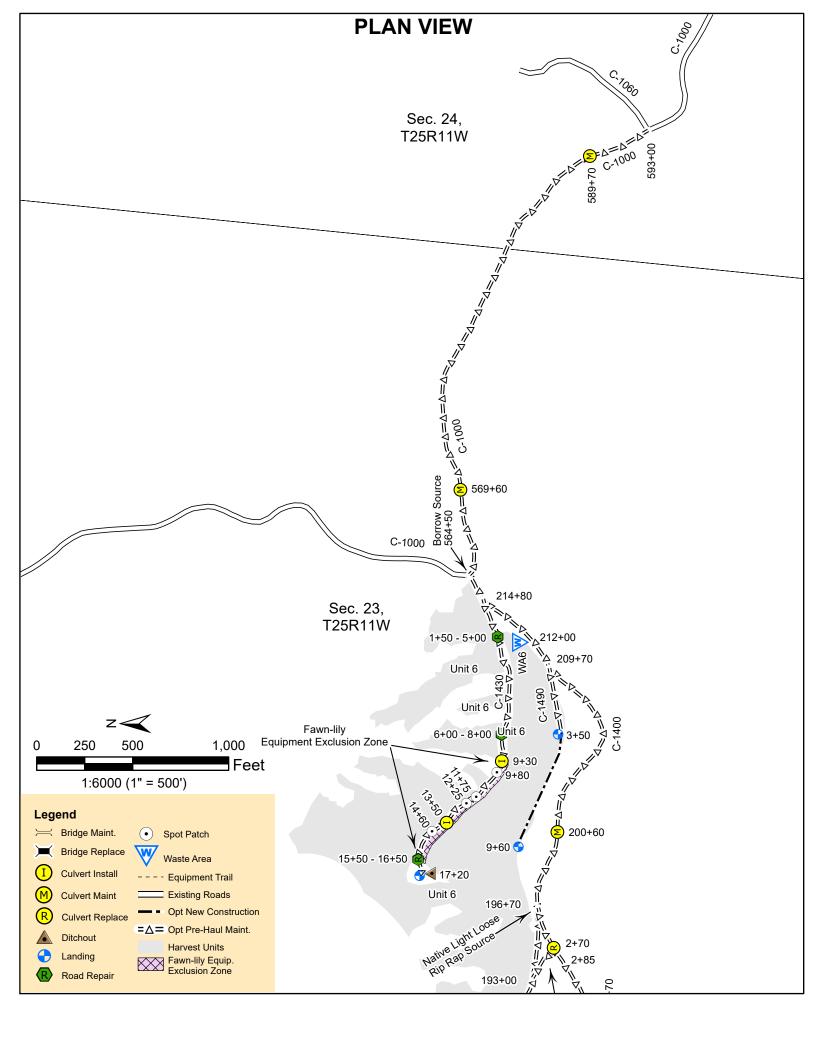


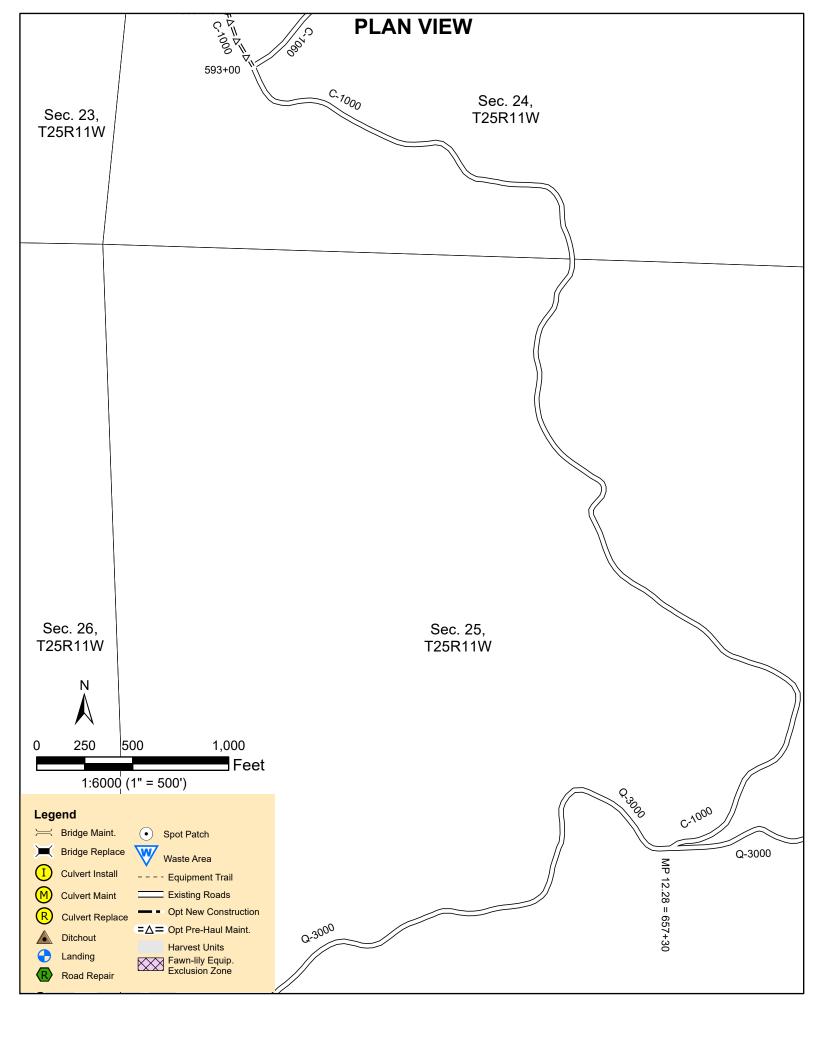


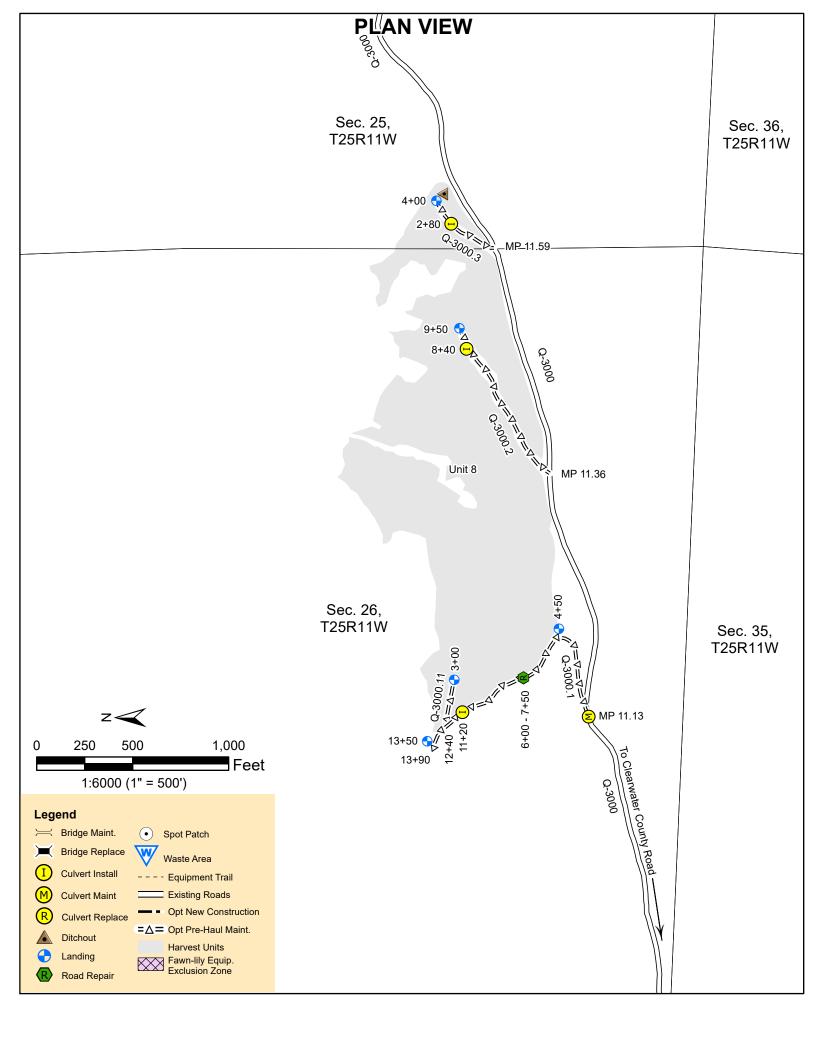


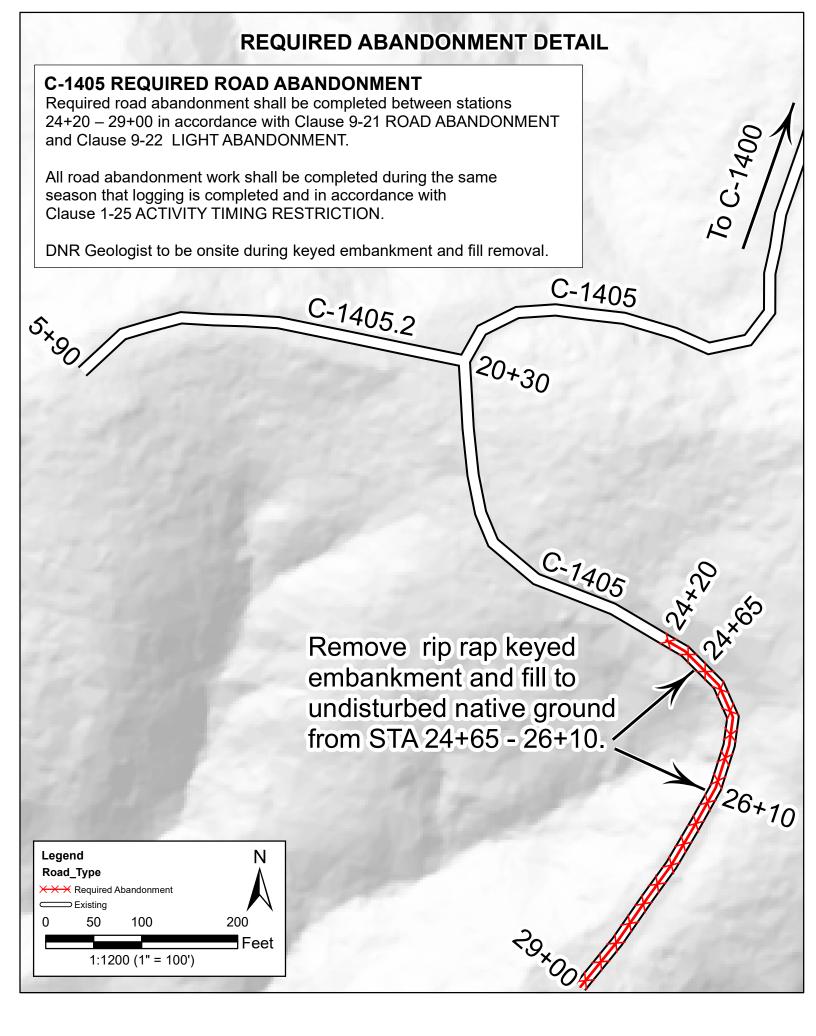












SECTION 0 - SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

Clauses in this road plan apply to all road related work, including landings and rock source development, unless otherwise noted.

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
C-1405	24+20 – 29+00	Required Light Abandonment

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	<u>Stations</u>	<u>Type</u>
C-1000	0+00 - 354+30	Pre-Haul Maintenance
C-1000	564+50 - 593+00	Pre-Haul Maintenance
C-1400	0+00 – 23+10	Pre-Haul Maintenance
C-1400	33+10 – 216+30	Pre-Haul Maintenance
C-1405	0+00 – 24+20	Pre-Haul Maintenance
C-1405	24+20 – 29+00	Reconstruction
C-1405.2	0+00 – 5+90	Pre-Haul Maintenance
C-1410	0+00 – 22+00	Pre-Haul Maintenance
C-1410.1	0+00 – 7+50	Pre-Haul Maintenance
C-1410.2	0+00 – 11+20	Pre-Haul Maintenance
C-1416	0+00 – 9+00	Construction
C-1420	0+00 – 1+20	Pre-Haul Maintenance
C-1425	0+00 – 29+50	Pre-Haul Maintenance
C-1425.1	0+00 – 17+60	Pre-Haul Maintenance
C-1425.2	0+00 – 5+10	Construction
C-1427	0+00 – 29+00	Pre-Haul Maintenance
C-1427.1	0+00 – 2+30	Pre-Haul Maintenance
C-1429	0+00 – 38+50	Pre-Haul Maintenance
C-1429.1	0+00 – 5+80	Post-Haul Maintenance Only
C-1429.2	0+00 – 7+70	Pre-Haul Maintenance
Alt. C-1429	0+00 – 2+00	Pre-Haul Maintenance
C-1430	0+00 – 17+20	Pre-Haul Maintenance
C-1490	0+00 – 3+50	Pre-Haul Maintenance
C-1490	3+50 – 9+60	Construction
Q-3000.1	0+00 – 13+90	Pre-Haul Maintenance
Q-3000.11	0+00 - 3+00	Pre-Haul Maintenance
Q-3000.2	0+00 – 9+50	Pre-Haul Maintenance
Q-3000.3	0+00 - 4+00	Pre-Haul Maintenance

0-4 CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
C-1416	9.00	See Below
C-1425.2	5.10	See Below
C-1490	6.10	See Below
Total:	20.20 STA	

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.

0-5 RECONSTRUCTION

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

Road	<u>Stations</u>	<u>Requirements</u>
C-1405	24+20 – 29+00	Build and abandon in one season per geotechnical memo, April 15 – October 15, No Over Wintering. Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install / replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Total:	4.80 STA	

Reconstruction includes, but is not limited to:

Installing additional culvert, realigning road segments, application of rock, removing culvert.

0-6 PRE-HAUL MAINTENANCE

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

Road	<u>Stations</u>	<u>Requirements</u>
C-1000	0+00 – 354+30	Spot grade and shape existing non-paved road surface in accordance with Clause 2-5. Clean out and/or construct ditches in accordance with Clause 2-7. Maintain culverts in accordance with Clause 2-6 and Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List. Conduct bridge maintenance in accordance with Clause 7-30.
C-1000	564+50 – 593+00	Grade and shape existing road surface in accordance with Clause 2-5. Maintain culverts in accordance with Clause

		2-6 and Culvert List. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1400	0+00 - 23+10 33+10 - 216+30	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Grade and shape existing road surface in accordance with Clause 2-5. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6, 5-27 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List. Install bridge in accordance with Clause 7-46 and associated drawings. Install sediment control structures in accordance with 8-1 and 2-7. Install road shoulder berms in accordance with Clause 8-1 and 8-7.
C-1405	0+00 – 24+20	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1405.2	0+00 – 5+90	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1410	0+00 – 22+00	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1410.1	0+00 – 7+50	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.

C-1410.2	0+00 – 11+20	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Grade, shape, and compact existing road surface in accordance with Clause 2-5.
C-1420	0+00 – 1+20	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1425	0+00 – 29+50	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1425.1	0+00 – 17+60	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1427	0+00 – 29+00	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1427.1	0+00 – 2+30	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List.

		Compact rock in accordance with Clause 4-66 and Compaction List.
C-1429	0+00 – 38+50	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1429.2	0+00 – 7+70	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Alt. C-1429	0+00 – 2+00	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1430	0+00 – 17+20	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Install/replace/maintain culverts in accordance with Clause 2-6 and Culvert List. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
C-1490	0+00 – 3+50	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.

Q-3000.1	0+00 – 13+90	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Q-3000.11	0+00 – 3+00	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Q-3000.2	0+00 – 9+50	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Q-3000.3	0+00 – 4+00	Remove vegetative material with a minimum loss of rock in accordance with Clause 2-9 and dispose of in accordance with Clause 3-23. Brush road in accordance with Clause 3-1 and Brushing Detail. Clean out and/or construct ditches in accordance with Clause 2-7. Construct ditch outs in accordance with Clause 4-29 and 4-38. Dispose of waste material in accordance with Clause 4-36 and Clause 4-38. Apply rock in accordance with Rock List. Compact rock in accordance with Clause 4-66 and Compaction List.
Total:	838.80 STA	

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.

0-9 DECOMMISSIONING

This project includes, but is not limited to decommissioning listed in Clause 9-20 ROAD DECOMMISSIONING.

0-10 ABANDONMENT

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

0-13 STRUCTURES

The Purchaser shall acquire and install all structures, with the exception of the bridge at station 33+10 on the C-1400. The bridge structure, bridge deck, and assembly hardware will be supplied by DNR. All other work required for the bridge installation will be the responsibility of the Purchaser, including delivery of the bridge to the site from Copper Pit. The Purchaser shall also provide and install four bridge delineators and mounting posts. 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.

1-8 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).

1-11 FPHP REQUIREMENTS

The following work is subject to requirements under a Forest Practice Hydraulics Project Approval issued by the State of Washington.

FPA Crossing Identifier	Road	<u>Stations</u>	Work Type
C-1	C-1400	33+10	Modular Bridge Installation, Modular Bridge Removal, Log Stringer Bridge Removal

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.

1-13 LOG LOADING

At no time shall the loading of logs occur on the C-1000 and Q-3000 roads. In addition, no debris from harvesting operations shall be allowed on this road.

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.

1-16 CONSTRUCTION STAKES SET BY STATE

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
C-1400	33+10	Modular Bridge Installation
C-1425.2	0+00 – 5+10	Construction Centerline
C-1490	3+50 – 9+60	Construction Centerline

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

1-25 ACTIVITY TIMING RESTRICTION

On the following road(s), the specified activities are not permitted during the listed closure period(s) unless authorized in writing by the Contract Administrator.

Road	<u>Stations</u>	<u>Activity</u>	Closure Period
C-1400	33+10	Log Stringer Bridge Removal	October 1 st – June 30 th
C-1405	24+20 – 29+00	Road Reconstruction, Light Abandonment	October 15 th – April 15 th All work to be completed in one season

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 Activity Timing Restriction, the Purchaser shall provide a maintenance plan to include further protection of State resources. The Contract Administrator must approve the maintenance plan in writing, and preventative measures shall be put in place, before operation in the closure period. The Purchaser shall be required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 Designated Road Maintainer. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan shall be developed. All parties shall follow this plan.

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	<u>Stations</u>
C-1000	143+90 – 171+55
	187+80 – 200+90
	241+10 – 246+90
	289+40 - 321+00
C-1400	131+65 – 162+20
C-1429	19+80 – 36+30
C-1429.1	1+80 – 5+80
C-1429.2	0+00 – 2+90
Q-3000	MP 11.67 – MP 12.38

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.

1-34 EQUIPMENT EXCLUSION ZONE RESTRICTIONS

Alongside the following roads, within the portions of the existing right-of-way that are noted below, there shall be no equipment operation and minimize ground or vegetation disturbance, unless approved in writing by the Contract Administrator.

ROAD STATIONS SIDE C-1400 180+60 – 190+90 Right C-1400 182+80 – 185+10 Left C-1430 9+20 – 16+60 Left

Quinault Fawn-lily Restrictions: Equipment exclusion zones are marked with stakes and orange ribbon.

Restrictions include:

- Full suspension logging only
- Equipment exclusion zone
- No ground disturbance such as clearing and grubbing, ravel removal, cleaning and or constructing ditches, log decking, storing tools or parking, etc.

SUBSECTION OTHER INFRASTRUCTURE

1-41 REQUIREMENTS FOR PAVED ROAD APPROACHES

Purchaser shall build up approaches to allow a smooth grade transition. The top of the rock road surfacing must be kept level with the surface of the paved roads at all times.

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

<u>Road</u>	<u>Stations</u>
Q-3000	MP 0.00 – MP 12.28
C-1000	0+00 – 354+30
C-1000	564+50 - 657+30
Q-3300	204+70 – 225+40
Q-3307 (Tacoma Pit Road)	0+00 – 9+30
Q-3307.4 (Tacoma Pit Road)	0+00 - 8+40
Q-3350	0+00 – 94+80
Q-3360S (Tacoma Creek Pit Rd)	0+00 – 27+60
Hoh-Clearwater Mainline	0+00 – 1357+50

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	<u>Stations</u>
C-1000	0+00 – 354+30
	564+30 - 657+30
Q-3000	MP 0.00 – MP 12.28

2-5 MAINTENANCE GRADING – EXISTING ROAD

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

Road	<u>Stations</u>	<u>Requirements</u>
C-1000	0+00 - 354+30	Grade/shape/compact unpaved sections
C-1000	593+00 - 656+30	Grade/shape/compact
C-1400	0+00 - 216+30	Grade/shape/compact
C-1410.2	0+00 -11+20	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	<u>Stations</u>
All	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	<u>Stations</u>	<u>Left or</u> <u>Right</u>	<u>Comments</u>
C-1000	242+00 – 245+40	R	Line Ditch with 36" Modified Flume See Drawing
	314+00	R	Lower Check Dam at Culvert
	318+00	R	Lower Check Dam at Culvert
C-1400	60+25	L	Lower Check Dam at Culvert
	72+50	L	Lower Check Dam at Culvert
	76+90	L	Lower Check Dam at Culvert
	111+20	L	Lower Check Dam at Culvert
C-1405	15+00 – 17+00	L	
	17+00 – 19+00	L	End Haul 100 cy/sta
	19+00 – 24+00	L	
	24+00 – 29+00	L	End Haul 120 cy/sta, Outslope, No Ditch
C-1410	0+00 – 16+50	R	·
	16+50 – 18+00	L&R	
	18+00 – 20+00	R	
	20+00 – 22+00	R	End Haul 100 cy/sta

C-1420	0+00 - 1+20	R	
C-1425	1+00 – 6+00	L	
	7+20 – 13+00	L	
	21+50 – 24+60	L	
	23+50 – 27+00	R	
C-1425.1	0+00 – 4+00	R	End Haul 30 cy/sta
	4+00 – 6+00	R	End Haul 70 cy/sta
	6+00 – 9+00	R	End Haul 100 cy/sta
	9+50 – 12+50	R	•
	11+00 – 12+50	L	
	12+50 – 16+60	L&R	
C-1427	0+00 - 10+00	R	End Haul 20 cy/sta
	9+00 – 16+00	L	End Haul 30 cy/sta
	17+00 – 19+50	R	End Haul 30 cy/sta
C-1427.1	0+00 - 2+30	R	
C-1429	0+00 - 6+50	R	
	6+50 – 16+00	R	End Haul 40 cy/sta
	16+00 – 17+50	R	End Haul 120 cy/sta
	17+50 – 19+20	R	End Haul 20 cy/sta
	24+90 – 29+00	R	End Haul 20 cy/sta
	31+20 – 38+50	R	End Haul 20 cy/sta
C-1429.2	0+00 - 3+50	R	
	3+50 – 7+70	R	End Haul 140 cy/sta
Alt. C-1429	0+00 - 2+00		
C-1430	0+00 - 8+75	L	End Haul 10 cy/sta
	8+75 – 9+25	L	End Haul 70 cy/sta
	9+25 – 15+50	L	End Haul 10 cy/sta
	15+50 – 17+20	L	End Haul 120 cy/sta
C-1490	0+00 - 3+50	L&R	_
Q-3000.1	0+00 - 13+90	L	
Q-3000.11	0+00 - 3+00	R	
Q-3000.2	0+00 - 9+50	R	
Q-3000.3	0+00 – 4+00	R	

2-9 REMOVING VEGETATIVE MATERIAL

On the following road(s), Purchaser shall remove all vegetative material, dirt, mud, and other debris on the existing road surface with a minimum loss of rock. Material removed shall be disposed of in accordance with Clause 3-21 through Clause 3-25 and Clause 4-36 through Clause 4-38.

Road	Stations	Comments
C-1400	0+00 – 216+30	Removing of vegetative material from Sta 180+60 – Sta 190+90 shall be restricted to the existing road surface and shall not be disposed of in the Fawn-lily Equipment Exclusion Zone.
C-1405	0+00 – 29+00	
C-1405.2	0+00 – 5+90	
C-1410	0+00 - 22+00	
C-1410.1	0+00 – 7+50	
C-1410.2	0+00 – 11+20	
C-1420	0+00 – 1+20	

C-1425	0+00 - 29+50	
C-1425.1	0+00 - 17+60	
C-1427	0+00 - 29+00	
C-1427.1	0+00 - 2+30	
C-1429	0+00 - 38+50	
C-1429.2	0+00 – 7+70	
Alt. C-1429	0+00 - 2+00	
C-1430	0+00 – 17+20	Removing of vegetative material from Sta 9+20 – Sta 16+60 shall be restricted to the existing road surface and shall not be disposed of in the Fawn-lily Equipment Exclusion Zone.
C-1490	0+00 - 3+50	
Q-3000.1	0+00 – 13+90	
Q-3000.11	0+00 - 3+00	
Q-3000.2	0+00 - 9+50	
Q-3000.3	0+00 - 4+00	

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	<u>Comments</u>
C-1400	0+00 – 216+30	Removing of vegetative material from Sta 180+60 – Sta 190+90 shall be restricted to the existing road surface and shall not be disposed of in the Fawn-lily Equipment Exclusion Zone.
C-1405	0+00 – 29+00	
C-1405.2	0+00 – 5+90	
C-1410	0+00 - 22+00	
C-1410.1	0+00 – 7+50	
C-1410.2	0+00 – 11+20	
C-1420	0+00 – 1+20	
C-1425	0+00 – 29+50	
C-1425.1	0+00 – 17+60	
C-1427	0+00 – 29+00	
C-1427.1	0+00 – 2+30	
C-1429	0+00 – 38+50	
C-1429.2	0+00 – 7+70	
Alt. C-1429	0+00 – 2+00	
C-1430	0+00 – 17+20	Removing of vegetative material from Sta 9+20 – Sta 16+60 shall be restricted to the existing road surface and shall not be disposed of in the Fawn-lily Equipment Exclusion Zone.
C-1490	0+00 - 3+50	
Q-3000.1	0+00 – 13+90	

Q-3000.11	0+00 – 3+00	
Q-3000.2	0+00 - 9+50	
Q-3000.3	0+00 - 4+00	

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.
- Within Fawn-lily Equipment Exclusion Zones

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.
- Within Fawn-lily Equipment Exclusion Zones

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.

SUBSECTION PILE

3-31 PILING

Organic debris shall be piled no closer than 20 feet from standing timber and no higher than 20 feet in areas specified in Clause 3-22 Designated Waste Area For Organic Debris. Piles shall be free of rock and soil.

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:

	<u>Excavation</u>	Excavation Slope
Material Type	Slope Ratio	<u>Percent</u>
Common Earth (on side slopes up to 55%)	1:1	100
Common Earth (56% to 70% side slopes)	³⁄ ₄ :1	133
Common Earth (on slopes over 70%)	1/2:1	200
Fractured or loose rock	1/2:1	200
Hardpan or solid rock	1/4:1	400

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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.

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

4-11 KEYED EMBANKMENT

On the following road(s), embankments shall be keyed into the native slope in accordance with the Typical Embankment Key Detail Sheet.

Road	<u>Stations</u>	
C-1405	24+65 – 26+10	

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. If designated, Purchaser shall end haul waste material to the location specified in Clause4-37 WASTE AREA LOCATION.

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	<u>Stations</u>
C-1400	97+30 L
C-1400	105+60 L
C-1400	118+00 L
C-1400	134+60 L
C-1400	135+10 L
C-1405	29+00 L
C-1410	16+40 L
C-1425	6+00 L
C-1425	13+00 L
C-1425	19+90 R
C-1425	24+40 L
C-1425	27+00 R
C-1425.1	9+25 R
C-1425.1	12+50 L and R
C-1425.1	16+60 L and R
C-1427	10+00 R
C-1427	16+00 L
C-1429	38+50 R
C-1429.2	7+70 R
C-1430	17+20 L
Q-3000.3	4+00 R

SUBSECTION WASTE MATERIAL (SOIL)

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.

4-37 WASTE AREA LOCATION

Waste material shall be deposited in the listed designated areas. The amount of material to be contained in a waste area shall be at the discretion of the Contract Administrator. Note: All amount values are estimated bank yards.

Waste Area	Waste Area Location	Waste Generated	<u>Estimated</u>	Waste Area
<u>Designation</u>		From Road	<u>Volume</u>	Permitted Vol.
WA1	C-1410, 21+20 L	C-1410	200 cy	500 cy
WA2	C-1400.156	C-1427	700 cy	2,000 cy
WA3	C-1429, 7+70 R	C-1429	200 cy	2,000 cy

WA4	C-1429.1, End	C-1429	600 cy	2,000 cy
WA5	C-1429, 31+30 R	C-1429, C-1429.2	1,100 cy	2,000 cy
WA6	C-1400, 212+00 L	C-1430	1,500 cy	2,000 cy
WA7	C-1410.1, 7+50 L	C-1410	200 cy	1,000 cy
WA8	C-1405, 4+75 R	C-1405	1,500 cy	4,000 cy

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.
- Within Fawn-lily Equipment Exclusion Zones

4-39 WASTE AREA COMPACTION

Excavated material may be deposited adjacent to the road prism on side slopes up to 45% if the waste material is compacted and free of debris. On side slopes of 45% or more, all excavation shall be end hauled or pushed to designated waste areas. All waste material shall be compacted. The minimum acceptable compaction is achieved by placing embankments in 2 foot or shallower lifts and routing excavation equipment over the entire width of the lifts, with the exception of side hill embankments too narrow to accommodate excavation equipment which may be placed by end-dumping or sidecasting until sufficiently wide to support the equipment.

SUBSECTION BORROW

4-45 SELECT BORROW

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

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.

4-49 BORROW SOURCE

Borrow may be obtained from the listed borrow source(s). Development of the borrow source shall be in accordance with Borrow Source Detail.

<u>Source</u>	<u>Location</u>	<u>Yards</u>
C-1000	564+50 L	As Needed for Road Repair
C-1400	51+00 L	As Needed for Road Repair

4-50 BORROW APPLICATION

Borrow shall be applied in accordance with quantities shown below. Borrow shall be spread, shaped and compacted full width concurrent with hauling operations.

Road	<u>Stations</u>	Estimated Cubic Yards	Type / Comments
C-1405	4+50 – 5+00	120 cy	As Needed
C-1405	24+65 – 26+10	100 cy	As Needed
C-1430	See Road Plan Maps	1,000 cy	As Needed

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 10-24.

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 culverts shall be transported by the Purchaser to the storage yard at the DNR Sawmill, along the Hoh-Clearwater Mainline, by MP 12, or as directed by the Contract Administrator prior to contract expiration.

<u>Road</u>	<u>Size</u>	Quantity
As directed by Contract Administrator.	18" x 30'	2

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 3/4 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.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), rip rap shall be set in place immediately following construction of the embankment. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the Typical Type Ns Np Culvert Installation Detail as directed by the Contract Administrator. Rock shall not restrict the flow of water into culvert inlets or catch basins. Rock shall be set in place by machine. Placement shall be by zero-drop-height method only. No placement by end dumping or dropping of rock shall be allowed.

<u>Road</u>	<u>Stations</u>	Rock Type
C-1400	55+15	Light Loose Riprap, Energy Dissipation

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	<u>Location</u>	Rock Type
Tacoma Pit	T24N, R11W, Sec. 9	Pitrun
Tacoma Creek Pit	T24N, R11W, Sec. 8	1¼" Minus 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 550 cubic yards of 1½" minus crushed rock, unless authorized by the Contract Administrator.

<u>Source</u>	<u>Location</u>	Quantity (yd³)
11/4" Minus Crushed	Tacoma Creek Pit	550

6-5 ROCK FROM COMMERCIAL SOURCE

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

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.

6-28 1 1/4-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.

6-50 LIGHT LOOSE RIP RAP

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

At Least/Not More Than	Weight Range	Size Range
20% / 90%	300 lbs. to 1 ton	12"- 36"

6-52 OVERSIZE

% Passing 8" square sieve	100%
% Passing 4" square sieve	0%

Rock shall not contain more than 5 percent vegetative debris or 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 STOCKPILE

6-67 ROCK STOCKPILE SPECIFICATIONS

Rock stockpiles listed in Clause 6-65 Rock Stockpile Location shall meet the following specifications:

- 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.

SUBSECTION ROCK APPLICATION

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 1¼" minus crushed rock in accordance with the quantities shown on the Rock List.

Road	<u>Stations</u>	<u>Amount</u>
C-1000	564+50 - 657+30	50 cy
C-1400	0+00 – 216+30	150 cy

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.

SUBSECTION ACCEPTANCE

7-16 STRUCTURE ACCEPTANCE

The District Engineer or their designee will inspect the structure upon delivery. Acceptance will be issued if the structure meets all specifications and certifications.

7-17 INSTALLATION PRODUCTION SCHEDULE

Purchaser shall provide the District engineer or their designee with a production schedule showing projected completion dates of the following items before starting construction of structure(s). Production schedule shall include, but is not limited to:

- a) excavation,
- b) placement of sills/abutments/footings/structure,
- c) backfill compaction, rock application and compaction,

7-18 INSTALLATION STAGE ACCEPTANCE

The Purchaser shall be responsible for ensuring that all materials and procedures used during construction comply with the design. Each stage of construction, according to the production schedule listed in Clause 7-17 Installation Production Schedule, shall be accepted in writing by the District Engineer, or their designee before starting construction on the next stage. The Purchaser shall notify the District Engineer or their designee in writing when each construction stage is complete.

7-19 INSTALLATION FINAL ACCEPTANCE

The Purchaser shall notify the District Engineer in writing when each structure is complete.

7-20 REQUIRED NOTIFICATION AND APPROVAL

Purchaser shall provide the District engineer or their designee 3 day notification prior to beginning road work on the C-1400. Purchaser shall provide the District engineer or their designee 3 day notification prior to beginning work on the C-1400 bridge and log sill assembly. District Engineer or designee is to be on site for the bridge and log sill assembly work. Purchaser shall receive approval for completed road work on the C-1400 road from the District engineer or their designee prior to log haul on those roads.

7-21 DEMOLITION PLAN ACCEPTANCE

The Purchaser shall provide a demolition plan for the removal of all the stringers on the existing log stringer bridge. This plan shall include equipment and methods planned on being used to dismantle bridge and provisions to keep debris from getting into the water. The plan shall also include placing large woody debris in the form of two of the removed log stringers with one end in the stream bed and seeding of exposed soils (see Section 8). The other remaining log stringers shall be transported by the Purchaser to the storage yard at the DNR Sawmill, along the Hoh-Clearwater Mainline, by MP 12, or as directed by the Contract Administrator prior to contract expiration.

SUBSECTION BRIDGE MAINTENANCE

7-30 BRIDGE MAINTENANCE

On the following road(s), bridge maintenance, as listed below, is required as part of this contract. All old bridge material shall be removed from state land by the Purchaser before the termination of the contract.

Road	<u>Station</u>	<u>Requirements</u>	Detail Sheet
C-1000	185+60, 316+20	Keep bridge decks clean and free of gravel.	Per C/A

SUBSECTION BRIDGE INSTALLATION

7-46 STATE SUPPLIED BRIDGE

On the following road, the Purchaser shall construct the bridge, listed below, in accordance with this Road Plan. Bridge is available for use within the terms of the contract, without charge from the state. Refer to T3 C-1400 Bridge Sheets and bridge manufacturer plans.

Road	Station	Length (ft)	W.B.S.R ¹ (ft)	Туре	Picking Weights	Location
C-1400	33+10	80	14	Steel Non-Composite (see plans)	Module 1A = 7.5 tons Module 2A = 7.5 tons Module 1B = 10 tons Module 2B = 10 tons	Copper Pit MP 16.7

¹W.B.S.R. = Width between shear rails Contact: Bill Mehl, Coast District Engineer 360-640-2129 Bill.mehl@dnr.wa.gov Bridge is planned to be delivered to Copper Pit by November 31, 2023. The bridge shall be offloaded by the Purchaser at Copper Pit. The Purchaser shall coordinate with the bridge supplier for delivery and offloading of the bridge at Copper Pit. The Purchaser shall notify the District Engineer or their designee a minimum of 3 calendar days before pick up of the bridge and all associated hardware for transport to the jobsite.

7-47 PURCHASER SUPPLIED ABUTMENTS

Purchaser is responsible for supplying abutments. Bridge abutments shall be native timber sill logs a minimum of 24" diameter at mid-span and 30' long. Douglas-fir or spruce logs are preferred. Abutment logs on both sides shall be tied back with 'sleeper' deadman logs. See typical log stringer sheet for more details. The Coast District Engineer or their designee to be on site during construction.

7-48 STATE SUPPLIED BRIDGE - MOBILIZATION

Anticipated specification for State supplied bridge: steel, non-composite, 4 beam modular, 4 pieces, with 2 pieces weighing approximately 20,000 pounds and 2 pieces weighing approximately 15,000 pounds.

The bridge is partially assembled and the Purchaser shall load and transport the bridge to the jobsite. The Purchaser is required to submit a plan of operations to the Contract Administrator for written approval for loading, transport, and placement of the State provided bridge superstructure. The plan shall include, but is not limited to, a description of the equipment and techniques to be used to lift and place the superstructure. Equipment used to lift the superstructure shall have sufficient capacity to lift it free and clear without dragging. Purchaser will be liable for any damage to the bridge structure.

7-51 EMBANKMENT RETENTION

Embankment retention methods shall be provided to ensure that bridge approach embankments are stable, contained, and do not encroach on the stream channel. Bin wall or Hilfiker systems are two pre-approved designs. Other methods of embankment retention shall be submitted to the same location stated in Clause 7-15 Drawing And Calculation Review For Acceptance for consideration. Reports and plans will be approved or rejected within 10 working days of receipt.

7-60 PURCHASER SUPPLIED BRIDGE DELINEATERS

Bridge delineators and mounting posts shall be supplied and installed by the Purchaser and shall consist of four 12" x 36" reflective striped delineators mounted on each bridge. Mounting may consist of post and bolt or other means of attachment approved by the Contract Administrator. One delineator shall be installed at each end of each bridge guard rail or curb, and shall be installed with the reflector stripes angled downward and guiding traffic towards the center of the bridge.

SECTION 8 - EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road(s), Purchaser shall install sediment control structures as listed below.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
C-1400	33+10	6" Berm L R 50', Both Approaches

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.

8-7 ROAD SHOULDER BERM INSTALLATION

On the following road(s), the Purchaser shall construct berms on the road shoulders as listed below.

<u>Road</u>	<u>Stations</u>	<u>Remarks</u>
C-1400	33+10	6" Berm L R 50', Both Approaches

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 S	<u>Species</u>	% 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 STRUCTURES

9-3 REMOVAL OF CULVERT MATERIAL FROM STATE LAND

Culvert material removed from roads becomes the property of the Purchaser and must be removed from state land.

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	<u>Stations</u>	Additional Requirements
All	All	Clean culverts, clean ditches, grade road shape and compact as directed by the Contract Administrator
C-1400	All	Apply post haul rock as per Clause 6-72.
C-1000	0+00 - 354+30 593+00 - 656+30	Apply post haul rock as per Clause 6-72.
C-1000	185+60, 316+20	Clean bridge decks and clean free of gravel.

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.

SUBSECTION DECOMMISSIONING AND ABANDONMENT

9-20 ROAD DECOMMISSIONING

The following road(s) shall be decommissioned by the Purchaser before the termination of this contract.

Road	Stations	<u>Comments</u>
C-1400	33+00 – 34+00	Purchaser shall remove the modular bridge installed over the existing log stringer bridge. Timber sleepers and abutments associated with the modular bridge installation will be left in place for soil retention. The modular bridge shall be delivered to the DNR Sawmill storage yard, along the Hoh-Clearwater Mainline, by MP 12, or as directed by the Contract Administrator. Soil bridge decking and log stringers on the existing log stringer bridge shall be removed. Two of the log stringers shall be placed in the stream and serve as large woody debris. The remainder of the stringers shall be delivered to the DNR Sawmill storage yard, or as directed by the Contract Administrator. Work shall be completed between July 1 and September 30. Work outside of this timing window shall require written approval from the Contract Administrator. The Purchaser shall block both approaches to the bridge removal location with large stumps. The Purchaser shall install near STA 216+30 a sign facing the eastern C-1000 / C-1400 road junction, which says "BRIDGE REMOVED 3.5 MILES AHEAD."

9-21 ROAD ABANDONMENT

The following road shall be abandoned by the Purchaser before the termination of this contract. Work shall be according to the State supplied geotechnical recommendations. A licensed geologist from DNR shall observe and approve the earthwork phase of the abandonment process. A forest practices inspection and abandonment approval letter is required to complete the process.

Road	<u>Stations</u>	<u>Date</u>
C-1405	24+20 – 29+00	Road abandonment shall be completed during the same season that road reconstruction is completed and outside of the closure period specified in Clause 1-25 ACTIVITY TIMING RESTRICTION.

9-22 LIGHT ABANDONMENT

- Construct non-drivable water bars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between water bars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew water bars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key water bars into the cut-slope to intercept the ditch. Water bars must be out-sloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts

- Remove keyed embankment fill according to the FILL REMOVAL DETAIL.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cut slope to toe of fill slope.

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.

	<u>ASTM</u> <u>Test</u>	<u>Requirements</u>
Туре		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.

10-21 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

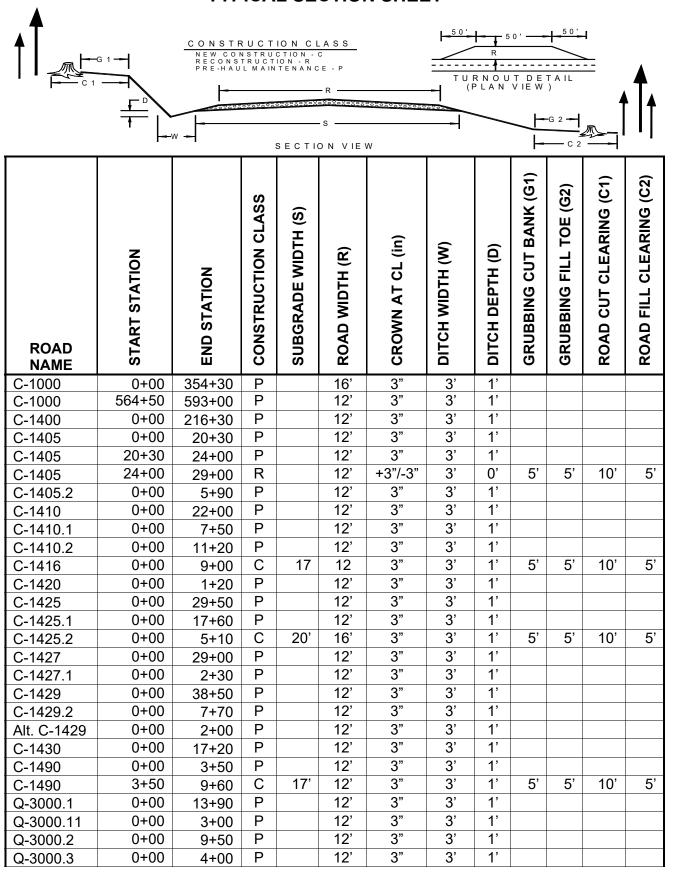
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

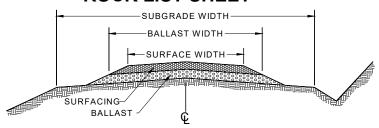
Metal culverts shall conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 ² / ₃ " X ¹ / ₂ "
24" to 48"	14 (0.079")	2 ² / ₃ " X ¹ / ₂ "
54"	12	5" X 1"
60" +	10	5" X 1"

TYPICAL SECTION SHEET



ROCK LIST SHEET

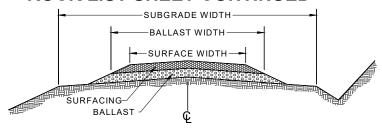


SECTION VIEW

- 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 $1\frac{1}{2}$ (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 11/4" minus, 3: Native Oversize,

4: Native Light Loose Rip Rap. 5: Native Ballast

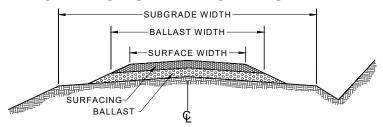
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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip rap Source	Oversize/Rip Rap Ouantitv(vd³)
C-1000															
Misc. Pre-Haul	564+50	593+00							2				50		
Misc Post-Haul	564+50	657+30							2				50		
C-1400															
Misc. Pre-Haul	0+00	22+80							2				150		
Misc. Pre-Haul	33+50	216+30							2				250		
Bridge & Approaches	33+10			1				300	2				20		
Culvert	40+00			1				40						3	7
Culvert	43+00			1				40						3	7
Outlet	51+00													3	3
Outlet	55+15													4	10
Landing	69+00			1				50							
Landing	104+00			1				50							
Landing	175+80			1				50							
Landing	186+20			1				50							
Misc Post-Haul	0+00	216+30							2				150		
C-1405															
Lift	0+00	29+00		1	12	6	35	1020							
Road Repair	4+50	5+00		5				120							
Culvert	6+10			1				20						3	2
Spot Patch	7+10			5				50							
Landing	8+90			1				50							
Totals:								1840					670		29



- SECTION VIEW
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4: Native Light Loose Rip Rap, 5: Native Ballast

ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip rap Source	Oversize/Rip Rap Quantity(yd³)
C-1405 (cont)															
Culvert	12+25			1				20						3	2
Culvert	16+70			1				20						3	2
Spot Patch	17+80			5				40							
Spot Patch	18+90			5				40							
Culvert	24+00			1				20						3	7
Road Repair	24+65	26+10		5				100						4	50
Landing	29+00			1				70							
C-1405.2															
Lift	0+00	5+90		1	12	6	35	210							
Landing	5+90			1				50							
C-1410															
Lift	0+00	22+00		1	12	8	45	990							
Culvert	0+15			1				40							
Road Repair	4+50	5+50		5				180							
Culvert	4+70			1				20						3	2
Culvert	10+10			1				20						3	2
Landing	11+00			1				50							
Culvert	13+00			1				20						3	2
Landing	21+20			1				70							
Totals:							•	1,960					0		67

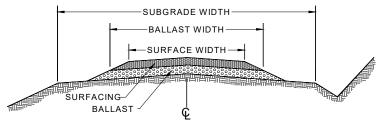


SECTION VIEW

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 - 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 ½" 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.
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4: Native Light Loose Rip Rap. 5: Native Ballast

1		4: Native	Ligiti	_0030	TOPI	ιар, υ.	INALIV	Dallasi							
ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd³)
C-1410.1															
Lift	0+00	7+00		1	12	6	35	245							
Lift	7+00	7+50		1	12	12	70	35							
Landing	7+50			1				70							
C-1416															
Lift	0+00	9+00	17	1	12	14	80	720							
C-1420															
Lift	0+00	1+20		1	12	6	35	40							
Landing	1+20			1				50							
C-1425															
Lift	0+00	29+50		1	12	8	45	1330							
Road Repair	9+00	11+00		5				220							
Landing	9+50			1				50							
Spot Patch	13+50			1				10							_
Landing	24+70	_		1				100						_	_
Landing	29+50			1				50							
C-1425.1	_	_												_	_
Lift	0+00	17+60		1	12	6	35	620							
Culvert	5+90			1				20						3	2
Landing	17+60			1				50							
Totals:								3,610					0		2



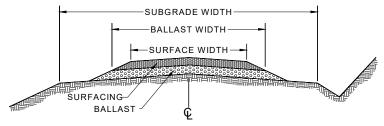
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ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd³)
C-1425.2															
Lift	0+00	5+10	20	1	16	18	110	560							
Landing	5+10			1				100							
C-1427															
Lift	0+00	29+00		1	12	6	35	1020							
Spot Patch	2+50			1				20							
Landing	5+10			1				50							
Spot Patch	6+80			1				10							
Spot Patch	8+25			1				10							
Landing	12+50			1				50							
Culvert	19+50			1				30						3	2
Road Repair	24+00	25+00		1				60							
Landing	29+00			1				100							
C-1427.1															
Lift	0+00	2+30		1	12	6	35	80							
Alt. C-1429															
Lift	0+00	2+00		1	16	6	35	70							
Totals:								2,160					0		2



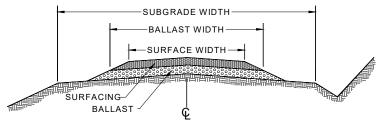
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4: Native Light Loose Rip Rap, 5: Native Ballast

		4. Nauve	(ft)							t)	n)		yd³)		
ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd³)
C-1429															
Lift	0+00	38+50		1	12	9	55	2120							
Culvert	2+70			1				20						3	2
Culvert	6+65			1				20						3	2
Spot Patch	37+00			1				10							
Landing	38+50			1				70							
C-1429.2															
Lift	0+00	7+70		1	12	12	70	540							
Road Repair	3+50	5+00		5				300							
Landing	7+70			1				70							
C-1430															
Lift	0+00	17+20		1	12	6	35	600							
Road Repair	1+50	5+00		5				380							
Road Repair	6+00	8+00		5				300							
Culvert	9+30			1				20						3	7
Spot Patch	9+80			1				60							
Spot Patch	11+75			1				30							
Spot Patch	12+25			1				20							
Totals:								4,560					0		11

ROCK LIST SHEET CONTINUED



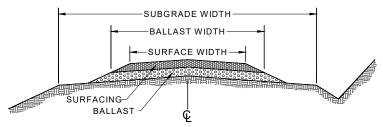
SECTION VIEW

- 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 1/4" 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 11/4" minus, 3: Native Oversize,

4: Native Light Loose Rip Rap, 5: Native Ballast

		r. INDUVO L													
ROAD NAME	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd³)
C-1430 (cont)															
Culvert	13+50			1				20						3	7
Spot Patch	14+60			1				40							
Road Repair	15+50	16+50		5				120							
Landing	17+20			1				70							
C-1490															
Lift	0+00	3+50		1	12	6	35	130							
Landing	3+50			1				50							
Lift	3+50	9+60	17	1	12	18	110	670							
Landing	9+60			1				100							
C-3000.1															
Lift	0+00	13+90		1	12	8	45	630							
Landing	4+50			1				50							
Road Repair	6+00			1				150							
Culvert	11+20			1				20						3	2
Landing	13+50			1				50							
C-3000.11															
Lift	0+00	3+00		1	12	6	35	110							
Landing	3+00			1				50							
Totals:								2,260					0		9

ROCK LIST SHEET CONTINUED



- 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 $1\frac{1}{2}$ (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 1/4" 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 11/4" minus, 3: Native Oversize,

4: Native Light Loose Rip Rap, 5: Native Ballast

ROAD NAME C-3000.2	START STATION	END STATION	SUBGRADE WIDTH (ft)	Pitrun SOURCE	Pitrun WIDTH (ft)	Pitrun DEPTH (in)	Pitrun Quantity(yd³/sta)	Pitrun SUBTOTAL(yd³)	Crushed SOURCE	Crushed WIDTH (ft)	Crushed DEPTH (in)	Crushed Quantity(yd³/sta)	Crushed Subtotal(yd³)	Oversize/ Rip Rap Source	Oversize/Rip Rap Quantity(yd³)
Lift	0+00	9+50		1	12	8	45	430							
Culvert	8+40			1				20						3	2
Landing	9+50			1				50							
C-3000.3															
Lift	0+00	4+00		1	12	8	45	180							
Culvert	2+80			1				30						3	2
Landing	9+50			1				50							
Totals:								760					0		4

ROCK LIST SHEET GRAND TOTAL

Source	Quantity (yd³)
1: Tacoma Pit Pitrun	15,300
2: Tacoma Creek Pit 1¼" minus	670
3: Native Oversize	64
4: Native Light Loose Rip Rap	60
5: Native Ballast	1,850

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	228+20	18						Clean Inlet
	232+60	18						Clean Inlet
	237+40	18						Clean Inlet
	242+40	36	120					Ditch Lining (see drawing)
	245+40	18						Clean Inlet
	259+30	18						Clean Inlet
	278+20	18						Clean Inlet
	298+30	18						Clean Inlet
	299+60	18						Clean Inlet
	304+50	18						Clean Inlet
	309+00	18						Clean Inlet
	314+00	18						Clean Inlet, Lower Check Dam
	318+00	18						Clean Inlet, Lower Check Dam
	331+80	18						Clean Inlet
	337+70	18						Clean Inlet
	343+90	18						Clean Inlet
	569+60	18						Clean Inlet
	589+70	18						Clean Inlet
C-1400	0+30	18						Clean Inlet
	6+40	18						Clean Inlet
	12+30	18						Clean Inlet
	15+00	18						Clean Inlet
	20+20	18						Clean Inlet
	34+60	18						Clean Inlet
	39+10	18						Clean Inlet
	40+00	18	40		2	5	PR	Install
	42+00	18						Clean Inlet

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 1/4"- crushed rock, PR = pit run.

CULVERT LIST Continued

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)	RIP RAP - INLET (cy)	RIP RAP – OUTLET (cy)	BACKFILL MATERIAL	NOTES
C-1400 (cont.)	43+00	18	40		2	5	PR	Install
	45+00	18						Clean Inlet and Outlet
	48+10	18						Clean Inlet
	51+00	18				3		Clean Inlet, Outlet Add Oversize
	55+15	18				10		Clean Inlet, Light Loose Riprap
	58+40	18						Clean Inlet
	59+75	18						Clean Inlet
	60+25	18						Clean Inlet, Lower Check Dam
	61+90	18						Clean Inlet
	63+00	18						Clean Inlet
	67+30	18						Clean Inlet
	72+50	18						Clean Inlet, Lower Check Dam
	76+90	18						Clean Inlet, Lower Check Dam
	81+50	18						Clean Inlet
	88+00	18						Clean Inlet
	91+70	18						Clean Inlet
	102+90	18						Clean Inlet
	107+50	18						Clean Inlet
	111+20	18						Clean Inlet, Lower Check Dam
	124+40	18						Clean Inlet
	141+70	18						Clean Inlet
	149+00	18						Clean Inlet
	173+80	18						Clean Inlet
	181+90	18						Hand Clean Inlet If Cleaning is Necessary
	187+40	18						Hand Clean Inlet If Cleaning is Necessary
	200+60	18						Clean Inlet
								oo Book List or in the field

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 1/4"- crushed rock, PR = pit run.

CULVERT LIST Continued

ROAD NAME	STATION	CULVERT DIAMETER (in)	CULVERT LENGTH (ft)	FLUME LENGTH (ft)	RIP RAP - INLET (cy)	RIP RAP – OUTLET (cy)	BACKFILL MATERIAL	NOTES
C-1405	6+10	18	30		1	1	PR	Install Pipe
	12+25	18	30		1	1	PR	Install Pipe
	16+70	18	30		1	1	PR	Install Pipe
	24+00	18	30		1	1	PR	Install Pipe
C-1410	0+15	18	50				PR	Install Pipe
	4+70	18	30		1	1	PR	Replace Pipe
	10+10	18	30		1	1	PR	Replace Pipe
	13+00	18	30		1	1	PR	Replace Pipe
C-1425.1	5+90	18	30		1	1	PR	Replace Pipe
C-1427	3+60	18						Clean Inlet
	5+80	18						Clean Inlet
	19+50	18	40		1	1	PR	Replace Pipe
	27+00	18						Clean Inlet
C-1429	2+70	18	30		1	1	PR	Replace Pipe
	6+65	18	30		1	1	PR	Install Pipe
	13+50	18						Clean Inlet
	19+20	18						Clean Inlet
	24+90	18						Clean Inlet
	29+10	18						Clean Inlet
	31+20	18						Clean Inlet
C-1430	9+30	18	30		2	5	PR	Install Pipe
	13+50	18	30		2	5	PR	Install Pipe
Q-3000.1	11+20	18	30		1	1	PR	Install Pipe
Q-3000.2	8+40	18	30		1	1	PR	Install Pipe
Q-3000.3	2+80	18	40		1	1	PR	Install Pipe
Contingency	(x2)	18	30		2	2	PR	Install Pipe
<u></u>			<u> </u>			: .: :	<u> </u>	Deale Liet en in the field

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 ½"- crushed rock, PR = pit run.

FISH STREAM WORK PROVISIONS

- 1. TIMING LIMITATIONS: The fish culvert project may begin July 1 and shall be completed by September 30.
- 2. Work shall conform to plans and specifications in the road plan.
- 3. Prior to the commencement of in-stream work, the Purchaser shall isolate the work area in a manner that fish cannot enter the work area, capture and safely move fish and other fish life from the work area. The Purchaser shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the work area.

TEMPORARY STREAM FLOW BYPASS

- 4. All in-stream work shall be conducted in the dry or in isolation from the stream flow by the installation of a bypass flume/pipe or by pumping the flow around the work area, back into the stream below the work area. Waste water pumped from within the work area shall terminate on the forest floor, sufficient distance from the stream to filter sediment prior to entering the stream.
- 5. The temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter.
- 6. A sandbag revetment or similar device shall be installed at the bypass inlet to divert the entire flow through the bypass.
- 7. The bypass shall be of sufficient size to pass all flows and debris for the duration of the project.
- 8. If a pump is used for diverting water from the stream where fish are present, as per RCW 77.57.010 and 77.57.070, the pump intake shall be equipped with a fish guard to prevent passage of fish into the diversion pump. The pump intake shall be screened with 1/8 inch mesh to prevent fish from entering the pump. Velocity through the screened intake shall be less than 0.4 feet per second. Screens shall be maintained to prevent injury or entrapment of juvenile fish.

WATER QUALITY

9. Extreme care shall be taken to ensure that no petroleum products, hydraulic fluid, chemicals, or any other toxic or deleterious materials are allowed to enter or leach into the stream.

COMPACTION LIST

Road	Stations	Туре	Max Depth per Lift (In)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
Construction	All	Culvert Backfills	6	Jumping Jack	N/A	3	N/A
Construction	All	Subgrade, Embankment	6				
Construction	All	Rock Placement	6	\/ibratam/			
Pre-haul Maintenance	All	Existing Pre-haul Surface	6	Vibratory Smooth Drum	6,000	3	3
Pre-haul Maintenance, Post-haul Maintenance	All	Rock Lifts	6	Roller*			
Pre-haul Maintenance	All	Culvert Backfills	6	Jumping Jack	N/A	3	N/A
Waste Areas	See Clause 4-37	Waste Material	24	Excavation Equipment	See	Clause -	4-39

SUMMARY - Road Development Costs

		SUMMAKI		- Koad Development Costs	Costs									
SALE NAME: T3 C-1400 Timber Sale LEGAL DESCRIPTION:		CONTRACT#: 30-102252 T25N R11W Sec. 21-23, 25-28	∞	REGION:	Olympic		DISTRICT:	DISTRICT: Coast District						
ROAD NAME:	C-1416	C-1425.2	C-1490	C-1405	C-1000	C-1400	C-1405	C-1405.2	C-1410	C-1410.1	C-1420	TOTAL: \$	TOTAL SHEET #2-4	
ROAD TYPE:	Construction		Construction Construction	Recon.	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul			
NUMBER OF STATIONS:	9.00	5.10	6.10	4.80	382.80	206.30	24.20	5.90	22.00	7.50	1.20	674.90	476.80	
SIDESLOPE:	15%	10%	20%	10%	%0	%0	%0	%0	%0	%0	%0			
CLEARING AND GRUBBING:	\$1,026	\$785	\$698	80	80	80	\$0	80	80	80	0\$	\$2,507	80	
ROAD BRUSHING:	80	80	80	98\$	80	\$1,341	\$157	\$38	\$143	\$49	88	\$1,823	\$1,155	
EXCAVATION AND FILL:	\$1,780	\$1,247	\$1,379	80	80	80	8800	80	8800	80	80	\$6,005	\$28,088	
ROAD GRADING:	80	80	80	\$31	\$185	\$1,341	\$157	\$38	\$143	\$49	8\$	\$1,953	\$3,099	
DITCH CLEANING/CONSTRUCTION:	80	80	\$0	\$187	\$117	80	\$546	80	\$917	80	\$47	\$1,814	\$5,819	
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:	80	80	\$0	80	80	80	\$0	80	80	80	80			
Ballast: 17,113 17,150	720	199 (771	338	0	580	1,227	257	1,390	350	92	6,385	10,728	CY
	\$14,242	\$13,775	\$12,259	\$8,636	80	\$11,136	\$26,749	\$5,181	\$28,523	\$7,560	\$1,749		\$176,549	
Surface: 670 670	0	0	0	0	50	420	0	0	0	0	0	470	200	CY
	80	80	\$0	80	\$747	\$7,959	\$0	80	80	80	80		\$3,590	
Oversize: 124 124	0	0	0	50	0	27	13	0	9	0	0	96	28	CY
	80	80	\$0	\$459	80	\$248	\$119	80	\$55	80	80	880	\$257	
CULVERTS AND FLUMES:	80	80	80	80	\$7,800	\$2,464	\$2,772	80	\$4,312	80	80	\$17,348	\$10,780	
STRUCTURES:	80	80	8	\$5,000	80	\$20,000	80	80	80	80	80	\$25,000	80	
MISC. EXPENSES:	\$53	\$30	\$36	\$3,375	\$575	\$1,931	\$20	80	\$2,161	\$730	80	\$8,910	\$3,813	
OVERHEAD:	\$1,539	\$1,425	\$1,293	\$1,777	\$754	\$3,714	\$2,506	\$421	\$2,964	\$671	\$145	\$17,209	\$18,874	
TOTAL COSTS:	\$18,639	\$17,263	\$15,662	\$19,552	\$10,178	\$50,133	\$33,826	\$5,679	\$40,018	\$9,058	\$1,956	\$221,963	\$252,024	
COST PER STATION:	\$2,071	\$3,385	\$2,568	\$4,073	\$27	\$243	\$1,398	\$965	\$1,819	\$1,208	\$1,630			
MOBILIZATION: ROAD DEACTIVATION AND ABANDONMENT COSTS:	IMENT COSTS:		\$7,200											
Pit Work		80		Road Standard	Const.	Reconst.	Prehaul	Posthaul	Abandonment		TOTAL (All Roads)	II Roads) =	\$527,837	
				Total Costs =	\$53,364	\$21,352	\$396,459	\$10,013	\$46,650	S	SALE VOLUME MBF	E MBF =	10,847	
NOTE: This appraisal has no allowance for profit and risk.	profit and risk.			Total Sta. =	20	5	828	828			TOTAL COST PER MBF =	PER MBF =	\$49	
Sheet 1 of 2				Cost per Sta. =	\$2,642	\$4,448	\$479	\$12		TOT	TOTAL COST PER STATION=	STATION=	\$458	
				Compiled by:	Keith Wyatt							Date: (Date: 01-23-2023	

SUMMARY - Road Development Costs CONTRACT#: 30-102252 REGION: Olympic

DISTRICT: Coast District REGION: Olympic SALE NAME: T3 C-1400 Timber Sale CONTRACT#: 30-102252

LEGAL DESCRIPTION: T25N R11W Sec. 21-23, 25-28

ROAD NAME:	C-1425	C-1425.1	C-1427	C-1427.1	C-1429	C-1429.2 A	Alt. C-1429	C-1430	C-1490	Q-3000.1 Q-3000.11 Q-3000.2	2-3000.11		Q-3000.3	C-1000	C-1400	
ROAD TYPE:	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Prehaul	Posthaul]	Posthaul	
NUMBER OF STATIONS:	29.50	17.60	29.00	2.30	38.50	7.70	2.00	17.20	3.50	13.90	3.00	9.50	4.00	92.80	206.30	
SIDESLOPE:	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	%0	
CLEARING AND GRUBBING:	80	80	80	80	80	80	80	80	80	80	80	0\$	0\$	80	80	
ROAD BRUSHING:	\$192	\$114	\$189	\$15	\$250	\$50	\$13	\$112	\$23	890	\$20	\$62	\$26	80	80	
EXCAVATION AND FILL:	80	\$2,240	\$1,940	80	\$3,368	\$580	80	\$1,560	\$3,680	\$3,680	\$3,680	\$3,680	\$3,680	80	80	
ROAD GRADING:	\$192	\$114	\$189	\$15	\$250	\$50	\$13	\$112	\$23	890	\$20	\$62	\$26	\$603	\$1,341	
DITCH CLEANING/CONSTRUCTION:	629\$	\$686	\$761	890	\$1,232	\$300	\$78	\$671	\$137	\$542	\$117	\$371	\$156	80	80	
ROCK TOTALS (Cu. Yds.)/ROCK COSTS:	80	80	80	80	\$0	80	80	80	80	80	80	\$0	80	80	80	
Ballast:	1,758	989	1,345	81	2,238	606	70	1,662	173	968	155	498	260	0	0	CY
	\$35,800	\$13,583	\$23,336	\$1,479	\$32,421	\$16,526	\$1,152	\$26,675	\$2,772	\$11,086	\$1,951	\$6,398	\$3,370	80	80	
Surface:	0	0	0	0	0	0	0	0	0	0	0	0	0	50	150	CY
	80	\$0	80	80	\$0	80	80	80	80	80	80	\$0	80	\$747	\$2,843	
Oversize:	0	2	2	0	4	0	0	14	0	2	0	2	2	0	0	CY
	80	\$18	\$18	80	\$37	80	\$0	\$128	80	\$18	80	\$18	\$18	80	80	
CULVERTS AND FLUMES:	80	\$924	\$1,232	80	\$1,848	80	80	\$1,848	80	\$924	80	\$924	\$3,080	80	80	
STRUCTURES:	\$0	80	\$0	80	\$0	\$0	80	\$0	80	80	80	\$0	80	80	80	
MISC. EXPENSES:	\$1,536	\$100	\$112	80	\$140	\$20	\$0	\$20	80	\$0	80	\$0	\$20	\$543	\$1,323	
OVERHEAD:	\$3,072	\$1,422	\$2,222	\$128	\$3,164	\$1,402	\$100	\$2,490	\$531	\$1,315	\$463	\$921	\$830	\$208	909\$	
TOTAL COSTS:	\$41,470	\$19,203	\$29,998	\$1,726	\$42,711	\$18,928	\$1,357	\$33,616	\$7,165	\$17,746	\$6,250	\$12,435	\$11,206	\$2,101	\$6,112	
COST PER STATION:	\$1,406	\$1,091	\$1,034	\$751	\$1,109	\$2,458	829\$	\$1,954	\$2,047	\$1,277	\$2,083	\$1,309	\$2,802	\$23	\$30	

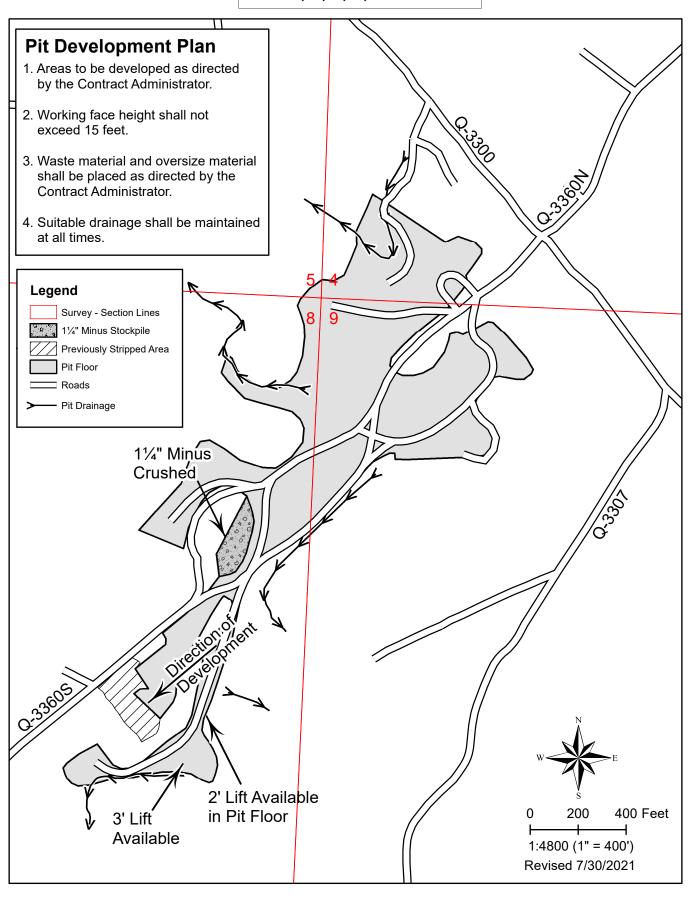
Cost/station \$528.57

Cost/station \$528.57 Total

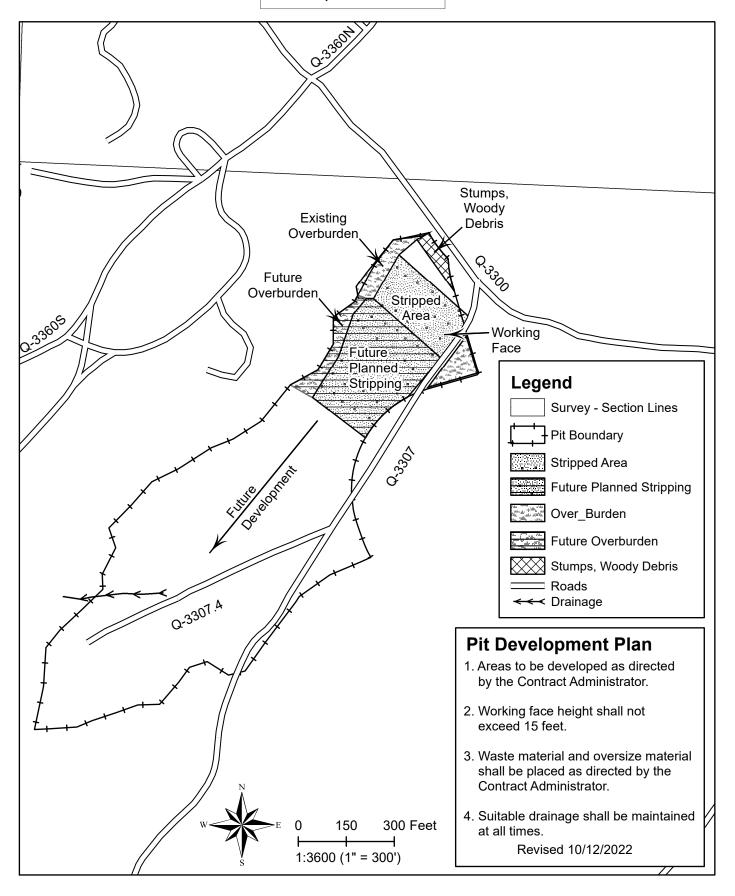
Sheet 2 of 2

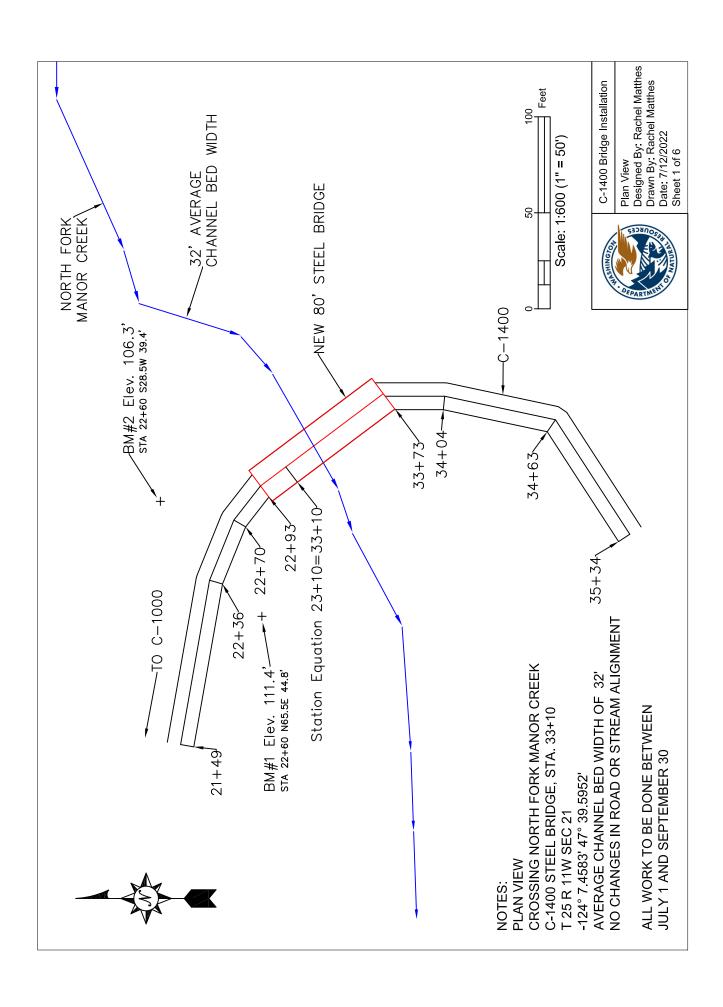
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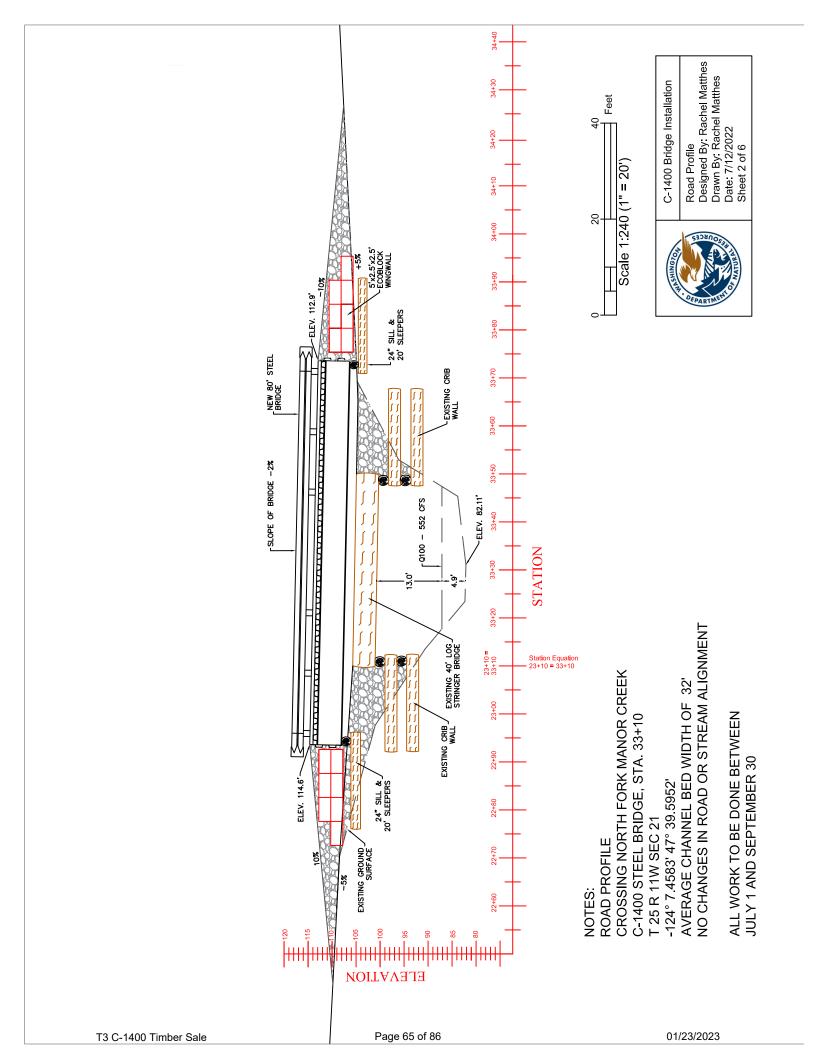
T3 C-1400 Timber Sale Page 61 of 86 01/23/2023

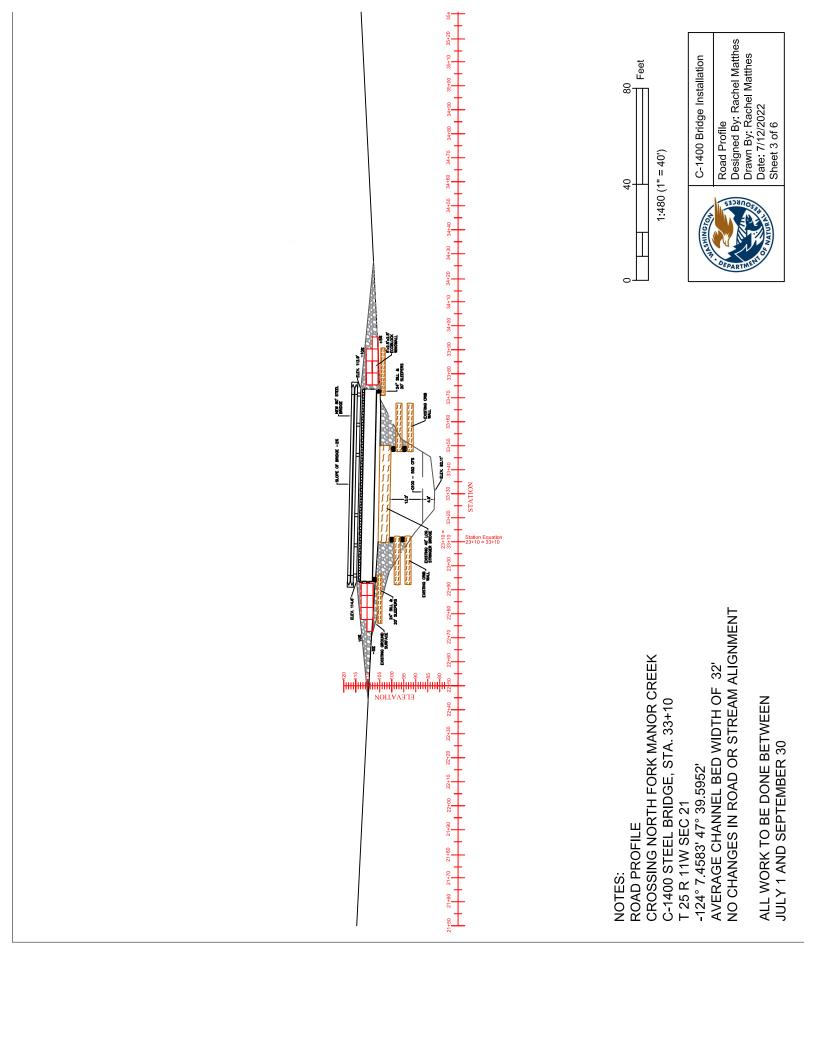


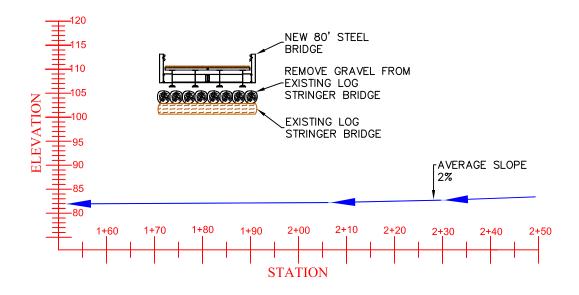
Tacoma Pit Plan Sec. 9, T24N R11W





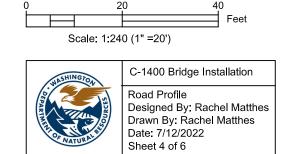


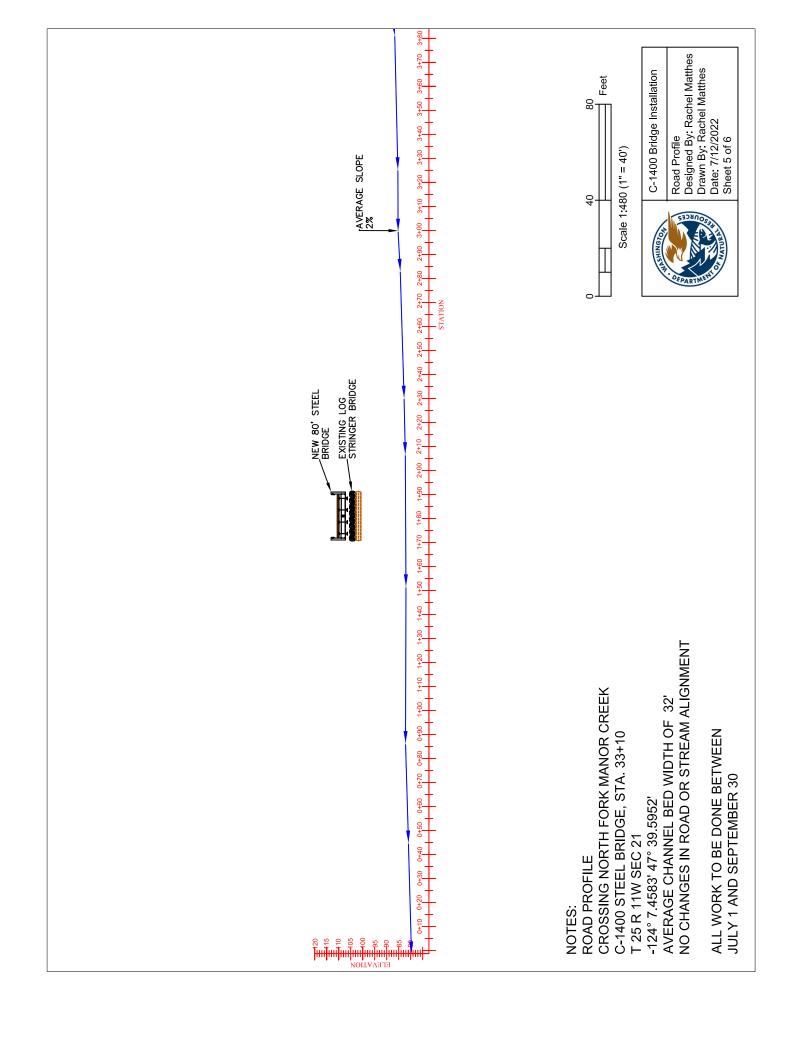




NOTES:
ROAD PROFILE
CROSSING NORTH FORK MANOR CREEK
C-1400 STEEL BRIDGE, STA. 33+10
T 25 R 11W SEC 21
-124° 7.4583' 47° 39.5952'
AVERAGE CHANNEL BED WIDTH OF 32'
NO CHANGES IN ROAD OR STREAM ALIGNMENT

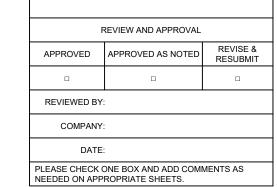
ALL WORK TO BE DONE BETWEEN JULY 1 AND SEPTEMBER 30





80'-0" x 16'-0" T3C 1400 TS BRIDGE WA











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Contech: Failure to comply is done at the user's own risk and Contech expressly disclaims any liability or responsibility for such use		
If discrepancies between the supplied information upon which the drawing is based and actual field conditions are encountered		_
as site work progresses, these discrepancies must be reported to Contech immediately for re-evaluation of the design. Contech		

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80'-0" x 16'-0" T3C 1400 TS BRIDGE ROLLED GIRDER - SITE-SEPCIFIC MODULAR WA

- Carrie					
PROJECT No.:	SEQ.	No.:	DAT	E:	
726128	1	0	1/	17/202	3
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SHEET NO.:					
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T3 C-1400 Timber Sale 01/23/2023 Page 69 of 86

2. MATERIALS: (UNLESS NOTED OTHERWISE):

a. STRUCTURAL STEEL: ASTM A588 WEATHERING STEEL b. BRIDGE PLANK: ASTM A653 GRADE 50 CLASS 1 (GALV) c. ELASTOMERIC PADS: GRADE 4, 60 DUROMETER

d. STRUCTURAL BOLTS: ASTM F3125 GRADE A325 (TYPE 3) e. BRIDGE RAIL/CURB: AASHTO M180 TYP I OT II GALV.

f. BRIDE RAIL BOLTS: AASHTO M180 GALV.

4. DESIGN LOADINGS:

a. BRIDGE DEAD LOAD PLUS 80 PSF TOTAL WEARING SURFACE.

b. VEHICLE LIVE LOAD: HL-93, MAX ADTT = 853

OWNER SPECIFIED LIVE LOAD: L90 OWNER SPECIFIED LIVE LOAD: U80

c. WIND LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.8:

WIND SPEED = 110 MPH

WIND EXPOSURE CATEGORY = C

MAX HEIGHT OF STRUCTURE = 33 FT

d. BRIDGE RAIL DESIGNED FOR TL-1 LOADING IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS APPENDIX A13.2 (RAIL HAS NOT BEEN CRASH TESTED)

e. SEISMIC LOADING PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS SECTION 3.10. TRANSVERSE LOADS CALCULATED USING THE TRANSVERSE PERIOD OF THE BRIDGE AND LONGITUDINAL LOADS CALCULATED USING A PERIOD OF ZERO. A RESPONSE MODIFICATION FACTOR OF 0.8 IS USED FOR THE CALCULATION OF FORCES APPLIED TO THE BRIDGE ANCHORAGE AND A RESPONSE MODIFICATION FACTOR OF 1.0 IS USED FOR THE CALCULATION OF BEARING REACTIONS. IT SHALL BE THE RESPONSIBILITY OF THE FOUNDATION ENGINEER TO DETERMINE THE FORCES USED FOR THE FOUNDATION DESIGN. SEISMIC PARAMETERS USED ARE AS FOLLOWS:

SITE CLASS: D PGA = 0.45 $S_s = 1$ $S_4 = 0.4$

PERIOD OF BRIDGE = T_m = 0.095 SEC

- 5. BRIDGE TO BE BUILT TO THE REQUIREMENTS OF AWS D1.5
- 6. ALL SHOP WELDING SHALL USE THE GAS METAL ARC WELDING OR FLUX CORED ARC WELDING PROCESS.

ALL EXPOSED SURFACES OF STEEL TO BE CLEANED IN ACCORDANCE WITH STEEL STRUCTURES PAINTING COUNCIL SURFACE PREPARATION SPECIFICATIONS NO. 1, SSPC-SP1 SOLVENT CLEANING. EXPOSED SURFACES OF STEEL SHALL BE DEFINED AS THOSE SURFACES SEEN FROM THE DECK OR FROM THE OUTSIDE OF THE STRUCTURE. ALL OTHER SURFACES TO HAVE STANDARD MILL FINISH.

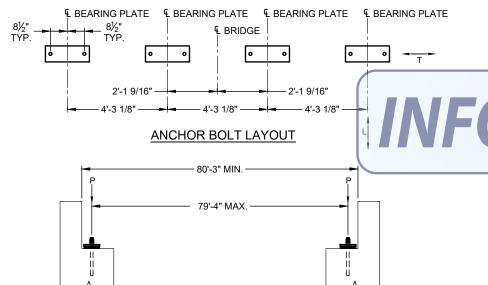
- ALL BOLTED CONNECTIONS ARE CONSIDERED TO BE PRETENSIONED OR SLIP-CRITICAL CONNECTIONS. ALL BOLTS ARE TO BE PRETENSIONED PER THE REQUIREMENTS OF SECTION 8.2 OF THE SPECIFICATION FOR STRUCTURAL JOINTS USING HIGH-STRENGTH BOLTS BY RCSC.
- ALL BOLTS, NUTS AND WASHERS SHALL BE FURNISHED IN THE AMOUNT OF 5% IN EXCESS OF THE NUMBER REQUIRED FOR EACH SIZE AND LENGTH.
- 10. IF BOLTS DO NOT SMOOTHLY ENGAGE UP TO SNUG-TIGHT, THERE MAY BE AN OBSTRUCTION WITHIN THE THREADS. THE BOLTS SHOULD BE REMOVED, THE THREADS ON THE BOLT AND NUT CLEANED AND RETAPPED IF NECESSARY TO ALLOW SMOOTH INSTALLATION OF THE BOLT. (IF APPLICABLE)
- 11. MAINTENANCE NOTE: CONTECH ENGINEERED SOLUTIONS RECOMMENDS NOT APPLYING DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS TO ANY PART OF THE BRIDGE STRUCTURE. IF DE-ICING OR DUST PROHIBITIVE CHEMICALS OR SALTS ARE APPLIED TO ANY PART OF THE BRIDGE STRUCTURE, CONTECH ENGINEERED SOLUTIONS WILL NOT BE RESPONSIBLE FOR ANY RESULTANT ACCELERATED CORROSION
- 12. BRIDGE PLANK FASTENING:
 - a WELD FACH PIECE TO ALL GIRDERS WITH PLATE THICKNESS x 3" FILLET WELDS
 - b. WELD BETWEEN GIRDERS AT OVERLAPPING WITH 3" FILLET WELDS EVERY 36".
 - c. PLACE 1 ½" FILLET WELD ON EDGE OF DECKING AT EACH SIDE OF LIFTING LUG.
 - d. TOUCH UP WELDS WITH ZINC RICH PAINT MEETING THE MATERIAL AND PERFORMANCE REQUIREMENTS OF
- 13. ASPHALT WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):

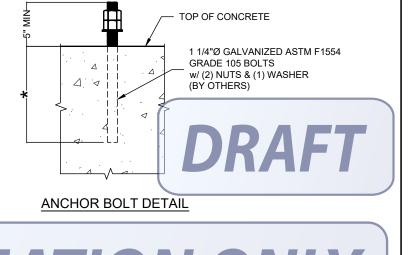
MARK DATE

- a. CLEAN METAL SURFACES OF ALL FOREIGN MATTER.
- b. APPLY TACK COAT OVER DECK SURFACE, FILL AND COMPACT ALL CORRUGATIONS WITH ASPHALT.
- AS AN ALTERNATIVE TO FILLING CORRUGATIONS WITH ASPHALT, THE CORRUGATIONS MAY BE FILLED WITH LEAN CONCRETE OR COMPACTED CRUSHED BASE
- d. OVERLAY A LEVELING COURSE AND ADDITIONAL COURSES AS NECESSARY TO FINAL SURFACE ELEVATION AND COMPACT TO REQUIRED DENSITY.

REVISION DESCRIPTION

- 14. CONCRETE WEARING SURFACE INSTALLATION PROCEDURE (WHEN APPLICABLE):
 - a. CLEAN METAL SURFACES OF ALL FOREIGN MATTER.
 - b. PLACE FORM WORK AS NEEDED
 - c. PLACE CRACK CONTROL REINFORCING STEEL. CONTECH ENGINEERED SOLUTIONS RECOMMENDS #3 BARS EACH WAY OR WWF WITH 2" TOP COVER FOR CRACK CONTROL REINFORCING STEEL
 - PLACE AND FINISH CONCRETE. CONTECH ENGINEERED SOLUTIONS RECOMMENDS USING 3,000 PSI MINIMUM CONCRETE WITH 5% ± 1% AIR CONTENT.
 - IF LATERAL SHIFTING OR UPLIFT OF THE DECK IS A CONCERN, CONTECH ENGINEERED SOLUTIONS RECOMMENDS ADDING 1/2" HEADED ANCHOR STUDS IN THE DECK VALLEYS AT 3'-0" X 3'-0" TO HELP TIE THE CONCRETE WEARING SURFACE TO THE DECK.
- 15. SURFACE WATER DRAINAGE OFF OF THE BRIDGE DECK IS NOT THE RESPONSIBILITY OF CONTECH ENGINEERED SOLUTIONS. IF DECK DRAINS OR ANY OTHER MODIFICATIONS TO THE DECK SYSTEM ARE NEEDED FOR DECK DRAINAGE, THEY MAY BE ADDED, HOWEVER THE DETAILS MUST BE APPROVED BY CONTECH ENGINEERED SOLUTIONS PRIOR TO THE MODIFICATIONS BEING MADE
- 16. ELASTOMERIC PADS ARE USED TO PROVIDE A LEVEL BEARING SURFACE ONLY





ANCHOR BOLTS ARE DESIGNED BY CONTECH FOR STEEL STRENGTH IN SHEAR ND TENSION OF THE ANCHOR BOLT ONLY, ALL DESIGN CONSIDERATION REGARDING CONCRETE BREAKOUT STRENGTH IN SHEAR AND TENSION,

PULLOUT STRENGTH, CONCRETE SIDE-FACE BLOWOUT STRENGTH, CONCRETE PRYOUT STRENGTH, EMBEDMENT DEPTH, TYPE OF ANCHORAGE OR ANY OTHER CONCRETE FAILURE MODES ARE NOT CONSIDERED AND ARE NOT THE RESPONSIBILITY OF CONTECH. IF LARGER DIAMETER BOLTS ARE REQUIRED TO MEET ANY OF THESE REQUIREMENTS. THAT INFORMATION MUST BE PROVIDED TO CONTECH PRIOR TO BEGINNING ANY FABRICATION ON THE BRIDGE.

ANCHOR BOLT ELEVATION

	BEARING	MAX AT	INTERIOR	GIRDER	MAX AT	EXTERIOR	GIRDER	TOTA	L AT ABUT	MENT
	REACTION IN KIPS	Р	Т	L	Р	Т	L	Р	Т	L
	DEAD LOAD (DC)	8.64	$\overline{}$	> <	10.01	$\overline{}$	>	37.31	$\overline{}$	$\overline{}$
WI	EARING SURFACE LOAD (DW)	13.64		$\supset \subset$	11.96		$\supset \subset$	51.20		
HL-93	VEHICLE LOAD (LL)	50.68	$\supset \subset$	$\supset \subset$	43.18	$\supset \subset$	\mathbb{X}	88.92		$\supset \subset$
DESIGN VEHICLE	VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	62.63			53.36		\times	109.88		><
OWNER	VEHICLE LOAD (LL)	81.49	><	> <	54.85	><	\times	162.98	> <	><
SPECIFIED (L90)	VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	81.49			54.85		\times	162.98		><
OWNER	VEHICLE LOAD (LL)	66.47	> <	> <	61.31	><	\times	132.95	> <	><
SPECIFIED (U80)	VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	77.99			71.93		\times	155.98		$\overline{}$
	WIND LOAD (WS)	-12.80*	3.41	> <	> <	3.41	\times	-12.80*	13.64	> <
(L90) ALLOWANCE (LL+IM) OWNER SPECIFIED (U80) VEHICLE LOAD + DYNAMIC LOAD ALLOWANCE (LL+IM)	THERMAL LOAD (TU)	$\supset \subset$	$\supset \subset$	4.42	$\supset \subset$	$\supset \subset$	4.42	> <	> <	17.68
			5.40	$\supset \subset$		5.40	$\supset \subset$	$\supset \subset$	21.60	
	SEISMIC LOAD (EQ)	$\supset \subset$	21.82	20.91	$\supset \subset$	21.82	20.91	$\supset \subset$	87.29	83.64

LIFTING WEIGHTS						
ITEM	QTY	UNIT WEIGHT (LBS)	TOTAL WEIGHT (LBS)			
BRIDGE MODULE #1A	1	14,750	14,750			
BRIDGE MODULE #2A	1	14,750	14,750			
BRIDGE MODULE #1B	1	19,920	19,920			
BRIDGE MODULE #2B	1	19,920	19,920			
LOOSE ITEMS	-	-	6,510			
	TC	OTAL BRIDGE WEIGHT:	75,850			
_ ### >						



	* WIND LOAD UPLIFT ASSUMES FULL	20 PSF TO DECK AREA IS APPLIED TO	ONE GIRDER LINE
	CNTECH'	BIGR	
	ENGINEERED SOLUTIONS LLC www.ContechES.com	BRIDGÉ	

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BIGR CONTRACT

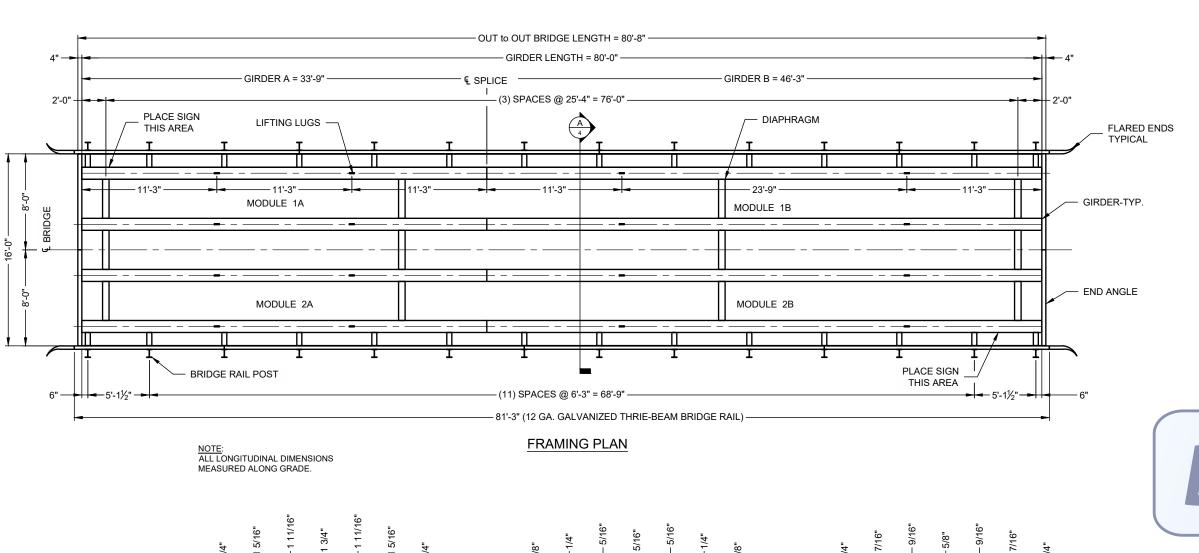
"T": HORIZONTAL LOAD TRANSVERSE TO THE STRUCTURE "L": HORIZONTAL LOAD LONGITUDINAL TO THE STRUCTURE

> 80'-0" x 16'-0" T3C 1400 TS BRIDGE **ROLLED GIRDER - SITE-SEPCIFIC MODULAR** WA

PROJECT No.:	SEQ.	No.:	DATE	:
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T3 C-1400 Timber Sale

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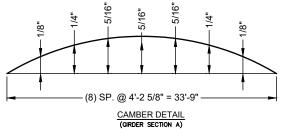
(8) SP. @ 10'-0" = 80'-0"

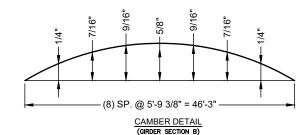
(8) SP. @ 10'-0" = 80'-0"

3/4"

3/4"

BY





DRAFT

INFORMATION ONLY

	SIDE DAM	<u>የ</u> 1/4"x 8"			
	CENTER SPLICE PLATE		ዊ 1/4"x 6"		
	END ANGLE		L 4x4x3/8		
as a serv	n and information shown on this drawing is provided ce to the project owner, engineer and contractor by Engineered Solutions LLC ("Contech"). Neither this				
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DESCRIPTION

W36x160

12" x 4 1/4" x 9 GA. GALV.

W21x44

W14x22

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80'-0" x 16'-0" T3C 1400 TS BRIDGE ROLLED GIRDER - SITE-SEPCIFIC MODULAR WA

PROJECT No.:	SEQ.	No.:	DATE:				
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T3 C-1400 Timber Sale

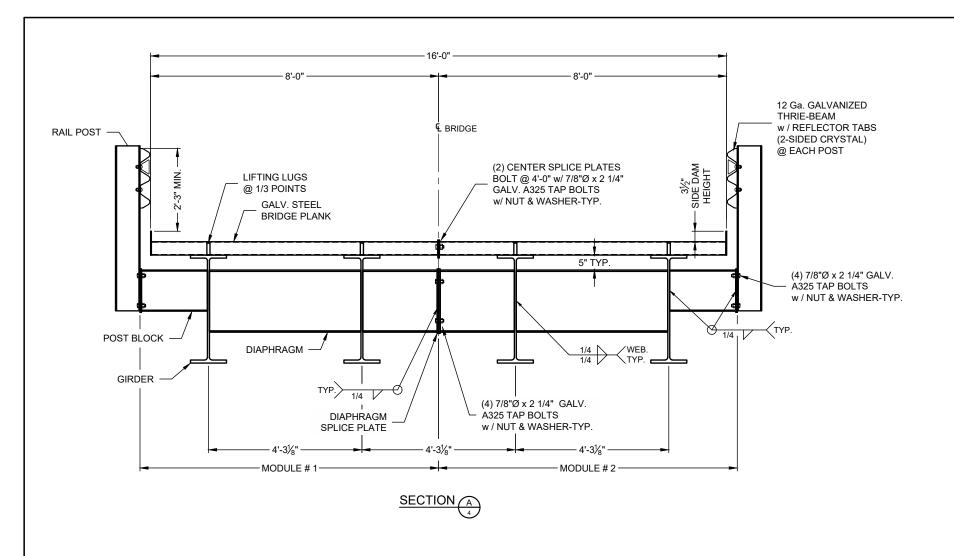
MEMBERS GIRDER

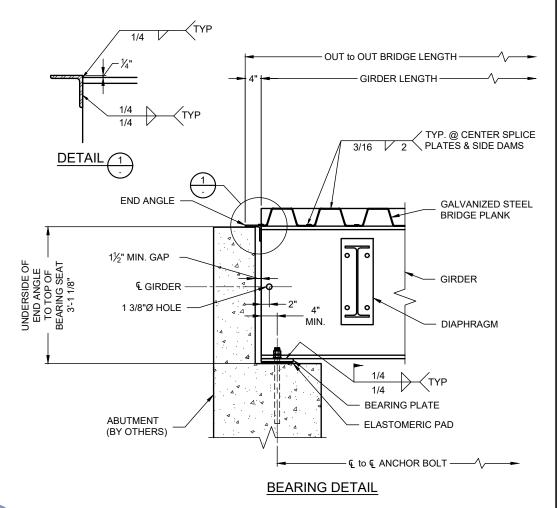
BRIDGE PLANK

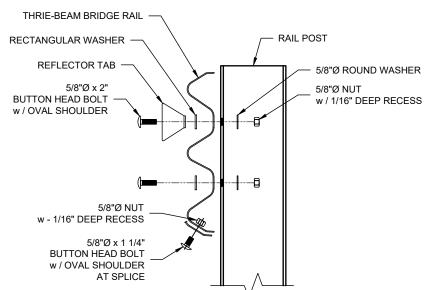
DIAPHRAGM

POST BLOCK

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INFORMATION ONLY



THRIE-BEAM RAIL ATTACHMENT DETAIL

REVISION DESCRIPTION

(W 8x18 POSTS)

CENTECH*
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BIGR BRIDGE 80'-0" x 16'-0" T3C 1400 TS BRIDGE ROLLED GIRDER - SITE-SEPCIFIC MODULAR WA

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PROJECT No.:	SEQ.	No.:	DATE	<u>:</u>		
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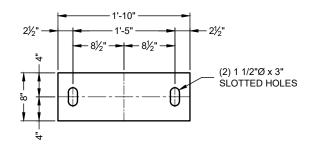
CERTIFIED FABRICATOR

T3 C-1400 Timber Sale

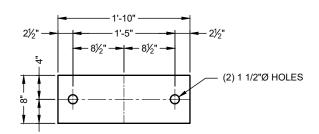
DATE

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CONTRACT



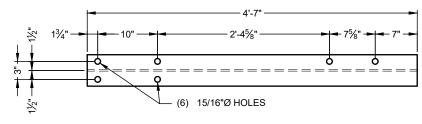
ዊ 3/4" BEARING PLATE DETAIL (EXPANSION)

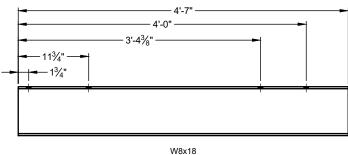


P. 3/4"

BEARING PLATE DETAIL (FIXED)

(SHIPS LOOSE)



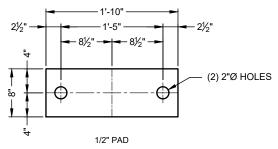


BRIDGE RAIL POST DETAIL (SHIPS LOOSE)

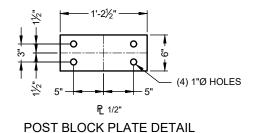


OBJECT MARKERS, TYPE 3 SHALL BE 12"x 36" WITH REFLECTIVE STRIP BONDED TO A 14 GAGE ALUMINUM SHEET. REFLECTIVE STRIPS SHALL BE "3M ENGINEER GRADE REFLECTIVE SHEETING OM—3R OR OM—3L OR EQUAL.

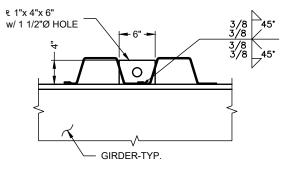
TYPE 3 OBJECT MARKER DETAIL
2 LEFT AND 2 RIGHT
(SHIPS LOOSE)



ELASTOMERIC PAD DETAIL



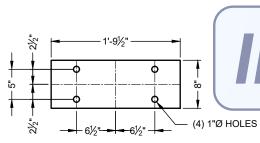




MAX. 24,000 # @ 45° LIFT ANGLE LIFTING LUG DETAIL

REVISION DESCRIPTION

BY



DIAPHRAGM PLATE DETAIL



PROJECT No.: SEQ. No.: DATE:

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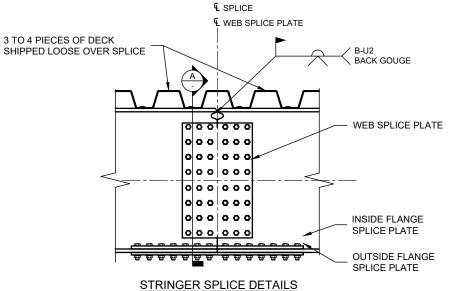
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80'-0" x 16'-0" T3C 1400 TS BRIDGE ROLLED GIRDER - SITE-SEPCIFIC MODULAR WA

PROJECT No.:	SEQ.	No.:	DATE:	
726128	1	0	1/17/202	
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T3 C-1400 Timber Sale



€ PLATE

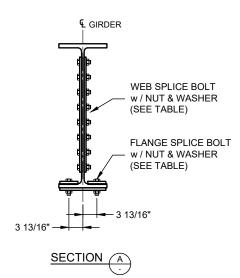
(2) SP. @ 2 3/4"= 5½" -

(48) 15/16" Ø HOLES

← (2) SP. @ 2 3/4"= 5½"

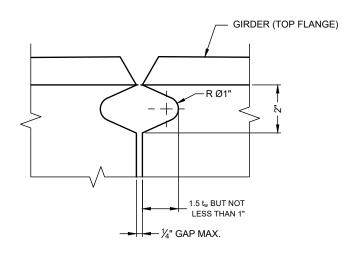
(7) SPACES @ 33/4" = 2'-2/4"

SHOP NOTE: 15/16"Ø HOLES IN STRINGER FLANGE AND WEB



CONTRACTOR NOTE: FIELD WELDING TO BE PERFORMED BY A WELDER CERTIFIED PER AWS D1.5 BRIDGE WELDING CODE.

MEMBERS	QTY	THICKNESS	SIZE	HOLE Ø	BOLTS w/NUT & WASHER	BOLT QTY
WEB SPLICE PLATE	8	1/2"	1'-5 1/2" x 2'-4 3/4"	15/16"	7/8"Ø x 3" A325 TYPE 3	192
INSIDE BTM FLANGE SPLICE PLATE	8	7/8"	4 3/8" x 3'-3"	15/16"	-	-
OUTSIDE BTM FLANGE SPLICE PLATE	4	5/8"	1'-0" x 3'-3"	15/16"	7/8"Ø x 4" A325 TYPE 3	112



STRINGER JOINT PREPARATION DETAIL

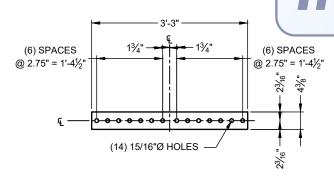


3'-3" (6) SPACES (2.75" = 1'-4½" (6) SPACES (2.75" = 1'-4½" (6) SPACES (2.75" = 1'-4½" (6) SPACES

WEB SPLICE PLATE DETAIL

OUTSIDE BTM FLANGE SPLICE PLATE DETAIL

(28) 15/16"Ø HOLES



INSIDE BTM FLANGE SPLICE PLATE DETAIL

ACES = 1'-4/2"

*CERTIFIED * FABRICATOR

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as site work progresses, these discrepancies must be reported		

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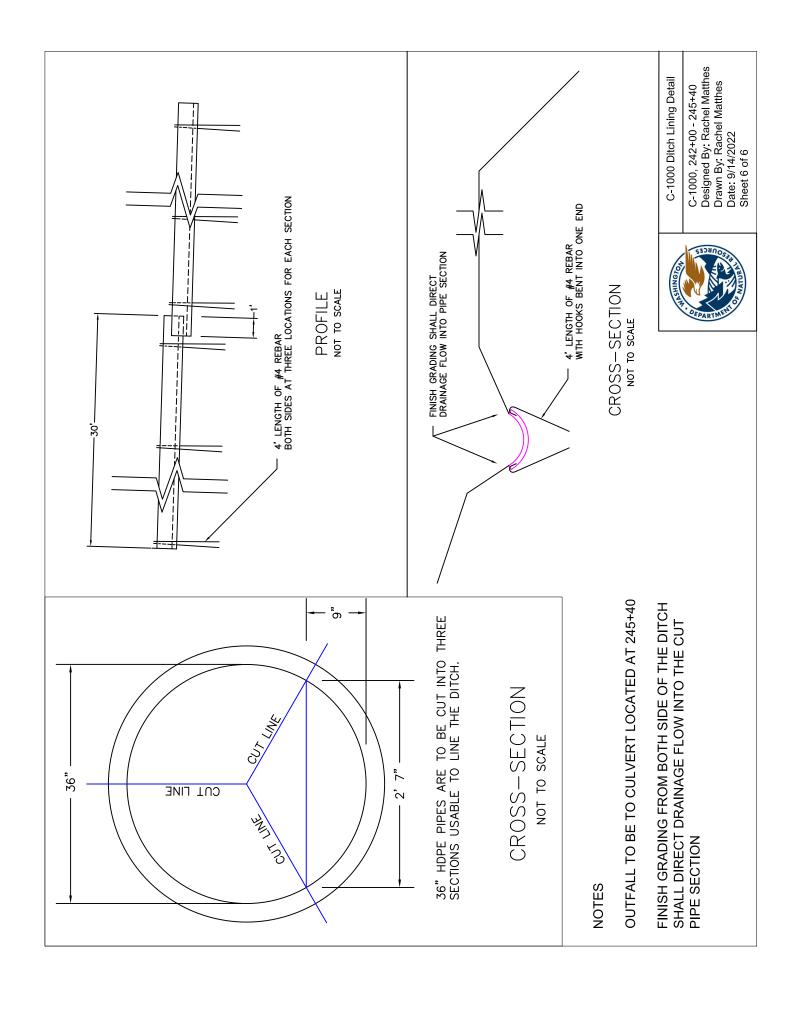


80'-0" x 16'-0" T3C 1400 TS BRIDGE ROLLED GIRDER - SITE-SEPCIFIC MODULAR WA

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PROJECT No.:	SEQ.	No.:	DAT	E:
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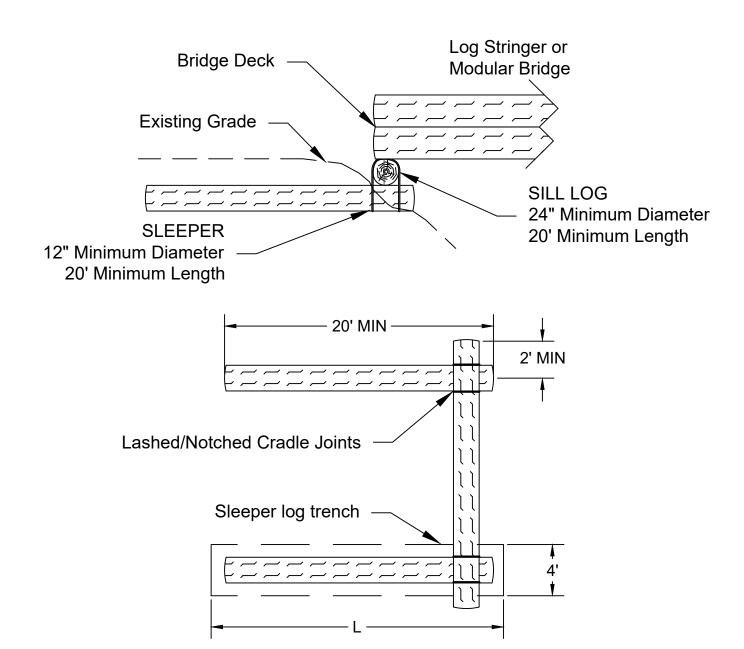
T3 C-1400 Timber Sale

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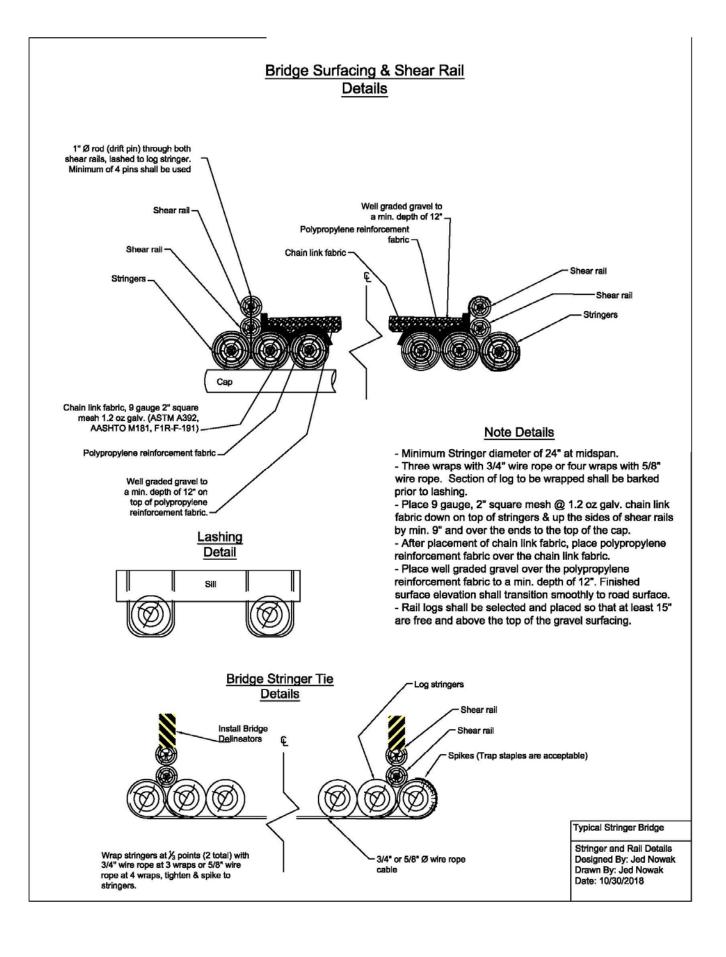
NATIVE LOG SILL SLEEPER DETAIL

Olympic Region



Not to Scale

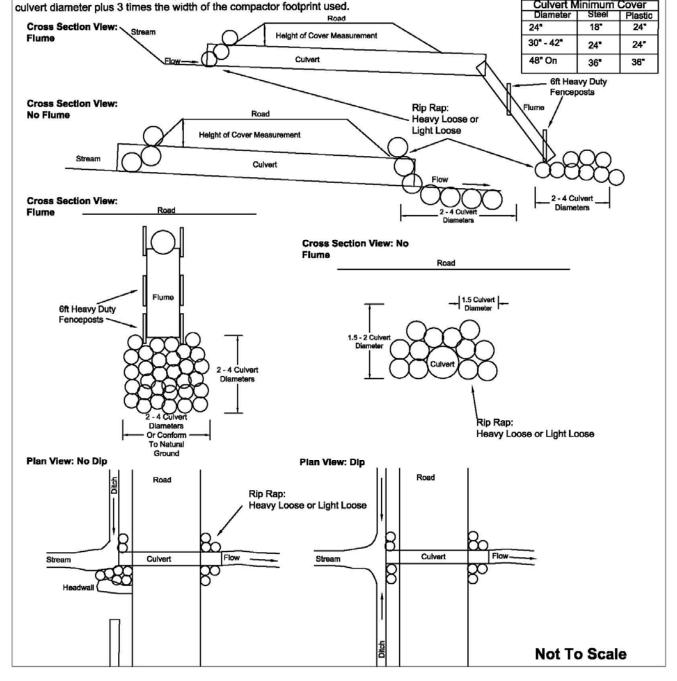
Drawn by Ryan Skerbeck 10/11/2022



Typical Type Ns, Np Culvert Installation Detail Sheet.

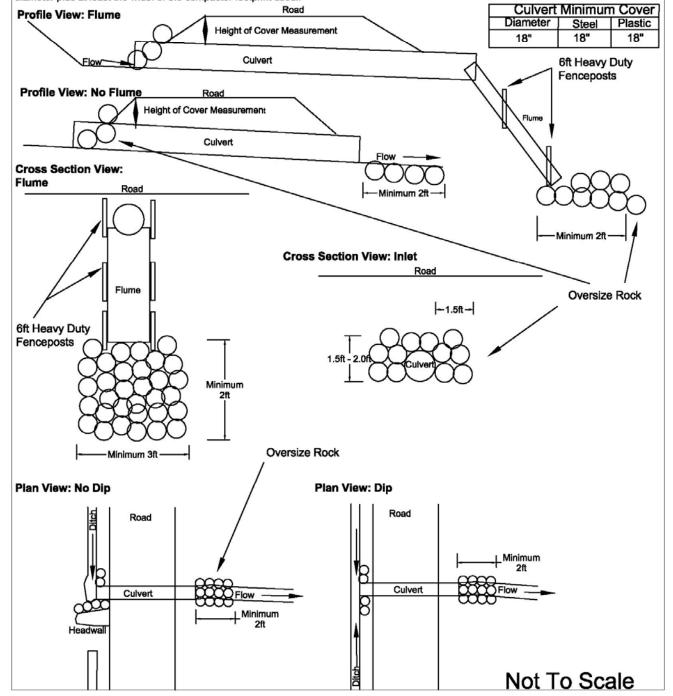
- -Water shall be diverted away from the work site before any "in stream" work begins, and shall continue until culvert installation is complete.
- -Culvert lay shall match stream gradient up to 5%.
- -Flumes longer than 10ft shall be staked on both sides at maximum intervals of 10ft with 6ft heavy duty 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 diagneter plus 3 times the width of the compactor footorint used.

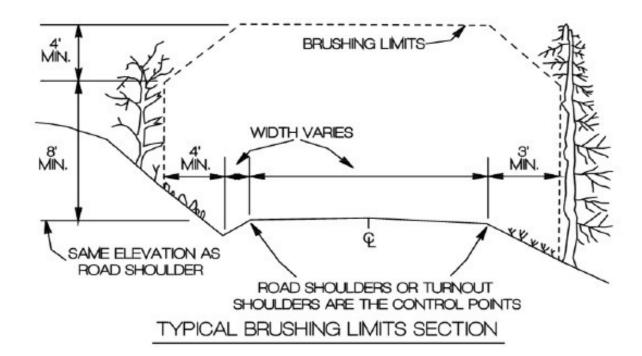


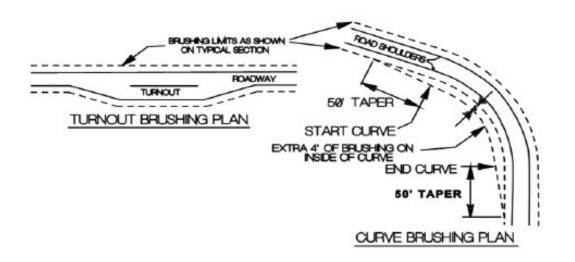
Typical Cross Drain Culvert Installation Detail Sheet

- -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 dissipator 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..



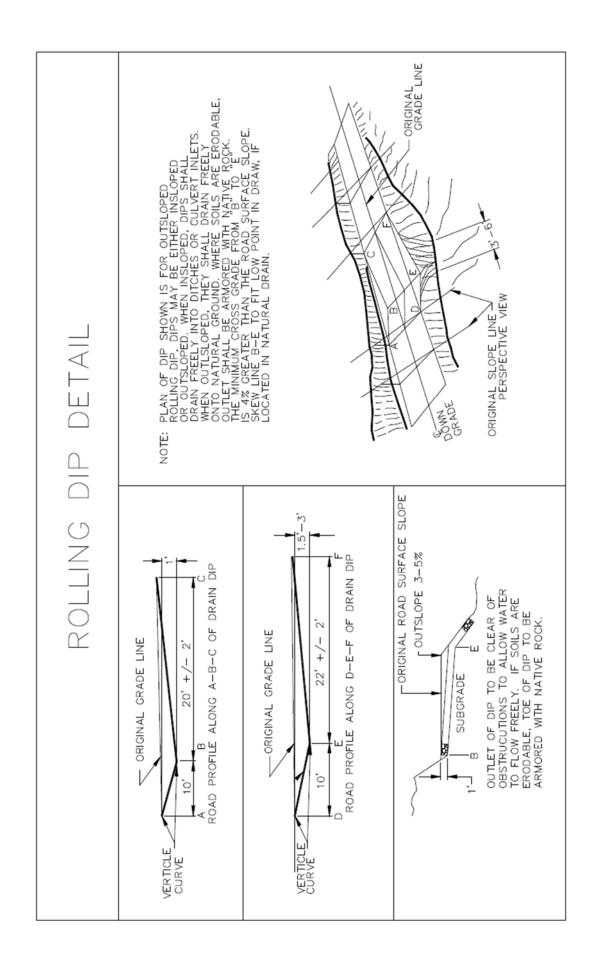
BRUSHING DETAIL



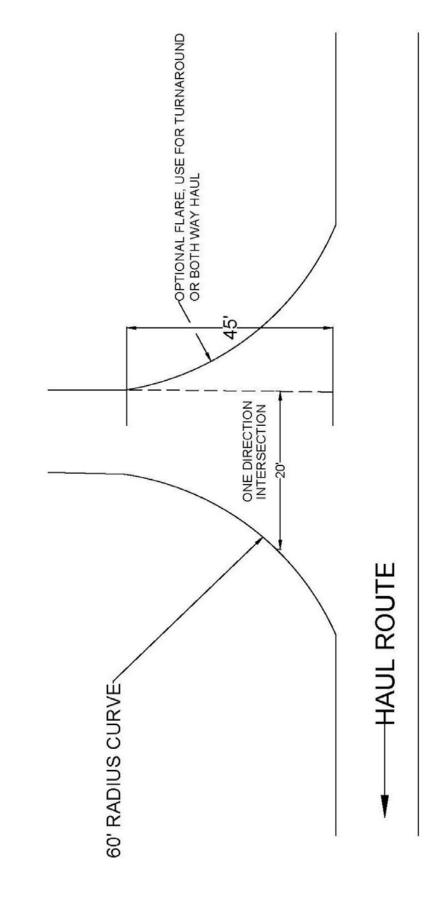


- 1) ALL VEGETATION WITHIN THE BRUSHING LIMITS SHALL BE CUT TO WITHIN 8" OF THE GROUND, UNLESS OTHERWISE DIRECTED BY THE CONTRACT ADMINISTRATOR.

 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.
- ALL DEBRIS THAT MAY ROLL OR MIGRATE INTO THE DITCHLINE SHALL BE REMOVED.



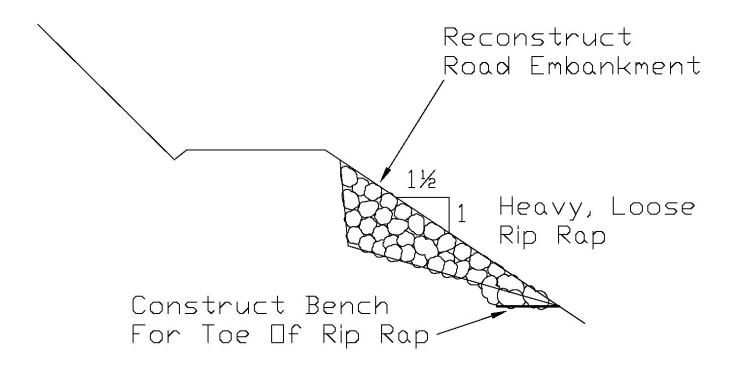
TYPICAL INTERSECTION



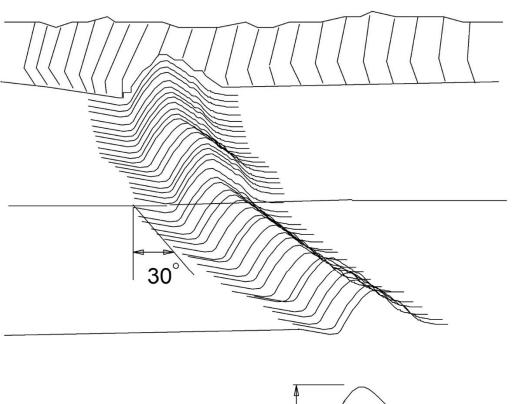
NOT TO SCALE

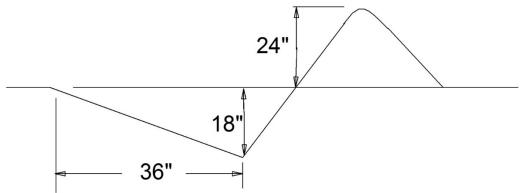
Typical Embankment Key Detail

Except where designed otherwise, road reconstruction with rip rap keyed toe and embankment.



NON-DRIVABLE WATER BAR DETAIL





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 back slope 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 water bars 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 ditch line.
- 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 water bar 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.

