WASHINGTON STATE DEPARTMENT OF Natural Resources

TIMBER NOTICE OF SALE

***SALE NAME**: MIXED GRAVY VRH THIN* ***AGREEMENT NO**: 30-092644*

AUCTION: January 28, 2016 starting at 10:00 a.m., Pacific Cascade Region Office, Castle Rock, WA **COUNTY:** Cowlitz

SALE LOCATION: Sale located approximately 12 miles east of Toutle

PRODUCTS SOLD AND SALE AREA: All trees except leave trees described in the Schedule A, snags and western red cedar bounded by: Timber Sale Boundary tags, property line and the 4200 road in Unit 1; Timber Sale Boundary tags, and the 2710, 4200, and 4253 roads in Unit 2; Timber Sale Boundary tags, and the 2710 in Unit 3; Timber Sale Boundary tags, Special Management Unit Boundary tags and the 2715 road in Unit 11.
All timber, except trees marked with blue paint, trees bounded out by Leave Tree Area tags, western red cedar, snags, all down timber existing 3 years prior to day of sale, all down timber greater than 40 inches in diameter and all pre-existing stumps bounded by: Timber Sale Boundary tags, property line, and the 2710 road in Unit 4; Timber Sale Boundary tags, Special Management Unit Boundary tags, property line, and the 2175 road in Unit 5; Timber Sale Boundary tags, and the 2715 road in Unit 6; Timber Sale Boundary tags, private property, and the 2715 and 4250 road in Unit 7. All timber between the orange Right of Way tags in Units 8, 9, and 10 on part(s) of Sections 2, 3, 4, 10 and 11 all in Township 9 North, Range 2 East, W.M., containing 339 acres, more or less.

CERTIFICATION: This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BV-SFIS-US09000572)

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	Total $/MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	17.8	7	3,879	$201.00						1,941	1,493	321	124
Hemlock	16.5		2,638	$118.00						1,056	1,190	309	83
Noble fir	22.7		1,733	$129.00						1,275	337	46	75
Red alder	10.6		67	$109.00								42	25
Sale Total			8,317										

MINIMUM BID: $201/MBF (est. value $1,321,000.00) **BID METHOD:** Sealed Bids

PERFORMANCE SECURITY: $100,000.00 **SALE TYPE:** MBF Scale

EXPIRATION DATE: October 31, 2018 **ALLOCATION:** Export Restricted

BIDDABLE SPECIES: **Douglas fir**

BID DEPOSIT: $132,100.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Slackline, Motorized Carriage, Shotgun, Shovel, Track skidder and Forwarder. Harvesting activities are estimated to be approximately 8% cable and 92% ground-based. Ground-based harvesting equipment is restricted to slopes of 40% and less, and shall only operate during dry soil conditions. See Schedule A and the H-140 clause for further harvest requirements. A detailed felling and yarding plan shall be required prior to any

harvest activities and approved in writing by the Contract Administrator. No ground based equipment may operate closer than 25' from pink "inner zone" boundary flagging within Riparian Management Zones (RMZ). Falling and Yarding will not be permitted from April 15 to June 15 unless authorized in writing by the Contract Administrator to minimize bark slippage during the peak sap flow.

ROADS: 2.14 stations of required construction. 68.37 stations of required reconstruction. 14.02 stations of optional reconstruction. 271.70 stations of required pre-haul maintenance. 14.02 stations of medium abandonment. Rock for this contract may be obtained at no cost to the Purchaser from the Signal Pit located in Section 03, Township 09 North, Range 02 East, W.M. Purchaser shall stockpile 500 cubic yards of 4INCH JAW RUN in the Signal Pit as directed by the Contract Administrator. Road construction will not be permitted from September 30 to May 1 unless authorized in writing by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage was determined by using GPS. Cruise was completed using variable plot cruise methods in Units 1, 2, 3, 4, 5, 6, 7, 8, 10, and 11 and ITS cruise method in Unit 9. Thinning units have been adjusted for the basal area target.

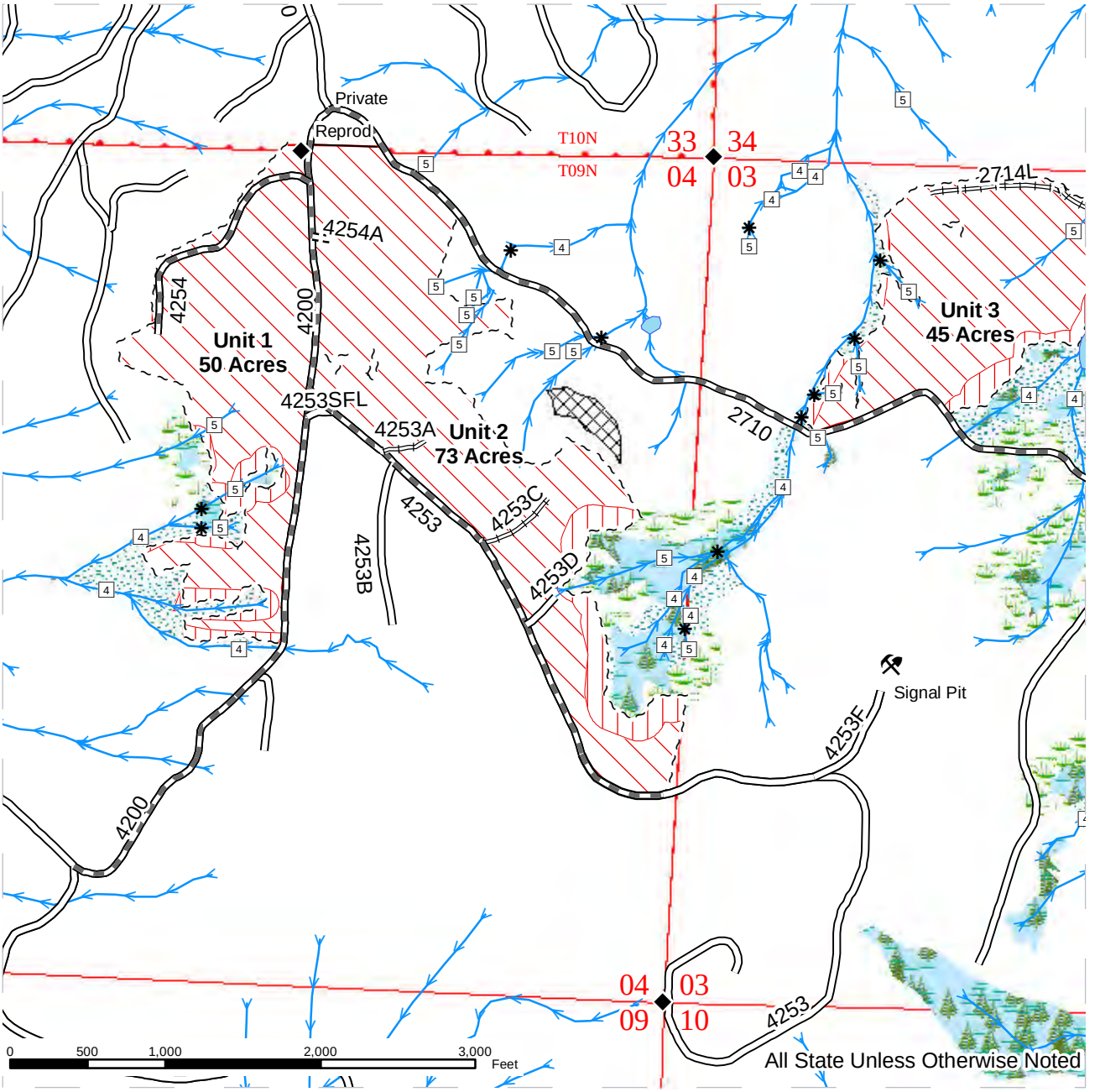
FEES: $147,626.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: This sale contains approximately 2,056 MBF of high quality 2 and 3 Saw Douglas fir, approximately 816 MBF of high quality 2 and 3 Saw noble fir, and approximately 1,056 MBF of high quality 2 and 3 Saw western hemlock. The gate on the 2716 road at Station 1 + 56 shall be kept closed and locked except during periods of haul. The 2716 Road needs to be accessed on Weyerhaeuser Property and may require a key.

TIMBER SALE MAP

SALE NAME: MIXED GRAVY
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Variable Retention Harvest
- Thinning
- Riparian Restoration
- Leave Trees
- Riparian Mgt Zone
- Wetland Mgt Zone
- Forested Wetland
- Talus
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Leave Tree Tags
- Existing Road
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Streams
- Leave Trees
- Stream Break
- Stream Type
- Rock Pit
- Monumented Corners
- Gate (ABA)

N

Prepared By: rhmm490

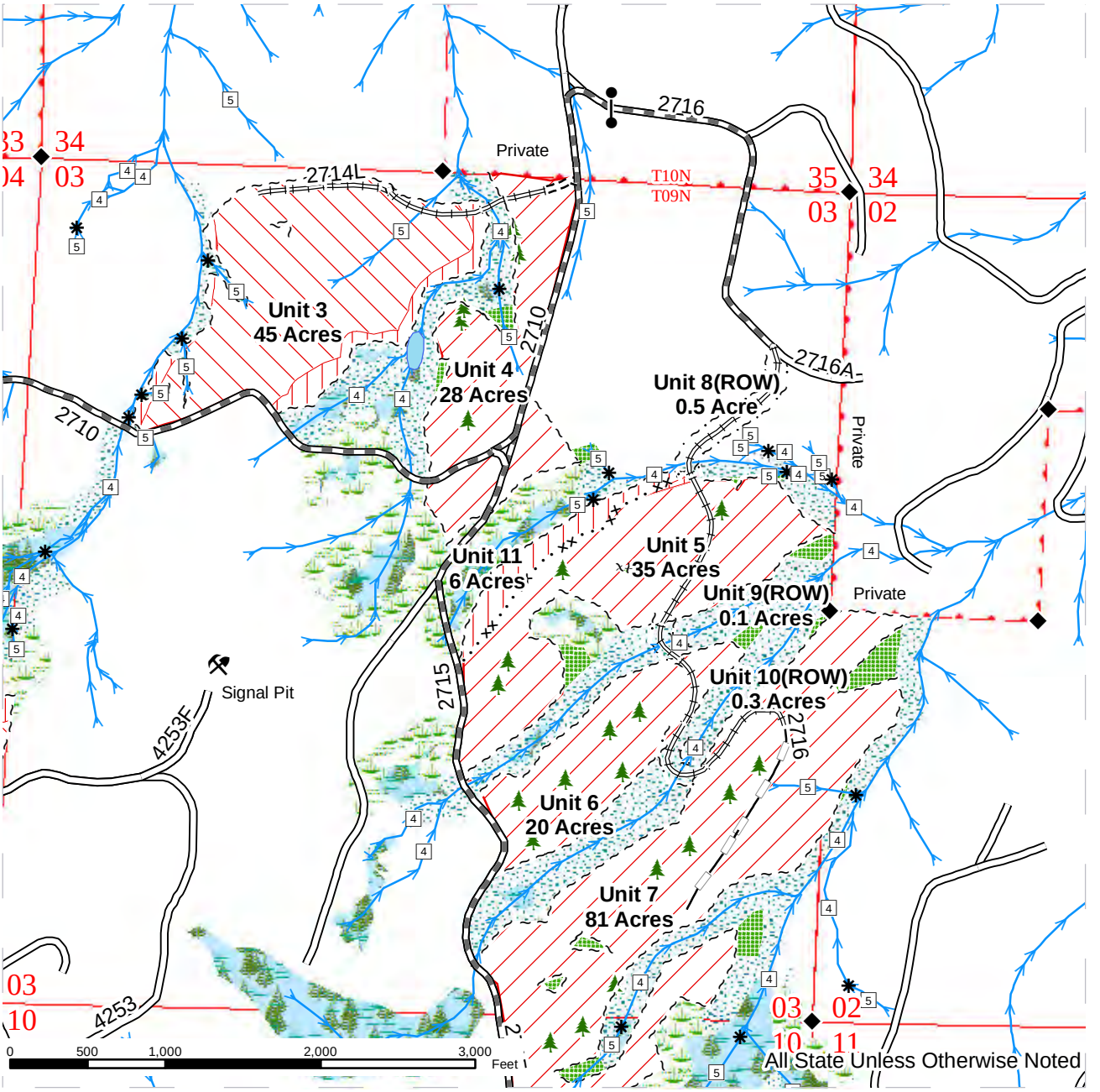
Creation Date: 7/17/2014

Modification Date: 11/6/2015

TIMBER SALE MAP

SALE NAME: MIXED GRAVY
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Variable Retention Harvest
- Thinning
- Riparian Restoration
- Leave Trees
- Riparian Mgt Zone
- Wetland Mgt Zone
- Forested Wetland
- Talus
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Leave Tree Tags
- Existing Road
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Streams
- Leave Trees
- Stream Break
- Stream Type
- Rock Pit
- Monumented Corners
- Gate (ABA)

N

Prepared By: rhmm490

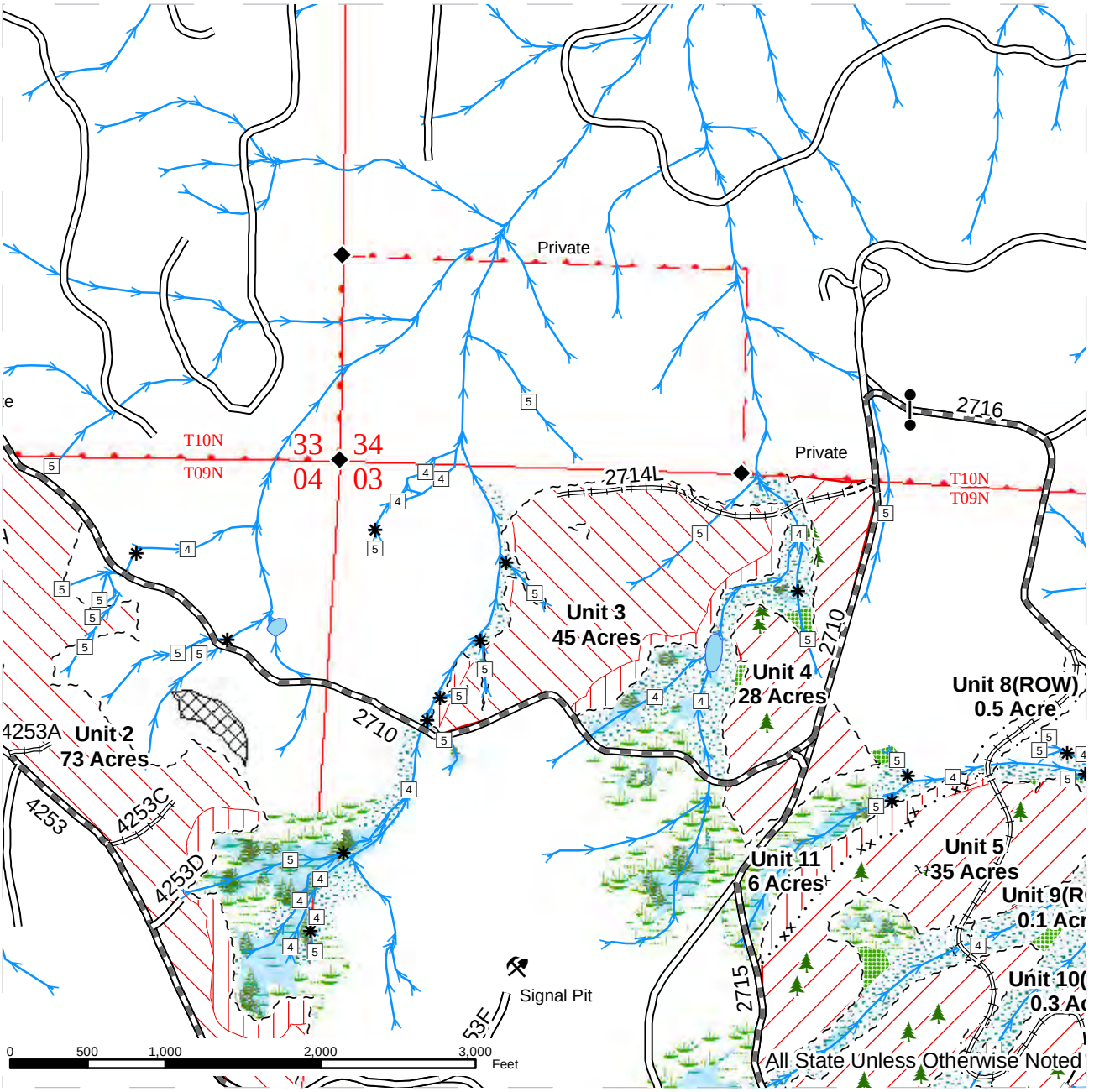
Creation Date: 7/17/2014

Modification Date: 11/6/2015

TIMBER SALE MAP

SALE NAME: MIXED GRAVY
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Variable Retention Harvest
- Thinning
- Riparian Restoration
- Leave Trees
- Riparian Mgt Zone
- Wetland Mgt Zone
- Forested Wetland
- Talus
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Leave Tree Tags
- Existing Road
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Streams
- Leave Trees
- Stream Break
- Stream Type
- Rock Pit
- Monumented Corners
- Gate (ABA)

N

Prepared By: rhmm490

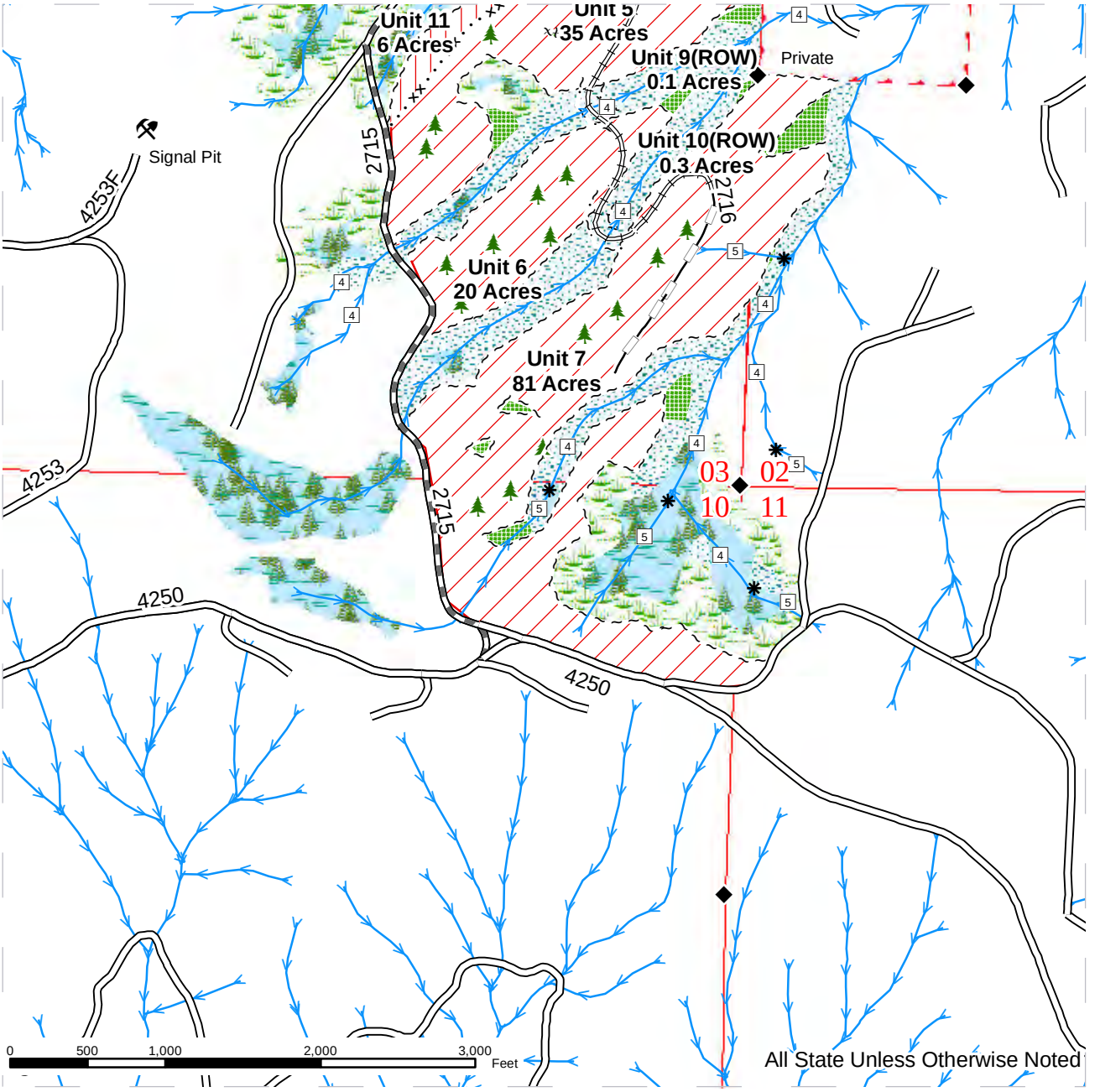
Creation Date: 7/17/2014

Modification Date: 11/6/2015

TIMBER SALE MAP

SALE NAME: MIXED GRAVY
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Variable Retention Harvest
- Thinning
- Riparian Restoration
- Leave Trees
- Riparian Mgt Zone
- Wetland Mgt Zone
- Forested Wetland
- Talus
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Leave Tree Tags
- Existing Road
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Streams
- Leave Trees
- Stream Break
- Stream Type
- Rock Pit
- Monumented Corners
- Gate (ABA)

N

Prepared By: rhmm490

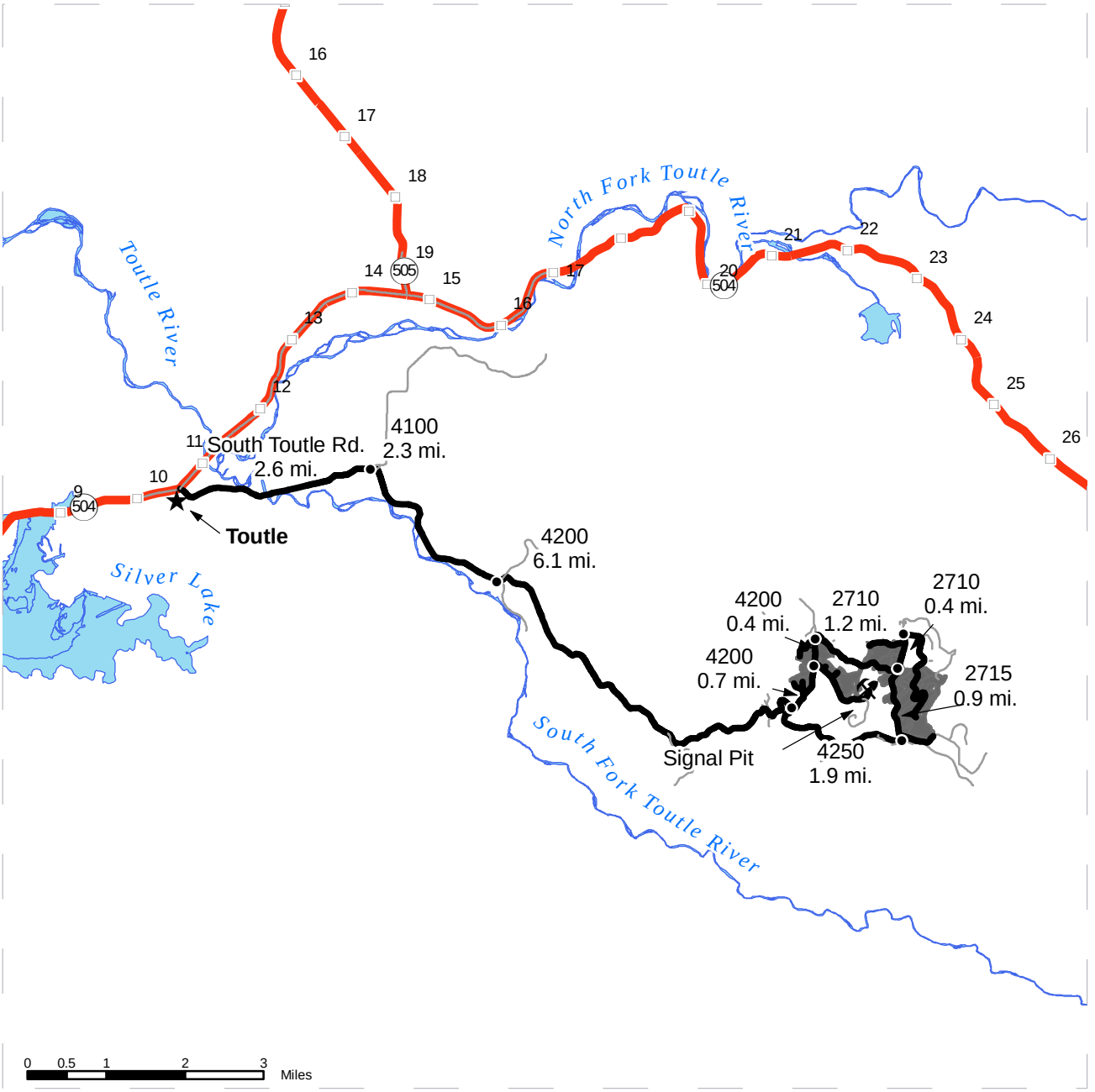
Creation Date: 7/17/2014

Modification Date: 11/6/2015

DRIVING MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Timber Sale Unit
- Highways
- Other Route
- Haul Route
- Milepost Markers

Other Map Points

- Rock Pit
- Distance Indicator

DRIVING DIRECTIONS:

From State Route 504 (MP 10 at Toutle) turn East onto South Toutle Road and follow for 2.6 miles.
Turn RIGHT (South) onto the 4100 Road and follow for 2.3 mi. until reaching the 4100/4200 Jct.
Turn LEFT (East) onto the 4200 Road and follow for 5.8 mi., the 4200/4250 Junction.

-Unit 1: follow the 4200 for another 0.7 mi. Unit 1 is on the LEFT (West).
-Unit 2: follow the 4200 for another 0.7 mi.. Unit 2 is on the RIGHT (EAST). You can also turn RIGHT (EAST) onto the 4253A Road and the unit is on the LEFT (North)
-Unit 3: Follow the 4200 Road for 1.1 mi. The 4200 Road turns into the 2710 Road (stay RIGHT-East) At approximately 0.8 mi., Unit 3 is on the LEFT (North).
-Unit 4: Continue beyond Unit 3 for approximately 0.5 mi, Unit 4 is on both sides of the road and continues on the 2710 Road when traveling North.
-Units 5-7: from the 4200/4250 Junction turn RIGHT (East) for 1.9 mi. At the 4250/2715 Jct, turn LEFT (North). Units 7 is on the RIGHT (East). Continue North on the 2715 to find Units 6 and 5 to the East.

N

Prepared By: rhmm490 Creation Date: 3/24/2015 Modification Date: 11/6/2015

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted MBF Scale AGREEMENT NO. 30-092644

SALE NAME: MIXED GRAVY VRH THIN

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 a Bill of Sale and Contract for Forest Products with the State for the right to harvest and remove forest products from the timber sale area.

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

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

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

G-010 Products Sold and Sale Area

Purchaser was the successful bidder on January 28, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All trees except leave trees described in the Schedule A, snags and western red cedar bounded by: Timber Sale Boundary tags, property line and the 4200 road in Unit 1; Timber Sale Boundary tags, and the 2710, 4200, and 4253 roads in Unit 2; Timber Sale Boundary tags, and the 2710 in Unit 3; Timber Sale Boundary tags, Special Management Unit Boundary tags and the 2715 road in Unit 11.
All timber, except trees marked with blue paint, trees bounded out by Leave Tree Area tags, western red cedar, snags, all down timber existing 3 years prior to day of sale, all down timber greater than 40 inches in diameter and all pre-existing stumps bounded by: Timber Sale Boundary tags, property line, and the 2710 road in Unit 4; Timber Sale Boundary tags, Special Management Unit Boundary tags, property line, and the 2175 road in Unit 5; Timber Sale Boundary tags, and the 2715 road in Unit 6; Timber Sale Boundary tags, private property, and the 2715 and 4250 road in Unit 7. All timber between the orange Right of Way tags in Units 8, 9, and 10, located on approximately 339 acres on part(s) of Sections 2, 3, 4, 10, and 11 all in Township 9 North, Range 2 East W.M. in Cowlitz County(s) as shown on the attached timber sale map and as designated on the sale area.

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

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Thinning Prescriptions

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to October 31, 2018.

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-050 Contract Term Extension - Payment

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

a. A written request for extension of the contract term must be received prior to the expiration date of the contract.

b. Completion of all required roads and compliance with all contract and regulatory requirements.

c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

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 timber value of the contract.

To determine the unpaid portion of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

e. Payment of $3.00 per acre per annum for the acres on which an operating release has not been issued in Units 1, 2, 3, and 11. Payment of $30.00 per acre per annum for the acres on which an operating release has not been issued in Units 4, 5, 6, 7, 8, 9, and 10.

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

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

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

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

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

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

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

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

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

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

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address state trust land management issues relating to compliance with the Federal Endangered Species Act. The activities to be carried out under this contract are located within the State's HCP area and are subject to the terms and conditions of the HCP, and the Services' Incidental Take Permit Nos. 812521 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to authorize the lawful activities of the Purchaser carried out pursuant to this contract, PROVIDED the Purchaser remains in compliance with the terms and conditions of both the HCP and ITP. The requirements set forth in this contract are intended to comply

with the terms and conditions of the HCP and ITP. Accordingly, non-compliance with the terms and conditions of the HCP and ITP will render the authorization provided in this paragraph void, be deemed a breach of the contract and may subject Purchaser to liability for violation of the Endangered Species Act.

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

G-063 Incidental Take Permit Notification Requirements

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

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

c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-090 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, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-100 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 shall be paid for at the same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

Title to the forest products conveyed passes at confirmation of the sale. Purchaser bears the risk of loss of or damage to and has an insurable interest in the forest products in this contract from the time of confirmation of the sale of forest products. In the event of loss of or damage to the forest products after passage of title, whether the cause is foreseeable or unforeseeable, the forest products shall be paid for by Purchaser. Breach of this contract shall have no effect on this provision. Title to the forest products not removed from the sale area within the period specified in this contract shall revert to the State as provided in RCW 79.15.100.

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

Purchaser shall have at least one person regularly on-site during active operations that have completed training according to the requirements outlined within the SFI®

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

Before starting work, Purchaser shall furnish State of Washington, Department of Natural Resources with a certificate(s) of insurance, executed by a duly authorized

representative of each insurer, showing compliance with the insurance requirements specified in the contract. Insurance coverage shall be obtained by the Purchaser prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release has been signed by the State.

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

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

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

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

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

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

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

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

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

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

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

G-160 Agents

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

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

c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to

remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; 2710, 2714L, 2715, 2716, 4100, 4200, 4253, 4253A, 4253D, 4253SFL, 4253C, 4253F, 4254, and 4254A. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the 2710, 2715, 2716, 4100, 4200, 4250, 4253 roads, 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:

Road Easement South Toutle-Deer Creek Agreement between WEYERHAEUSER COMPANY and the STATE dated 01/31/1967. Term: Indefinite

Road Easement Supplement between WEYERHAEUSER COMPANY and the STATE dated 3/1/1984. Term Indefinite.

Easement (W4100

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-010 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 the 'Payment for Forest Products' clause, 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-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus $147,626.00 on day of sale and $9.00 per MBF upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of $20.00 per MBF plus fees.

P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to pay the rate of $2.00 per ton for forest products approved for removal from the sale area under clause H-157.

P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

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-070 Payment for Products: Damage, Theft, Loss or Mismanufacture

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismanufactured shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply.

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section L: Log Definitions and Accountability

L-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the ‘Products Sold and Sale Area’ (G-010) clause meeting the removal requirements listed in the ‘Required Removal of Forest Products’ (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler blocks. Such material shall be paid for at the forest products rates specified in this contract.

L-060 Load Tickets

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator. The State may treat load tickets not accounted for as lost forest products. All costs associated with computing the billings for lost loads shall be borne by Purchaser.

L-071 Log and Load Reporting Service

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within 24 hours of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

L-080 Scaling Rules

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

L-110 State Approval of Log Scaling and Weighing Locations

Forest Product measurement and weighing facilities required by this contract must be approved by the State. Forest products sold under the contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization. Forest products sold under the contract which require weighing shall be weighed at a location that meets Washington State Department of Agriculture approval.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or

en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

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-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from April 15 to June 15 unless authorized in writing by the Contract Administrator.

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 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 or 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.

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 area, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

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

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

a. Skid trails will not exceed 12 feet in width, including rub trees.

b. Skid trails shall not cover more than 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.

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 6 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-025 Timing Requirements for Timber Removal

All Timber must be removed within 90 days of being felled.

H-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all Units. The plan shall address the felling and yarding operations and the schedule A, 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-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. 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.

H-080 Snags Not to be Felled

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

H-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable systems and ground based systems: shovel and tracked skidder unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-127 Tailholds on Private Land

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

Shovel must be large enough to pick up one end of the largest log 35 feet from the machine.

Ground based yarding equipment will not be permitted on slopes over 40%.

Ground based yarding equipment shall only operate during dry soil conditions.

All corridors within all Units will be marked by the Purchaser, and approved by the Contract
Administrator prior to felling.

48 hour advance notice will be required to the CA prior to starting any non-certified faller or feller operator.

Falling and yarding will be restricted from 4/15 to 6/15 to minimize bark slippage during the peak sap flow.

Logging slash shall be distributed across skid trails to minimize soil erosion.

No ground based equipment may operate closer than 25' from pink "inner zone" boundary flagging within RMZ's.

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

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in the G-010 clause that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
Conifer	10	12	5
Hardwood	20	16	5

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this contract. At the State's option, forest products that meet the above specifications and are left on the sale area may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

H-160 Mismanufacture

Mismanufacture is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismanufacture as a breach of this contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

H-180 Removal of Specialized Forest Products or Firewood

Prior to the removal of conveyed specialized forest products or firewood from the sale area, Purchaser and the State shall agree in writing to the method of accounting for/and removal of such products.

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.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 4/20/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the 2714L, 2716, 4253, 4253A, 4253C, 4253D, 4253F, 4253SFL, 4254, 4254A roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the 2710, 2715, 4100, 4200, 4250 roads. 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 State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-110 Resource Protection

No ground based equipment may operate within the first 30 feet from Type 4 streams and 50 feet from a Type 3 streams unless authority is granted in writing by the Contract Administrator.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

Purchaser is responsible for understanding and complying with all applicable local, state, and federal hazardous material/waste laws and regulations for

operations conducted under this contract. Such regulations pertain to, but may not be limited to, hazardous material storage, handling and transport, personnel protection, release notification and emergency response, cleanup and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 4 to 6 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

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

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

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

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

ECY - Central Region:

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State 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.

D-020 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts the State's management plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

LD = .35V-ID-P+C+A

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume multiplied by the contract bid rates.

ID = Initial Deposit paid at date of contract that has not been applied to timber payments.

P = Advance payments received but not yet applied to specific contract requirements.

C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.

A = Administrative Fee = $2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is owed from the date of breach until final payment, calculated using the following formula: Interest = r x LD x N.

Where:

r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.

LD = Liquidated damage value.

N = Number of days from date of breach to date payment is received.

D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of $100 each time a load of logs does not have branding as required in the contract, $250 each time a load of logs does not have a load ticket as required by the contract, $250 each time a load ticket has not been filled out as required by the plan of operations, $250 each time a load is weighed or scaled at a location not approved as required under this contract, $250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, $250 each time scaling or weight

data is not properly submitted to the Log and Load Reporting Service within 24 hours of log removal, and $250 each time a ticket is either lost or otherwise unaccounted for.

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 $1,000.00 per tree for all damaged trees in for thinning Units 1,2, 3, and 11.

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 4, 5, 6, 7, 8, 9. and 10.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Eric Wisch Pacific Cascade Region Manager
Date: _____	Date: _____
Address:	

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
Thinning Prescriptions

Commercial Thinning Prescription for Units 1, 2, 3, and 11, as well as associated Riparian Forest Restoration Management Areas adjacent to Type 4 streams and Wetland waters.

A. THINNING PRESCRIPTION:

The thinning activity will be a "secondary thinning", targeting the large diameter noble fir as preferred for removal. The remaining species shall be harvested in a manner which resembles a thinning from below, retaining the most dominant trees, particularly Douglas-fir. The residual basal area will range from 170 to 210 square feet of basal area (BA) per acre. Specific prescriptions are listed in the table on the following page.

•In any given unit, the basal area shall not vary by +/- 10 square feet from the prescribed basal area target listed in the table.

•Openings created by felling trees shall not exceed 16 feet between leave trees. If natural openings in the stand exceed this distance, sufficient trees shall be left on the perimeter of the opening to maintain the appropriate basal area.

•Residual tree spacing shall be varied to preserve trees of good form and vigor with the largest diameter and height.

LEAVE TREE SELECTION CRITERIA:

Leave Tree Definition:
Leave trees in the unit will be selected by comparing their characteristics with other trees in the stand. NO WESTERN RED CEDAR SHALL BE CUT.

Priority #1: Leave trees shall be selected based on the following criteria:

1) Free of multiple tops;
2) No sweep in the bole (stem);
3) Free of conks, broken tops, or visible rot, and;
4) Possess the biggest, fullest crowns.

If leave trees do not meet one or more of the criteria above, then the Purchaser must leave the required basal area per acre regardless of form or quality.

Priority #2: Species of trees to be left in order of preference:

	*Target Residual BA	**Preferred Species to Retain
Unit 1:	180	Douglas-fir, western hemlock, noble fir
Unit 2:	180	Douglas-fir, western hemlock, noble fir

Unit 3:	200	Douglas-fir, western hemlock, noble fir
Unit 11:	180	Douglas-fir, western hemlock, noble fir

*In each unit, the BA shall not vary by +/- 10 square feet from the prescribed target listed above.
**Highest priority species to retain is listed first.

GROUND-BASED YARDING COORIDORS:

Skid trail locations shall be marked by the Purchaser and approved, in writing, by the Contract Administrator prior to any harvesting or felling activities. Pre-approved corridors are limited to 16 feet in width (including rub trees), and no less than 75 feet apart, as measured from the center of the corridor. Where possible, corridors shall be located in a manner that minimizes the potential for damaging or needing to remove any leave trees.

In addition to the requirements above, within the RMZs and WMZs the following shall occur:
•On slopes greater than 10%, skid trails shall be designed and located at a 45 degree angle to the white timber sale boundary tags.
•Skid trails on slopes over 10% shall be water barred upon completion of harvest.

B. RIPARIAN MANAGEMENT ZONE (RMZ) & WETLAND MANAGEMENT ZONE (WMZ) SPECIAL GUIDELINES (identified as Riparian Restoration areas on the Timber Sale Map):

•Commercial thinning of RMZs/WMZs shall follow the Schedule A prescription as outlined above.
•No ground-based equipment shall operate within 25 feet of the timber sale boundary tags with pink flagging.
•Five trees from the largest diameter class per RMZ/WMZ acre shall be selected from the first 25 to 50 feet from the timber sale boundary tags to become RMZ enhancement down wood (DW) or created into snags. Trees becoming down wood shall be felled toward the typed water/wetland and left onsite. Of the five RMZ enhancement trees per RMZ/WMZ acre, 2 trees may be created into snags. Snags may be created with the use of mechanized equipment by topping the trees with the tops felled towards the stream or wetland and left onsite. Or snags may be created by girdling. Girdling shall expose the cambium the entire circumference of the tree for a width of no less than 3 inches.
*DW trees shall not count towards the basal area per acre target.

C. PURCHASER CERTIFICATION:

All persons engaged in the selection of leave trees, including the Purchaser, must receive certification, in writing, from the Contract Administrator prior to the start of harvest activities. Within the sale area, certification entails the following:

1)Marking an unmarked area with red paint to meet the desired Leave Tree Marking Specifications, Leave Tree Selection Criteria, down woody debris, snag creation, and Spacing Requirements under close supervision of the Contract Administrator.
2)Only individuals with written approval by the Contract Administrator are certified. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring.
3)A 48 hour advance notice will be required to the CA prior to starting any non-certified faller or feller operator.

All marking will be approved by the Contract Administrator prior to harvest.

Certification for fallers is defined in clause H-011.

Leave Tree Damage Definition is defined in clause H-012.

Leave Tree Excessive Damage is defined in clause D-040.

Cutting Card for
Riparian Forest Restoration Strategy
& Wetland Management Zone Thinning

Sale Name: Mixed Gravy VRH & Thin
Agreement #30-092644

Units #1,2, & 11

No ground-based equipment shall operate within 25 feet of the white Timber Sale Boundary tags.

Thin RMZs and WMZs to a target average of 180 basal area per acre. Leave trees shall be selected with the following characteristics: free of multiple tops, no sweep in bole (stem), free of conks, broken tops, or visible rot, and possess the biggest fullest crowns.

Down wood will be created at an interval of 1 tree per 87 linear feet of stream. Trees shall be felled toward the stream or wetland and left onsite.

Snags may be created in place of down wood. For every 5 down wood trees, 2 of those may be created into snags. Snags may be created by girdling, or topped with the use of mechanized equipment. Girdling shall expose the cambium the entire circumference of the tree for a width of no less than 3 inches. If topped, tops shall be felled towards the stream or wetland and left onsite.

All snags felled for safety reasons must remain onsite and shall be left as close as possible to their original location.

Skid trails shall be marked by the Purchaser and approved by the Contract Administrator prior to felling operations.

Refer to the Schedule A for additional requirements.

Contract Administrator: _____

Phone Numbers: _____

Cutting Card for
Riparian Forest Restoration Strategy
& Wetland Management Zone Thinning

Sale Name: Mixed Gravy VRH & Thin
Agreement #30-092644

Units #1,2, &11

No ground-based equipment shall operate within 25 feet of the white Timber Sale Boundary tags.

Thin RMZs and WMZs to a target average of 180 basal area per acre. Leave trees shall be selected with the following characteristics: free of multiple tops, no sweep in bole (stem), free of conks, broken tops, or visible rot, and possess the biggest fullest crowns.

Down wood will be created at an interval of 1 tree per 87 linear feet of stream. Trees shall be felled toward the stream or wetland and left onsite.

Snags may be created in place of down wood. For every 5 down wood trees, 2 of those may be created into snags. Snags may be created by girdling, or topped with the use of mechanized equipment. Girdling shall expose the cambium the entire circumference of the tree for a width of no less than 3 inches. If topped, tops shall be felled towards the stream or wetland and left onsite.

All snags felled for safety reasons must remain onsite and shall be left as close as possible to their original location.

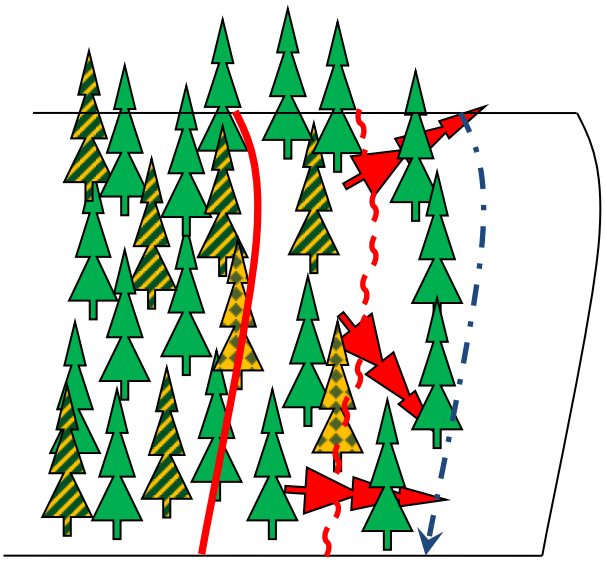
Skid trails shall be marked by the Purchaser and approved by the Contract Administrator prior to felling operations.

Refer to the Schedule A for additional requirements.

Contract Administrator: _____

Phone Numbers: _____

Units #1, 2, 11: RMZ/WMZ Thinning



Type 4 Stream or Wetland Edge

White Timber Sale Boundary Tags

25-Foot Equipment Exclusion Zone

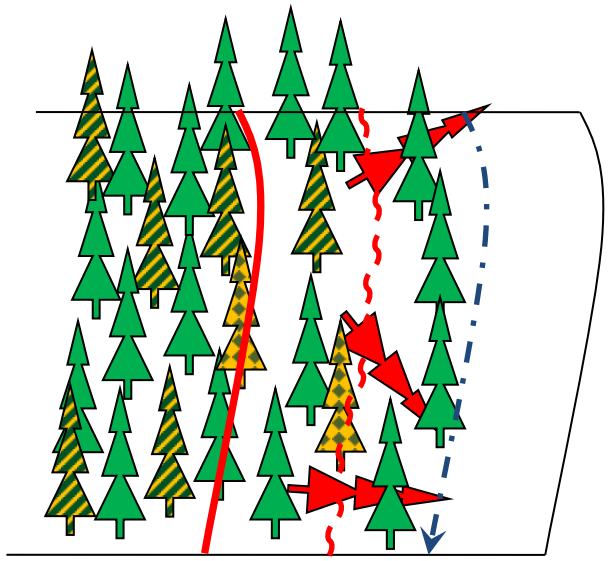
Trees to Cut and Remove

Leave Trees

Fall trees into Inner Zone

Snag Creation (Optional)

Units #1, 2, 11: RMZ/WMZ Thinning



Type 4 Stream or Wetland Edge

White Timber Sale Boundary Tags

25-Foot Equipment Exclusion Zone

Trees to Cut and Remove

Leave Trees

Fall trees into Inner Zone

Snag Creation (Optional)

Cutting Card for
Riparian Forest Restoration Strategy
& Wetland Management Zone Thinning

Sale Name: Mixed Gravy VRH & Thin
Agreement #30-092644

Units #3

No ground-based equipment shall operate within 25 feet of the white Timber Sale Boundary tags.

Thin RMZs and WMZs to a target average of 200 basal area per acre. Leave trees shall be selected with the following characteristics: free of multiple tops, no sweep in bole (stem), free of conks, broken tops, or visible rot, and possess the biggest fullest crowns.

Down wood will be created at an interval of 1 tree per 87 linear feet of stream. Trees shall be felled toward the stream or wetland and left onsite.

Snags may be created in place of down wood. For every 5 down wood trees, 2 of those may be created into snags. Snags may be created by girdling, or topped with the use of mechanized equipment. Girdling shall expose the cambium the entire circumference of the tree for a width of no less than 3 inches. If topped, tops shall be felled towards the stream or wetland and left onsite.

All snags felled for safety reasons must remain onsite and shall be left as close as possible to their original location.

Skid trails shall be marked by the Purchaser and approved by the Contract Administrator prior to felling operations.

Refer to the Schedule A for additional requirements.

Contract Administrator: _____

Phone Numbers: _____

Cutting Card for
Riparian Forest Restoration Strategy
& Wetland Management Zone Thinning

Sale Name: Mixed Gravy VRH & Thin
Agreement #30-092644

Units #3

No ground-based equipment shall operate within 25 feet of the white Timber Sale Boundary tags.

Thin RMZs and WMZs to a target average of 200 basal area per acre. Leave trees shall be selected with the following characteristics: free of multiple tops, no sweep in bole (stem), free of conks, broken tops, or visible rot, and possess the biggest fullest crowns.

Down wood will be created at an interval of 1 tree per 87 linear feet of stream. Trees shall be felled toward the stream or wetland and left onsite.

Snags may be created in place of down wood. For every 5 down wood trees, 2 of those may be created into snags. Snags may be created by girdling, or topped with the use of mechanized equipment. Girdling shall expose the cambium the entire circumference of the tree for a width of no less than 3 inches. If topped, tops shall be felled towards the stream or wetland and left onsite.

All snags felled for safety reasons must remain onsite and shall be left as close as possible to their original location.

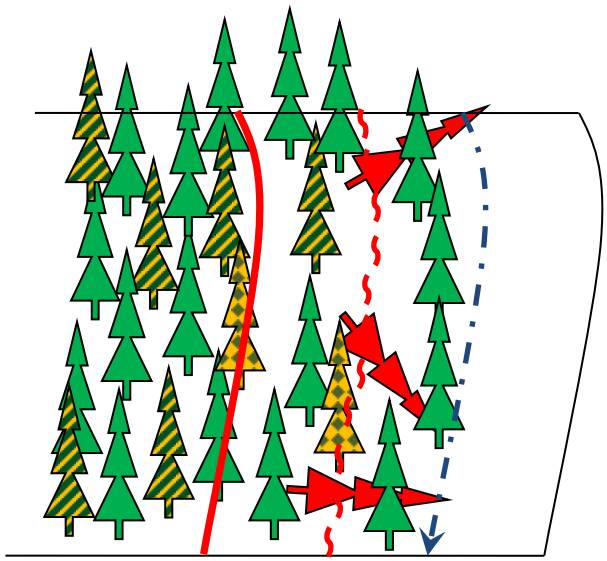
Skid trails shall be marked by the Purchaser and approved by the Contract Administrator prior to felling operations.

Refer to the Schedule A for additional requirements.

Contract Administrator: _____

Phone Numbers: _____

Units #3: RMZ/WMZ Thinning



Type 4 Stream or Wetland Edge

White Timber Sale Boundary Tags

25-Foot Equipment Exclusion Zone

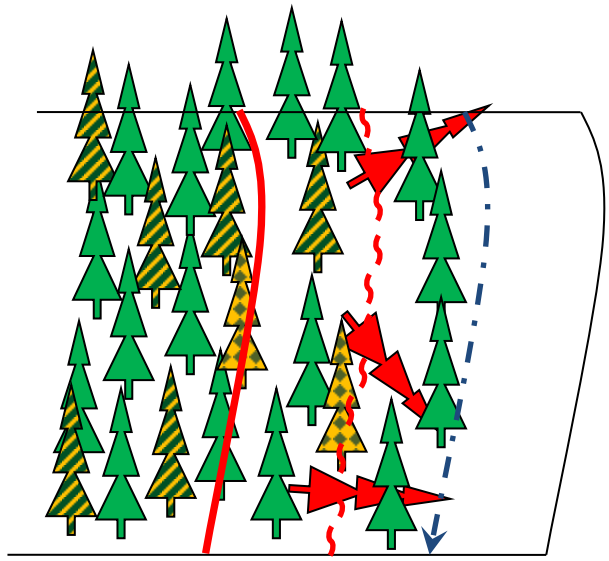
Trees to Cut and Remove

Leave Trees

Fall trees into Inner Zone

Snag Creation (Optional)

Units #3: RMZ/WMZ Thinning



Type 4 Stream or Wetland Edge

White Timber Sale Boundary Tags

25-Foot Equipment Exclusion Zone

Trees to Cut and Remove

Leave Trees

Fall trees into Inner Zone

Snag Creation (Optional)

FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: Pacific Cascade

Timber Sale Name: Mixed Gravy VRH and Thin

Application Number: 30-092644

Excise Tax Applicable Activities

Construction: 214 linear feet
Road to be constructed (optional and required) but not abandoned

Reconstruction: 6,837 linear feet
Road to be reconstructed (optional and required) but not abandoned

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

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

Pre-Haul Maintenance: 27,170 linear feet
Existing road to receive maintenance work (specifically required by the contract) prior to haul

Excise Tax Exempt Activities

Temporary Optional Construction: 0 linear feet
Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 1,402 linear feet
Optional roads to be reconstructed and then abandoned

New Abandonment: 1,402 linear feet
Abandonment of roads constructed or reconstructed under the contract

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

(Revised 7/04)

PRE-CRUISE NARRATIVE

Sale Name: Mixed Gravy VRH and Thin	Region: **Pacific Cascade**
Agreement #: 30-092644	District: St. Helens
Contact Forester: Becky VonDracek Phone / Location: 360.749.6825	County(s): Cowlitz,
Alternate Contact: Chris Wills Phone / Location: 360.751.0764	Other information:

Type of Sale: Weight Scale	
Harvest System: Ground Based	96%
Harvest System: Uphill Cable	4%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Upland Thin Acres	Upland Thinning Assoc'd Riparian Resto. Acres	VRH Acres	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
							RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	**S04/T09N/R02E**	10	43	6	0	71	19	0	2	0	50**	GPS (Garmin)
2	**S04/T09N/R02E**	10	65	7	0	118	44	0	1	0(0.2*)	73**	GPS (Garmin)
3	**S03/T09N/R02E**	10	40	5	0	75	29	0	1	0(0.1*)	45	GPS (Garmin)
4	**S03/T09N/R02E**	10	0	0	28	29	0	1	0(0.4)	0	28	GPS (Garmin)
11	**S03/T09N/R02E**	10	0	6	0	42	36	0	0	0	6	GPS (Garmin)
5	**S03/T09N/R02E**	10	0	0	35	38	0	2	1	0	35	GPS (Garmin)
6	**S03/T09N/R02E**	10	0	0	20	21	0	1	0(0.3)	0	20	GPS (Garmin)
7	**S02S03/S11/T09N/R02E**	10	0	0	81	203	117	4	1	0	81	GPS (Garmin)
8 (R/W)	**S03/T09N/R02E**	10	0	0	0	1	0	0	0	0	1(0.5)	GPS (Garmin)
9 (R/W)	**S03/T09N/R02E**	10	0	0	0	0(0.1)	0	0	0	0	0(0.1)	GPS (Garmin)
10 (R/W)	**S03/T09N/R02E**	10	0	0	0	0(0.3)	0	0	0	0	0(0.3)	GPS (Garmin)
TOTAL ACRES			148	24	164	597	245	8	6	0	339	

*****Areas bounded out with Timber Sale Boundary Tags due to non-forested openings

**Acreage may appear off due to rounding

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Bounded by white "Timber Sale Boundary" tags with pink flagging, reprod/Property Line marked with pink flagging, and the 4200 Road	Upland thinning in conjunction with RFRS Thinning along Type 4 streams and associated wetlands.	None
2	Bounded by white "Timber Sale Boundary" tags with pink flagging, reprod/Property Line marked with pink flagging, and the 4200, 2710, and the 4253 Roads	Upland thinning in conjunction with RFRS Thinning along Type 4 streams and associated wetlands.	None
3	Bounded by white "Timber Sale Boundary" tags with pink flagging	Upland thinning in conjunction with RFRS Thinning along Type 4 streams and associated wetlands.	None
4	Bounded by white "Timber Sale Boundary" tags with pink flagging, Property Line marked with pink flagging, and the 2710 Road. Retention Trees marked with blue paint or yellow "Leave Tree Area" tags with pink flagging.	Variable Retention Harvest	261
11	Bound by white "Timber Sale Boundary" tags with pink flagging, blue "Special Management Boundary" tags with pink flagging, the 2715 Road, and the 2716 Road.	RFRS Thinning adjacent to an Upland VRH harvest.	None
5	Bound by white "Timber Sale Boundary" tags with pink flagging, blue "Special Management Boundary" tags with pink flagging, and the 2715 Road. Retention Trees marked with blue paint or yellow "Leave Tree Area" tags with pink flagging.	Variable Retention Harvest adjacent to a RFRS Thinning	325
6	Bound by white "Timber Sale Boundary" tags with pink flagging and the 2715 Road. Retention Trees marked with blue paint or yellow "Leave Tree Area" tags with pink flagging.	Variable Retention Harvest	174
7	Bound by white "Timber Sale Boundary" tags with pink flagging, the 4250 Road, and the 2715 Road. Retention Trees marked with blue paint or yellow "Leave Tree Area" tags with pink flagging.	Variable Retention Harvest	694
8 ROW	Bound by orange "Right-of-Way Boundary" tags with orange flagging along the 2716 Road.	Right-of-Way Harvest	None.
9 ROW	Bound by orange "Right-of-Way Boundary" tags with orange flagging along the 2716 Road.	Right-of-Way Harvest	None.
10 ROW	Bound by orange "Right-of-Way Boundary" tags with orange flagging along the 2716 Road.	Right-of-Way Harvest	None.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF/WH/NF 11.136MBF/Acre	Access via the 4100 Road to the 4200 Road. At approximately 6 miles, the unit is on the left. Continue to the 4254 Road to access the northern portion of the unit.	See Logging Plan maps and driving maps.
2	DF/WH/NF 11.585MBF/Acre	Access via the 4100 Road to the 4200 Road. At approximately 6.5 miles the unit is on the right. Veer right on the 4253A Road and the remainder of the unit is on the left.	See Logging Plan maps and driving maps.
3	DF/WH 18.349MBF/Acre	Access via the 4100 Road to the 4200 Road to the 2710 Road. At mile post 0.8 on the 2710 the unit is on the left. Continue and turn left on the 2710 Road, then left on the 2714L spur (Abandoned). The unit is on the Left.	See Logging Plan maps and driving maps.
4	DF/WH 43.917MBF/Acre	Access via the 4100 Road to the 4200 Road to the 2710 Road. At mile post 1.1 on the 2710 Road the unit is on both sides of the road. Continue and turn left on the 2710 Road, then left on the 2714L spur (Abandoned). The unit is on the left.	See Logging Plan maps and driving maps.
11	DF/WH 6.061MBF/Acre	Access via the 4100 Road to the 4200 Road to the 4250 Road. Veer left onto the 2715 Road after approximately 7.7 miles up the 4250 Road. The unit is on the right after approximately 0.6 miles.	See Logging Plan maps and driving maps.
5	DF/WH 33.675MBF/Acre	Access via the 4100 Road to the 4200 Road to the 4250 Road. Veer left onto the 2715 Road after approximately 7.7 miles up the 4250 Road. The unit is on the right after approximately 0.6 miles.	See Logging Plan maps and driving maps.
6	DF/WH 31.068MBF/Acre	Access via the 4100 Road to the 4200 Road to the 4250 Road. Veer left onto the 2715 Road after approximately 7.7 miles up the 4250 Road. The unit is on the right after approximately 0.4 miles.	See Logging Plan maps and driving maps.
7	DF/WH/NF 36.549MBF/Acre	Access via the 4100 Road to the 4200 Road to the 4250 Road. The unit is on the north side of the 4250 Road at the 2715 Road junction (approximately 7.7 miles up the 4250 Road)	See Logging Plan maps and driving maps.
8	DF 16.126MBF/Acre	Same as above, except continue on the 2715 Road, to the 2710 Road, to the 2716 Road. The 2716 Road begins on Weyerhaeuser Property. The R/W begins at Stations 26+90	See Logging Plan maps and driving maps.
9	DF 112.720MBF/Acre	Same as above, except continue on the 2715 Road, to the 2710 Road, to the 2716 Road. The 2716 Road begins on Weyerhaeuser Property. The R/W begins at Stations 48+67	See Logging Plan maps and driving maps.

10	DF 23.470MBF/Acre	Same as above, except continue on the 2715 Road, to the 2710 Road, to the 2716 Road. The 2716 Road begins on Weyerhaeuser Property. The R/W begins at Stations 57+12	See Logging Plan maps and driving maps.
TOTAL MBF	8,281.082mbf		

REMARKS:

The sale is a combination of Variable Retention Harvest, Upland thinning, and RFRS thinning. The units are spread across the road network which surrounds Signal Peak. Previous activities in the vicinity include Noble TBS, and a small portion of the Prime Rib VRH and Thin TBS. There is a large component of noble fir in all units. In the thinning units, noble fir will be targeted as a primary "take" species. This sale includes secondary thinning in units 1, 2, and 3. The 2716 Road needs to be accessed on Weyerhaeuser Property and may require a key. As of 03/2015, Weyerhaeuser may be utilizing the 2716/2710 Road system for a DNR adjacent harvest. In some areas along the property lines, survey offsets may have been delineated by pink flagging. These pink flags are spread far apart and should not be confused with boundary flagging. Also in all units, old "Timber Sale Boundary" tags may be present. Great effort was taken to remove these tags, but there may be lingering tags. These tags should be easily discernable as they are heavily decayed.

Prepared By: Becky VonDracek Date: 3/24/2015	Title: Forester 1	CC: Chris Wills

Cruise Narrative

Sale Name: Mixed Gravy VRH & Thin	**Region:** Pacific Cascade
App. #: 30-092664	**District:** St. Helen's
Lead Cruiser: K. Bailey	**Completion date:** 7/6/15
Other Cruisers: B. Frank	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	50	Yes	
2	73	Yes	
3	45	Yes	
4	28	Yes	
5	35	Yes	
6	20	Yes	
7	81	Yes	
8	0.5	Yes	
9	0.1	Yes	
10	0.3	Yes	
11	6	Yes	
Total	338.9	NO	Addition of ROW acres

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/ half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	33.61	4.5'	250' X 250'	Cruise All	33
2	VP	40	4.5'	250' X 250'	Cruise All	48
3	VP	40	4.5'	250' X 250'	Cruise All	32
4	VP	54.44	4.5'	250' X 250'	1:1	19
5	VP	46.94	4.5'	250' X 250'	1:1	26
6	VP	54.44	4.5'	250' X 250'	1:1	14
7	VP	46.94	4.5'	250' X 250'	1:1	60
8	VP	40	4.5'	450' spacing	Cruise All	2
9	ITS	DF 1:4. WH 1:2	4.5'	NA	NA	NA
10	VP	46.94	4.5'	168' spacing	Cruise All	2
11	VP	33.61	4.5'	250' X 250'	Cruise All	4

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.
Minimum cruise spec:	40% 0f Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.

Avg. ring count by sp:	**DF** =	7	**WH** =		**SS** =	
Leave/take tree description:	Leave trees in the VRH units are bounded out with yellow tags and pink flashers as well as clumped and scattered blue painted leave trees. Timber to be removed from the VDT units was individually selected on plot with the use of a silvicultural prescription. Timber to be removed from the sale is represented with a "T" of the cruise reports.					
Sort Description:	**HA**– Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½" in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½" in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (min dia 8".) **HB** – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½" in diameter. May include logs with not more than two larger knots up to 2 ½" in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (min dia 8".) **R** – Logs meeting the following criteria: Gross diameter of 12 inches or greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.					

Field observations:

Mixed Gravy consists of seven units and 3 ROWs. The vast majority of this ground should provide for easy shovel logging, although there is some steeper ground that may require some cable logging. These units are a combination of VRH and VDT units. Units 4, 5, 6 and 7 are VRH's, while units 1, 2, 3 and 5A are the VDT units.

All timber to be harvested within the thinning units was individually selected using a silvicultural prescription.

All timber to be removed is represented with a "T" in the status column of the cruise reports.

All units within this sale are fairly similar in stand composition, quality, defects and volumes. Most of the sale is a mixture of DF, NF, WH, with a very minor amount of RA. Defects consist of small spike knots, hook, sweep, frost check in the NF, forks and some butt swell in the larger timber. There is a significant amount of high quality logs in most all units.

Access is good to all units off of the 4200 and 4250 road systems.

Grants: **Prepared by:** **Title:** **Timber Cruiser**

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T09N R02E S04 Ty00U1
THRU
T09N R02E S04 Ty0U11

Project: MIXEDGRA
Acres 338.90

Date 8/7/2015
Time 9:14:24AM

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU CU		100.0	3											2	11		0.00	9.6
DF	T	HA 2S	2	.8	242	240	81			78	22				100	38	15	350	1.93	.7
DF	T	HA 3S	1	2.3	103	101	34		100						100	40	9	112	0.76	.9
DF	T	HB 2S	31	1.8	3,659	3,594	1,218			79	21			3	97	39	14	271	1.65	13.3
DF	T	HB 3S	19	2.2	2,181	2,134	723		100					12	88	38	9	123	0.84	17.3
DF	T	D 2S	16	5.4	1,951	1,845	625			67	33			9	91	38	14	263	1.74	7.0
DF	T	D 3S	19	1.8	2,178	2,139	725	30	70			1	1	28	70	37	8	90	0.70	23.7
DF	T	D 4S	8		940	940	319	97	3			25	24	22	29	27	5	30	0.32	30.9
DF	T	D UT	4		365	365	124	60	31	2	7	32	14	8	47	28	6	43	0.43	8.5
DF	**Totals**		31	2.3	11,623	11,358	3,849	16	34	38	13	3	3	12	82	31	9	101	0.84	111.9
DF		CU CU		100.0	6											2	12		0.00	5.4
DF		HA 2S	2	1.4	188	186	63			53	47				100	39	15	346	1.94	.5
DF		HA 3S	1		53	53	18		100						100	40	10	148	0.96	.4
DF		HB 2S	29	2.7	1,943	1,889	640			73	27			1	99	39	14	277	1.70	6.8
DF		HB 3S	18	2.2	1,248	1,221	414		100					4	96	38	10	132	0.91	9.2
DF		D 2S	23	4.4	1,553	1,484	503			68	32			5	95	39	14	290	1.84	5.1
DF		D 3S	18	2.9	1,238	1,202	407	31	69			1	2	26	71	36	8	88	0.71	13.6
DF		D 4S	8	.2	516	515	175	98	2			17	37	18	27	27	5	31	0.35	16.9
DF		D UT	1		21	21	7	100				32	33	34		19	5	20	0.29	1.1
DF	**Totals**		18	2.9	6,767	6,572	2,227	14	32	38	16	2	3	8	87	31	9	111	0.93	59.0
DF	D	CU CU		100.0	17											17	5		0.00	.8
DF	D	D 3S	18	27.8	34	24	8		100					57	43	35	10	104	0.95	.2
DF	D	D 4S	7	42.9	15	8	3	100							100	40	7	40	0.53	.2
DF	D	D UT	75		97	97	33	100				17		33	50	31	5	39	0.34	2.5
DF	**Totals**		0	20.1	162	129	44	81	19			13		35	52	29	6	35	0.35	3.7
NF	T	CU CU		100.0	21											2	11		0.00	3.9
NF	T	HA 2S			44	44	15			100					100	40	13	240	1.45	.2
NF	T	HB 2S	44	2.1	2,285	2,237	758			53	47	1		1	99	39	15	338	2.00	6.6
NF	T	HB 3S	3	.8	127	126	43		100					11	89	36	9	116	0.81	1.1
NF	T	D 2S	29	11.6	1,676	1,481	502		0	36	64	4		20	77	36	15	305	2.13	4.9
NF	T	D 3S	17	.8	875	868	294	34	66			1	2	24	73	37	8	87	0.82	9.9
NF	T	D 4S	2	3.6	140	135	46	77	23			31	46	14	10	23	6	29	0.42	4.7
NF	T	D UT	5		222	222	75	3	1	24	71	32	9	33	26	23	13	175	1.68	1.3
NF	**Totals**		14	5.2	5,391	5,113	1,733	8	15	36	42	4	2	12	82	30	11	157	1.33	32.5
NF		CU CU		100.0	4											2	9		0.00	1.1
NF		HB 2S	23	2.8	331	322	109			80	20			5	95	38	13	221	1.44	1.5
NF		HB 3S	37		523	523	177		100					13	87	37	10	126	0.85	4.2
NF		D 2S	5	16.8	93	77	26			72	28	13		28	59	32	14	209	1.51	.4
NF		D 3S	13	5.8	189	178	60	49	51					34	66	36	8	80	0.66	2.2
NF		D 4S	16	1.0	227	225	76	96	4			5	26	41	28	30	5	33	0.33	6.9
NF		D UT	6		76	76	26	2	22	49	28	2		41	57	29	11	169	1.36	.4
NF	**Totals**		4	2.9	1,444	1,402	475	22	46	25	8	2	4	21	74	31	8	84	0.70	16.6
WH	T	CU CU		100.0	24											3	11		0.00	10.0
WH	T	HA 2S			46	46	16			100					100	40	15	360	2.06	.1
WH	T	HB 2S	18	3.1	1,418	1,373	465			76	24		3		97	38	13	253	1.61	5.4
WH	T	HB 3S	22	1.9	1,730	1,698	575		100					8	92	38	10	132	0.89	12.9

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T09N R02E S04 Ty00U1
THRU
T09N R02E S04 Ty0U11

Project: **MIXEDGRA**

Acres **338.90**

Page **2**
Date **8/7/2015**
Time **9:14:24AM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	21	7.4	1,823	1,688	572			68	32	3		16	81	36	14	256	1.81	6.6
WH	T	D	3S	24	4.9	1,903	1,809	613	34	66				1	22	77	38	8	88	0.73	20.6
WH	T	D	4S	11	.7	916	909	308	98	2			5	30	36	29	31	5	32	0.34	28.0
WH	T	D	UT	4	.3	245	244	83	60	38	3		33	20	14	33	25	6	37	0.41	6.5
WH	**Totals**			21	4.1	8,104	7,768	2,633	21	39	29	11	2	5	15	78	31	8	86	0.77	90.2
WH		CU	CU		100.0	35											3	12		0.00	6.0
WH		HB	2S	19	2.1	792	776	263			88	12		2	6	92	38	13	236	1.57	3.3
WH		HB	3S	17	1.6	747	735	249		100					6	94	37	10	137	0.97	5.4
WH		D	2S	28	8.4	1,226	1,124	381			77	23	1	6	9	84	36	14	243	1.81	4.6
WH		D	3S	22	3.6	945	911	309	30	69	2			2	32	66	36	8	90	0.78	10.2
WH		D	4S	11	.1	444	444	150	100	0			14	47	27	12	27	5	30	0.37	15.0
WH		D	UT	3		96	96	32	39	16	26	19	58	22	2	17	19	7	45	0.65	2.1
WH	**Totals**			11	4.7	4,285	4,085	1,384	18	34	39	9	3	8	15	74	28	9	88	0.87	46.6
WH	D	CU	CU		100.0	3											10	5		0.00	.3
WH	D	D	UT	100		15	15	5	100							100	40	6	60	0.43	.3
WH	**Totals**			0	14.3	18	15	5	100							100	25	6	30	0.34	.5
RA	T	CU	CU		100.0	10											10	5		0.00	.9
RA	T	D	UT	37		73	73	25	100				14	12		74	29	5	29	0.26	2.5
RA	T	D	4S	19	4.5	40	38	13		100						100	38	9	105	0.83	.4
RA	T	D	4S	44	3.3	87	85	29	100						2	98	40	7	63	0.44	1.3
RA	**Totals**			1	7.1	211	196	67	80	20			5	4	1	89	29	6	38	0.36	5.1
RA		CU	CU		100.0	2											11	10		0.00	.2
RA		D	UT	12		16	16	5	100					100			24	5	24	0.21	.7
RA		D	4S	53	8.3	78	71	24		100						100	40	8	93	0.70	.8
RA		D	4S	35	5.2	48	45	15	100					6	22	72	34	6	47	0.39	1.0
RA	**Totals**			0	7.9	145	133	45	46	54				14	8	78	31	7	50	0.46	2.7
Totals					3.6	38,149	36,771	12,462	17	32	35	16	3	4	13	81	30	9	100	0.87	368.8

TC PSTATS

PROJECT STATISTICS

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U1	THR	338.90	241	1,560	S	W
09N	02E	04	MIXEDGRAVY	0U11						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	241	1560	6.5		
CRUISE	184	1237	6.7	54,420	2.3
DBH COUNT					
REFOREST					
COUNT	56	314	5.6		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	284	23.9	18.9	84	10.7	46.6	6,767	6,572	1,712	1,711
DOUG FIR-D	9	2.5	10.5	74	0.5	1.5	162	129	41	38
DOUG FIR-T	259	46.2	17.8	85	18.9	79.7	11,623	11,358	2,914	2,913
WHEMLOCK	213	20.4	17.8	73	8.3	35.2	4,285	4,085	1,153	1,145
WHEMLOCK-D	1	.3	11.0	62	0.1	.2	18	15	5	4
WHEMLOCK-T	219	41.9	16.5	77	15.2	61.8	8,104	7,768	2,142	2,136
NOBLE F	65	8.1	16.0	76	2.8	11.3	1,444	1,402	368	367
NOBLE F-T	170	13.0	22.7	79	7.7	36.6	5,391	5,113	1,326	1,322
R ALDER	7	1.3	12.9	89	0.3	1.2	145	133	39	38
R ALDER-T	10	3.1	10.6	79	0.6	1.9	211	196	56	54
TOTAL	*1,237*	*160.6*	*17.7*	*80*	*65.5*	*275.9*	*38,149*	*36,771*	*9,754*	*9,728*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL 68.1 SD: 1.0

SAMPLE TREES - BF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	61.0	3.6	335	348	360			
DOUG FIR-D	67.2	23.7	54	71	88			
DOUG FIR-T	53.1	3.3	294	305	315			
WHEMLOCK	50.0	3.5	245	254	262			
WHEMLOCK-D								
WHEMLOCK-T	53.2	3.6	215	223	231			
NOBLE F	56.8	7.1	209	225	241			
NOBLE F-T	48.5	3.7	463	481	499			
R ALDER	19.2	7.8	99	107	116			
R ALDER-T	41.9	13.9	64	74	84			
TOTAL	*62.9*	*1.8*	*301*	*307*	*312*	*158*	*39*	*18*

CL 68.1 SD: 1.0

SAMPLE TREES - CF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR	50.3	3.0	86	89	91			
DOUG FIR-D	77.8	27.5	16	23	29			
DOUG FIR-T	47.2	2.9	75	77	79			
WHEMLOCK	45.5	3.1	69	71	73			
WHEMLOCK-D								
WHEMLOCK-T	50.0	3.4	60	62	64			
NOBLE F	47.0	5.9	55	59	62			
NOBLE F-T	38.7	3.0	118	122	125			
R ALDER	20.9	8.5	28	31	34			
R ALDER-T	50.8	16.9	17	21	24			
TOTAL	*53.8*	*1.5*	*79*	*80*	*81*	*116*	*29*	*13*

CL 68.1 SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	162.2	10.4	21	24	26			

PROJECT STATISTICS

PROJECT MIXEDGRA

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U1	THR	338.90	241	1,560	S	W
09N	02E	04	MIXEDGRAVY	0U11						

TREES/ACRE

CL 68.1 SD: 1.00

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-D	658.8	42.4	1	2	4			
DOUG FIR-T	144.3	9.3	42	46	50			
WHEMLOCK	194.5	12.5	18	20	23			
WHEMLOCK-D	1552.4	99.9	0	0	1			
WHEMLOCK-T	152.7	9.8	38	42	46			
NOBLE F	346.4	22.3	6	8	10			
NOBLE F-T	171.7	11.0	12	13	14			
R ALDER	1212.7	78.1	0	1	2			
R ALDER-T	666.7	42.9	2	3	4			
TOTAL	*57.8*	*3.7*	*155*	*161*	*167*	*133*	*33*	*15*

BASAL AREA/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	150.6	9.7	42	47	51			
DOUG FIR-D	617.6	39.8	1	1	2			
DOUG FIR-T	138.0	8.9	73	80	87			
WHEMLOCK	168.6	10.9	31	35	39			
WHEMLOCK-D	1552.4	99.9	0	0	0			
WHEMLOCK-T	134.2	8.6	56	62	67			
NOBLE F	314.5	20.2	9	11	14			
NOBLE F-T	165.4	10.6	33	37	40			
R ALDER	1192.6	76.8	0	1	2			
R ALDER-T	642.1	41.3	1	2	3			
TOTAL	*41.2*	*2.7*	*269*	*276*	*283*	*68*	*17*	*8*

NET BF/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	161.7	10.4	5,888	6,572	7,256			
DOUG FIR-D	608.6	39.2	79	129	180			
DOUG FIR-T	140.0	9.0	10,335	11,358	12,382			
WHEMLOCK	169.3	10.9	3,640	4,085	4,530			
WHEMLOCK-D	1552.4	99.9	0	15	30			
WHEMLOCK-T	136.2	8.8	7,087	7,768	8,449			
NOBLE F	315.7	20.3	1,117	1,402	1,686			
NOBLE F-T	167.5	10.8	4,562	5,113	5,664			
R ALDER	1170.8	75.4	33	133	233			
R ALDER-T	658.5	42.4	113	196	280			
TOTAL	*45.1*	*2.9*	*35,704*	*36,771*	*37,839*	*81*	*20*	*9*

NET CUFT FT/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	156.1	10.0	1,539	1,711	1,883			
DOUG FIR-D	612.9	39.4	23	38	53			
DOUG FIR-T	138.5	8.9	2,653	2,913	3,172			
WHEMLOCK	167.9	10.8	1,021	1,145	1,269			
WHEMLOCK-D	1552.4	99.9	0	4	9			
WHEMLOCK-T	134.9	8.7	1,951	2,136	2,322			
NOBLE F	309.4	19.9	294	367	440			
NOBLE F-T	165.9	10.7	1,181	1,322	1,463			
R ALDER	1169.3	75.3	9	38	67			
R ALDER-T	648.4	41.7	32	54	77			
TOTAL	*43.5*	*2.8*	*9,456*	*9,728*	*10,001*	*76*	*19*	*8*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U1	50.00	33	259	S	W

T09N R02E S04 T00U1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		CU	CU		100.0	11											5	14		0.00	6.7
WH		HB	2S	17	3.1	1,629	1,579	79			100				6	94	36	13	211	1.53	7.5
WH		HB	3S	21	1.4	2,014	1,986	99		100					7	93	37	10	143	1.04	13.9
WH		DM	2S	29	6.7	2,921	2,724	136			94	6	3	3	13	81	35	13	213	1.68	12.8
WH		DM	3S	19	2.4	1,763	1,720	86	31	63	6			3	18	79	36	8	98	0.87	17.5
WH		DM	4S	11		1,007	1,007	50	100				7	67	26		27	5	31	0.41	32.9
WH		DM	UT	3		239	239	12	33	44	24		29	24		47	26	8	68	0.84	3.5
WH Totals				29	3.4	9,584	9,255	463	17	34	47	2	2	9	12	76	30	9	98	0.94	94.7
WH	T	CU	CU		100.0	19											8	7		0.00	2.7
WH	T	HB	2S	8	2.2	215	210	11			100					100	38	13	225	1.55	.9
WH	T	HB	3S	42	4.9	1,099	1,045	52		100					8	92	38	10	142	1.05	7.3
WH	T	DM	3S	28	6.8	752	701	35	29	71					36	64	37	8	87	0.71	8.0
WH	T	DM	4S	16		408	408	20	100				5	58	28	9	27	5	28	0.34	14.6
WH	T	DM	UT	6	3.3	141	137	7	17	49	34		83			17	23	10	72	0.84	1.9
WH T Totals				8	5.1	2,635	2,501	125	25	64	10		5	10	18	67	30	7	71	0.68	35.5
DF		CU	CU		100.0	36											3	15		0.00	8.0
DF		HB	2S	23	1.6	2,262	2,226	111			100				4	96	38	13	228	1.52	9.7
DF		HB	3S	24	1.5	2,428	2,391	120		100						100	39	10	145	1.00	16.5
DF		DM	2S	23	6.6	2,367	2,210	111			82	18				100	39	14	267	1.89	8.3
DF		DM	3S	20	4.2	1,982	1,898	95	40	60				1	19	79	37	8	81	0.74	23.4
DF		DM	4S	9	.4	864	860	43	100				2	52	31	15	29	5	31	0.37	27.7
DF		DM	UT	1		75	75	4	100					33	67		30	5	34	0.35	2.2
DF Totals				31	3.5	10,013	9,659	483	18	37	42	4	0	5	8	87	32	9	101	0.90	95.8
DF	T	HB	2S	19		112	112	6			100					100	40	13	240	1.45	.5
DF	T	HB	3S	32		183	183	9		100						100	40	9	114	0.85	1.6
DF	T	DM	3S	32		183	183	9	100							100	39	7	68	0.59	2.7
DF	T	DM	4S	17		92	92	5	100				48	52			23	5	24	0.24	3.8
DF T Totals				2		570	570	28	48	32	20		8	8		84	32	7	67	0.60	8.6
NF	T	CU	CU		100.0	80											1	10		0.00	6.7
NF	T	HB	2S	48	2.1	4,010	3,927	196			46	54			3	97	39	16	374	2.18	10.5
NF	T	HB	3S	4	2.5	296	289	14		100					31	69	36	11	148	1.00	2.0
NF	T	DM	2S	29	6.9	2,573	2,395	120			17	83			17	83	37	17	433	2.71	5.5
NF	T	DM	3S	15	1.0	1,144	1,133	57	29	71			3	2	19	76	37	8	92	0.90	12.3
NF	T	DM	4S	1		135	135	7	56	44			44	34	22		23	7	33	0.46	4.1
NF	T	DM	UT	3		187	187	9	12	7		81	41		59		17	10	101	1.27	1.8
NF T Totals				26	4.3	8,425	8,065	403	5	14	27	53	2	1	12	85	30	11	188	1.58	43.0
NF		HB	2S	32	1.0	463	459	23			72	28				100	40	14	273	1.64	1.7
NF		HB	3S	42		597	597	30		100						100	37	10	133	0.87	4.5

T09N R02E S04 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U1	50.00	33	259	S	W

T09N R02E S04 T00U1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
NF		DM	3S	13		187	187	9	87	13					42	58	36	7	63	0.56	3.0
NF		DM	4S	13		175	175	9	100				15	32		53	29	5	30	0.32	5.8
NF	**Totals**			5	.3	1,422	1,417	71	24	44	23	9	2	4	5	89	34	8	95	0.72	15.0
Type Totals					3.6	32,649	31,467	1,573	16	33	36	16	2	6	11	82	31	9	108	0.96	292.5

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U2	73.00	48	332	S	W

T09N R02E S04 T00U2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
NF	T	CU	CU		100.0	45											3	13		0.00	5.8
NF	T	HB	2S	47	2.1	4,037	3,953	289			55	45	2			98	39	15	329	1.98	12.0
NF	T	HB	3S			60	60	4		100						100	40	8	90	0.67	.7
NF	T	DM	2S	27	12.5	2,565	2,244	164		1	70	29			16	84	37	14	241	1.77	9.3
NF	T	DM	3S	16	.7	1,354	1,344	98	42	58				2	36	62	36	8	84	0.80	15.9
NF	T	DM	4S	3	3.3	256	248	18	68	32			49	42		9	20	7	28	0.50	8.9
NF	T	DM	UT	7		538	538	39	1		32	66	35	17		49	27	15	220	1.82	2.4
NF	**T**	**Totals**		25	5.3	8,854	8,386	612	9	11	47	33	5	3	10	83	30	11	152	1.32	55.0
NF		CU	CU		100.0	20											2	9		0.00	5.0
NF		HB	2S	21	3.2	1,221	1,182	86			82	18			6	94	38	13	210	1.40	5.6
NF		HB	3S	36		2,020	2,020	147		100					16	84	36	10	124	0.84	16.2
NF		DM	2S	7	16.8	430	358	26			72	28	13		28	59	32	14	209	1.51	1.7
NF		DM	3S	12	6.8	751	700	51	42	58					32	68	36	8	84	0.69	8.4
NF		DM	4S	17	1.1	935	924	67	96	4			4	25	46	25	30	5	33	0.33	27.9
NF		DM	UT	7		352	352	26	2	22	49	28	2		41	57	29	11	169	1.36	2.1
NF		**Totals**		17	3.4	5,730	5,537	404	21	46	25	7	2	4	23	71	31	8	83	0.70	66.9
WH		CU	CU														2	12		0.00	16.7
WH		HB	2S	16	.8	1,356	1,345	98			76	24		5	12	83	37	13	247	1.63	5.5
WH		HB	3S	21	1.8	1,747	1,715	125		100					7	93	37	10	129	0.91	13.3
WH		DM	2S	20	10.8	1,822	1,625	119			75	25		12	12	76	35	14	239	1.87	6.8
WH		DM	3S	26	4.8	2,206	2,100	153	30	70				2	41	57	35	8	83	0.74	25.4
WH		DM	4S	15	.2	1,218	1,216	89	100				14	39	30	17	27	5	30	0.34	41.0
WH		DM	UT	2		148	148	11	49		51		79	14	7		15	6	27	0.44	5.6
WH		**Totals**		24	4.1	8,498	8,150	595	24	39	29	9	4	10	21	66	27	8	71	0.75	114.2
WH	T	CU	CU														2	12		0.00	7.6
WH	T	HB	2S	3	5.0	94	90	7			100					100	40	12	190	1.28	.5
WH	T	HB	3S	17	6.5	498	465	34		100					16	84	37	9	101	0.74	4.6
WH	T	DM	2S	9	11.8	266	235	17			67	33				100	39	13	224	1.69	1.0
WH	T	DM	3S	41	2.4	1,152	1,124	82	15	85					42	58	36	9	102	0.83	11.0
WH	T	DM	4S	25		654	654	48	100				3	34	42	21	29	5	32	0.29	20.3
WH	T	DM	UT	5		134	134	10	29	71			13		16	71	28	7	69	0.68	2.0
WH	**T**	**Totals**		8	3.4	2,799	2,703	197	32	56	9	3	1	8	31	59	28	8	58	0.59	46.9
DF		CU	CU														2	12		0.00	10.8
DF		HA	2S	1	2.2	104	102	7				100				100	40	17	450	2.49	.2
DF		HB	2S	20	2.2	1,664	1,627	119			88	12				100	39	13	238	1.52	6.8
DF		HB	3S	27	1.6	2,236	2,201	161		100					7	93	37	10	126	0.87	17.5
DF		DM	2S	19	5.5	1,610	1,522	111			94	6			15	85	37	14	252	1.77	6.0
DF		DM	3S	20	4.1	1,695	1,625	119	39	61			1		47	51	35	8	78	0.65	20.8
DF		DM	4S	12	.2	948	946	69	100	0			10	40	25	25	29	5	32	0.34	29.6

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Date 8/7/2015

Time 9:14:25AM

T09N R02E S04 T00U2 (**T09N R02E S04 T00U2**)

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U2	73.00	48	332	S	W

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		DM	UT	1		42	42	3	100				62	38			14	5	13	0.23	3.1
DF Totals				24	2.8	8,299	8,064	589	20	40	35	5	2	5	17	76	29	9	85	0.78	94.9
DF	T	HB	3S	45		226	226	16		100						100	37	8	83	0.61	2.7
DF	T	DM	3S	31		151	151	11		100						100	36	9	119	0.82	1.3
DF	T	DM	4S	21		105	105	8	100					26	74		31	5	32	0.26	3.3
DF	T	DM	UT	3		14	14	1	100				100				18	5	20	0.29	.7
DF T Totals				1		496	496	36	24	76			3	5	16	76	33	7	62	0.50	8.0
Type Totals					3.9	34,677	33,335	2,433	19	35	32	13	3	6	18	73	29	9	86	0.81	385.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U3	45.00	32	261	S	W

T09N R02E S04 T00U3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	7											1	10		0.00	13.3
DF		HA	2S	4	1.6	986	970	44			49	51				100	40	16	384	2.12	2.5
DF		HA	3S	2		399	399	18		100						100	40	10	148	0.96	2.7
DF		HB	2S	34	3.5	8,040	7,757	349			64	36				100	40	14	309	1.84	25.1
DF		HB	3S	11	3.2	2,519	2,438	110		100					4	96	39	10	139	0.92	17.6
DF		DM	2S	26	3.2	6,147	5,948	268			53	47			3	97	40	15	325	1.87	18.3
DF		DM	3S	17	1.5	3,939	3,880	175	23	77			0	4	15	81	37	8	101	0.72	38.4
DF		DM	4S	5		1,128	1,128	51	95	5			33	26	4	37	25	6	29	0.35	39.2
DF		DM	UT	1		10	10	0	100				100				15	6	20	0.32	.5
DF Totals				46	2.8	23,176	22,531	1,014	9	26	38	27	2	2	4	92	32	10	143	1.09	157.5
DF	T	CU	CU														1	7		0.00	7.9
DF	T	HA	2S	3	4.6	308	294	13			100					100	40	15	310	1.89	.9
DF	T	HA	3S	7	3.5	514	496	22		100						100	40	9	128	0.86	3.9
DF	T	HB	2S	16	4.1	1,188	1,139	51			100					100	40	13	254	1.59	4.5
DF	T	HB	3S	34	3.4	2,674	2,582	116		100					8	92	39	9	119	0.80	21.7
DF	T	DM	2S	4	2.4	292	285	13			100					100	40	13	232	1.47	1.2
DF	T	DM	3S	19	1.9	1,419	1,392	63	53	47					7	93	39	8	84	0.56	16.6
DF	T	DM	4S	13		940	940	42	100				16	24	15	45	28	5	31	0.27	30.2
DF	T	DM	UT	4		281	281	13	37	63			34			66	25	6	41	0.41	6.8
DF T Totals				15	2.7	7,615	7,408	333	24	53	23		3	3	6	88	31	8	79	0.65	93.8
DF	D	CU	CU		100.0	127											21	5		0.00	5.1
DF	D	DM	3S	9	38.9	127	78	4		100						100	40	11	110	1.21	.7
DF	D	DM	4S	8	42.9	111	64	3	100							100	40	7	40	0.53	1.6
DF	D	DM	UT	83		664	664	30	100				19		36	45	31	5	38	0.33	17.5
DF D Totals				2	21.8	1,030	806	36	90	10			16		30	55	29	6	32	0.34	24.9
WH	T	CU	CU		100.0	158											7	7		0.00	18.6
WH	T	HB	2S	5	4.8	530	504	23			100					100	40	14	259	1.47	1.9
WH	T	HB	3S	33	2.2	3,114	3,045	137		100						100	40	9	127	0.81	23.9
WH	T	DM	2S	7	7.0	693	644	29			100					100	40	12	186	1.29	3.5
WH	T	DM	3S	31	3.0	2,987	2,898	130	52	48					4	96	40	7	81	0.56	35.7
WH	T	DM	4S	15		1,355	1,355	61	100				6	14	29	51	33	5	32	0.28	43.0
WH	T	DM	UT	9		829	829	37	74	26			7	31	10	51	28	5	35	0.34	23.6
WH T Totals				19	4.0	9,666	9,275	417	38	50	12		1	5	6	87	32	7	62	0.52	150.2
WH		CU	CU		100.0	252											3	12		0.00	9.7
WH		HB	2S	23	2.4	1,568	1,530	69			88	12				100	40	13	254	1.56	6.0
WH		HB	3S	8	1.4	553	545	25		100						100	40	10	157	1.02	3.5
WH		DM	2S	40	7.8	2,917	2,690	121			59	41		5	2	93	39	15	304	1.97	8.9
WH		DM	3S	22	2.4	1,474	1,440	65	22	78				2	30	68	37	9	100	0.78	14.4
WH		DM	4S	3		226	226	10	95	5			54	22	10	14	22	6	25	0.40	9.0

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Date 8/7/2015

Time 9:14:25AM

T09N R02E S04 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U3	45.00	32	261	S	W

T09N R02E S04 T00U3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		DM	UT	4		213	213	10	34			66	70	30			23	8	67	0.76	3.2
WH Totals				13	7.8	7,203	6,644	299	9	25	44	21	4	4	8	84	29	10	122	1.12	54.6
WH	D	CU	CU		100.0	19											10	5		0.00	1.9
WH	D	DM	UT	100		114	114	5	100							100	40	6	60	0.43	1.9
WH D Totals				0	14.3	133	114	5	100							100	25	6	30	0.34	3.8
RA		CU	CU		100.0	18											11	10		0.00	1.8
RA		DM	UT	12		122	122	5	100					100			24	5	24	0.21	5.1
RA		DM	4S	53	8.3	587	538	24		100						100	40	8	93	0.70	5.8
RA		DM	4S	35	5.2	361	342	15	100					6	22	72	34	6	47	0.39	7.3
RA Totals				2	7.9	1,088	1,002	45	46	54				14	8	78	31	7	50	0.46	20.1
RA	T	CU	CU															5		0.00	2.8
RA	T	DM	UT	68		294	294	13	100					13		87	35	5	35	0.25	8.3
RA	T	DM	4S	32		133	133	6	100							100	40	7	70	0.46	1.9
RA T Totals				1		427	427	19	100					9		91	28	5	33	0.30	13.0
NF	T	CU	CU															9		0.00	.4
NF	T	HB	2S	33	4.1	435	417	19			18	82				100	40	17	468	2.53	.9
NF	T	DM	2S	35		438	438	20			35	65				100	40	15	378	1.93	1.2
NF	T	DM	3S	18		220	220	10		100					11	89	39	9	119	0.76	1.8
NF	T	DM	4S	4		44	44	2	72	28			29	71			19	6	28	0.39	1.6
NF	T	DM	UT	10		121	121	5			100				100		32	13	190	1.34	.6
NF T Totals				3	1.4	1,257	1,239	56	3	19	28	51	1	3	12	85	32	11	191	1.34	6.5
Type Totals					4.2	51,595	49,446	2,225	19	34	30	16	2	3	6	89	31	8	94	0.77	524.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U4	28.00	19	57	S	W

T09N R02E S04 T00U4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU														2	14		0.00	37.4
DF	T	HA	2S	2		638	638	18				100				100	40	17	460	2.36	1.4
DF	T	HB	2S	57	1.6	17,351	17,077	478			73	27			7	93	38	14	275	1.67	62.0
DF	T	HB	3S	15	1.6	4,736	4,658	130		100					44	56	35	10	119	0.82	39.0
DF	T	DM	2S	8	8.6	2,651	2,422	68			37	63			18	82	36	16	320	2.14	7.6
DF	T	DM	3S	12	.8	3,478	3,451	97	32	68					34	66	37	8	94	0.73	36.7
DF	T	DM	4S	4		1,440	1,440	40	88	12			57	34		8	21	6	27	0.38	53.5
DF	T	DM	UT	2		326	326	9	12			88	100				13	9	57	0.92	5.7
DF T Totals				68	2.0	30,619	30,012	840	8	24	45	23	4	2	16	78	27	11	123	1.08	243.3
WH	T	CU	CU														2	13		0.00	26.4
WH	T	HB	2S	43	1.2	4,775	4,718	132			52	48		10		90	37	14	270	1.72	17.5
WH	T	HB	3S	18		1,973	1,973	55		100						100	40	10	158	0.98	12.5
WH	T	DM	2S	18	7.8	2,060	1,899	53			63	37				100	38	14	279	1.89	6.8
WH	T	DM	3S	13	3.3	1,507	1,458	41	21	79					40	60	37	8	82	0.77	17.8
WH	T	DM	4S	7	9.6	786	710	20	100				9	14	32	45	33	5	32	0.40	22.0
WH	T	DM	UT	1		49	49	1	100				100				13	7	20	0.35	2.5
WH T Totals				25	3.1	11,151	10,808	303	10	29	34	27	1	5	7	86	27	10	103	1.01	105.4
NF	T	CU	CU														2	10		0.00	4.8
NF	T	HB	2S	32	1.5	1,011	996	28			42	58				100	40	16	377	2.09	2.6
NF	T	DM	2S	51	16.8	1,914	1,593	45			35	65			65	35	36	17	351	2.28	4.5
NF	T	DM	3S	17	5.5	538	509	14		100					23	77	38	8	85	0.84	6.0
NF T Totals				7	10.5	3,463	3,098	87		16	31	52			37	63	28	12	172	1.54	18.0
Type Totals					2.9	45,233	43,917	1,230	8	25	41	26	3	2	15	79	27	11	120	1.09	366.7

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U5

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U5	35.00	26	56	S	W

T09N R02E S04 T00U5

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU														0	9		0.00	22.1
DF	T	HA	2S	4		1,434	1,434	50			100					100	37	15	333	1.82	4.3
DF	T	HB	2S	35	1.5	10,489	10,334	362			70	30				100	39	14	288	1.71	35.9
DF	T	HB	3S	15	.7	4,447	4,416	155		100						100	39	10	139	0.84	31.8
DF	T	DM	2S	17	5.4	5,342	5,056	177			57	43			14	86	37	14	275	1.80	18.4
DF	T	DM	3S	19	1.4	5,880	5,799	203	14	86				2	19	78	37	9	103	0.76	56.6
DF	T	DM	4S	9		2,564	2,564	90	98	2			25	23	17	35	28	6	32	0.34	79.5
DF	T	DM	UT	1		175	175	6	100				63	37			16	6	21	0.35	8.4
DF T Totals				88	1.8	30,330	29,777	1,042	12	32	39	18	3	3	8	87	31	9	116	0.93	257.0
WH	T	HB	2S	60	1.1	2,389	2,363	83			100					100	37	14	268	1.61	8.8
WH	T	HB	3S	10		368	368	13		100						100	36	10	140	0.89	2.6
WH	T	DM	3S	12		479	479	17	33	67					67	33	35	8	77	0.66	6.2
WH	T	DM	4S	9		365	365	13	100				34		66		25	5	26	0.27	14.2
WH	T	DM	UT	9		322	322	11		100			100				20	8	40	0.57	8.0
WH T Totals				12	.7	3,924	3,897	136	13	26	61		11		14	74	29	8	98	0.81	40.0
Type Totals					1.7	34,254	33,675	1,179	12	31	41	16	4	2	8	86	31	9	113	0.91	296.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U6

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U6	20.00	14	35	S	W

T09N R02E S04 T00U6

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU															5		0.00	7.5
DF	T	HA	3S	3		594	594	12		100						100	40	8	90	0.64	6.6
DF	T	HB	2S	10	1.6	1,906	1,875	38			100					100	40	12	209	1.40	9.0
DF	T	HB	3S	39	3.8	7,426	7,144	143		100					3	97	40	9	121	0.88	58.9
DF	T	DM	2S	12	5.8	2,258	2,128	43			29	71				100	40	16	371	2.24	5.7
DF	T	DM	3S	17	2.3	3,156	3,085	62	50	50					39	61	36	7	78	0.59	39.4
DF	T	DM	4S	15		2,870	2,870	57	99	1			15	28	32	25	28	5	30	0.28	96.8
DF	T	DM	UT	4		551	551	11	100							100	39	5	40	0.29	13.8
DF T Totals				59	2.7	18,761	18,247	365	27	51	14	8	2	4	13	80	33	7	77	0.64	237.7
WH	T	CU	CU														3	20		0.00	4.2
WH	T	HB	2S	7	25.0	1,037	778	16			100					100	40	12	150	1.37	5.2
WH	T	HB	3S	30		3,182	3,182	64		100						100	40	9	121	0.81	26.4
WH	T	DM	2S	31	9.3	3,660	3,319	66			100					100	40	13	245	1.59	13.6
WH	T	DM	3S	18	13.7	2,129	1,837	37	28	72						100	39	8	91	0.77	20.3
WH	T	DM	4S	13		1,396	1,396	28	83	17				40	32	27	31	5	35	0.34	39.5
WH	T	DM	UT	1		85	85	2	100				100				13	6	20	0.32	4.2
WH T Totals				34	7.8	11,488	10,596	212	17	45	39		1	5	4	90	34	9	93	0.78	113.4
NF	T	HB	2S	30		570	570	11			100					100	40	13	240	1.45	2.4
NF	T	DM	2S	37	36.2	1,091	697	14			53	47				100	40	14	183	1.84	3.8
NF	T	DM	3S	24		445	445	9		100					100		32	10	110	0.82	4.0
NF	T	DM	4S	9		167	167	3	100				48		52		22	6	27	0.43	6.2
NF T Totals				6	17.4	2,273	1,879	38	9	24	50	18	4		28	67	31	10	115	1.14	16.4
RA	T	DM	UT	14		50	50	1	100				100				14	5	10	0.20	5.0
RA	T	DM	4S	86	14.3	347	297	6	100							100	40	7	60	0.52	5.0
RA T Totals				1	12.5	396	347	7	100				14			86	27	6	35	0.44	9.9
Type Totals					5.6	32,919	31,068	621	23	47	24	6	2	4	11	83	33	8	82	0.70	377.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U7

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U7	81.00	60	183	S	W

T09N R02E S04 T00U7

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	CU	CU														1	10		0.00	13.0
WH	T	HA	2S	1		194	194	16			100					100	40	15	360	2.06	.5
WH	T	HB	2S	15	2.9	2,340	2,271	184			74	26				100	39	13	258	1.63	8.8
WH	T	HB	3S	18	1.3	2,685	2,650	215		100					17	83	36	10	137	0.96	19.4
WH	T	DM	2S	33	6.8	5,363	4,998	405			61	39	4		22	74	35	14	263	1.92	19.0
WH	T	DM	3S	22	5.5	3,538	3,342	271	34	66				3	20	77	37	8	89	0.79	37.4
WH	T	DM	4S	9		1,411	1,411	114	98	2			3	35	39	23	31	5	34	0.38	41.4
WH	T	DM	UT	2		177	177	14	100				22	37	41		26	5	30	0.35	5.9
WH T Totals				41	4.2	15,708	15,044	1,219	18	32	33	17	2	4	19	75	32	9	103	0.92	145.5
DF	T	CU	CU		100.0	13											3	11		0.00	10.5
DF	T	HB	2S	22	2.1	3,363	3,292	267			94	6				100	39	13	256	1.60	12.9
DF	T	HB	3S	13	2.0	1,834	1,797	146		100					12	88	38	9	124	0.86	14.4
DF	T	DM	2S	27	4.8	4,175	3,972	322			82	18			6	94	39	13	241	1.63	16.5
DF	T	DM	3S	24	2.5	3,483	3,395	275	29	71			1	1	37	61	36	8	87	0.71	39.1
DF	T	DM	4S	6		910	910	74	98	2			20	14	33	33	28	5	31	0.32	29.7
DF	T	DM	UT	8		1,020	1,020	83	60	36	3		24	18	12	46	30	6	46	0.45	22.3
DF T Totals				39	2.8	14,799	14,386	1,165	17	32	44	6	3	2	15	80	32	9	99	0.84	145.4
NF	T	CU	CU														1	9		0.00	5.0
NF	T	HA	2S	2		184	184	15			100					100	40	13	240	1.45	.8
NF	T	HB	2S	40	2.2	2,717	2,656	215			60	40				100	40	14	316	1.87	8.4
NF	T	HB	3S	5		297	297	24		100						100	36	9	107	0.76	2.8
NF	T	DM	2S	26	10.7	1,936	1,728	140			12	88	13		17	71	32	16	322	2.36	5.4
NF	T	DM	3S	20	.4	1,317	1,312	106	39	61				2	11	87	37	8	84	0.80	15.6
NF	T	DM	4S	3	6.6	207	194	16	91	9				61	21	18	28	5	29	0.35	6.6
NF	T	DM	UT	4		261	261	21	4			96	33		67		19	13	163	1.78	1.6
NF T Totals				18	4.2	6,919	6,632	537	10	17	30	43	5	2	10	83	31	10	144	1.20	46.1
RA	T	CU	CU		100.0	43											17	5		0.00	2.1
RA	T	DM	UT	26		128	128	10	100				22	12		66	27	5	27	0.28	4.7
RA	T	DM	4S	33	4.5	168	161	13		100						100	38	9	105	0.83	1.5
RA	T	DM	4S	41		199	199	16	100							100	40	6	63	0.41	3.1
RA T Totals				1	9.3	538	488	40	67	33			6	3		91	30	6	43	0.39	11.5
Type Totals					3.7	37,964	36,549	2,960	17	29	36	17	3	3	15	79	32	9	105	0.91	348.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U8

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U8	.50	2	6	S	W

T09N R02E S04 T00U8

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU														2	12		0.00	19.6
DF	T	HB	2S	24	2.1	3,991	3,908	2			100					100	40	13	235	1.61	16.6
DF	T	HB	3S	24		3,848	3,848	2		100						100	38	11	170	1.08	22.6
DF	T	DM	2S	26	7.7	4,643	4,283	2			100					100	36	15	295	1.93	14.5
DF	T	DM	3S	18		2,822	2,822	1	38	62					62	38	36	8	91	0.70	31.1
DF	T	DM	4S	8		1,265	1,265	1	100				28		72		28	6	34	0.40	37.1
DF T Totals				100	2.7	16,569	16,126	8	15	35	51		2		16	81	30	10	114	0.99	141.7
Type Totals					2.7	16,569	16,126	8	15	35	51		2		16	81	30	10	114	0.99	141.7

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T00U9

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U9	.10	1	13	S	W

T09N R02E S04 T00U9

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU														3	11		0.00	82.0
DF	T	HB	2S	9		8,200	8,200	1			100					100	40	12	200	1.28	41.0
DF	T	HB	3S	42	1.1	38,950	38,540	4		100					10	90	37	10	134	0.90	287.0
DF	T	DM	2S	13	6.3	13,120	12,300	1			100					100	36	15	300	1.70	41.0
DF	T	DM	3S	11		9,430	9,430	1	26	74					30	70	35	8	77	0.67	123.0
DF	T	DM	4S	12		11,070	11,070	1	100				7	33	15	44	32	5	34	0.34	328.0
DF	T	DM	UT	13		11,480	11,480	1				100	100				16	20	280	2.93	41.0
DF T Totals				81	1.3	92,250	91,020	9	15	50	23	13	14	4	9	73	31	9	97	0.76	943.0
WH	T	DM	2S	69	12.2	17,267	15,167	2			42	58				100	36	16	325	2.47	46.7
WH	T	DM	3S	27	10.7	6,533	5,833	1	20	80					72	28	34	9	83	0.94	70.0
WH	T	DM	4S	4		700	700	0	100					100			28	5	30	0.40	23.3
WH T Totals				19	11.4	24,500	21,700	2	9	22	29	41		3	19	77	34	11	155	1.41	140.0
Type Totals					3.5	116,750	112,720	11	14	45	24	18	11	4	11	74	31	9	104	0.85	1,083.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Date 8/7/2015

Time 9:14:25AM

T09N R02E S04 T0U10

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	0U10	.30	2	8	S	W

T09N R02E S04 T0U10

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	CU	CU															6		0.00	56.7
DF	T	HB	2S	39	3.2	8,336	8,069	2			100					100	40	14	301	1.76	26.8
DF	T	HB	3S	35		7,196	7,196	2		100						100	39	11	174	1.08	41.5
DF	T	DM	3S	9		1,875	1,875	1	100							100	40	7	70	0.69	26.8
DF	T	DM	4S	17		3,318	3,318	1	100						12	88	37	5	47	0.41	71.3
DF T Totals				87	1.3	20,725	20,458	6	25	35	39				2	98	29	8	92	0.85	223.0
RA	T	DM	UT	28		861	861	0	100				100				18	5	20	0.17	43.0
RA	T	DM	4S	72		2,152	2,152	1	100						100		32	6	50	0.37	43.0
RA T Totals				13		3,012	3,012	1	100				29		71		25	6	35	0.30	86.1
Type Totals					1.1	23,738	23,470	7	35	31	34		4		11	85	28	7	76	0.71	309.1

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: MIXEDGRA

Page 1
Date 8/7/2015
Time 9:14:25AM

T09N R02E S04 T0U11

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	0U11	6.00	4	27	S	W

T09N R02E S04 T0U11

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU														1	12		0.00	8.6
DF		HA	2S	8		1,973	1,973	12			100					100	38	13	229	1.34	8.6
DF		HB	2S	43	1.3	10,327	10,198	61			48	52				100	39	14	311	1.79	32.8
DF		HB	3S	17	4.4	4,168	3,986	24		100						100	39	9	103	0.68	38.9
DF		DM	2S	10		2,296	2,296	14			55	45			17	83	36	13	242	1.48	9.5
DF		DM	3S	13	1.5	3,261	3,213	19	19	81					32	68	35	8	94	0.71	34.3
DF		DM	4S	9		1,961	1,961	12	88	12			49	14		37	24	6	29	0.30	68.0
DF Totals				66	1.5	23,986	23,627	142	10	29	34	27	4	1	6	89	31	9	118	0.89	200.7
DF	T	CU	CU															7		0.00	7.0
DF	T	HB	2S	80		2,026	2,026	12			100					100	40	14	290	1.63	7.0
DF	T	DM	3S	20		489	489	3	100							100	40	7	70	0.67	7.0
DF T Totals				7		2,515	2,515	15	19		81					100	27	9	120	1.15	21.0
DF	D	CU	CU															6		0.00	7.9
DF	D	DM	3S	62	16.7	943	786	5		100					100		32	10	100	0.72	7.9
DF	D	DM	UT	38		472	472	3	100							100	40	6	60	0.37	7.9
DF D Totals				4	11.1	1,415	1,258	8	37	63					63	37	24	7	53	0.53	23.6
WH		CU	CU															7		0.00	7.7
WH		HB	2S	61	2.7	2,895	2,818	17			100					100	40	13	235	1.51	12.0
WH		DM	2S	17	5.6	856	808	5			100					100	36	12	170	1.28	4.8
WH		DM	3S	17		795	795	5	100							100	40	7	66	0.58	12.0
WH		DM	4S	5		190	190	1	100							100	37	5	40	0.46	4.8
WH Totals				13	2.6	4,736	4,611	28	21		79					100	32	9	112	1.00	41.2
WH	T	HB	2S	53		1,902	1,902	11			100					100	40	12	200	1.28	9.5
WH	T	HB	3S	27		963	963	6		100						100	36	11	160	1.03	6.0
WH	T	DM	4S	20		681	681	4	100					44		56	36	6	44	0.46	15.5
WH T Totals				10		3,546	3,546	21	19	27	54			8		92	37	9	114	0.84	31.1
Type Totals					1.8	36,198	35,557	213	14	24	44	18	3	2	6	89	31	9	112	0.89	317.5

STATISTICS

PROJECT MIXEDGRA

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U1**	50.00	33	259	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	33	259	7.8		
CRUISE	33	259	7.8	6,674	3.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	83	44.1	18.8	69	19.5	84.5	9,584	9,255	2,690	2,687
WHEMLOCK-T	23	17.3	15.8	73	5.9	23.4	2,635	2,501	738	729
DOUG FIR	83	43.9	18.8	75	19.5	84.5	10,013	9,659	2,776	2,770
DOUG FIR-T	5	4.3	14.8	84	1.3	5.1	570	570	164	164
NOBLE F	11	7.5	16.6	79	2.8	11.2	1,422	1,417	369	369
NOBLE F-T	54	16.5	24.7	81	11.1	55.0	8,425	8,065	2,027	2,012
TOTAL	*259*	*133.5*	*19.0*	*74*	*60.5*	*263.8*	*32,649*	*31,467*	*8,763*	*8,731*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	27.3	3.0	224	231	238			
WHEMLOCK-T	23.3	5.1	158	167	175			
DOUG FIR	36.8	4.0	236	246	256			
DOUG FIR-T	56.7	28.2	112	156	200			
NOBLE F	55.7	17.6	192	233	274			
NOBLE F-T	39.8	5.5	554	586	618			
TOTAL	*64.0*	*4.0*	*289*	*302*	*314*	*164*	*41*	*18*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	24.1	2.7	65	67	69			
WHEMLOCK-T	22.6	4.9	46	49	51			
DOUG FIR	37.3	4.1	68	71	74			
DOUG FIR-T	48.5	24.1	33	44	55			
NOBLE F	56.5	17.9	50	61	72			
NOBLE F-T	33.7	4.7	138	145	152			
TOTAL	*53.4*	*3.4*	*79*	*82*	*85*	*114*	*29*	*13*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	73.7	12.8	38	44	50			
WHEMLOCK-T	152.8	26.6	13	17	22			
DOUG FIR	72.2	12.6	38	44	49			
DOUG FIR-T	252.7	44.0	2	4	6			
NOBLE F	189.1	32.9	5	7	10			
NOBLE F-T	88.5	15.4	14	16	19			
TOTAL	*25.5*	*4.4*	*128*	*133*	*139*	*26*	*7*	*3*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK	70.4	12.2	74	85	95			
WHEMLOCK-T	141.1	24.5	18	23	29			
DOUG FIR	69.0	12.0	74	85	95			
DOUG FIR-T	240.3	41.8	3	5	7			

STATISTICS

PROJECT **MIXEDGRA** DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U1**	50.00	33	259	S	W

CL: 68.1 % COEFF **BASAL AREA/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

NOBLE F	193.6	33.7	7	11	15			
NOBLE F-T	86.2	15.0	47	55	63			
TOTAL	*22.3*	*3.9*	*254*	*264*	*274*	*20*	*5*	*2*

CL: 68.1 % COEFF **NET BF/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

WHEMLOCK	70.4	12.2	8,122	9,255	10,387			
WHEMLOCK-T	145.0	25.2	1,871	2,501	3,132			
DOUG FIR	70.2	12.2	8,480	9,659	10,839			
DOUG FIR-T	242.7	42.2	329	570	810			
NOBLE F	201.6	35.1	920	1,417	1,914			
NOBLE F-T	92.7	16.1	6,765	8,065	9,365			
TOTAL	*25.8*	*4.5*	*30,055*	*31,467*	*32,879*	*27*	*7*	*3*

CL: 68.1 % COEFF **NET CUFT FT/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 10 15

WHEMLOCK	69.0	12.0	2,364	2,687	3,009			
WHEMLOCK-T	143.1	24.9	548	729	911			
DOUG FIR	70.0	12.2	2,433	2,770	3,107			
DOUG FIR-T	240.9	41.9	95	164	233			
NOBLE F	202.1	35.2	239	369	498			
NOBLE F-T	88.4	15.4	1,702	2,012	2,321			
TOTAL	*24.2*	*4.2*	*8,364*	*8,731*	*9,098*	*23*	*6*	*3*

TC TSTATS

STATISTICS

PAGE 1

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U2**	73.00	48	332	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	48	332	6.9		
CRUISE	48	332	6.9	12,790	2.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
NOBLE F	54	32.5	15.9	76	11.3	45.0	5,730	5,537	1,455	1,451
NOBLE F-T	75	22.0	22.8	79	13.1	62.5	8,854	8,386	2,216	2,208
WHEMLOCK	88	51.3	16.2	72	18.2	73.3	8,498	8,150	2,292	2,292
WHEMLOCK-T	30	24.3	13.7	71	6.7	25.0	2,799	2,703	755	756
DOUG FIR	80	41.1	17.2	78	16.1	66.7	8,299	8,064	2,175	2,175
DOUG FIR-T	5	4.0	13.8	85	1.1	4.2	496	496	130	130
TOTAL	*332*	*175.2*	*17.0*	*75*	*67.1*	*276.7*	*34,677*	*33,335*	*9,023*	*9,011*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF

SAMPLE TREES - BF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
NOBLE F	57.6	8.0	206	224	241			
NOBLE F-T	41.8	4.8	392	412	432			
WHEMLOCK	53.9	5.8	199	212	224			
WHEMLOCK-T	51.5	9.6	134	148	162			
DOUG FIR	45.7	5.2	232	245	258			
DOUG FIR-T	23.0	11.5	113	128	143			
TOTAL	*59.4*	*3.3*	*252*	*260*	*269*	*141*	*35*	*16*

CL: 68.1 % COEFF

SAMPLE TREES - CF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
NOBLE F	45.2	6.3	55	59	62			
NOBLE F-T	32.8	3.8	103	107	111			
WHEMLOCK	52.3	5.6	57	60	63			
WHEMLOCK-T	54.3	10.1	39	43	47			
DOUG FIR	42.2	4.8	63	66	70			
DOUG FIR-T	18.1	9.0	30	33	36			
TOTAL	*52.2*	*2.9*	*68*	*70*	*72*	*109*	*27*	*12*

CL: 68.1 % COEFF

TREES/ACRE

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
NOBLE F	153.1	22.1	25	32	40			
NOBLE F-T	109.2	15.7	19	22	25			
WHEMLOCK	112.2	16.2	43	51	60			
WHEMLOCK-T	235.9	34.0	16	24	33			
DOUG FIR	120.2	17.3	34	41	48			
DOUG FIR-T	432.0	62.3	2	4	6			
TOTAL	*52.6*	*7.6*	*162*	*175*	*188*	*110*	*28*	*12*

CL: 68.1 % COEFF

BASAL AREA/ACRE

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
NOBLE F	134.3	19.4	36	45	54			
NOBLE F-T	111.2	16.0	52	63	73			
WHEMLOCK	93.0	13.4	63	73	83			
WHEMLOCK-T	173.5	25.0	19	25	31			
DOUG FIR	108.1	15.6	56	67	77			
DOUG FIR-T	453.3	65.4	1	4	7			

STATISTICS

PROJECT **MIXEDGRA**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U2	73.00	48	332	S	W

CL: 68.1 %
SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
TOTAL	*31.3*	*4.5*	*264*	*277*	*289*	*39*	*10*	*4*

CL: 68.1 %
SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
NOBLE F	135.0	19.5	4,459	5,537	6,615			
NOBLE F-T	117.4	16.9	6,967	8,386	9,806			
WHEMLOCK	95.7	13.8	7,025	8,150	9,275			
WHEMLOCK-T	177.0	25.5	2,013	2,703	3,393			
DOUG FIR	111.0	16.0	6,772	8,064	9,355			
DOUG FIR-T	445.4	64.2	178	496	815			
TOTAL	*36.5*	*5.3*	*31,583*	*33,335*	*35,088*	*53*	*13*	*6*

CL: 68.1 %
SD: 1.0

NET CUFT FT/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
NOBLE F	130.7	18.9	1,177	1,451	1,724			
NOBLE F-T	114.7	16.5	1,843	2,208	2,573			
WHEMLOCK	93.8	13.5	1,982	2,292	2,602			
WHEMLOCK-T	176.0	25.4	564	756	947			
DOUG FIR	109.8	15.8	1,831	2,175	2,519			
DOUG FIR-T	435.8	62.8	48	130	211			
TOTAL	*34.7*	*5.0*	*8,559*	*9,011*	*9,462*	*48*	*12*	*5*

TC TSTATS

STATISTICS

PAGE 1

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U3**	45.00	32	261	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	32	261	8.2		
CRUISE	32	261	8.2	9,927	2.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	104	54.7	20.9	97	28.5	130.0	23,176	22,531	5,537	5,536
DOUG FIR-D	8	17.5	10.2	72	3.1	10.0	1,030	806	267	246
DOUG FIR-T	39	36.1	15.7	99	12.3	48.8	7,615	7,408	1,910	1,910
WHEMLOCK	38	19.6	21.1	86	10.3	47.5	7,203	6,644	1,802	1,748
WHEMLOCK-D	1	1.9	11.0	62	0.4	1.3	133	114	36	32
WHEMLOCK-T	56	70.8	13.5	89	19.1	70.0	9,666	9,275	2,514	2,475
R ALDER	7	9.6	12.9	89	2.4	8.8	1,088	1,002	291	287
R ALDER-T	3	8.3	9.1	85	1.2	3.8	427	427	110	110
NOBLE F-T	5	2.2	23.0	99	1.3	6.3	1,257	1,239	274	274
TOTAL	*261*	*220.6*	*16.5*	*91*	*80.4*	*326.3*	*51,595*	*49,446*	*12,740*	*12,618*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF

SAMPLE TREES - BF

OF TREES REQ.

INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	50.9	5.0	469	494	518			
DOUG FIR-D	61.1	23.0	46	60	74			
DOUG FIR-T	55.0	8.8	227	249	271			
WHEMLOCK	39.9	6.6	373	399	425			
WHEMLOCK-D								
WHEMLOCK-T	46.1	6.3	155	166	176			
R ALDER	19.2	7.8	99	107	116			
R ALDER-T	50.9	35.2	37	57	77			
NOBLE F-T	68.6	34.1	479	726	973			
TOTAL	*71.6*	*4.5*	*333*	*349*	*365*	*205*	*51*	*23*

CL: 68.1 % COEFF

SAMPLE TREES - CF

OF TREES REQ.

INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	42.6	4.2	113	118	123			
DOUG FIR-D	85.9	32.4	14	21	27			
DOUG FIR-T	48.9	7.8	58	63	68			
WHEMLOCK	38.4	6.3	98	105	111			
WHEMLOCK-D								
WHEMLOCK-T	39.7	5.5	42	45	47			
R ALDER	20.9	8.5	28	31	34			
R ALDER-T	51.0	35.3	9	15	20			
NOBLE F-T	58.7	29.1	111	156	202			
TOTAL	*62.2*	*3.9*	*83*	*86*	*90*	*155*	*39*	*17*

CL: 68.1 % COEFF

TREES/ACRE

OF PLOTS REQ.

INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	59.6	10.5	49	55	60			
DOUG FIR-D	237.8	42.0	10	18	25			
DOUG FIR-T	99.8	17.6	30	36	42			
WHEMLOCK	133.3	23.5	15	20	24			
WHEMLOCK-D	565.7	99.9	0	2	4			
WHEMLOCK-T	146.2	25.8	52	71	89			
R ALDER	437.9	77.3	2	10	17			

STATISTICS

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U3	45.00	32	261	S	W

CL: 68.1 % COEFF VAR. — SD: 1.0

TREES/ACRE

	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
R ALDER-T	79.7	2	8	15			
NOBLE F-T	62.0	1	2	4			
TOTAL	*10.5*	*197*	*221*	*244*	*142*	*36*	*16*

CL: 68.1 % COEFF VAR.% — SD: 1.0

BASAL AREA/ACRE

	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	8.9	118	130	142			
DOUG FIR-D	40.1	6	10	14			
DOUG FIR-T	18.7	40	49	58			
WHEMLOCK	20.5	38	48	57			
WHEMLOCK-D	99.9	0	1	2			
WHEMLOCK-T	23.2	54	70	86			
R ALDER	76.0	2	9	15			
R ALDER-T	73.5	1	4	7			
NOBLE F-T	50.6	3	6	9			
TOTAL	*6.3*	*306*	*326*	*347*	*51*	*13*	*6*

CL: 68.1 % COEFF VAR.% — SD: 1.0

NET BF/ACRE

	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	10.2	20,240	22,531	24,822			
DOUG FIR-D	39.9	484	806	1,127			
DOUG FIR-T	20.2	5,911	7,408	8,905			
WHEMLOCK	21.0	5,251	6,644	8,036			
WHEMLOCK-D	99.9	0	114	227			
WHEMLOCK-T	24.7	6,988	9,275	11,562			
R ALDER	74.6	255	1,002	1,750			
R ALDER-T	71.0	124	427	730			
NOBLE F-T	50.2	618	1,239	1,861			
TOTAL	*7.1*	*45,914*	*49,446*	*52,978*	*65*	*16*	*7*

CL: 68.1 % COEFF VAR.% — SD: 1.0

NET CUFT FT/ACRE

	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	9.5	5,010	5,536	6,062			
DOUG FIR-D	40.3	147	246	345			
DOUG FIR-T	19.7	1,534	1,910	2,287			
WHEMLOCK	21.0	1,380	1,748	2,115			
WHEMLOCK-D	99.9	0	32	65			
WHEMLOCK-T	23.8	1,886	2,475	3,063			
R ALDER	74.4	73	287	501			
R ALDER-T	71.0	32	110	187			
NOBLE F-T	50.0	137	274	411			
TOTAL	*6.8*	*11,760*	*12,618*	*13,475*	*59*	*15*	*7*

STATISTICS

PROJECT MIXEDGRA

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U4	28.00	19	100	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	100	5.3		
CRUISE	10	57	5.7	3,369	1.7
DBH COUNT					
REFOREST					
COUNT	9	43	4.8		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	40	77.5	21.1	90	41.1	189.1	30,619	30,012	7,251	7,251
WHEMLOCK-T	13	36.8	19.6	81	17.5	77.4	11,151	10,808	2,885	2,885
NOBLE F-T	4	6.0	24.7	89	4.0	20.1	3,463	3,098	786	787
TOTAL	*57*	*120.3*	*20.9*	*87*	*62.7*	*286.5*	*45,233*	*43,917*	*10,922*	*10,922*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	32.2	5.2	413	435	458			
WHEMLOCK-T	40.4	11.6	294	333	372			
NOBLE F-T	45.2	25.8	404	545	686			
TOTAL	*36.9*	*4.9*	*399*	*419*	*440*	*54*	*14*	*6*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	28.3	4.5	100	104	109			
WHEMLOCK-T	36.6	10.6	79	88	98			
NOBLE F-T	30.3	17.3	112	136	160			
TOTAL	*31.6*	*4.2*	*99*	*103*	*107*	*40*	*10*	*4*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	59.3	14.0	67	78	88			
WHEMLOCK-T	107.2	25.3	27	37	46			
NOBLE F-T	192.1	45.3	3	6	9			
TOTAL	*36.0*	*8.5*	*110*	*120*	*131*	*55*	*14*	*6*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	59.4	14.0	163	189	216			
WHEMLOCK-T	110.8	26.1	57	77	98			
NOBLE F-T	185.7	43.7	11	20	29			
TOTAL	*34.0*	*8.0*	*264*	*287*	*309*	*49*	*12*	*5*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	63.5	15.0	25,520	30,012	34,503			
WHEMLOCK-T	111.3	26.2	7,973	10,808	13,642			
NOBLE F-T	182.2	42.9	1,768	3,098	4,428			
TOTAL	*35.9*	*8.5*	*40,204*	*43,917*	*47,631*	*54*	*14*	*6*

CL: 68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	62.5	14.7	6,183	7,251	8,318			
WHEMLOCK-T	110.8	26.1	2,132	2,885	3,638			
NOBLE F-T	183.0	43.1	448	787	1,126			
TOTAL	*35.2*	*8.3*	*10,017*	*10,922*	*11,828*	*52*	*13*	*6*

STATISTICS

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U5	35.00	26	123	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	26	123	4.7		
CRUISE	12	56	4.7	4,173	1.3
DBH COUNT					
REFOREST					
COUNT	14	67	4.8		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	52	102.4	18.8	81	45.4	196.8	30,330	29,777	7,323	7,324
WHEMLOCK-T	4	16.9	16.6	75	6.2	25.3	3,924	3,897	944	944
TOTAL	*56*	*119.2*	*18.5*	*80*	*51.7*	*222.1*	*34,254*	*33,675*	*8,267*	*8,268*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	44.4	6.2	346	369	392			
WHEMLOCK-T	56.1	32.0	207	305	403			
TOTAL	*44.9*	*6.0*	*343*	*365*	*387*	*80*	*20*	*9*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	40.6	5.7	85	90	95			
WHEMLOCK-T	51.9	29.6	52	73	95			
TOTAL	*41.2*	*5.5*	*84*	*89*	*94*	*68*	*17*	*8*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	56.4	11.3	91	102	114			
WHEMLOCK-T	182.9	36.6	11	17	23			
TOTAL	*43.1*	*8.6*	*109*	*119*	*130*	*77*	*19*	*9*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	43.7	8.7	180	197	214			
WHEMLOCK-T	176.0	35.2	16	25	34			
TOTAL	*32.0*	*6.4*	*208*	*222*	*236*	*42*	*11*	*5*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	44.7	8.9	27,117	29,777	32,437			
WHEMLOCK-T	172.1	34.4	2,556	3,897	5,238			
TOTAL	*33.1*	*6.6*	*31,447*	*33,675*	*35,903*	*46*	*11*	*5*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	43.7	8.7	6,683	7,324	7,965			
WHEMLOCK-T	173.9	34.8	616	944	1,272			
TOTAL	*32.2*	*6.4*	*7,735*	*8,268*	*8,800*	*43*	*11*	*5*

STATISTICS

PROJECT MIXEDGRA

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U6	20.00	14	62	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	14	62	4.4		
CRUISE	8	35	4.4	3,546	1.0
DBH COUNT					
REFOREST					
COUNT	5	26	5.2		
BLANKS	1				
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	23	113.7	15.0	87	36.1	140.0	18,761	18,247	4,981	4,981
WHEMLOCK-T	8	52.5	16.9	85	19.9	81.7	11,488	10,596	3,031	3,032
NOBLE F-T	3	6.2	21.5	85	3.4	15.6	2,273	1,879	580	581
R ALDER-T	1	5.0	12.0	76	1.1	3.9	396	347	118	118
TOTAL	*35*	*177.3*	*15.8*	*86*	*60.7*	*241.1*	*32,919*	*31,068*	*8,711*	*8,712*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	68.9	14.7	185	217	249			
WHEMLOCK-T	45.1	17.0	193	233	272			
NOBLE F-T	27.3	18.9	249	307	365			
R ALDER-T								
TOTAL	*60.7*	*10.3*	*201*	*224*	*247*	*147*	*37*	*16*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	60.6	12.9	51	58	66			
WHEMLOCK-T	40.6	15.3	56	66	77			
NOBLE F-T	26.3	18.2	79	97	114			
R ALDER-T								
TOTAL	*54.5*	*9.2*	*57*	*63*	*68*	*118*	*30*	*13*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	102.3	28.3	81	114	146			
WHEMLOCK-T	78.0	21.6	41	52	64			
NOBLE F-T	212.0	58.7	3	6	10			
R ALDER-T	374.2	103.6		5	10			
TOTAL	*69.0*	*19.1*	*143*	*177*	*211*	*205*	*51*	*23*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	89.9	24.9	105	140	175			
WHEMLOCK-T	72.8	20.2	65	82	98			
NOBLE F-T	213.9	59.3	6	16	25			
R ALDER-T	374.2	103.6		4	8			
TOTAL	*60.5*	*16.8*	*201*	*241*	*282*	*157*	*39*	*17*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	84.6	23.4	13,971	18,247	22,523			
WHEMLOCK-T	71.1	19.7	8,509	10,596	12,683			
NOBLE F-T	229.0	63.4	687	1,879	3,070			
R ALDER-T	374.2	103.6		347	706			
TOTAL	*58.1*	*16.1*	*26,072*	*31,068*	*36,064*	*145*	*36*	*16*

STATISTICS

PROJECT **MIXEDGRA**

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U6**	20.00	14	62	S	W

CL: 68.1 % COEFF **NET CUFT FT/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 10 15

CL: 68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	86.8	24.1	3,783	4,981	6,180			
WHEMLOCK-T	72.0	19.9	2,427	3,032	3,636			
NOBLE F-T	219.8	60.9	227	581	935			
R ALDER-T	374.2	103.6		118	240			
TOTAL	*58.9*	*16.3*	*7,290*	*8,712*	*10,134*	*149*	*37*	*17*

TC TSTATS

STATISTICS

PAGE 1

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U7**	81.00	60	367	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	60	367	6.1		
CRUISE	32	183	5.7	13,096	1.4
DBH COUNT					
REFOREST					
COUNT	28	178	6.4		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	79	69.1	18.0	72	28.9	122.8	15,708	15,044	4,198	4,199
DOUG FIR-T	70	66.1	17.6	80	26.5	111.1	14,799	14,386	3,888	3,884
NOBLE F-T	29	19.6	21.3	77	10.5	48.5	6,919	6,632	1,732	1,731
R ALDER-T	5	6.8	11.3	77	1.4	4.7	538	488	140	134
TOTAL	*183*	*161.7*	*18.0*	*76*	*67.6*	*287.1*	*37,964*	*36,549*	*9,958*	*9,949*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	46.4	5.2	261	276	290			
DOUG FIR-T	53.0	6.3	259	277	295			
NOBLE F-T	53.5	10.3	393	439	484			
R ALDER-T	42.4	21.1	68	86	104			
TOTAL	*56.7*	*4.2*	*284*	*296*	*309*	*129*	*32*	*14*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	43.5	4.9	73	77	80			
DOUG FIR-T	47.7	5.7	70	74	78			
NOBLE F-T	42.2	8.1	104	113	122			
R ALDER-T	50.9	25.3	19	25	31			
TOTAL	*49.7*	*3.7*	*77*	*80*	*83*	*99*	*25*	*11*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	97.0	12.5	60	69	78			
DOUG FIR-T	124.7	16.1	55	66	77			
NOBLE F-T	160.3	20.7	16	20	24			
R ALDER-T	440.0	56.8	3	7	11			
TOTAL	*50.3*	*6.5*	*151*	*162*	*172*	*101*	*25*	*11*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	88.2	11.4	109	123	137			
DOUG FIR-T	120.5	15.5	94	111	128			
NOBLE F-T	158.3	20.4	39	49	58			
R ALDER-T	439.6	56.7	2	5	7			
TOTAL	*47.0*	*6.1*	*270*	*287*	*305*	*88*	*22*	*10*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	87.1	11.2	13,353	15,044	16,734			
DOUG FIR-T	121.6	15.7	12,131	14,386	16,642			
NOBLE F-T	159.2	20.5	5,270	6,632	7,993			
R ALDER-T	461.6	59.5	197	488	778			
TOTAL	*48.6*	*6.3*	*34,258*	*36,549*	*38,841*	*94*	*24*	*10*

STATISTICS

PROJECT **MIXEDGRA**

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U7**	81.00	60	367	S	W

CL:	68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15

CL:	68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T		86.8	11.2	3,729	4,199	4,670			
DOUG FIR-T		120.9	15.6	3,279	3,884	4,490			
NOBLE F-T		158.5	20.4	1,377	1,731	2,085			
R ALDER-T		452.7	58.4	56	134	213			
TOTAL		*48.0*	*6.2*	*9,333*	*9,949*	*10,565*	*92*	*23*	*10*

TC TSTATS

STATISTICS

PAGE 1

PROJECT MIXEDGRA

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**00U8**	0.50	2	6	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	6	3.0		
CRUISE	2	6	3.0	27	22.3
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	6	53.8	20.2	82	26.7	120.0	16,569	16,126	4,207	4,207
TOTAL	*6*	*53.8*	*20.2*	*82*	*26.7*	*120.0*	*16,569*	*16,126*	*4,207*	*4,207*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	32.8	14.6	270	317	363			
TOTAL	*32.8*	*14.6*	*270*	*317*	*363*	*51*	*13*	*6*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	28.2	12.6	72	82	93			
TOTAL	*28.2*	*12.6*	*72*	*82*	*93*	*38*	*9*	*4*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	1.7	1.6	53	54	55			
TOTAL	*1.7*	*1.6*	*53*	*54*	*55*	*0*	*0*	*0*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T			120	120	120			
TOTAL			*120*	*120*	*120*			

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	.5	.5	16,050	16,126	16,202			
TOTAL	*.5*	*.5*	*16,050*	*16,126*	*16,202*	*0*	*0*	*0*

CL: 68.1 % COEFF — **NET CUFT FT/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	4.5	4.2	4,030	4,207	4,385			
TOTAL	*4.5*	*4.2*	*4,030*	*4,207*	*4,385*	*1*	*0*	*0*

STATISTICS

PROJECT **MIXEDGRA**

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	00U9	0.10	1	15	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	1	15	15.0		
CRUISE	1	13	13.0	48	27.1
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	10	410.0	17.5	75	163.8	685.6	92,250	91,020	22,450	22,450
WHEMLOCK-T	3	70.0	22.7	69	41.2	196.1	24,500	21,700	6,654	6,648
TOTAL	*13*	*480.0*	*18.4*	*74*	*205.8*	*881.7*	*116,750*	*112,720*	*29,104*	*29,098*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF

SD: 1.0

SAMPLE TREES - BF

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	70.7	23.5	170	222	274			
WHEMLOCK-T	46.9	32.4	210	310	410			
TOTAL	*63.2*	*18.2*	*198*	*242*	*286*	*173*	*43*	*19*

CL: 68.1 % COEFF

SD: 1.0

SAMPLE TREES - CF

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	55.7	18.5	45	55	65			
WHEMLOCK-T	45.3	31.4	65	95	125			
TOTAL	*56.7*	*16.3*	*54*	*64*	*74*	*139*	*35*	*15*

TC TSTATS

STATISTICS

PAGE 1

PROJECT **MIXEDGRA** DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**0U10**	0.30	2	8	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	8	4.0		
CRUISE	2	8	4.0	42	18.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	7	98.1	17.5	69	39.2	164.3	20,725	20,458	5,455	5,455
R ALDER-T	1	43.0	10.0	64	7.4	23.5	3,012	3,012	640	640
TOTAL	*8*	*141.1*	*15.6*	*68*	*47.5*	*187.8*	*23,738*	*23,470*	*6,095*	*6,095*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % SD: 1.0

SAMPLE TREES - BF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	47.3	19.3	209	259	308			
R ALDER-T								
TOTAL	*55.9*	*21.1*	*185*	*235*	*285*	*142*	*36*	*16*

CL: 68.1 % SD: 1.0

SAMPLE TREES - CF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
DOUG FIR-T	45.9	18.7	56	69	81			
R ALDER-T								
TOTAL	*56.2*	*21.2*	*49*	*62*	*75*	*144*	*36*	*16*

CL: 68.1 % SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	54.1	50.6	48	98	148			
R ALDER-T	141.4	132.4		43	100			
TOTAL	*5.5*	*5.2*	*134*	*141*	*148*	*2*	*1*	*0*

CL: 68.1 % SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	20.2	18.9	133	164	195			
R ALDER-T	141.4	132.4		23	55			
TOTAL	*.0*	*.0*	*188*	*188*	*188*	*0*	*0*	*0*

CL: 68.1 % SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	16.3	15.2	17,340	20,458	23,575			
R ALDER-T	141.4	132.4		3,012	7,001			
TOTAL	*4.0*	*3.7*	*22,598*	*23,470*	*24,341*	*1*	*0*	*0*

CL: 68.1 % SD: 1.0

NET CUFT FT/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	15.6	14.6	4,657	5,455	6,253			
R ALDER-T	141.4	132.4		640	1,486			
TOTAL	*.9*	*.8*	*6,046*	*6,095*	*6,143*	*0*	*0*	*0*

STATISTICS

PROJECT MIXEDGRA

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	02E	04	MIXEDGRAVY	0U11	6.00	4	27	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	4	27	6.8		
CRUISE	4	27	6.8	728	3.7
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	17	74.2	18.8	89	33.0	142.8	23,986	23,627	5,584	5,584
DOUG FIR-D	1	7.9	14.0	108	2.2	8.4	1,415	1,258	301	297
DOUG FIR-T	2	7.0	21.0	88	3.7	16.8	2,515	2,515	641	641
WHEMLOCK	4	16.7	19.2	82	7.7	33.6	4,736	4,611	1,300	1,300
WHEMLOCK-T	3	15.5	17.3	76	6.1	25.2	3,546	3,546	963	963
TOTAL	*27*	*121.3*	*18.5*	*88*	*52.7*	*226.9*	*36,198*	*35,557*	*8,789*	*8,785*

CONFIDENCE LIMITS OF THE SAMPLE

68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR

CL: 68.1 % COEFF — **SAMPLE TREES - BF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	42.0	10.8	381	427	473			
DOUG FIR-D								
DOUG FIR-T								
WHEMLOCK	20.4	11.7	247	280	313			
WHEMLOCK-T			345	345	345			
TOTAL	*32.8*	*6.8*	*370*	*397*	*424*	*45*	*11*	*5*

CL: 68.1 % COEFF — **SAMPLE TREES - CF** — # OF TREES REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	37.7	9.7	90	99	109			
DOUG FIR-D								
DOUG FIR-T								
WHEMLOCK	16.2	9.3	71	79	86			
WHEMLOCK-T			94	94	94			
TOTAL	*23.0*	*4.8*	*92*	*96*	*101*	*22*	*6*	*2*

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	49.4	28.2	53	74	95			
DOUG FIR-D	200.0	114.3		8	17			
DOUG FIR-T	200.0	114.3		7	15			
WHEMLOCK	145.2	83.0	3	17	31			
WHEMLOCK-T	121.2	69.2	5	16	26			
TOTAL	*24.6*	*14.0*	*104*	*121*	*138*	*31*	*8*	*3*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	22.5	12.9	124	143	161			
DOUG FIR-D	200.0	114.3		8	18			
DOUG FIR-T	200.0	114.3		17	36			
WHEMLOCK	141.4	80.8	6	34	61			
WHEMLOCK-T	127.7	72.9	7	25	44			
TOTAL	*18.6*	*10.7*	*203*	*227*	*251*	*18*	*5*	*2*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR	29.3	16.8	19,667	23,627	27,586			
DOUG FIR-D	200.0	114.3		1,258	2,695			

STATISTICS

PROJECT **MIXEDGRA**

DATE 8/7/2015

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
09N	**02E**	**04**	**MIXEDGRAVY**	**0U11**	6.00	4	27	S	W

CL: 68.1 % SD: 1.0

NET BF/ACRE

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR-T	200.0	114.3		2,515	5,389			
WHEMLOCK	135.3	77.3	1,046	4,611	8,177			
WHEMLOCK-T	124.6	71.2	1,021	3,546	6,071			
TOTAL	*17.6*	*10.1*	*31,979*	*35,557*	*39,135*	*16*	*4*	*2*

CL: 68.1 % SD: 1.0

NET CUFT FT/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
DOUG FIR	25.4	14.5	4,772	5,584	6,395			
DOUG FIR-D	200.0	114.3		297	637			
DOUG FIR-T	200.0	114.3		641	1,373			
WHEMLOCK	137.4	78.5	279	1,300	2,321			
WHEMLOCK-T	129.8	74.2	249	963	1,677			
TOTAL	*19.2*	*11.0*	*7,821*	*8,785*	*9,750*	*19*	*5*	*2*

TC PSPCTLTCM

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

T09N R02E S04 Ty00U1	50.0
T09N R02E S04 Ty00U2	73.0
T09N R02E S04 Ty0U1	6.0

Project MIXEDGRA
Acres 338.90

Page No 1
Date: 8/7/2015
Time 9:14:26AM

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR	T	15,652	34,674	28,141	63.06	28.47	0.84	9,874	9,871	3,939	3,849
WHEMLOCK	T	14,192	27,509	23,233	51.01	26.32	0.80	7,260	7,240	2,746	2,633
DOUG FIR		8,104	18,173	16,538	71.56	31.91	0.94	5,803	5,799	2,293	2,227
NOBLE F	T	4,408	9,746		101.62	45.96	1.36	4,493	4,479	1,827	1,733
WHEMLOCK		6,930	13,911	12,503	56.00	27.90	0.89	3,907	3,881	1,452	1,384
NOBLE F		2,745	5,264		45.31	23.62	0.69	1,246	1,243	489	475
R ALDER	T	1,036	1,440	519	17.73	12.76	0.39	189	184	72	67
R ALDER		431	822	360	29.98	15.72	0.47	131	129	49	45
DOUG FIR	D	836	987	394	15.35	13.01	0.41	138	128	55	44
WHEMLOCK	D	85	85	51	17.13	17.13	0.43	16	15	6	5
Totals		54,420	112,611	81,738	60.58	29.28	0.88	33,057	32,970	12,929	12,462

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	52,952	110,349	80,859	61.67	29.59	0.89	32,737	32,657	12,808	12,350
H	1,468	2,262	879	21.33	13.84	0.42	320	313	121	112
Totals	54,420	112,611	81,738	60.58	29.28	0.88	33,057	32,970	12,929	12,462

WASHINGTON STATE DEPARTMENT OF
Natural Resources
Peter Goldmark - Commissioner of Public Lands

FPA/N No: 2930916
Effective Date: 10/26/2015
Expiration Date: 10/26/2018
Shut Down Zone: 660
EARR Tax Credit: ☒ Eligible [ ] Non-eligible
Reference: Mixed Gravy VRH Thin TBS

Forest Practices Application/Notification
Notice of Decision

Decision

[ ] Notification	Operations shall not begin before the effective date.
☒ Approved	This Forest Practices Application is subject to the conditions listed below.
[ ] Disapproved	This Forest Practices Application is disapproved for the reasons listed below.
[ ] Closed	Applicant has withdrawn approved FPA/N

FPA/N Classification

[ ] Class II ☒ Class III [ ] Class IVG [ ] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 3 yrs [ ] 4 yrs [ ] 5 yrs

Conditions on Approval / Reasons for Disapproval

1. Use erosion control measures in areas of soil disturbances with potential to deliver sediment to any waters. Erosion control measures may include but are not limited to: grass seeding, mulch, fiber mat, hay bales, brush and non-merchantable timber retention etc.

NOTE:

Refer to WAC 222-24-040 (3) for culvert installation requirements in Type Np and Ns waters.

Refer to WAC 222-30-050(1) & (2) for felling and bucking within type Np and Ns waters

Refer to WAC 222-30-021 (2) (a) for equipment limitation zones associated with perennial and seasonal streams.

Issued By: Jon Byerly **Region:** Pacific Cascade

Title: Forest Practices Forester **Date:** 10/26/2015

Copies to: **[ ] Landowner, Timber Owner and Operator.**

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

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

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

And

Department Of Natural Resources
Pacific Cascade Region
601 Bond Road
PO Box 280
Castle Rock, WA 98611

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.

Hydraulic Project Approval (HPA) (Chapter 77.55RCW and WAC 222-50-020(2))

The Department of Fish and Wildlife (WDFW), as the jurisdictional agency issuing HPAs, has final authority for approving water crossing structures in Type S and F waters. WDFW continues to have authority on Type N waters and may exercise that authority on some Type N waters.

Notice: The HPA water crossing requirements supersede what is indicated on the FPA. Landowners are required by law to follow the provisions as directed on the HPA.

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

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

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

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

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

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

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

DNR affidavit of mailing:

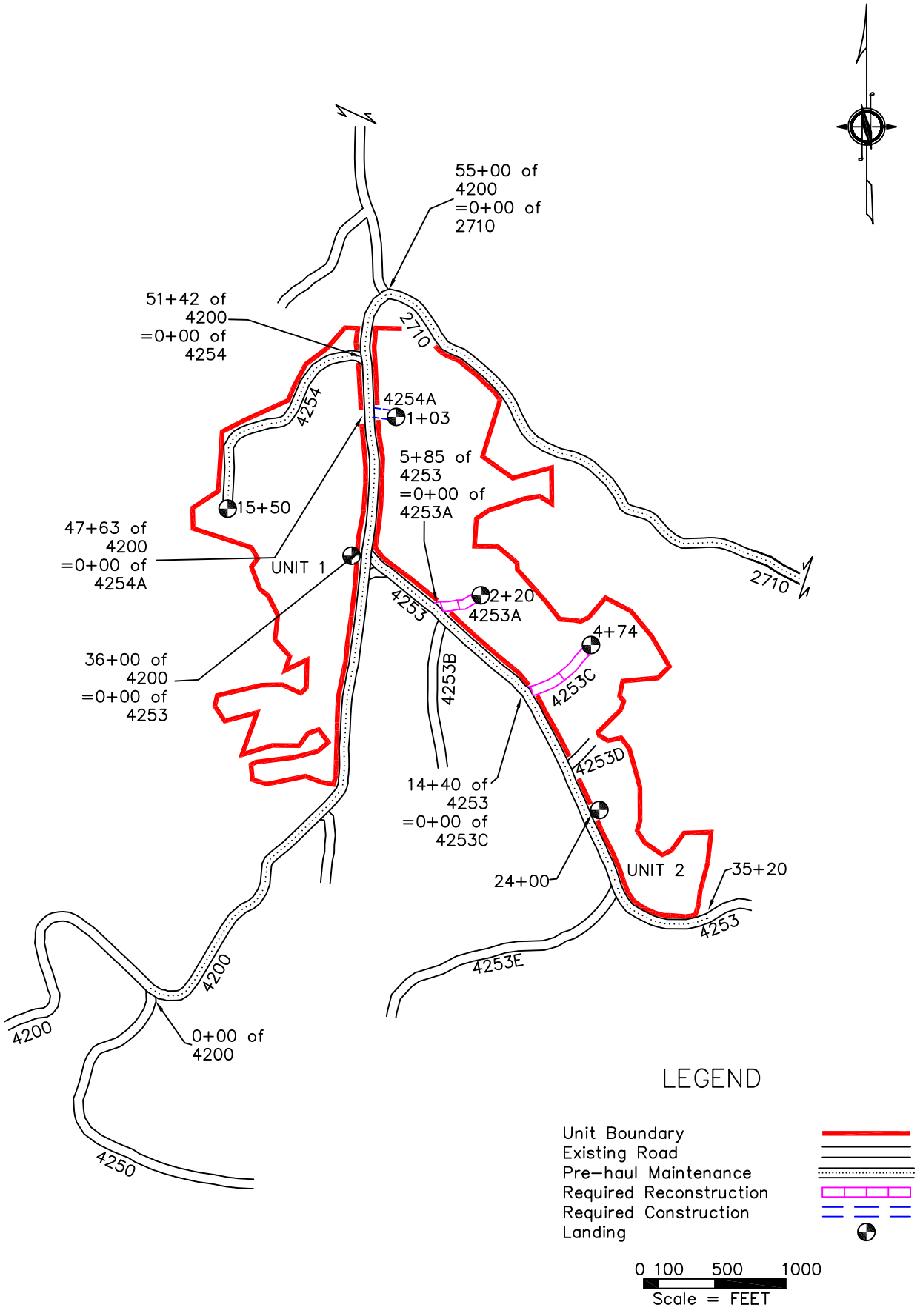
On this day_____, I placed in the United States mail at Castle Rock, WA,
(date mm/dd/yyyy) (post office location)
postage paid, a true and accurate copy of this document, Notice of Decision FPA #_____

_____ _____
(Printed name) (Signature)

MIXED GRAVY VRH & THIN

ROAD PLAN MAP

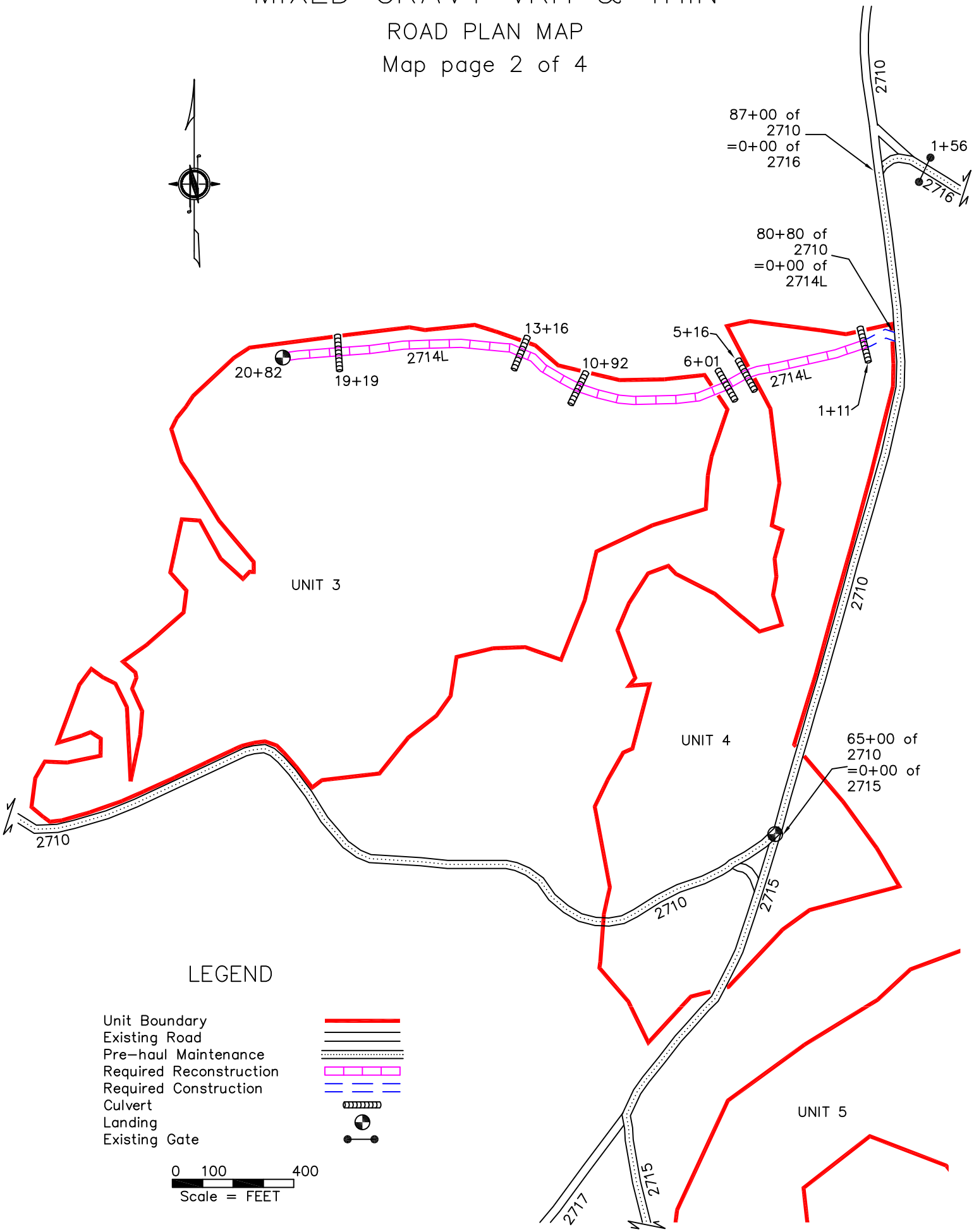
Map page 1 of 4



MIXED GRAVY VRH & THIN

ROAD PLAN MAP

Map page 2 of 4



LEGEND

- Unit Boundary
- Existing Road
- Pre–haul Maintenance
- Required Reconstruction
- Required Construction
- Culvert
- Landing
- Existing Gate

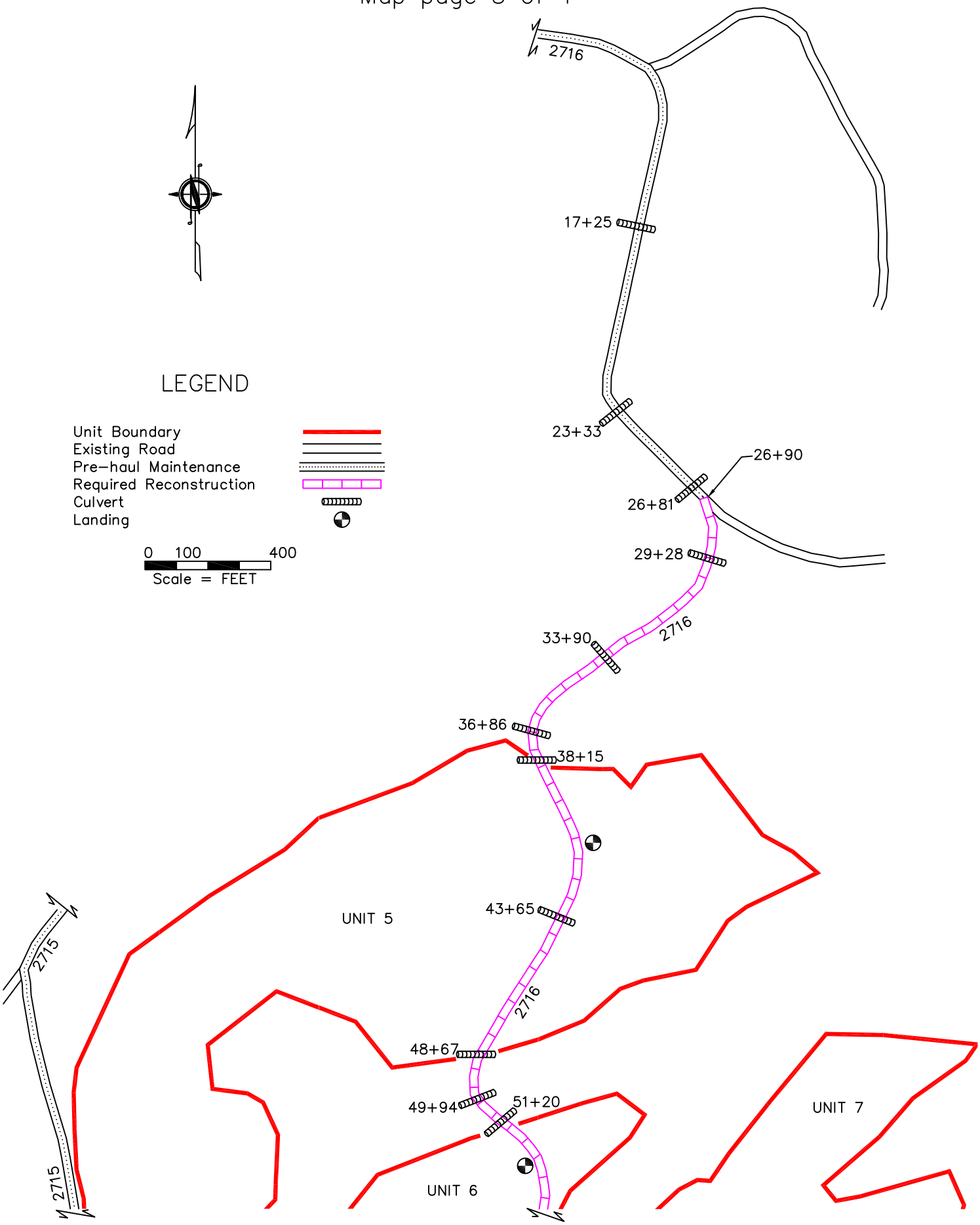
0 100 400

Scale = FEET

MIXED GRAVY VRH & THIN

ROAD PLAN MAP

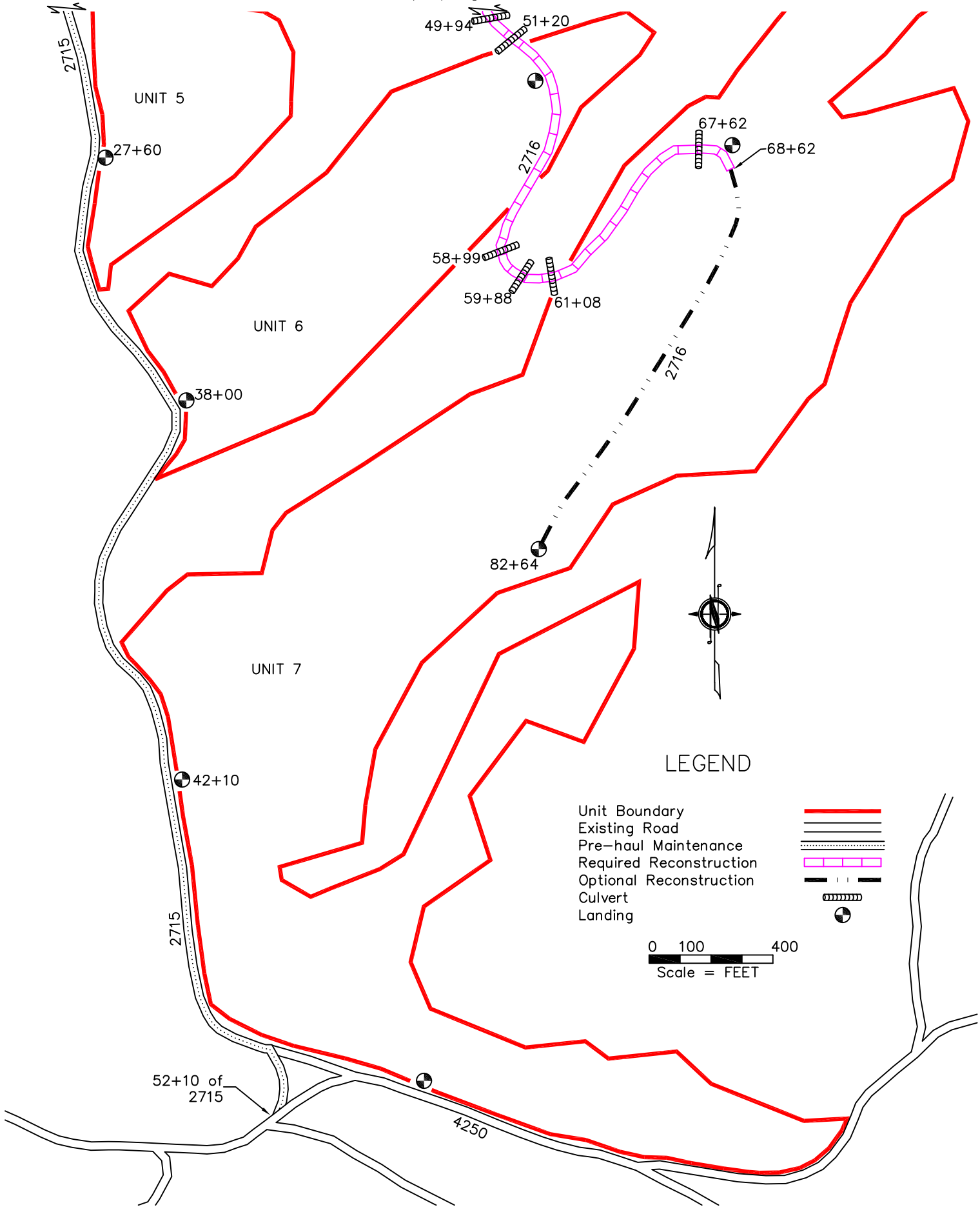
Map page 3 of 4



MIXED GRAVY VRH & THIN

ROAD PLAN MAP

Map page 4 of 4



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

MIXED GRAVY VRH & THIN ROAD PLAN
COWLITZ COUNTY
ST HELENS DISTRICT

AGREEMENT NO.: 30-092644 STAFF ENGINEER: RICH WALLMOW

DATE: 04/20/2015 DRAWN & COMPILED BY: ALICIA COMPTON

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
4200	0+00 to 55+00	Pre-haul Maintenance
4253	0+00 to 35+20	Pre-haul Maintenance
4253A	0+00 to 2+20	Reconstruct
4253C	0+00 to 4+74	Reconstruct
4254	0+00 to 15+50	Pre-haul Maintenance
4254A	0+00 to 1+03	Construct
2710	0+00 to 87+00	Pre-haul Maintenance
2715	0+00 to 52+10	Pre-haul Maintenance
2714L	0+00 to 1+11	Construct
	1+11 to 20+82	Reconstruct
2716	0+00 to 26+90	Pre-haul Maintenance
	26+90 to 68+62	Reconstruct

0-3 OPTIONAL ROADS

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

Road	Stations	Type
2716	68+62 to 82+64	Reconstruct

0-4 CONSTRUCTION

Construction includes, but is not limited to: clearing; grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; landing construction; acquisition and installation of drainage structures; acquisition, manufacture, and application of rock.

0-5 RECONSTRUCTION

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

Road	Stations	Requirements
4253A, 4253C 2714L 2716	All 1+11 to 20+82 26+90 to 68+62	Widen subgrade to the dimensions shown on the Typical Section Sheet and curve widening requirements set forth in Clause 4-8. Construct ditches and culvert catch basins. Construct landings. Install culvert(s) as shown on the Culvert List. Grade, shape, and compact existing road surface. Apply rock as shown on the Rock List. Grade, shape and compact the applied rock.
2716	68+62 to 82+64	Grade and shape existing grade to allow for dry weather haul. Ditch and/or outslope road as needed or directed to provide for adequate drainage.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
4200	0+00 to 55+00	Grade, shape and compact existing road.
	36+00	Rock landing on left.
4253	0+00 to 35+20	Grade, shape and compact existing road.
	24+00	Construct and rock landing on left.
4254	0+00 to 15+50	Brush, clean ditches and culverts, grade, shape and compact existing road.
	15+50	Rock landing.
2710	0+00 to 87+00	Grade, shape and compact existing road.
	65+00	Construct and rock landing on right.
2715	0+00 to 52+10	Grade and shape existing road prior to applying rock. Apply rock as shown on the Rock List. Grade, shape and compact the applied rock.
	27+60	Construct and rock landing on left.
	38+00, 42+10	Rock landings on left.
2716	0+00 to 26+90	Brush, clean ditches and culverts, grade and shape existing road prior to applying rock. Install culverts as shown on the Culvert List. Apply rock as shown on the Rock List. Grade, shape and compact the applied rock.

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

Purchaser shall develop an existing rock source. Rock source development will involve clearing, stripping, drilling, shooting, manufacturing, and stock piling rock. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-15 ROAD MARKING

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

- Centerline construction stakes, orange paint, and orange flagging for new construction.
- Orange paint and RP's on trees along reconstruction.
- Orange painted trees for pre-haul maintenance.

1-16 CONSTRUCTION STAKES SET BY STATE

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

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction, subgrade compaction and drainage installation
- Rock application and compaction

1-25 ACTIVITY TIMING RESTRICTION

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

Road	Stations	Activity	Closure Period
All Roads	All	Road Work	September 30 to May 1

1-26 OPERATING DURING CLOSURE PERIOD

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

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on pit run, jaw run, or native surface roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.

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

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surfaces and have surfaces evaluated, by the State, for any damage caused by transporting equipment. Any damage to the surfaces will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-43 ROAD WORK AROUND UTILITIES

Road work is in close proximity to a utility. Known utilities are listed, but it is the Purchaser's responsibility to identify any utilities not listed. Purchaser shall work in accordance with all applicable laws or rules concerning utilities. Purchaser is responsible for all notification, including "call before you dig", and liabilities associated with the utilities and their rights-of-way.

Road	Stations	Utility	Utility Contact
4200	36+00 to 55+00	Day Wireless Systems	503-659-1240
4253	0+00 to 35+20		
4253A	0+00 to 0+15		
4253C	0+00 to 0+15		
4254A	0+00 to 0+15		

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain roads in a condition that will allow the passage of light administrative vehicles.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following roads, Purchaser shall use a grader to shape the existing surface before timber haul, other than right-of-way timber.

Road	Stations
4200	0+00 to 55+00
4253	0+00 to 35+20
4254	0+00 to 15+50
2710	0+00 to 87+00
2715	0+00 to 52+10
2716	0+00 to 26+90

2-6 CLEANING CULVERTS

On the following roads, Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval from the Contract Administrator before rock and/or timber haul.

Road	Stations
4254	0+00 to 15+50
2716	0+00 to 26+90

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

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

Road	Stations
4254	0+00 to 15+50
2716	0+00 to 26+90

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following roads, Purchaser shall cut vegetative material up to 5 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

Road	Stations
4254	0+00 to 15+50
2716	0+00 to 26+90

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 4 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-8 PROHIBITED DECKING AREAS

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

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

3-10 GRUBBING

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

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps adjacent to the road shoulder and in compliance with all other clauses in this road plan.

3-14 STUMPS WITHIN DESIGNATED WASTE AREAS

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located as listed below or within the cleared right-of-way or in natural openings.

Road	Requirements
4253F	Waste on left of 4253F and Signal Pit as shown on pit plan.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 50%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the grubbing limits and in natural openings. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. In addition, the following actions must be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

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

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-10 WIDEN THE EXISTING SUBGRADE

On the following roads, Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

Road	Stations
4253A	0+00 to 2+20
4253C	0+00 to 4+47
2714L	1+11 to 20+82
2716	26+90 to 68+62

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

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

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 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

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

Road	Waste Area Location	Comments
4253F	Signal Pit	On left as shown on pit plan.

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

- Within 15 feet of a cross drain culvert.
- Within 50 feet of a live stream or wetland.
- On side slopes steeper than 50%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.

4-55 ROAD SHAPING

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

4-60 FILL COMPACTION

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

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width, except ditch.

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on the CULVERT LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and meet the specifications in Clauses 10-17 through 10-24.

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and 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 must be installed in a manner consistent with the manufacturer's recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

5-20 ENERGY DISSIPATERS

The type of energy dissipater and the amount of material must be consistent with the specifications on the CULVERT LIST, except for temporary culverts. Placement must be by zero-drop-height method only. Energy dissipater installation is subject to approval by the Contract Administrator.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify placement of rock, except for temporary culverts. Rock may not restrict the flow of water into culvert inlets or catch basins.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culverts, Purchaser shall place LIGHT LOOSE RIP RAP immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT LIST or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins.

Road	Stations	Rock Type
2714L	6+01	Light Loose Rip Rap
2716	36+86, 49+94, 59+88	Light Loose Rip Rap

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

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

Source	Location
Signal Pit	Sec. 3, T9N R2E

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 5 days before starting any operations in the rock source.

Source
Signal Pit

6-13 ROCK EXPLORATION

Purchaser shall provide an excavator and/or rock drill with operator for up to 10 hours of exploration of rock and other related work as directed by the Contract Administrator at the following sites.

Site	Location
Signal Pit	As directed.

6-20 ROCK GRADATION TYPES

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

6-37 4-INCH JAW RUN ROCK

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

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

6-41 SELECT PIT RUN ROCK

No more than 50 percent of the rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Select Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-50 LIGHT LOOSE RIP RAP

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

At Least/Not More Than	Size Range
80% / 90%	12”-30”
10% / 20%	3”- 12”

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

6-56 ROCK MEASURMENT BY TRUCK VOLUME

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

6-65 ROCK STOCKPILE LOCATION

Purchaser shall stockpile rock as listed below and as directed by the Contract Administrator. Rock stockpiles must be in accordance with Clause 6-67.

Rock Source	Rock Type	Quantity (c.y.)	Stockpile Location
Signal Pit	4” Jaw Run	500	Signal Pit

6-67 ROCK STOCKPILE SPECIFICATIONS

Rock stockpiles listed in Clause 6-65 ROCK STOCKPILE LOCATION must meet the following specifications:

Before placing aggregates upon the stockpile site, the site must 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 must be neat and regular in shape. The stockpile height is limited to a maximum of 25 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 5 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile.

Stockpiles of different types or sizes of aggregate must be spaced far enough apart, or separated by suitable walls or partitions, to prevent the mixing of the aggregates.

6-70 APPROVAL BEFORE ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way, unless otherwise specified in the ROCK LIST.

SECTION 7 – STRUCTURES

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

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

7-70 GATE CLOSURE

On the following road, Purchaser shall keep gates closed and locked except during periods of haul. All gates must be closed at termination of use.

Road	Station
2716	1+56

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL

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

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 6-inch layer of straw to all exposed soils within 50 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

On the following roads, Purchaser shall spread seed on all exposed soils resulting from road work activities. Cover all exposed soils using manual dispersion. Other methods of covering must be approved in writing by the Contract Administrator. Required seed not spread by the termination of this contract will become the property of the state.

Road	Location	Qty (lbs)*	Type
4253A	0+00 to 2+20	6	Seed
4253C	0+00 to 4+47	14	Seed
4254A	0+00 to 1+03	3	Seed
2714L	0+00 to 20+82	63	Seed
2716	26+90 to 82+64	165	Seed

*Quantities are estimates only. Actual quantities may vary and are the responsibility of the Purchaser.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed.

8-17 REVEGETATION TIMING

Purchaser shall revegetate after road work is completed between March 15 and September 15. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed on all exposed soils within 50 feet of streams or wetlands. The protective cover may consist of straw or hay.

8-25 GRASS SEED

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

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

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

SECTION 9 – POST-HAUL ROAD WORK

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

Road	Stations	Type
2716	68+62 to 82+64	Medium

9-23 MEDIUM DECOMMISSIONING AND ABANDONMENT

- Fill in ditches.
- Outslope the surface at a minimum of 10 percent and/or construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing which will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as directed by Contract Administrator.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Remove road shoulder berms except as directed.
- Block roads with earthen barricades according to the attached SPOILS BERM DETAIL.
- Remove all culverts.
- Remove culverts from State land.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Furnish and evenly spread a 6-inch layer of straw to all exposed soils within 50 feet of stream and/or wetland.
- Scatter woody debris onto abandoned road surfaces.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be galvanized (zinc coated meeting AASHTO M-218), except culverts over 30 inches must be aluminized (aluminum type 2 coated meeting AASHTO M-274.

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

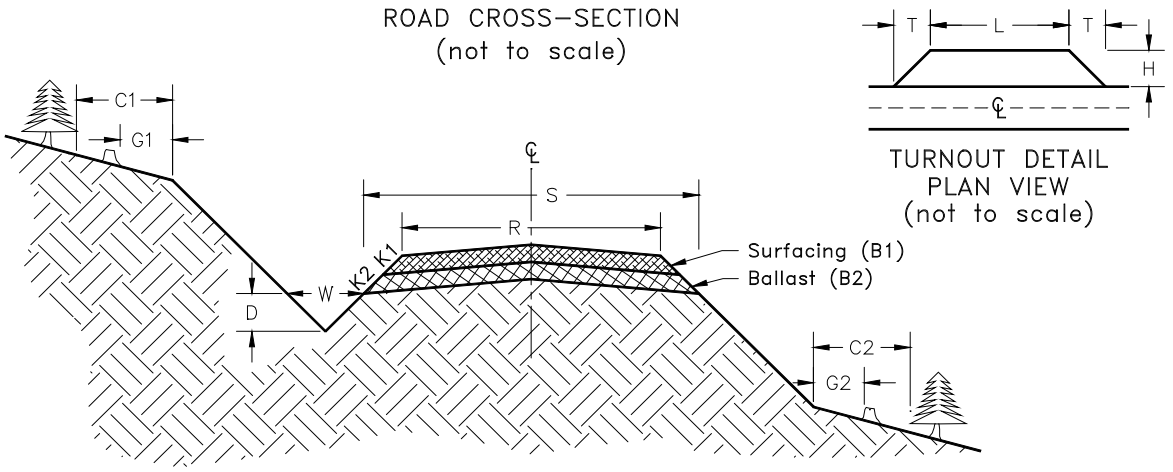
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

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

Diameter	Gage	Corrugation
18"	16 (0.064”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
24" to 48"	14 (0.079”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
54" to 96"	14 (0.079”)	3" X 1"

TYPICAL SECTION SHEET

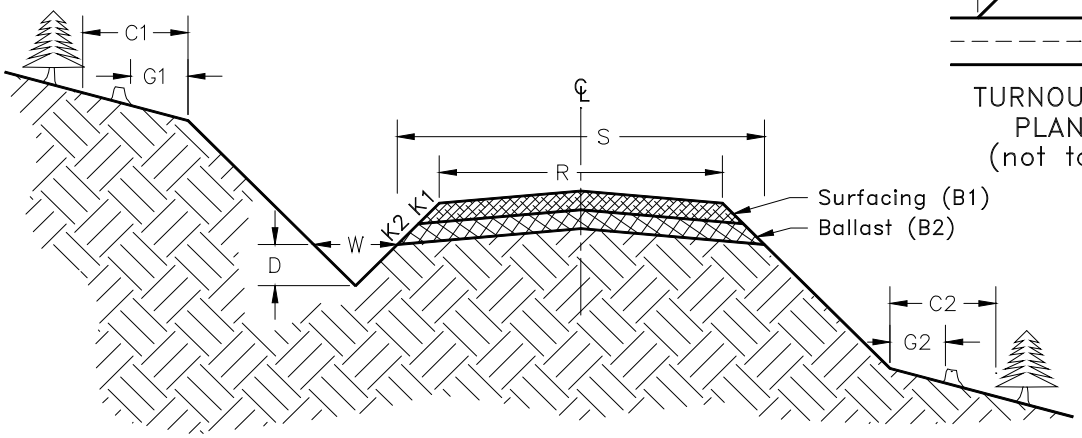


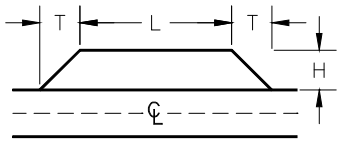
Road Number	From Station	To Station	Tolerance Class	Subgrade Width	Road Width	Ditch Width	Ditch Depth	Crown in. @ CL	Grubbing Limits		Clearing Limits	
				S	R	W	D		G1	G2	C1	C2
4200	0+00	55+00	A	-	16’	-	-	4	-	-	-	-
4253	0+00	35+20	A	-	12’	-	-	4	-	-	-	-
4253A	0+00	2+20	C	14’	12’	3’	1’	4	2’	2’	5’	5’
4253C	0+00	4+74	C	16’	12’	3’	1’	4	2’	2’	5’	5’
4254	0+00	15+50	A	-	12’	3’	1’	4	-	-	-	-
4254A	0+00	1+03	C	16’	12’	3’	1’	4	5’	5’	10’	10’
2710	0+00	87+00	A	-	12’	-	-	4	-	-	-	-
2715	0+00	52+10	C	-	12’	-	-	4	-	-	-	-
2714L	0+00	5+00	C	16’	12’	3’	1’	4	5’	5’	10’	10’
	5+00	7+00	C	16’	12’	3’	1’	4	5’	5’	ROW Tags	
	7+00	20+82	C	16’	12’	3’	1’	4	5’	5’	10’	TBS Tags
2716	0+00	26+90	C	-	12’	3’	1’	4	-	-	ROW Tags	
	26+90	38+06	C	16’	12’	3’	1’	4	2’	2’	ROW Tags	
	38+06	48+64	C	16’	12’	3’	1’	4	2’	2’	5’	5’
	48+64	51+14	C	16’	12’	3’	1’	4	2’	2’	ROW Tags	
	51+14	58+00	C	16’	12’	3’	1’	4	2’	2’	5’	5’
	58+00	62+20	C	16’	12’	3’	1’	4	2’	2’	ROW Tags	
	62+20	68+62	C	16’	12’	3’	1’	4	2’	2’	5’	5’
	68+62	82+64	C	-	12’	-	-	-	-	-	5’	5’

ROW Tags = Right-of-Way Tags
TBS Tags = Timber Sale Tags

ROCK LIST
(Page 1 of 2)

ROAD CROSS–SECTION
(not to scale)





TURNOUT DETAIL
PLAN VIEW
(not to scale)

SELECT PIT RUN

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout Length	Turnout Width	Turnout Taper
			K2	B2				SIGNAL PIT	L	H	T
4200	Landing (36+00)						50				
4253	Landing (24+00)						50				
4253A	0+00	2+20	1 ½:1	8”	40	2.20	88				
	Junction						8				
	Landing (1)						50				
4253C	0+00	4+74	1 ½:1	12”	63	4.74	299				
	Curve Widening						10				
	Junction						12				
	Landing (1)						50				
4254	Landing (15+50)						30				
4254A	0+00	1+03	1 ½:1	12”	63	1.03	65				
	Junction						12				
	Landing (1)						30				
2710	Landing (65+00)						50				
2715	Landings (3)						180				
2714L	0+00	1+11	1 ½:1	15”	81	1.11	90				
	Junction						15				
	1+11	20+82	1 ½:1	12”	63	19.71	1,242				
	Turnaround (1)						34				
	Curve Widening						43				
	Landing (1)						50				
2716	26+90	68+62	1 ½:1	12”	63	41.72	2,628				
	Turnaround (1)						34				
	Curve Widening						110				
	Landings (3)						150				

Required SELECT PIT RUN Total: 5,380 Cubic Yards

ROCK LIST
(Page 2 of 2)

4-INCH JAW RUN

Road Number	From Station or Mile Post	To Station or Mile Post	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout Length	Turnout Width	Turnout Taper
			K2	B2				SIGNALPIT	L	H	T
2715	0+00	52+10	1 ½:1	6”	30	52.10	1,563				
	Curve Widening						55				
2716	15+37	26+90	1 ½:	6”	30	11.53	346				
	Curve Widening						12				
	Turnaround (1)						16				
Signal Peak Pit	Stockpile						500				

Required 4-Inch JAW RUN Total: 2,492 Cubic Yards

LIGHT LOOSE RIP RAP
(Fill Slope Armor)

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				SIGNALPIT
2714L	6+01						12	
2716	36+86, 49+94, 59+88						34	

TOTAL 46 Cubic Yards

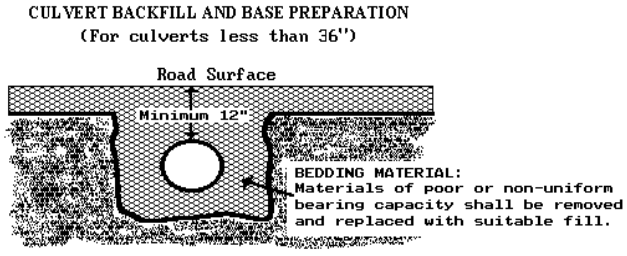
SELECT PIT RUN
(Energy Dissipator)

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				SIGNALPIT
2714L	See Culvert List						5	
2716	See Culvert List						12	

TOTAL 17 Cubic Yard

CULVERT LIST

Road Number	Location	Length (ft) Dia	Culvert	Downspt	Flume	(C.Y.) Inlet	Outlet	Type	Backfill Material	Placement Method	Const. Staked	Remarks
2714L	1+11	18”	40			½	½	SP	NT	ZDH		
	5+16	18”	40			½	½	SP	NT	ZDH		
	6+01	48”	45			4	8	LL	NT	ZDH		Np/Type 4, Aluminized
	10+92	18”	40			½	½	SP	NT	ZDH		
	13+16	18”	40			½	½	SP	NT	ZDH		
	19+19	18”	30			½	½	SP	NT	ZDH		
2716	17+25	18”	30			½	½	SP	NT	ZDH		
	23+33	18”	45			½	½	SP	NT	ZDH		
	26+81	18”	40			½	½	SP	NT	ZDH		
	29+28	18”	40			½	½	SP	NT	ZDH		
	33+90	18”	40			½	½	SP	NT	ZDH		
	36+86	30”	40			2	4	LL	NT	ZDH		Np/Type 4, Aluminized
	38+15	18”	40			½	½	SP	NT	ZDH		
	43+65	18”	40			½	½	SP	NT	ZDH		
	48+67	18”	40			½	½	SP	NT	ZDH		
	49+94	36”	50			8	12	LL	NT	ZDH		Np/Type 4, Aluminized
	51+20	18”	40			½	½	SP	NT	ZDH		
	58+99	18”	40			½	½	SP	NT	ZDH		
	59+88	36”	40			3	5	LL	NT	ZDH		Np/Type 4, Aluminized
	61+08	18”	30			½	½	SP	NT	ZDH		
	67+62	18”	30			½	½	SP	NT	ZDH		



Key:

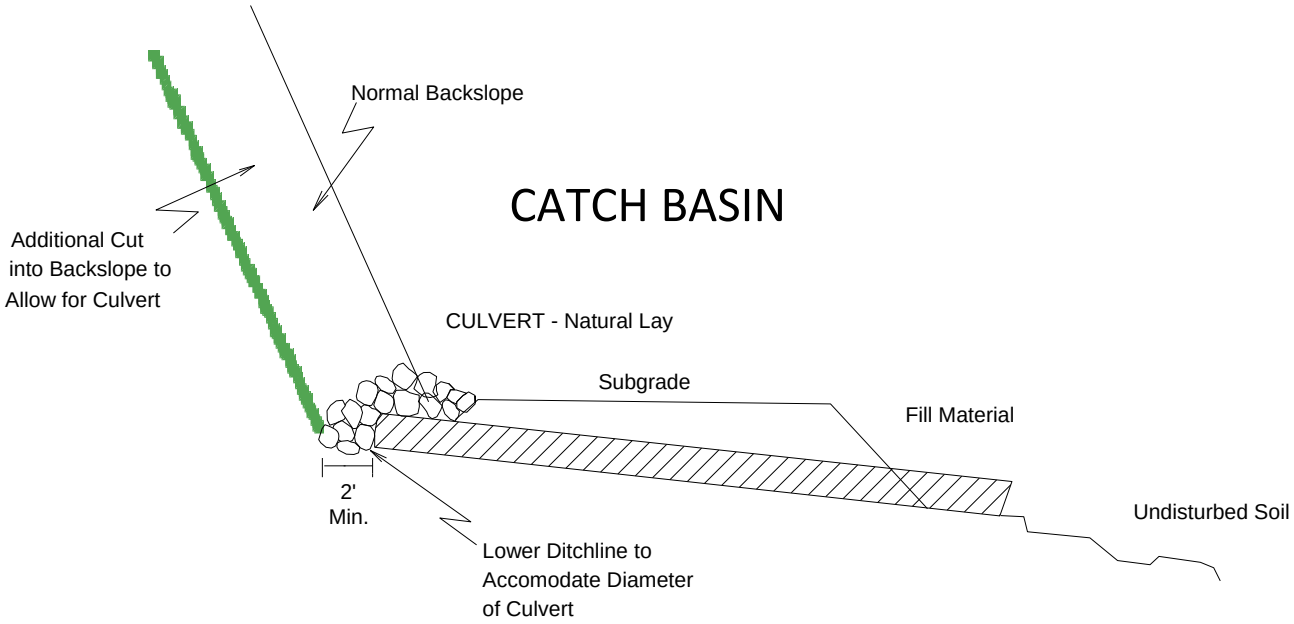
CR - Crushed Rock
NT - Native (bank run)
SP - Select Pit Run
HL - Heavy Loose Riprap
LL - Light Loose Riprap
Flume - Half round pipe
Downspout - Full round pipe
ZDH - Zero Drop Height

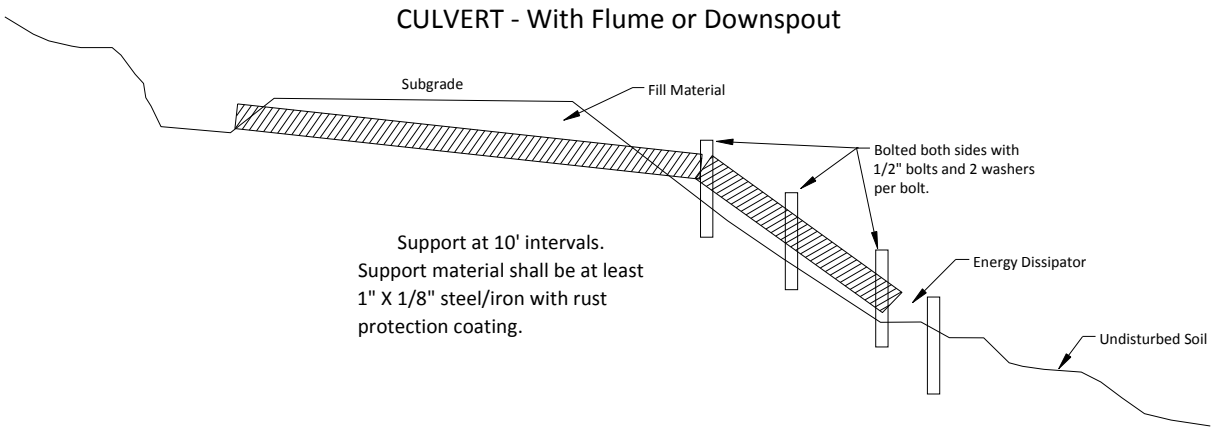
COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)	Maximum Amount of Deflection (inches)
All Roads			Subgrade	12	Vibratory Smooth Drum	14000	4	3	2
All Roads			Fill	24	Vibratory Smooth Drum	14000	4	3	2
All Roads			Waste Area	24	Excavation	28,000	-	-	4
All Roads			Pre-haul Surface	6	Vibratory Smooth Drum	14000	5	3	1
All Roads			Rock	12	Vibratory Smooth Drum	14000	5	3	1

CULVERT AND DRAINAGE SPECIFICATION DETAIL

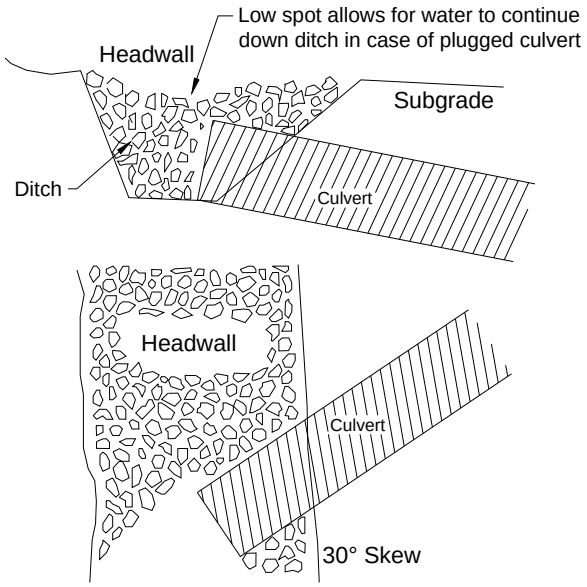
(Page 1 of 3)





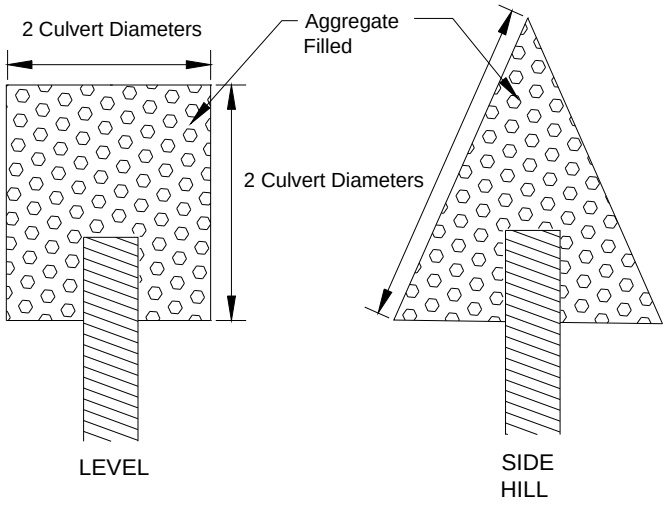
Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed so that the pipe is uniformly supported along the barrel.

HEADWALLS



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.

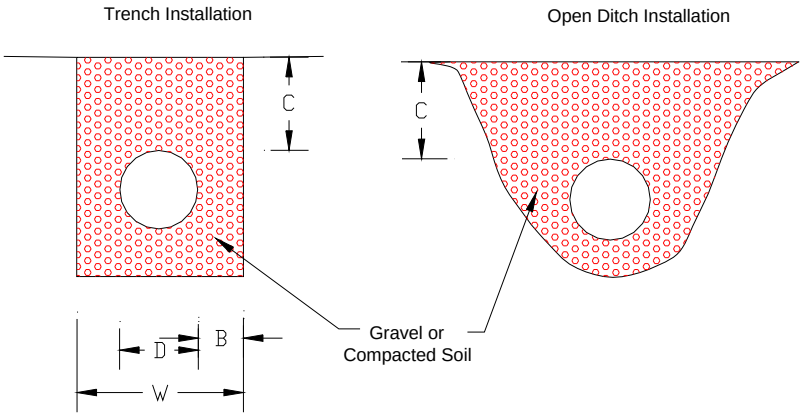
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.

3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.

4. Site conditions and availability of bedding materials often dictate the type of installation method used.

5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS
Trench or Open Ditch Installation



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

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 up to 100 cubic yards in volume from ditches and the roadway. Repair fill-failures, in accordance with Clause 4-6 EMBANKMENT SLOPE RATIO, with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

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

Drainage

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

Preventative Maintenance

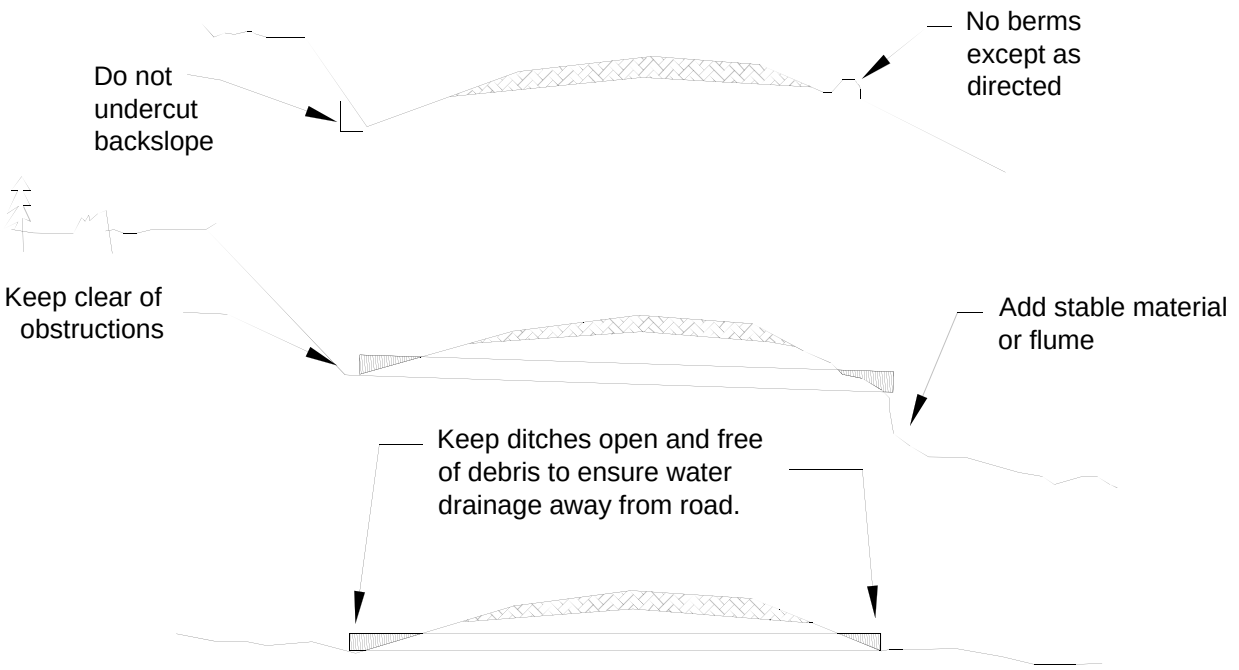
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

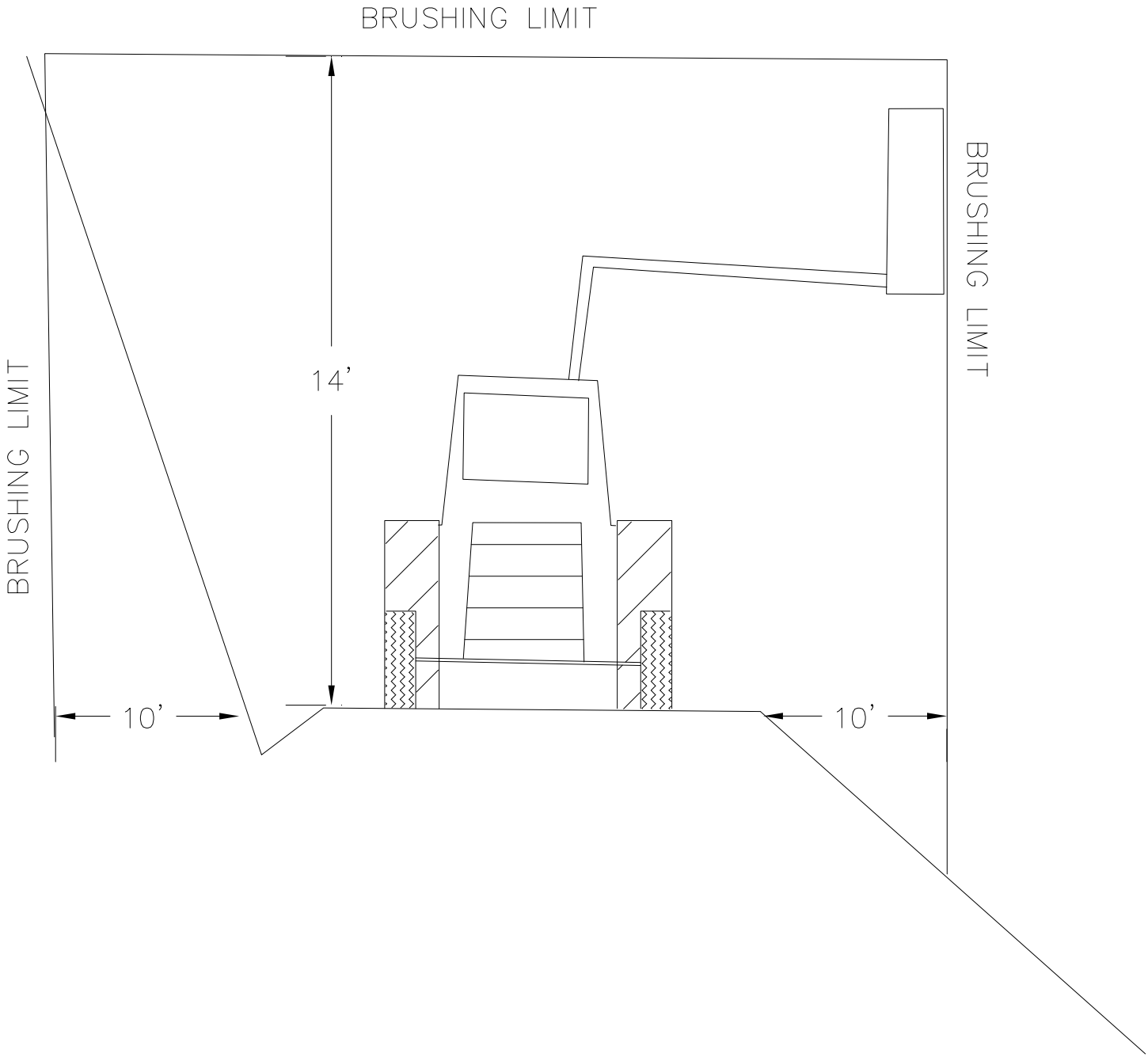
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

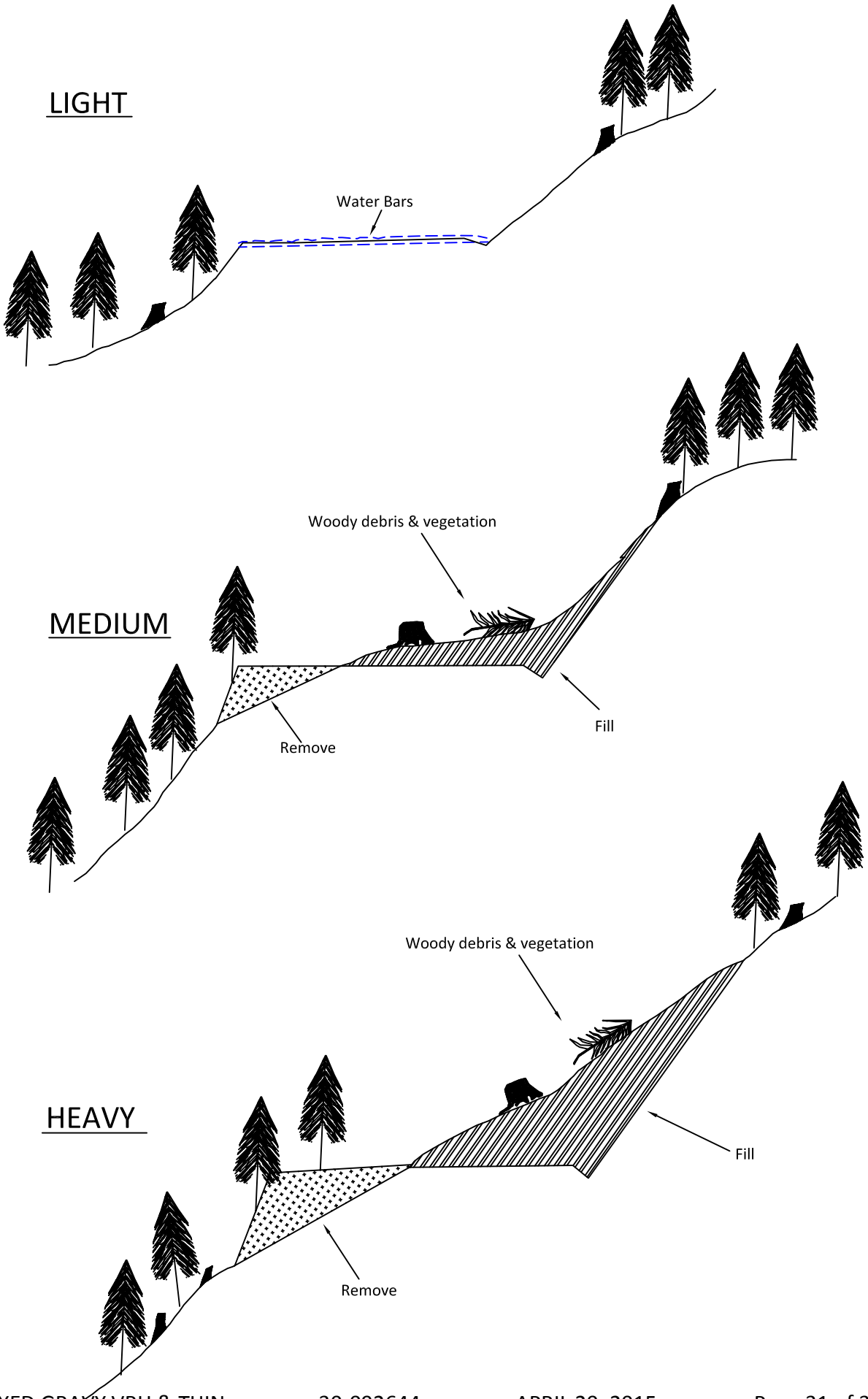
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



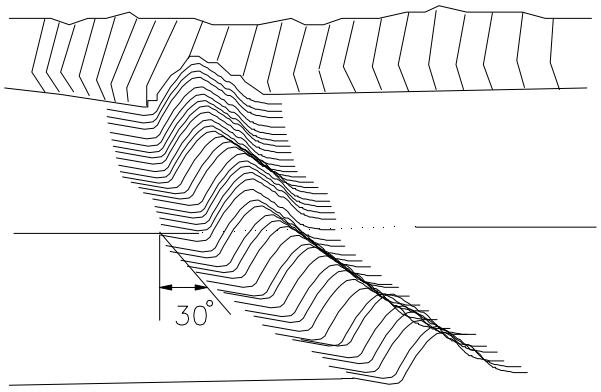
BRUSHING SECTION DETAIL

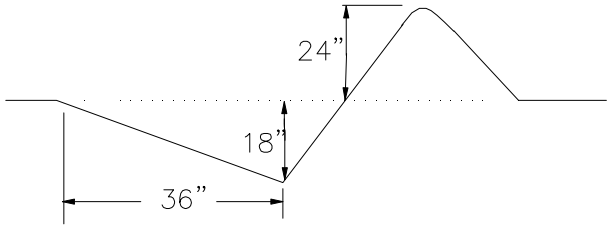


ROAD ABANDONMENT CROSS SECTIONS

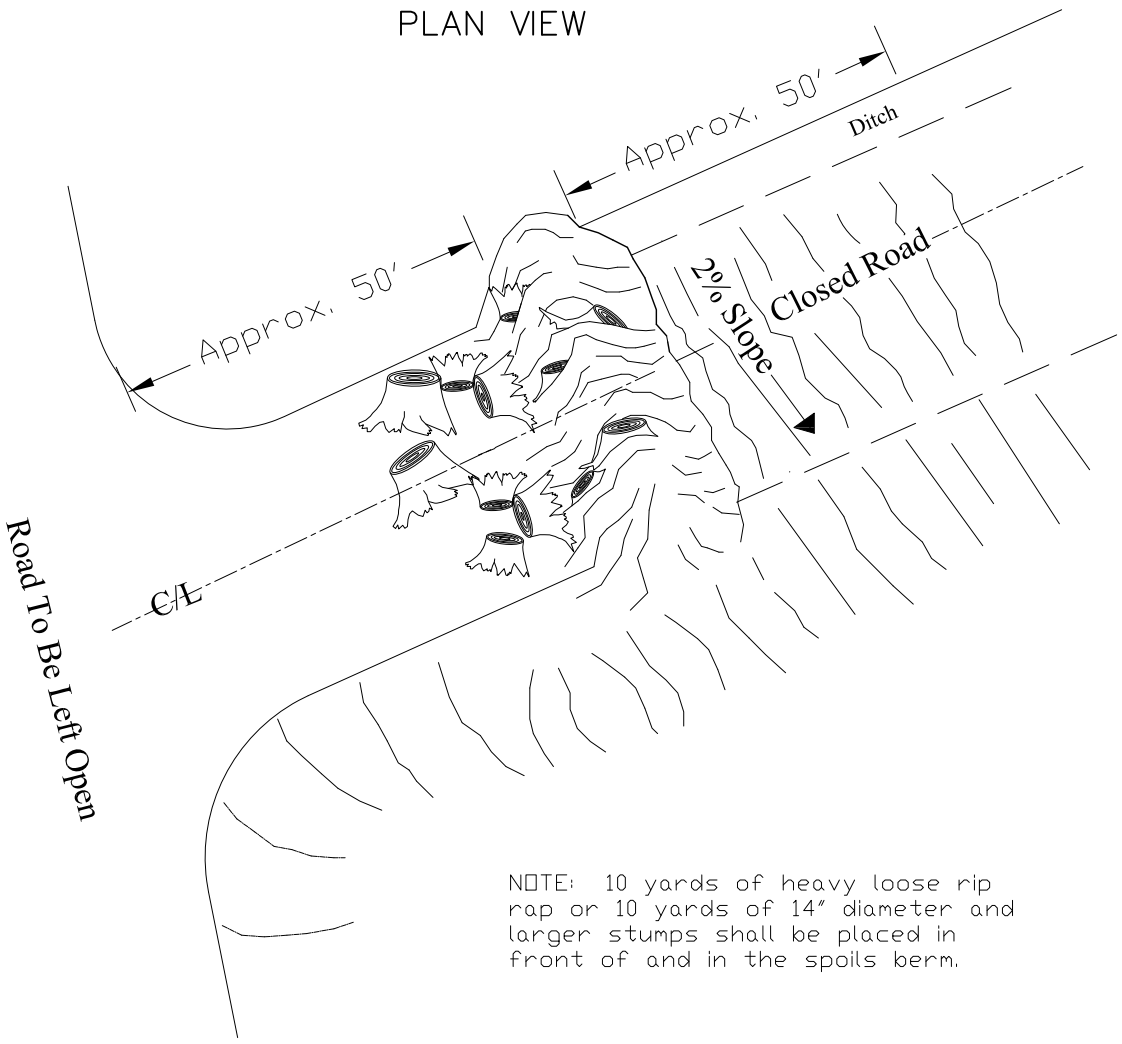


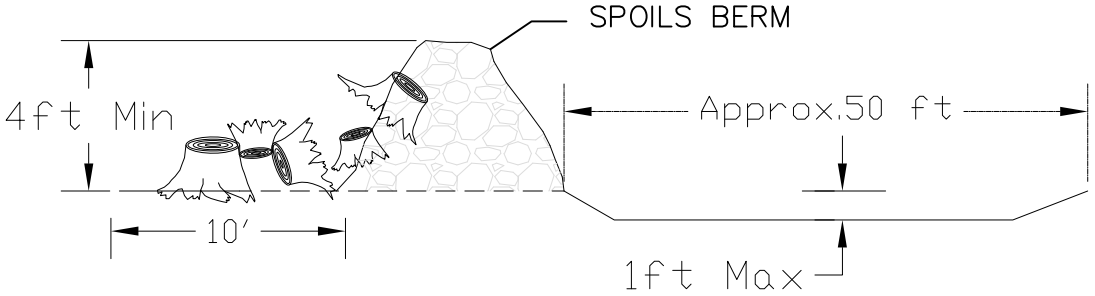
NON-DRIVABLE WATER BAR DETAIL





SPOILS BERM DETAIL





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

State of Washington
Department of Natural Resources
Pacific Cascade Region

SIGNAL PIT DEVELOPMENT PLAN

SW ¼, Sec. 3, T9N R2E, W.M.

1. The Purchaser shall submit a ROCK SOURCE DEVELOPMENT PLAN MAP for the rock source to include:
   - Mining Area
   - Proposed Equipment Access Road(s)
   - Waste Area (if different than shown on Signal Pit Plan Map)

   The Purchaser shall submit the ROCK SOURCE DEVELOPMENT PLAN MAP for a given source ten working days prior to anticipated operations in the source. The Purchaser shall obtain approval of the ROCK SOURCE DEVELOPMENT PLAN MAP from the Contract Administrator before beginning any operations in the given source. Relocation of designated waste area as shown on Signal Pit Plan may require a forest practice amendment.

2. Mining shall occur in the mining area indicated on the approved ROCK SOURCE DEVELOPMENT PLAN MAP. Proposed access roads may be constructed as indicated on the ROCK SOURCE DEVELOPMENT PLAN MAP.

3. All vegetation including stumps shall be cleared a minimum of 25 feet beyond the top of all working faces. The Purchaser shall maintain a minimum of 15 foot wide area stripped to rock from the pit face at all times.

4. All overburden may be pushed or end hauled, placed, and compacted at the approved waste areas adjacent to pit. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lift

5. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled separately in the designated waste area.

6. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator ten working days prior to any drilling.(Form #M-126PAC)

7. Drilling and rock extraction may begin when the Contract Administrator has approved, in writing, all of the clearing, grubbing and overburden removal.

8. Pit faces shall not exceed 30 feet in height. Faces with heights over 20 feet shall be sloped at ¼:1.

9. Working bench width shall be a minimum of 20 feet.

10. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.

11. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.

12. Oversize material remaining in the rock source at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of operations, all remaining oversize material shall be placed as directed by the Contract Administrator in a location outside of the future development.

13. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material; benches shall have safety berms constructed or access blocked to highway vehicles. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.

14. All exposed soil in the waste area shall be grass seeded in accordance with Road Plan Clauses 8-15 through 8-25.

15. All operations shall be carried out in compliance with all regulations of:
    - Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
    - "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.

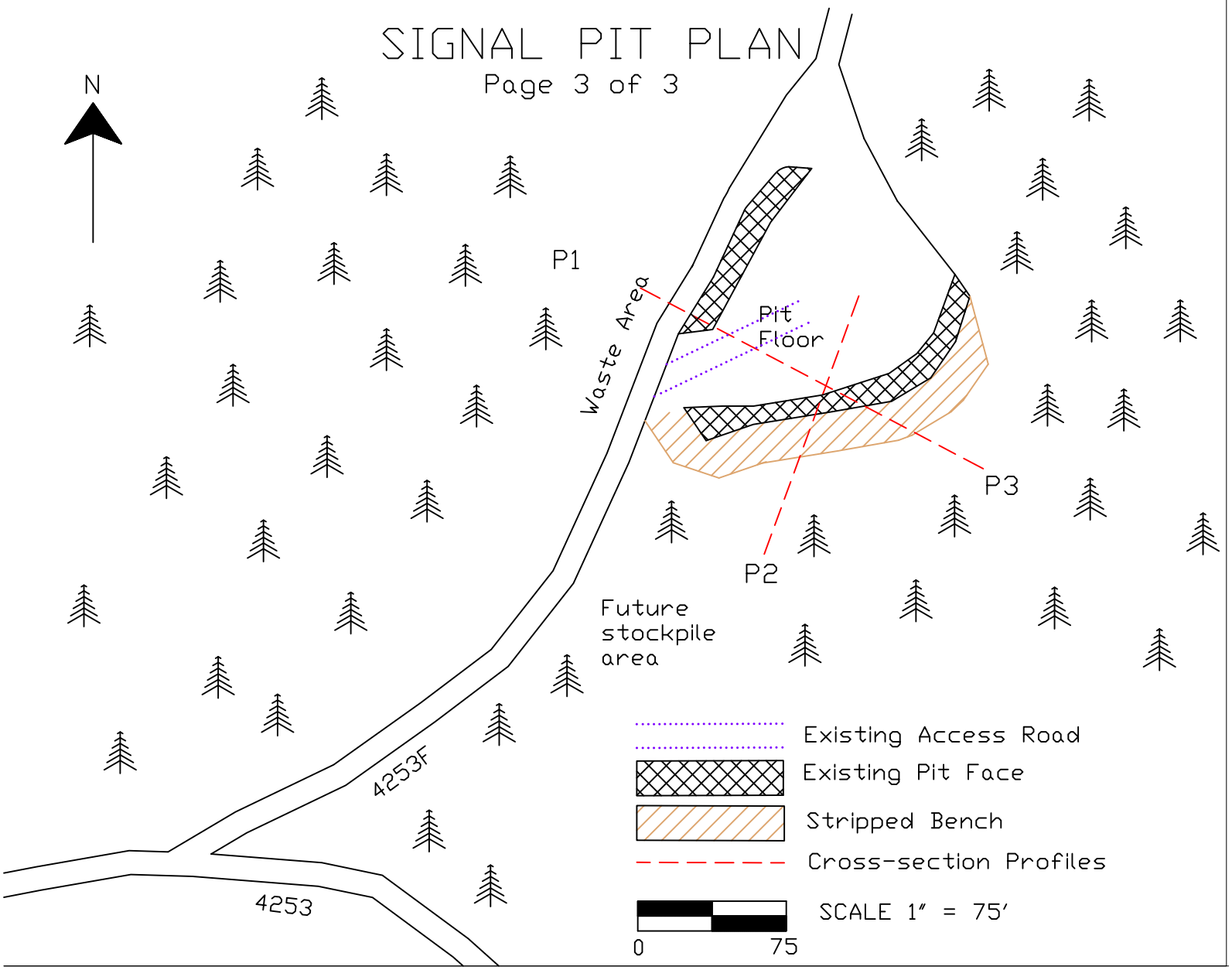
16. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.

17. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, block access roads with existing on site riprap as directed by the Contract Administrator, and shall be left in a neat and presentable condition.

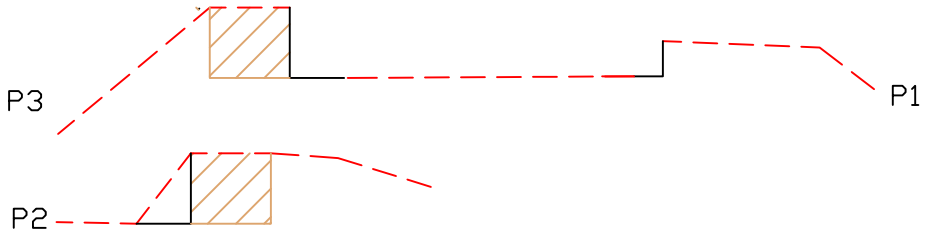
18. At the completion of rock source operations, the Purchaser shall obtain written approval of final rock source condition and compliance with the terms of this plan.

SIGNAL PIT PLAN

Page 3 of 3



Existing Profiles as of 5/27/15



SCALE 1" = 60'

0 60'

Prepared By: R. Wallmow

SUMMARY - Road Development Costs

REGION: Pacific Cascade
DISTRICT: St. Helens

SALE/PROJECT NAME: Mixed Gravy VRH Thin AGREEMENT #: 30-092644

ROAD NUMBERS:
Optional: 2716 (68+62 to 82+64)
Required: 4200, 4253, 4253A, 4253C, 4254, 4254A, 2710, 2715, 2714L, 2716 (0+00 to 68+62)

ROAD STANDARD:		Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:		2.14	82.39	271.70
CLEARING & GRUBBING, EXCAVATION AND FILL, MISC.:		$848.70	$17,207.85	$9,950.70
ROAD ROCK:				
	Optional:	$0.00	$0.00	$0.00
	Required:	$1,913.47	$52,245.88	$32,272.32
	Total:	$1,913.47	$52,245.88	$32,272.32
STOCKPILE:		-	-	$5,105.00
CULVERTS AND FLUMES:		$0.00	$13,618.80	$1,552.50
STRUCTURES:		-	-	-
MOBILIZATION:		$97.88	$1,984.53	$1,147.59
TOTAL COSTS:		$2,860.05	$85,057.06	$50,028.11
COST PER STATION:		$1,336	$1,032	$184
ROAD DEACTIVATION & ABANDONMENT COSTS:		$0.00	$1,310.40	$0

10% OVERHEAD AND GENERAL EXPENSE =	**$13,794.52**
TOTAL (All Roads) =	**$153,050.14**
TOTAL (Minus Optional Rock) =	**$153,050.14**
SALE VOLUME MBF =	**8,317**
TOTAL $/MBF =	**$18.40**
TOTAL $/MBF (Minus Optional Rock) =	**$18.40**

Profit and Risk costs are accounted on an individual basis.

Compiled by: Rich Wallmow Date: April 20, 2015

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4200**

Required Pre-Haul Maintenance-	55+00	stations	Required Reconstruction -	0+00	stations	Required Construction -	0+00	stations
	1.04	miles		0.00	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

PRE-HAUL MAINTENANCE

MISC.

Grade and shape existing road surface -	55.00	stations @	$15.34	per station	$843.70	
Roll shaped road surface w/ vibratory roller prior to rocking -	55.00	stations @	$13.50	per station	$742.50	
				TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.		**$1,586.20**

ROCK

0+00	to	0+00	50	cy. of	PitRun	@	$7.68	per c.y.=	$384.00
								TOTAL ROCK	**$384.00**

Required Pre-Haul Maintenance-	$1,970.20	Required Reconstruction -	$0.00	SUBTOTAL	**$1,970.20**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00		
Required Construction -	$0.00	Optional Construction -	$0.00		
				TOTAL	**$1,970.20**
Optional Rock?	NO			**COST PER STATION**	**$35.82**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4253**

Required Pre-Haul Maintenance-	35+20	stations	Required Reconstruction -	0+00	stations	Required Construction -	0+00	stations
	0.67	miles		0.00	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

PRE-HAUL MAINTENANCE

MISC.

Grade and shape existing road surface -	35.20	stations @	$15.34	per station	$539.97	
Roll shaped road surface w/ vibratory roller prior to rocking -	35.20	stations @	$13.50	per station	$475.20	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$1,015.17**

ROCK

0+00	to	0+00	50	cy. of	PitRun	@	$7.08	per c.y.=	$354.00
								TOTAL ROCK	**$354.00**

Required Pre-Haul Maintenance-	$1,369.17	Required Reconstruction -	$0.00		
				SUBTOTAL	**$1,369.17**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00		
Required Construction -	$0.00	Optional Construction -	$0.00		
				TOTAL	**$1,369.17**
Optional Rock?	NO			**COST PER STATION**	**$38.90**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4253A**

Required Pre-Haul Maintenance-	0+00	stations	Required Reconstruction -	2+20	stations	Required Construction -	0+00	stations
	0.00	miles		0.04	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

RECONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	0.050	acres	@	$918.00	per acre	$45.90
EXCAVATION						
Side cast	0.200	acres	@	$610.00	per acre	$122.00
Widening Road Prism	0.200	acres	@	$610.00	per acre	$122.00
Reconstruct ditch-	2.20	stations	@	$39.76	per station	$87.47
Grade and shape subgrade -	2.20	stations	@	$15.96	per station	$35.11
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	2.20	stations	@	$13.50	per station	$29.70
Reconstruct landing -	1.00		@	$142.50	each	$142.50
Grass seed and fertilize -	6.00	lbs	@	$4.00	per lbs	$24.00

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **$608.68**

ROCK

0+00 to 2+20 146 cy. of PitRun @ $7.53 per c.y.= $1,099.38

TOTAL ROCK **$1,099.38**

Required Pre-Haul Maintenance-	$0.00	Required Reconstruction -	$1,708.06
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00
Required Construction -	$0.00	Optional Construction -	$0.00
Optional Rock?	NO		

SUBTOTAL **$1,708.06**

TOTAL **$1,708.06**

COST PER STATION **$776.39**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4253C**

Required Pre-Haul Maintenance-	0+00	stations	Required Reconstruction -	4+74	stations	Required Construction -	0+00	stations
	0.00	miles		0.09	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

RECONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	0.110	acres @	$918.00	per acre	$100.98	
EXCAVATION						
Side cast	0.300	acres @	$610.00	per acre	$183.00	
Widening Road Prism	0.300	acres @	$610.00	per acre	$183.00	
Pull and clean ditch-	4.74	stations @	$19.88	per station	$94.23	
Grade and shape subgrade -	4.74	stations @	$15.96	per station	$75.65	
FILL						
Fill roadway @ area of 0+00 -	0.00	hours @	$170.00	per hour	$0.00	
Fill ditch/emb from 0+00 to 0+00 -	0.00	hours @	$170.00	per hour	$0.00	
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	4.74	stations @	$13.50	per station	$63.99	
Reconstruct landing -	1.00	@	$142.50	each	$142.50	
Grass seed and fertilize -	15.00	lbs @	$4.00	per lbs	$60.00	
				TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.		**$903.35**

ROCK

0+00	to	4+74	371	cy. of	PitRun	@	$7.32	per c.y.=	$2,715.72
								TOTAL ROCK	**$2,715.72**

Required Pre-Haul Maintenance-	$0.00	Required Reconstruction -	$3,619.07
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00
Required Construction -	$0.00	Optional Construction -	$0.00
Optional Rock?	NO		

SUBTOTAL	**$3,619.07**
TOTAL	**$3,619.07**
COST PER STATION	**$763.52**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4254**

Required Pre-Haul Maintenance-	15+50	stations	Required Reconstruction -	0+00	stations	Required Construction -	0+00	stations
	0.29	miles		0.00	miles			miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

PRE-HAUL MAINTENANCE

CLEARING						
Roadside Brushing	0.29	miles @	$907.00	per mile =	$263.03	
EXCAVATION						
Clean ditch-	15.50	stations @	$19.88	per station	$308.14	
MISC.						
Grade and shape existing road surface -	15.50	stations @	$15.34	per station	$237.77	
Roll shaped road surface w/ vibratory roller prior to rocking -	15.50	stations @	$13.50	per station	$209.25	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$1,018.19**

ROCK

Landing Rock	30	cy. of	Pit-Run	@	$8.37	per c.y.=	$251.10
						TOTAL ROCK	**$251.10**

Required Pre-Haul Maintenance-	$0.00	Required Reconstruction -	$0.00
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00
Required Construction -	$0.00	Optional Construction -	$0.00
Optional Rock?	NO		

SUBTOTAL	**$1,269.29**
TOTAL	**$1,269.29**
COST PER STATION	**$81.89**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **2710**

Required Pre-Haul Maintenance-	87+00	stations	Required Reconstruction -	0+00	stations	Required Construction -	0+00	stations
	1.65	miles		0.00	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

PRE-HAUL MAINTENANCE

MISC.

Grade and shape existing road surface -	87.00	stations @	$15.34	per station	$1,334.58	
Roll shaped road surface w/ vibratory roller prior to rocking -	87.00	stations @	$13.50	per station	$1,174.50	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$2,509.08**

ROCK

Landing Rock	50	cy. of	PitRun	@	$9.68	per c.y.=	$484.00	
						TOTAL ROCK		**$484.00**

Required Pre-Haul Maintenance-	$2,993.08	Required Reconstruction -	$0.00		
				SUBTOTAL	**$2,993.08**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00		
Required Construction -	$0.00	Optional Construction -	$0.00		
				TOTAL	**$2,993.08**
Optional Rock?	NO				
				COST PER STATION	**$34.40**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **2715**

Required Pre-Haul Maintenance-	52+10	stations	Required Reconstruction -	0+00	stations	Required Construction -	0+00	stations
	0.99	miles		0.00	miles		0.00	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

PRE-HAUL MAINTENANCE

EXCAVATION

Construct landings @ 17+50, 38+00, 42+10 -	3.00	@	$145.00	each	$435.00	

MISC.

Grade and shape existing road surface -	52.10	stations @	$15.34	per station	$799.21	
Roll shaped road surface w/ vibratory roller prior to rocking -	52.10	stations @	$13.50	per station	$703.35	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$1,937.56**

ROCK

0+00 to	52+10	1,618	cy. of	Ballast	@	$14.45	per c.y.=	$23,380.10	
Landings		180	cy. of	PitRun	@	$10.30	per c.y.=	$1,854.00	
								TOTAL ROCK	**$25,234.10**

Required Pre-Haul Maintenance-	$27,171.66	Required Reconstruction -	$0.00		
				SUBTOTAL	**$27,171.66**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00		
Required Construction -	$0.00	Optional Construction -	$0.00		
				TOTAL	**$27,171.66**
Optional Rock?	NO				
				COST PER STATION	**$521.53**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **2714L**

Required Pre-Haul Maintenance-	0+00	stations	Required Reconstruction -	19+71	stations	Required Construction -	1+11	stations
	0.00	miles		0.37	miles		0.02	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

RECONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	0.450	acres @	$918.00	per acre	$413.10	
EXCAVATION						
Side cast	0.500	acres @	$610.00	per acre	$305.00	
Widening Road Prism	0.500	acres @	$610.00	per acre	$305.00	
Reconstruct ditch-	19.71	stations @	$19.88	per station	$391.83	
Grade and shape subgrade -	19.71	stations @	$15.96	per station	$314.57	
FILL						
Fill roadway @ area of 0+00 -	12.00	hours @	$170.00	per hour	$2,040.00	
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	19.71	stations @	$13.50	per station	$266.09	
Reconstruct turnaround @ sta. -	1	@	$90.00	each	$90.00	
Reconstruct landing -	1	@	$142.50	each	$142.50	
Grass seed and fertilize -	60	lbs @	$4.00	per lbs	$240.00	
Mulching	12	bales @	$10.00	per bale	$120.00	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$4,628.09**

CONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	0.100	acres @	$918.00	per acre	$91.80	
EXCAVATION						
Road Construction Earthwork	1.11	sta. @	$73.00	per sta. =	$81.03	
Grade and shape subgrade -	1.11	stations @	$15.96	per station	$17.72	
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	1.11	stations @	$13.50	per station	$14.99	
Grass seed and fertilize -	3	lbs @	$4.00	per lbs	$12.00	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$217.54**

CULVERTS - MATERIALS & INSTALLATION

Culverts				
190	LF of 18"	$2,568.80		
45	LF of 48"	$2,358.90		
		TOTAL CULVERTS		**$4,927.70**

ROCK

Fill Armor		6+01	12	cy. of	Riprap	@	$15.30	per c.y.=	$183.60
Energy Dissipator		See Culvert List	4	cy. of	Riprap	@	$13.06	per c.y.=	$52.24
1+11	to	20+82	1,369	cy. of	Ballast	@	$10.20	per c.y.=	$13,963.80
0+00	to	1+11	105	cy. of	PitRun	@	$10.01	per c.y.=	$1,051.05
								TOTAL ROCK	**$15,250.69**

Required Pre-Haul Maintenance-	$0.00	Required Reconstruction -	$25,024.02	
			SUBTOTAL	**$25,024.02**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00	
Required Construction -	$0.00	Optional Construction -	$0.00	
			TOTAL	**$25,024.02**
Optional Rock?	NO			
			COST PER STATION	**$1,201.92**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **2716**

Required Pre-Haul Maintenance-	26+90	stations	Required Reconstruction -	41+72	stations	Required Construction -	0+00	stations
	0.51	miles		0.79	miles		0.00	miles
Required Abandonment-	14+02	stations	Optional Reconstruction -	14+02	stations	Optional Construction -	0+00	stations
	0.27	miles		0.27	miles		0.00	miles

PRE-HAUL MAINTENANCE

CLEARING						
Roadside Brushing	0.51	miles	@ $907.00	per mile =	$462.57	
EXCAVATION						
Clean ditch-	26.90	stations	@ $19.88	per station	$534.77	
MISC.						
Grade and shape existing road surface -	26.90	stations	@ $19.48	per station	$524.01	
Roll shaped road surface w/ vibratory roller prior to rocking -	26.90	stations	@ $13.50	per station	$363.15	
			TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.			**$1,884.50**

RECONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	1.280	acres	@ $918.00	per acre	$1,175.04	
EXCAVATION						
Side cast	1.800	acres	@ $610.00	per acre	$1,098.00	
Widening Road Prism	1.800	acres	@ $610.00	per acre	$1,098.00	
Construct settling ponds at station 33+60 -	2.00	@	$45.00	each	$90.00	
Reconstruct ditch-	41.72	stations	@ $19.88	per station	$829.39	
Grade and shape subgrade -	55.74	stations	@ $15.96	per station	$889.61	
FILL						
Fill roadway @ area of 0+00 -	20.00	hours	@ $170.00	per hour	$3,400.00	
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	55.74	stations	@ $13.50	per station	$752.49	
Reconstruct turnaround @ sta. -	1.00	@	$90.00	each	$90.00	
Reconstruct landing -	3.00	@	$142.50	each	$427.50	
Remove culverts from state lands -	1.00	@	$157.70	total	$157.70	
Grass seed and fertilize -	165.00	lbs	@ $4.00	per lbs	$660.00	
Mulching	40.000	bales	@ $10.00	per bale	$400.00	
			TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.			**$11,067.73**

CULVERTS - MATERIALS & INSTALLATION

Culverts						
455	LF of 18"	$6,151.60				
40	LF of 30"	$1,140.00	90	LF of 36"	$2,952.00	
				TOTAL CULVERTS		**$10,243.60**

ROCK

Fill Armor	See Culvert List	34	cy. of	Riprap	@	$20.79	per c.y.=	$706.86	
Energy Dissipator	See Culvert List	12	cy. of	Riprap	@	$17.79	per c.y.=	$213.48	
15+37 to	26+90	374	cy. of	Ballast	@	$14.88	per c.y.=	$5,565.12	
26+90 to	68+62	2,922	cy. of	PitRun	@	$11.40	per c.y.=	$33,310.80	
							TOTAL ROCK		**$39,796.26**

ABANDONMENT

Construct waterbar -	13.00	@	$78.00	each	$1,014.00	
Construct Spoil Berm -	1.00	@	$90.00	each	$90.00	
			TOTAL ADDITIONAL REQUIREMENTS			**$1,310.40**

Required Pre-Haul Maintenance-	$7,449.62	Required Reconstruction -	$54,636.94	SUBTOTAL	**$64,302.49**
Required Abandonment-	$1,310.40	Optional Reconstruction -	$905.53		
Required Construction -	$0.00	Optional Construction -	$0.00	**TOTAL**	**$64,302.49**
Optional Rock?	NO			**COST PER STATION**	**$778.10**

SUMMARY OF ROAD

Sale: **Mixed Gravy VRH Thin** Road: **4254A**

Required Pre-Haul Maintenance-	0+00	stations	Required Reconstruction -	0+00	stations	Required Construction -	1+03	stations
	0.00	miles		0.00	miles		0.02	miles
Required Abandonment-	0+00	stations	Optional Reconstruction -	0+00	stations	Optional Construction -	0+00	stations
	0.00	miles		0.00	miles		0.00	miles

CONSTRUCTION

CLEARING/GRUBBING						
Scattering Organic Debris	0.090	acres @	$918.00	per acre	$82.62	
EXCAVATION						
Road Construction Earthwork	1.03	sta. @	$73.00	per sta. =	$75.19	
Construct ditchouts -	2.00	@	$73.00	each	$146.00	
Grade and shape subgrade -	1.03	stations @	$15.96	per station	$16.44	
MISC.						
Roll subgrade w/ vibratory roller prior to rocking -	1.03	stations @	$13.50	per station	$13.91	
Construct landing -	1.00	@	$285.00	each	$285.00	
Grass seed and fertilize -	3.00	lbs @	$4.00	per lbs	$12.00	
		TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC.				**$631.16**

ROCK

0+00	to	1+03	107	cy. of	PitRun	@	$8.06	per c.y.=	$862.42
								TOTAL ROCK	**$862.42**

Required Pre-Haul Maintenance-	$0.00	Required Reconstruction -	$0.00		
				SUBTOTAL	**$1,493.58**
Required Abandonment-	$0.00	Optional Reconstruction -	$0.00		
Required Construction -	$1,493.58	Optional Construction -	$0.00		
				TOTAL	**$1,493.58**
Optional Rock?	NO			**COST PER STATION**	**$1,450.08**

ROCK DEVELOPMENT COST SUMMARY

Pit:	Signal Pit	Location:	Sec. 3 T9N R2E		
Sale:	**Mixed Gravy VRH Thin**		Road:		7434 c.y.
Swell:	1.40		Stockpile:		500 c.y.
Shrinkage	1.16		Total Truck Loads:		7934 c.y.
Drill Pct.:	100%		In Place Total:		5667 c.y.

Pit Development & Cleanup including Clearing and grubbing of Waste Area @ adjacent to pit, place overburden in Waste Area, spread and compact.	$2.27	/cu.yd.	x	1778	cu.yds.	=	$4,036.06
Drill & Shoot:	$2.80	/cu.yd.	x	5667	cu.yds.	=	$15,867.60
Push Rock:	$0.67	/cu.yd.	x	7934	cu.yds.	=	$5,315.78
Load Crusher:	$0.56	/cu.yd.	x	2492	cu.yds.	=	$1,395.52
Process 4" Jaw Run Rock:	$2.50	/cu.yd.	x	2492	cu.yds.	=	$6,230.00
Load Dump Truck:	$0.56	/cu.yd.	x	7434	cu.yds.	=	$4,163.04
					Subtotal		$37,008.00

Move In/Set-up Jaw	1	@	$2,297.47	=	$2,297.47
Move In and set up Drill and Compressor	1	@	$467.02	=	$467.02
Move in D-8	1	@	$565.03	=	$565.03
Move in Loader	1	@	$565.03	=	$565.03
Move in Excavator	1	@	$533.41	=	$533.41
				Subtotal	$4,427.96

		TOTAL PRODUCTION COSTS	$41,435.96
Base Cost=	$8.87	Per Cu.Yd.	(4" Jaw Run)
Base Cost=	$4.72	Per Cu.Yd.	(Select Pit Run)

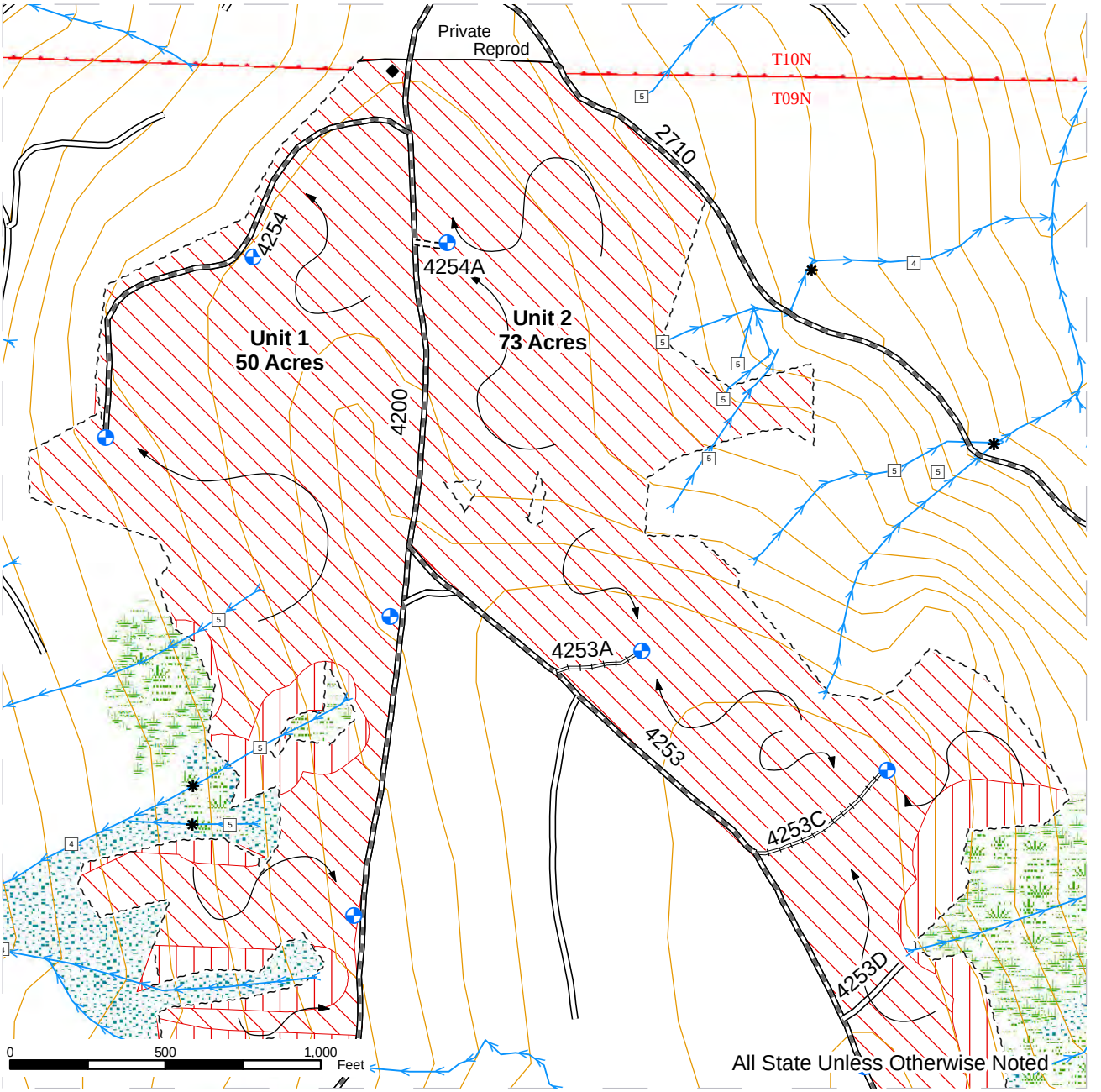
Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds		ROCK COST
4200	$2.06	$0.90	$4.72	$7.68	50		$384.00
4253	$1.46	$0.90	$4.72	$7.08	50		$354.00
4253A	$1.91	$0.90	$4.72	$7.53	146		$1,099.38
4253C	$1.70	$0.90	$4.72	$7.32	371		$2,715.72
4254	$2.75	$0.90	$4.72	$8.37	30		$251.10
2710	$4.06	$0.90	$4.72	$9.68	50		$484.00
2715	$4.68	$0.90	$8.87	$14.45	1618		$23,380.10
2715	$4.68	$0.90	$4.72	$10.30	180		$1,854.00
2714L Fill Armor	$4.58	$6.00	$4.72	$15.30	12		$183.60
2714L Energy Dissipator	$5.34	$3.00	$4.72	$13.06	4		$52.24
2714L	$4.58	$0.90	$4.72	$10.20	1369		$13,963.80
2714L	$4.39	$0.90	$4.72	$10.01	105		$1,051.05
2716 Fill Armor	$5.92	$6.00	$8.87	$20.79	34		$706.86
2716 Energy Dissipator	$5.92	$3.00	$8.87	$17.79	12		$213.48
2716	$5.11	$0.90	$8.87	$14.88	374		$5,565.12
2716	$5.78	$0.90	$4.72	$11.40	2922		$33,310.80
4254A	$2.44	$0.90	$4.72	$8.06	107		$862.42
Stock Pile	$0.94	$0.40	$8.87	$10.21	500		$5,105.00
				Total C.Y.	7934	Sub Total	$91,536.67

TOTAL ROCKING COSTS	$91,536.67

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

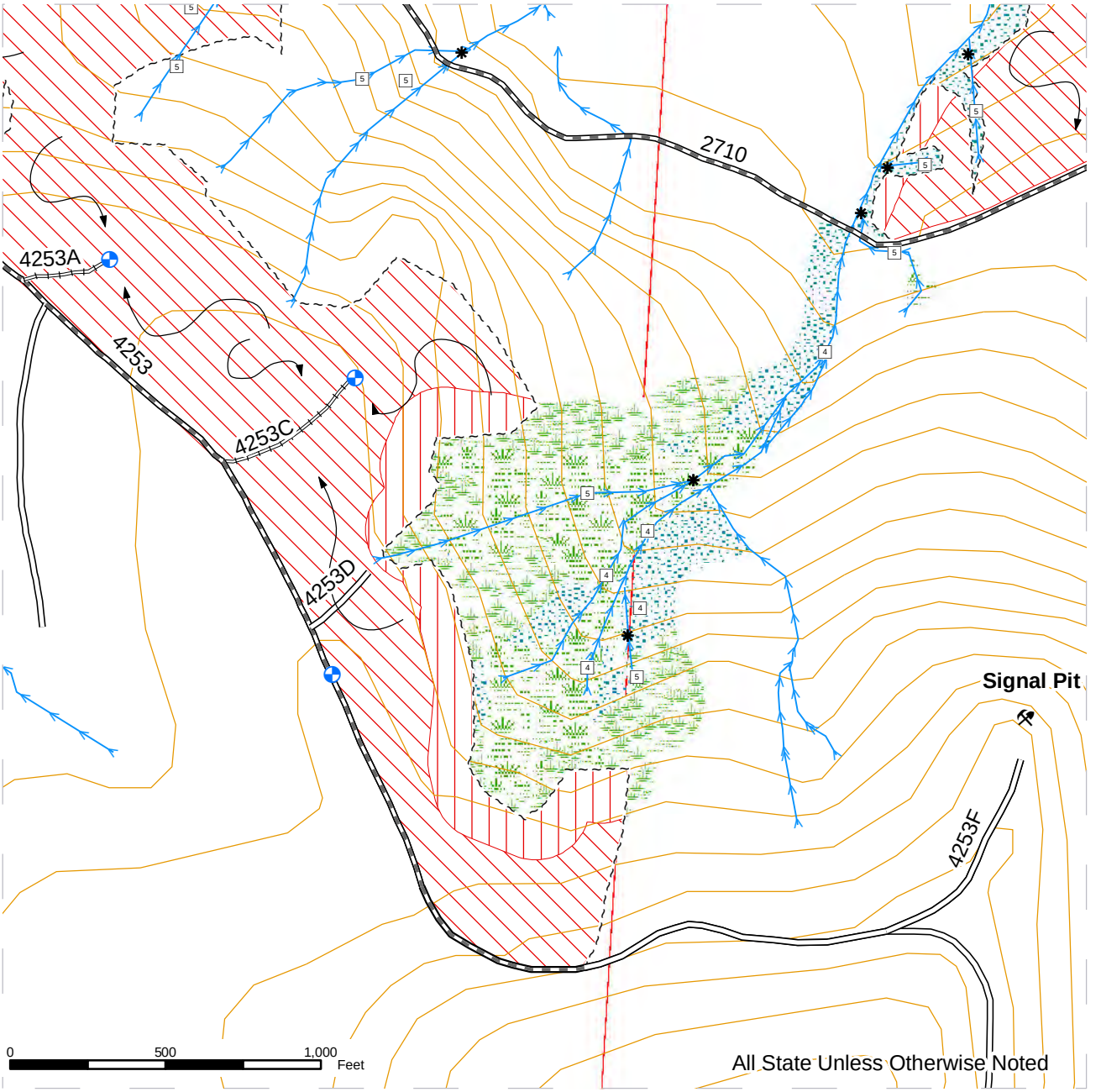
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

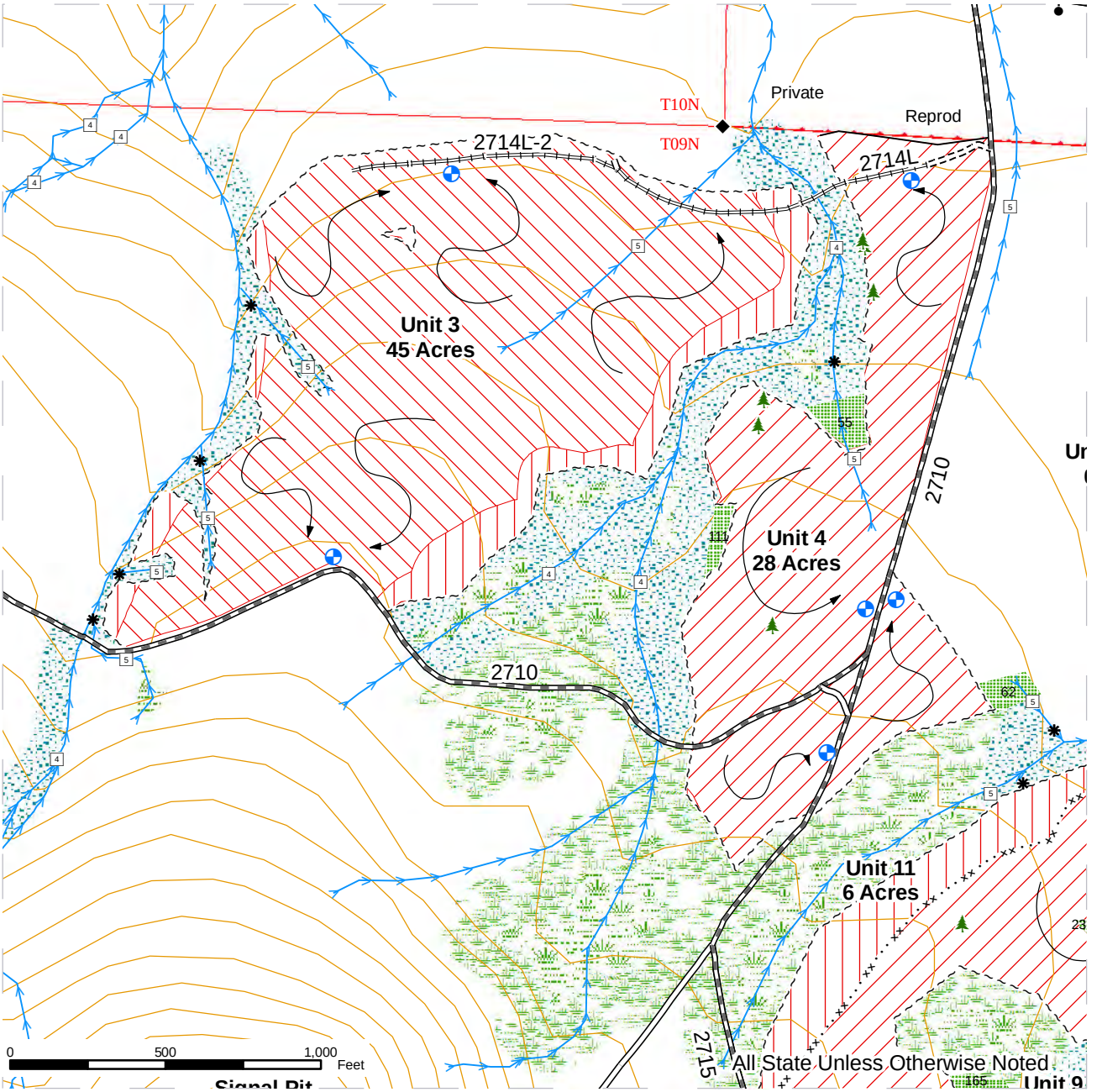
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

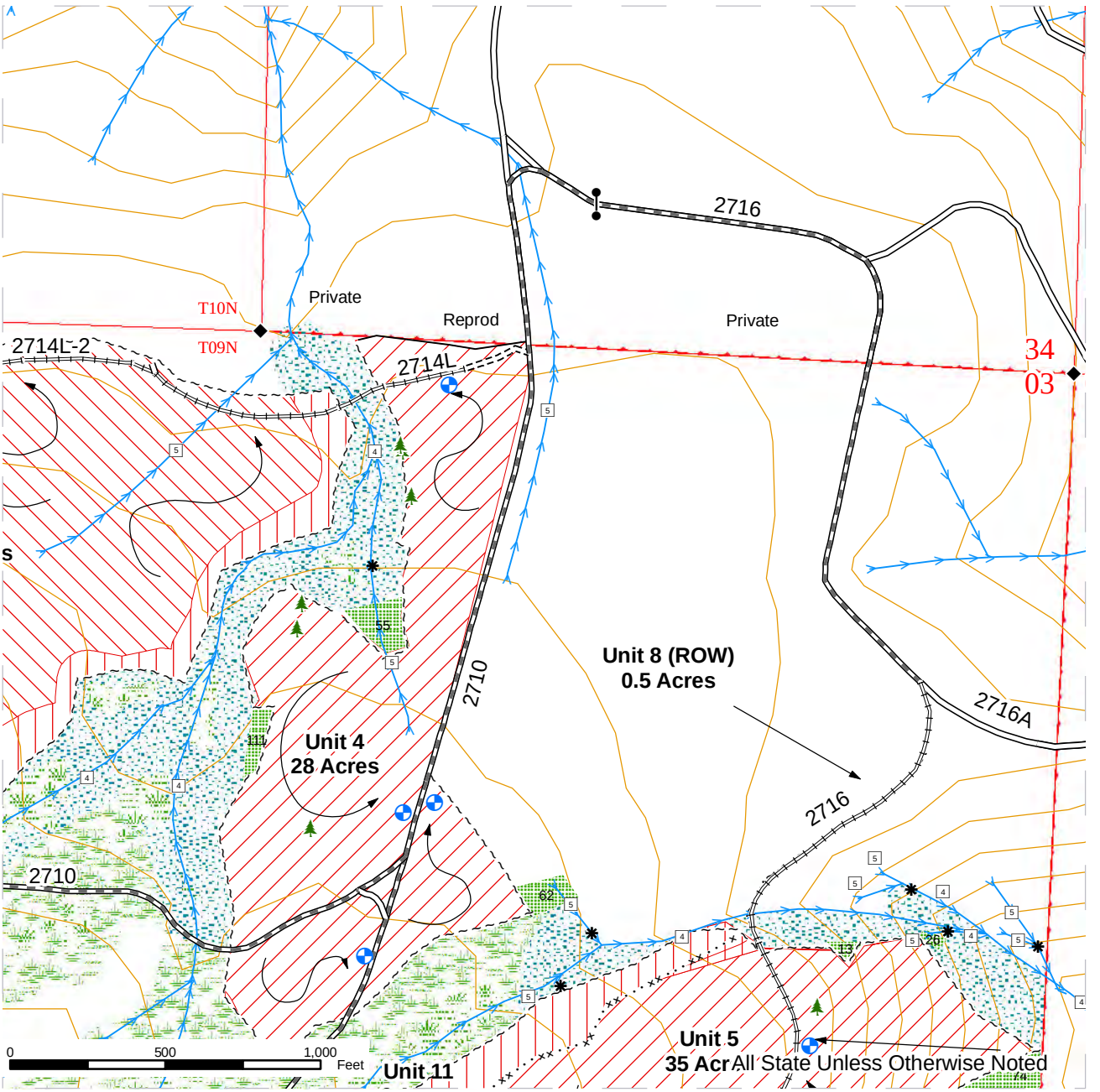
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

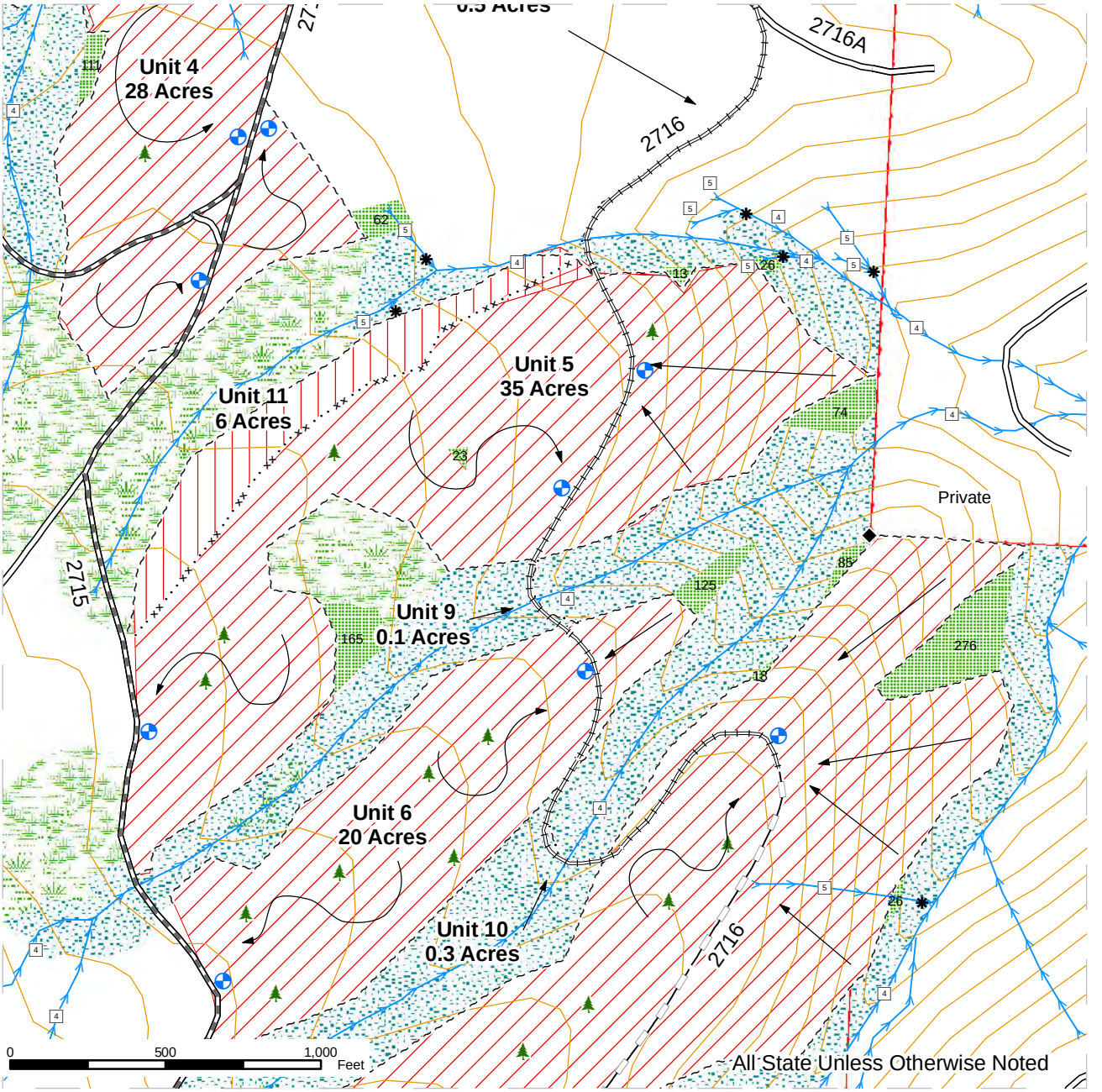
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

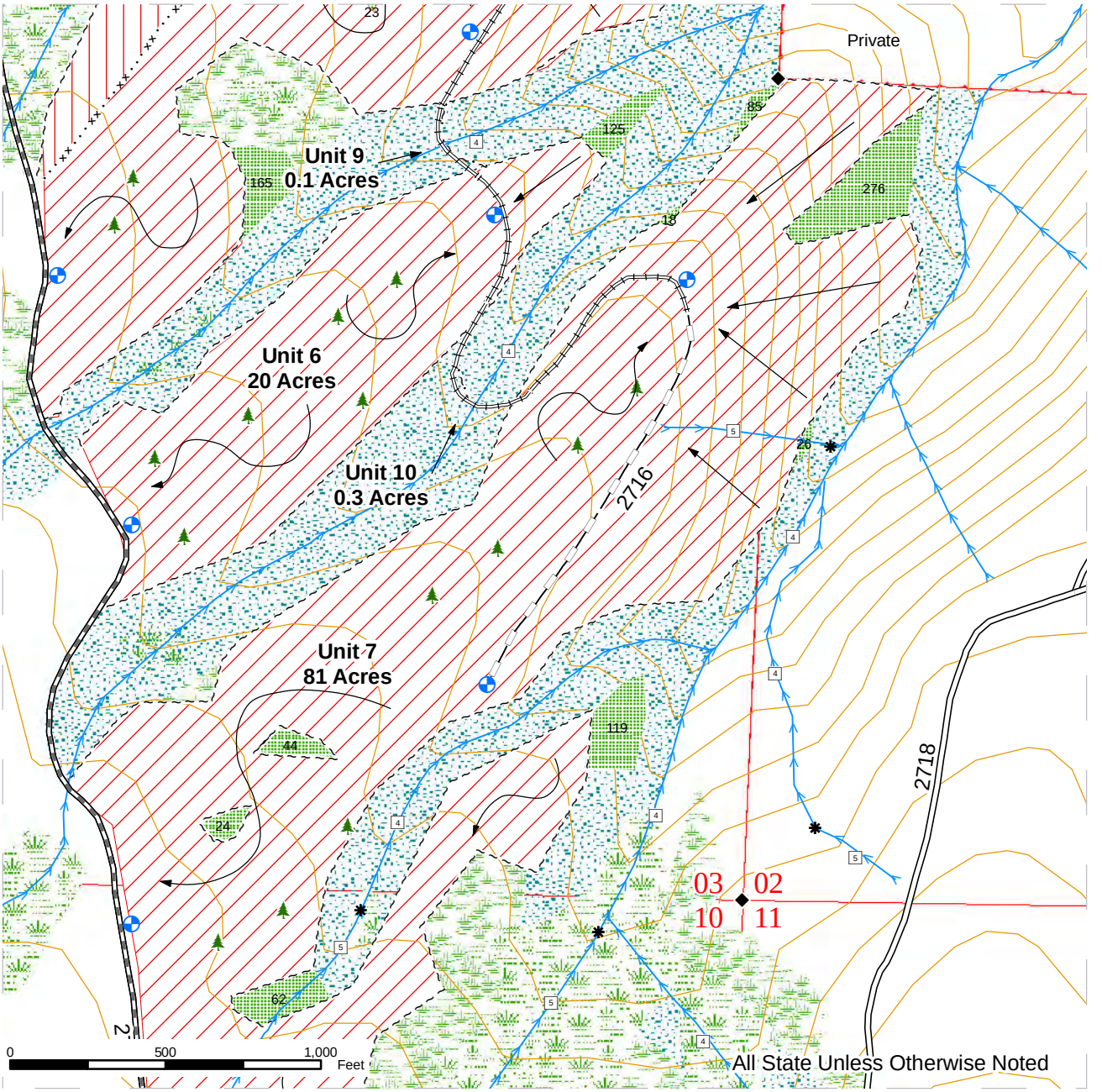
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

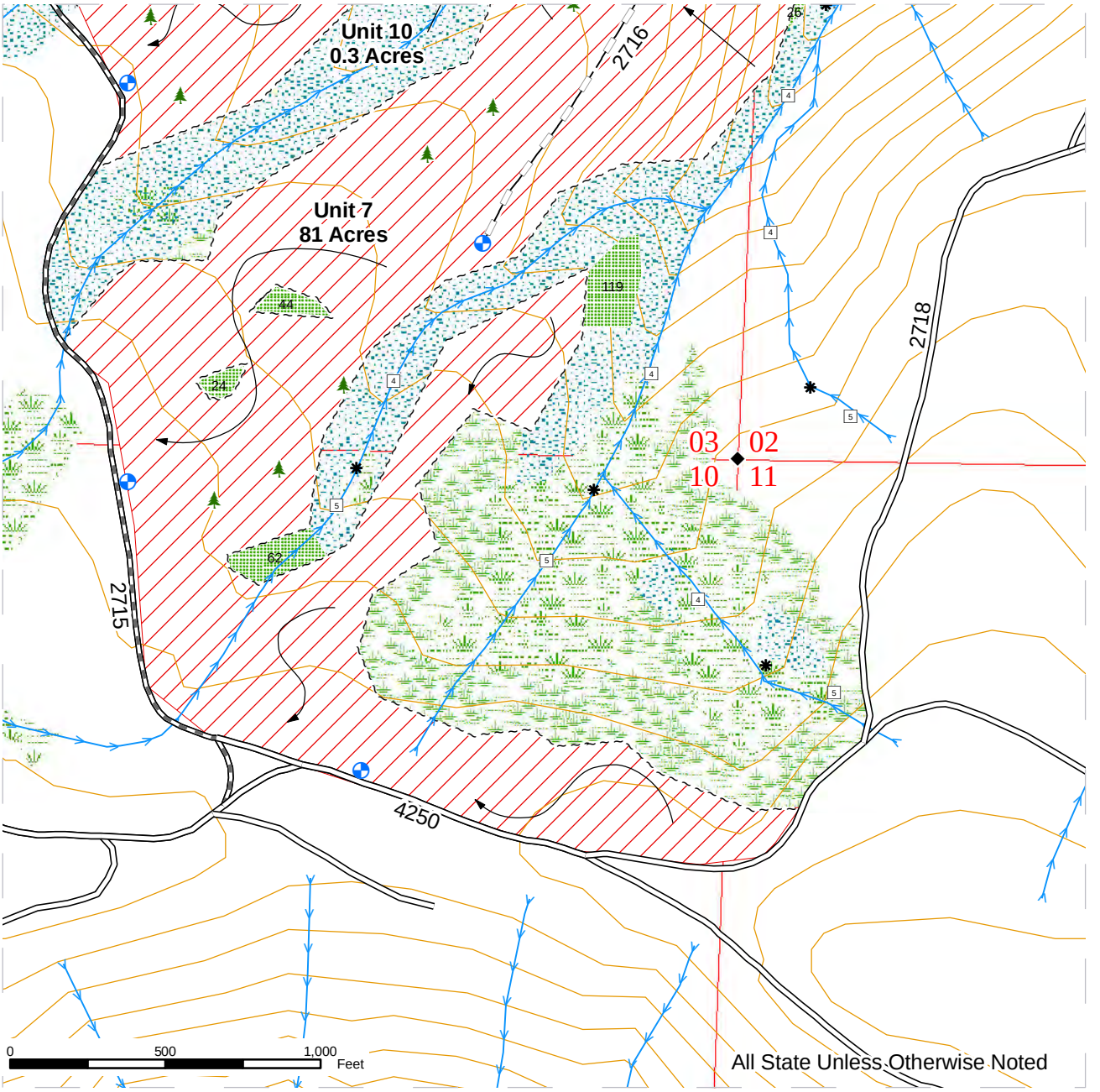
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

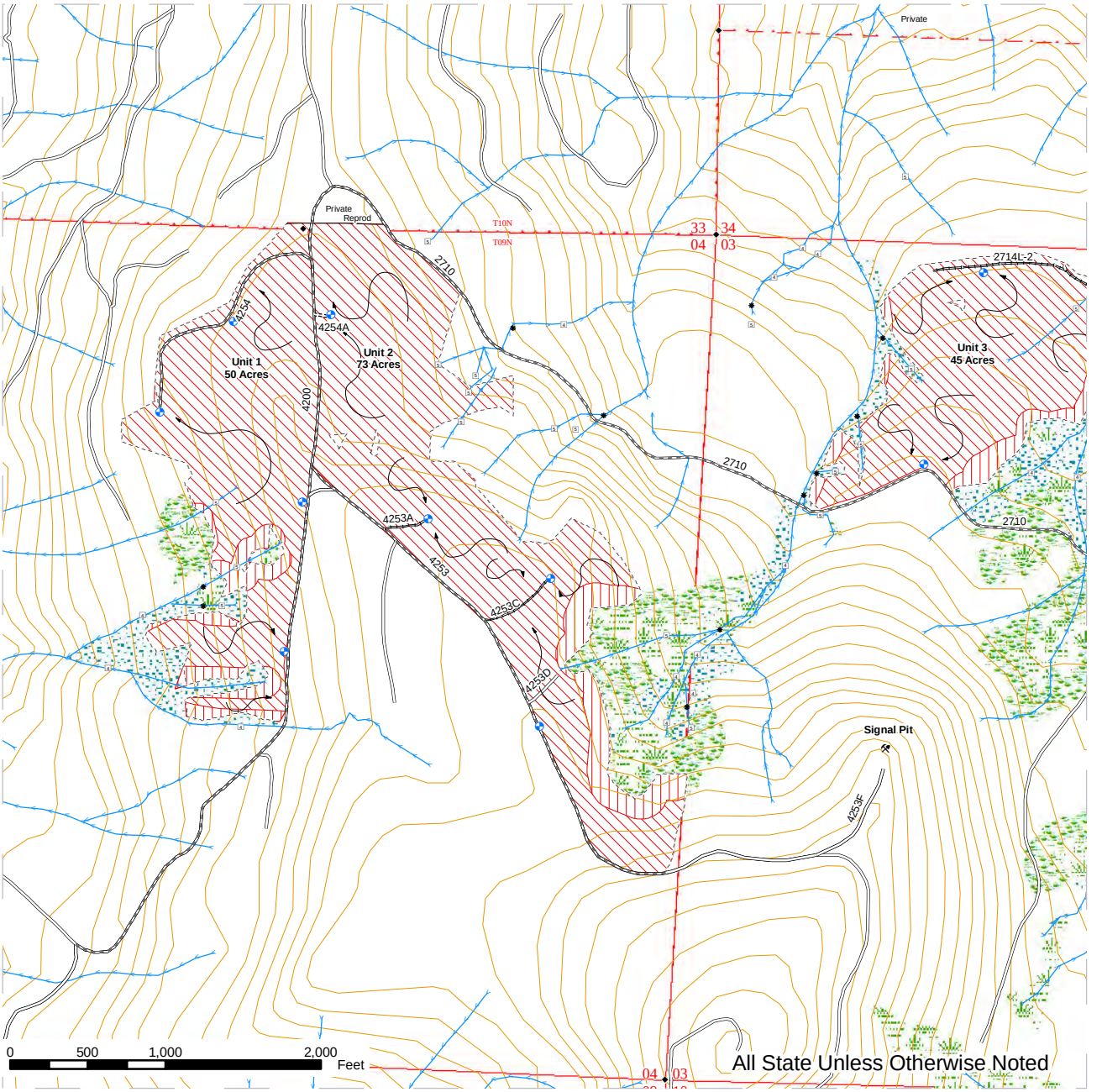
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

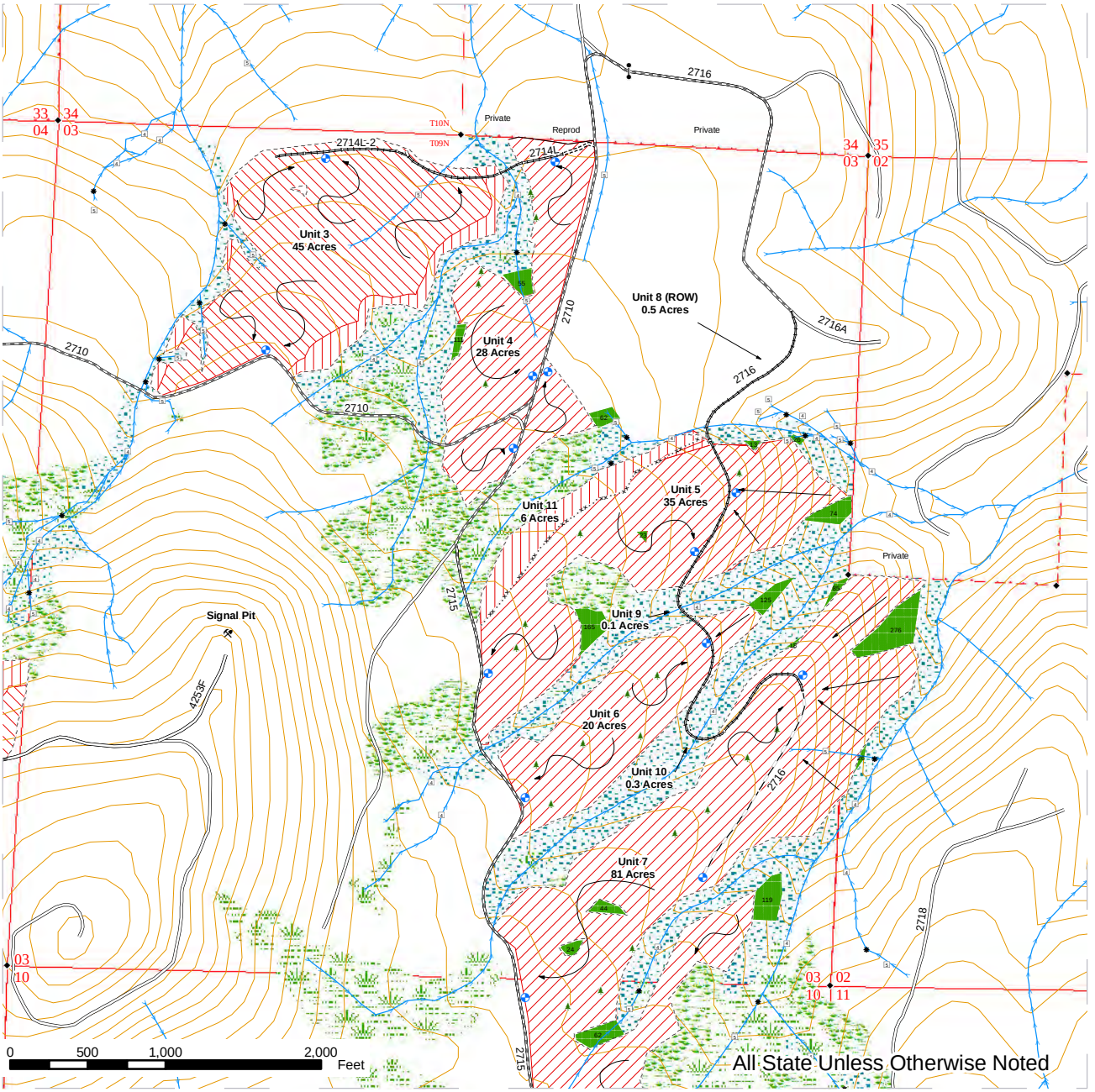
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

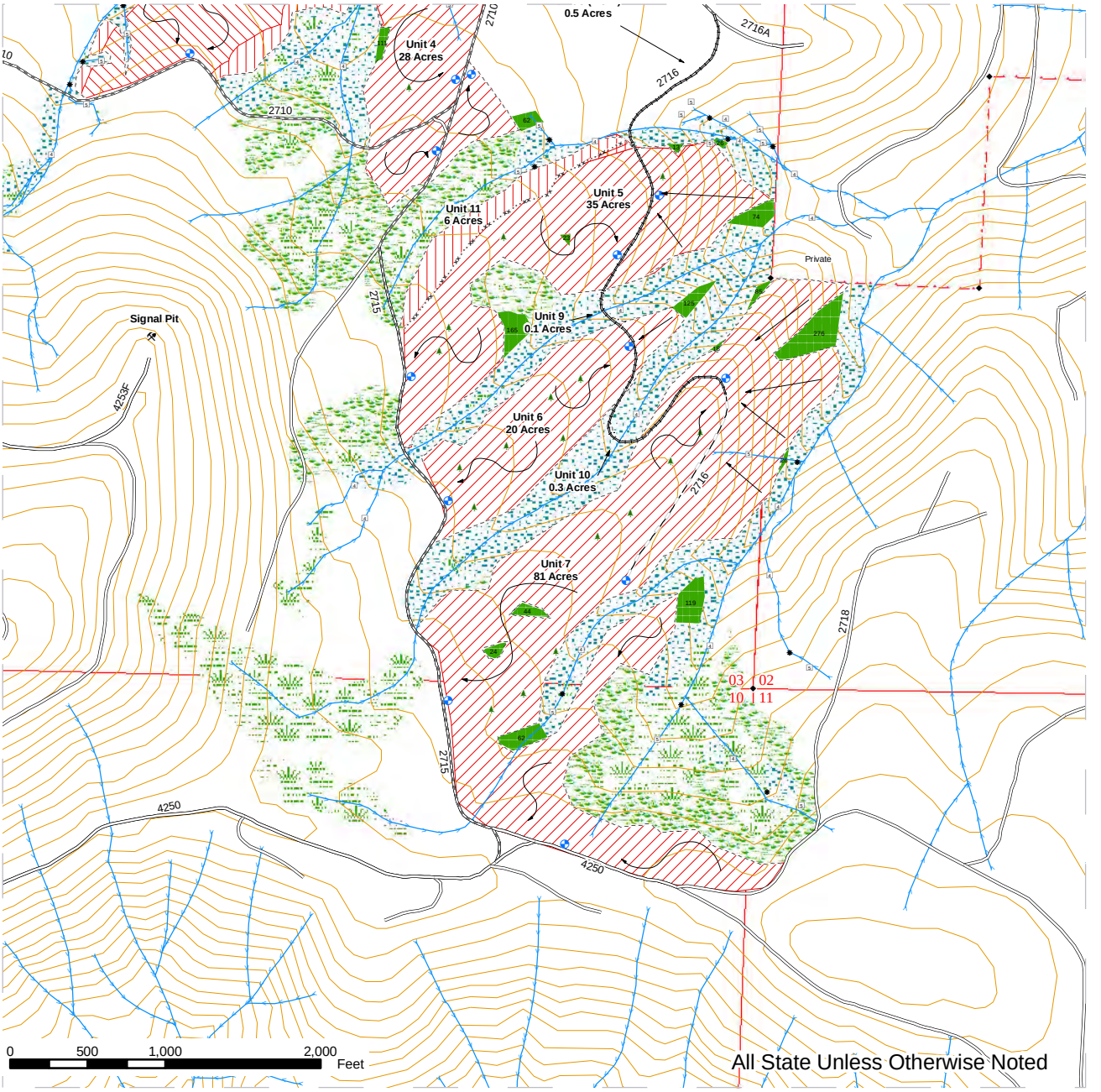
N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015

LOGGING PLAN MAP

SALE NAME: MIXED GRAVY VRH THIN
AGREEMENT#: 30-092644
TOWNSHIP(S): T09R02E
TRUST(S): Scientific School(10)

REGION: Pacific Cascade Region
COUNTY(S): COWLITZ
ELEVATION RGE: 2218-2428



- Riparian Restoration
- Thinning
- Variable Retention Harvest
- Forested Wetland
- Riparian Mgt Zone
- Wetland Mgt Zone
- Special Mgt Area Tags
- Reprod
- Sale Boundary Tags
- Right of Way Tags
- Leave Tree Area Tags
- Existing Roads
- Required Pre-Haul Maintenance
- Required Construction
- Required Reconstruction
- Optional Reconstruction
- Stream Type
- Stream Type Break
- Streams_Legend
- Monumented Corners
- Leave Trees
- Landing
- Cable
- Shovel
- Gate (ABA)

N

Prepared By: rhmm490
Creation Date: 3/24/2015
Modification Date: 11/10/2015