



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

SALE NAME: *PILCHUCK*

AGREEMENT NO: *36-105232*

AUCTION: September 27, 2023 starting at 10:00 a.m.,
Northwest Office, Sedro-Woolley, WA

COUNTY: Snohomish

SALE LOCATION: Sale located approximately 13 miles east of Granite Falls, WA.

**PRODUCTS SOLD
AND SALE AREA:**

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4200000 road, except for trees marked with pink paint, in Unit #1, 2, 3 and 4.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, except for trees marked with pink paint, in Unit #5.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4210000 road, except for trees marked with pink paint, in Unit #6

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4200000 road, except for trees marked with pink paint, in Unit #7.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, FS-4200000 road, and FS-4210000 road, except for trees marked with pink paint, in Unit #8.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, except for trees marked with pink paint, in Unit #9.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4200000 road, except for trees marked with pink paint, in Unit #10, and 11.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4200000 road, except for trees marked with pink paint, in Unit #12, and 13.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4240000 road, except for trees marked with pink paint, in Unit #14.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, except for trees marked with pink paint, in Unit #15.

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4242000 road, except for trees marked with pink paint, in Unit #16.

All timber bounded by orange Right-of-Way Boundary tags, expect title to the trees is not conveyed unless road segment is built.

The above described products, located on approximately 148 acres on part(s) of Sections 15, 16, 17, and 19 in Township 30 North, Range 08 East, Willamette Meridian (W.M.), in Snohomish County as shown on the attached timber sale map and as designated on the sale area.



GOOD NEIGHBOR AUTHORITY TIMBER NOTICE OF SALE

ESTIMATED SALE VOLUMES AND QUALITY:

Table with columns: Species, Avg DBH, Total MBF, Price \$/MBF, SM, 1S, 2S, 3S, 4S, UT. Rows include Douglas-fir, Western hemlock, Pacific silver fir, Red alder, and Sale Total.

MINIMUM BID: \$91.11/MBF (est. value \$335,000.00) BID METHOD: Sealed Bids

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

EXPIRATION DATE: November 1, 2026 ALLOCATION: Export Restricted

BIDDABLE SPECIES: Combined: Western hemlock and pacific silver fir \$91.11/MBF

BID DEPOSIT: \$33,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable; tethered machinery on sustained slopes 80% or less; ground-based equipment on slopes of 35% or less (see H-140 for restrictions). Skidders are limited to a maximum slope of 25% for uphill hauls. The sale area is approximately 89% ground based yarding and 11% uphill cable yarding. Falling and Yarding will not be permitted from October 16 to May 31 to reduce soil damage and erosion. This shall not be waived.

Additional restrictions apply, see Remarks section below.

ROADS: 49.39 stations of optional construction. 48.92 stations of road to be closed and 98.14 stations of road to be decommissioned. 344.23 stations of pre-haul maintenance.

Rock must be obtained from a certified weed free commercial source. Vibratory compaction is required on all roads. Required gate installation on FS-4240000 at station 1+00. Gate provided by Purchaser.

An estimate of total quantity of rock needed for this proposal: 6,010 cubic yards of 1.25" crushed surfacing rock, 980 cubic yards of pit run rock, 450 cubic yard stockpile of pit run rock, and 120 cubic yards of quarry spalls.

Road work and the hauling of rock will not be permitted from October 16 to May 31 to reduce soil damage and siltation. The hauling of forest products will not be permitted from October 16 to May 31 to reduce soil damage and siltation.



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ACREAGE DETERMINATION

CRUISE METHOD: Acres determined using GPS methods. Cruised using variable plot method. Expansion factor of 54.4 used on all units. Sighting height was 4.5 feet. A total of 204 plots were taken.

Shapefiles are available upon request.

SPECIAL REMARKS: Winter harvest, hauling, and road related operations shall not be permitted. See contract for conditions.

Wildlife timing restrictions are in place for Unit 1-13. See contract for conditions.

Culvert replacement/installations on the FS-4200000 road will be subject to timing and notification requirements. See contract for conditions.

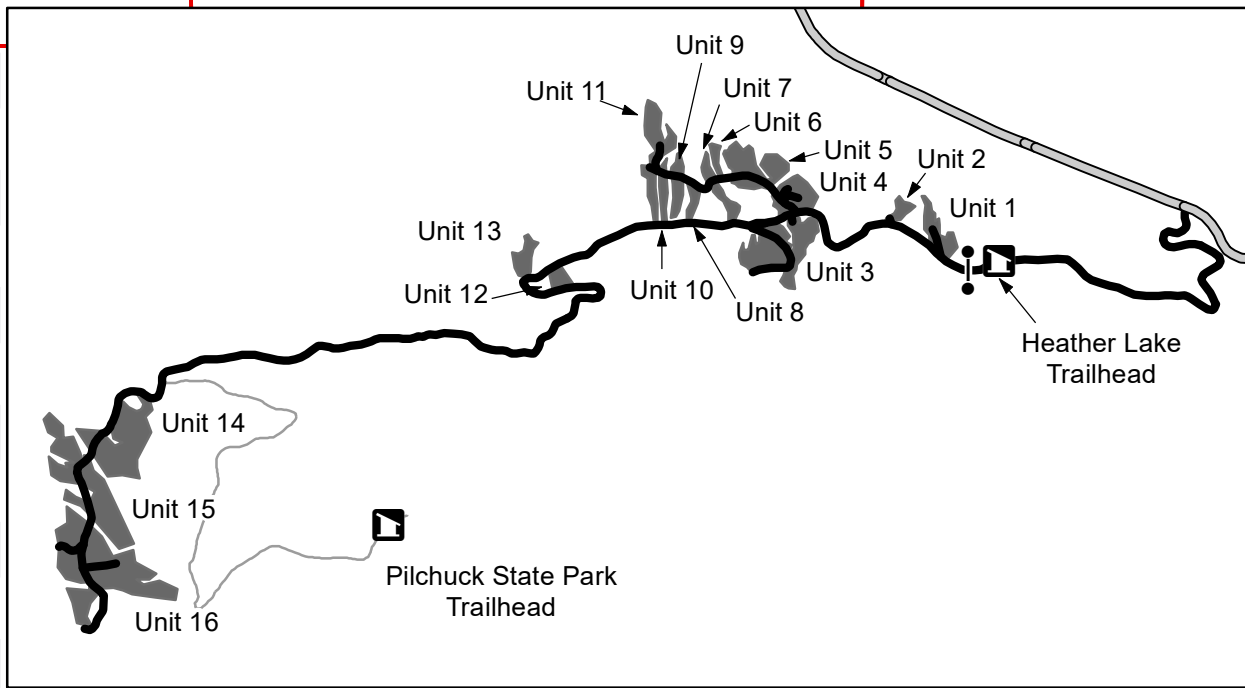
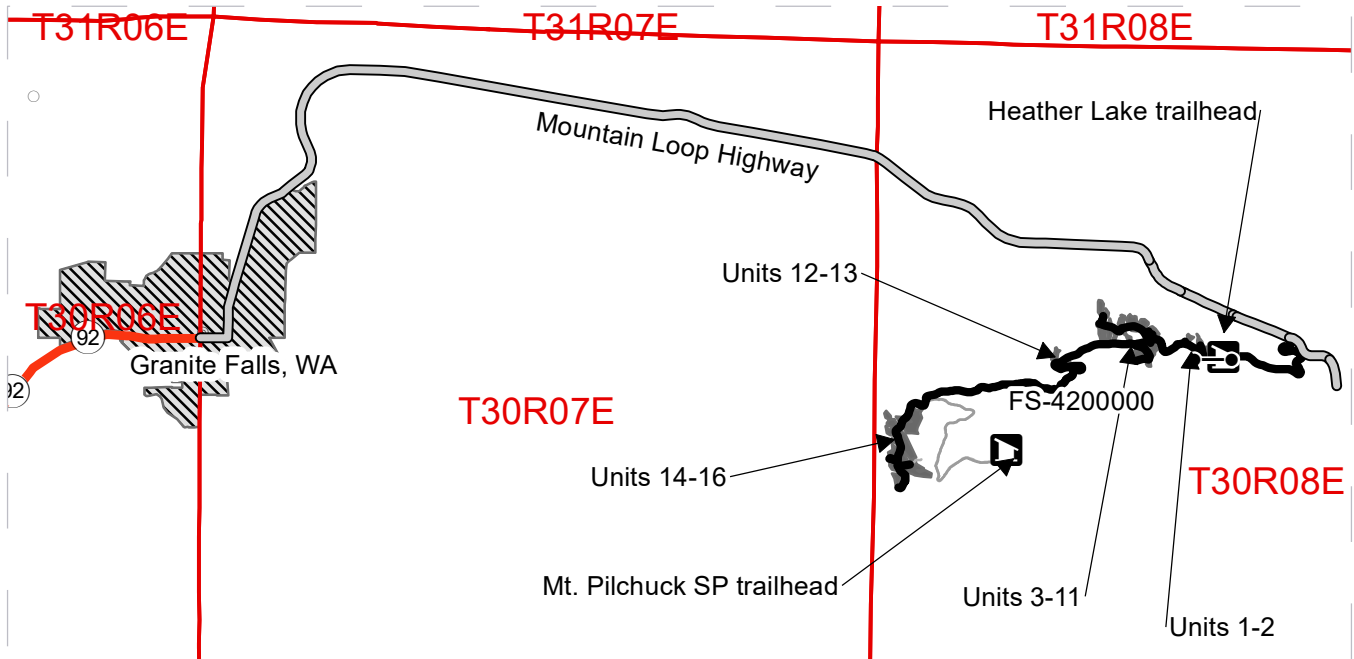
Road maintenance work on the FS-4210000 will be completed by Forest Service contractor by October 31, 2024.

Buried fiber optic cables exists along the FS-4200000 road from station 9+50 to 42+18.

DRIVING MAP

SALE NAME: PILCHUCK
 AGREEMENT#: 36-105232
 TOWNSHIP(S): T30R8E

FOREST: Mt. Baker-Snoqualmie NF
 COUNTY(S): Snohomish
 ELEVATION RGE: 1280'-2900'



	Timber Sale Unit
	Haul Route
	Other Road
	County Road
	Gate (F1-3)
	Recreation Site

DRIVING DIRECTIONS:

From Granite Falls, WA travel along the Mountain Loop Highway for 12.1 miles to the intersection of the Mt. Pilchuck road (FS-4200000). Travel along the FS-4200000 for 1.5 miles, past the Heather Lake trailhead to the start of the Unit 1.

Continue past Unit 1 on the FS-4200000 for 0.6 mile to reach Unit 3 and the junction with FS-4210000. Units 4 - 11 are accessed via the FS-4210000.

Continue past the junction on the FS-4200000 for 0.9 mile to reach Units 12 and 13.

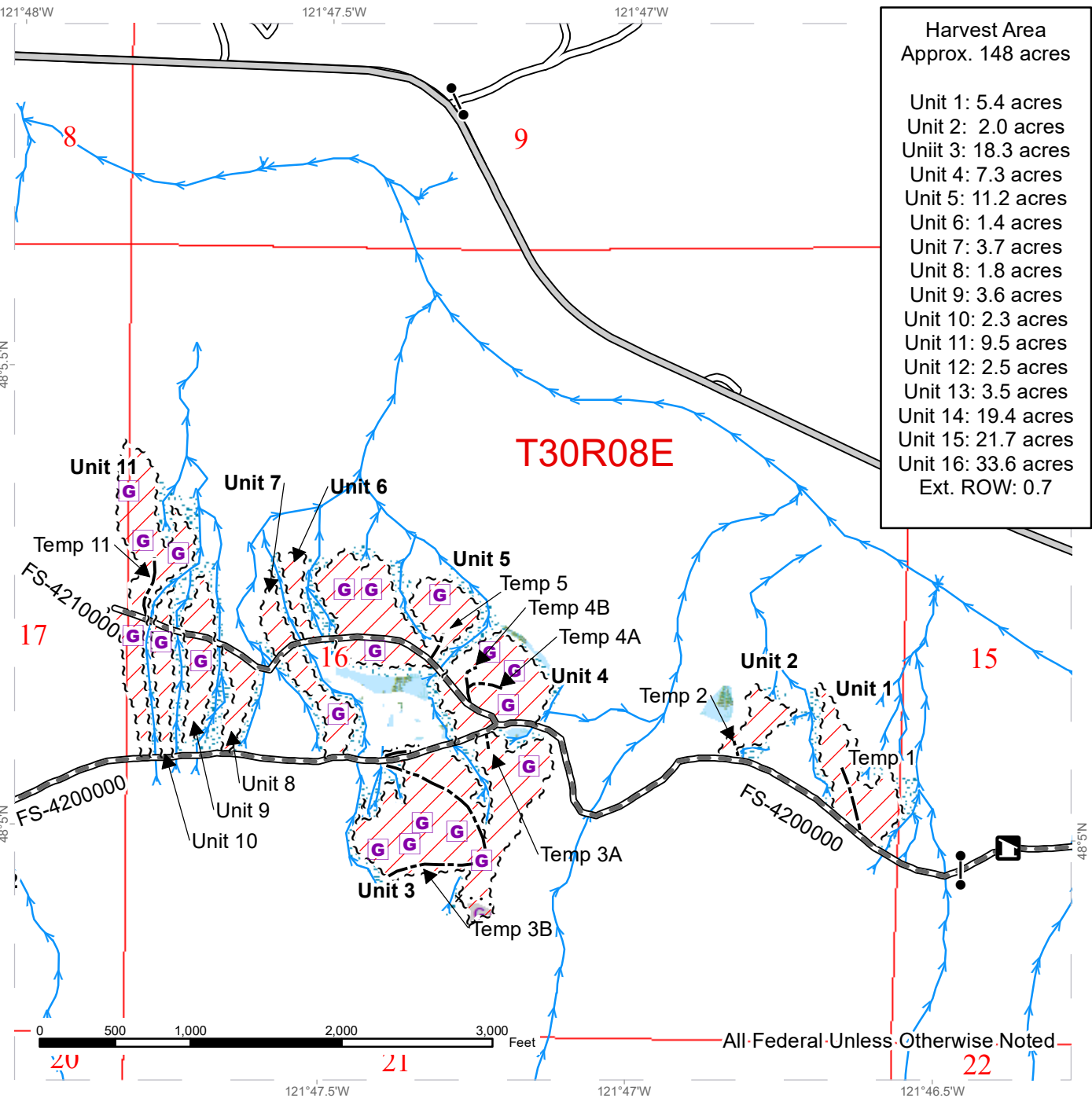
Continue past Units 12 and 13 on the FS-4200000 for 1.8 miles to reach the junction with the FS-4240000. Units 14 - 16 are accessed via the FS-4240000.



TIMBER SALE MAP

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Harvest Area	
Approx. 148 acres	
Unit 1:	5.4 acres
Unit 2:	2.0 acres
Unit 3:	18.3 acres
Unit 4:	7.3 acres
Unit 5:	11.2 acres
Unit 6:	1.4 acres
Unit 7:	3.7 acres
Unit 8:	1.8 acres
Unit 9:	3.6 acres
Unit 10:	2.3 acres
Unit 11:	9.5 acres
Unit 12:	2.5 acres
Unit 13:	3.5 acres
Unit 14:	19.4 acres
Unit 15:	21.7 acres
Unit 16:	33.6 acres
Ext. ROW:	0.7

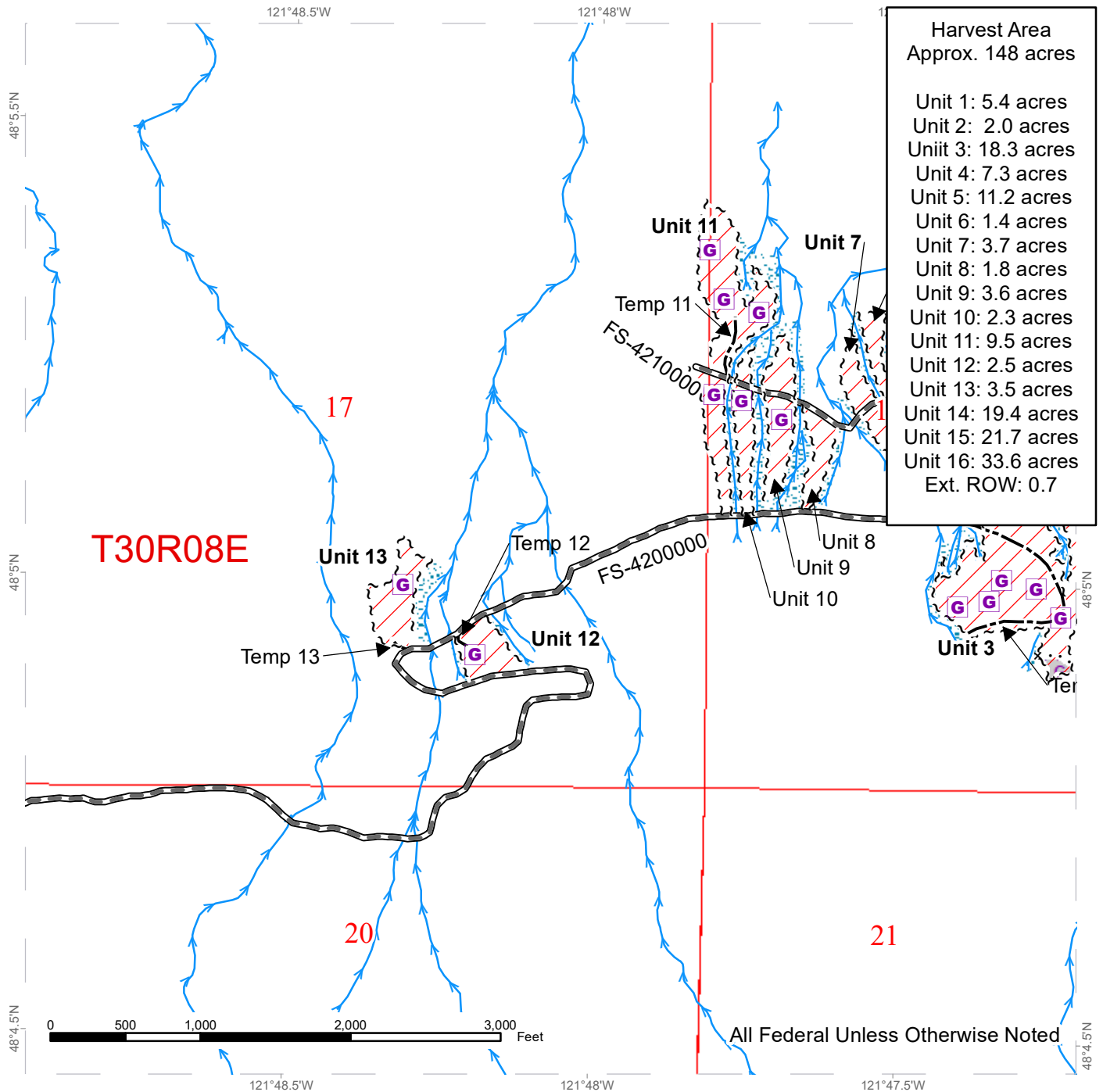
Sale Area	County Road	Gap
Sale Boundary Tags	Existing Roads	Riparian & Wetland Mgt Zone
Timber Type Change	Required Pre-Haul Maintenance	Forested Wetland
Special Mgmt Area	Optional Temp Construction	Gap
Right of Way Tags	Public Land Survey Townships	Gate (F1-3)
Streams	Public Land Survey Sections	Recreation Site



TIMBER SALE MAP

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FOREST: Mt. Baker-Snoqualmie NF
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 ELEVATION RGE: 1280-2900



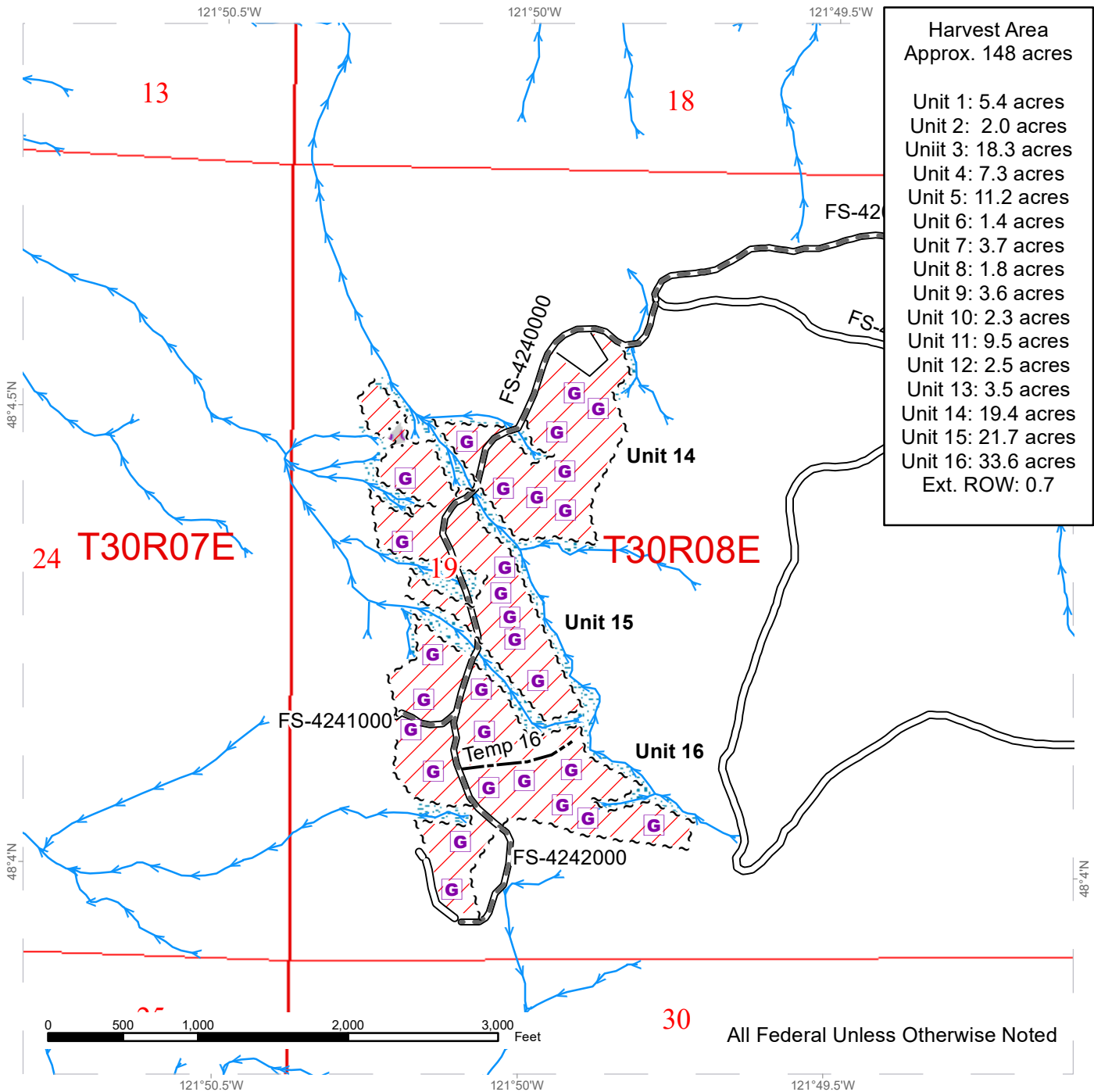
Harvest Area	
Approx. 148 acres	
Unit 1:	5.4 acres
Unit 2:	2.0 acres
Unit 3:	18.3 acres
Unit 4:	7.3 acres
Unit 5:	11.2 acres
Unit 6:	1.4 acres
Unit 7:	3.7 acres
Unit 8:	1.8 acres
Unit 9:	3.6 acres
Unit 10:	2.3 acres
Unit 11:	9.5 acres
Unit 12:	2.5 acres
Unit 13:	3.5 acres
Unit 14:	19.4 acres
Unit 15:	21.7 acres
Unit 16:	33.6 acres
Ext. ROW:	0.7

Sale Area	Required Pre-Haul Maintenance	Gap
Sale Boundary Tags	Optional Temp Construction	Riparian & Wetland Mgt Zone
Timber Type Change	Public Land Survey Townships	Forested Wetland
Special Mgmt Area	Public Land Survey Sections	Gap
Right of Way Tags		
Streams		

TIMBER SALE MAP

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 AGREEMENT #: 36-105232
 TOWNSHIP(S): T30R8E

FOREST: Mt. Baker-Snoqualmie NF
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Harvest Area	
Approx. 148 acres	
Unit 1:	5.4 acres
Unit 2:	2.0 acres
Unit 3:	18.3 acres
Unit 4:	7.3 acres
Unit 5:	11.2 acres
Unit 6:	1.4 acres
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Unit 10:	2.3 acres
Unit 11:	9.5 acres
Unit 12:	2.5 acres
Unit 13:	3.5 acres
Unit 14:	19.4 acres
Unit 15:	21.7 acres
Unit 16:	33.6 acres
Ext. ROW:	0.7

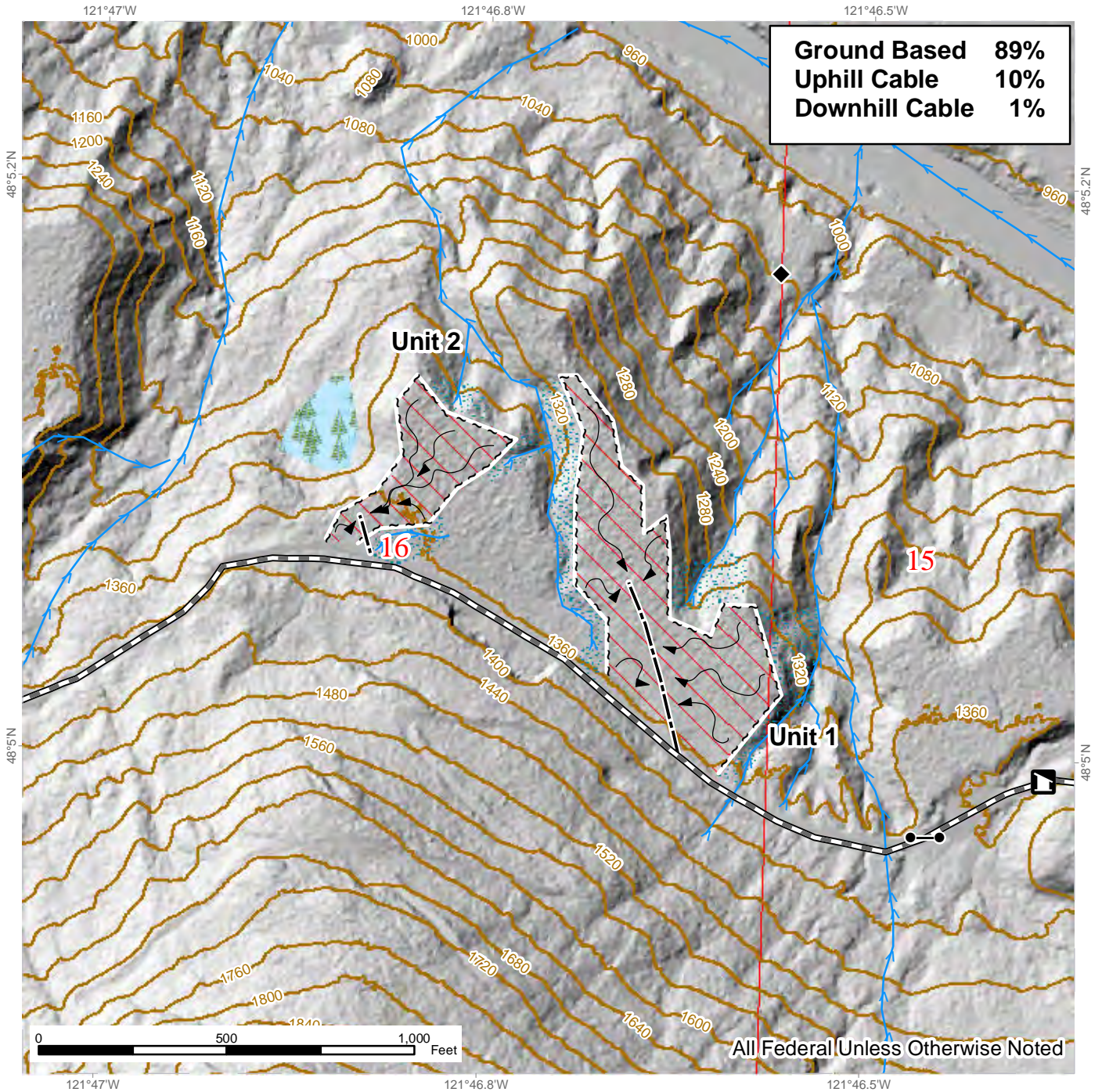
Sale Area	Existing Roads	Gap
Sale Boundary Tags	Required Pre-Haul Maintenance	Riparian & Wetland Mgt Zone
Timber Type Change	Optional Temp Construction	Gap
Special Mgmt Area	Public Land Survey Townships	
Right of Way Tags	Public Land Survey Sections	
Streams		



LOGGING PLAN MAP

SALE NAME: PILCHUCK
 AGREEMENT#: 36-105232
 TOWNSHIP(S): T34R5E

FOREST: Mt. Baker-Snoqualmie NF
 COUNTY(S): Snohomish
 ELEVATION RGE: 1280-2900



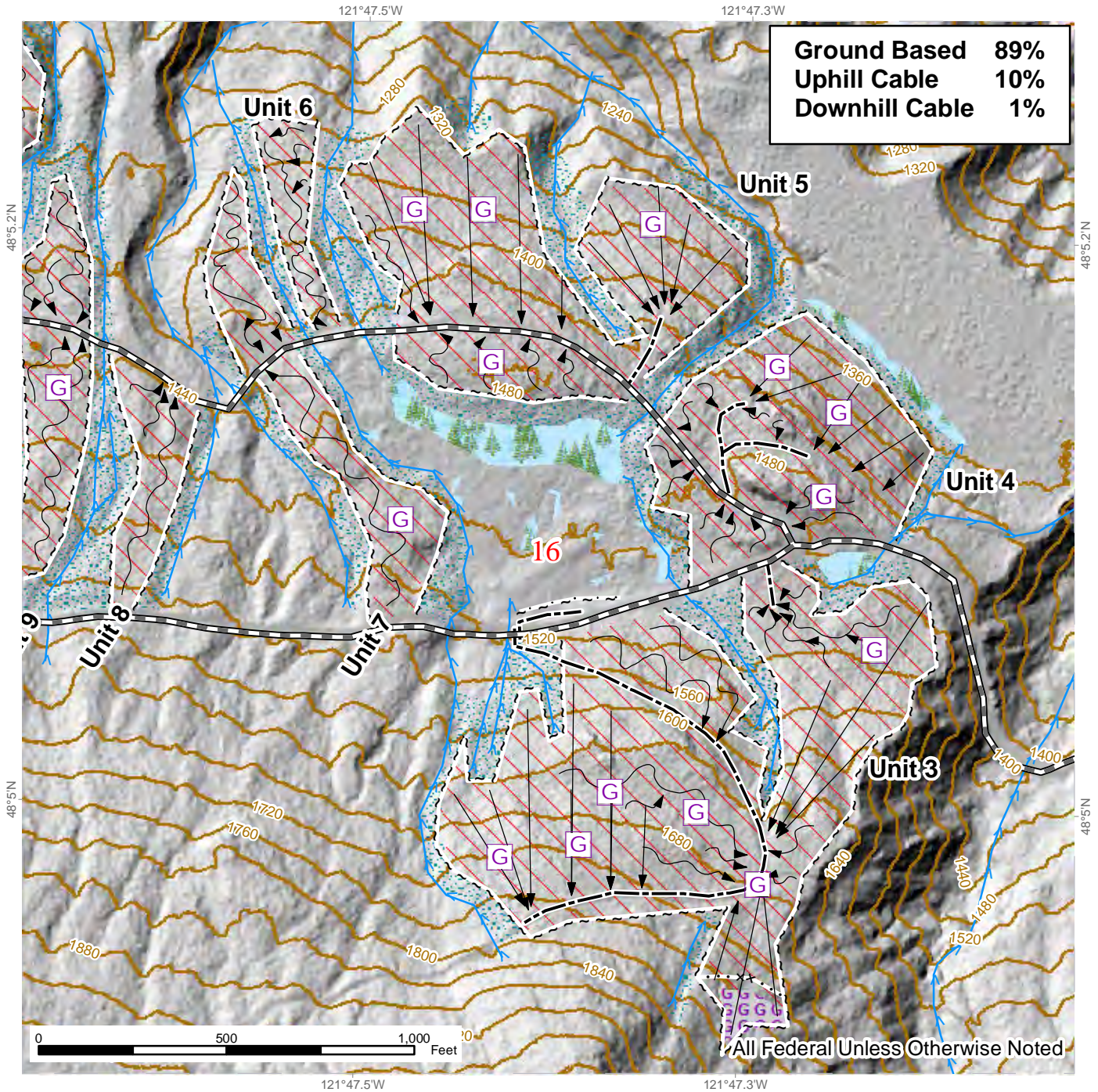
Ground Harvest	Required Pre-Haul Maintenance	Streams
Sale Boundary Tags	Optional Temp Construction	Survey Monument
Special Mgmt Area	Riparian Mgt Zone	Forested Wetland
Leave Tree Tags	Gate (F1-3)	Recreation Site
Right of Way Tags		



LOGGING PLAN MAP

SALE NAME: PILCHUCK
 AGREEMENT#: 36-105232
 TOWNSHIP(S): T34R5E

FOREST: Mt. Baker-Snoqualmie NF
 COUNTY(S): Snohomish
 ELEVATION RGE: 1280-2900



Ground Based	89%
Uphill Cable	10%
Downhill Cable	1%

All Federal Unless Otherwise Noted

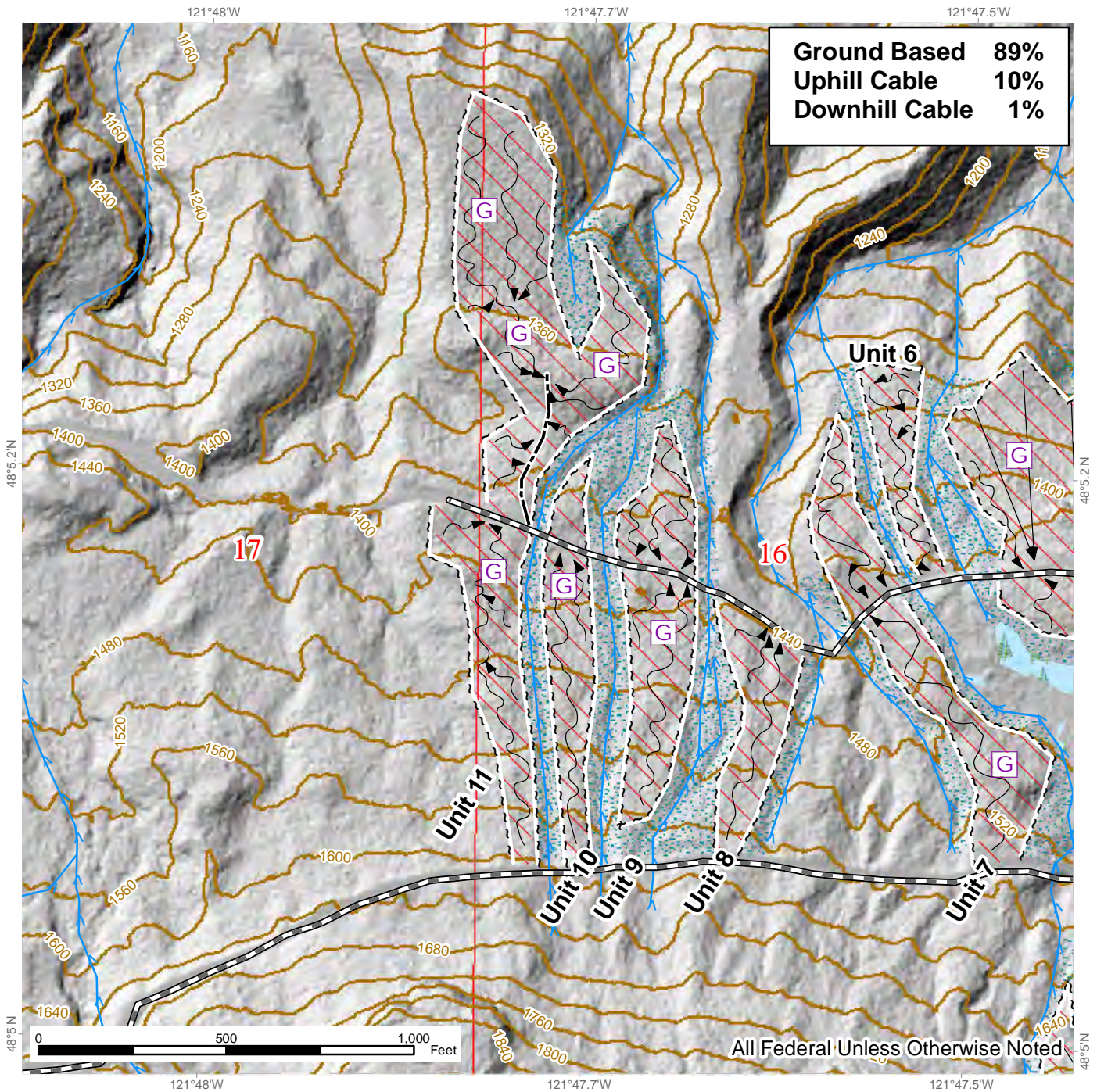
Ground Harvest	Required Pre-Haul Maintenance	Streams
Cable Harvest	Optional Temp Construction	Gap
Sale Boundary Tags	Riparian Mgt Zone	Forested Wetland
Special Mgmt Area	Gap	
Leave Tree Tags		
Right of Way Tags		



LOGGING PLAN MAP

SALE NAME: PILCHUCK
 AGREEMENT#: 36-105232
 TOWNSHIP(S): T34R5E

FOREST: Mt. Baker-Snoqualmie NF
 COUNTY(S): Snohomish
 ELEVATION RGE: 1280-2900



Ground Based	89%
Uphill Cable	10%
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All Federal Unless Otherwise Noted

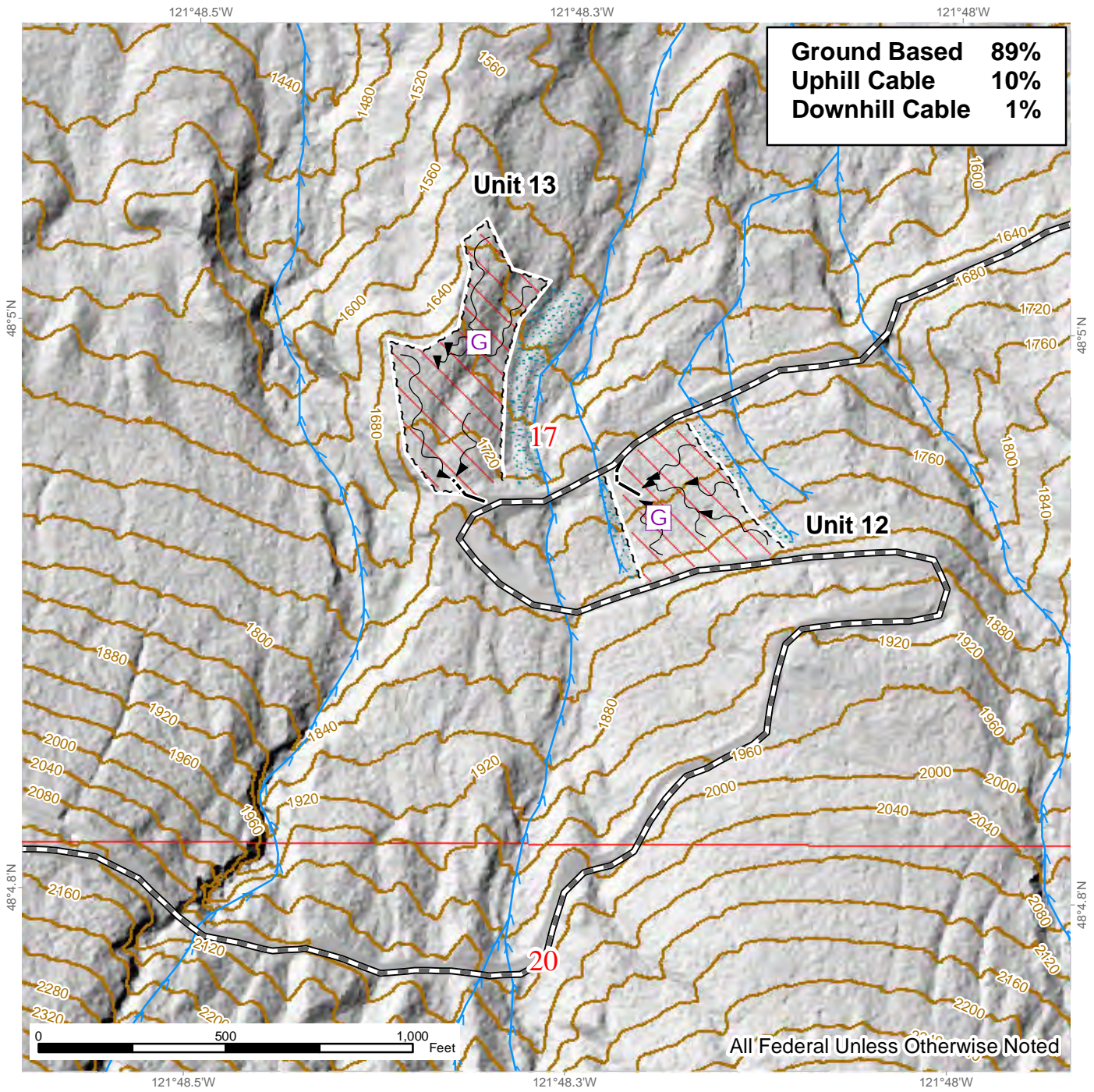
	Ground Harvest		Required Pre-Haul Maintenance		Streams
	Cable Harvest		Optional Temp Construction		Riparian Mgt Zone
	Sale Boundary Tags		Forested Wetland		Gap
	Special Mgmt Area				
	Leave Tree Tags				
	Right of Way Tags				



LOGGING PLAN MAP

SALE NAME: PILCHUCK
 AGREEMENT#: 36-105232
 TOWNSHIP(S): T34R5E

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Ground Based	89%
Uphill Cable	10%
Downhill Cable	1%

Ground Harvest

Required Pre-Haul Maintenance

Streams

Sale Boundary Tags

Optional Temp Construction

Riparian Mgt Zone

Special Mgmt Area

Gap

Leave Tree Tags

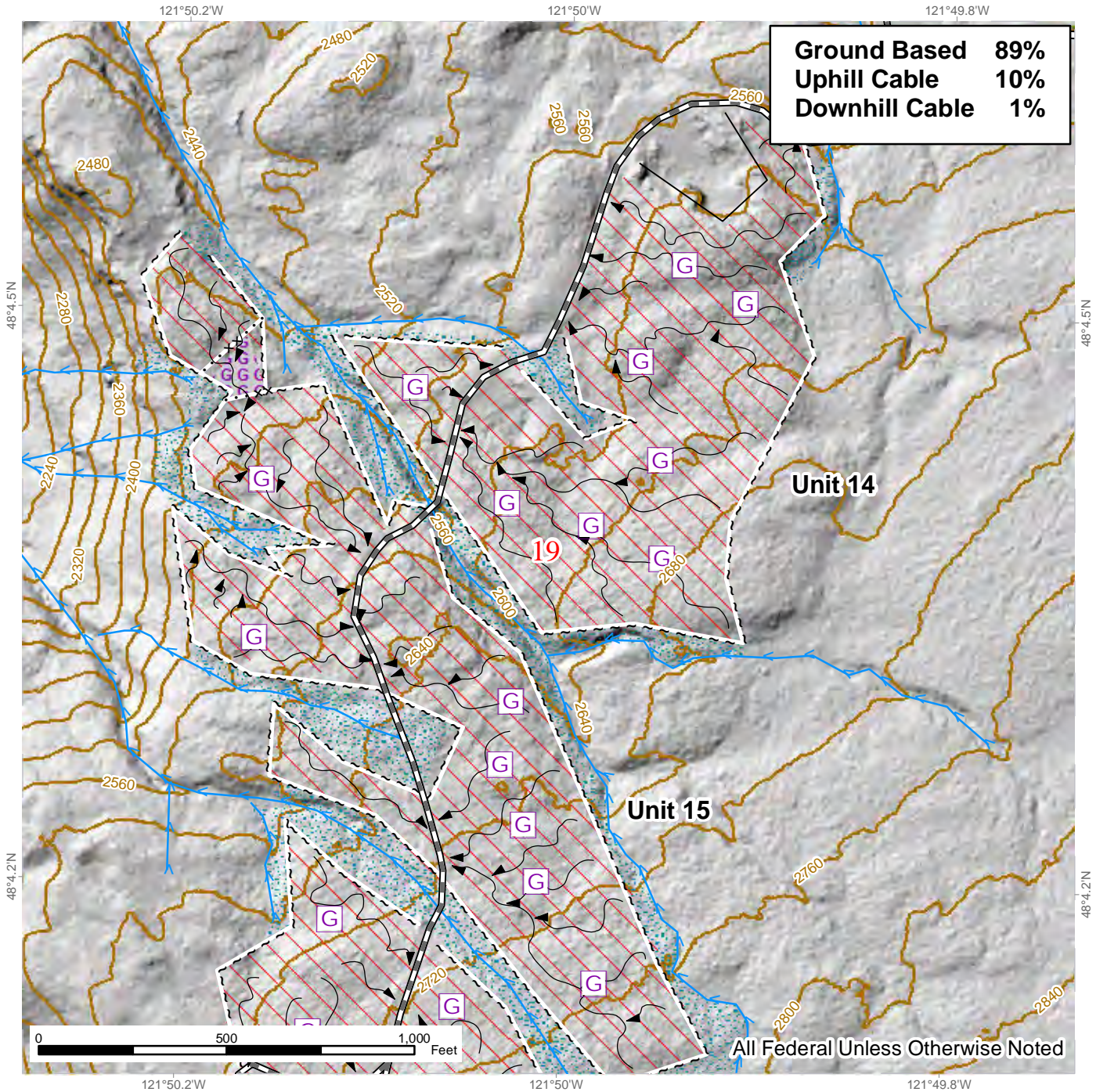
Right of Way Tags



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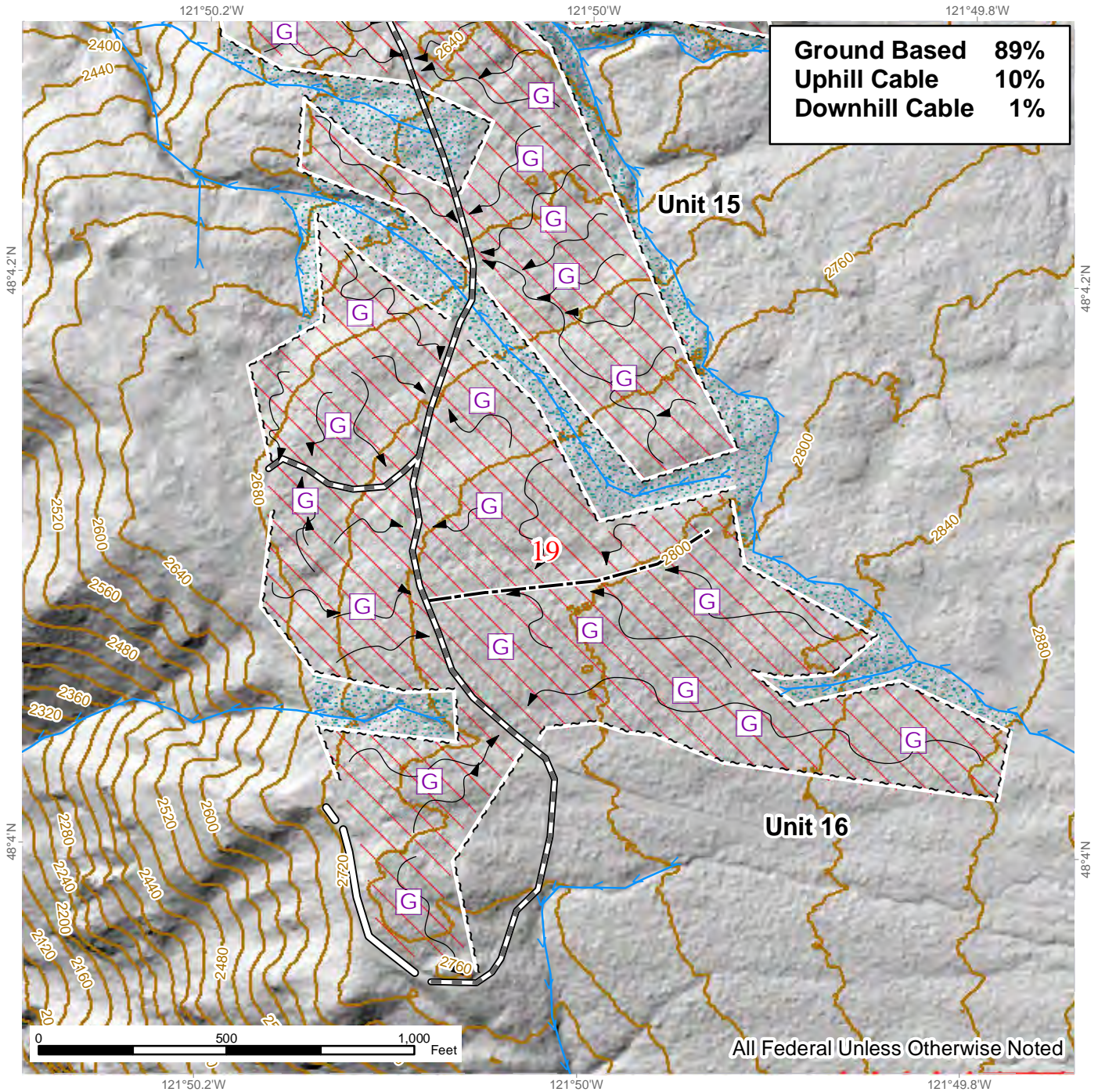


Ground Harvest	Existing Roads	Streams
Sale Boundary Tags	Required Pre-Haul Maintenance	Gap
Special Mgmt Area		Riparian Mgmt Zone
Leave Tree Tags		Gap
Right of Way Tags		

LOGGING PLAN MAP

SALE NAME: PILCHUCK
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Ground Based	89%
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All Federal Unless Otherwise Noted

Ground Harvest	Existing Roads	Streams
Sale Boundary Tags	Required Pre-Haul Maintenance	Riparian Mgt Zone
Special Mgmt Area	Optional Temp Construction	Gap
Leave Tree Tags		
Right of Way Tags		



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

**BILL OF SALE AND CONTRACT FOR
GOOD NEIGHBOR AGREEMENT FOREST PRODUCTS**

Export Restricted MBF Scale AGREEMENT NO. 36-105232

SALE NAME: Pilchuck

This Bill of Sale and Contract for Good Neighbor Agreement Forest Products (Contract) is entered into between the Washington State Department of Natural Resources (DNR), acting as the agent for the United States Department of Agriculture Forest Service (U.S. Forest Service) pursuant to the authority granted in 16 USC § 2113a, and [TBD] Purchaser, herein collectively referred to as the “Parties” or individually as a “Party.”

In consideration of the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the State and Purchaser hereby agree to the following terms and conditions for the Contract.

SECTION G: GENERAL TERMS

G-001 Definitions

The following definitions apply throughout this contract;

Bill of Sale and Contract for Forest Products: The 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.

Contract Administrator: DNR’s State Forester’s designee responsible for assuring that the contractual obligations of the Purchaser are met.

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

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

Road Construction: Includes construction of new temporary roads, reconstruction and maintenance of existing forest roads, and associated work as authorized and described in the Road Plan.

State: The State of Washington represented by the Washington State Department of Natural Resources (Seller), acting under an agreement with the U.S. Forest Service to act as their agent in the selling of Forest Products from the timber sale area, located on U.S. Forest Service land, under the Good Neighbor Authority in 16 USC § 2113a. The

State is represented by the State Forester as designated on the contract signature page. Contractual obligations of the Purchaser under the Contract are enforced by the State Forester 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 Contract. The Purchaser is responsible for independently negotiating, procuring and paying for all subcontracted services rendered.

United States Forest Service (U.S. Forest Service): An agency of the U.S. Department of Agriculture responsible for administering the nation's national forests.

G-010 Products Sold and Sale Area

Purchaser was the successful bidder on **DATA MISSING** and the sale was confirmed on _____. The State, as the U.S. Forest Service's agent, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products:

All timber as described for removal in Schedule B, bounded by white Timber Sale Boundary tags, and FS-4200000 road, except for trees marked with pink paint, in Unit #1, 2, 3 and 4.

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The above described products, located on approximately 148 acres on part(s) of Sections 15, 16, 17, and 19 in Township 30 North, Range 08 East, Willamette Meridian (W.M.), in Snohomish County as shown on the attached timber sale map and as designated on the sale area.

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 or U.S. Forest Service.

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
B	Thinning Prescription

G-030 Contract Term

Unless terminated earlier as authorized under the Contract, Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to November 1, 2026 (Termination Date), unless this termination date is adjusted pursuant to G-040, or extended pursuant to G-050, in which case the new Termination Date shall be as established by the State.

G-040 Contract Term Adjustment - No Payment

Purchaser may request an adjustment in the contract term due to an interruption or delay in operations. A request for an adjustment must be submitted in writing and received by the State within 30 days after the start of the interruption or delay and describe Purchaser's reason for seeking a contract term adjustment. The request 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 (force majeure). A force majeure includes, but is not limited to acts of God, acts of the public enemy, acts of the Government, labor disputes, fires, insurrections, floods; road and bridge failures that deny Purchaser access to, or out of, the sale area; access road closures imposed by a road owner; excessive suspensions as provided in clause G-220; and regulatory actions, that do not arise from Purchaser's failure to comply with the Contract and which will prevent timber harvest for a period of less than 6 months.

The State shall adjust the term of the Contract to provide for additional calendar days equal to the actual time lost for the period that such force majeure continues in effect. All other terms and conditions of the Contract shall remain in effect during periods of force majeure. Lack of funds on the part of Purchaser, adverse market conditions, state approval or assistance delays, and/or similar conditions shall not constitute force majeure.

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 has diligently performed in accordance with contract provisions and the approved Plan of Operations. The term of this Contract may be extended for a reasonable time by the State, at the State's sole discretion, if all of the following conditions are satisfied:

- a. A written request for extension of the contract term must be received prior to the Termination Date of the Contract.
- b. Purchaser has completed all required roads and is in compliance with all contract and regulatory requirements (e.g., applicable Federal, state, and local laws).
- 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 until Purchaser has completed all obligations under this Contract.

- 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 timber value 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.
- f. In no event will the extension charge be less than \$500.00.
- g. Extension payments are non-refundable.

G-051 Contract Term Extension – Market Related Conditions

The term of this contract may be adjusted when a drastic reduction in wood product prices has occurred in accordance with 36 CFR 223.52 as determined by the U.S. Forest Service, and the Purchaser makes a written request for additional time to perform the Contract. The Producer Price Index used to determine when a drastic reduction in price has occurred shall be the Softwood Lumber Commodity Index Series (Index Code 0811) as set forth in 36 CFR 223.52(b)(i). If the drastic reduction criteria specified in 36 CFR 223.52 are met for two consecutive calendar quarters, after Contract award date, the Contract Administrator will add one year to the Contract term upon Purchaser's written request. For each additional consecutive quarter such a drastic reduction occurs, the Contract Administrator will, upon written request, add an additional three months to the term during the operating season, except that no single three month addition shall extend the term of the Contract by more than one year. For each additional consecutive quarter such a drastic reduction occurs, the Contract Administrator will, upon written request, add an additional three months to the term during the operating season. The total amount of contract term addition is limited to the lesser of twice the length of the original Contract or three years. The Contract Administrator must receive Purchaser's written request for a market-related contract term addition before the expiration of this contract. Additional contract time may not be granted for those portions of the contract: (i) with a required completion date; where the U.S. Forest Service determines that the timber is in need of urgent removal; where timber deterioration or resource damage may result from delay; or (iv) where the timber is designated by diameter and delay may change the treatment as a result of trees growing into or out of the specified diameter ranges(s).

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 FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies.
- g. Items contained in any other documents prepared for or by the State.

G-064 Permits

Purchaser is responsible for obtaining any permits not already obtained by the State or U.S. Forest Service that relate to Purchaser's operation. Any permits obtained by the State shall be transferred to Purchaser. Purchaser is responsible for all permits, amendments and renewals.

G-066 Termination Due to Governmental Regulatory Actions, Harm to the Environment or Administrative Appeal or Litigation

The State may terminate the Contract, in whole or in part, for any of the following reasons: (1) to prevent actual or potential harm to the environment including without limitation, harm to the land, water, air, habitat, animals, cave resources, or cultural resources; (2) to ensure consistency with U.S. Forest Service land and resource management plans; requirements for the timber sale imposed in any documents

prepared pursuant to the National Environmental Policy Act of 1969, 42 USC 1531, et seq.; or compliance with any state or Federal law; (3) to conduct environmental analysis, including but not limited to, the Endangered Species Act of 1973, 16 USC 1531, et seq.; or (4) due to an existing or threatened administrative appeal or litigation involving the U.S. Forest Service or State that might affect or involve the timber sale, regardless of whether the Forest Service or State is required by an administrative or court order to terminate this Contract, or this Contract is named in such a proceeding.

In the event of termination for a reason stated above, Purchaser shall be entitled to a refund, or release of advanced deposits for timber cut but not removed from the sale area, and reimbursement of out-of-pocket expenses incurred as a direct result of the termination of operations; provided, however, that Purchaser shall not be entitled to any compensation provided herein when the Contract is terminated under this clause due to Purchaser's violation of any provision of the Contract. Out-of-pocket expenses do not include, lost profits, attorney's fees, replacement cost of timber, cost or expenses of running a sawmill or other processing facility, expectancy damages, or any other anticipatory expenses suffered by Purchaser.

G-066.1 Termination Due to Catastrophic Damage

The Contract may be terminated by the State, in whole or in part, or the Purchaser may request in writing that the Contract be terminated in whole or in part, if the value of timber remaining to be cut is diminished materially because of catastrophic damage caused by forces beyond the control of the Purchaser. Catastrophic damage is defined as a major change or damage to timber on the sale area, or access to the sale area, or a combination thereof: (a) caused by forces beyond the control of Purchaser, occurring within a 12 month period, including, but not limited to, wind, flood, earthquake, landslide, fire, forest pest epidemic (except as provided below), or other major natural phenomenon; and (b) affecting the value of any trees or products authorized for sale under the Contract estimated to total (i) either more than half of the estimated timber volume stated in Notice of Sale; or (ii) more than 2.9 MMBF or equivalent.

A forest pest epidemic shall not be considered catastrophic damage under this clause when the major change or damage to timber is caused by insect or disease that occurs after felling of the timber unless Purchaser is prevented from removing such timber for reasons that would qualify for a Contract Term Adjustment in G-040.

In the event of termination for the reasons stated above, Purchaser shall be entitled to a refund, or release of advanced deposits for timber cut but not removed from the sale area, and reimbursement of out-of-pocket expenses incurred as a direct result of termination of operations. Out-of-pocket expenses do not include, lost profits, attorney's fees, replacement cost of timber, cost or expenses of running a sawmill or other processing facility, expectancy damages, or any other anticipatory expenses suffered by Purchaser.

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 and any unapplied payments; credit for unamortized improvements made by Purchaser; and payment of out-of-pocket expenses, but only under the circumstances where the Contract is terminated under G-066 or G-066.1 and the State is required to pay such out-of-pocket expenses. The State or U.S. Forest Service shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State or U.S. Forest Service Advice

No advice by any agent, employee, or representative of the State or U.S. Forest Service regarding the method or manner of performing operations 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 or U.S. Forest Service 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 or U.S. Forest Service shall not be liable for any injuries resulting from Purchaser's reliance on any State or U.S. Forest Service advice regarding the method or manner of performance.

G-090 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary due to the circumstances specified in G-066.1 or G-066. 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 excluded from harvest due to the circumstances to be measured. 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 is unable to 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-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. All right, title, and interest in, and to any timber, shall remain in the U.S. Forest Service, until it has been cut, measured, and removed from the sale area, at which time

title shall vest in Purchaser. Any right of Purchaser to cut and remove the timber from the sale area shall end at the time this Contract terminates. Any timber not removed by the termination date remains the property of the U.S. Forest Service.

Risk of Loss. If timber is destroyed or damaged by an “unexpected event” that significantly changes the nature of the timber, the party with title, right and interest to the timber shall bear the timber value loss resulting from such destruction or damage. An “unexpected event” is defined to mean fire, wind, flood, insects or disease, or any similar cause; except that such losses caused by insect or disease after felling of timber shall be borne by Purchaser, unless Purchaser is prevented from removing such timber for reasons that would qualify for a Contract Term Adjustment in G-040.

Except as provided above, Purchaser will not be obligated to remove and pay for destroyed timber for which the U.S. Forest Service holds title. If timber is damaged by an unexpected event, and the U.S. Forest Service holds title and risk of loss for the damaged timber, the Contract Administrator shall make an appraisal to determine for each species the difference between the appraised unit value of the timber immediately prior to the value loss and the appraised unit value of timber after the loss. Current contract rates in effect at the time for the value loss shall be adjusted by differences to become the re-determined rates for the affected timber.

There shall be no obligation for the State to supply Federal timber, or for the Purchaser to accept and pay for other Federal timber, in lieu of that destroyed or damaged. Neither this contract provision, nor any other provision of the Contract, shall be construed to relieve Purchaser of liability for negligence resulting from its operations.

G-120 Responsibility for Work

All work, equipment, and materials necessary to perform this contract shall be the responsibility of Purchaser.

So far as practicable, Purchaser shall protect roads and other improvements (e.g., trails, telephone lines, ditches, fences) existing in the sale area. When Purchaser’s operations are adjacent to properties of railway, telephone, or power companies, or other property, work shall not begin until Purchaser has identified actions necessary to prevent damage to such property. Purchaser shall cooperate with the owners of any underground or overhead utility lines in their removal and/or rearrangement operations in order that these operations may progress in a reasonable manner such that utility duplication rearrangement work may be reduced to a minimum, and services shall not be unnecessarily interrupted. In the event of interruption to utility services because of accidental breakage or as a result of lines being exposed or unsupported, Purchaser shall promptly notify the proper authority and shall cooperate with that authority in the restoration of service until the service is restored.

Any damage to roads and 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. Road is defined as

the road bed, including but not limited to its component parts, such as subgrade, ditches, culverts, bridges, and cattle guards. Improvement is defined to include trails, telephone and utility lines, gates, fences, buildings or any other type of structure.

G-121 Exceptions

Exceptions to Purchaser's responsibility for repairs in clause G-120 shall be limited exclusively to the following:

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction or reconstruction 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.

These exceptions shall not apply where road damage occurs due to Purchaser's failure to take reasonable precautions or to exercise sound forest engineering and construction practices.

The repair work identified by the State shall be promptly completed by Purchaser at an agreed price. If the Parties are unable to reach an agreement on price, Purchaser shall complete the repairs based on DNR's determination of the price. Purchaser shall be entitled to challenge the costs through the dispute resolution process in clause G-240. 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 Purchaser's 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 the State, U.S. Forest Service, agencies of the State or U.S. Forest Service, and all officials, agents and employees of the State or U.S. Forest, from and against all claims arising out of, or in any way whatsoever resulting from, 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 brought against the State, including without limitation claims brought against the State by Purchaser's agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless the State or U.S. Forest Service 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 the State or U.S. Forest Service shall not be eliminated or reduced by any actual or alleged concurrent negligence of the State, U.S. Forest Service, or their 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 or U.S. Forest Service 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's 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 Forest Health and Resiliency Division in Olympia, WA 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 the 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, U.S. Forest Service, 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 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 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 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 or U.S. Forest Service for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-152 Pollution Legal Liability

Pollution Legal Liability (or Contractor's Pollution Liability). Purchaser and/or contractor(s) shall at its cost and expense, buy and maintain insurance of the types and amounts listed below for coverage of pollution legal liability, including investigation and defense costs, for bodily injury and property damage, including loss of use of damaged property or of property that has been physically damaged or destroyed. 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. Insurance coverage shall be obtained by the Purchaser and/or contractor(s) prior to operations commencing and continually maintained in full force until all contract obligations have been satisfied or an operating release is signed by the State.

Such coverage must provide coverage for both on-site and off-site cleanup costs and cover gradual and sudden pollution, and includes in its scope of coverage, natural resource damage claims. The U.S. Forest Service, State of Washington, Department of Natural Resources, its elected and appointed officials, agents and employees shall be named as additional insured. Coverage shall be maintained in an amount of at least:

1. \$1,000,000 each occurrence for contractor's operations at the site(s) identified above, and
2. If the policy contains a general aggregate limit or policy limit, it shall be at least \$5,000,000.

Such insurance may be provided on an occurrence or claims-made basis. If such coverage is obtained as an endorsement to the CGL and is provided on a claims-made basis, the following additional conditions must be met:

- a. The Insurance Certificate must state that the insurer is covering hazardous substance removal.
- b. The policy must contain no retroactive date, or the retroactive date must precede abatement services.
- c. Coverage must be continuously maintained with the same insurance carrier throughout the entire term of the Contract.
- d. The extended reporting period (tail) must be purchased to cover a minimum of 36 months beyond completion of work.

G-160 Agents

The State's rights and duties will be exercised by the State Forester of the State of Washington. The State Forester will notify Purchaser in writing who is responsible for administering the Contract (Contract Administrator). The State Forester 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 or U.S. Forest Service has any authority to bind the State or U.S. Forest Service to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract. The Contract Administrator shall be the State's authorized agent for purposes of receipt of notices under G-200.

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 under G-160, from the State, and any limits to this person's authority.

G-170 Assignment of Rights; Delegation of Performance (Subcontracting)

No rights or interest in this Contract shall be assigned by Purchaser without the prior written permission of the State, which approval shall be at the sole discretion of the State. Such approval shall not relieve the Purchaser of his or her responsibilities or liabilities under the Contract and may be given only if the third party assignee (assignee) has not been debarred or suspended from bidding on the award of U.S. Forest Service timber sale contracts in accordance with 36 CFR § 223.130 through 36 CFR § 223.145 and: (a) the assignee acquiring the rights of the Purchaser is acceptable to the State under the conditions and requirements then in effect for similar GNA timber sales, and assumes in writing all of the obligations to the State under the terms of the Contract as to the uncompleted portion; or (b) the rights are acquired by the assignee in trust as security and subject to such conditions as may be necessary for the

protection of the public interests. 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 (i.e., subcontractor), but Purchaser is not thereby relieved of any duty to perform or any liability under this contract. Any 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 and 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

All notices required to be given under this Contract shall be in writing and personally delivered to the Party's authorized agent as provided in G-160; or sent by U.S. mail (certified mail requested), or personally delivered to a Party at the address listed below:

Department of Natural Resources	Purchaser
Attn: Annette Mesman	
Northwest Region	
919 N. Township Street	
Sedro-Woolly, WA 98284	

A party can designate a different authorized agent or address in writing by serving notice of such change as provided in this clause.

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 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. Purchaser shall not be entitled to any compensation if the Contract is terminated by the State as provided in this clause.
- b. If the Contract expires pursuant to clause G-030 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 for any of the reasons stated in G-066, for any other reason as provided for in the Contract or, if deemed necessary in the public interest.

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 or U.S. Forest Service, Purchaser is entitled to request a contract term adjustment under clause G-040.

If it reasonably appears that the damage that the State or U.S. Forest Service 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 all terms and conditions of this contract, then the State may elect to terminate the Contract under G-066 just as if the harvest was prevented by a governmental statute, 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 Federal law, is unauthorized. Purchaser agrees to pay two times the current contract rates for any unauthorized cutting, removal or damage of forest products.

G-240 Dispute Resolution

The following procedures apply in the event of a dispute regarding interpretation or administration of this Contract. The Parties agree that these procedures must be

followed before a lawsuit can be initiated against the State. Purchaser's failure to submit a request for resolution of a dispute under the procedures set forth shall relieve the State of any obligations whatsoever arising under the Contract regarding the dispute. As used herein, a dispute means a demand or assertion by Purchaser seeking, as a legal right, the extension or adjustment of the term of the Contract, or any other relief under the Contract, including a claim for the payment of any money.

- a. In the event of a dispute, Purchaser must submit a written request to the State Forester for resolution of any dispute prior to seeking other relief. If the dispute involves a claim for money owed by the State, Purchaser shall submit with the written request a demand for the amount owed and any appropriate data necessary to establish that the amount requested accurately reflects what Purchaser claims is owing under the Contract for which the State is liable.
- b. The State Forester will issue a written decision on Purchaser's request within ten business days for matters not involving a claim for money. In the case of a claim by Purchaser for money owed under the Contract, the State Forester shall render a decision within 30 days, or notify Purchaser of the date when a decision will be issued. The State Forester's decision shall be final unless Purchaser submits a request under c.
- c. Within ten business days of receipt of the State Forester's decision, Purchaser may submit a written request for resolution of the dispute 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 State Forester's written decision. Purchaser and the State Forester 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 is responsible for completing all operations in compliance with all applicable statutes, regulations and laws; and in compliance with all applicable requirements of the U.S. Forest Service, Decision Notice and Finding of No Significant Impact (DN), Mount Baker Snoqualmie National Forest, SF Stillaguamish Vegetation Project EA, including all applicable Mitigation Measures and Design Features in the DN Appendix B, and applicable Best Management Practices contained in the Environmental Assessment. Failure to comply may result in suspension, and/or termination 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 and Personal Property Left on US Forest Service Land

All equipment and personal property owned or in the possession of Purchaser, its employees, agents, or invitees, including independent contractors, shall be removed from the sale area and other U.S. Forest Service land by the termination date of this contract. Any equipment or personal property remaining on U.S. Forest Service land 60 days after the expiration of the contract may be removed and disposed of by the State. Purchaser shall pay to the State all costs of moving, storing, and disposing of such personal property and equipment. The State and the U.S. Forest Service shall not be responsible for any damages to or loss of the personal property or equipment, or damage caused by the moving, storing or disposal of the personal property or 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 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 U.S. Forest Service roads, State roads, and roads for which the State has acquired easements and road use permits; FS-4200000, FS-4210000, FS-4240000, FS-4241000, FS-4242000, Temp 1, Temp 2, Temp 3A, Temp 3B, Temp 4A, Temp 4B, Temp 5, Temp 11, Temp 12, Temp 13, and Temp 16. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

The U.S. Forest Service shall have the right to use any road constructed by Purchaser during the term of the Contract for any and all purposes in connection with the protection and administration of the National Forest. Other parties, in connection with the logging of tributary National Forest timber, may use roads constructed by Purchaser when the Contract Administrator determines that such use will not materially interfere with Purchaser's Operations. The State may grant others the right to use the roads constructed by Purchaser during the term of the Contract if such uses are authorized by the U.S. Forest Service and will not materially interfere with Purchaser's operations.

G-320 Erosion Control

Reference Road Plan for revegetation measures.

G-330 Pre-work Conference

Purchaser shall arrange with the Contract Administrator to review this Contract and examine the sale area before beginning any operations. Purchaser shall furnish the State a written Plan of Operations at the pre-work conference that includes the Harvest Plan required in H-040, and sets forth planned periods for road construction and completion of all other contractual requirements. The State's written approval of the Plan of Operations is a prerequisite to commencement of Purchaser's operations. A revised Plan of Operations shall be submitted by Purchaser for the Contract Administrator's approval to accommodate a contract adjustment under G-040, a contract extension under G-050, or if determined necessary by the Contract Administrator. 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

Purchaser shall protect all survey monuments, witness corners, reference monuments, and bearing trees (hereinafter collectively referred to as "survey markers") against destruction, obliteration, or damage during operations performed under the Contract. If any survey markers are destroyed, obliterated, or damaged by such operations, Purchaser shall hire an appropriate county surveyor or registered land surveyor to reestablish or restore the survey markers at the same location, using surveying procedures in accordance with the *Manual of Instruction for the Survey of the Public Lands of the United States* as required by the U.S. Forest Service under federal law and the State under RCW 58.24, and shall record such survey in appropriate county records. The Contract Administrator may prescribe in writing additional requirements for protection of monuments, corners, and bearing trees.

G-370 Blocking Roads

Purchaser shall not block FS-4200000 Road, unless authority is granted in writing by the Contract Administrator.

G-396 County Hauling Permit

The hauling of forest products, rock or equipment may require a county road hauling permit. Purchaser is responsible for obtaining a permit and any costs associated with extra maintenance or repair levied by a county. Purchaser must provide the Contract Administrator with a copy of the executed permit.

G-430 Open Fires

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

SECTION P: PAYMENTS AND SECURITIES

P-010 Initial Deposit and Periodic Payment Schedule

Purchaser paid DATA MISSING as an initial deposit to the State, which will be maintained until Purchaser has completed all obligations under this Contract. Purchaser shall not be entitled to any interest earned on the initial deposit. However, all or a portion of the initial deposit may be applied as the final payment for the timber if the State determines that adequate security exists for the performance or fulfillment of any remaining obligations of the Purchaser under the Contract. If the Contract expires without Purchaser's payment of the full amount specified in P-021, 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.

Item	Contract Bid Price	Fees	Contract Payment Rate
Douglas-fir	-	\$0.00	-
Hemlock	-	\$0.00	-
Silver fir	-	\$0.00	-
Red alder	-	\$0.00	-

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 DATA MISSING 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-052 Billing and Payment Procedure

The State will compute and forward to the Purchaser statements of charges provided for in the contract. Purchaser shall deliver payment to DNR's Forest Health and Resiliency Division in Olympia, WA on or before the date shown on the billing statement.

Payment will be based on the contract rate multiplied by the tons (tonnage contracts) or volume (mbf contracts) removed during the month or payment period. Included with the payment will be a summary report along with all related load tickets and the corresponding certified weight tickets for the payment period. The summary report will be generated using a computer spreadsheet and list the load tickets in ascending numerical order with the corresponding ticket number and weight or volume for each load.

P-070 Payment for Products: Damage, Theft, Loss or Mis-manufacture

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mis-manufactured shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply. If such material is not listed in P-021, the State shall establish the rates to be paid.

P-080 Payment Account Refund

Advance payments made under P-045 remaining on account above the value for the charges shall be returned to Purchaser within 30 days following the final report of charges. Interest shall accrue at the rate of five percent per month, or fraction thereof, on any balance owed after expiration of the thirty days.

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date of the sale, 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 62A.5 (Letters of Credit) 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 until all contractual obligations of the Purchaser are satisfied. 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 amount of the performance security required under the Contract 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-040 Utility Logs

Utility logs are logs that meet the minimum utility log standards as described by the log scaling rules applicable for 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 and return unused tickets at termination of the contract, or as otherwise required by the

Contract Administrator. Unused tickets not returned shall be subject to liquidated damages per clause D-030.

The State may also treat load tickets either not accounted for or not returned as lost forest products per clause P-070. All costs associated with computing the billings for lost forest products shall be borne by the Purchaser.

L-070 Purchaser to Furnish Log Scale Information

Purchaser agrees to furnish the State with scaling information, supplied by a third party scaling organization showing the scale, count, and measure of forest products removed during each billing period unless the scale, count, and measure is performed by the State.

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 one (1) business day 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.

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

enroute 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 October 16 to May 31 unless authorized in writing by the Contract Administrator. This shall not be waived for full harvest or road construction operations.

H-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

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

Excessive skid trail damage is defined in clause 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).

H-012 Leave Tree Damage Definition

Leave trees are trees required for retention within the sale area. 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-016 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. A skid trail will not exceed 14 feet in width, including rub trees.
- b. Skid trails shall not cover more than 15 percent of the total acreage on one unit. Trails will be generally no closer than 100 feet apart.
- c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator, prior to the felling of timber.
- d. Skid trails shall be located a minimum of 25 feet away from riparian no-cut buffers.

- e. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.
- f. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.
- g. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.
- h. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.
- i. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.
- j. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.
- k. Heavily impacted skid trails, including those subjected to multiple passes of heavy equipment, those lacking sufficient slash cover, and/or those running parallel to stream courses, will be decompacted to a depth of at least 12 inches and logging slash will be placed across the decompacted surface.

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, in all or in part, by the Contract Administrator, for such periods as may be deemed necessary to avoid damage when soil rutting exceeds 6 inches as measured from the natural ground line, or when ground conditions are unfavorable.

To reduce soil damage, the Contract Administrator may require water bars to be constructed, weed-free certified grass seed to be placed on exposed soils, or other mitigation measures to be taken by the Purchaser, in addition to what is already required under this Contract. 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 30 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 each operating season for planned units. The Harvest Plan shall address the harvest and haul operations and be presented to the Contract Administrator at the pre-work conference. 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

All timber shall be painted with a spot of highway yellow paint not less than three square inches in size, and branded on each end with a hammer brand approved by the State prior to removal from the sale area. Purchaser shall not use the brand pattern selected to mark timber for another source in violation of the requirements set forth in 36 CFR § 223.195.

H-080 Snags Not to be Felled

Snags not required to be felled for safety reasons shall 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 no 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 felled by hand and yarded by cable; tethered machinery on sustained slopes 80% or less; ground based equipment on slopes

of 35% or less (see H-140 for restrictions). Skidders are limited to a maximum slope of 25% for uphill hauls. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-130 Hauling Schedule

The hauling of forest products will not be permitted on any road from October 16 to May 31 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. The following types of equipment are considered ground-based equipment:

SHOVEL is defined as a low ground pressure track-mounted machine with hydraulic boom and grapple capable of picking up one end of the largest log 25 feet from the center of the machine.

FELLER-BUNCHER/HARVESTER is defined as a track mounted machine with hydraulic boom and cutter head capable of felling, bucking, limbing, and decking logs in one operation.

FORWARDER is defined as a track or rubber tire machine used for transporting logs to a landing by use of a bunk with self loading boom in which logs are carried free of the ground.

RUBBER-TIRED SKIDDER is defined as a skidder mounted on rubber tires used to drag logs to a landing. Logs are generally pulled in groups of six or less, with one end on the ground.

TRACKED SKIDDER is defined as any tracked tractor or skidder, fixed or articulated, used to drag logs to landings. Logs are generally pulled in groups of six or less, with one end on the ground.

2. A copy of the timber sale prospectus map and contract shall be present onsite during active operations.
3. Purchaser shall not block the FS-4200000 road. Temporary blockages are permitted for equipment unloading where the blocking duration is under 15 minutes.
4. When replacing or installing culverts on the FS-4200000 road, and closure of public traffic is necessary, 2-month prior notice is required to allow for sufficient public

notification. This temporary closure shall only be granted for the shortest practical duration, during the period after the Labor Day holiday and prior to October 15th.

5. Purchaser shall provide, install, and maintain all necessary warning and caution signage as required by the Contract Administrator. This signage shall meet standards set forth in the Manual on Uniform Traffic Control Devices for Streets and Highways.
6. In units 1-13, from March 1 to July 15, harvest related and road construction related activities shall be conducted during the hours starting 2 hours after sunrise and cease 2 hours prior to sunset. This does not apply to log hauling and log loading on existing roads.
7. No landing locations will be permitted along the FS-4200000 road. No suspending cables across the FS-4200000 road.
8. When felling within a tree length and a half of the FS-4200000 road the Purchaser shall provide qualified and trained staff to stop traffic as active felling occurs.
9. Tops and limbs shall be redistributed in the unit to the satisfaction of the Contract Administrator.
10. Maintain legacy features wherever practical and safe, including remnant trees, snags, and large down woody debris that is greater than 8 inches in diameter.
11. Heavy equipment shall operate over slash whenever possible to minimize soil compaction and soil disturbance.
12. Prior written approval from the Contract Administrator is required before tethered or self-leveling equipment may be used. If ground disturbance is causing excessive damage, as determined by the Contract Administrator, the use of this equipment will no longer be authorized.
13. Tailtree or guyline trees shall be approved by the Contract Administrator prior to use. All tailtrees shall be retained standing, as future wildlife tree unless a hazard is created.
14. Following completion of their use, temporary roads, spur roads and landings shall be "rehabilitated" by decompaction of the road surface to a depth of 12 inches or greater. Equipment shall not travel across the decompacted surface. Native grass seed, that is certified weed free, and a protective cover shall be applied to these areas. Mulch composed of certified weed free straw or onsite forest debris shall be applied to the disturbed ground as this protective cover.
15. Certified weed free straw bale catchments or silt fences shall be located to intercept runoff from landings prior to reaching any road ditch or stream. Any sediment that is captured and deposited behind sediment catchments shall be removed annually and deposited out on the forest floor to ensure it does not have a direct flow path to a system

road ditch or stream. Catchments and captured sediment shall be removed following one wet season after logging.

16. Hazard trees that are felled along haul routes must be retained to add to large woody debris on the ground, unless otherwise approved by the Contract Administrator.
17. Trees felled in the vicinity of any stream or riparian area buffer shall be felled away from aquatic features. Portions of trees falling into no-cut buffers shall be removed via one-end suspension. If a felled tree is within 30 feet of aquatic resource, the tree shall be left in place.
18. Skid trails, corridors, and equipment use shall be no closer than 25 feet from the outer edge of riparian and wetland no-cut buffers, and tops of inner gorge slopes.
19. Purchaser shall mark skid trail and cable corridor locations prior to felling of timber. The Contract Administrator shall review and approve of corridor locations prior to felling of timber.
20. Timber in the yarding corridor must be felled and yarded prior to the falling of adjacent timber, unless Purchaser and Contract Administrator develop an alternate strategy in writing prior to the start of felling operations.
21. Cable corridors shall not exceed 12 feet in width and shall be at least 100 feet apart as measured from the center of the corridor. Any deviation shall be approved by the contract administration in writing, prior to felling any trees in the area.
22. Mechanical harvesters, when traveling away from approved skid trails or roads, will operate on a slash mat of limbs and tops as thick and continuous as practical. Activity would be planned to make as few trips as possible. Feller bunchers/ mechanical harvesters shall not operate like a skidder and travel while bearing the weight of trees except in some occasions at the ends of a skid trail where it may cause less disturbance than a skidder.
23. Areas of gouging or soil displacement resulting from operations shall be treated to prevent rill and gully erosion and potential sediment delivery to stream courses. Off-road trails used for equipment fueling and servicing shall be rehabilitated post use by moving the soil back to the natural contour of the hillslope (re-contour) and placing slash or vegetation on exposed mineral soils. Steep slopes shall not be decompacted to prevent further soil disturbance. Erosion control treatment may include, but is not limited to, repositioning displaced soil to restore the hillslope contour of disturbed sites, creating small ditches or diversions to redirect surface water movement, planting of native plant materials, native seeding, and scattering slash material to disrupt flow and provide soil surface stability.
24. No fuel or petroleum product storage, equipment refueling, fluid transferring, equipment repair or related activity shall occur within 100 feet of any stream, water body, or

wetland. Operation of any pump or generator shall occur on a spill prevention pad. Heavy equipment shall be free of leaks and checked every morning prior to commencement of work. Any repairs required shall be fixed prior to resuming work.

25. In areas where noxious weeds exist, operations shall be conducted starting from weed-free areas then proceeding into infested areas.
26. All grass seed, mulch, straw, rock, and related materials, shall be obtained from a certified weed free source. Documentation of said materials shall be provided to the Contract Administrator.
27. All slash generated with 100 feet of the FS-4200000 road, as identified by the Contract Administrator shall be pulled back and scattered in the harvest area.
28. If Threatened, Endangered or Sensitive plants are discovered during the course of operations, all work in that vicinity shall be halted, until USFS botanist has been consulted and mitigation measures are implemented.
29. If a raptor nest site is incidentally located during the course of operations, all activity shall cease until an assessment by a Forest Service wildlife biologist is completed. The site may be subject to a protective buffer (200 foot minimum) following biologist assessment.
30. For marbled murrelet potential nest trees (PNTs), maintain surrounding trees that have interlocking branches or are within the drip-line of the PNT within thinning units. Identified PNTs are marked with pink paint, either as a band or a 'W' indicating wildlife trees.
31. Slash on landings and the upslope side of roads shall be disposed when the road remains open to the public post treatment.
32. Prior to the onset of each winter restricted season, the Purchaser is responsible for the establishment of the blocking barrier at the gate at the Heather Lake Trailhead. All necessary materials to create the barrier are onsite at the existing gate location.
33. Between July 1, 2024 and August 31, 2024 the Purchaser shall ensure that the FS-4210000 road, associated turnouts and wide spots remain passable and unencumbered to ensure the Forest Service contractor's bridge project shall proceed without disruption, or delay as a result of the Purchaser's operations.
34. In the event the Contract Administrator approves operations outside of the winter restricted season, a restricted season operations plan shall be developed to include at minimum additional BMPs, and haul monitoring. Any operations approved outside of the normal operating season, shall be limited in scope and is intended for clean-up or preparation work, not for full harvest or road related operations.

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 G-010 that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
All	10	12	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 left on the sale area upon termination of the Contract that meet the above specifications 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 Mismatch

Mismatch 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 mismatch 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-170 Utility Log Removal

All utility logs shall be yarded concurrently with the yarding of other logs and shall be removed from the sale area.

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 otherwise authorized in writing by the Contract Administrator.

H-210 Log Length Hauling Restrictions

The maximum log length hauled from the sale area shall not exceed 40 feet unless otherwise approved in writing by the Contract Administrator.

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Area

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

H-240 Lop and Scatter

The tops of all felled trees shall be lopped and slash scattered away from leave trees.

H-260 Fall Leaners

Trees that have been pushed over in falling or skidding operations shall be felled.

SECTION C: CONSTRUCTION AND MAINTENANCE

C-040 Road Plan

Purchaser shall comply with all of the road construction, associated work provisions, and all other terms and conditions of the Road Plan for this sale, dated August 8, 2023 which is hereby made a part of this Contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform road maintenance and repair work at its own expense on FS-4200000, FS-4210000, FS-4240000, FS-4241000, FS-4242000, Temp 1, Temp, 2,

Temp 3A, Temp 3B, Temp 4A, Temp 4B, Temp 5, Temp 11, Temp 12, Temp 13, and Temp 16. All work shall be completed to the specifications detailed in the Road Plan.

C-080 Landing Locations Approved Prior to Construction

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

C-090 Landing Location

Landings should be located where past landings were located or on existing road grades, unless a new location would cause less resource effect or where no past landings were used to harvest the unit.

New landings shall be located at least 150 feet from any stream or wetland, when possible. If landing is required closer than 150 feet, the landing shall be no closer than 50 feet from any no-cut buffer area, and only minimal construction activities shall be permitted.

Landings will be limited to the area needed for safe and efficient yarding and loading operations and have proper drainage. All new landings, not on an existing road, shall be decompacted, seeded with approved mix, and mulched with certified weed free straw, or slash covering to prevent erosion.

C-130 Dust Abatement

Purchaser shall abate dust on the following roads July 1 through September 30 unless waived by the Contract Administrator in writing: FS-4200000 (station 9+50 to station 255+40). The Contract Administrator may require Purchaser, by written notice, when deemed necessary to: (1) abate dust on the roads designated even after a waiver has been granted if conditions change, or during any time before or after the period specified; and (2) require Purchaser to abate dust on any other roads affected by the operations under this Contract. Materials used for dust abatement, other than water or Lignin, will require approval of the State and shall meet specifications furnished by the U.S. Forest Service.

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, a plan for the prevention and reporting of wildfires within the sale are; a communication plan for reporting wildfires; a description of fire prevention and control measures on the logging unit; and a list of qualified personnel and equipment available for implementing the plan. The ERP shall include the valid contact numbers for qualified personnel available for implementing the ERP, and the equipment available, and procedures for responding to, medical emergencies, fire,

hazardous spills, forest practice violations and any unauthorized or unlawful activity occurring 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 to the Contract Administrator for inspection and approval at the prework meeting and kept readily available to all personnel, including subcontractors, on site during active operations. Purchaser shall make any revisions to the ERP required by the Contract Administrator, either upon initial inspection or anytime thereafter, required for operations within the sale area during the Contract.

S-010 Fire Hazardous Conditions

Fire Precautionary Period. The fire precautionary period or “closed season” for this Contract is April 1 to October 31. The Contract Administrator may change the dates of the closed season by advance written notice. Required tools and equipment shall be kept in serviceable condition and immediately available for fire-fighting at all times during Purchaser’s Operations in Fire Precautionary Period.

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this Contract 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. Purchaser shall, both independently and in cooperation with the U.S. Forest Service, take the highest degree of care to prevent fires resulting from Purchaser’s Operations. Purchaser shall furnish and maintain in good and serviceable conditions such wildland firefighting tools and equipment, and take such fire prevention measures as may be required by the U.S. Forest Service or the State to meet the fire protection requirements of the Contract and the existing fire danger. The requirements shall not be less than are required under the laws of the State of Washington (i.e., WAC 332-24-401 through .411).

In the event of an uncontrolled fire, Purchaser shall immediately report the incident to the appropriate authorities specified in the ERP. Purchaser agrees to provide equipment and personnel working at the site to safely and effectively engage in first response fire suppression activity. Purchaser agrees to reimburse the State and U.S. Forest Service for the cost of fire suppression incurred as the result of the negligence or willful acts of its employees, agents, subcontractors, etc.

The Contract Administrator may require the Purchaser to suspend any or all of Purchaser’s Operations when ignition conditions identified in the ERP are met, or when fire is within or threatening the Operational Area. 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.

Residual loading of woody fuels less than 4 inches diameter should not exceed 25 tons per acre.

Average residual fuel depth should not exceed 18 inches immediately post-harvest.

S-040 Noxious Weed Control

Purchaser shall thoroughly pressure wash all equipment prior to entry onto U.S. Forest Service land, or before moving equipment between infested sites, to remove all contaminated soils, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Equipment shall be considered free of soil seed, and other such debris when a visual inspection does not disclose such material. The Contract Administrator reserves the right to also require the cleaning of equipment as required by this clause in cases where equipment is being moved onto nonfederal lands.

Purchaser shall notify the Contract Administrator in advance of moving all off-road logging and construction equipment onto U.S. Forest Service lands. Notification will include a location approved by the Contract Administrator where the equipment will be cleaned by the Purchaser, and made available for inspection by the State at a time agreed by the Parties. Only logging and construction equipment cleaned as required under this clause, and inspected by the Contract Administrator (or designee), will be allowed to operate on Federal lands within the sale area. All subsequent move-ins of equipment to the sale area shall be treated in the same manner as the initial move in. "Off-road equipment" includes all logging and construction machinery, except for log trucks, chip vans, service vehicles, water trucks, pickup trucks, cars and similar vehicles.

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-120 Stream Protection

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

S-130 Hazardous Materials

- a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

All operations shall be conducted in a manner that prevents the release of hazardous materials, including petroleum products, into the environment (water, air or land). If the total oil or oil products storage exceeds 1320 gallons or if any single container exceeds a capacity of 660 gallons, the purchaser will prepare and provide the Contract Administrator a Spill Prevention Control and Counter measures Plan prior to commencing operations. The plan shall meet EPA requirements including certification by a registered professional engineer.

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. Spill kit must also contain one or more oil-absorbing floating booms to contain a spill if it gets into a stream or other waterbody and plastic garbage bags for disposal of used pads and booms off-Forest. 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 and recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29 CFR 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)

In addition to the above, Purchaser shall immediately notify the Contract Administrator if any leakage or spillage enters any stream, water course or area of open water.

S-131 Refuse Disposal

All Purchaser generated refuse and food stuffs shall be removed from state or U.S. Forest Service lands for proper disposal prior to termination of this contract. No refuse shall be burned, buried or abandoned on state or U.S. Forest Service lands. No food stuffs shall be stored or disposed of onsite. During operations, all food stuffs shall be secured from wildlife. 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 and the U.S. Forest Service. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts National Forest management plans and the state's role in implementing such 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: $Interest = r \times LD \times N$.

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 or U.S. Forest Service. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State or U.S. Forest Service. 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 per clause L-071, and \$250 each unused ticket that is not returned to the State, for any reason.

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 National Forest. 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 \$250.00 per tree for all damaged trees in the sale area.

SECTION M: MISCELLANEOUS

M-010 Federal Endangered Species Act

The Federal Endangered Species Act of 1973 (ESA), 16 USC § 1531 et seq. prohibits a person from taking any Federally listed threatened or endangered species. Taking under the Federal ESA may include alteration of habitat. Neither this Contract, or the State's approval of Purchaser's Plan of Operations, is certification that Purchaser's operations under the plan are lawful under the ESA. Purchaser's compliance with the plan is not in lieu of compliance with any Federal requirements under the ESA or its implementing regulations.

M-020 Forest Resources Conservation and Shortage Relief Act of 1990

Purchaser must comply with the provisions of the Forest Resources Conservation and Shortage Relief Act of 1990 (Act), (16 USC 620 *et seq.*), and its implementing regulations (36 CFR § 223.185 *et seq.*), as the Act and rules now exist or are hereafter

amended. Prior to award, during the life of this contract, and for a period of three years from the Contract Termination Date, Purchaser shall upon request furnish to the State and the U.S. Forest Service records showing the volume and geographic origin of unprocessed timber from private lands exported or sold for export by Purchaser or affiliates. Prior to delivering unprocessed timber to another party, Purchaser shall require each buyer, exchangee, or recipient to execute an acceptable agreement that will: (i) identify the Federal origin of the timber; (ii) specify domestic processing for the timber involved; (iii) require the execution of such agreements between the parties to any subsequent transactions involving the timber; (iv) require that all hammer brands and/or yellow paint must remain on logs until they are either legally exported or domestically processed, whichever is applicable; and (v) otherwise comply with the requirements of the Act, 16 USC 620(d). No later than 10 (ten) days following the execution of any such agreement between Purchaser and another party, Purchaser shall furnish to U. S. Forest Service a copy of each such agreement. Purchaser shall retain, for three years from the Termination Date, the records of all sales, exchanges, or dispositions of all timber. For breach of this Subsection, the State may terminate this contract and the U.S. Forest Service may take such other action as may be provided by statute or regulation, including the imposition of penalties. When the Contract is terminated by the State for a violation of the Act or rules under this clause, the State shall not be liable for any Claim submitted by Purchaser relating to the termination.

M-030 Debarment, Suspension, Ineligibility, and Exclusion.

Purchaser is a corporation organized and existing under the laws of the State of [insert State] and certifies by execution of the Contract that it is not, nor are its principals, presently debarred, suspended, proposed for debarment or suspension, declared ineligible, or excluded from participation in any transaction with the Federal government. Purchaser shall immediately notify the State without undue delay if it receives a notice from the Federal government that it or its principals are proposed for debarment or suspension, or are debarred, suspended, declared ineligible, or excluded from participating in a transaction with the Federal government.

Purchaser shall require all subcontractors to provide written certification that they are not debarred, suspended, ineligible, or excluded from participating in a transaction with the Federal government. (Execution of Department of Agriculture Form AD-1048 is sufficient to satisfy this requirement.) Purchaser shall maintain a file of certifications and provide a copy to the Contract Administrator upon request.

M-040 Certification Regarding Felony Conviction and Tax Delinquent Status.

Purchaser, by signature below, certifies that: (1) Neither the corporation or its principals have been convicted of a felony violation under any Federal law within the preceding 24 months of the effective date of the Contract; and (2) Neither the corporation or its principals have failed to file all Federal tax returns required during the three years preceding the Contract; have been convicted of a criminal offense under the Internal Revenue Code; or have been notified of any unpaid Federal tax assessment

for which the liability remains unsatisfied, unless the assessment is the subject of an installment agreement or offer in compromise that has been approved by the Internal Revenue Service and is not in default.

M-050 Human Remains, Artifacts, and Other Cultural and Historic Items

In the event that human remains, burials, funerary items, sacred objects, object of cultural patrimony, prehistoric artifacts (i.e., arrowheads, spear points, motors, pestles, other ground stone tools, knives, scrapers, or flakes from the manufacture of tools, fire pits, peeled trees, etc.) or historic period artifacts or features (i.e., fragments of old plates or ceramic vessels, weathered glass, dumps of old cans, cabins, root cellars, etc.) are found during project implementation, work on the site shall cease immediately to protect the find from further damage or disruption and the U.S. Forest Service Archeologist will be notified. No further work shall be allowed on the site until the Forest Archeologist has approved a plan for managing or preserving the remains or items. If any human remains or cultural items specified in the Native American Graves Protection and Repatriation Act (NAGPRA) are located, regulations implementing NAGPRA shall be followed.

M-060 Payment of Taxes

The State makes no representations concerning tax liability or consequences arising from the purchase of Federal timber under the Contract. It is Purchaser's sole responsibility to pay all taxes owed, including any forest excise taxes under RCW 84.33.

M-070 Non-Discrimination in Employment

In connection with the performance of work under this Contract, Purchaser agrees not to discriminate against any applicant for employment, employee, or independent contractor on the basis of race, color, national origin, sex, religion, age, disability, sexual orientation, or marital status. This shall include, but not be limited to, the following: employment, upgrading, demotion, or transfer; recruitment, layoff or termination; rates of pay, or other forms of compensation; and selection for training, including apprenticeship. Purchaser agrees to comply with all Federal and state laws governing non-discrimination in employment applicable to the work performed under the Contract.

M-080 Records

Purchaser shall maintain all reports, data, correspondence, other and information pertaining to this Contract for a period of 6 years, and provide copies to the State upon request.

M-090 Waiver

Any provision of the Contract that is determined to be invalid, void, or illegal shall in no way affect, impair, or invalidate any other provision of the Contract, such other provisions remaining in full force and effect.

M-100 Severability Clause

Any provision of the Contract that is determined to be invalid, void, or illegal shall in no way affect, impair, or invalidate any other provision of the Contract, such other provisions remaining in full force and effect.

M-110 Effective Date

This Contract shall be effective upon the date signed by the State of Washington, Department of Natural Resources.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Print Name

State Forester

Date: _____

Date: _____

Address:

Schedule B PILCHUCK

General Prescription Information:

- Thin from below. Removals shall start with the smaller diameter class, working upwards to larger diameter classes until the target prescription is met.
- Thin variably within each unit, avoid even spacing.
- Density within each unit should vary but achieve the overall average BA/acre target across each unit.
- Do not cut trees over 20” dbh. If a tree over 20” dbh is cut for safety or operational needs as determined by the CA, it shall be left as down wood, unless within 50 feet of an open road.

Species Targeted for Removal	Do Not Cut Trees
Pacific silver fir	Western redcedar
Western hemlock	Red alder, and any other minor species
Douglas-fir	Trees marked with pink paint
	Trees over 20” dbh
<i>If a “do not cut tree” must be felled, it shall remain onsite. With the exception of red alder that must be removed to facilitate road construction and maintenance.</i>	

Thin generally from below, with the following criteria:

- **Retention:** Leave larger trees with healthy crowns
- **Species preference:** Typically favor Douglas-fir for retention, though individual tree health is a more important factor. For example, retain a healthy western hemlock with deep live crown but cut and adjacent suppressed Douglas-fir.
- **Variability:** Thin variably leaving a residual stand mix of individual trees and small clumps. Avoid even spacing.
- **Branch platforms:** Leave dominant western hemlock with large dwarf mistletoe (DMT) platforms. Leave additional trees around DMT tree with interlocking crowns.
- **Snags:** Retain snags as much as possible given the need for operator safety. Grouping of residual trees is preferred near snags to retain snag and protect for worker safety.

Unit Specific Prescription Information:

Unit Number	Residual Basal Area Target
All	150 sqft/acre

Trees meeting “Do not cut” (non-target species, or marked for retention) requirements count towards the target basal area.

Special Thinning Conditions – Gap Treatment Areas

Tagged Gaps (within Unit 3 and Unit 15):

Purchaser shall remove all pacific silver fir, western hemlock, and Douglas-fir within designated area bounded by “Special Management Boundary” tags. The “Do not cut” trees listed above shall not be cut within Gap Treatment Areas. Any tree over 20” dbh, shall be left standing.

Circular Gaps:

Purchaser shall remove all pacific silver fir, western hemlock, and Douglas-fir within a 60-foot radius from center tree which is marked with blue band of paint. The “Do not cut” trees listed above shall not be cut within Gap Treatment Areas. Any tree over 20” dbh, shall be left standing.

Unit Number	Gap Treatment	Number of Treatments	Marking
3	Circular Gaps & Tagged Gap	7	Bounded by tags & blue painted center tree.
4	Circular Gaps	3	Blue painted center tree
5	Circular Gaps	4	Blue painted center tree
7	Circular Gaps	1	Blue painted center tree
9	Circular Gaps	1	Blue painted center tree
10	Circular Gaps	1	Blue painted center tree
11	Circular Gaps	4	Blue painted center tree
12	Circular Gaps	1	Blue painted center tree
13	Circular Gaps	1	Blue painted center tree
14	Circular Gaps	8	Blue painted center tree
15	Circular Gaps & Tagged Gap	8	Bounded by tags & blue painted center tree.
16	Circular Gaps	14	Blue painted center tree

Corridors

Ground based corridors as described in H-016 and H-140, shall not exceed 14 feet in width, and shall not cover more than 15% of the total acreage on one unit. Trails will be generally no closer than 100 feet apart.

Cable corridors, as described in H-140, shall not exceed 12 feet in width and shall be at least 100 feet apart as measured from the center of the corridor.

Compliance

Trees meeting “Do not cut” requirements count towards the target basal area.

Gap areas are not counted for residual basal area plots. Plots will be located at minimum 33 feet from edge of any gap.

A 40 BAF prism will be used to determine average basal area. Only trees greater than or equal to 7.0 inches DBH will be measured. Trees that are less than 7 inches in DBH will be protected during harvest operations where possible.

When determining the residual stand basal area targets, plots in the following units will be grouped together to calculate residual basal area per acre:

	<i>Unit Numbers</i>	<i>Residual BA Target</i>
Compliance Group 1	1-2	150 sqft/acre
Compliance Group 2	3-11	150 sqft/acre
Compliance Group 3	12-13	150 sqft/acre
Compliance Group 4	14-16	150 sqft/acre

Certification of fallers and yarder operators (additional requirements beyond those outlined in the H-011):

The Contract Administrator and faller/harvest operator will jointly review the take tree selection criteria as outlined in Schedule B of the sale contract. In conjunction with the Contract Administrator, the faller/harvest operator will mark a designated area as a test plot within the sale boundary. Satisfactory thinning of the test plot completes the certification process.

Certifications will be issued to individuals when they demonstrate to the Contract Administrator their ability to perform within the requirements set forth in the contract. The Contract Administrator may revoke certification at any time if a faller or operator fails to properly implement the prescription or fails to follow direction given by the Contract Administrator.

PRE-CRUISE NARRATIVE

Sale Name: Pilchuck Thin	Forest: Mt Baker-Snoqualmie NF
Agreement #: 36-105232	District: Darrington RD
Contact Forester: John Moon Phone / Location: 360-770-4436	County(s): Snohomish
Alternate Contact: Mark Arneson Phone / Location: 360-770-4570	Other information: Click here to enter text.

Type of Sale: MBF Scale	
Harvest System: Ground based	See logging plan maps
Harvest System: Uphill Cable	See logging plan maps

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Descrip tion (Enter only one legal for each unit) Sec/Tw p/Rng	Gross Proposal Acres (GIS polygon acres)	Deductions from Gross Acres		Harvestable Areas					Acreage Determina tion
			NEW ROAD ROW ACRES	Existing Road & Grade ROW Acres	Harvestable New Road ROW	Harvestable External ROW	Gap Areas	Thinning Areas (acres)	TOTAL NET HARVEST AREAS	
1	Sec.15& 16/T30N/ R8E	5.4	0.4	0	0.4	-	0	5.0	5.4	gps
2	Sec.16/T 30N/R8E	2.0	0.1	0	0.1	-	0	1.9	2.0	gps
3	Sec.16/T 30N/R8E	19.1	0.8*	0.8	0.8	-	1.8	15.7	18.3	gps
4	Sec.16/T 30N/R8E	7.8	0.6*	0.5	0.6	-	0.8	5.9	7.3	gps
5	Sec.16/T 30N/R8E	11.5	0.1	0.3	0.1	-	1	10.1	11.2	gps
6	Sec.16/T 30N/R8E	1.4	0	0	0	-	0	1.4	1.4	gps
7	Sec.16/T 30N/R8E	4.0	0	0.3	0	-	0.3	3.4	3.7	gps
8	Sec.16/T 30N/R8E	1.8	0	0	0	-	0	1.8	1.8	gps
9	Sec.16/T 30N/R8E	3.7	0	0.1	0	-	0.3	3.3	3.6	gps
10	Sec.16/T 30N/R8E	2.4	0	0.1	0	-	0.3	2.0	2.3	gps
11	Sec.16& 17/T30N/ R8E	9.6	0.4	0.1	0.4	-	1.0	8.1	9.5	gps
12	Sec.17/T 30N/R8E	2.5	0.3	0	0.3	-	0.3	1.9	2.5	gps
13	Sec.17/T 30N/R8E	3.5	0.1	0	0.1	-	0.3	3.1	3.5	gps
14	Sec.19/T 30N/R8E	19.9	0	0.5	0	-	2.0	17.4	19.4	gps
15	Sec.19/T 30N/R8E	22.1	0	0.4	0	-	2.0	19.7	21.7	gps
16	Sec.19/T 30N/R8E	34.6	0.6*	1.0	0.6	-	3.5	29.5	33.6	gps
External ROW		0.7	0	0	0	0.7	0	0	0.7	Com binati on
TOTAL ACRES		152.0	3.4	4.1	3.4	0.7	13.6	130.2	147.9	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
All	see attached schedule B for thinning restrictions.	See "other conditions"	Gaps will be painted with pink paint on the bole or tagged with blue "special management area" tags. Do not cut any pink paint banded trees.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)
Thinning Units	WH, DF / 2,200	FS-4200 road. Gate had DNR F1-3 lock.
Gap Areas	WH,DF / 660	
ROW	WH,DF / 110	
TOTAL MBF	2,970 mbf	

REMARKS:

Directions:

From Granite Falls, travel 12 miles along the Mt. Loop Highway to Forest Service road FS-42 (Mt. Pilchuck Road). Travel along the FS-42 road from 1.7 miles passing the Heather Lake trailhead, to the start of unit 1. F1-3 key required at gate at Heather Lake Trailhead.

Proceed another 0.6 miles to the junction of the FS-4210 road for access to units 3-11.

Proceed another 2.7 miles along the FS-42 road to the junction of the FS-4240 road for access to units 14-16.

See attached acreage tracking sheet for detailed break down of road ROW calculations. Skips, Gaps, and heavy thin areas highlighted on the tracking sheet are for planning purposes only (as of 6/5/23) and have not been factored into acreage calculations or marked in the field.

* Units 3, 4, and 16 have new road construction on old grades. Existing grade acres for new construction on grade has been deducted from new road total ROW acres. This number represents timber removal from expanding ROW with new construction.

ROW for new road construction and for existing roads that will be utilized, will be 20 feet from centerline, which equates to 40 feet of ROW width.

Basic Rx design elements

- No trees > 20" DBH shall be cut unless for safety or operational purposes
- Target RD of 35
- Thin from below with irregular spacing and clumps of residual trees
- Retain minor species and target major species
- No cutting of cedar, red alder, pacific yew, and other minor species.

Prepared By: Mark Arneson

Title: Fed Lands Dist Lead

CC:

John Moon

Date: 6/6/2023

Project Name: Pilchuck Restoration Thin

Sale Type: MBF SCALE

Lead Cruiser: Matt Llobet - DNR State Lands Check Cruiser

Other Cruisers: Bailey Vos - DNR State Lands Forester

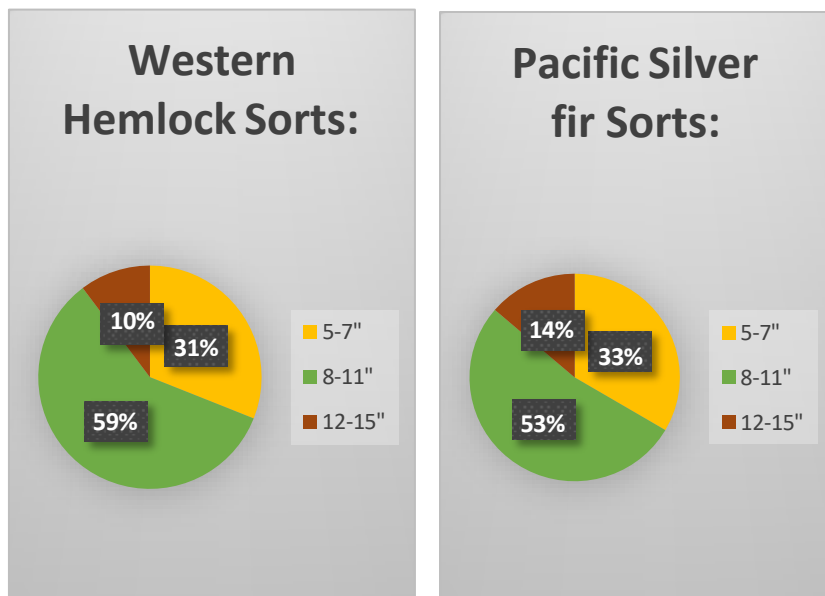
The Pilchuck Restoration Timber Sale is a 16 unit timber sale located off the USFS-4200 mainline road and can be accessed off the Mountain Loop Highway. The sale ranges from 1400 feet to 2800 feet in elevation and forest roads provide good drivable access.

All thinning units were sampled using a full 54.4 BAF and a 1:1 sample ratio was applied. The rights of way and Gap units were sampled with a full 54.4 BAF and a 100% sample was applied. The smallest merchantable tree cruised throughout the sale had a DBH of 7.0 inches and 5.0 inches at 16 feet. My plots were generated in GIS and located in the field using Avenza Maps. Bole height was measured with a laser and taken to a 5" top or break point (40% of diameter at 16 feet). Trees were segmented into preferred west-side log lengths and taking into account location of defect within each tree cruised.

- Conifer log lengths were cruised in 2 foot multiples - maximizing 32-40 ft. lengths.
- Hardwood log lengths were cruised in 10 foot multiples - no longer than 30 feet long.

My total net cruise volume for Pilchuck Restoration is 3,589 MBF. The stand characteristics throughout the sale showed uniformly stocked, "plantation-style" Western Hemlock and Pacific Silver fir in the small-medium diameter range. Pilchuck Restoration TS cruised out at 24,250 BF per acre and all live timber showed excellent form. The species composition consists of Western Hemlock, Pacific Silver fir, Douglas fir, Western Red Cedar, and scattered hardwoods. Western Hemlock and Pacific Silver fir made up 99% of the sale volume amounting to 3,536 MBF.

WH & SF Sorts:



Right of Way:

The ROW volume associated with the Pilchuck Restoration TS is a combination of fully timbered new construction and partially timbered old road grade. The ROW units cruised out at a weighted volume of 36,317 BF per acre of sawlog volume.

Logging and Stand Conditions:

Approximately 100% of the sale is ground base harvest. All units consist of an open understory with mild terrain, making for productive operator ground.

Timber Sale Cruise Report Pilchuck Restoration Timber Sale

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.5			3,298	329	2,403	557	10
SF	14.3			247	34	167	46	
DF	16.6			41	19	17	5	
RA	13.5			2			2	
RC	28.0			1		1		
ALL	13.6			3,589	381	2,589	609	10

Timber Sale Notice Weight (tons)

Sp	Tons by Grade				
	All	2 Saw	3 Saw	4 Saw	Utility
WH	28,213	2,614	20,162	5,359	79
SF	1,935	249	1,287	399	
DF	302	137	129	37	
RA	16			16	
RC	12		12		
ALL	30,478	3,000	21,589	5,811	79

Timber Sale Overall Cruise Statistics

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
327.7	3.0	127.6	1.3	41,664	3.3

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
Unit 1	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	4.9		4	4	0
Unit 2	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.9		2	2	0
Unit 3	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	15.7		12	6	0
Unit 4	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	6.0		5	5	0
Unit 5	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	10.1		8	5	0
Unit 6	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.4		2	2	0
Unit 7	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.5		2	2	0
Unit 8	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.8		2	2	0
Unit 9	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	3.3		4	3	0
Unit 10	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	2.1		4	3	0
Unit 11	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	8.0		8	5	0
Unit 12	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	2.0		2	2	0
Unit 13	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.1		2	2	0
Unit 14	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	17.4		13	8	0
Unit 15	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	19.8		14	7	0
Unit 16	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	29.4		20	10	0
External ROW	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	0.7		3	3	0
Internal ROW	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.4		4	4	0
Gap Areas	B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	13.3		11	7	0
All		148.0		122	82	0

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	13.0	40	128	128	0.0	136.8	18.9
DF	LIVE	3 SAW	Domestic	8.6	35	114	114	0.0	128.8	16.9
DF	LIVE	4 SAW	Domestic	5.7	32	32	32	0.0	36.6	4.7
RA	LIVE	4 SAW	Domestic	8.8	30	11	11	0.0	15.9	1.7
RC	LIVE	3 SAW	Domestic	12.9	35	10	10	0.0	11.8	1.4
SF	LIVE	2 SAW	Domestic	13.1	32	244	230	5.8	249.0	34.0
SF	LIVE	3 SAW	Domestic	8.7	35	1,143	1,131	1.1	1,286.6	167.4
SF	LIVE	4 SAW	Domestic	5.8	23	310	310	0.0	399.2	45.8
WH	LIVE	2 SAW	Domestic	12.6	35	2,224	2,220	0.2	2,613.8	328.5
WH	LIVE	3 SAW	Domestic	8.8	35	16,257	16,242	0.1	20,161.7	2,403.1
WH	LIVE	4 SAW	Domestic	5.7	26	3,775	3,760	0.4	5,359.2	556.4
WH	LIVE	CULL	Cull	15.6	4	8	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	4.5	22	68	68	0.0	78.5	10.1

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Domestic	5.7	32	32	0.0	36.6	4.7
DF	8 - 11	LIVE	Domestic	8.8	38	114	0.0	128.8	16.9
DF	12 - 15	LIVE	Domestic	13.5	40	128	0.0	136.8	18.9
RA	5+	LIVE	Domestic	8.8	30	11	0.0	15.9	1.7
RC	5+	LIVE	Domestic	12.9	35	10	0.0	11.8	1.4
SF	5 - 7	LIVE	Domestic	6.3	28	558	0.0	694.1	82.5
SF	8 - 11	LIVE	Domestic	9.6	36	883	1.4	991.7	130.6
SF	12 - 15	LIVE	Domestic	13.1	32	230	5.8	249.0	34.0
WH	< 5	LIVE	Pulp	4.0	15	8	0.0	16.0	1.1
WH	5 - 7	LIVE	Pulp	5.1	30	60	0.0	62.5	8.9
WH	5 - 7	LIVE	Domestic	6.0	29	6,895	0.2	9,518.7	1,020.2
WH	8 - 11	LIVE	Domestic	9.7	36	13,043	0.1	15,928.9	1,929.9
WH	12 - 15	LIVE	Domestic	12.7	36	2,284	0.2	2,687.0	337.9
WH	12 - 15	LIVE	Cull	15.6	4	0	100.0	0.0	0.0

Cruise Unit Report Unit 1

Unit Sale Notice Volume (MBF): Unit 1

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	14.6			119	40	68	10	0
ALL	14.6			119	40	68	10	0

Unit Cruise Design: Unit 1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	4.9		4	4	0

Unit Cruise Summary: Unit 1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		1	0.3	0
SF		1	0.3	0
WH	11	20	5.0	0
ALL	11	22	5.5	0

Unit Cruise Statistics: Unit 1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RC	13.6	200.0	100.0						
SF	13.6	200.0	100.0						
WH	272.2	43.2	21.6	161.0	10.8	3.3	43,814	44.5	21.8
ALL	299.4	34.8	17.4	161.0	10.8	3.3	48,195	36.5	17.7

Unit Summary: Unit 1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RC	LIVE	LEA	1	ALL	26.4	70	88				3.6	13.6	2.6	
SF	LIVE	LEA	1	ALL	26.6	105	135				3.5	13.6	2.6	
WH	LIVE	CUT	11	ALL	14.6	74	105	24,097	24,097	0.0	128.8	149.7	39.2	119.0
WH	LIVE	LEA	9	ALL	18.0	77	101	19,716	19,716	0.0	69.3	122.5	28.9	97.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	11	ALL	14.6	74	105	24,097	24,097	0.0	128.8	149.7	39.2	119.0
ALL	LIVE	LEA	11	ALL	19.0	78	102	19,716	19,716	0.0	76.4	149.7	34.2	97.4
ALL	ALL	ALL	22	ALL	16.4	75	104	43,814	43,814	0.0	205.2	299.4	73.3	216.4

Cruise Unit Report Unit 2

Unit Sale Notice Volume (MBF): Unit 2

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	11.9			44	36	8
ALL	11.9			44	36	8

Unit Cruise Design: Unit 2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.9		2	2	0

Unit Cruise Summary: Unit 2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	6	12	6.0	0
ALL	6	12	6.0	0

Unit Cruise Statistics: Unit 2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	326.6	23.6	16.7	141.2	20.4	8.3	46,120	31.2	18.6
ALL	326.6	23.6	16.7	141.2	20.4	8.3	46,120	31.2	18.6

Unit Summary: Unit 2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	6	ALL	11.9	67	95	23,060	23,060	0.0	211.5	163.3	47.3	43.8
WH	LIVE	LEA	6	ALL	14.0	70	96	23,060	23,060	0.0	152.8	163.3	43.6	43.8
ALL	LIVE	LEA	6	ALL	14.0	70	96	23,060	23,060	0.0	152.8	163.3	43.6	43.8
ALL	LIVE	CUT	6	ALL	11.9	67	95	23,060	23,060	0.0	211.5	163.3	47.3	43.8
ALL	ALL	ALL	12	ALL	12.8	68	95	46,121	46,121	0.0	364.3	326.6	91.0	87.6

Cruise Unit Report Unit 3

Unit Sale Notice Volume (MBF): Unit 3

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	13.8			375	300	75
ALL	13.8			375	300	75

Unit Cruise Design: Unit 3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	15.7		12	6	0

Unit Cruise Summary: Unit 3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		3	0.3	0
WH	15	68	5.7	0
ALL	15	71	5.9	0

Unit Cruise Statistics: Unit 3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	13.6	248.6	71.8						
WH	308.5	41.4	12.0	150.0	14.7	3.8	46,275	44.0	12.5
ALL	322.1	39.8	11.5	150.0	14.7	3.8	48,317	42.4	12.1

Unit Summary: Unit 3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	0	ALL	14.0						4.2	4.5	1.2	
SF	LIVE	LEA	1	ALL	20.2	88	113				4.1	9.1	2.0	
WH	LIVE	CUT	15	ALL	13.6	78	104	23,818	23,818	0.0	157.4	158.8	43.1	374.7
WH	LIVE	LEA	14	ALL	19.4	87	112	22,457	22,457	0.0	72.9	149.7	34.0	353.3
ALL	LIVE	LEA	15	ALL	19.4	87	112	22,457	22,457	0.0	77.0	158.8	36.0	353.3
ALL	LIVE	CUT	15	ALL	13.6	78	104	23,818	23,818	0.0	161.6	163.3	44.3	374.7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	30	ALL	15.7	81	107	46,275	46,275	0.0	238.6	322.1	80.3	727.9

Cruise Unit Report Unit 4

Unit Sale Notice Volume (MBF): Unit 4

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	10.9			156	11	107	28	9
SF	11.9			5		5		
ALL	10.9			161	11	113	28	9

Unit Cruise Design: Unit 4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	6.0		5	5	0

Unit Cruise Summary: Unit 4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		1	0.2	0
WH	12	26	5.2	0
SF	1	6	1.2	0
ALL	13	33	6.6	0

Unit Cruise Statistics: Unit 4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RC	10.9	223.6	100.0						
WH	283.1	43.9	19.6	133.5	21.2	6.1	37,793	48.7	20.5
SF	65.3	91.3	40.8	81.6	0.0	0.0	5,329	91.3	40.8
ALL	359.3	43.7	19.5	123.8	24.8	6.9	44,470	50.2	20.7

Unit Summary: Unit 4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RC	LIVE	LEA	1	ALL	24.6	70	88				3.3	10.9	2.2	
SF	LIVE	CUT	1	ALL	11.9	53	65	888	888	0.0	14.1	10.9	3.2	5.3
SF	LIVE	LEA	3	ALL	18.6	80	105	4,441	4,441	0.0	28.9	54.4	12.6	26.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	12	ALL	11.5	59	84	26,164	26,164	0.0	271.7	196.0	57.8	155.9
WH	LIVE	LEA	3	ALL	19.5	88	108	11,629	11,629	0.0	42.0	87.1	19.7	69.3
ALL	LIVE	CUT	13	ALL	11.5	58	83	27,053	27,053	0.0	285.8	206.9	60.9	161.2
ALL	LIVE	LEA	7	ALL	19.4	84	106	16,069	16,069	0.0	74.2	152.4	34.5	95.8
ALL	ALL	ALL	20	ALL	13.5	64	88	43,122	43,122	0.0	360.0	359.3	95.5	257.0

Cruise Unit Report Unit 5

Unit Sale Notice Volume (MBF): Unit 5

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	12.1			193	149	44
SF	13.0			8	6	2
ALL	12.1			202	155	47

Unit Cruise Design: Unit 5

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	10.1		8	5	0

Unit Cruise Summary: Unit 5

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	14	41	5.1	0
SF	1	4	0.5	0
ALL	15	45	5.6	0

Unit Cruise Statistics: Unit 5

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	279.0	33.7	11.9	128.3	22.9	6.1	35,798	40.7	13.4
SF	27.2	185.2	65.5	118.3	0.0	0.0	3,219	185.2	65.5
ALL	306.2	34.2	12.1	127.4	22.3	5.8	39,016	40.8	13.4

Unit Summary: Unit 5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	1	ALL	13.0	65	99	805	805	0.0	7.4	6.8	1.9	8.1
SF	LIVE	LEA	3	ALL	20.0	80	102	2,414	2,414	0.0	9.4	20.4	4.6	24.3
WH	LIVE	CUT	14	ALL	12.6	62	81	19,208	19,208	0.0	172.9	149.7	42.2	193.4
WH	LIVE	LEA	13	ALL	19.5	82	104	16,589	16,589	0.0	62.3	129.3	29.3	167.1
ALL	LIVE	LEA	16	ALL	19.6	82	103	19,003	19,003	0.0	71.7	149.7	33.8	191.4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	15	ALL	12.6	62	82	20,013	20,013	0.0	180.3	156.5	44.1	201.5
ALL	ALL	ALL	31	ALL	14.9	68	88	39,016	39,016	0.0	252.0	306.2	77.9	392.9

Cruise Unit Report Unit 6

Unit Sale Notice Volume (MBF): Unit 6

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	13.9			26	22	4
ALL	13.9			26	22	4

Unit Cruise Design: Unit 6

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.4		2	2	0

Unit Cruise Summary: Unit 6

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		2	1.0	0
WH	5	9	4.5	0
ALL	5	11	5.5	0

Unit Cruise Statistics: Unit 6

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	54.4	0.0	0.0						
WH	245.0	15.7	11.1	140.4	12.4	5.5	34,390	20.0	12.4
ALL	299.4	12.9	9.1	140.4	12.4	5.5	42,033	17.8	10.6

Unit Summary: Unit 6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	LEA	2	ALL	20.3	88	120				24.2	54.4	12.1	
WH	LIVE	CUT	5	ALL	13.9	71	91	19,186	19,106	0.4	129.2	136.1	36.5	25.8
WH	LIVE	LEA	4	ALL	22.1	85	106	15,348	15,285	0.4	40.9	108.9	23.2	20.6
ALL	LIVE	CUT	5	ALL	13.9	71	91	19,186	19,106	0.4	129.2	136.1	36.5	25.8
ALL	LIVE	LEA	6	ALL	21.4	86	111	15,348	15,285	0.4	65.1	163.3	35.2	20.6
ALL	ALL	ALL	11	ALL	16.8	76	98	34,534	34,390	0.4	194.3	299.4	71.7	46.4

Cruise Unit Report Unit 7

Unit Sale Notice Volume (MBF): Unit 7

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	13.9			50	42	8
SF	16.2			14	14	
ALL	14.3			64	56	8

Unit Cruise Design: Unit 7

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.5		2	2	0

Unit Cruise Summary: Unit 7

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	4	7	3.5	0
SF	1	4	2.0	0
ALL	5	11	5.5	0

Unit Cruise Statistics: Unit 7

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	190.5	60.6	42.9	131.1	13.9	7.0	24,980	62.2	43.4
SF	108.9	141.4	100.0	147.4	0.0	0.0	16,049	141.4	100.0
ALL	299.4	12.9	9.1	137.0	12.7	5.7	41,029	18.1	10.7

Unit Summary: Unit 7

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	1	ALL	16.2	85	108	4,526	4,012	11.3	19.0	27.2	6.8	14.0
SF	LIVE	LEA	3	ALL	24.6	97	124	13,577	12,036	11.3	24.7	81.7	16.5	42.0
WH	LIVE	CUT	4	ALL	13.9	69	86	14,274	14,274	0.0	103.3	108.9	29.2	49.8
WH	LIVE	LEA	3	ALL	19.2	87	110	10,706	10,706	0.0	40.6	81.7	18.6	37.4
ALL	LIVE	CUT	5	ALL	14.3	71	89	18,800	18,287	2.7	122.3	136.1	36.0	63.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	LEA	6	ALL	21.4	91	115	24,282	22,742	6.3	65.3	163.3	35.1	79.4
ALL	ALL	ALL	11	ALL	17.1	78	98	43,082	41,029	4.8	187.6	299.4	71.1	143.2

Cruise Unit Report Unit 8

Unit Sale Notice Volume (MBF): Unit 8

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.2			34	5	25	4
ALL	15.2			34	5	25	4

Unit Cruise Design: Unit 8

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.8		2	2	0

Unit Cruise Summary: Unit 8

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		1	0.5	0
WH	5	10	5.0	0
ALL	5	11	5.5	0

Unit Cruise Statistics: Unit 8

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	27.2	141.4	100.0						
WH	272.2	0.0	0.0	140.9	9.4	4.2	38,345	9.4	4.2
ALL	299.4	12.9	9.1	140.9	9.4	4.2	42,179	15.9	10.0

Unit Summary: Unit 8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	LEA	1	ALL	20.2	80	102				12.2	27.2	6.1	
WH	LIVE	CUT	5	ALL	15.2	74	93	19,809	19,172	3.2	108.0	136.1	34.9	34.3
WH	LIVE	LEA	5	ALL	20.2	85	106	19,809	19,172	3.2	61.2	136.1	30.3	34.3
ALL	LIVE	CUT	5	ALL	15.2	74	93	19,809	19,172	3.2	108.0	136.1	34.9	34.3
ALL	LIVE	LEA	6	ALL	20.2	84	106	19,809	19,172	3.2	73.4	163.3	36.3	34.3
ALL	ALL	ALL	11	ALL	17.4	78	98	39,618	38,345	3.2	181.4	299.4	71.2	68.6

Cruise Unit Report Unit 9

Unit Sale Notice Volume (MBF): Unit 9

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	14.1			72	66	7
SF	16.0			6	5	1
ALL	14.3			78	71	7

Unit Cruise Design: Unit 9

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	3.3		4	3	0

Unit Cruise Summary: Unit 9

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		1	0.3	0
WH	9	20	5.0	0
SF	1	2	0.5	0
ALL	10	23	5.8	0

Unit Cruise Statistics: Unit 9

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	13.6	200.0	100.0						
WH	272.2	16.3	8.2	144.0	11.4	3.8	39,204	19.9	9.0
SF	27.2	200.0	100.0	128.2	0.0	0.0	3,490	200.0	100.0
ALL	313.0	8.7	4.3	142.6	11.4	3.6	44,634	14.3	5.6

Unit Summary: Unit 9

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	1	ALL	22.7	96	123				4.8	13.6	2.9	
SF	LIVE	CUT	1	ALL	16.0	67	84	1,745	1,745	0.0	9.7	13.6	3.4	5.8
SF	LIVE	LEA	1	ALL	20.7	80	102	1,745	1,745	0.0	5.8	13.6	3.0	5.8

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	9	ALL	13.8	72	90	21,562	21,562	0.0	144.1	149.7	40.3	72.0
WH	LIVE	LEA	6	ALL	18.7	81	102	17,642	17,642	0.0	64.2	122.5	28.3	58.9
ALL	LIVE	CUT	10	ALL	13.9	72	89	23,307	23,307	0.0	153.8	163.3	43.7	77.8
ALL	LIVE	LEA	8	ALL	19.1	82	103	19,387	19,387	0.0	74.8	149.7	34.2	64.8
ALL	ALL	ALL	18	ALL	15.8	75	94	42,693	42,693	0.0	228.6	313.0	77.9	142.6

Cruise Unit Report Unit 10

Unit Sale Notice Volume (MBF): Unit 10

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.4			39	4	27	8
ALL	12.4			39	4	27	8

Unit Cruise Design: Unit 10

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	2.1		4	3	0

Unit Cruise Summary: Unit 10

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	8	21	5.3	0
ALL	8	21	5.3	0

Unit Cruise Statistics: Unit 10

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	285.8	32.5	16.3	133.7	20.4	7.2	38,204	38.4	17.8
ALL	285.8	32.5	16.3	133.7	20.4	7.2	38,204	38.4	17.8

Unit Summary: Unit 10

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	8	ALL	12.6	64	79	18,192	18,192	0.0	157.2	136.1	38.3	38.9
WH	LIVE	LEA	7	ALL	18.4	82	103	20,012	20,012	0.0	81.1	149.7	34.9	42.8
ALL	LIVE	LEA	7	ALL	18.4	82	103	20,012	20,012	0.0	81.1	149.7	34.9	42.8
ALL	LIVE	CUT	8	ALL	12.6	64	79	18,192	18,192	0.0	157.2	136.1	38.3	38.9
ALL	ALL	ALL	15	ALL	14.8	70	87	38,204	38,204	0.0	238.3	285.8	73.2	81.8

Cruise Unit Report Unit 11

Unit Sale Notice Volume (MBF): Unit 11

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.7			187	18	134	35
ALL	12.7			187	18	134	35

Unit Cruise Design: Unit 11

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	8.0		8	5	0

Unit Cruise Summary: Unit 11

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		5	0.6	0
DF		1	0.1	0
WH	18	45	5.6	0
ALL	18	51	6.4	0

Unit Cruise Statistics: Unit 11

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	34.0	119.0	42.1						
DF	6.8	282.8	100.0						
WH	306.2	34.2	12.1	126.7	16.4	3.9	38,784	37.9	12.7
ALL	347.1	25.1	8.9	126.7	16.4	3.9	43,955	29.9	9.7

Unit Summary: Unit 11

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	1	ALL	21.1	100	128				2.8	6.8	1.5	
SF	LIVE	CUT	0	ALL	14.8						5.7	6.8	1.8	
SF	LIVE	LEA	2	ALL	22.2	97	124				10.1	27.2	5.8	
WH	LIVE	CUT	18	ALL	12.8	64	79	23,270	23,270	0.0	205.6	183.7	51.4	187.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	LEA	11	ALL	18.6	82	102	15,514	15,514	0.0	64.9	122.5	28.4	124.7
ALL	LIVE	CUT	18	ALL	12.9	64	79	23,270	23,270	0.0	211.3	190.5	53.1	187.1
ALL	LIVE	LEA	14	ALL	19.2	85	106	15,514	15,514	0.0	77.8	156.5	35.7	124.7
ALL	ALL	ALL	32	ALL	14.8	70	86	38,784	38,784	0.0	289.1	347.1	88.8	311.8

Cruise Unit Report Unit 12

Unit Sale Notice Volume (MBF): Unit 12

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	17.2			35	14	17	4
ALL	17.2			35	14	17	4

Unit Cruise Design: Unit 12

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	2.0		2	2	0

Unit Cruise Summary: Unit 12

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
SF		1	0.5	0
WH	4	9	4.5	0
ALL	4	10	5.0	0

Unit Cruise Statistics: Unit 12

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
SF	27.2	141.4	100.0						
WH	245.0	15.7	11.1	156.8	3.7	1.9	38,410	16.2	11.3
ALL	272.2	0.0	0.0	156.8	3.7	1.9	42,678	3.7	1.9

Unit Summary: Unit 12

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	LEA	1	ALL	24.5	91	116				8.3	27.2	5.5	
WH	LIVE	CUT	4	ALL	17.2	80	100	17,071	17,071	0.0	67.5	108.9	26.3	34.5
WH	LIVE	LEA	5	ALL	21.0	93	114	21,339	21,339	0.0	56.6	136.1	29.7	43.1
ALL	LIVE	LEA	6	ALL	21.5	92	114	21,339	21,339	0.0	64.9	163.3	35.2	43.1
ALL	LIVE	CUT	4	ALL	17.2	80	100	17,071	17,071	0.0	67.5	108.9	26.3	34.5
ALL	ALL	ALL	10	ALL	19.4	86	107	38,410	38,410	0.0	132.4	272.2	61.5	77.6

Cruise Unit Report Unit 13

Unit Sale Notice Volume (MBF): Unit 13

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
DF	15.4			30	11	14	5
WH	16.8			27		27	
ALL	15.8			57	11	41	5

Unit Cruise Design: Unit 13

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.1		2	2	0

Unit Cruise Summary: Unit 13

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	2	9	4.5	0
WH	1	2	1.0	0
ALL	3	11	5.5	0

Unit Cruise Statistics: Unit 13

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	245.0	15.7	11.1	173.2	6.8	4.8	42,427	17.1	12.1
WH	54.4	0.0	0.0	159.2	0.0	0.0	8,666	0.0	0.0
ALL	299.4	12.9	9.1	170.6	6.8	3.9	51,092	14.6	9.9

Unit Summary: Unit 13

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	15.4	90	121	9,428	9,428	0.0	42.1	54.4	13.9	29.6
DF	LIVE	LEA	2	ALL	24.4	105	135	32,999	32,999	0.0	58.7	190.5	38.6	103.6
WH	LIVE	CUT	1	ALL	14.0	85	110	8,666	8,666	0.0	50.9	54.4	14.5	27.2
ALL	LIVE	CUT	3	ALL	14.7	87	115	18,094	18,094	0.0	93.0	108.9	28.4	56.8
ALL	LIVE	LEA	2	ALL	24.4	105	135	32,999	32,999	0.0	58.7	190.5	38.6	103.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	ALL	ALL	5	ALL	19.0	94	123	51,092	51,092	0.0	151.7	299.4	67.0	160.4

Cruise Unit Report Unit 14

Unit Sale Notice Volume (MBF): Unit 14

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	13.2			270	28	181	61	1
SF	12.7			42		23	19	
ALL	13.2			312	28	204	80	1

Unit Cruise Design: Unit 14

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	17.4		13	8	0

Unit Cruise Summary: Unit 14

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		1	0.1	0
WH	20	62	4.8	0
SF	2	11	0.8	0
ALL	22	74	5.7	0

Unit Cruise Statistics: Unit 14

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	4.2	360.6	100.0						
WH	259.6	44.6	12.4	108.7	30.2	6.8	28,218	53.9	14.1
SF	46.1	94.6	26.2	96.2	40.2	28.4	4,431	102.8	38.7
ALL	309.9	29.9	8.3	106.8	30.5	6.5	33,097	42.7	10.5

Unit Summary: Unit 14

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	LEA	1	ALL	19.3	85	108				2.1	4.2	1.0	
SF	LIVE	CUT	2	ALL	13.1	48	67	2,417	2,417	0.0	26.8	25.1	6.9	42.1
SF	LIVE	LEA	4	ALL	19.3	84	102	2,014	2,014	0.0	10.3	20.9	4.8	35.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	20	ALL	12.8	53	71	15,475	15,475	0.0	159.3	142.4	39.8	269.6
WH	LIVE	LEA	18	ALL	20.3	71	85	12,744	12,744	0.0	52.2	117.3	26.0	222.0
ALL	LIVE	LEA	23	ALL	20.1	74	89	14,758	14,758	0.0	64.6	142.4	31.7	257.1
ALL	LIVE	CUT	22	ALL	12.8	53	71	17,892	17,892	0.0	186.1	167.5	46.7	311.7
ALL	ALL	ALL	45	ALL	15.1	58	75	32,650	32,650	0.0	250.7	309.9	78.5	568.8

Cruise Unit Report Unit 15

Unit Sale Notice Volume (MBF): Unit 15

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.5			519	96	359	65
ALL	15.5			519	96	359	65

Unit Cruise Design: Unit 15

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	19.8		14	7	0

Unit Cruise Summary: Unit 15

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA		1	0.1	0
SF		7	0.5	0
WH	22	88	6.3	0
ALL	22	96	6.9	0

Unit Cruise Statistics: Unit 15

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RA	3.9	374.2	100.0						
SF	27.2	171.0	45.7						
WH	342.2	29.6	7.9	122.8	16.2	3.4	42,021	33.7	8.6
ALL	373.3	28.5	7.6	122.8	16.2	3.4	45,841	32.8	8.4

Unit Summary: Unit 15

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	LEA	1	ALL	12.3	55	80				4.7	3.9	1.1	
SF	LIVE	CUT	0	ALL	18.0						2.2	3.9	0.9	
SF	LIVE	LEA	2	ALL	20.1	76	94				10.6	23.3	5.2	
WH	LIVE	CUT	22	ALL	13.4	65	83	26,263	26,263	0.0	218.4	213.9	58.4	519.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	LEA	21	ALL	19.0	70	87	15,758	15,758	0.0	65.2	128.3	29.4	311.5
ALL	LIVE	LEA	24	ALL	18.8	70	88	15,758	15,758	0.0	80.5	155.5	35.8	311.5
ALL	LIVE	CUT	22	ALL	13.5	65	83	26,263	26,263	0.0	220.6	217.8	59.3	519.2
ALL	ALL	ALL	46	ALL	15.1	66	84	42,021	42,021	0.0	301.1	373.3	95.1	830.7

Cruise Unit Report Unit 16

Unit Sale Notice Volume (MBF): Unit 16

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	12.6			499	397	102
SF	13.2			117	95	22
ALL	12.7			617	492	124

Unit Cruise Design: Unit 16

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	29.4		20	10	0

Unit Cruise Summary: Unit 16

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		1	0.1	0
WH	29	100	5.0	0
SF	4	23	1.2	0
ALL	33	124	6.2	0

Unit Cruise Statistics: Unit 16

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
RC	2.7	447.2	100.0						
WH	272.2	44.0	9.8	109.3	21.6	4.0	29,742	49.0	10.6
SF	62.6	127.0	28.4	122.1	11.7	5.8	7,642	127.6	29.0
ALL	337.5	32.9	7.4	111.7	20.5	3.6	37,688	38.8	8.2

Unit Summary: Unit 16

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RC	LIVE	LEA	1	ALL	23.9	52	60				0.9	2.7	0.6	
SF	LIVE	CUT	4	ALL	13.4	60	83	3,987	3,987	0.0	33.4	32.7	8.9	117.4
SF	LIVE	LEA	5	ALL	19.8	72	91	3,655	3,655	0.0	14.0	29.9	6.7	107.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	29	ALL	12.6	55	73	16,953	16,953	0.0	179.2	155.2	43.7	499.3
WH	LIVE	LEA	22	ALL	17.6	65	82	12,789	12,789	0.0	69.3	117.0	27.9	376.6
ALL	LIVE	LEA	28	ALL	18.1	66	83	16,444	16,444	0.0	84.2	149.7	35.2	484.3
ALL	LIVE	CUT	33	ALL	12.7	56	75	20,940	20,940	0.0	212.6	187.8	52.6	616.7
ALL	ALL	ALL	61	ALL	14.4	59	77	37,384	37,384	0.0	296.8	337.5	87.8	1,101.0

Cruise Unit Report External ROW

Unit Sale Notice Volume (MBF): External ROW

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.9			18	8	9	1
DF	23.0			2	2	0	
RA	13.5			2			2
RC	28.0			1		1	
ALL	16.1			23	10	11	3

Unit Cruise Design: External ROW

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	0.7		3	3	0

Unit Cruise Summary: External ROW

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	10	10	3.3	0
DF	1	1	0.3	0
RA	2	2	0.7	0
RC	1	1	0.3	0
ALL	14	14	4.7	0

Unit Cruise Statistics: External ROW

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	181.5	105.4	60.8	138.4	18.1	5.7	25,121	106.9	61.1
DF	18.1	173.2	100.0	150.4	0.0	0.0	2,730	173.2	100.0
RA	36.3	173.2	100.0	64.1	7.3	5.2	2,325	173.4	100.1
RC	18.1	173.2	100.0	110.4	0.0	0.0	2,003	173.2	100.0
ALL	254.1	44.6	25.8	126.7	27.5	7.3	32,178	52.4	26.8

Unit Summary: External ROW

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	23.0	85	108	2,730	2,730	0.0	6.3	18.1	3.8	2.0
RA	LIVE	CUT	2	ALL	13.5	50	60	2,325	2,325	0.0	36.5	36.3	9.9	1.7
RC	LIVE	CUT	1	ALL	28.0	77	98	2,003	2,003	0.0	4.2	18.1	3.4	1.4
WH	LIVE	CUT	10	ALL	15.9	68	87	25,121	25,121	0.0	131.6	181.5	45.5	18.1
ALL	LIVE	CUT	14	ALL	16.1	65	82	32,178	32,178	0.0	178.6	254.1	62.6	23.2
ALL	ALL	ALL	14	ALL	16.1	65	82	32,178	32,178	0.0	178.6	254.1	62.6	23.2

Cruise Unit Report Internal ROW

Unit Sale Notice Volume (MBF): Internal ROW

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	12.8			125	15	86	24
SF	18.5			12	9	3	
ALL	13.1			137	24	89	24

Unit Cruise Design: Internal ROW

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	3.4		4	4	0

Unit Cruise Summary: Internal ROW

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	21	21	5.3	0
SF	2	2	0.5	0
ALL	23	23	5.8	0

Unit Cruise Statistics: Internal ROW

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	285.8	24.0	12.0	127.2	18.2	4.0	36,366	30.1	12.6
SF	27.2	115.5	57.7	128.1	15.4	10.9	3,486	116.5	58.8
ALL	313.0	16.7	8.3	127.3	17.7	3.7	39,852	24.3	9.1

Unit Summary: Internal ROW

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	2	ALL	18.5	74	94	3,732	3,486	6.6	14.6	27.2	6.3	12.0
WH	LIVE	CUT	21	ALL	12.8	64	79	36,366	36,366	0.0	319.8	285.8	79.9	125.1
ALL	LIVE	CUT	23	ALL	13.1	64	80	40,098	39,852	0.6	334.4	313.0	86.2	137.1
ALL	ALL	ALL	23	ALL	13.1	64	80	40,098	39,852	0.6	334.4	313.0	86.2	137.1

Cruise Unit Report Gap Areas

Unit Sale Notice Volume (MBF): Gap Areas

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	13.4			510	90	351	69
SF	17.7			43	25	16	2
DF	19.0			9	7	2	
ALL	13.8			562	121	369	71

Unit Cruise Design: Gap Areas

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	13.3		11	7	0

Unit Cruise Summary: Gap Areas

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	42	58	5.3	0
SF	5	5	0.5	0
DF	1	1	0.1	0
ALL	48	64	5.8	0

Unit Cruise Statistics: Gap Areas

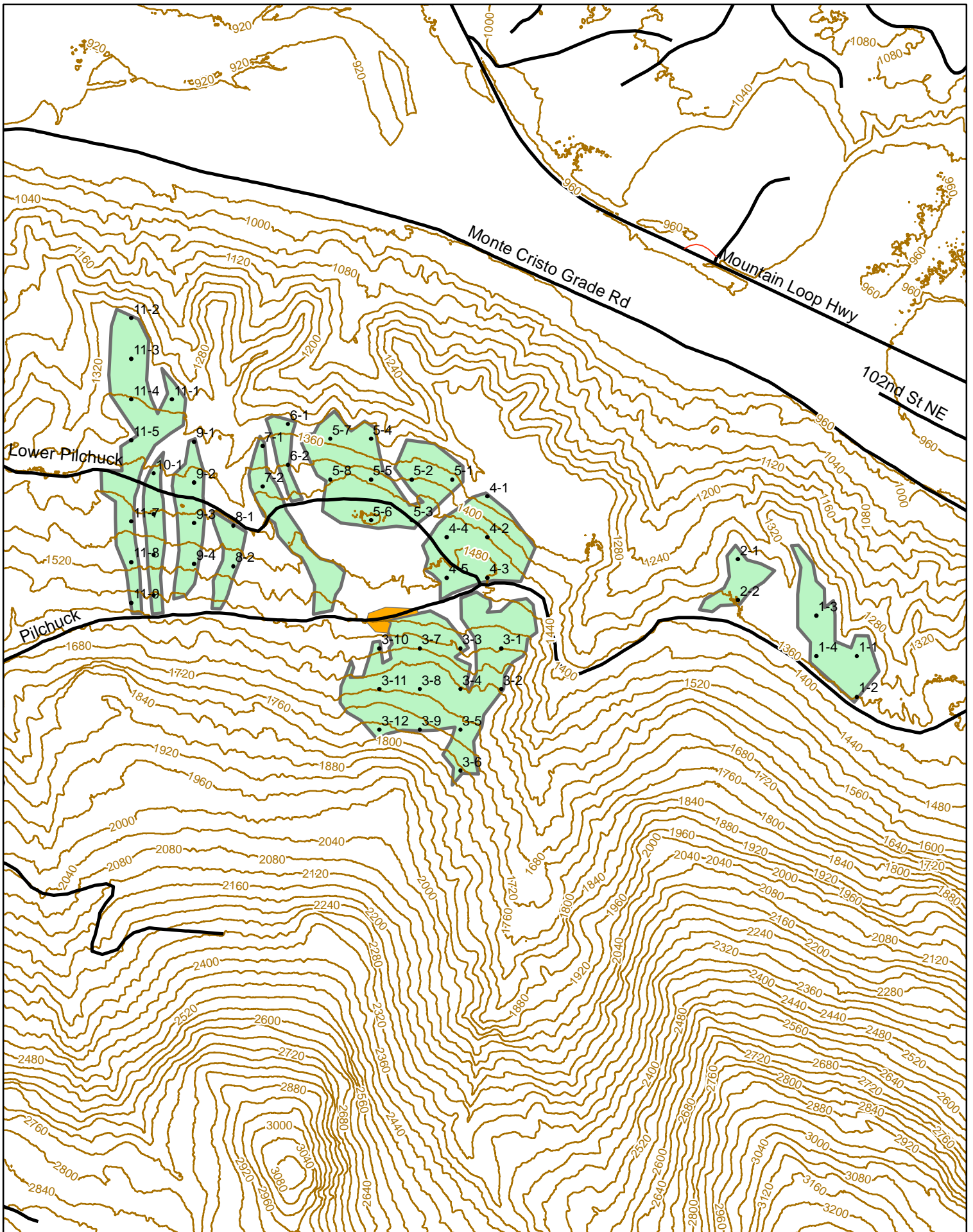
Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	287.0	37.1	11.2	134.2	18.3	2.8	38,510	41.3	11.5
SF	24.7	151.3	45.6	129.5	6.7	3.0	3,204	151.4	45.7
DF	4.9	331.7	100.0	135.1	0.0	0.0	669	331.7	100.0
ALL	316.7	36.7	11.1	133.8	17.3	2.5	42,383	40.6	11.3

Unit Summary: Gap Areas

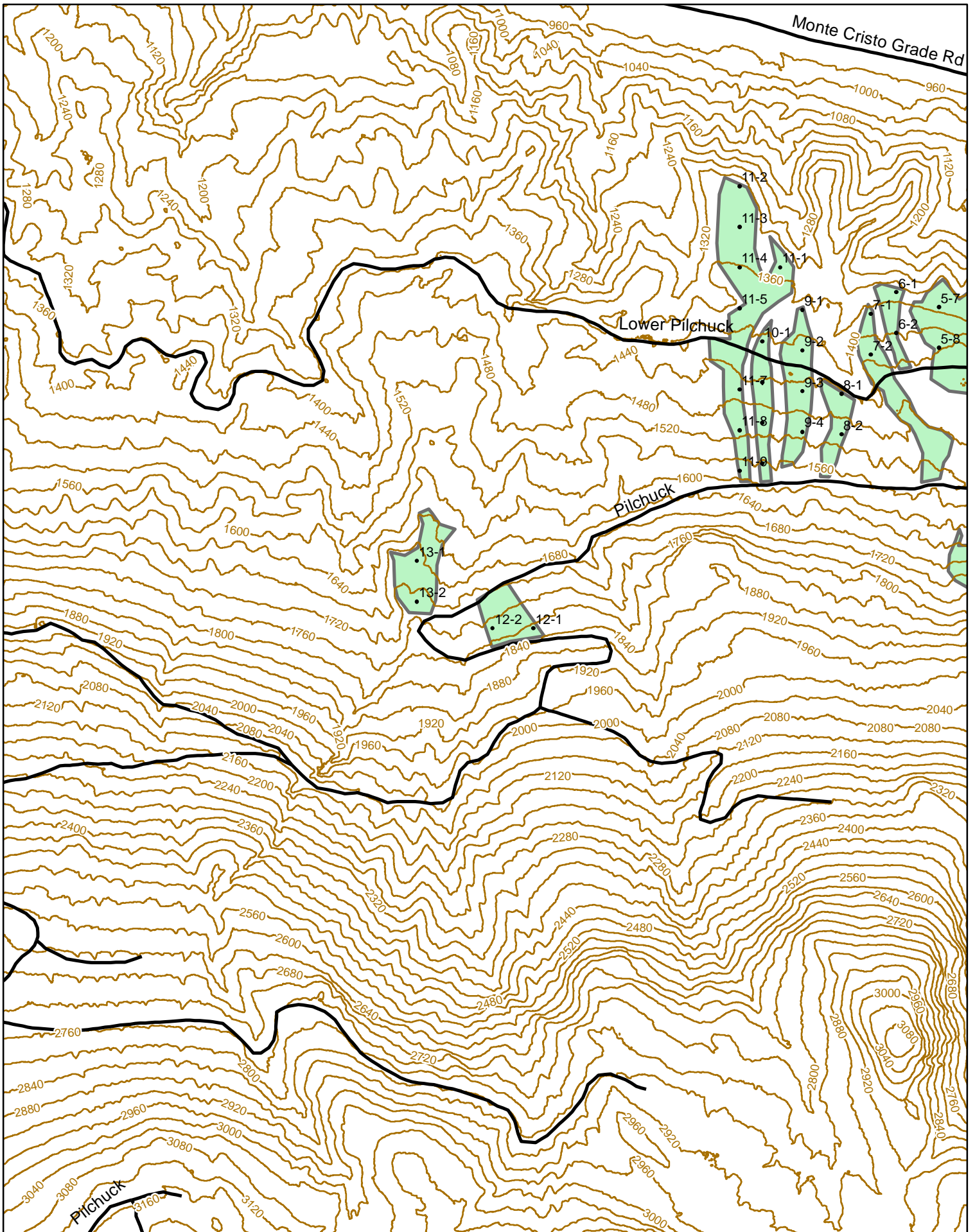
Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	19.0	86	109	669	669	0.0	2.5	4.9	1.1	8.9
SF	LIVE	CUT	5	ALL	17.7	72	91	3,298	3,204	2.8	14.5	24.7	5.9	42.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	42	ALL	13.4	66	82	38,875	38,510	0.9	293.1	287.0	78.4	510.3
ALL	LIVE	CUT	48	ALL	13.7	67	82	42,841	42,383	1.1	310.1	316.7	85.4	561.6
ALL	ALL	ALL	48	ALL	13.7	67	82	42,841	42,383	1.1	310.1	316.7	85.4	561.6

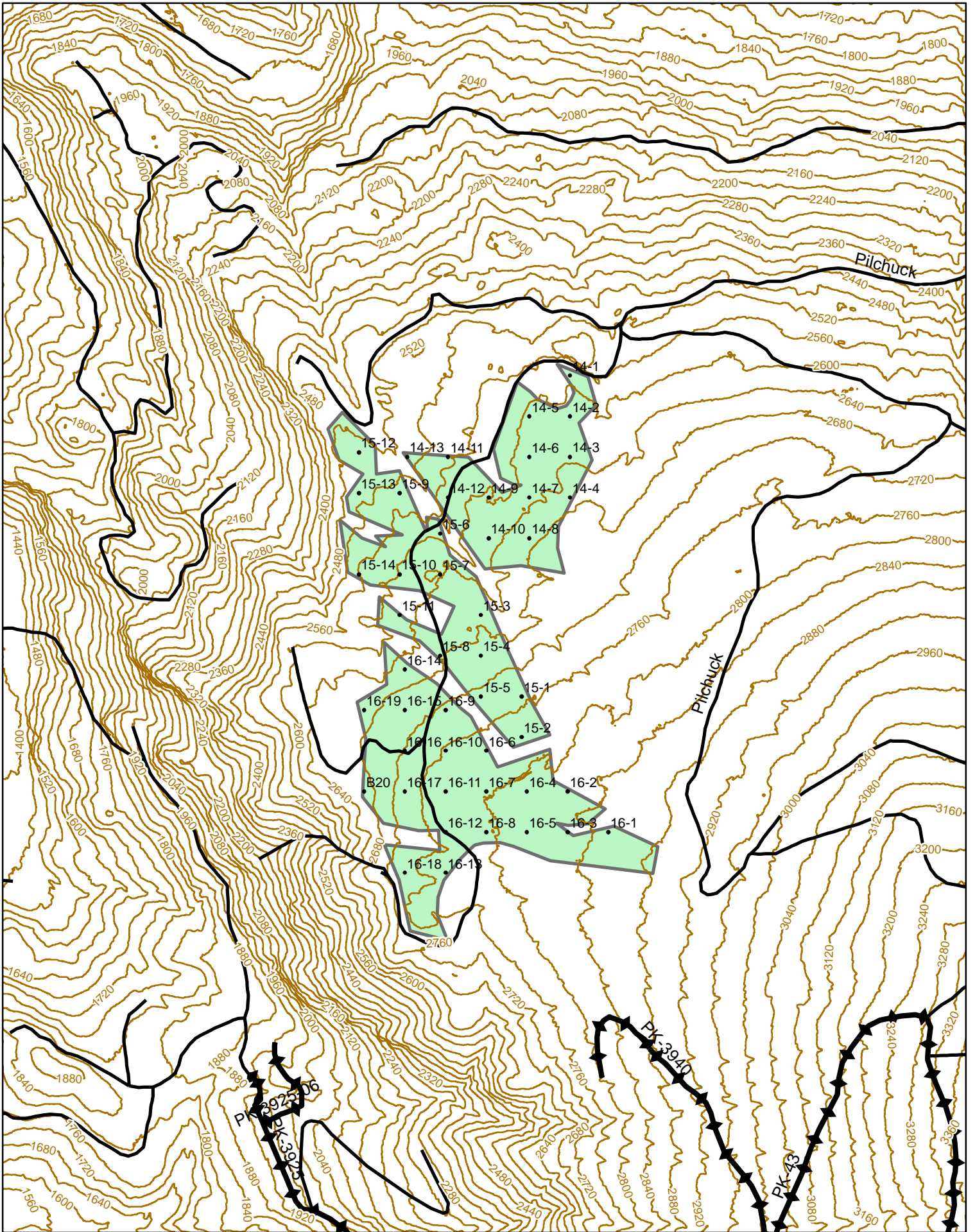
Pilchuck Restoration Thin



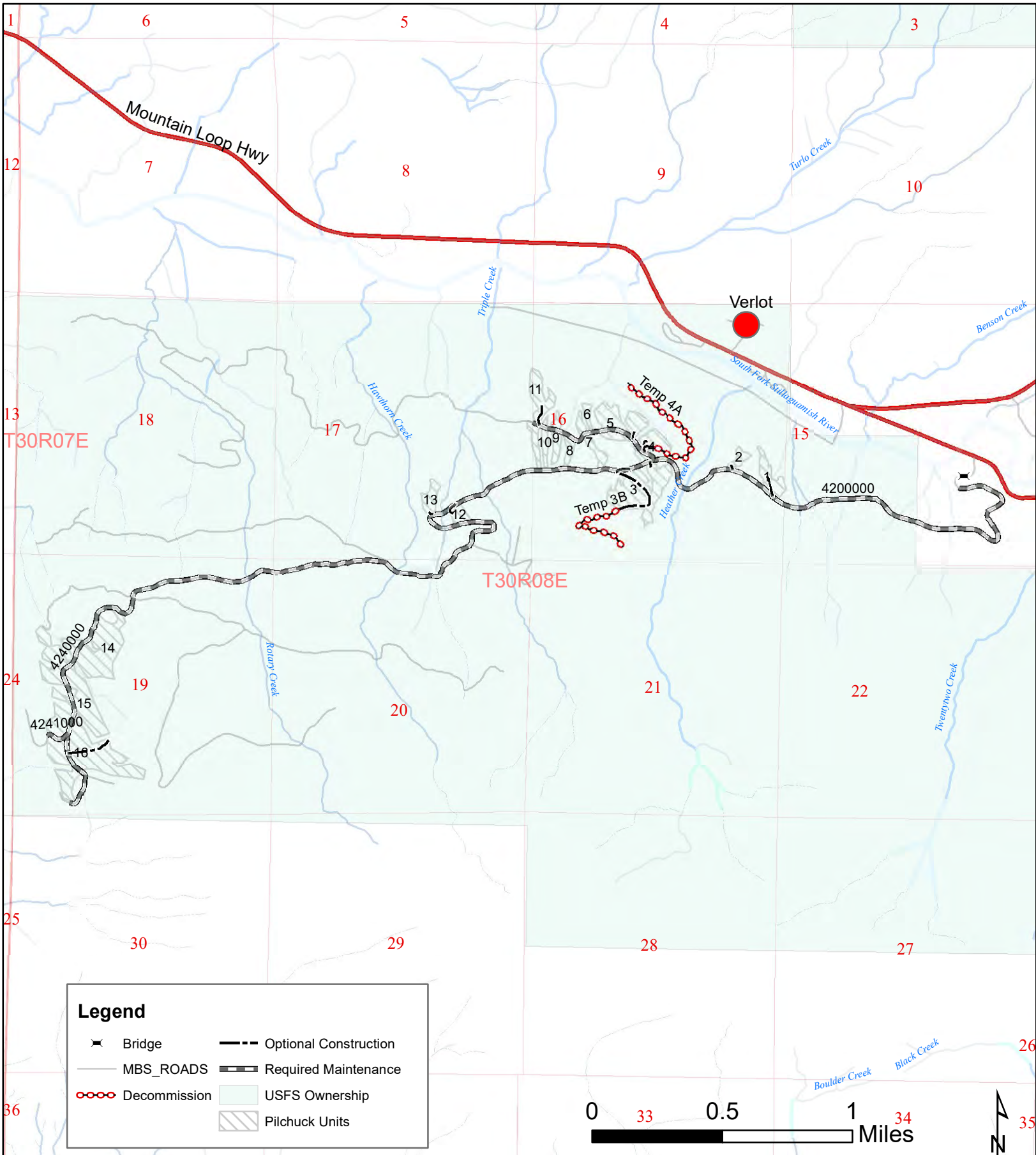
Pilchuck Restoration Thin

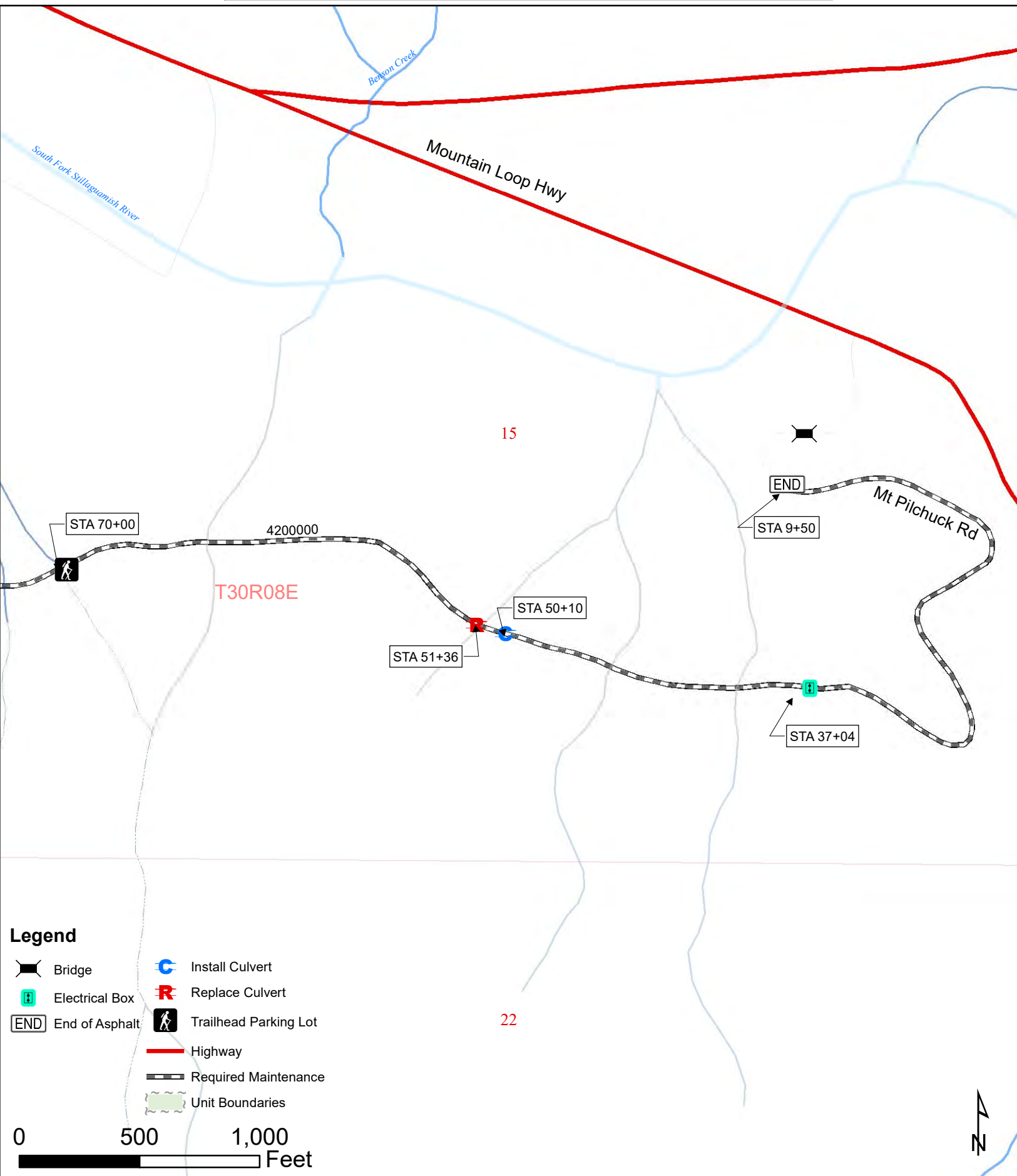


Pilchuck Restoration Thin

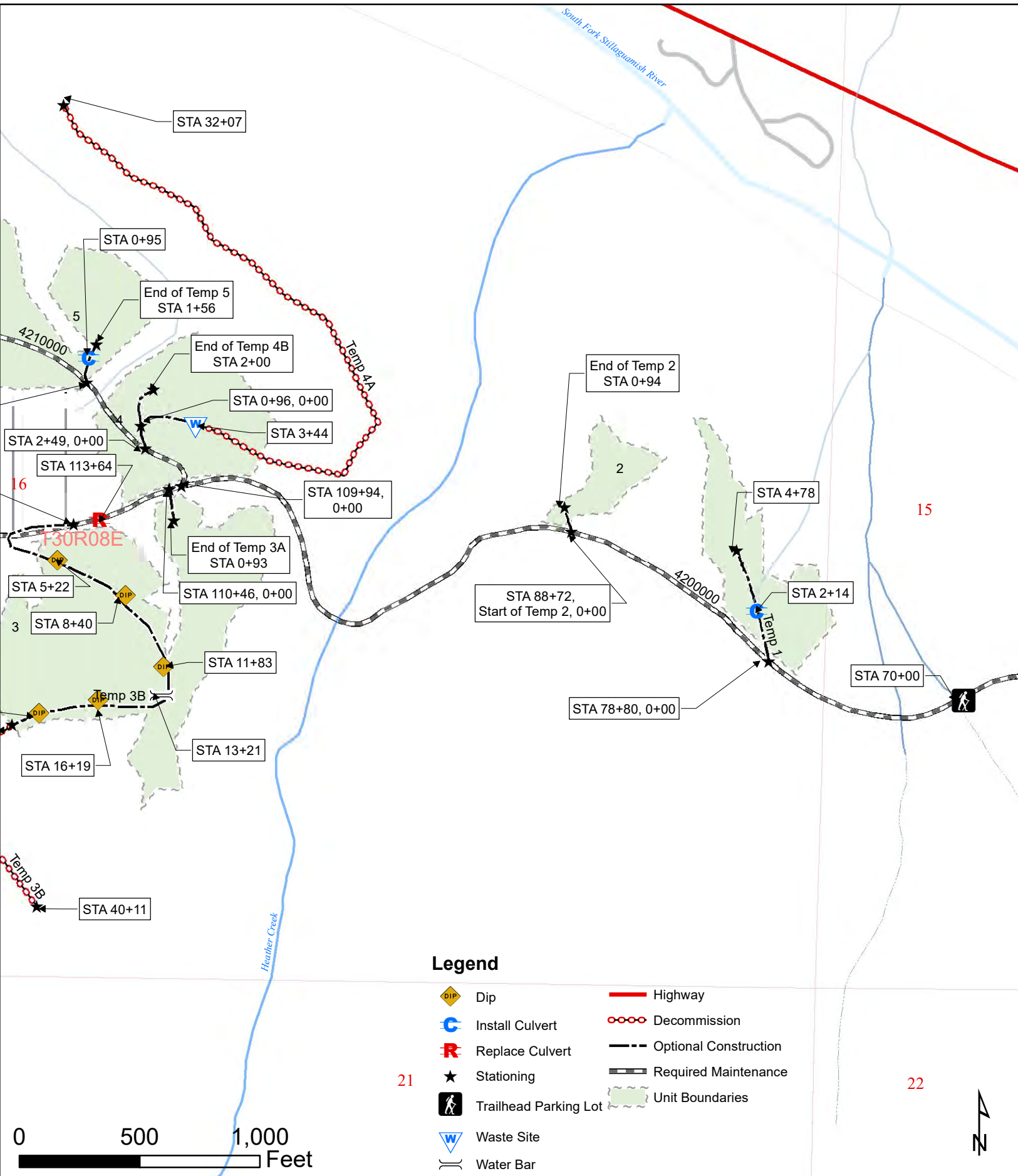


Pilchuck Timber Sale Page 1 of 7



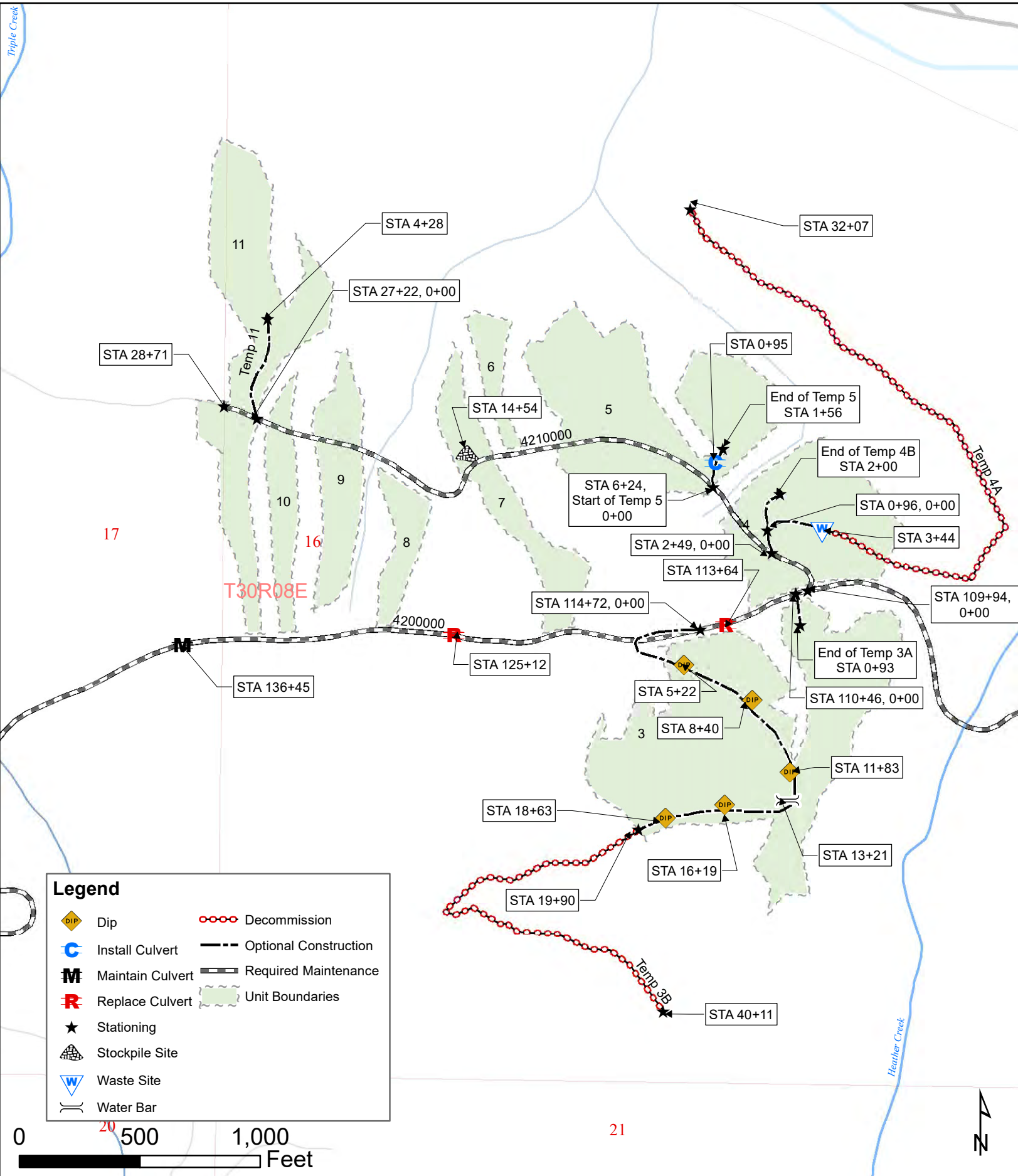


Pilchuck Timber Sale Page 3 of 7



0 500 1,000 Feet

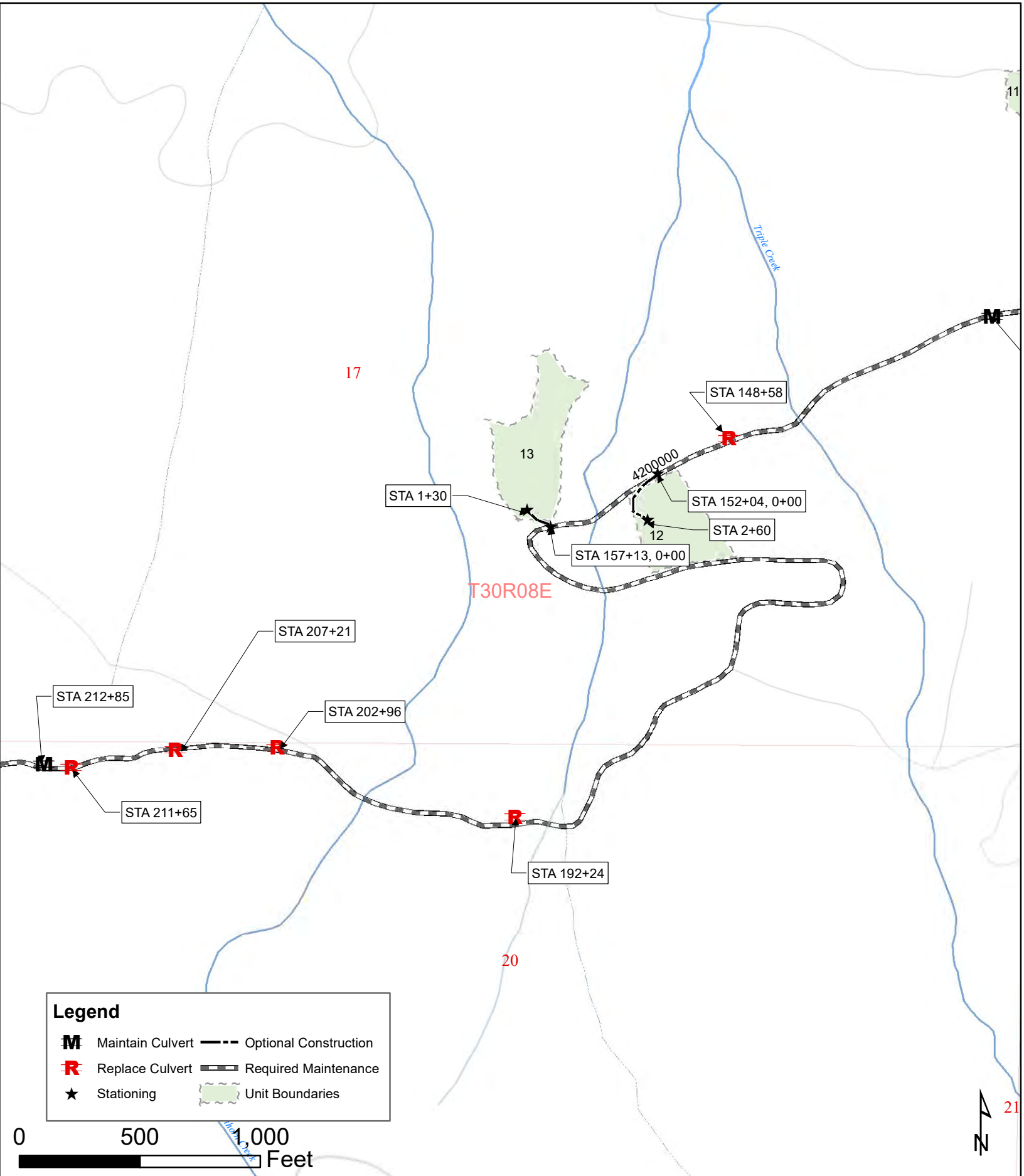
Pilchuck Timber Sale Page 4 of 7



Legend

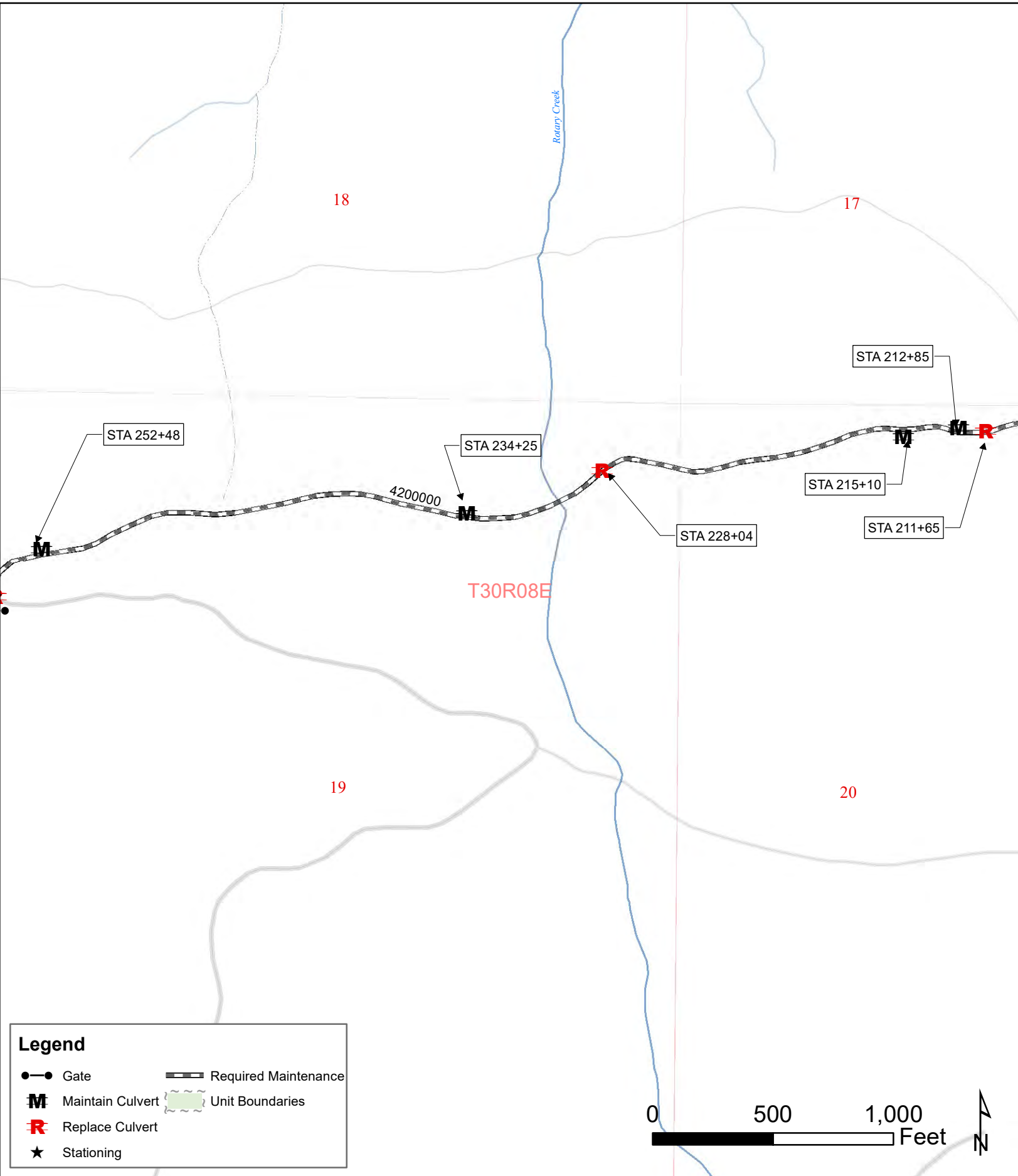
	Dip		Decommission
	Install Culvert		Optional Construction
	Maintain Culvert		Required Maintenance
	Replace Culvert		Unit Boundaries
	Stationing		
	Stockpile Site		
	Waste Site		
	Water Bar		



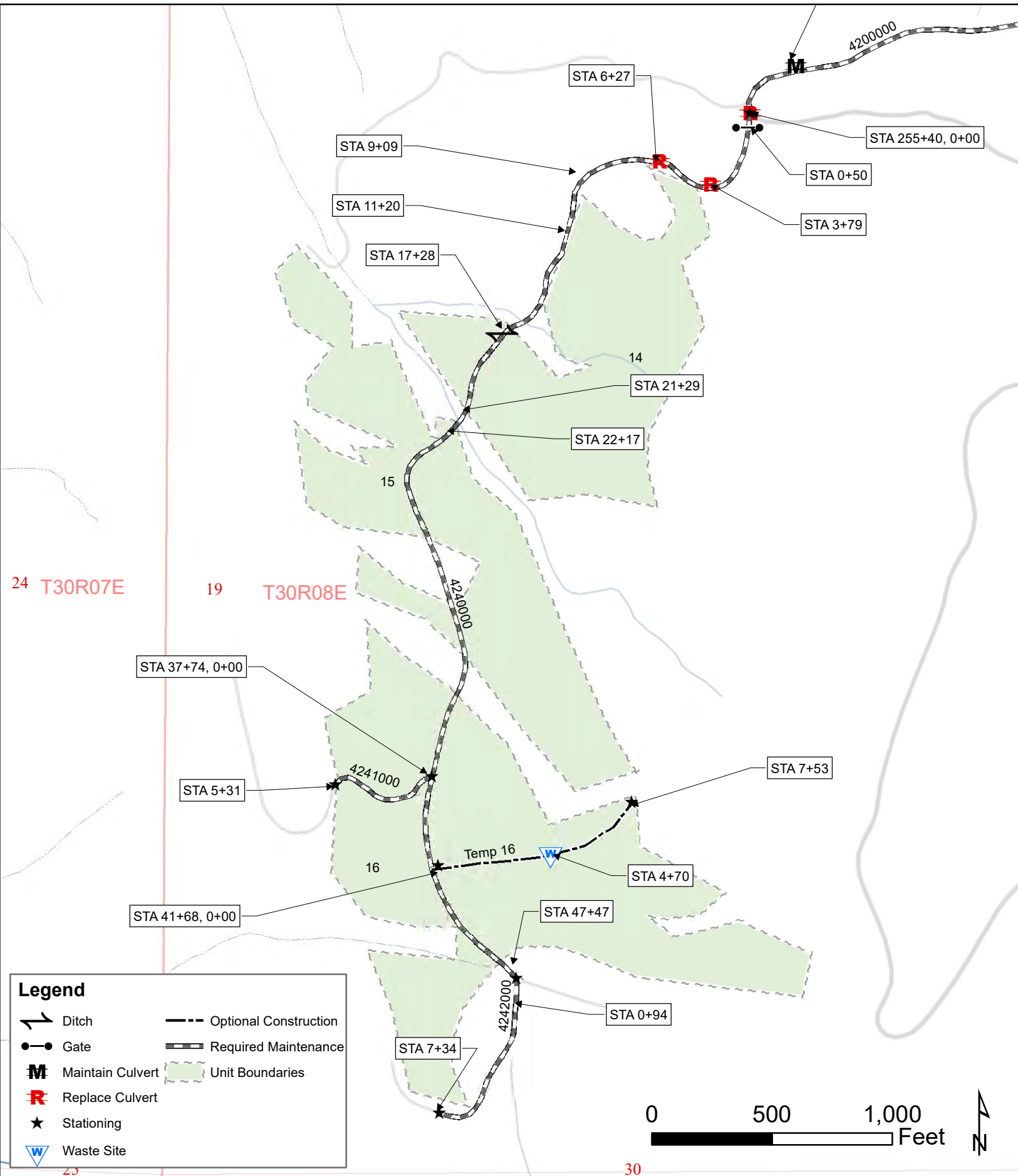


Legend

- M** Maintain Culvert
- R** Replace Culvert
- ★ Stationing
- Optional Construction
- ▬ Required Maintenance
- Unit Boundaries



Pilchuck Timber Sale Page 7 of 7



GOOD NEIGHBOR AUTHORITY
 MT BAKER-SNOQUALMIE NATIONAL FOREST
 DARRINGTON RANGER DISTRICT

PILCHUCK TIMBER SALE ROAD PLAN
 SNOHOMISH COUNTY

AGREEMENT NO.: 36-105232
 DATE: 8/23/2023

STAFF ENGINEER: JULIA COLANTONIO
 DRAWN & COMPILED BY: JULIA COLANTONIO

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Maintenance Level</u>
4200000	9+50 to 255+40	Maintenance	3
4240000	0+00 to 11+20	Maintenance	2
4240000	11+20 to 47+47	Maintenance	1
4242000	0+00 to 7+34	Maintenance	1
4210000	0+00 to 28+71	Maintenance	2

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Maintenance Level</u>
4241000	0+00 to 5+31	Maintenance	1
Temp 1	0+00 to 4+78	Temporary Construction	NS
Temp 2	0+00 to 0+94	Temporary Construction	NS
Temp 3A	0+00 to 0+93	Temporary Construction	NS
Temp 3B	0+00 to 19+90	Temporary Construction	NS
Temp 4A	0+00 to 3+44	Temporary Construction	NS
Temp 4B	0+00 to 2+00	Temporary Construction	NS
Temp 5	0+00 to 1+60	Temporary Construction	NS
Temp 11	0+00 to 4+28	Temporary Construction	NS
Temp 12	0+00 to 2+60	Temporary Construction	NS
Temp 13	0+00 to 1+30	Temporary Construction	NS
Temp 16	0+00 to 7+53	Temporary Construction	NS

0-4 TEMPORARY CONSTRUCTION

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
Temp 1	0+00 to 4+78	<ul style="list-style-type: none"> • Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade. • Install geogrid material from 0+00 to 4+78 in accordance to specifications in Clause 10-3 GEOGRID FOR STABILIZATION and the GEOGRID INSTALLATION DETAIL. • Install drainage structures listed in the CULVERT AND DRAINAGE LIST in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. • Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator.
Temp 2	0+00 to 0+94	<ul style="list-style-type: none"> • Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade.
Temp 3A	0+00 to 0+93	<ul style="list-style-type: none"> • Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator.
Temp 3B	0+00 to 19+90	<ul style="list-style-type: none"> • Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade. • Install Rolling dips as listed in the CULVERT AND DRAINAGE LIST in accordance with clause 5-31 ROLLING DIP CONSTRUCTION. • Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator.

Temp 4A	0+00 to 3+44	<ul style="list-style-type: none"> Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade. Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator.
Temp 4B	0+00 to 2+00	
Temp 5	0+00 to 1+60	<ul style="list-style-type: none"> Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade. Place and Compact Rock as listed in the ROCK LIST. Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator. During decommissioning of road after use, stockpile excavated rock at stockpile location located on map and Clause 6-65.
Temp 11	0+00 to 4+28	<ul style="list-style-type: none"> Construct road including, but not limited to: clearing and grubbing, and excavation and embankment to subgrade. Create positive drainage using a combination of insloping, outsloping, and ditchouts as needed or as directed by the Contract Administrator.
Temp 12	0+00 to 2+60	
Temp 13	0+00 to 1+30	
Temp 16	0+00 to 7+62	
		Total – 49.39 STAs

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Maint Level</u>	<u>Requirements</u>
4200000	9+50 to 255+40	3	<ul style="list-style-type: none"> • Brush Road in accordance with the BRUSHING DETAIL. • Blade and shape road surface as much as possible. • Install drainage structures listed in the CULVERT AND DRAINAGE LIST in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. • Place and compact rock as listed in the ROCK LIST in accordance with the COMPACTION LIST.
4240000	0+00 to 11+20	2	
4240000	11+20 to 47+47	1	
4241000	0+00 to 5+31	1	<ul style="list-style-type: none"> • Brush Road in accordance with the BRUSHING DETAIL. • Blade and shape road surface as much as possible.
4242000	0+00 to 7+34	1	<ul style="list-style-type: none"> • Brush Road in accordance with the BRUSHING DETAIL. • Blade and shape road surface as much as possible.
4210000	0+00 to 28+71	2	<ul style="list-style-type: none"> • Brush Road in accordance with the BRUSHING DETAIL. • Blade and shape road surface as much as possible. • Place and compact rock as listed in the ROCK LIST in accordance with the COMPACTION LIST.
			Total – 344.23 STAs

0-7 POST-HAUL MAINTENANCE

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

0-8 CLOSURE

This project includes road closure listed in Clause 9-15 ROAD CLOSURE.

0-9 DECOMMISSIONING

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

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 any submitted plan that changes the scope of work or environmental condition from the original road 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 minimum dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan, including matching the existing road width.

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

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

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 21 business days before the closure of any road. Construction may not close the following roads for more than three consecutive days unless given written approval from the Contract Administrator.

<u>Road</u>	<u>Allowable Closed Days</u>
4200000	Labor Day – October 1 th

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

1-9 DAMAGED METALLIC COATING

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

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

References in this road plan to “WSDOT Standard Specifications” mean the Washington State Department of Transportation’s Standard Specifications for Road, Bridge, and Municipal Construction 2012 (M41-10).

1-15 ROAD MARKING

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

- Orange flags for centerline and points of interest
- Orange and blue flags for drainage control structures

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator:

- A minimum of 14 business days before work begins.
- For any road closures on the 4200000 that will last more than one hour, the Contract Administrator must be notified 21 calendar days prior to any temporary

road closures so the land owners, the Ranger, Public Affairs, and Recreation may be notified for approval.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction and compaction
- Drainage installation
- Rock application and compaction
- Post haul grading and spot rock
- Decommissioning

1-25 ACTIVITY TIMING RESTRICTION

The specified activities are not allowed during the listed closure periods unless authorized in writing by the Contract Administrator. The operation of road construction equipment is not allowed from 1200 (noon) on Fridays through Monday at 0600 or any federally recognized holidays, unless authorized in writing by the Contract Administrator. Public travel may not be delayed for more than 1 hour before allowing vehicles to pass. If closing the road to public is granted, the road shall not be closed for more than three consecutive days Monday – Thursday unless given written approval from the Contract Administrator and Forest Ranger.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All	All	October 16 th – May 31 st
All	All	Memorial Day weekend, 4 th of July weekend (at minimum July 3 rd - 5 th), and Labor Day weekend.
4200000	Culvert Installations	October 2 nd – Labor Day weekend
4210000	All	Summer 2024 USFS will be installing two bridges at M.P. 28+71 of 4210000. While that work is occurring, purchaser shall not perform any work on the 4210000 or obstruct the bridge installation projects in any way.

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION or Contract Clause H-130 or H-131 HAULING SCHEDULE, Purchaser shall provide a maintenance plan to includes further protection of federal 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. If other operators are using, or desire to use these 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 2 inches MAINTENANCE CLASS 2 roads and MAINTENANCE CLASS 3 roads.
- Wheel track rutting exceeds 6 inches on MAINTENANCE CLASS 1 roads and Temporary roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-31 SPEED LIMITS

On the following road, speeds are limited to 25 mph.

<u>Road</u>	<u>Stations</u>
4200000	0+00 to 255+40

1-32 BRIDGE OR ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the asphalt surface(s) and have surface(s) evaluated by the Lead Engineer or their designee for any damage caused by transporting

equipment. Any damage to the surface(s) will be repaired, at the Purchaser's expense, as directed by the Contract Administrator.

Purchaser shall have asphalt surfaces reviewed by a third party, specializing in asphalt construction and repair. The third party's scope of the damage and repairs must be agreed upon between the Purchaser and the Contract Administrator. Damage to the asphalt from transporting equipment will be repaired at the Purchaser's expense.

1-33 SNOW PLOWING RESTRICTION

Snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contract 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.

<u>Road</u>	<u>Stations</u>	<u>Utility</u>
4200000	9+50 to 42+18	Fiber Optic Cables

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain 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. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
4200000	9+50 to 255+40	Grade shape and compact as much as possible.
4240000	0+00 to 47+57	
4242000	0+00 to 7+34	
4210000	0+00 to 28+71	

2-6 CLEANING CULVERTS

Purchaser shall clean the inlets and outlets of all culverts before timber haul.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following roads, Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by the 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.

<u>Road</u>	<u>Stations</u>
4200000	9+50 to 255+40
4240000	0+00 to 47+47
4241000	0+00 to 5+31
4242000	0+00 to 7+34
4210000	0+00 to 28+71

TOTAL STAs – 334.73

3-2 BRUSHING RESTRICTION

Pulling, digging, pushing over, and other non-cutting methods used for vegetation removal may not be used for brushing. Log loaders and similar equipment may not be used for brushing unless otherwise approved in writing by the Contract Administrator.

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries or if not marked in the field, between the

clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

- Within 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 45%.
- Against standing trees.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET and within waste and debris areas. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator.

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 clearing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 45%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

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 in natural openings as directed by the Contract Administrator. 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 shall not extend past construction that will be completed during the current construction season. Pioneering shall not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions 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 20 percent favorable and 12 percent adverse.
- Minimum curve radius is 50 feet at centerline.
- Maximum grade change for sag vertical curves is 10% in 100 feet.
- Maximum grade change for crest vertical curves is 8% in 100 feet.

4-4 SWITCHBACK STANDARDS

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

Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 12%.
- Maximum favorable grades for switchbacks is 15%.
- Maximum transition grades entering and leaving switchbacks is a 6% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

4-21 TURNOUTS

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

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

Purchaser shall reconstruct ditches listed in the CULVERT AND DRAINAGE LIST 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 ditch outs as identified 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 back slopes 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 45% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

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

<u>Road</u>	<u>Waste Area Location</u>
Temp 16	4+70
Temp 4A	3+44

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 25 feet of a cross drain culvert.
- Within 150 feet of a live stream or wetland.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

4-45 SELECT BORROW

Select borrow consists of granular material, either naturally occurring or processed, and contains no more than 5% clay, organic debris, or trash by volume. Select borrow material must be free of rocks greater than 6 inches in any dimension.

4-48 NATIVE MATERIAL

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

4-55 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. Purchaser shall accomplish all shaping using a motor grader with a minimum of 175 horsepower.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment and waste area segments too narrow to accommodate equipment. Waste material may be placed by end-dumping or side casting 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. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before insert requirement.

4-62 DRY WEATHER COMPACTION

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

<u>Road</u>	<u>Stations</u>
4200000	9+50 to 255+40

4-63 EXISTING SURFACE COMPACTION

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

4-70 SUBGRADE REINFORCEMENT

On the following road(s), Purchaser shall install owner supplied biaxial geogrid. Subgrade reinforcement must be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geogrid must overlap by a minimum of 2 feet at all joints. The geogrid must be covered with a minimum of 6 inches of compacted 1-1/4-INCH CRUSHED as specified in the ROCK LIST. Purchaser shall apply rock in 6-inch lift(s) over the geogrid in accordance with the manufacturer’s specifications. Geogrid must meet the specifications in Clause 10-3 GEOGRID FOR STABILIZATION. Geogrid shall be installed in accordance with the GEOGRID INSTALLATION DETAIL.

<u>Road</u>	<u>Stations</u>
Temp 1	0+00 to 4+78

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 AND DRAINAGE LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts may be new or used material and must meet the specifications in Clauses 10-15 through 10-24.

5-6 CULVERT TYPE

Purchaser shall install culverts made of plastic in accordance with Clauses 10-15 through 10-24.

5-7 USED CULVERT MATERIAL

On temporary roads, Purchaser may install used culverts. All other roads must have new culverts installed. Purchaser shall obtain approval from the Contract Administrator for the quality of the used culverts before installation. Culverts must meet the specifications in Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS FOREST SERVICE PROPERTY

On required roads, any materials listed on the ROCK LIST, CULVERT AND DRAINAGE LIST and materials listed in Clause 5-13 CONTINGENCY CULVERTS that are not installed will become the property of the Forest Service. Purchaser shall stockpile materials as approved by the Contract Administrator.

5-13 CONTINGENCY CULVERTS

The following culverts will be supplied by the Purchaser and are available for installation as directed by the Contract Administrator.

<u>Road</u>	<u>Size</u>
On any portion of road used for timber or rock haul.	60-ft of 18" HPDE and 4 Bands Stage at location approved by 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". Culverts must be installed in a manner consistent with the manufacturer's recommendations. Precautions will be taken to ensure no sediment is delivered to live water.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long with back slopes consistent with Clause 4-5 CUT SLOPE RATIO

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls shall meet the specifications of Light Loose Riprap. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

5-27 ARMORING FOR CULVERTS

Purchaser shall place riprap in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the CULVERT AND DRAINAGE LIST or as directed by the Contract Administrator. Rock shall not restrict the flow of water into culvert inlets or catch basins. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

5-30 DRIVABLE WATERBAR CONSTRUCTION

Purchaser shall construct drivable waterbars in accordance with the DRIVABLE WATERBAR DETAIL and as specified on the CULVERT AND DRAINAGE LIST. Drivable waterbars must be installed concurrently with construction of the subgrade and must be maintained in an operable condition. Purchaser shall install drivable waterbars using a crawler tractor. Use of any other equipment is not allowed without written approval from the Contract Administrator.

5-31 ROLLING DIP CONSTRUCTION

Purchaser shall construct rolling dips in accordance with the ROLLING DIP DETAIL as needed or as designated by Contract Administrator. Rolling dips must be installed concurrently with construction of the subgrade and must be maintained in an operable condition.

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be water barred by November 1. Purchaser shall construct water bars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between water bars or between natural drainage paths, and with a maximum spacing of 300 feet.

SECTION 6 – ROCK AND SURFACING

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the TYPICAL SECTION SHEET may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use. Rock source(s) must be a Weed free certified source

<u>Possible Source</u>	<u>Location</u>
Mountain Loop	Granite Falls
Heidelberg Materials	Granite Falls

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 85% by weight of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-23 ROCK GRADATION TYPES

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

6-28 1 ¼-INCH MINUS CRUSHED ROCK

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

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

6-41 PIT RUN ROCK

No more than 50 percent of the rock may be larger than 2 inches in any dimension and no rock may be larger than 3 inches in any dimension. Pit run rock may not contain more than 7 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-43 QUARRY SPALLS

% Passing 8" square sieve 100%
% Passing U.S. #40 sieve 5% maximum

Rock may not contain more than 5 percent vegetative debris or trash. All percentages are by weight.

6-57 ROCK MEASUREMENT BY TRUCK SCALE

Measurement of all commercial rock is on scaled truck weight. Purchaser shall provide scaled weight using a commercial scale. Purchaser shall provide the Contract Administrator with all scale sheets.

6-65 ROCK STOCKPILE LOCATION

Purchaser shall stockpile rock as listed below. Rock stockpiles must be in accordance with Clause 6-67 ROCK STOCKPILE SPECIFICATIONS.

<u>Rock Source</u>	<u>Rock Type</u>	<u>Quantity (c.y.)</u>	<u>Stockpile Location</u>
Commercial	PR	450	4210000 STA 16+75

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 24 feet. Stockpiles in excess of 200 cubic yards must be built up in layers of not more than 4 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 completion of subgrade and drainage before rock application.

6-71 ROCK APPLICATION

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

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.

6-75 OPTIONAL ROCK EXCEPTION

On the following roads, Purchaser may provide and place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

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

<u>Road</u>	<u>Stations</u>
Temp 5	0+00 to 1+56

6-76 DRY WEATHER ROCK COMPACTION

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

6-80 WATERING FOR DUST ABATEMENT

Purchaser shall use water for dust abatement as directed by the Contract Administrator.

6-81 CHEMICAL TREATMENT FOR DUST ABATEMENT

Purchaser shall treat the following roads with Lignin Sulfonate dust abatement. No other chemical may be used for dust abatement. The Lignin Sulfonate may not be used for any other purposes.

<u>Road</u>	<u>Stations</u>
4200000	9+50 to 70+00

6-82 CHEMICAL RESTRICTION

Purchaser shall not allow chemicals used other than lignin for dust abatement to enter any streams.

6-83 LIGNIN SULFONATE APPLICATION RATE

The “as supplied” liquid Lignin Sulfonate must be diluted with an adequate amount of water to obtain a 25% solids content for application. Purchaser shall apply Lignin Sulfonate to the surface at a rate not less than 0.5 gallons per square yard (approximately 77.8 gallons per station).

6-85 CHEMICAL DUST ABATEMENT EQUIPMENT

Application equipment used to spread dust abatement chemicals must be capable of uniform application. A tanker truck with a “slash pan” or “plate” is not acceptable. Field dilution must be accomplished within the application vehicle.

6-86 TIMING FOR CHEMICAL APPLICATION

Purchaser shall obtain prior written approval from the Contract Administrator for the timing of application for dust abatement chemicals. It is intended that dust abatement chemicals be applied during the summer season.

6-93 ASPHALT REPAIR

If hauled upon, asphalt could deteriorate. Any damage or wear, including but not limited to depressions, sags, cracks, and alligatoring, must be replaced with new material. All pavement repair areas must be saw-cut before removal. The cutting line must be a minimum of 6 inches beyond the damaged area. Damaged areas exceeding 25 square feet must have asphalt placed with an approved paving machine. The replacement asphalt must be Hot Mix Asphalt or equivalent and installed per Clause 5-04.3(5)E of the WSDOT Standard Specifications. Purchaser shall notify the Contract Administrator at least 5 working days before starting any asphalt road repairs. Purchaser shall obtain written approval from the Contract Administrator for all completed repairs.

SECTION 7 – STRUCTURES

7-1 SIGN INSTALLATION

Purchaser shall purchase, install, and maintain the following road signs. Signs must comply with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices.

<u>Road</u>	<u>Station</u>	<u>Sign</u>
4200000	1+00	Road Work Ahead

7-56 STEEL PIPE, PIPE ARCH, AND STRUCTURAL PLATE INSTALLATION

Purchaser shall install steel pipe, pipe arches, and structural plate culverts in accordance with the National Corrugated Steel Pipe Association "Installation Manual for Corrugated Steel Pipe, Pipe Arches, and Structural Plate." Installation is subject to the inspection and approval of the Contract Administrator before placement and backfill. The latest edition of the NCSA Installation Manual can be found at www.ncspa.org.

7-57 CULVERT SHAPE CONTROL

Purchaser shall monitor the culvert shape during backfill and compaction. Special attention must be paid to maintaining the structure’s rise dimensions, concentricity, and smooth uniform curvature. If compaction methods are resulting in peaking or deflection of the culvert, Purchaser shall modify the compaction method to achieve the appropriate end result.

7-76 GATE INSTALLATION

Purchaser shall install the listed gate.

<u>Road</u>	<u>Station</u>	<u>Type</u>	<u>Provided by</u>
4240000	1+00	LIGHT DUTY GATE	PURCHASER

LIGHT DUTY GATE installation(s) must be in accordance with the STEEL GATE DETAIL.

7-78 GATE SUPPLIED BY PURCHASER

Purchaser shall provide all gates specified for installation in Clause 7-76 GATE INSTALLATION. Purchaser shall obtain written approval for the gates from the Contract Administrator before installation.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

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

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of weed free certified 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

Purchaser shall spread grass seed on all exposed soils within 50 feet of live water.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the certified weed free grass seed and certified weed free straw.

8-17 REVEGETATION TIMING

Purchaser shall revegetate after road work is completed.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for grass seed on all exposed soils. The protective cover shall consist of certified weed free straw.

8-19 ASSURANCE FOR SEEDED AREA

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

8-25 GRASS SEED

Purchaser shall evenly spread grass seed on; all exposed soil within 100 feet of live water, and all decommissioned road prisms at a rate of 70 pounds per acre of exposed soil. Grass seed must meet the following specifications:

<u>Mixture Percent by Weight</u>	<u>Minimum % Germination</u>
5% Tufted hairgrass	90% Germination
13% Ryegrass, Annual	90% Germination
79% Winter triticale	85% Germination
3% alsike clover	90% Germination

Weed seed shall not exceed 0.5% by weight. Seed shall be furnished in standard containers on which the following shall be shown:

1. Common name of seed.
2. Net weight.
3. Percent of purity.
4. Percentage of germination.
5. Percentage of weed seed and inert material.

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the EARTHEN BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
4240000	11+20
Temp 1	0+50
Temp 2	0+50
Temp 3A	0+50
Temp 4A	0+50
Temp 11	0+50
Temp 12	0+50
Temp 13	0+50
Temp 16	0+50

9-3 CULVERT MATERIAL REMOVED FROM FEDERAL LAND

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

9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Maintenance Level</u>	<u>Additional Requirements</u>
4200000	9+50 to 255+40	3	Grade, shape, and compact. Apply spot rock as listed in the ROCK LIST.
4240000	0+00 to 10+32	2	
4210000	0+00 to 28+71	2	

TOTAL STAs – 284.93

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-15 ROAD CLOSURE

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

<u>Road</u>	<u>Stations</u>
4240000	11+20 to 47+47
4241000	0+00 to 5+31
4242000	0+00 to 7+34

TOTAL STAs – 48.92

9-16 CLOSURE

At a minimum, closure consists of:

- Maintain road according to the FOREST ACCESS ROAD SPECIFICATIONS.
- Construct drivable waterbars according to the attached DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 30 feet between waterbars or between natural drainage paths and with a maximum spacing of 400 feet, or as marked in the field.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- 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 decommissioning and in accordance with Section 8 EROSION CONTROL.

- Cover, concurrently with decommissioning, all exposed soils within 50 feet of any live stream, with a 4-inch deep layer of straw.

9-20 ROAD DECOMMISSIONING

Purchaser shall decommission the following roads at the termination of use.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
Temp 1	0+00 to 4+78	Light
Temp 2	0+00 to 0+94	Light
Temp 3A	0+00 to 0+93	Light
Temp 3B	0+00 to 40+11	Light
Temp 4A	0+00 to 32+07	Light
Temp 4B	0+00 to 2+00	Light
Temp 5	0+00 to 1+60	Light
Temp 11	0+00 to 4+28	Light
Temp 12	0+00 to 2+60	Light
Temp 13	0+00 to 1+30	Light
Temp 16	0+00 to 7+53	Light

9-23 LIGHT DECOMMISSIONING

- Rip the surface to a minimum depth of 18 inches using an excavator bucket.
- Outslope the surface at a minimum of 10 percent.
- Construct non-drivable water bars in accordance with the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 25 feet between water bars or between natural drainage paths and with a maximum spacing of 400 feet, or as marked in the field.
- Skew water bars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key water bars into the cut-slope to intercept the ditch. Water bars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- Remove 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 in accordance with Section 8 EROSION CONTROL.
- Cover all exposed soils within 50 feet of any live stream, with a 4-inch deep layer of straw.
- Scatter woody debris onto decommissioned 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 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 bell and spigot connectors.

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 GAUGE AND CORRUGATION

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

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

10-30 LIGNIN SULFONATE MATERIALS

Lignin Sulfonate is the chemical residue produced as a by-product of the acid sulfite pulping process, and supplied as a water solution. The base solution may be ammonia, calcium, or sodium and must be water soluble to allow field dilution. Percent solids must be 50% as supplied. When requested by the Contract Administrator, certification must be provided that shows:

- Solids determination has been made in accordance with the modified Technical Association of the Pulp and Paper Industry Standard T629-M53 or by a specific gravity/percent solids versus temperature graph that correlates with the standard.
- The P_h of the delivered material is a 4.5 minimum as determined by AASHTO-T200.

SECTION 11 SPECIAL NOTES

11-1 BRIDGE LOAD RESTRICTIONS

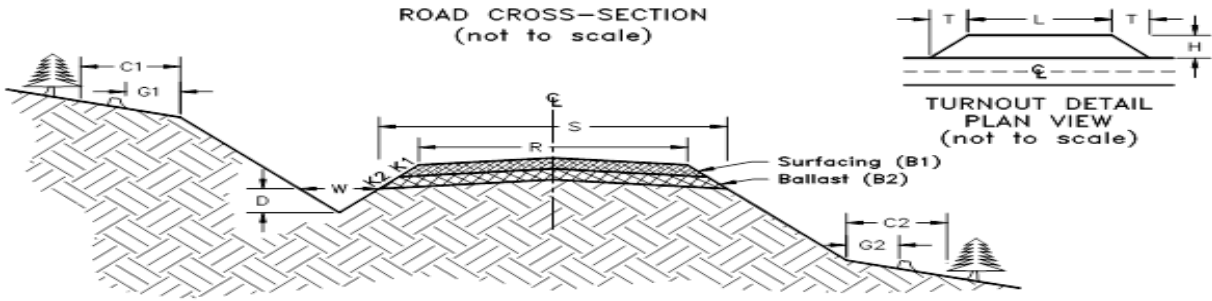
Vehicles exceeding legal load limits shall not pass over bridges without obtaining an overload permit from the Forest Service.

11-2 NOXIOUS WEED CONTROL

Purchaser shall thoroughly pressure wash all equipment prior to entry onto U.S. Forest Service land, or before moving equipment between infested sites, to remove all contaminated soils, plant parts, seeds, vegetative matter, or other debris that could contain or hold seeds. Equipment shall be considered free of soil, seed, and other such debris when a visual inspection does not disclose such material. The Contract Administrator reserves the right to also require the cleaning of equipment as required by this clause in cases where equipment is being moved onto non-federal lands.

Purchaser shall notify the Contract Administrator in advance of moving all off-road construction equipment onto U.S. Forest Service lands. Notification will include a location approved by the Contract Administrator where the equipment will be cleaned by the Purchaser, and made available for inspection by the State at a time agreed by the Parties. Only logging and construction equipment cleaned as required under this clause, and inspected by the Contract Administrator (or designee), will be allowed to operate on Federal lands within the sale area. All subsequent move-ins of equipment to the sale area shall be treated in the same manner as the initial move in. "Off-road equipment" includes all construction machinery, except for dump trucks, pickup trucks or vehicles used to transport personnel on a daily basis.

TYPICAL SECTION SHEET



Road Name	Stations		Maint Level	Tolerance Class	Subgrade Width	Road Width	Ditch		Crown @ CL (in)	Grubbing Limits		Clearing Limits	
	From	To					Width	Depth		G1	G2	C1	C2
4200000	9+50	255+40	3	M				3					
4240000	0+00	47+47	1	M			3	1	3				
4241000	0+00	5+31	1	M					3				
4242000	0+00	7+34	1	M					3				
4210000	0+00	28+71	1	M					3				
Temp 1	0+00	4+78	NS	C	14	12			3	3	3	5	5
Temp 2	0+00	0+94	NS	C	14	12			3	3	3	5	5
Temp 3A	0+00	0+93	NS	C	14	12			3	3	3	5	5
Temp 3B	0+00	19+90	NS	C	14	12			3	3	3	5	5
Temp 4A	0+00	3+44	NS	C	14	12			3	3	3	5	5
Temp 4B	0+00	2+00	NS	C	14	12			3	3	3	5	5
Temp 5	0+00	1+56	NS	C	14	12			3	3	3	5	5
Temp 11	0+00	4+28	NS	C	14	12			3	3	3	5	5
Temp 12	0+00	2+60	NS	C	14	12			3	3	3	5	5
Temp 13	0+00	1+30	NS	C	14	12			3	3	3	5	5
Temp 16	0+00	7+53	NS	C	14	12			3	3	3	5	5
Temp 3B	19+90	40+11	NS	D									
Temp 4A	3+44	32+07	NS	D									

COMPACTION LIST

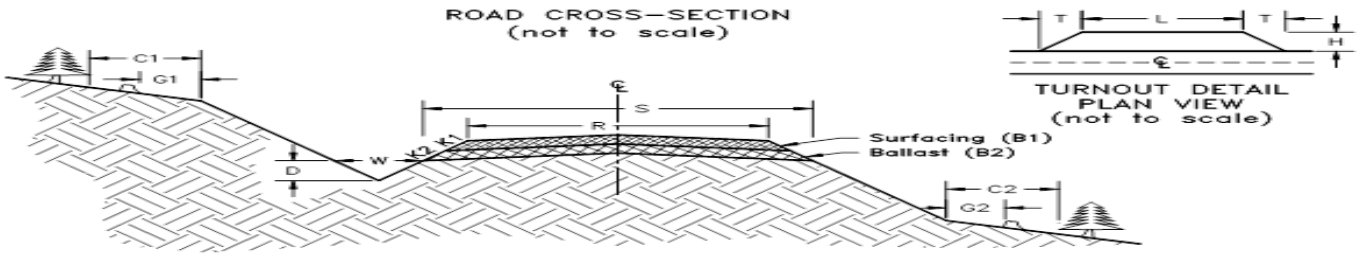
Page 1 of 1

Road Name	Stations		Type	Max. Depth per Left (in.)	Equipment Type	Equipment Weight (pounds)	Minimum # of Passes	Maximum Operating Speed
	From	To						
4200000 and 4210000	-	-	Maintenance grading	-	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Subgrade	-	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Embankment	12	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Fill	24	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Rock	6	Vibratory Smooth Drum	12000	3 Low Freq. Vibe on	3
All	-	-	Waste Area	24	Excavation	30000	-	-

ROCK LIST

Pit Run

Page 2 of 3



Rock Sources

A 4240 Rock Pit
 C Commercial

L = 50' T = 25' H = 12'

Road Name	Rock Type	Stations		Rock Slope K1	Compacted Depth (in) B1	C. Y./ Sta	Number of Stations	C.Y. Needed	Rock Source
		From	To						
4200000	PR	50+10						30	C
	PR	51+36						45	C
	PR	113+64						40	C
	PR	125+12						45	C
	PR	148+58						40	C
	PR	192+24						50	C
	PR	202+96						50	C
	PR	207+21						30	C
	PR	211+65						40	C
	PR	228+04						30	C
	PR	255+40						30	C
Temp 1	PR	2+14						100	C
Temp 5	PR	0+00	1+56	1.5:1				450	C

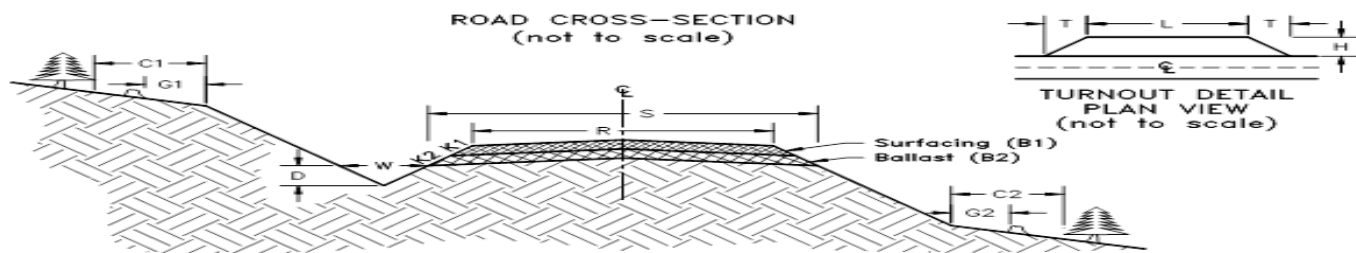
OPTIONAL PIT RUN ROCK TOTAL 550 CUBIC YARDS
 REQUIRED PIT RUN ROCK TOTAL 430 CUBIC YARDS
 ROCK TOTAL 980 CUBIC YARDS

** Optional rock, see Road Plan Clause 6-75

ROCK LIST

1-1/4-INCH CRUSHED and Quarry Spalls

Page 3 of 3



Rock Sources

A 4240 Rock Pit

C Commercial

L = 50'

T = 25'

H = 12'

Road Name	Rock Type	Stations		Rock Slope K1	Compacted Depth (in) B1	C. Y./Sta	Number of Stations	C.Y. Needed	Rock Source
		From	To						
4200000	QS	50+10						10	C
	QS	51+36						10	C
	QS	113+64						10	C
	QS	125+12						10	C
	QS	136+45						5	C
	QS	148+58						10	C
	QS	192+24						10	C
	QS	202+96						10	C
	QS	207+21						10	C
	QS	211+65						10	C
	QS	212+85						5	C
	QS	228+04						10	C
	QS	255+40						10	C

REQUIRED QUARRY SPALL ROCK TOTAL

120 CUBIC YARDS

QUARRY SPALL ROCK TOTAL

120 CUBIC YARDS

OVERALL ROCK TOTALS

OPTIONAL 1 1/4 ROCK TOTAL	190	CUBIC YARDS
REQUIRED 1 1/4 ROCK TOTAL	5820	CUBIC YARDS
ROCK TOTAL	6010	CUBIC YARDS

OPTIONAL PIT RUN ROCK TOTAL	550	CUBIC YARDS
REQUIRED PIT RUN ROCK TOTAL	430	CUBIC YARDS
ROCK TOTAL	980	CUBIC YARDS

REQUIRED QUARRY SPALL ROCK TOTAL	120	CUBIC YARDS
QUARRY SPALL ROCK TOTAL	120	CUBIC YARDS

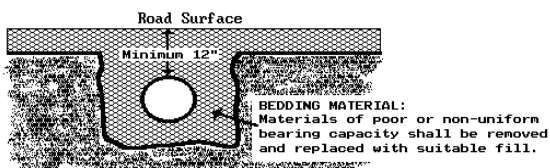
CULVERT AND DRAINAGE LIST

Page 1 of 1

Road	Location	Culvert		Length (feet)		Energy Dissipater (CY)				Backfill Material			Remarks	
		Diameter (in.)	Gauge	Culvert	Flume	Inlet	Outlet	Type	Source	Type	Volume (CY)	Source		
4200000														
	50+10	24	HDPE	30		5	5	QS	C	PR	30		C	
	51+36	24	HDPE	50		5	5	QS	C	PR	45		C	
	113+64	24	HDPE	40		5	5	QS	C	PR	40		C	
	125+12	24	HDPE	50		5	5	QS	C	PR	45		C	
	136+45						5	QS	C					
	148+58	24	HDPE	40		5	5	QS	C	PR	40		C	
	192+24	36	HDPE	50		5	5	QS	C	PR	50		C	
	202+96	24	HDPE	50		5	5	QS	C	PR	50		C	
	207+21	24	HDPE	30		5	5	QS	C	PR	30		C	
	211+65	24	HDPE	40		5	5	QS	C	PR	40		C	
	212+85						5	QS	C					Clean Inlet
	215+10													Clean Inlet
	228+04	24	HDPE	30		5	5	QS	C	PR	30		C	
	234+25													Clean Inlet
	252+48													Clean Inlet
	255+40	18	HDPE	30		5	5	QS	C	PR	30		C	
4240000														
	3+79	36	HDPE	40						NT				
	6+27	18	HDPE	30						NT				
	17+28	Ditch Out												
Temp 1														
	2+14	18	HDPE	30						PR	100		C	
Temp 3B														
	5+22	Driveable Dip												
	8+40	Driveable Dip												
	11+83	Driveable Dip												
	13+21	Water Bar												
	16+19	Driveable Dip												
	18+63	Driveable Dip												
Contingency Culverts		18	HDPE	60										

Culvert Totals	
Type	Length (ft)
18-INCH HPDE	150
24-INCH HDPE	360
36-INCH HDPE	90

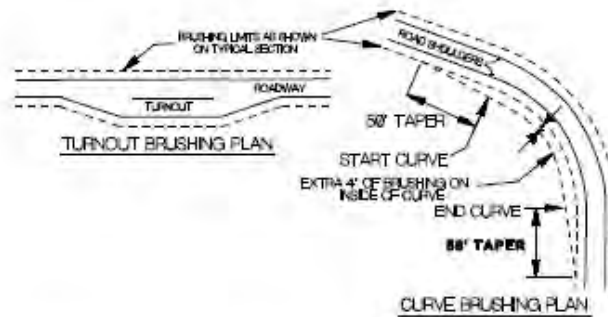
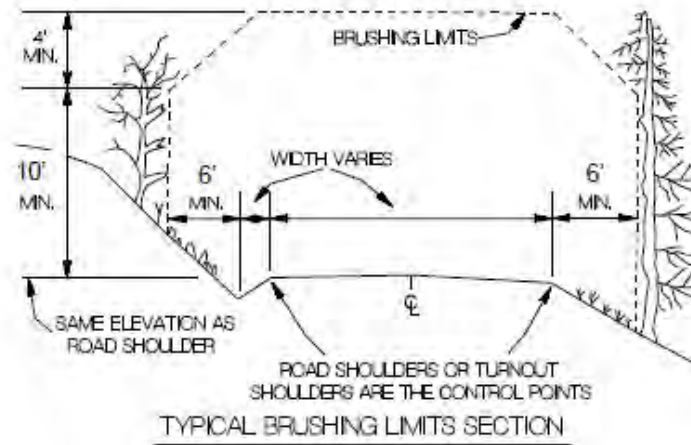
CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")



Key:

- PR - Pit Run
- NT - Native (bank run)

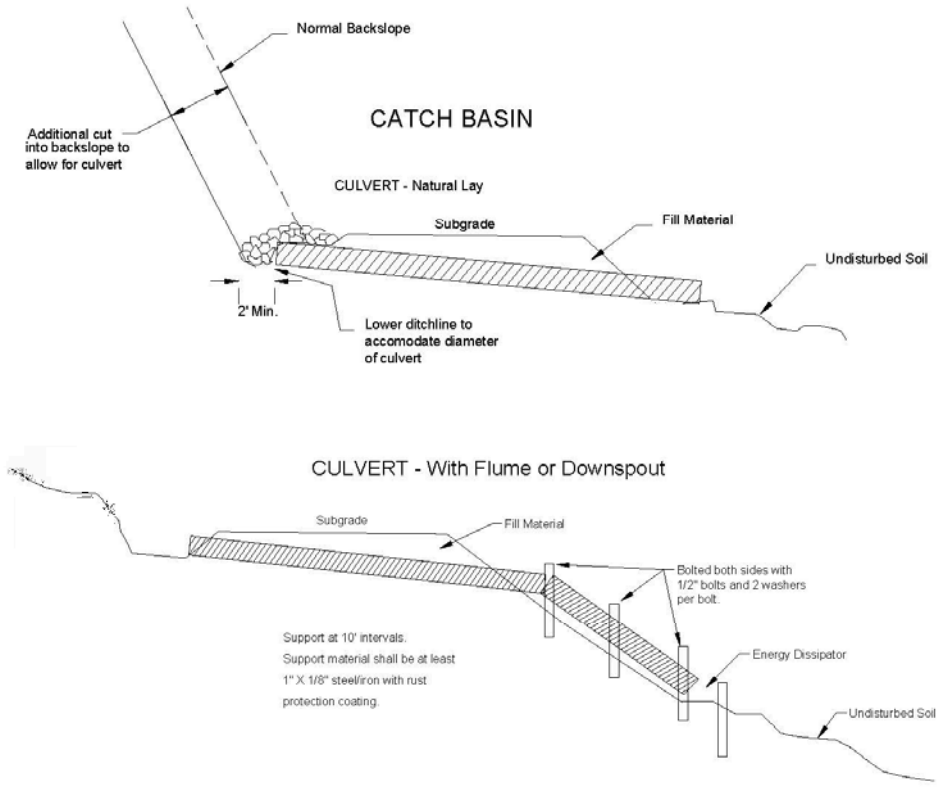
BRUSHING DETAIL



1. All vegetation within the brushing limits shall be cut to within 3 inches of the ground, unless otherwise directed by the Contract Administrator
2. All brush, trees, limbs, etc. shall be removed from the road surface, cut banks, culvert inlets/outlets, and ditch lines
3. All debris that may roll or move into the ditch line shall be removed and placed in a stable location

CULVERT AND DRAINAGE SPECIFICATION DETAIL

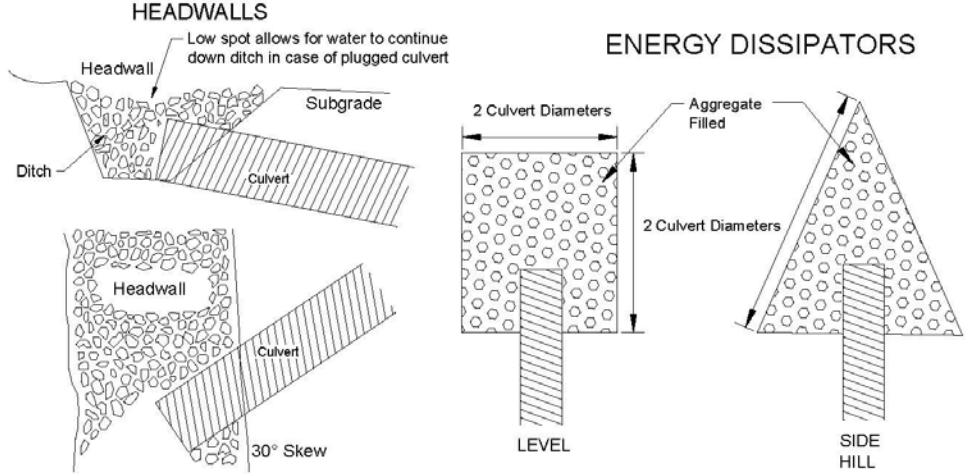
(Page 1 of 3)



CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 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 to be constructed of material that will resist erosion.

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

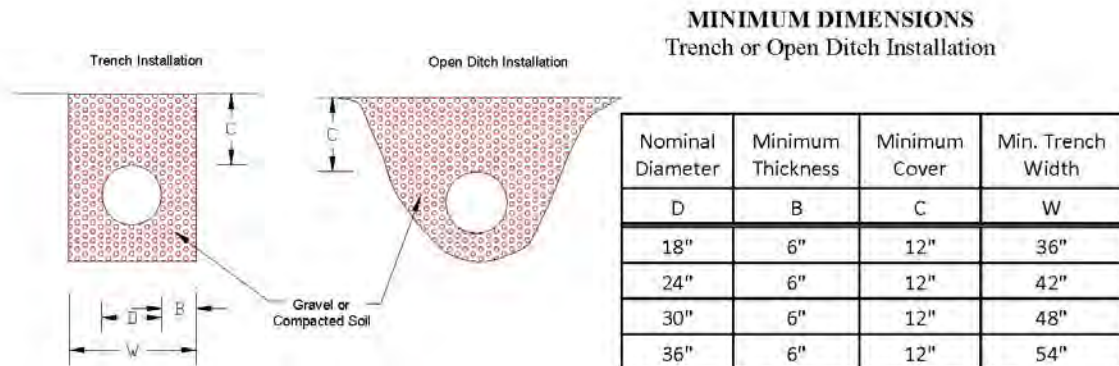
CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

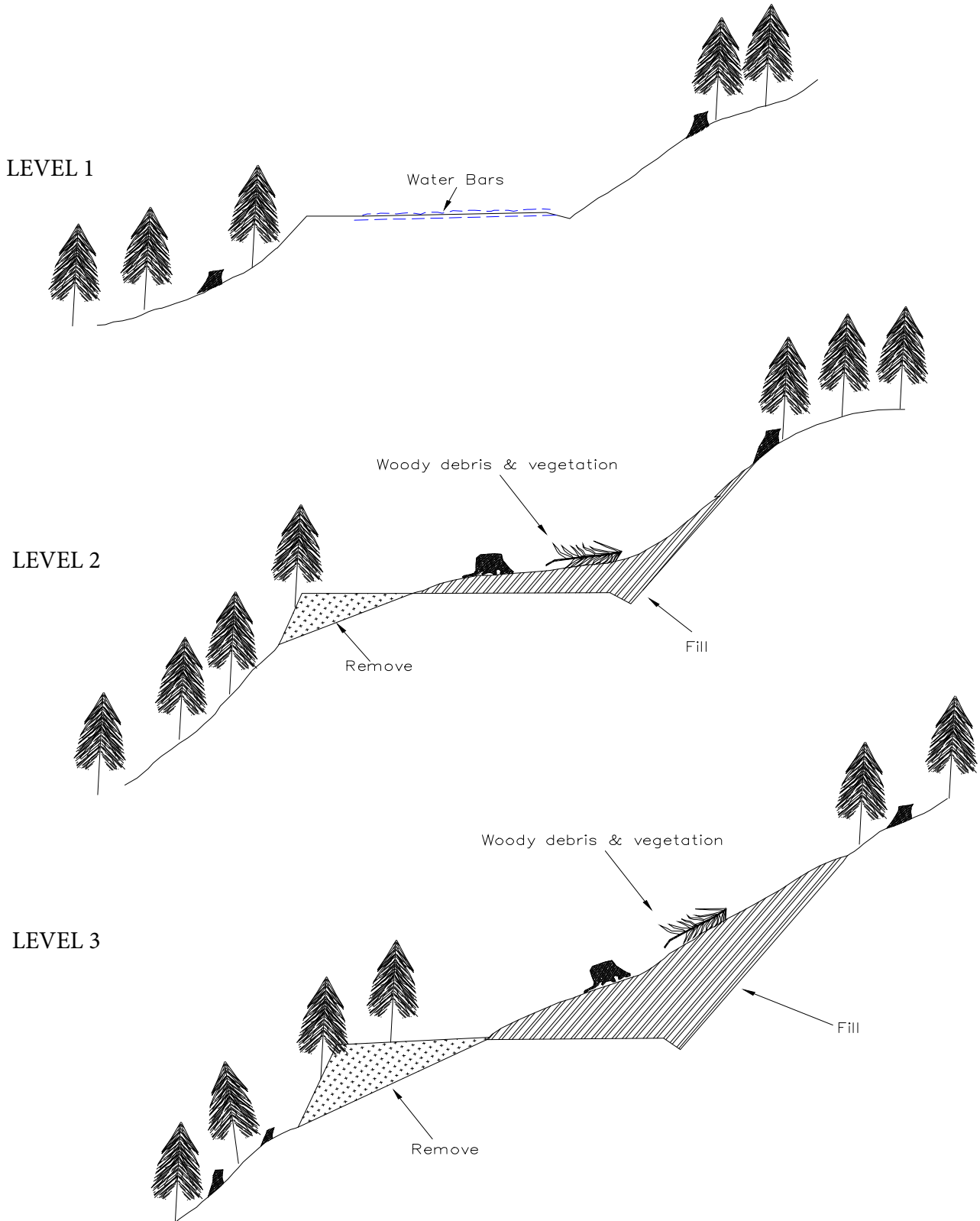
POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

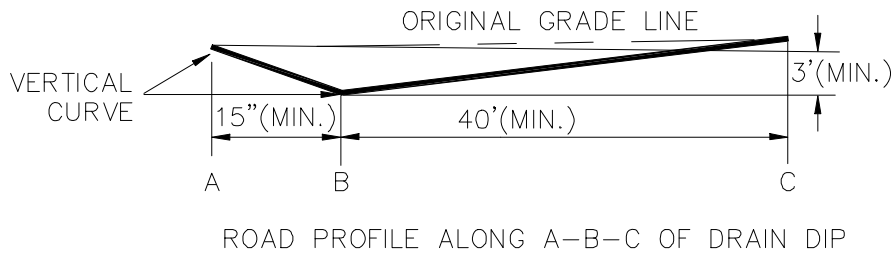
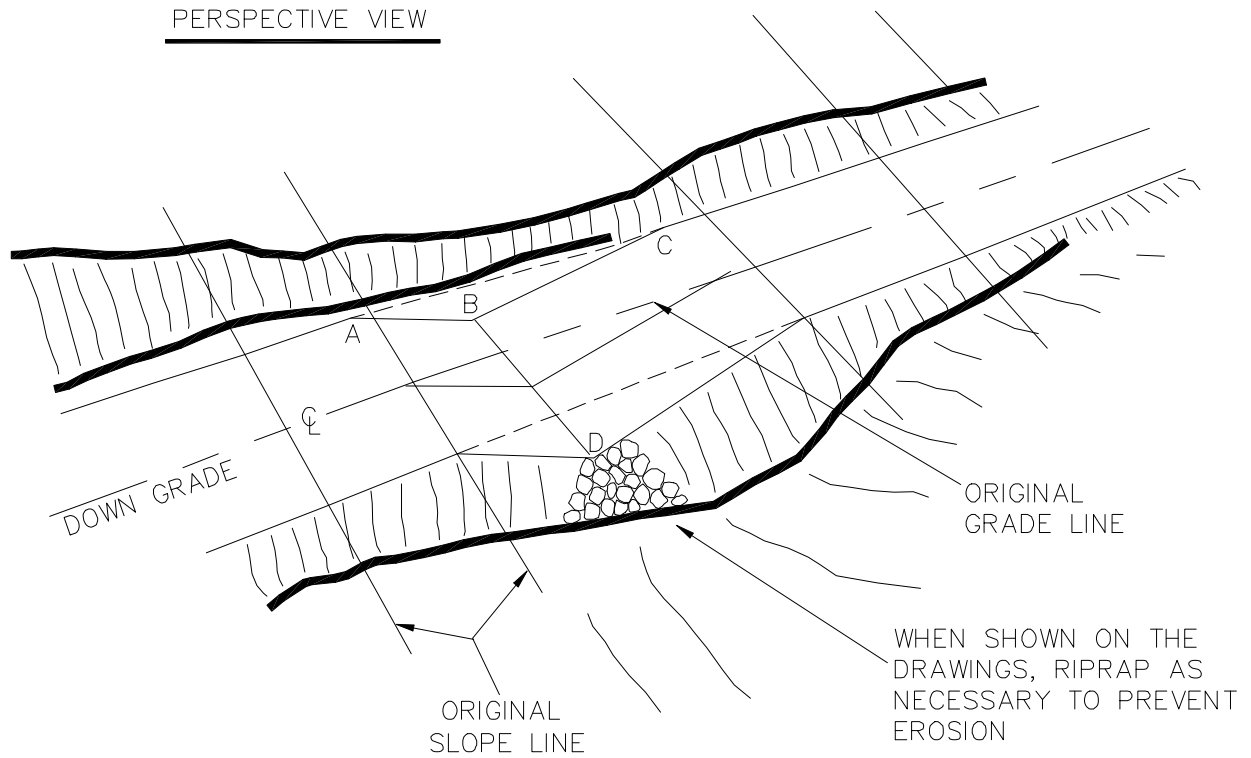
1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material 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. Site conditions and availability of bedding materials often dictate the type of installation method used.
4. 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.



ROAD DECOMMISSIONING DETAIL



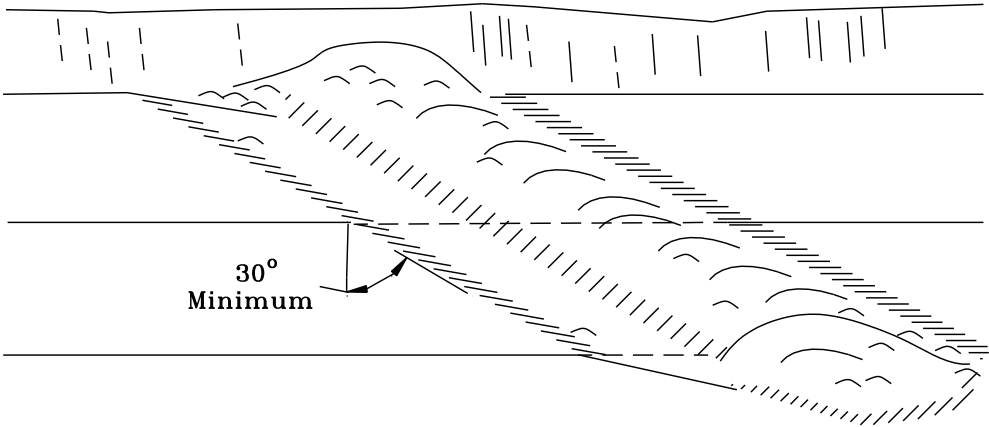
ROLLING DIP DETAIL



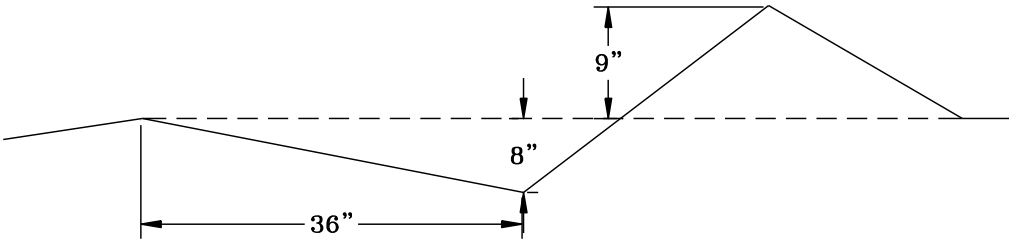
- Notes:
- 1) Plan shown is for outsloped dip. Dips may be either insloped or outsloped.
 - 2) When insloped, dips shall discharge into a culvert, drop inlet, or ditch out.
 - 3) The minimum cross grade from "B" to "D" shall be 6%.
 - 4) Skew line B-D to fit low point in draw if located in natural drain.
 - 5) Preferred construction is to excavate entire dip. If embankment is used, it shall be rock.

Drivable Water Bar Detail

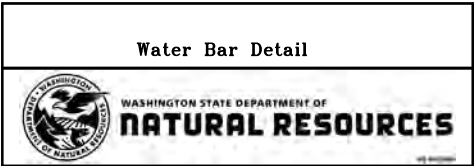
Cross Ditch



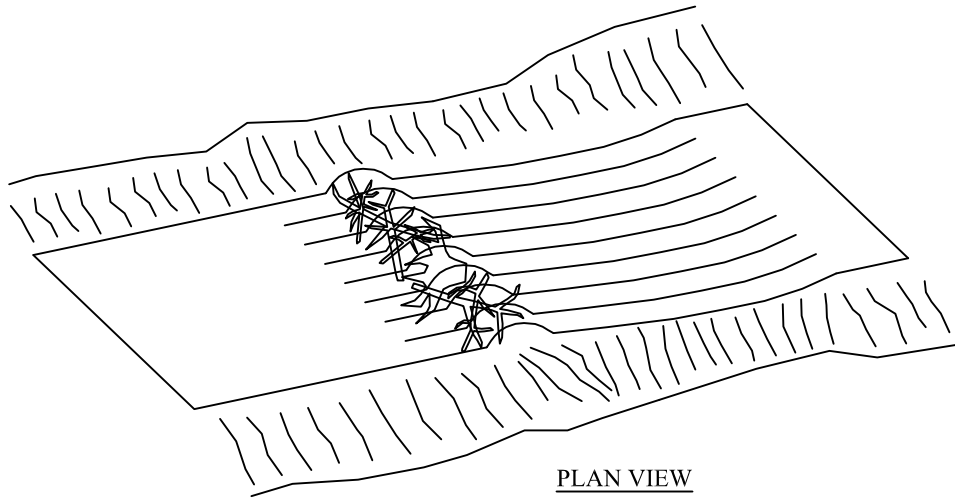
Cross Section at Centerline



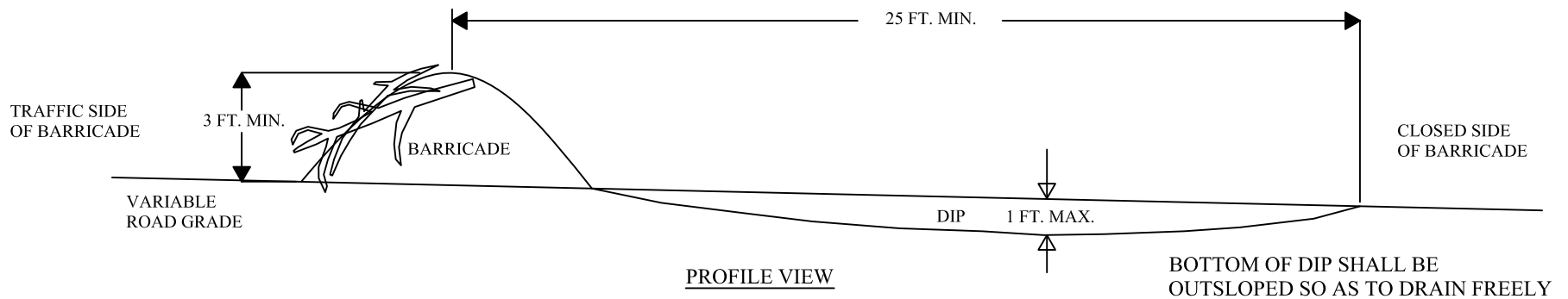
Date:
Scale : None
App#
Drawn by: M.A.D.



EARTHEN BARRICADE DETAIL



SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.



FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

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

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape as directed, 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 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 drivable 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 dissipators at culvert outlets with non-erodible material or rock.
- Keep ditches and culverts 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.

Structures

- Repair culverts, bridges, gates, fences, cattle guards, signs, and other road structures as required because of purchaser use.

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

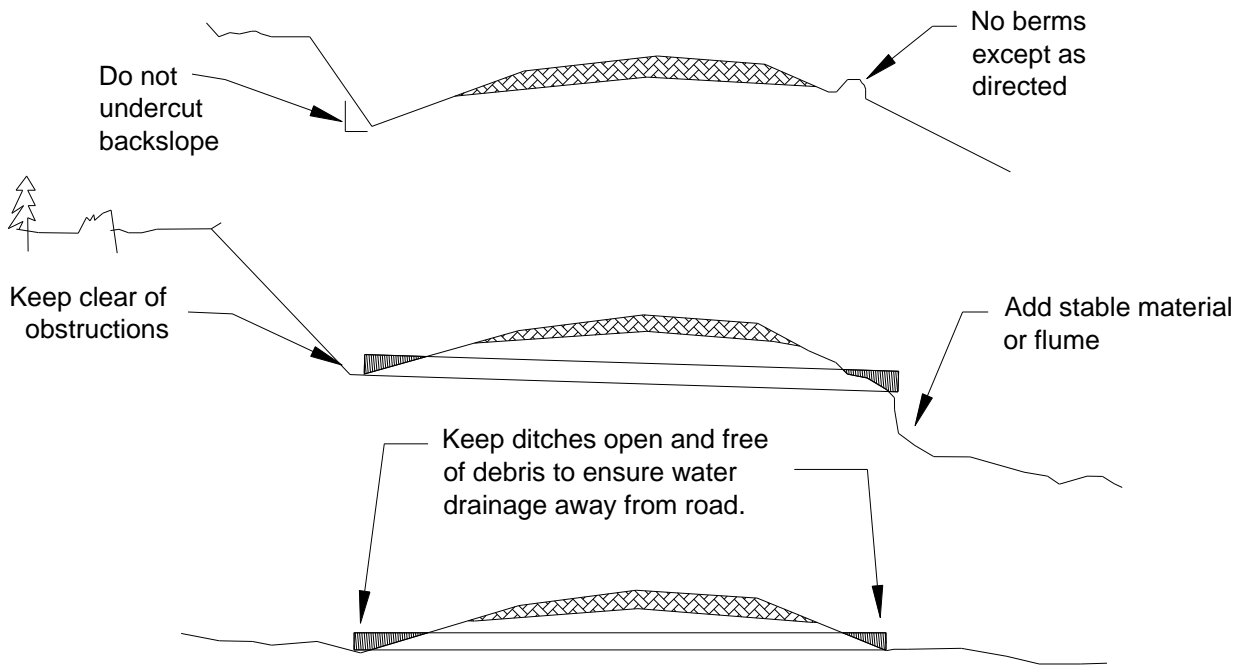
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

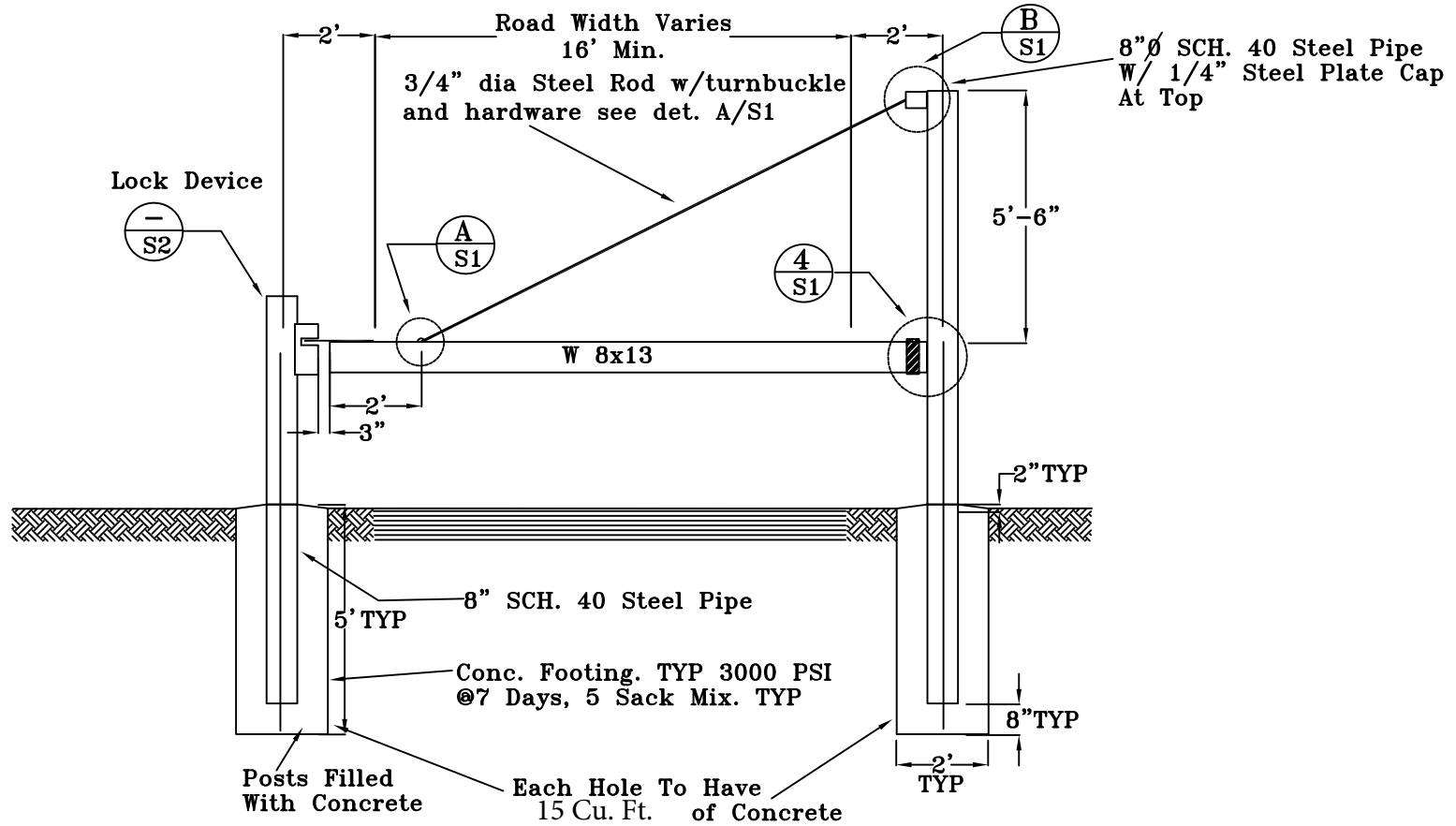
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

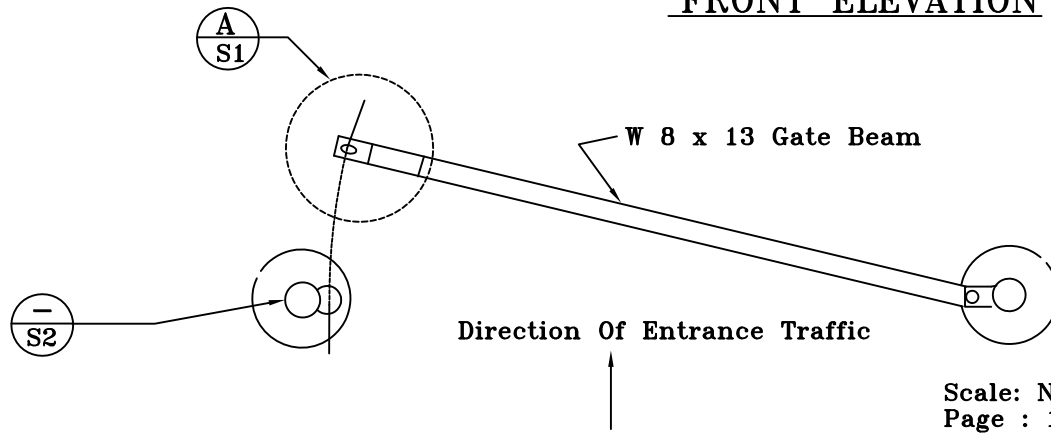
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



Steel Gate Detail



FRONT ELEVATION



PLAN

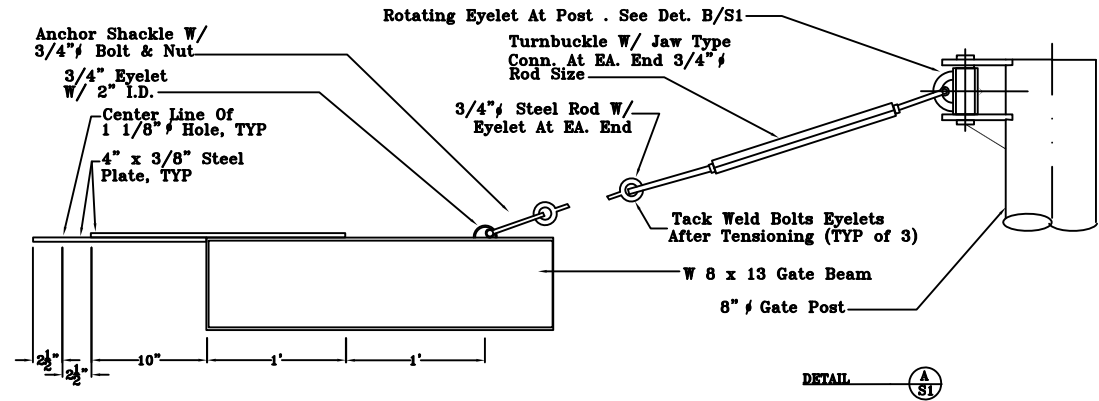
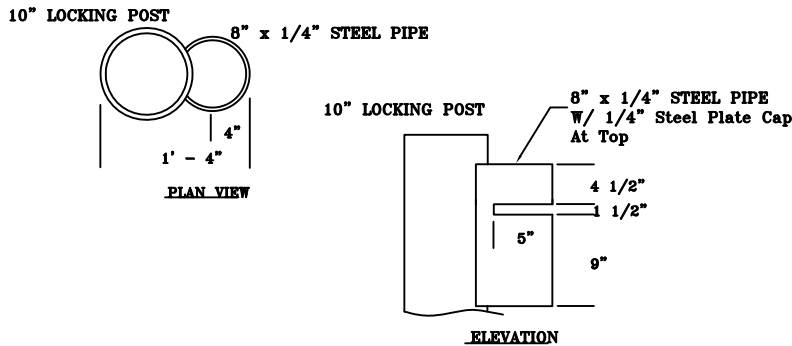
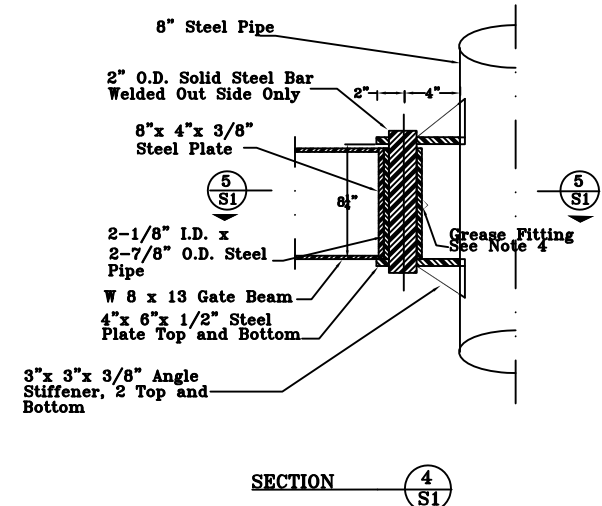
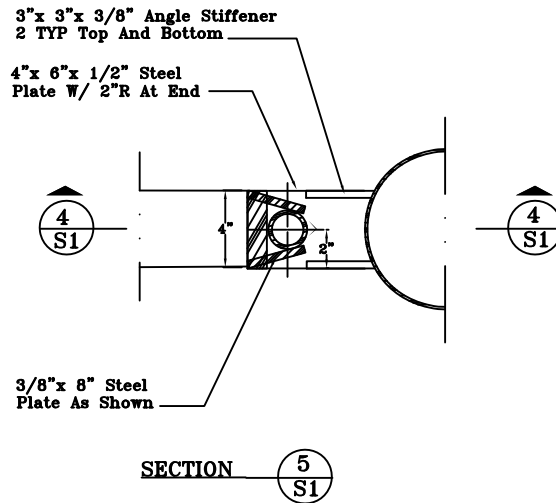
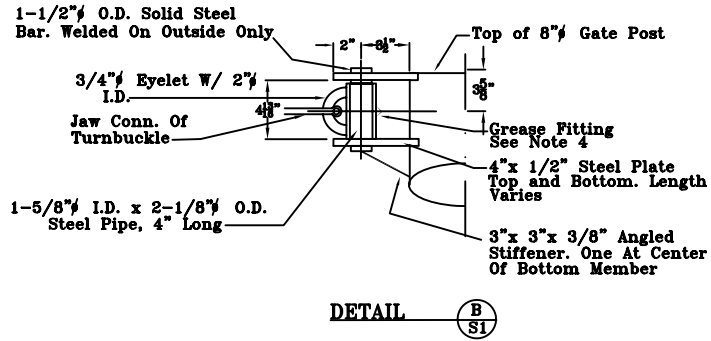
Scale: None
Page : 1 of 3

Gate Plan And Elevations
Sections and Details

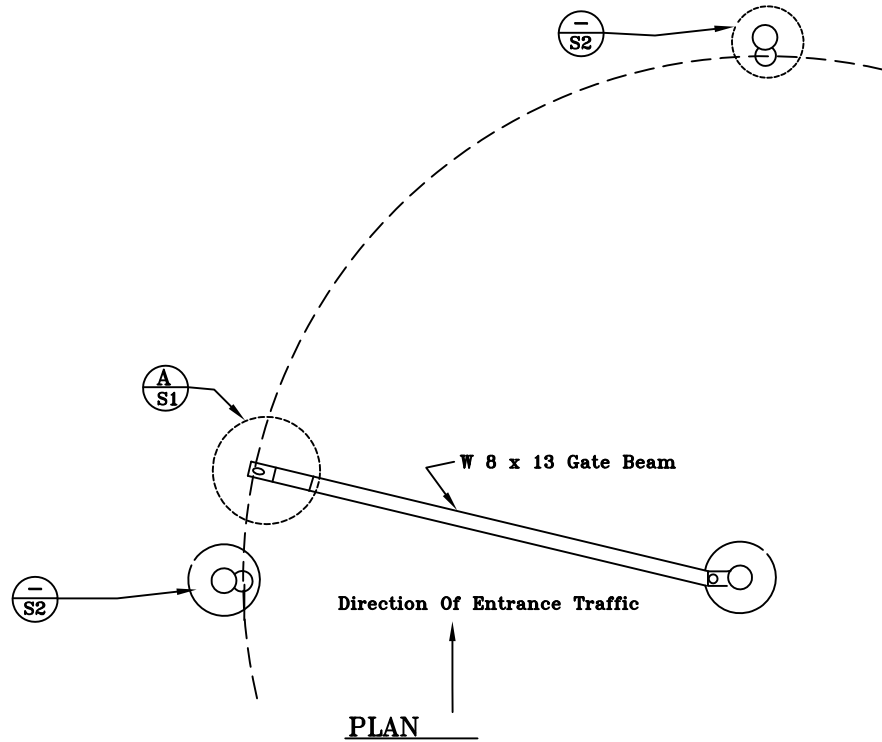
Revised February 2018

GENERAL NOTES:

- Fabrication materials shall meet the following criteria:
 - Non-structural steel bars, plates and items ASTM A36 or ASTM A283 Steel.
 - Pipe columns ASTM A53 and ASTM A120, Grade B Steel.
 - Steel bolts ASTM A307, Grade A Steel.
 - Standard rolled steel sections ASTM A36.
 - Structural steel tubing ASTM A500, Grade B Steel.
- Welding shall conform to AWS code for arc welding in building construction.
- No drifting of bolts nor enlargement of holes will be allowed to correct misalignment. Mismatched holes shall be corrected with new material.
- Locate grease fittings for convenient access.
- Each gate is to be assembled to the specifications below.
 - Cut the vertical pipes to length & cap, and provide opening(s) to fit 2" SCH. 40 horizontal members as shown on DWG. S1, Front Elevation.
 - Fabricate, assemble and attach assemblies shown in detail (B/S1) and in section (4/S1) to the 8" dia SCH. 40 pipe as shown on DWG. S1, Front Elevation.
 - Fabricate locking device and lock open device.
 - Clean all surfaces of grease and oils before applying primer.
 - Paint gate with color: Rodda Safety Yellow.
- All materials shown on DWG. (S1 & S2) is to be supplied.

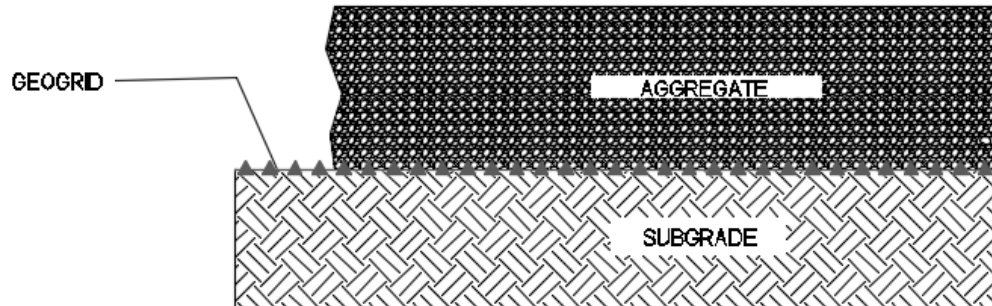


STANDARD LOCK OPEN DEVICE



LOCKING POST AND DEVICE FOR OPEN GATE POSITION, TO BE CONSTRUCTED IDENTICAL TO LOCKING POST AND DEVICE FOR CLOSED POSITION.

GEOGRID INSTALLATION DETAIL Page 1 of 2



Storage

1. Store geogrid in a manner that prevents contact with excessive mud, wet concrete, and other deleterious materials.
2. Store geogrid in a manner that prevents exposure to direct sunlight.

Site preparation

1. Prepare the subgrade to the specifications listed in the TYPICAL SECTION DETAIL.
2. Compact the subgrade as listed in the COMPACTION LIST creating a smooth uniform crowned surface that is free of ruts and protruding objects such as rocks and cobbles larger than 2 inches.
3. Geogrid shall not be placed until the subgrade is smooth and uniform.

Installation

1. Geogrid shall be laid flat directly on the prepared subgrade. Unroll the grid in the direction of traffic.
2. Geogrid shall be pre-tensioned and anchored in place at the edges using large rocks, pins, or heavy gauge staples.
3. All wrinkles and folds shall be removed prior to aggregate application.
4. Cut or fold geogrid to accommodate curves.
 - a. Folds shall be anchored in place so that the fold is flush with the subgrade.
 - b. Cut sections shall be placed with a minimum of 2 feet of overlap over the previous section.

GEOGRID INSTALLATION DETAIL Page 2 of 2

5. Overlapped sections shall be placed in a shingle pattern with subsequent section placed below previous sections.
 - a. Stop aggregate placement if waving develops, remove anchors and re-tension geogrid.
 - b. Aggregate placement shall not resume until all wrinkles and folds have been eliminated.
6. Aggregate shall not be placed without written approval from the Contract Administrator or representative.

Aggregate Application

1. No equipment shall drive directly on the geogrid until the minimum aggregate thickness indicated in the ROCK LIST has been achieved.
2. Trucks shall end dump only on previously placed aggregate. Dumping directly onto the geogrid is not allowed.
3. Aggregate shall be evenly spread in lifts greater than 8 inches using a dozer blade or excavator bucket. Be careful not to catch the geogrid with equipment.
4. The dozer blade shall be gradually raised during each pass to avoid creating a wave.
5. Compact the aggregate lift using a 10,000 lb. vibratory steel-wheel roller with a three passes to cover the area. Addition of water may be required to achieve optimum moisture conditions for the aggregate materials.

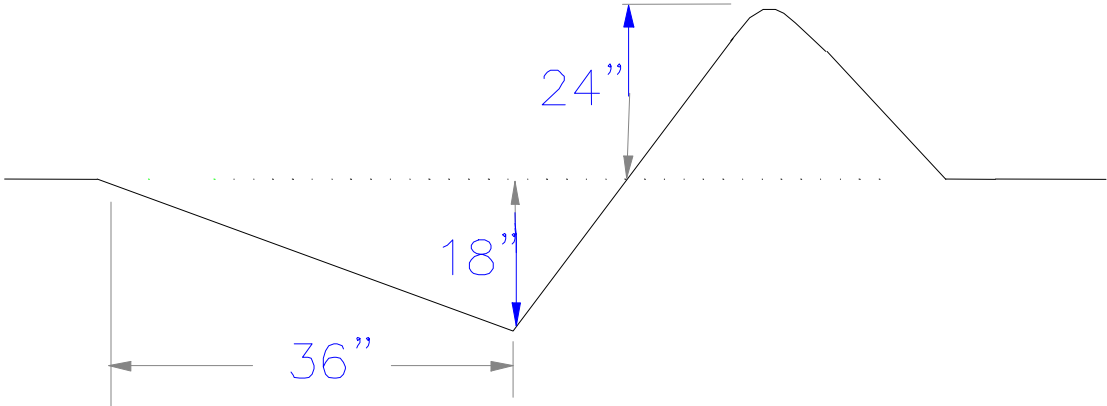
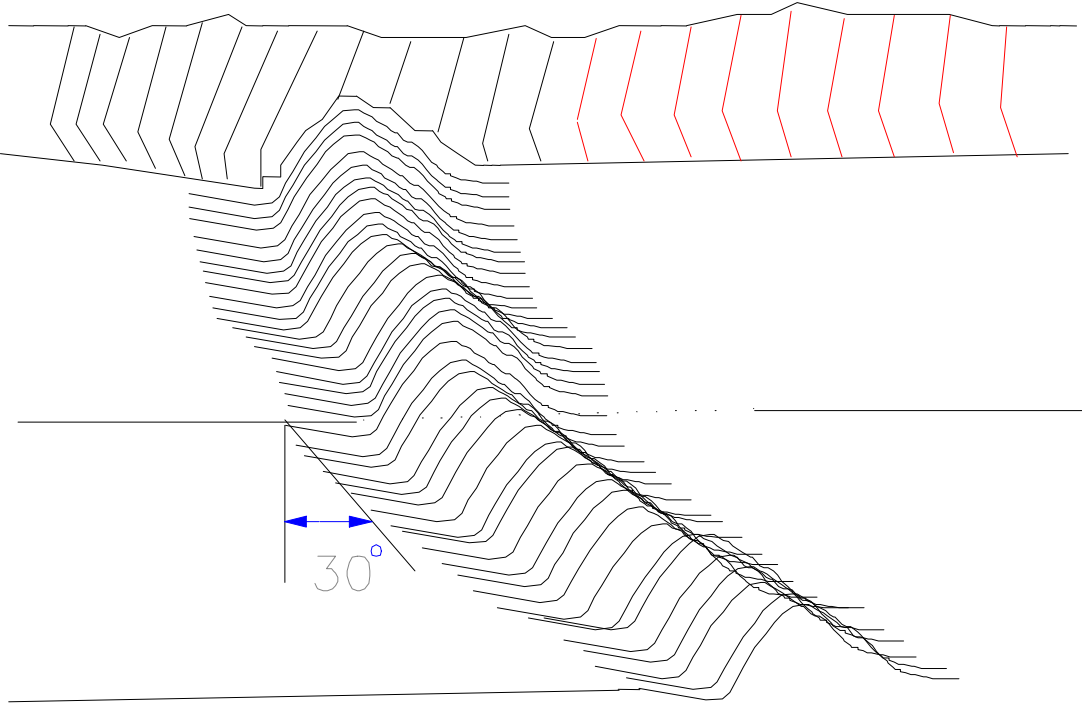
Special Considerations

1. Tracked equipment shall not turn around on geogrid sections.

Haul Maintenance

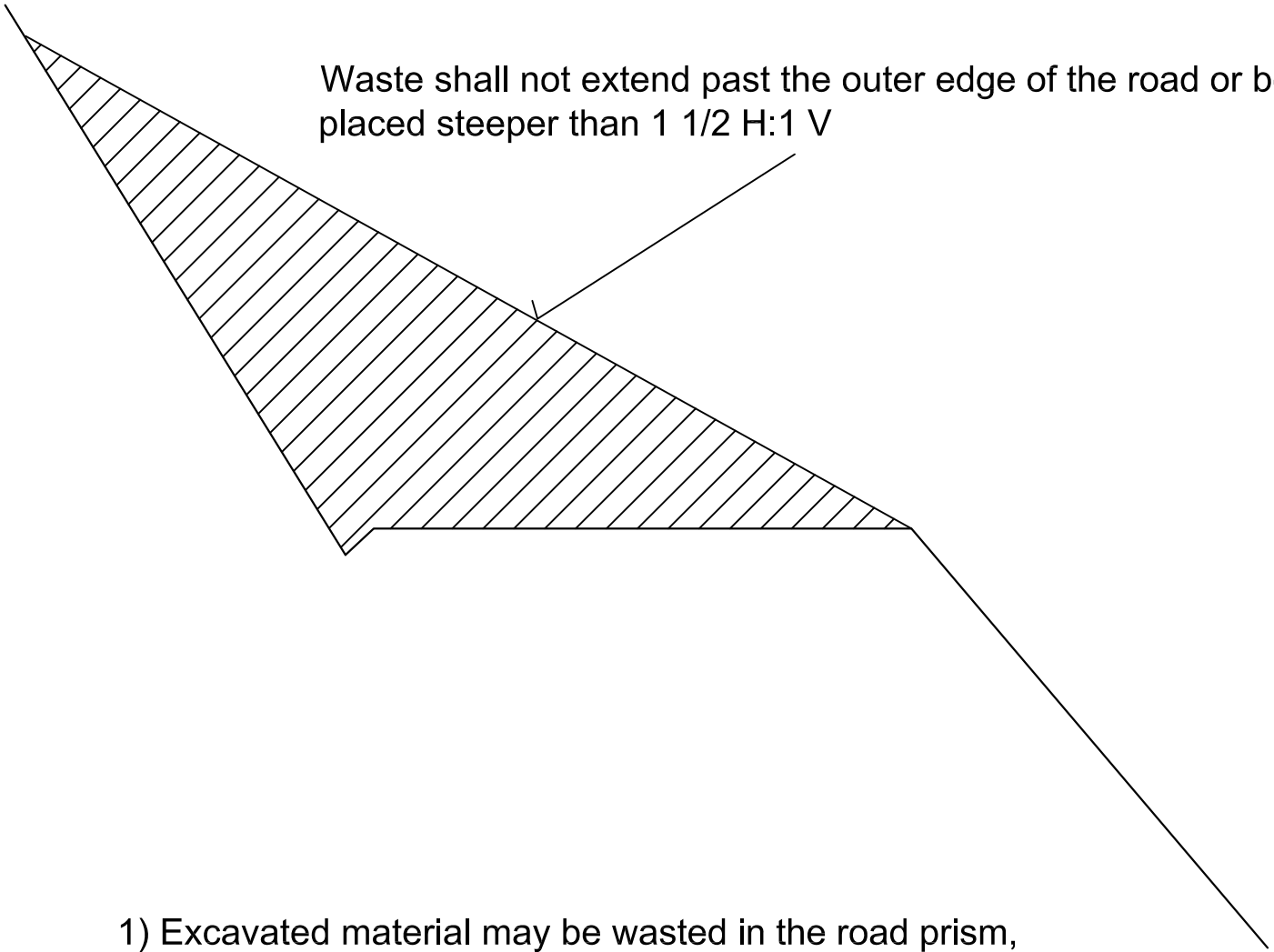
1. Apply additional aggregate to the roadway surface if the wheel rut depth exceeds 4 inches. Record the stations and the quantity of aggregate used for the repair and report on a weekly basis to the Contract Administrator.

NON-DRIVABLE WATER BAR DETAIL



ROAD PRISM WASTE DETAIL

Waste shall not extend past the outer edge of the road or be placed steeper than 1 1/2 H:1 V

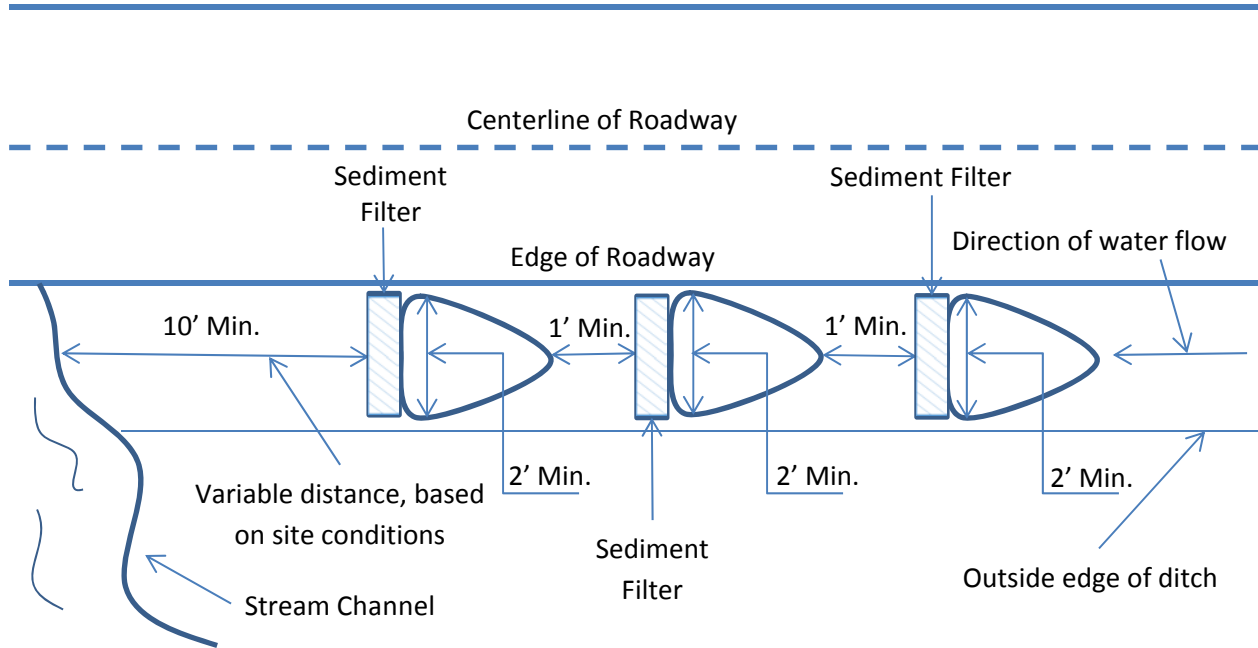


- 1) Excavated material may be wasted in the road prism, including ditchline.
- 2) Waste shall be sloped no steeper than 1 1/2 H : 1 V and placed a minimum of 10 feet from the edge of excavation limits.
- 3) Waste material shall not impede the natural drainage of water.
- 4) Waste shall be placed in 2 foot lifts and compacted by routing tracked excavation equipment over it.
- 5) A water bar shall be constructed immediately above the waste area.
- 6) Woody debris shall not be buried in waste areas. Available woody debris shall be scattered across the top of the waste area.

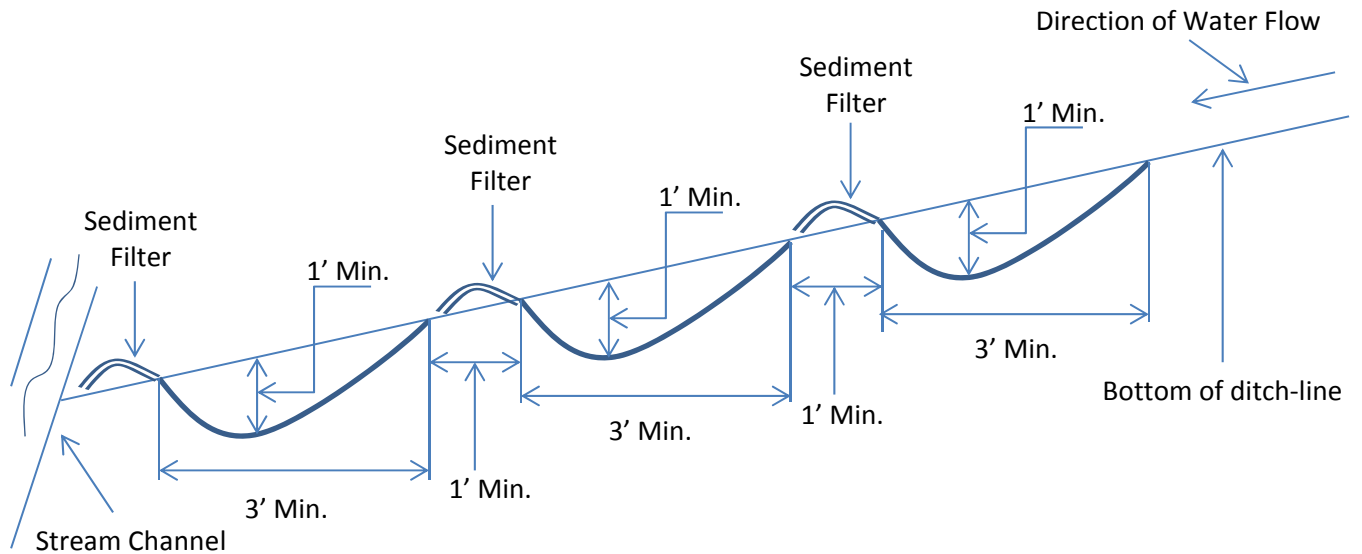
SEDIMENT TRAP DETAIL

Plan View

NOT TO SCALE



Profile View



*Note. Sediment Filter's shall consist of either straw wattles, or a CLEAN ROCK berm.

**PILCHUCK TIMBER SALE
SUMMARY - Road Development Costs**

GOOD NEIGHBOR AUTHORITY
MT BAKER-SNOQUALMIE NATIONAL FOREST

DARRINGTON RANGER DISTRICT
SNOHOMISH COUNTY WASHINGTON

Compiled By: Julia Colantonio

Agreement # 36-105232

Date 8/23/23

ROAD NUMBERS: Temp 1, Temp 2, Temp 3A, Temp 3B, Temp 4A, Temp 4B, Temp 5 Temp 11, Temp 12, Temp 13, Temp 16	4200000, 4240000, 4241000, 4242000, 4210000
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ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	49+26	0+00	334+73
CLEARING & GRUBBING:	\$ 5,267.99	\$ -	\$ -
EXCAVATION AND FILL:	\$ 16,218.00	\$ -	\$ -
ROAD & LANDING ROCK:	\$ 4,137.71	\$ -	\$ 266,937.62
CULVERTS AND FLUMES:	\$ 1,164.00	\$ -	\$ 20,548.78
MISC. MAINTENANCE:	\$ -	\$ -	\$ 42,478.49
STRUCTURES:	\$ -	\$ -	\$ -
MOBILIZATION:	\$ 4,892.40		\$ 4,892.40
POST HAUL MAINTENANCE:	\$ -	\$ -	\$ -
DECOMMISSIONING & CLOSURE	\$ 14,757.67	\$ -	\$ 870.75
MANAGEMENT & OVERHEAD (10%)	\$ 4,643.78	\$ -	\$ 33,485.73
COST PER STATION:	\$ 1,036.98	\$ -	\$ 1,103.02
TOTAL COSTS:	\$ 51,081.55	\$ -	\$ 369,213.77
		TOTAL (All Roads):	\$420,295.32
		SALE VOLUME MBF:	3589
		TOTAL \$/MBF:	\$117.11

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: 4200000

Total road length (feet): 24590

Distance to Pit (feet) 47520

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)		245.9 stations @	\$26.45 per station	\$	6,504.06
Cleaning Inlets & Outlets		4 stations @	\$4.95 per station	\$	19.80
Maintenance grading & compacting		245.9 stations @	\$24.25 per station	\$	5,964.06
Posthaul Grading and Compacting		245.9 stations @	\$24.25 per station	\$	5,964.06
Dust Abatement (Lignin Sulfonate)		245.9 stations @	\$20.33 per station	\$	5,000.00
			Misc. Maintenance Total	\$	18,451.97

ROCK

1 1/4 INCH Purchase Price		4610 CY @	\$ 16.50 per CY	\$	76,065.00
Pit Run Purchase Price		430 CY @	\$ 10.75 per CY	\$	4,622.50
Quarry Spalls Purchase Price		110 CY @	\$ 14.05 per CY	\$	1,545.50
Load dump truck		5150 CY @	\$ 0.73 per CY	\$	3,776.67
Rock haul	Round Trip (feet)	144220	806 Hours @	\$ 145.00 per hour	\$ 116,920.12
Process/Compacting Surfacing (6" Lift)	Round Trip (feet)	144220	5150 CY @	\$ 2.06 per hour	\$ 10,621.88
Waste Haul		430 CY @	\$ 0.73 per CY	\$	315.33
		5984	11 Hours @	\$ 145.00 per hour	\$ 1,600.32
			Rock Total	\$	215,467.31

CULVERTS & FLUMES

18" Polyethylene, double wall		90 feet @	\$ 25.25 per foot	\$	2,272.50
24" Polyethylene, double wall		360 feet @	\$ 31.97 per foot	\$	11,509.38
36" Polyethylene, double wall		50 feet @	\$ 66.66 per foot	\$	3,333.00
			Culvert & Flume Total	\$	17,114.88

PREHAUL MAINTENANCE TOTAL \$ 251,034.16
\$/STA \$ 1,020.88

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: 4240000

Total road length (feet): 4747

Distance to Pit (feet) 73392

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	47.47 stations @	\$26.45 per station	\$	1,255.58
Pull and clean ditch (one side, scatter)	47.47 stations @	\$70.95 per station	\$	3,368.00
Maintenance grading & compacting	47.47 stations @	\$24.25 per station	\$	1,151.34
Medium Gate	1 @	\$7,000.00 per each	\$	7,000.00
Posthaul Grading and Compacting	47.47 stations @	\$24.25 per station	\$	1,151.34
		Misc. Maintenance Total	\$	13,926.25

ROCK

1 1/4 INCH Purchase Price	1000 CY @	\$ 16.50 per CY	\$	16,500.00
Load dump truck	1000 CY @	\$ 0.73 per CY	\$	733.33
Rock haul	Round Trip (feet) 156278	168 Hours @	\$ 145.00 per hour	\$ 24,358.63
Process/Compacting Surfacing (6" Lift)	Round Trip (feet) 156278	1000 CY @	\$ 2.06 per hour	\$ 2,062.50
		Rock Total	\$	43,654.46

CULVERTS & FLUMES

18" Polyethylene, double wall	30 feet @	\$ 25.25 per foot	\$	757.50
36" Polyethylene, double wall	40 feet @	\$ 66.66 per foot	\$	2,666.40
Ditchout	1 each @	\$ 10.00 each	\$	10.00
		Culvert & Flume Total	\$	3,433.90

PREHAUL MAINTENANCE TOTAL \$ 61,014.61
\$/STA \$ 1,285.33

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: 4241000

Total road length (feet): 531

Distance to Pit (feet) 77088

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	5.31 stations @	\$26.45 per station	\$	140.45
Maintenance grading & compacting	5.31 stations @	\$24.25 per station	\$	128.79
Posthaul Grading and Compacting	5.31 stations @	\$24.25 per station	\$	128.79
		Misc. Maintenance Total	\$	398.03

PREHAUL MAINTENANCE TOTAL \$ 398.03
\$/STA \$ 74.96

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: 4242000

Total road length (feet): 734

Distance to Pit (feet) 77616

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	7.34 stations @	\$26.45 per station	\$	194.14
Maintenance grading & compacting	7.34 stations @	\$24.25 per station	\$	178.02
Posthaul Grading and Compacting	7.34 stations @	\$24.25 per station	\$	178.02
		Misc. Maintenance Total	\$	550.19

PREHAUL MAINTENANCE TOTAL \$ 550.19
\$/STA \$ 74.96

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: 4210000

Total road length (feet): 2871

Distance to Pit (feet) 58608

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)		28.71 stations @	\$26.45 per station	\$	759.38
Maintenance grading & compacting		28.71 stations @	\$24.25 per station	\$	696.33
Medium Gate		1 @	\$7,000.00 per each	\$	7,000.00
Posthaul Grading and Compacting		28.71 stations @	\$24.25 per station	\$	696.33
			Misc. Maintenance Total	\$	9,152.04

ROCK

1 1/4 INCH Purchase Price		200 CY @	\$ 16.50 per CY	\$	3,300.00
Load dump truck		200 CY @	\$ 0.73 per CY	\$	146.67
Rock haul	Round Trip (feet) 122958	27 Hours @	\$ 145.00 per hour	\$	3,956.69
Process/Compacting Surfacing (6" Lift)	Round Trip (feet) 122958	200 CY @	\$ 2.06 per hour	\$	412.50
			Rock Total	\$	7,815.85

PREHAUL MAINTENANCE TOTAL \$ 16,967.90
\$/STA \$ 591.01

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 1

Total road length (feet): 478

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	4.78 stations @	\$	110.44 per station	\$	527.90
				C & G Total	\$ 527.90

EXCAVATION AND FILL

Construction (balanced, light)	4.78 stations @	\$	340.00 per station	\$	1,625.20
				Excavation Total	\$ 1,625.20

ROCK

Pit Run Purchase Price	250 CY @	\$	10.75 per CY	\$	2,687.50
Load dump truck	250 CY @	\$	0.73 per CY	\$	183.33
Rock haul	Round Trip (feet) 956	5.181 Hours @	\$ 145.00 per Hour	\$	751.25
Process/Compacting Surfacing (6" Lift)	250 CY @	\$	2.06 per CY	\$	515.63
				Road Rock Total	\$ 4,137.71

CULVERTS & FLUMES

18" Polyethylene, double wall	30 feet @	\$25.25 per foot	\$757.50
		Culvert, Flume, & Pipe Bedding Total	\$757.50

MISC. MAINTENANCE

Grass seed (spread by hand)	13 pounds @	\$	3.34 per pound	\$	43.98
Biaxial geogrid			Provided		
Excavator time	2.00 laborers	\$	25.00 per laborers	\$	50.00
	3.25 hour	\$	165.00 per hour	\$	536.25
				Misc Maintenance Total	\$ 630.23

Construction Total	\$	7,678.55
\$/sta	\$	1,606.39

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 2

Total road length (feet): 94

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	0.94 stations @	\$	110.44 per station	\$	103.81
				C & G Total	\$ 103.81

EXCAVATION AND FILL

Construction (balanced, light)	0.94 stations @	\$	340.00 per station	\$	319.60
				Excavation Total	\$ 319.60

MISC. MAINTENANCE

Grass seed (spread by hand)	3 pounds @	\$	3.34 per pound	\$	8.65
				Misc Maintenance Total	\$ 8.65

Construction Total	\$	432.06
\$/sta	\$	459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 3A

Total road length (feet): 93

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	0.93 stations @	\$	110.44 per station	\$	102.71
				C & G Total	\$ 102.71

EXCAVATION AND FILL

Construction (balanced, light)	0.93 stations @	\$	340.00 per station	\$	316.20
				Excavation Total	\$ 316.20

MISC. MAINTENANCE

Grass seed (spread by hand)	3 pounds @	\$	3.34 per pound	\$	8.56
				Misc Maintenance Total	\$ 8.56

Construction Total	\$	427.47
\$/sta	\$	459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 3B

Total road length (feet): 1990

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	19.90 stations @	\$	110.44 per station	\$	2,197.76
				C & G Total	\$ 2,197.76

EXCAVATION AND FILL

Construction (balanced, light)	19.90 stations @	\$	340.00 per station	\$	6,766.00
				Excavation Total	\$ 6,766.00

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Dips	5 each @	\$	68.00 each	\$	340.00
Water Bar	1 each @	\$	66.50 each	\$	66.50
				Culvert, Flume, & Pipe Bedding Total	\$406.50

MISC. MAINTENANCE

Grass seed (spread by hand)	55 pounds @	\$	3.34 per pound	\$	183.10
				Misc Maintenance Total	\$ 183.10

Construction Total \$ 9,553.36
\$/sta \$ 480.07

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 4A

Total road length (feet): 344

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	3.44 stations @	\$	110.44 per station	\$	379.91
				C & G Total	\$ 379.91

EXCAVATION AND FILL

Construction (balanced, light)	3.44 stations @	\$	340.00 per station	\$	1,169.60
				Excavation Total	\$ 1,169.60

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Culvert, Flume, & Pipe Bedding Total \$0.00

MISC. MAINTENANCE

Grass seed (spread by hand)	9 pounds @	\$	3.34 per pound	\$	31.65
				Misc Maintenance Total	\$ 31.65

Construction Total \$ 1,581.17
\$/sta \$ 459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 4B

Total road length (feet): 200

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.00 stations @	\$	110.44 per station	\$	220.88
				C & G Total	\$ 220.88

EXCAVATION AND FILL

Construction (balanced, light)	2.00 stations @	\$	340.00 per station	\$	680.00
				Excavation Total	\$ 680.00

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Culvert, Flume, & Pipe Bedding Total \$0.00

MISC. MAINTENANCE

Grass seed (spread by hand)	6 pounds @	\$	3.34 per pound	\$	18.40
				Misc Maintenance Total	\$ 18.40

Construction Total \$ 919.28

\$/sta \$ 459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 5

Total road length (feet): 156

Distance to Pit (feet) 58608

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	1.56 stations @	\$	110.44 per station	\$	172.29
				C & G Total	\$ 172.29

EXCAVATION AND FILL

Construction (balanced, heavy)	1.56 stations @	\$	754.09 per station	\$	1,176.38
Landing (small)	1 each @	\$	219.75 each	\$	219.75
				Excavation Total	\$ 1,396.13

ROCK

1 1/4 INCH Purchase Price	40 CY @	\$	16.50 per CY	\$	660.00
Pit Run Purchase Price	450 CY @	\$	10.75 per CY	\$	4,837.50
Load dump truck	490 CY @	\$	0.73 per CY	\$	359.33
Process/Compacting Surfacing (6" Lift)	490 CY @	\$	2.06 per CY	\$	1,010.63
Rock haul	Round Trip (feet) 117528	53 Hours @	\$	145.00 per Hour	\$ 7,747.03
				Road Rock Total	\$ 14,614.49

CULVERTS & FLUMES

18" Polyethylene, double wall	40 feet @	\$25.25 per foot	\$1,010.00
		Culvert, Flume, & Pipe Bedding Total	\$1,010.00

MISC. MAINTENANCE

Grass seed (spread by hand)	4 pounds @	\$	3.34 per pound	\$	14.35
				Misc Maintenance Total	\$ 14.35

Construction Total	\$	17,207.26
\$/sta	\$	11,030.30

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 11

Total road length (feet): 428

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	4.28 stations @	\$	110.44 per station	\$	472.68
				C & G Total	\$ 472.68

EXCAVATION AND FILL

Construction (balanced, light)	4.28 stations @	\$	340.00 per station	\$	1,455.20
				Excavation Total	\$ 1,455.20

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Culvert, Flume, & Pipe Bedding Total \$ -

MISC. MAINTENANCE

Grass seed (spread by hand)	12 pounds @	\$	3.34 per pound	\$	39.38
				Misc Maintenance Total	\$ 39.38

Construction Total \$ 1,967.26

\$/sta \$ 459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 12

Total road length (feet): 260

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	2.60 stations @	\$	110.44 per station	\$	287.14
				C & G Total	\$ 287.14

EXCAVATION AND FILL

Construction (balanced, light)	2.60 stations @	\$	340.00 per station	\$	884.00
				Excavation Total	\$ 884.00

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Culvert, Flume, & Pipe Bedding Total \$0.00

MISC. MAINTENANCE

Grass seed (spread by hand)	7 pounds @	\$	3.34 per pound	\$	23.92
				Misc Maintenance Total	\$ 23.92

Construction Total \$ 1,195.07
\$/sta \$ 459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 13

Total road length (feet): 130

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	1.30 stations @	\$	110.44 per station	\$	143.57
				C & G Total	\$ 143.57

EXCAVATION AND FILL

Construction (balanced, light)	1.30 stations @	\$	340.00 per station	\$	442.00
				Excavation Total	\$ 442.00

ROCK

Road Rock Total \$ -

CULVERTS & FLUMES

Culvert, Flume, & Pipe Bedding Total \$0.00

MISC. MAINTENANCE

Grass seed (spread by hand)	4 pounds @	\$	3.34 per pound	\$	11.96
				Misc Maintenance Total	\$ 11.96

Construction Total \$ 597.53

\$/sta \$ 459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NUMBER: Temp 16

Total road length (feet): 753

Distance to Pit (feet)

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

LIGHT Clearing and Grubbing	7.53 stations @	\$	110.44 per station	\$	831.61
				C & G Total	\$ 831.61

EXCAVATION AND FILL

Construction (balanced, light)	7.53 stations @	\$	340.00 per station	\$	2,560.20
				Excavation Total	\$ 2,560.20

MISC. MAINTENANCE

Grass seed (spread by hand)	21 pounds @	\$	3.34 per pound	\$	69.28
				Misc Maintenance Total	\$ 69.28

Construction Total	\$	3,461.10
\$/sta	\$	459.64

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD NAMES: 4240000, 4241000, 4242000, Temp 1, Temp 2, Temp 3A, Temp 3B, Temp 4A,
Temp 4B, Temp 5, Temp 11, Temp 12, Temp 13, Temp 16

DECOMMISSIONING

Decommissioning

Level 3 Decom		98.10 stations @	\$ 115.50 per station	\$ 11,330.55
Earthen Barricade		8 Barricades	\$ 123.75 per each	\$ 990.00
Temp 5 Embankment Rock	Load dump truck	490 CY @	\$ 0.73 per CY	\$ 359.33
	Rock Haul 1278	10 Hours @	\$ 145.00 per hour	\$ 1,489.79
	Build Stock Pile	490 CY @	\$ 1.20 per CY	\$ 588.00
			Decommissioning Cost	\$ 14,757.67

CLOSURE

CLOSURE

CLOSURE		49.80 stations @	\$ 15.00 Per Station	\$ 747.00
Earthen Barricade		1 Barricades	\$ 123.75 per each	\$ 123.75
			CLOSURE COST	\$ 870.75

DECOM & CLOSURE TOTAL \$ 15,628.42

MOBILIZATION

SALE/PROJECT NAME: Pilchuck Timber Sale

CONTRACT #: 36-105232

ROAD BUILDING EQUIPMENT					
	hrs/trip	trips	Hours	\$/HR	Total
Grader	3	2	6	\$ 150.00	\$ 900.00
Dozer (small)	3	2	6	\$ 143.90	\$ 863.40
Excavator 120HP	3	2	6	\$ 143.90	\$ 863.40
Roller	3	2	6	\$ 110.00	\$ 660.00
End Dump	2	3	6	\$ 120.00	\$ 720.00
Tractor Brusher	3	1	3	\$ 90.00	\$ 270.00
Dump Truck Tilt Deck	4	9	36	\$ 153.00	\$ 5,508.00
				TOTAL	\$ 9,784.80



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

(Revised 9/18)