



TIMBER NOTICE OF SALE

SALE NAME: HOG WILD VRH VDT

AGREEMENT NO: 30-104148

AUCTION: August 30, 2023 starting at 10:00 a.m., **COUNTY:** Snohomish
Northwest Region Office, Sedro Woolley, WA

SALE LOCATION: Sale located approximately 22 miles southeast of Granite Falls, WA.

**PRODUCTS SOLD
AND SALE AREA:**

All timber bounded by white timber sale boundary tags, adjacent young stands, rock pit area, and the CH-ML and CH-40 roads, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1 (collectively labeled 1A and 1B).

All timber bounded by white timber sale boundary tags, property lines, adjacent young stands, roads (the CH-64, CH-6401, CH-ML) and old grades, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #2 (collectively labeled 2A, 2B, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2L and 2M).

All timber bounded by white timber sale boundary tags and the CH-ML Road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, and forest products tagged out by yellow leave tree area tags in Unit #3.

All timber bounded by white timber sale boundary tags, adjacent young stands, the CH-ML and property lines, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, and forest products tagged out by yellow leave tree area tags in Unit #4.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Units #1 and #2 (labeled 1C, 1D, 2C, 2K, and 2N).

All timber bounded by orange right-of-way tags or orange right-of-way tags and the CH-64 road, of roads to be constructed, except that title to the timber within the right-of-way associated with areas of road construction is not conveyed to the Purchaser unless the road segment is actually constructed, except as described for removal in Schedule B.

All forest products above located on part(s) of Sections 20, 21 and 22 all in Township 29 North, Range 8 East, W.M., containing 163 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg Ring DBH Count	Total MBF	MBF by Grade								
			1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	17.6	3,581						1,452	1,814	229	86



TIMBER NOTICE OF SALE

Table with 10 columns: Species, Volume 1, Volume 2, Volume 3, Volume 4, Volume 5, Volume 6, Volume 7, Volume 8, Volume 9. Rows include Douglas fir, Silver fir, Redcedar, Cottonwood, Red alder, and Sale Total.

MINIMUM BID: \$1,174,000.00 BID METHOD: Sealed Bids
PERFORMANCE SECURITY: \$100,000.00 SALE TYPE: Lump Sum
EXPIRATION DATE: March 31, 2026 ALLOCATION: Export Restricted

BID DEPOSIT: \$117,400.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable; shovel on sustained slopes 40% or less; self-leveling harvester equipment on sustained slopes 55% or less; tethered equipment may be utilized (See below for restrictions); also, a feller-buncher may be utilized on sustained slopes 40% or less.

Purchaser must obtain prior written approval from the Contract Administrator for areas as to where to utilize tethered equipment prior to use. If ground disturbance is causing excessive damage, as determined by the Contract Administrator, the equipment will no longer be authorized. Falling and Yarding will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator (THIS PERTAINS TO GROUND-BASED EQUIPMENT ONLY) to reduce soil damage and erosion.

Falling and yarding in RMZ and WMZ thinning areas shall not be permitted during the bark slippage season unless the Purchaser provides a written plan outlining mitigation measures and the plan is pre-authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions.

ROADS: 32.70 stations of optional construction. 44.10 stations of optional reconstruction. 291.20 stations of required prehaul maintenance. 702.23 stations of optional prehaul maintenance.

Rock may be obtained from the following source(s) on State land at no charge to the Purchaser: Chaplain Pit at station 258+06 of the CH-ML Road. Pignuckle Pit at Station 405+18 of the CH-ML Road. In addition, existing stockpiles of Light and Heavy riprap are available for use within both Chaplain Pit and Pignuckle Pit.

Development of an existing rock source will involve drilling, shooting, and processing.

An estimated total quantity of rock needed for this proposal: 235 cubic yards of riprap and 5,940 cubic yards of ballast rock.

Road work and the hauling of rock will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation. The hauling of forest products will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation.



TIMBER NOTICE OF SALE

ACREAGE DETERMINATION

CRUISE METHOD: Acres determined by GPS/GIS traverse for units and length x width calculation for right-of-way. Cruise was conducted via variable plot sample type, as well as fixed plot, and strip for the right-of-ways. Cruise acres are based on FMA (Forest Management Activity) acres including leave tree areas. Leave tree volume is not included in the cruise. See Cruise Narrative for further details. Shapefiles of units are available upon request, and on the DNR website after the BNR meeting in which the sale is presented.

FEES: \$106,964.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

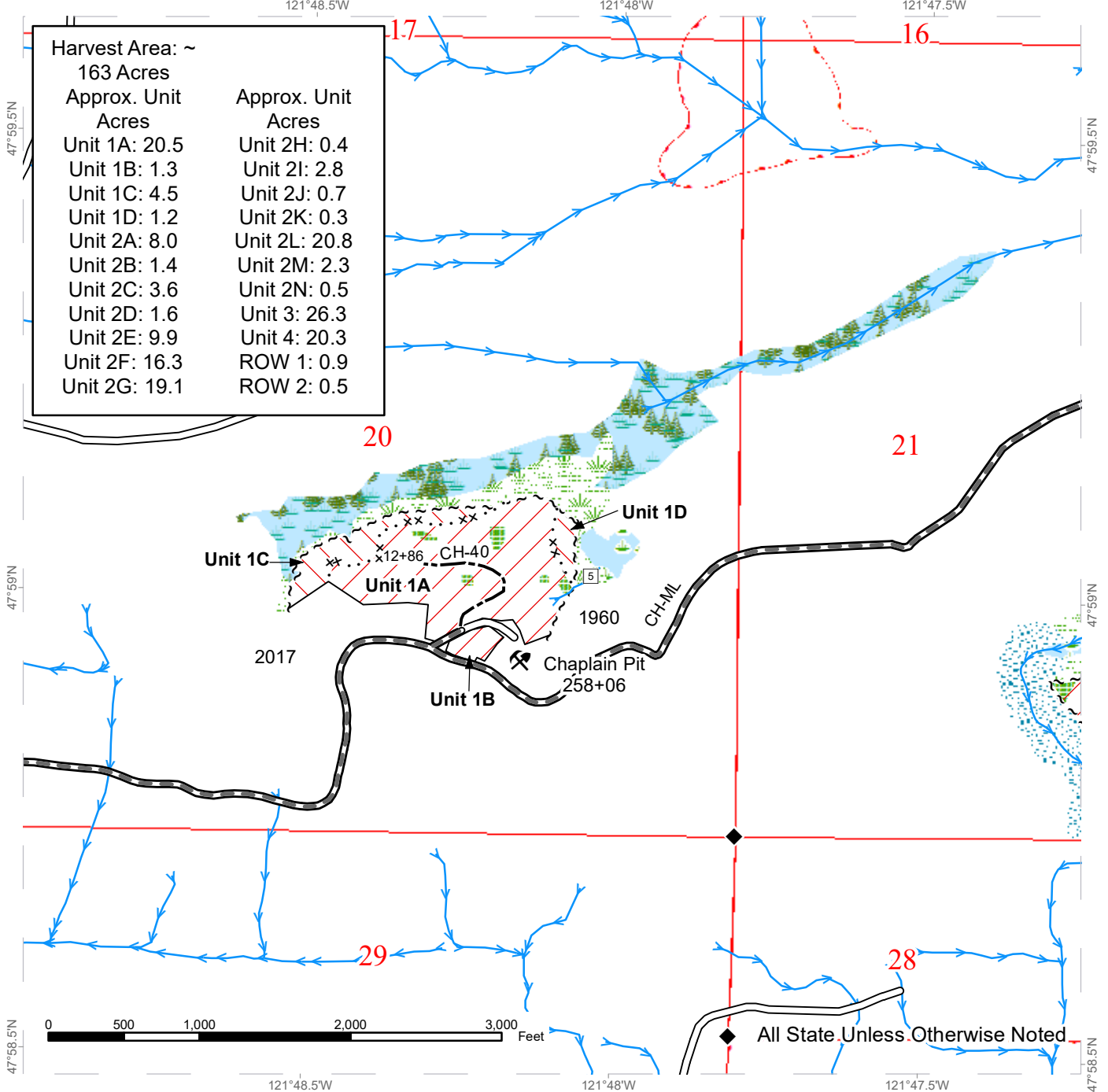
SPECIAL REMARKS:

1. Trees marked with two bands of yellow paint and a red "T" represent the last take tree along property line boundaries and are to be felled into the sale area. See H-90, H-141, and timber sale map for details.
2. Outer boundary of harvest area in RMZ/WMZ thinning areas is demarcated with blue special management tags within the sale area.
3. HQ DF noted within the sale area. See cruise for further details.
4. Cedar salvage is not permitted within this sale. Cedar salvage will be offered within the harvest units under a separate contract at a later date.
5. Cable logging will occur in Units 3 and 4. Tail hold restrictions apply, see H-140.
6. Intermediate supports may be necessary. Yarding profiles are available upon request.
7. Access to the timber sale area shall be via the EK-ML as depicted on the Driving Map.
8. Purchaser shall complete required pre-haul maintenance on the CH-ML from station 106+93 to 107+18.

TIMBER SALE MAP

SALE NAME: HOG WILD
AGREEMENT #: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280



Variable Retention Harvest	Sale Boundary Tags	Streams
Variable Density Thinning	Special Mgmt Area	Stream Type
Wetlands - Non-forested	Right of Way Tags	Stream Type Break
Leave Tree Area	Property Line	Survey Monument
Riparian Mgt Zone	Timber Type Change	Rock Pit
Forested Wetland	Existing Roads	
Wetland Mgt Zone	Required Pre-Haul Maintenance	
	Optional Construction	

0 500 1,000 2,000 3,000 Feet

◆ All State Unless Otherwise Noted



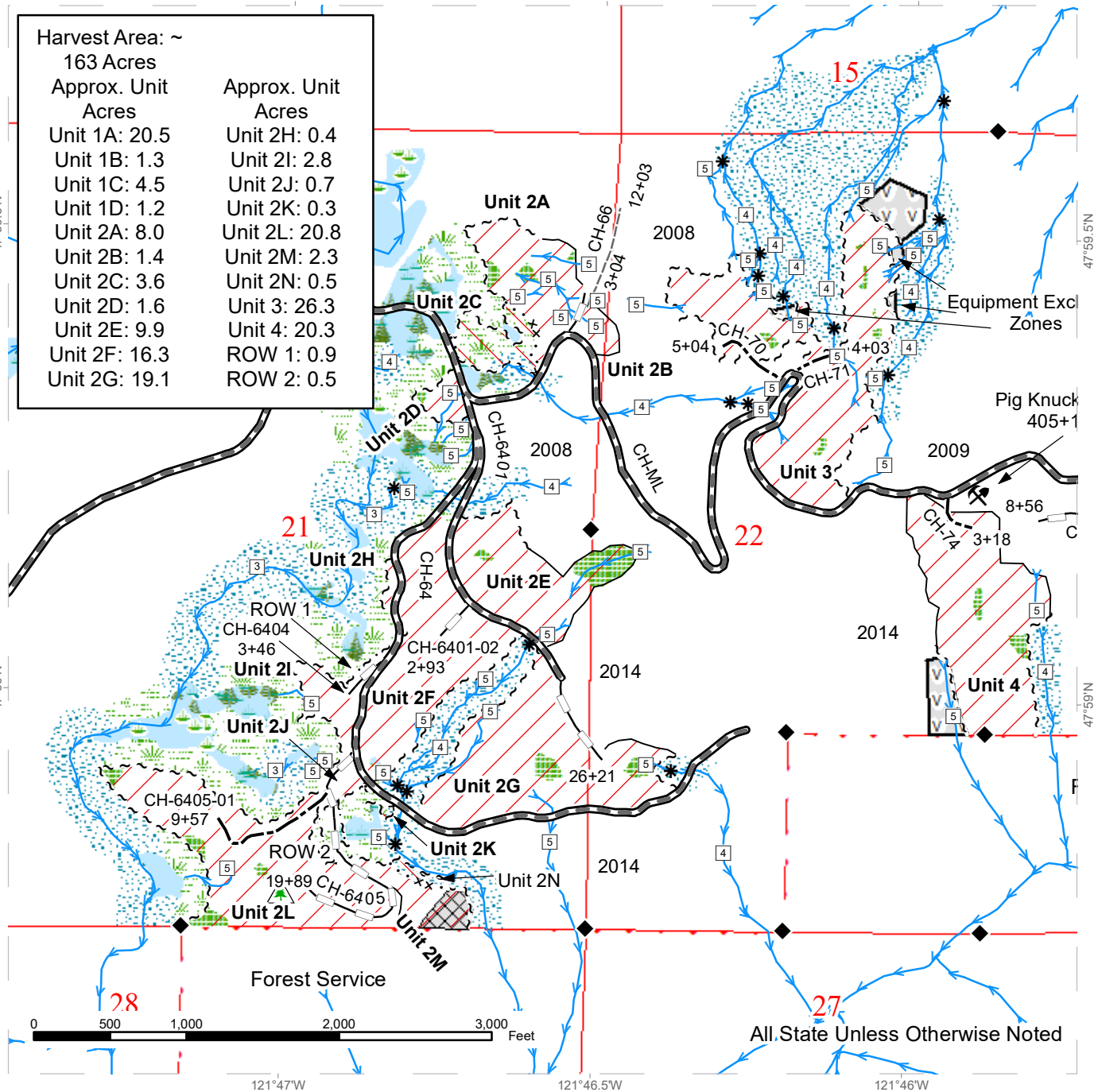
TIMBER SALE MAP

SALE NAME: HOG WILD
AGREEMENT #: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280

Harvest Area: ~
163 Acres

Approx. Unit Acres	Approx. Unit Acres
Unit 1A: 20.5	Unit 2H: 0.4
Unit 1B: 1.3	Unit 2I: 2.8
Unit 1C: 4.5	Unit 2J: 0.7
Unit 1D: 1.2	Unit 2K: 0.3
Unit 2A: 8.0	Unit 2L: 20.8
Unit 2B: 1.4	Unit 2M: 2.3
Unit 2C: 3.6	Unit 2N: 0.5
Unit 2D: 1.6	Unit 3: 26.3
Unit 2E: 9.9	Unit 4: 20.3
Unit 2F: 16.3	ROW 1: 0.9
Unit 2G: 19.1	ROW 2: 0.5



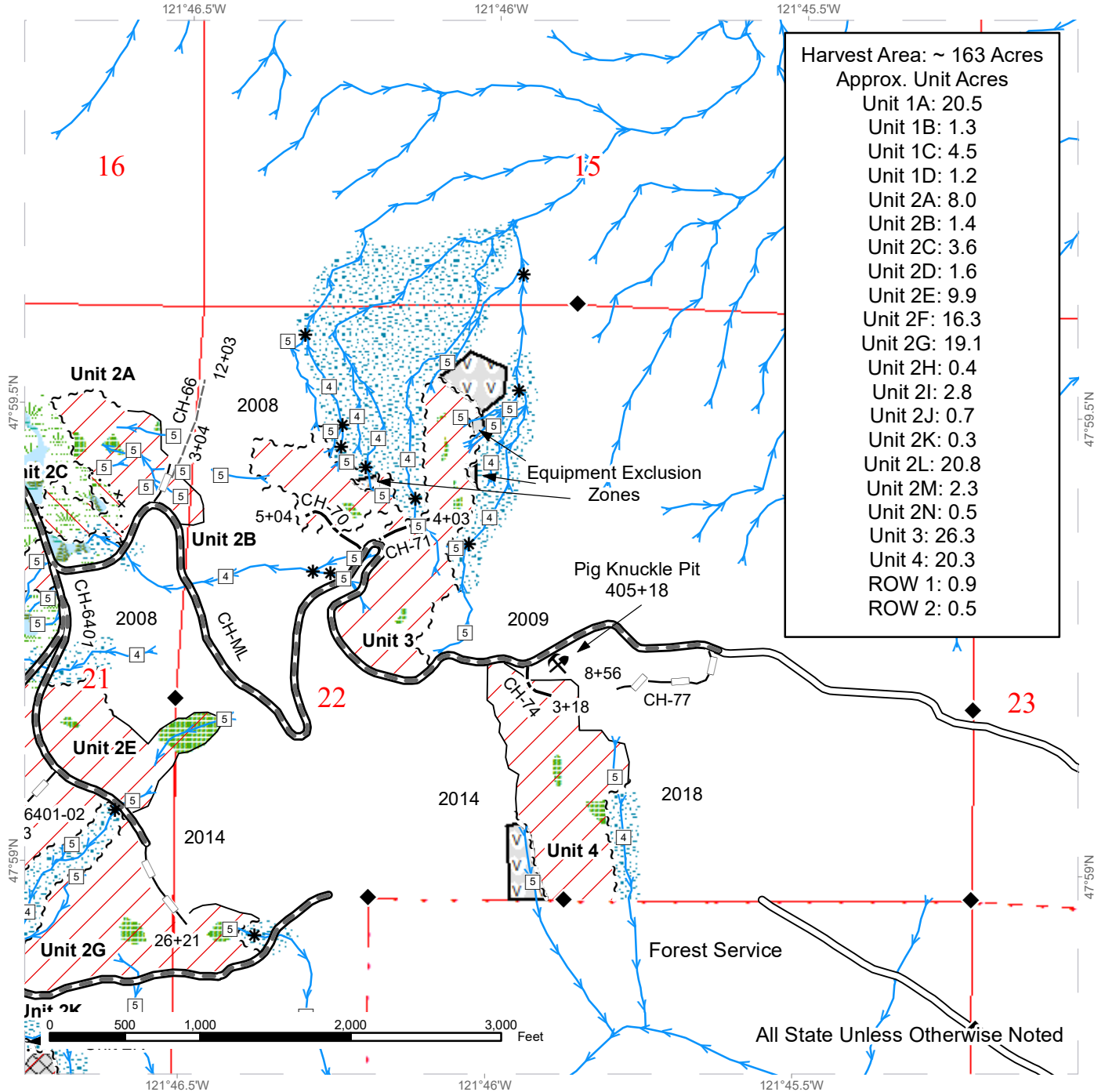
Variable Retention Harvest	Sale Boundary Tags	Streams
Variable Density Thinning	Special Mgmt Area	Stream Type
Wetlands - Non-forested	Right of Way Tags	Stream Type Break
Non-Tradeable Leave Clump	Property Line	Survey Monument
Leave Tree Area	Timber Type Change	Non-Tradeable Leave Trees
Riparian Mgt Zone	Existing Roads	Rock Pit
Forested Wetland	Required Pre-Haul Maintenance	
Wetland Mgt Zone	Optional Construction	
Equipment Exclusion Zone	Optional Reconstruction	
	Old Grades/Trails	



TIMBER SALE MAP

SALE NAME: HOG WILD
AGREEMENT #: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280



Harvest Area: ~ 163 Acres

Approx. Unit Acres

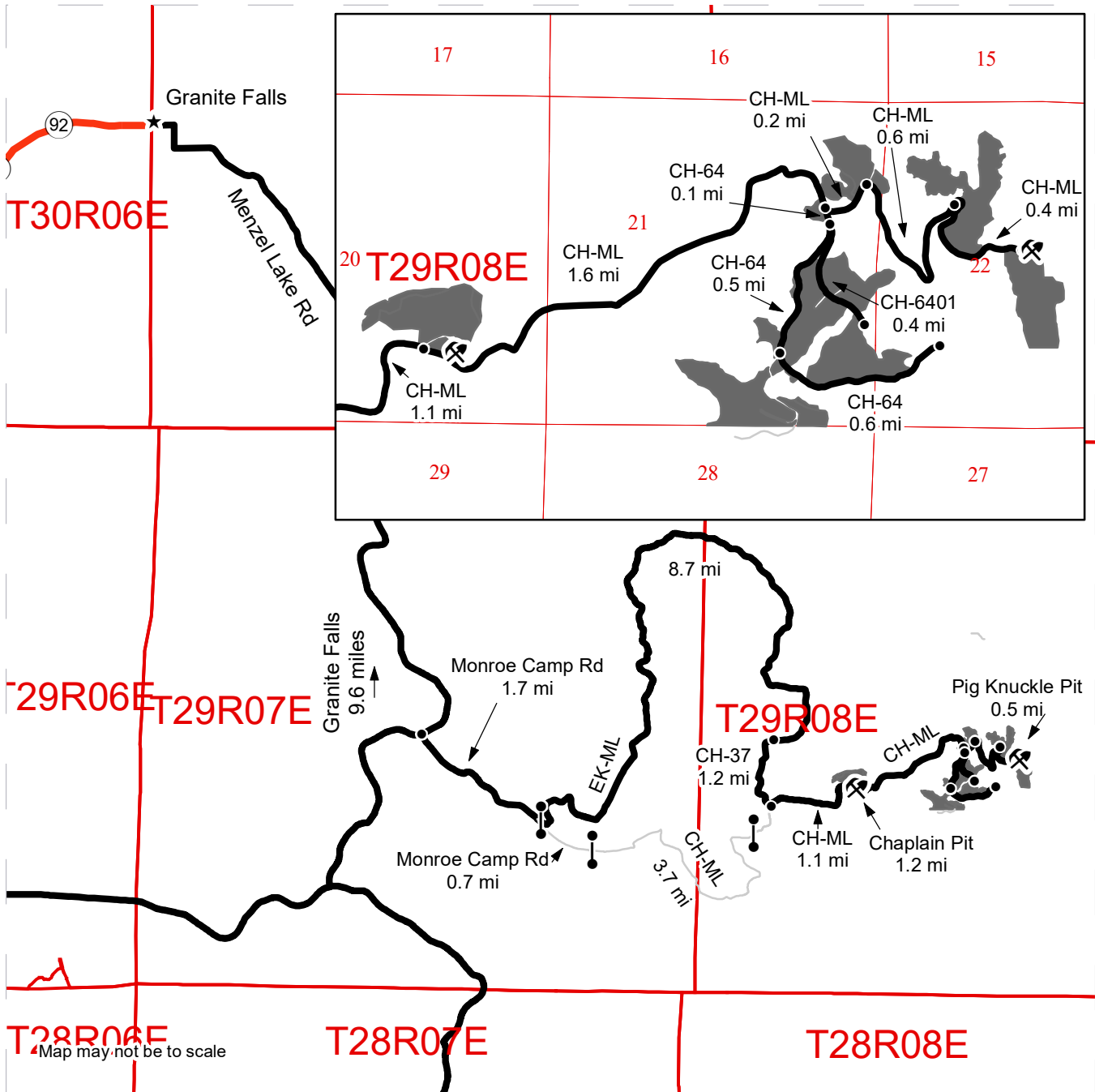
Unit 1A:	20.5
Unit 1B:	1.3
Unit 1C:	4.5
Unit 1D:	1.2
Unit 2A:	8.0
Unit 2B:	1.4
Unit 2C:	3.6
Unit 2D:	1.6
Unit 2E:	9.9
Unit 2F:	16.3
Unit 2G:	19.1
Unit 2H:	0.4
Unit 2I:	2.8
Unit 2J:	0.7
Unit 2K:	0.3
Unit 2L:	20.8
Unit 2M:	2.3
Unit 2N:	0.5
Unit 3:	26.3
Unit 4:	20.3
ROW 1:	0.9
ROW 2:	0.5

Variable Retention Harvest	Sale Boundary Tags	Streams
Variable Density Thinning	Special Mgmt Area	Stream Type
Non-Tradeable Leave Clump	Right of Way Tags	Stream Type Break
Leave Tree Area	Property Line	Survey Monument
Riparian Mgt Zone	Timber Type Change	Rock Pit
Forested Wetland	Existing Roads	
Wetland Mgt Zone	Required Pre-Haul Maintenance	
Equipment Exclusion Zone	Optional Construction	
	Optional Reconstruction	
	Old Grades/Trails	

DRIVING MAP

SALE NAME: HOG WILD
 AGREEMENT#: 30-104148
 TOWNSHIP(S): T29R8E
 TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
 COUNTY(S): Snohomish
 ELEVATION RGE: 1320-2280



Map may not be to scale

- Timber Sale Unit
- Haul Route
- Optional RUP Route
- Distance Indicator
- Gate (F1-3)
- Rock Pit
- Public Land Survey Townships

DRIVING DIRECTIONS:

From Granite Falls follow Menzel Lake Rd 9.6 miles to the intersection with Monroe Camp Rd. Turn left onto Monroe Camp Rd and follow it for 1.7 miles to the EK-ML gate on the left. F1-3 key required. Follow the EK-ML for 8.7 miles, then turn left onto the CH-37. Follow the CH-37 for 1.2 miles then turn left onto the CH-ML. Continue on the CH-ML for 1.1 miles, unit 1 will be on the left at the rock pit. Continue following the CH-ML for 1.6 miles to the junction with the CH-64 and the northern sub-units of unit 2. Stay on the CH-ML for 0.6 mile to reach unit 3 on the left and an additional 0.4 mile to reach unit 4 on the right. From the junction of the CH-ML and CH-64 continue south on the CH-64 for 0.1 mile to reach the junction with the CH-6401. The CH-64 (1.1 miles) and CH-6401 (0.4 mile) can be used to access the southern sub-units of unit 2.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-0104148

SALE NAME: HOG WILD VRH VDT

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on August 30, 2023 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber bounded by white timber sale boundary tags, adjacent young stands, rock pit area, and the CH-ML and CH-40 roads, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1 (collectively labeled 1A and 1B).

All timber bounded by white timber sale boundary tags, property lines, adjacent young stands, roads (the CH-64, CH-6401, CH-ML) and old grades, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #2 (collectively labeled 2A, 2B, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2L and 2M).

All timber bounded by white timber sale boundary tags and the CH-ML Road, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, and forest products tagged out by yellow leave tree area tags in Unit #3.

All timber bounded by white timber sale boundary tags, adjacent young stands, the CH-ML and property lines, except cedar salvage (cedar snags, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, and forest products tagged out by yellow leave tree area tags in Unit #4.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Units #1 and #2 (labeled 1C, 1D, 2C, 2K, and 2N).

All timber bounded by orange right-of-way tags or orange right-of-way tags and the CH-64 road, of roads to be constructed, except that title to the timber within the right-of-way associated with areas of road construction is not conveyed to the Purchaser unless the road segment is actually constructed, except as described for removal in Schedule B.

All forest products above located on approximately 163 acres on part(s) of Sections 20, 21, and 22 all in Township 29 North, Range 8 East W.M. in Snohomish County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
B	Thinning Prescription
Z	Equipment Limitation Zone

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

and the adjustment may be granted only if operations or planned operations under this contract are actually interrupted or delayed:

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

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

- e. Payment of \$124.00 per acre per annum for the acres on which an operating release has not been issued in Variable Density Thinning (VDT) areas in Units 1 and 2. Payment of \$868.00 per acre per annum for the acres on which an operating release has not been issued in Variable Retention Harvest (VRH) areas.
- f. In no event will the extension charge be less than \$200.00.

- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.
- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by

the Department of Natural Resources or any other agency that may affect the operability of this timber sale.

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

G-061 Inadvertent Discovery of Cultural Resources

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

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that

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

- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

- a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

under the contract. Purchaser retains the final responsibility for its operations under this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

Contract Item	Appraised Price	Overbid Factor	Price	Fees	Contract Payment Rate
Cottonwood	\$63.97	0	\$0.00	\$9.00	\$9.00
Douglas fir	\$226.30	0	\$0.00	\$9.00	\$9.00
Hemlock	\$158.58	0	\$0.00	\$9.00	\$9.00
Red alder	\$162.50	0	\$0.00	\$9.00	\$9.00
Redcedar	\$416.79	0	\$0.00	\$9.00	\$9.00
Silver fir	\$162.75	0	\$0.00	\$9.00	\$9.00
Other	\$216.46	0	\$0.00	\$9.00	\$9.00

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from

the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

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

G-140 Indemnity

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

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

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

that include, but are not limited to, fire suppression expenses, accidental timber trespasses, and wildfire property damage with limits of not less than \$2,000,000.00 each occurrence.

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

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

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

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

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

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Sedro Woolley, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to

waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

G-210 Violation of Contract

G-220 State Suspends Operations

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

G-210 Violation of Contract

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

State may terminate the rights of Purchaser under this contract and collect damages.

- b. If the contract expires pursuant to clause G-030 or G-031 without Purchaser having performed all its duties under this contract, Purchaser's right to operate is terminated and Purchaser shall not have the right to remedy the breach. This provision shall not relieve Purchaser of any payment obligations.
- c. The State has the right to remedy the breach in the absence of any indicated attempt by Purchaser or if Purchaser is unable, as determined by the State, to remedy the breach. Any expense incurred by the State shall be charged to Purchaser and shall be paid within 30 days of receipt of billing.
- d. If Purchaser's violation is a result of a failure to make a payment when due, in addition to a. and b. above, interest shall accrue on the unpaid balance at 12 percent per annum, beginning the date payment was due.

G-220 State Suspends Operations

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

An operating release is a written document, signed by the State and Purchaser, indicating that Purchaser has been relieved of certain rights or responsibilities with regard to the entire or a portion of the timber sales contract. Purchaser and State may agree to an operating release for this sale, or portion of this sale, prior to the contract

expiration, when all contract requirements pertaining to the release area have been satisfactorily completed. Upon issuance of a release, Purchaser's right to cut and remove forest products on the released area will terminate.

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; CH-ML, CH-37, CH-40, CH-64, CH-6401, CH-6401-02, CH-6404, CH-6405, CH-6405-01, CH-66, CH-70, CH-71, CH-74, CH-77, and EK-ML. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-380 Road Easement and Road Use Permit Requirements

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

Easement with:

City of Everett; #55-1090098; dated May 28, 2014.

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$163,592.00. The total contract price consists of a \$0.00 contract bid price plus \$163,592.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Felling and Yarding will not be permitted from November 1 to March 31 BY GROUND-BASED EQUIPMENT unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

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

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

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

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

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

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

H-012 Leave Tree Damage Definition

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

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

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 20 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 200 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

- H-017 Preventing Excessive Soil Disturbance
Operations may be suspended when soil rutting exceeds 8 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.
- H-035 Fall Trees Into Sale Area
Trees shall be felled into the sale area unless otherwise approved by the Contract Administrator.
- H-051 Branding and Painting
Purchaser shall provide a State of Washington registered log brand, acceptable to the State, unless the State agrees to furnish the brand. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

For pulp loads purchased under a contract designated as export restricted, Purchaser shall brand at least 3 logs with legible brands at one end. Also, 10 logs shall be painted at one end with durable red paint.
- H-080 Snags Not to be Felled
Snags not required to be felled for safety reasons may be left standing. Snags felled for safety reasons shall not be removed and must remain where felled.
- H-090 Designated Trees Felled
All trees designated as last take tree along property lines marked with two yellow bands and a red "T" shall be felled into the sale area concurrently with the falling operation.
- H-110 Stump Height
Trees shall be cut as close to the ground as practicable. Stump height shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.
- H-120 Harvesting Equipment
Forest products sold under this contract shall be harvested and removed using cable; shovel on sustained slopes 40% or less; self-leveling harvester equipment on sustained slopes 55% or less; tethered equipment may be utilized (See H-141 for restrictions); also, a feller-buncher may be utilized on sustained slopes 40% or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.
- H-125 Log Suspension Requirements
Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

A. 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.

LOG PROCESSOR/DE-LIMBER is defined as a mobile machine with a hydraulic boom capable of simultaneously bucking, delimiting and/or debarking and chipping whole trees while sitting stationary at the landing.

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.

B. Maintain a 30-foot equipment limitation zone on either side of all type 5 streams. Trees shall be felled away from stream channels and any standing water or wet swales when feasible. Water course crossing structures must be approved by the Contract Administrator.

C. When yarding and loading operations are occurring simultaneously, an additional shovel shall be required for loading to avoid extra trips to the landing. Shovel yarding shall not be allowed to create ruts or soil puddling. Shovel routes should be dispersed to prevent creation of definable trails.

D. An on-site pre-work meeting that includes the Contract Administrator and Purchaser will be required after operations have been disrupted (leading to a cessation of operations) or operations moved off site for a period of more than two weeks before any activities resume on site.

E. Ground-based yarding shall not exceed 800 feet from any road unless authorized in writing by the Contract Administrator.

F. All gates along the haul route shall be closed and locked at the end of each day. Refer to Timber Sale Prospectus map for gate locations.

G. No tops or limbs will be allowed to accumulate on any landings. Tops and limbs shall be redistributed in the unit to the satisfaction of the Contract Administrator.

H. Except for any non-tradeable leave trees, leave trees may be traded for trees of the same size, species, and similar location with prior approval from the Contract Administrator.

I. Purchaser shall be required to mark tail holds prior to operation and have them approved by the CA prior to cable yarding operations.

J. Intermediate supports, if necessary for yarding, shall be marked by the Purchaser and approved by the Contract Administrator prior to felling unit timber.

K. Purchaser may use the abandoned segment of the CH-66 to mobilize a piece of equipment to be used for cable tailholding for logging of Unit 3. Purchaser shall repair all damage caused to waterbars and other drainage features upon removal of equipment and shall obtain written approval from the CA for all repair work. See Road Plan clause 11-1 USE OF ABANDONED GRADES FOR TAILHOLDING.

L. The Purchaser shall furnish a combination lock and keep the gate at 0+15 on the CH-ML closed and locked during all periods of haul. Purchaser may suggest an alternate plan in writing to the Contract Administrator that complies with the easement.

M. Falling and yarding in RMZ and WMZ thinning areas shall not be permitted during the bark slippage season unless the Purchaser provides a written plan outlining mitigation measures and the plan is pre-authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

A. A copy of the timber sale map, contract, and the FPA shall be present on site during active operations.

B. No operations are permitted on adjacent Forest Service land, beyond the last take tree, marked with two yellow bands and a red "T", along the southern boundary of units 2L, 2M, and 4. If during harvest operations, trees fall outside these units onto Forest Service lands, the trees shall be left where they lay.

C. Access to the timber sale area shall be via the EK-ML as depicted on the Driving Map.

D. Purchaser shall complete required pre-haul maintenance on the CH-ML from station 106+93 to 107+18. Purchaser shall complete all Pre-haul Maintenance activities listed in the Road Plan within 3 weeks of commencement of haul.

E. Purchaser must obtain prior written approval from the Contract Administrator for areas as to where to utilize tethered equipment prior to use. If ground disturbance is causing excessive damage, as determined by the Contract Administrator, the equipment will no longer be authorized.

F. Trees marked with a double band of blue paint are non-tradeable leave trees (located in Unit 2L).

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 10/25/2022 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on CH-ML, CH-37, CH-40, CH-64, CH-6401, CH-6401-02, CH-6404, CH-6405, CH-6405-01, CH-66, CH-70, CH-71, CH-74, CH-77, and EK-ML roads. All work shall be completed to the specifications detailed in the Road Plan.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

the State shall be promptly notified whenever an incident occurs requiring an emergency response.

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-130 Hazardous Materials

- a. Hazardous Materials and Waste - Regulatory Compliance

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

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

S-131 Refuse Disposal

As required by RCW 70.93, All Purchaser generated refuse shall be removed from state lands for proper disposal prior to termination of this contract. No refuse shall be

burned, buried or abandoned on state forest lands. All refuse shall be transported in a manner such that it is in compliance with RCW 70.93 and all loads or loose materials shall be covered/secured such that these waste materials are properly contained during transport.

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$50.00 per tree for all damaged trees in the Variable Density Thinning areas.

D-041 Reserve Tree Excessive Damage

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

SIGNATURES

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

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Jay Guthrie
Northwest Region Manager

Print Name

Date: _____

Date: _____

Address: _____

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

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule B
Thinning Prescription

No cedar salvage: this includes cedar snags, preexisting dead and down cedar trees and cedar logs.

UNIT 1C, 1D, 2C, 2K, and 2N

- Thin from below, leaving a minimum of 100 – 110 trees per acre maintained at uniform spacing throughout the unit. Target average 20' x 20' spacing.
- Only live trees 8 inches or greater in DBH shall be used to calculate trees per acre.

To accomplish this prescription, fallers shall harvest species in the following order:

1. Hardwoods
2. Pacific Silver Fir
3. Western Hemlock
4. Douglas-fir

Western redcedar may only be cut to facilitate yarding, or if they pose a safety hazard and must be approved by the Contract Administrator (CA). If felled they shall contribute to final trees per acre and basal area goals. Any snags felled for safety reasons shall be left on site.

DOWNED WOODY DEBRIS (DWD) RECRUITMENT IN UNIT 2C

- The southern boundary of Unit 2C follows a Type 4 stream.
- Four conifer trees from the largest diameter class removed following the prescription, must be felled toward the creek to serve as DWD recruitment. Trees selected for DWD recruitment shall contribute to final TPA and spacing requirements as specified in the prescription.
 - These trees shall be selected from within 25' of the southern boundary of Unit 2C along the type 4 stream.
 - There shall be no more than 100' between DWD trees unless approved by the CA.
 - DWD trees shall be marked and approved by the CA prior to felling.

DOWNED WOODY DEBRIS (DWD) RECRUITMENT IN UNIT 2N

- The northern boundary of Unit 2N follows a Type 4 stream.
- Four conifer trees from the largest diameter class removed following the prescription, must be felled toward the creek to serve as DWD recruitment. Trees selected for DWD recruitment shall contribute to final TPA and spacing requirements as specified in the prescription.

OTHER REQUIREMENTS FOR UNIT 1C, 1D, 2C, 2K, AND 2N

- The CA will approve and certify in writing all persons engaged in felling of timber prior to any cutting operations, per the H-011 clause of the contract.
- Trees tagged with blue “Special Management Unit Boundary” tags may be harvested if they meet the specification under the prescription above.
- Fallers and operators shall thin from below, harvesting trees of the first species starting with the 8” diameter class until the trees per acre and spacing requirements are met. If there are not enough trees in a plot of the first species, then the faller shall continue to thin from below harvesting from the second species starting with the 8” diameter class and so on until the prescription requirements are met. Fallers and operators are permitted to cut across the full diameter range on site for each species, as specified above, and shall avoid targeting only one or two diameter classes for harvest.
- Falling and yarding in thinning areas shall not be permitted during the bark slippage season unless the Purchaser provides a written plan outlining mitigation measures and the plan is pre-authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions.

Schedule Z
Equipment Limitation Zone

No operations are permitted in the areas mapped as Equipment Exclusion Zone on the Timber Sale Prospectus map. There are four of these areas adjacent to Unit 3 and one of these areas adjacent to Unit 4. If during harvest operations, trees fall outside of these units into the Equipment Exclusion Zones, the trees shall be left where they lay.



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)

DNR Timber Sale Trust Distribution Form

Sale Name
HOG Wild

Agreement Number
104148

Region
Northwest

District
CASCADE

Unit
Starbird

Legal Location

Section(s) 20, 21, 22	Township	29	Range	8	E/W	E
-----------------------	----------	----	-------	---	-----	---

Auction Date
8/30/2023

Contract Expiration Date
3/31/2025

Sale Acres
163

Sale Class
Board

Sale Method
Lump Sum

Stand Origin Year
1952

FPA Number
2818980

FPA Renewal Date

Sale Volume Ratio

Conifer		
Silver fir	411	6.50%
Redcedar	116	1.80%
Hemlock	3581	56.90%
Douglas fir	2158	34.30%
Totals For Conifer	6266	99.50%
Hardwood		
Red alder	9	0.10%
Cottonwood	17	0.30%
Totals For Hardwood	26	0.40%
Total	6292	99.90%

Harvest Type

Harvest Type	% of Sale
Variable Retention Harvest	93.80%
Variable Density Thinning	6.20%
Total	100.00%

Trust Distribution Table

County	1	3	6	7	10	Totals			
31 - Snohomis	49.10%	19.60%	3.90%	12.80%	14.60%	100.00%			
						100.00%			

DNR Timber Sale Trust Distribution Form

Trust Levy Codes

Instructions:

To ensure proper distribution of funds to the trust beneficiaries of this sale, the State Lands Assistant must review the data in NaturE and sign in the space provided below.

NaturE Data Reviewed by:

X

(Print Name)

(Signature)

Date:

DNR Timber Sale Trust Distribution Form

Trust Distribution Details

31-Snohomish

Trust	Harvest Area	Volume
1	1	49.10
Total for 1		49.10
3	1	19.60
Total for 3		19.60
6	1	3.90
Total for 6		3.90
7	1	12.80
Total for 7		12.80
10	1	14.60
Total for 10		14.60
Total For 31-Snohomish		100.00
Total Volume		100.00

Timber Sale Trust Distribution

Current as of 02/09/2023 at 02:01 AM

[OPEN IN EXCEL](#)

Region	District	Local	Fisc...	Timber Sale	Activity Name	Sale Status
Northwest	Cascade	Starbird	2018	GRAVY	HOG WILD U1A	PLANNED
Northeast	Alpine	Belfair	2019	HOG WILD	HOG WILD U1B	COMPLETED
Olympic	Arcadia	Black Diamond	2020	V TWIN	HOG WILD U1C	SOLD
Pacific Cascade	Baker	Boulder	2021		HOG WILD U1D	
South Puget ...	Black Hills	Clallam River	2022		HOG WILD U2A	
Southeast	Clallam	Grant	2023		HOG WILD U2B	

County	Harvest Type	Treated Acres	Acres %	MBF	MBF %	
Federal	Snohomish					
	03 - Common School and Indemnity	Regen	30.0	17.7%	1,233	19.6%
	06 - Charitable/Educational/Penal & Reformatory Instit.	Regen	5.6	3.3%	247	3.9%
	07 - Capitol Grant	Regen	18.2	10.8%	805	12.8%
	10 - Scientific School	Partial Cut	5.7	3.4%	69	1.1%
		Regen	22.6	13.3%	849	13.5%
Snohomish	Snohomish					
	01 - State Forest Transfer	Partial Cut	4.5	2.6%	55	0.9%
		Regen	83.1	48.9%	3,034	48.2%
Total			169.7	100.0%	6,292	100.0%

Header Panel									
Not Spatial Washington\NORTHWEST\CASCADE\STARBIRD\Decade - 2020\Fiscal Year - 2023\FY - Timber Sale (3)\HOG WILD - PLANNED									
Admin CD	TS ID	Sale Name	Status	Acres	Plan Date	Auction Date			
1925	100580	HOG WILD	PLANNED	170	06/14/2023				
Data View									
FY - Timber Sale									
Timber Sale ID	Timber Sale Name	Status	Planned Date	FPA No.	Pre-Sales Auction Date	Sale Acres	Timber Sale Lock	Comments	Documents
100422	GRAVY	SOLD	10/26/2022	2818645	10/26/2022	27.1	Y		Yes
100580	HOG WILD	PLANNED	06/14/2023			169.7	Y	...	Yes ...
100952	VTWIN	SOLD	12/14/2022	2818357	12/14/2022	105.5	Y		Yes
FY - Timber Sale FMA Volume FY - Timber Sale FMAs FY - Timber Sale Volume									
Activity ID	Activity Name	Activity Type	Technique	Crew	Status	Salvage	Land Class	Planned Date	
287489	HOG WILD U1A	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333745	HOG WILD U1B	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333746	HOG WILD U1C	TIM_HARV	VARIABL_THIN	PURCHASER	PLANNED	N	WETLAND	06/14/2023	
333747	HOG WILD U1D	TIM_HARV	VARIABL_THIN	PURCHASER	PLANNED	N	WETLAND	06/14/2023	
332797	HOG WILD U2A	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333748	HOG WILD U2B	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333749	HOG WILD U2C	TIM_HARV	VARIABL_THIN	PURCHASER	PLANNED	N	WETLAND	06/14/2023	
333750	HOG WILD U2D	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333751	HOG WILD U2E	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333752	HOG WILD U2F	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333753	HOG WILD U2G	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333754	HOG WILD U2H	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333755	HOG WILD U2I	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333756	HOG WILD U2J	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333757	HOG WILD U2K	TIM_HARV	VARIABL_THIN	PURCHASER	PLANNED	N	WETLAND	06/14/2023	
333760	HOG WILD U2L	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333761	HOG WILD U2M	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
333762	HOG WILD U2N	TIM_HARV	VARIABL_THIN	PURCHASER	PLANNED	N	RIPARIAN	06/14/2023	
287490	HOG WILD U3	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	
287515	HOG WILD U4	TIM_HARV	VRH	PURCHASER	PLANNED	N	UPLAND	06/14/2023	

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
287489	10	Scientific School	10	Scientific School	Snohomish	21.4

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333745	10	Scientific School	10	Scientific School	Snohomish	1.3

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333746	10	Scientific School	10	Scientific School	Snohomish	4.5

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333747	10	Scientific School	10	Scientific School	Snohomish	1.2

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
332797	1	State Forest Transfer	1	State Forest Transfer	Snohomish	8.6

+

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333748	3	Common School and Indemnity	3	Common School and Indemnity	Snohomish	0.5
333748	1	State Forest Transfer	1	State Forest Transfer	Snohomish	1.0

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333749	1	State Forest Transfer	1	State Forest Transfer	Snohomish	3.6

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333750	1	State Forest Transfer	1	State Forest Transfer	Snohomish	1.7

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333751	1	State Forest Transfer	1	State Forest Transfer	Snohomish	10.3
333751	6	Charitable/Educational/Penal & R	6	Charitable/Educational/Penal & Ref	Snohomish	1.4

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333752	1	State Forest Transfer	1	State Forest Transfer	Snohomish	16.4

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333753	6	Charitable/Educational/Penal & R	6	Charitable/Educational/Penal & Ref	Snohomish	4.2
333753	1	State Forest Transfer	1	State Forest Transfer	Snohomish	15.8

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333754	1	State Forest Transfer	1	State Forest Transfer	Snohomish	0.4

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333755	1	State Forest Transfer	1	State Forest Transfer	Snohomish	2.8

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333756	1	State Forest Transfer	1	State Forest Transfer	Snohomish	0.7

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333757	1	State Forest Transfer	1	State Forest Transfer	Snohomish	0.3

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333760	1	State Forest Transfer	1	State Forest Transfer	Snohomish	21.7

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333761	1	State Forest Transfer	1	State Forest Transfer	Snohomish	3.7

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
333762	1	State Forest Transfer	1	State Forest Transfer	Snohomish	0.6

Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
287490	3	Common School and Indemnity	3	Common School and Indemnity	Snohomish	26.9

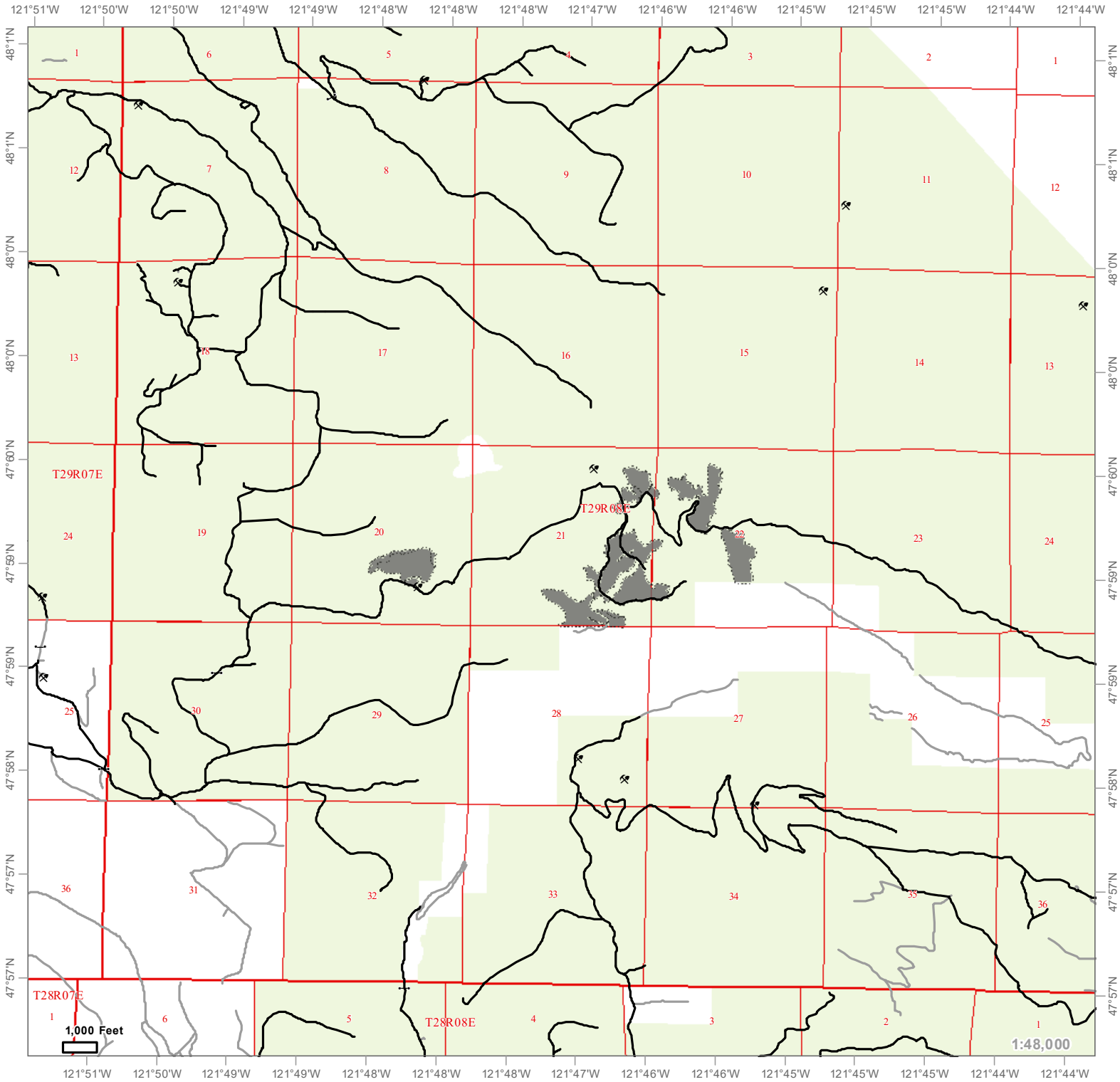
Activity ID	Surface Trust CD	Surface Trust	Timber Trust CD	Timber Trust	County	Overlap Acres
287515	3	Common School and Indemnity	3	Common School and Indemnity	Snohomish	2.6
287515	7	Capitol Grant	7	Capitol Grant	Snohomish	18.3

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 169.7
 SALE STATUS: PLANNED



- Forest Management Activity
- DNR Managed Timber Lands
- Public Land Survey Townships
- Public Land Survey Sections
- DNR Active Roads
- Non-DNR Roads
- Gates
- Existing Rock Pit

Activity ID	Activity Name	Area (ac)
287489	HOG WILD U1A	21.4
287490	HOG WILD U3	26.9
287515	HOG WILD U4	20.9
332797	HOG WILD U2A	8.6
333745	HOG WILD U1B	1.3
333746	HOG WILD U1C	4.5
333747	HOG WILD U1D	1.2
333748	HOG WILD U2B	1.4
333749	HOG WILD U2C	3.6
333750	HOG WILD U2D	1.7
333751	HOG WILD U2E	11.7
333752	HOG WILD U2F	16.4
333753	HOG WILD U2G	20
333754	HOG WILD U2H	4
333755	HOG WILD U2I	2.8
333756	HOG WILD U2J	7
333757	HOG WILD U2K	3
333760	HOG WILD U2L	21.7
333761	HOG WILD U2M	3.7
333762	HOG WILD U2N	5

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
DISTRICT: CASCADE
ADMIN: STARBIRD

SALE ID: 100580
SALE AREA: 21.4
SALE STATUS: PLANNED

121°49'W

121°48'W

121°48'W

121°48'W

47°60'N

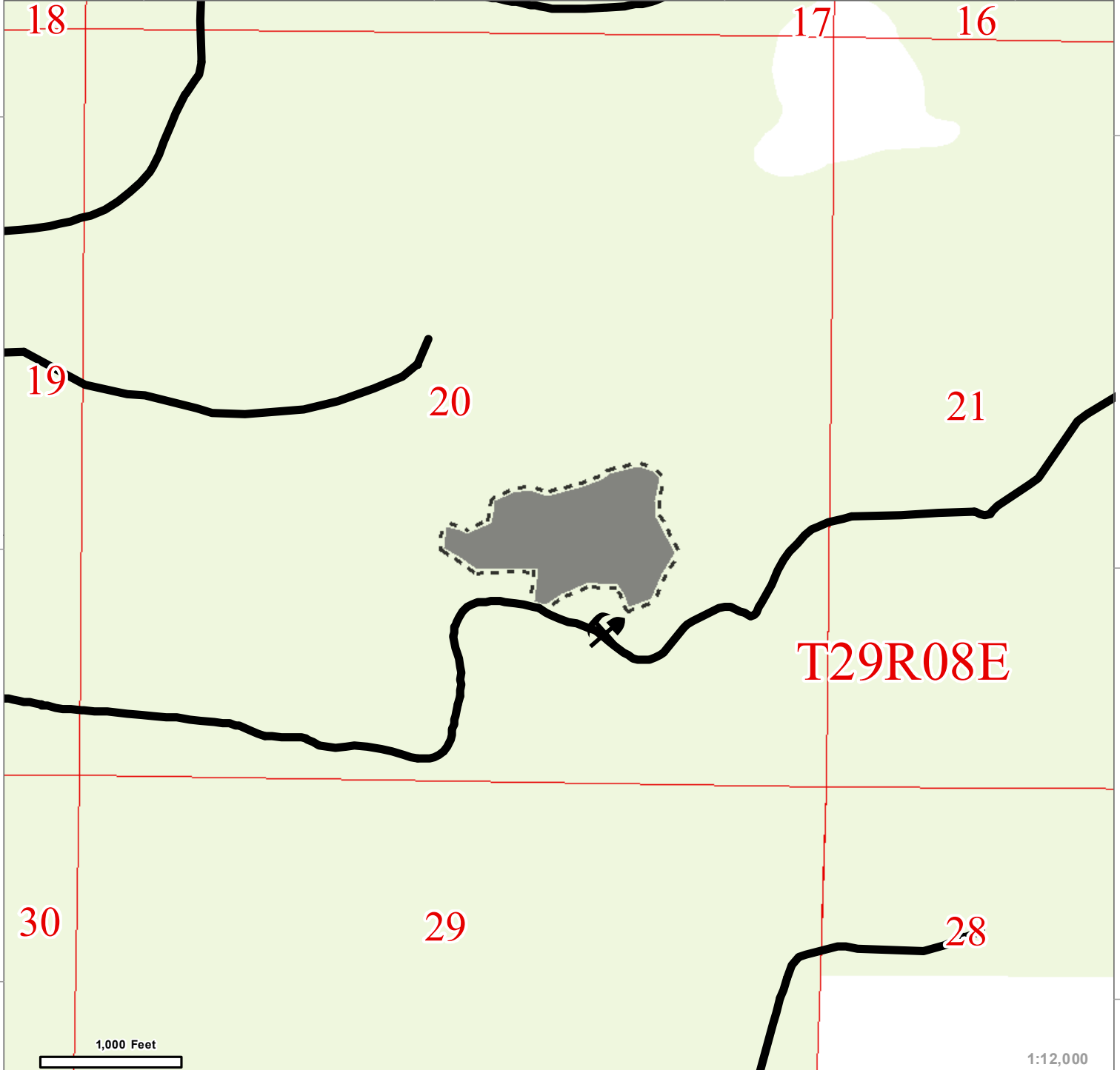
47°60'N

47°59'N

47°59'N

47°59'N

47°59'N



- Forest Management Activity
- DNR Managed Timber Lands
- Public Land Survey Townships
- Public Land Survey Sections

- DNR Active Roads
- Existing Rock Pit

Activity ID	Activity Name	Area (ac)
287489	HOG WILD U1A	21.38297133



HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 1.3
 SALE STATUS: PLANNED

121°49'W

121°48'W

121°48'W

121°48'W

47°60'N

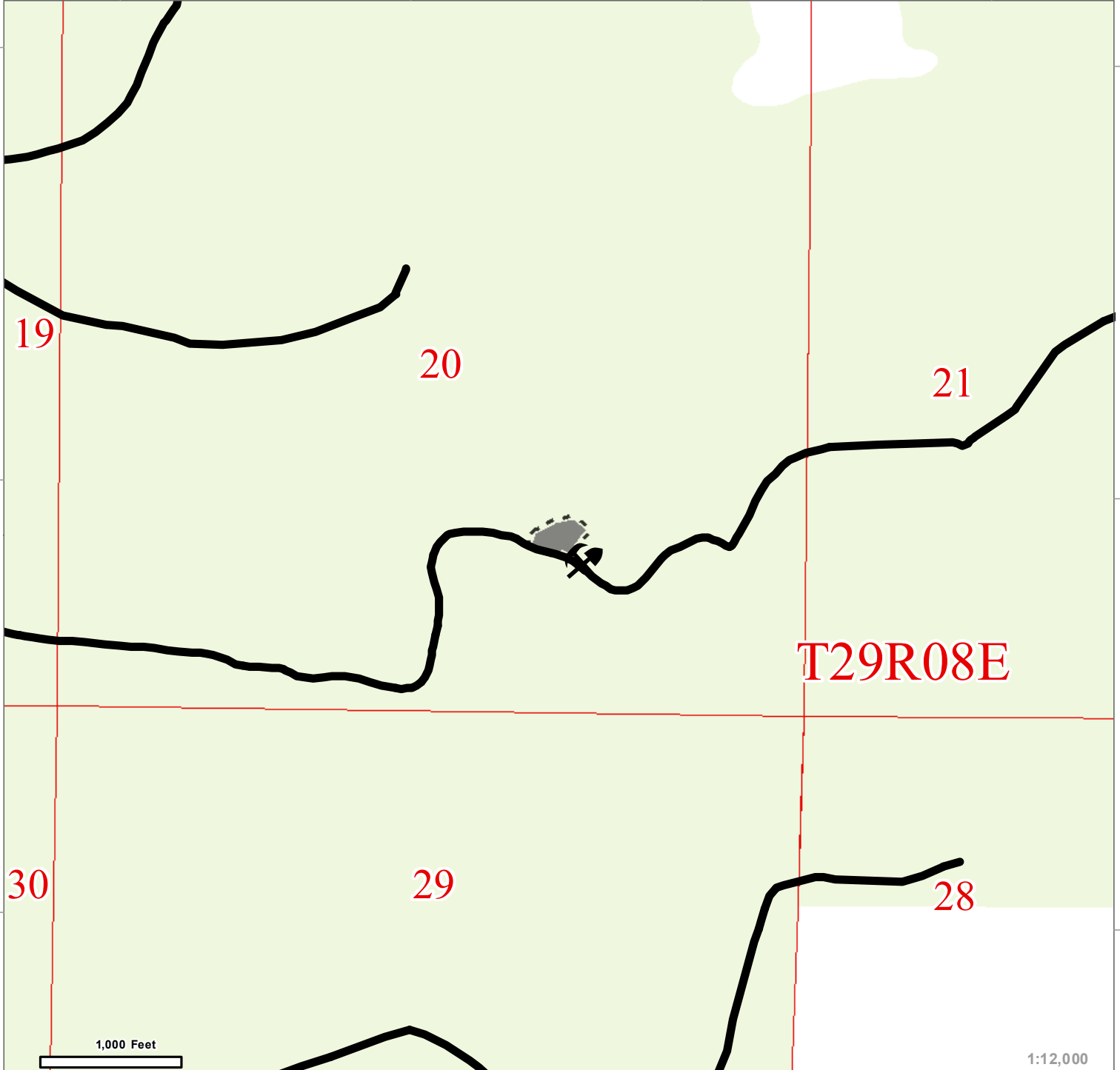
47°60'N

47°59'N

47°59'N

47°59'N

47°59'N



1,000 Feet

1:12,000

121°49'W

121°48'W

121°48'W

121°48'W

-  Forest Management Activity
-  DNR Active Roads
-  DNR Managed Timber Lands
-  Existing Rock Pit
-  Public Land Survey Townships
-  Public Land Survey Sections

Activity ID	Activity Name	Area (ac)
333745	HOG WILD U1B	1.26223538

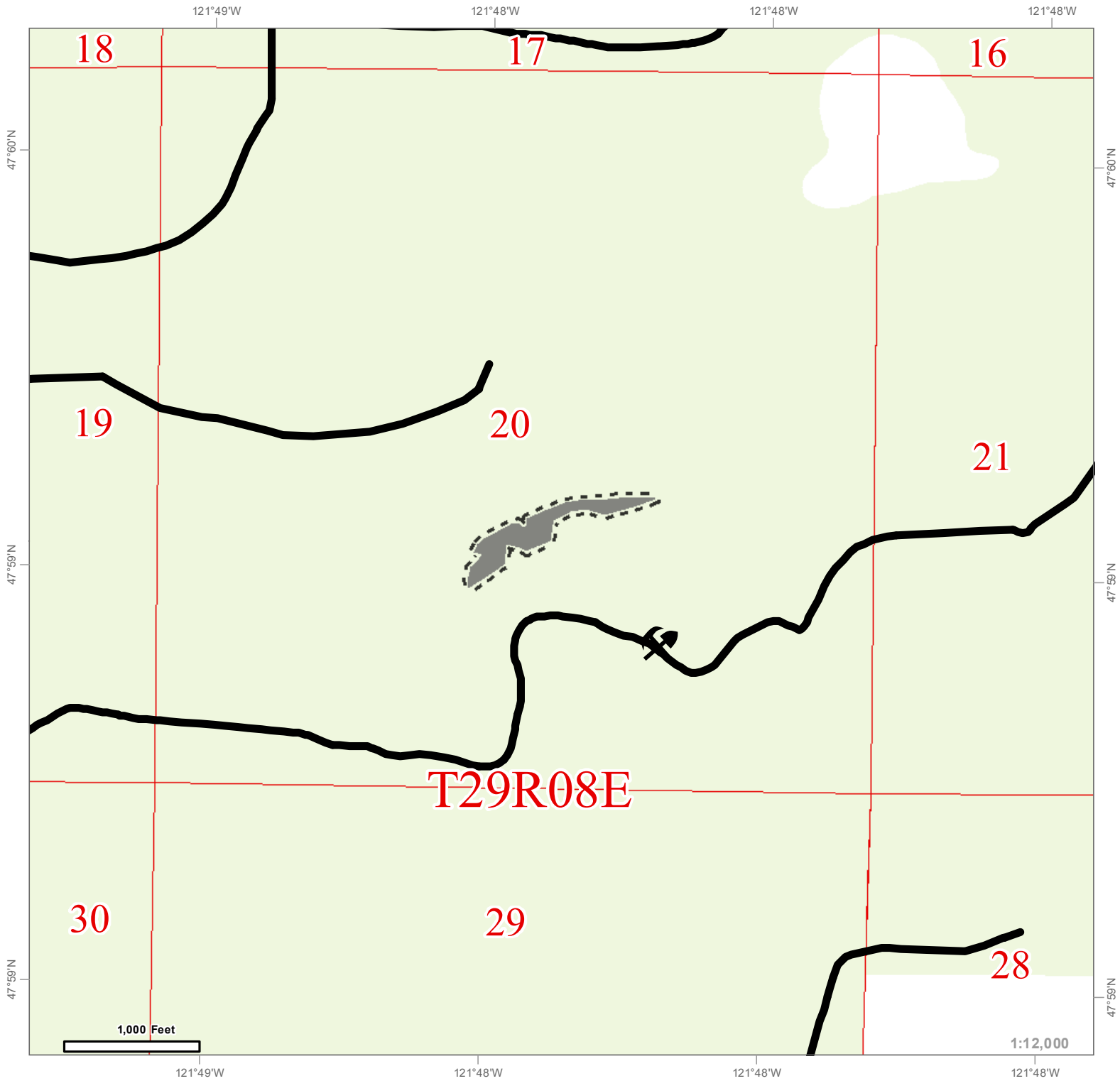
N







HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 4.5
 SALE STATUS: PLANNED



 Forest Management Activity	 DNR Active Roads
 DNR Managed Timber Lands	 Existing Rock Pit
 Public Land Survey Townships	
 Public Land Survey Sections	

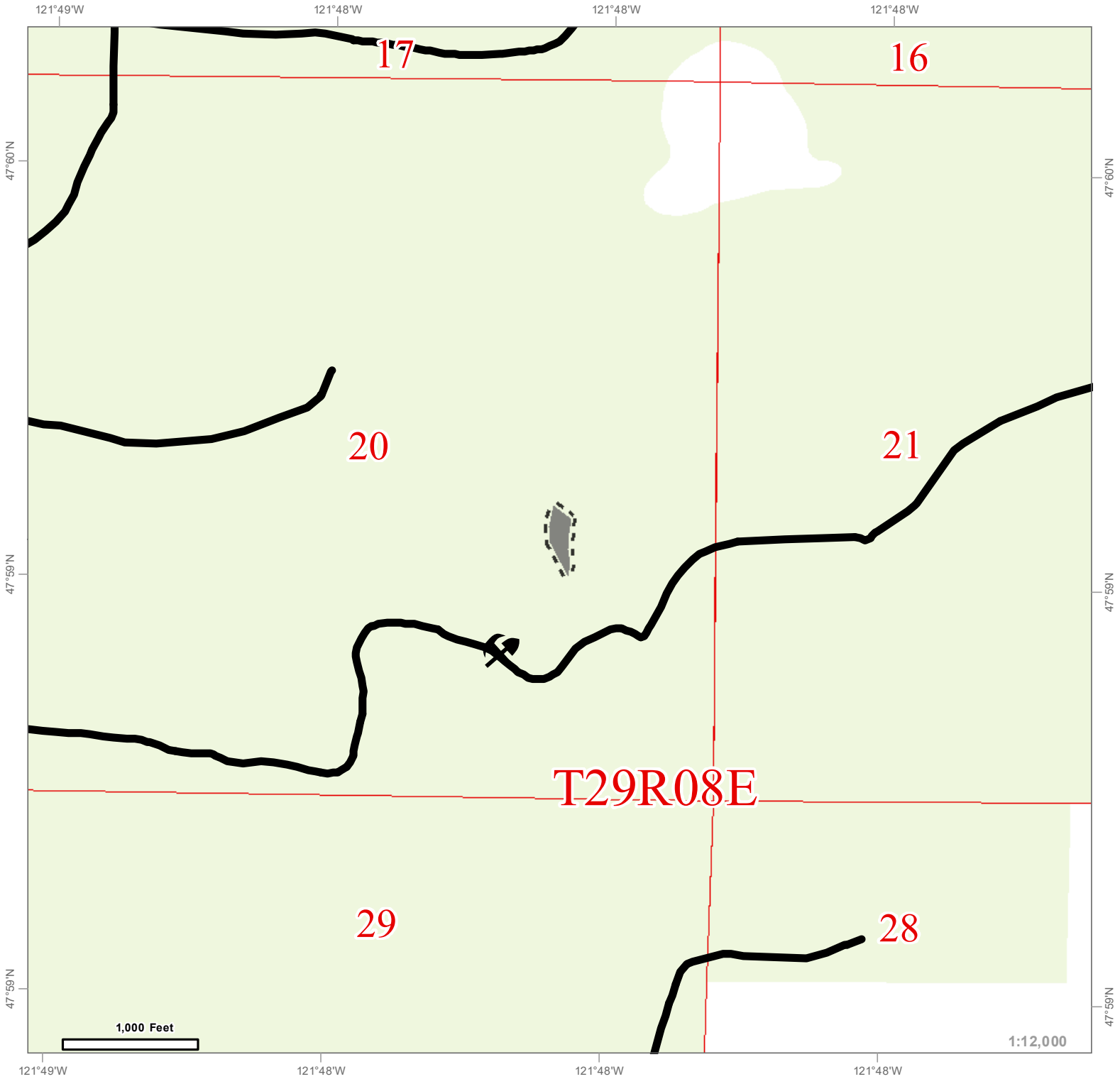
Activity ID	Activity Name	Area (ac)
333746	HOG WILD U1C	4.51972207







HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 1.2
 SALE STATUS: PLANNED



 Forest Management Activity	 DNR Active Roads
 DNR Managed Timber Lands	 Existing Rock Pit
 Public Land Survey Townships	
 Public Land Survey Sections	

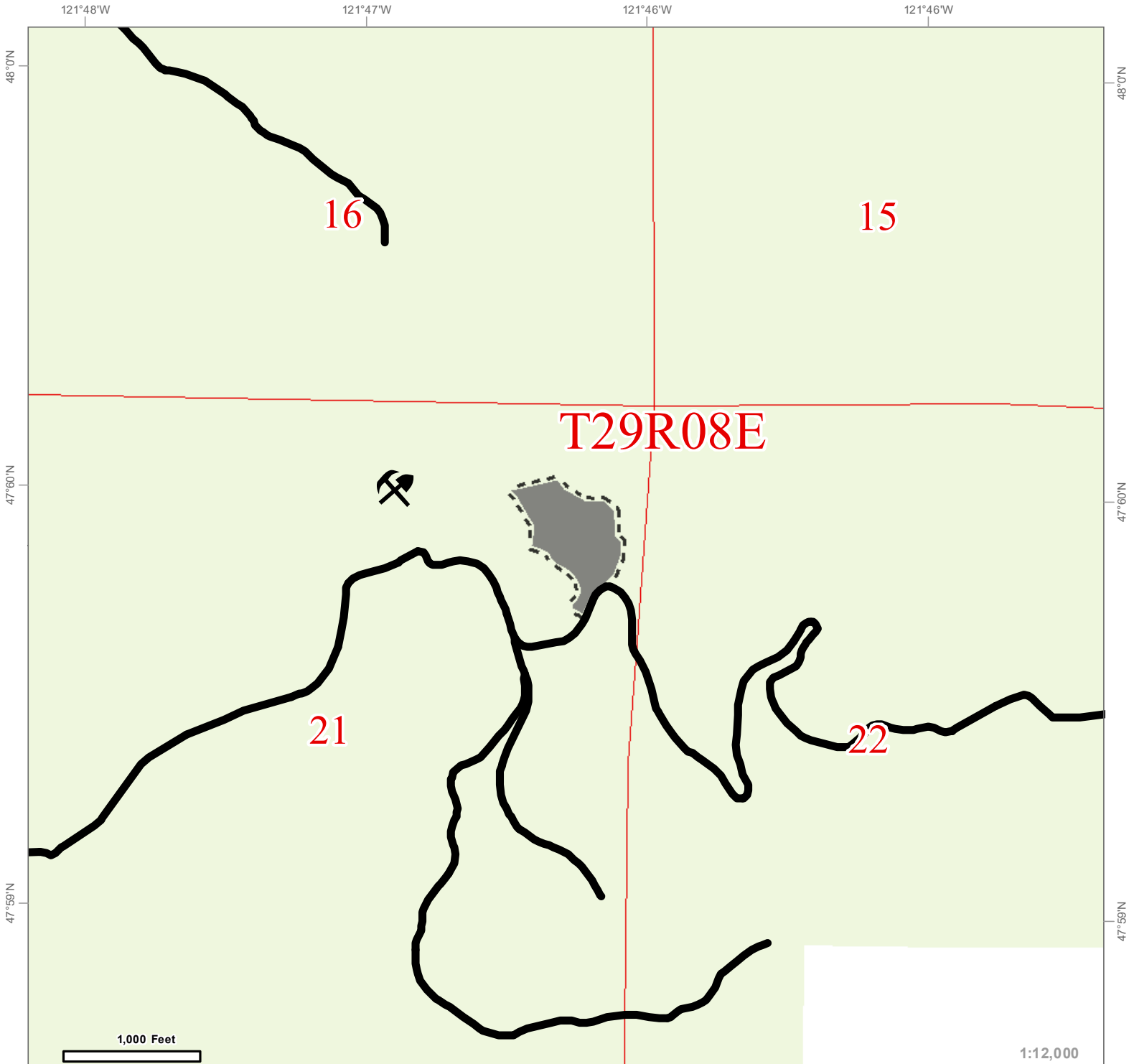
Activity ID	Activity Name	Area (ac)
333747	HOG WILD U1D	1.18998045







HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 8.6
 SALE STATUS: PLANNED



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Existing Rock Pit
	Public Land Survey Townships		
	Public Land Survey Sections		

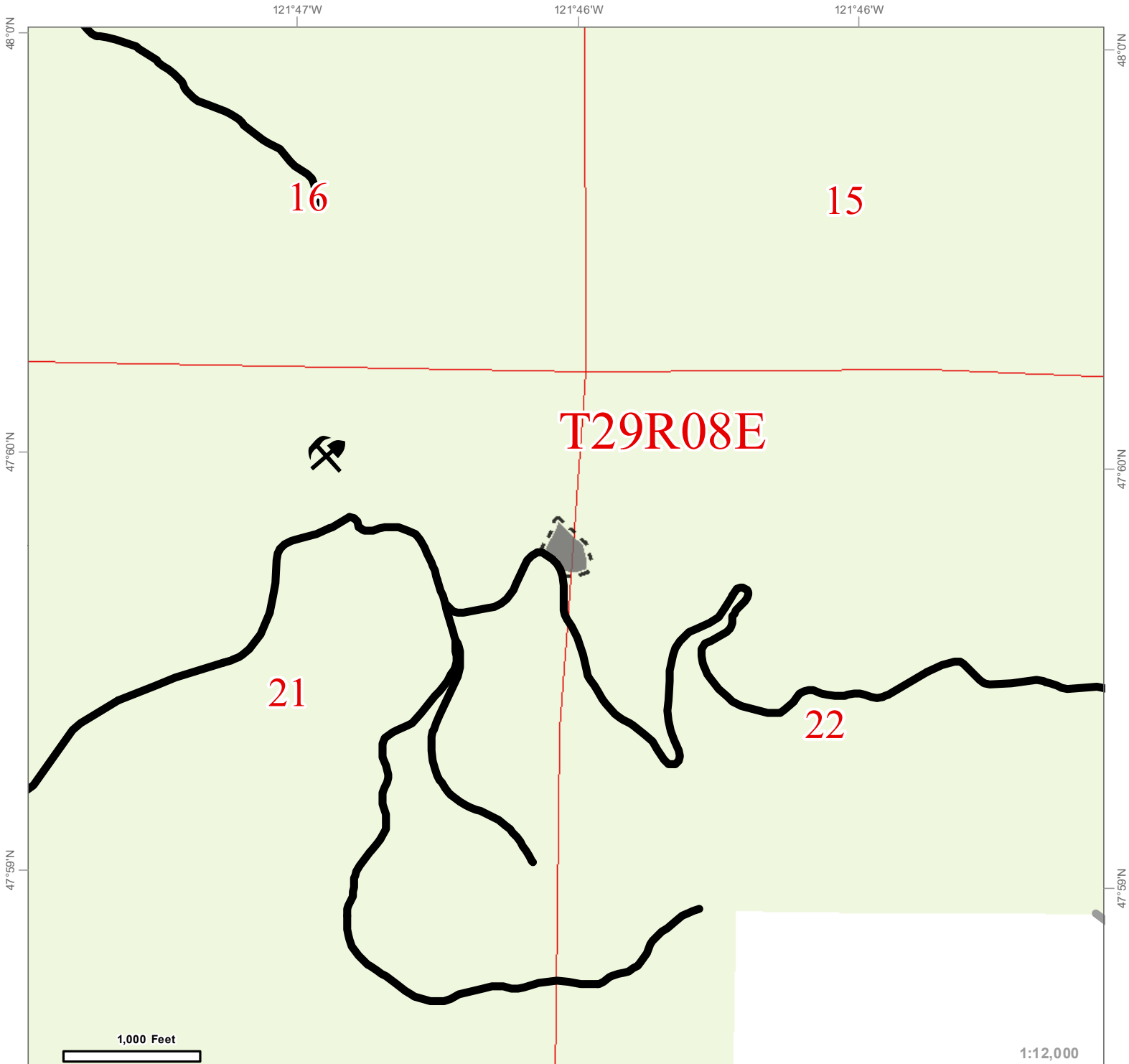
Activity ID	Activity Name	Area (ac)
332797	HOG WILD U2A	8.60662243

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 1.4
 SALE STATUS: PLANNED



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Non-DNR Roads
	Public Land Survey Townships		Existing Rock Pit
	Public Land Survey Sections		

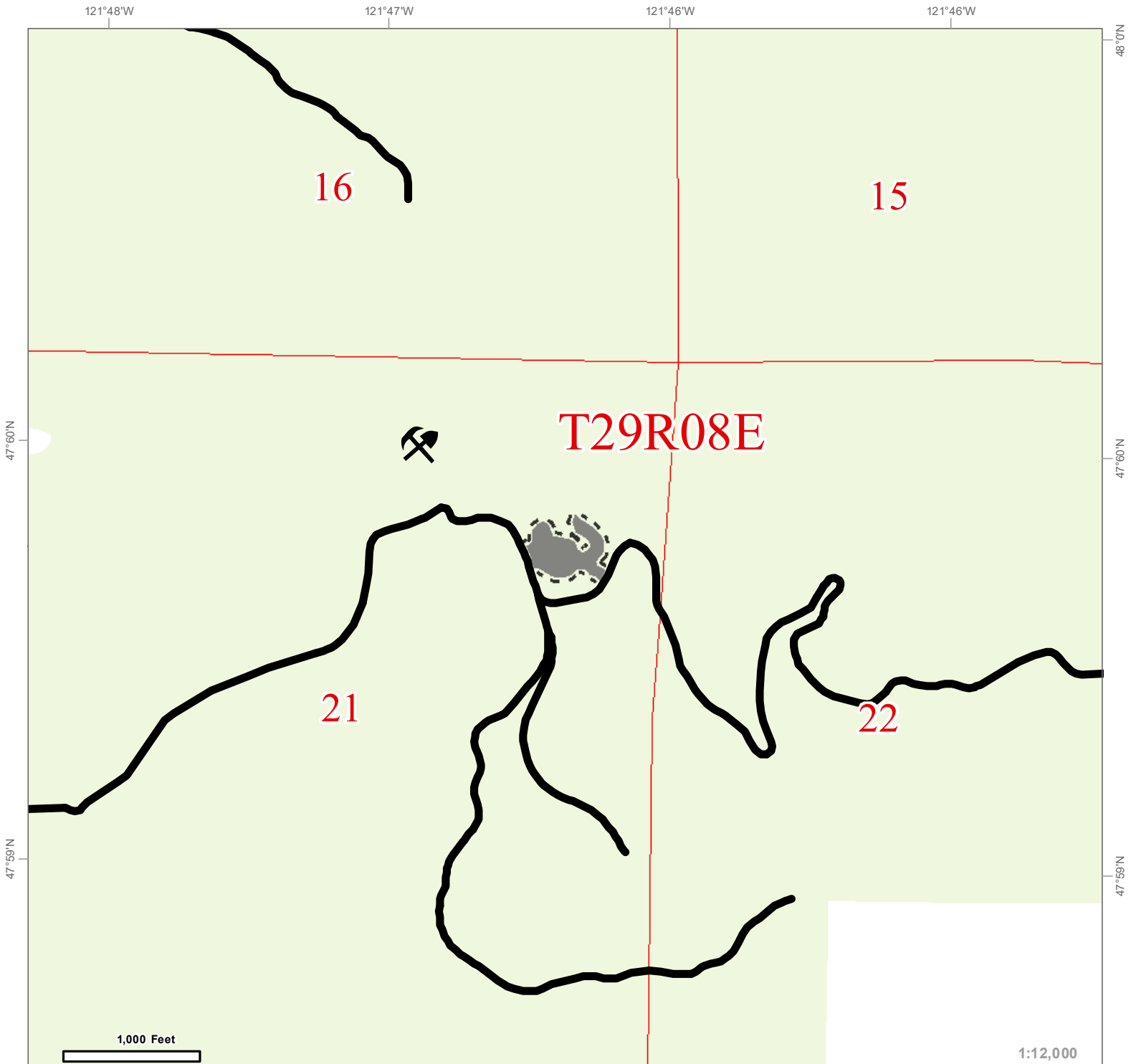
Activity ID	Activity Name	Area (ac)
333748	HOG WILD U2B	1.4354921

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 3.6
 SALE STATUS: PLANNED



- Forest Management Activity
- DNR Managed Timber Lands
- Public Land Survey Townships
- Public Land Survey Sections
- DNR Active Roads
- Existing Rock Pit

Activity ID	Activity Name	Area (ac)
333749	HOG WILD U2C	3.60705493

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 1.7
 SALE STATUS: PLANNED

121°48'W

121°47'W

121°46'W

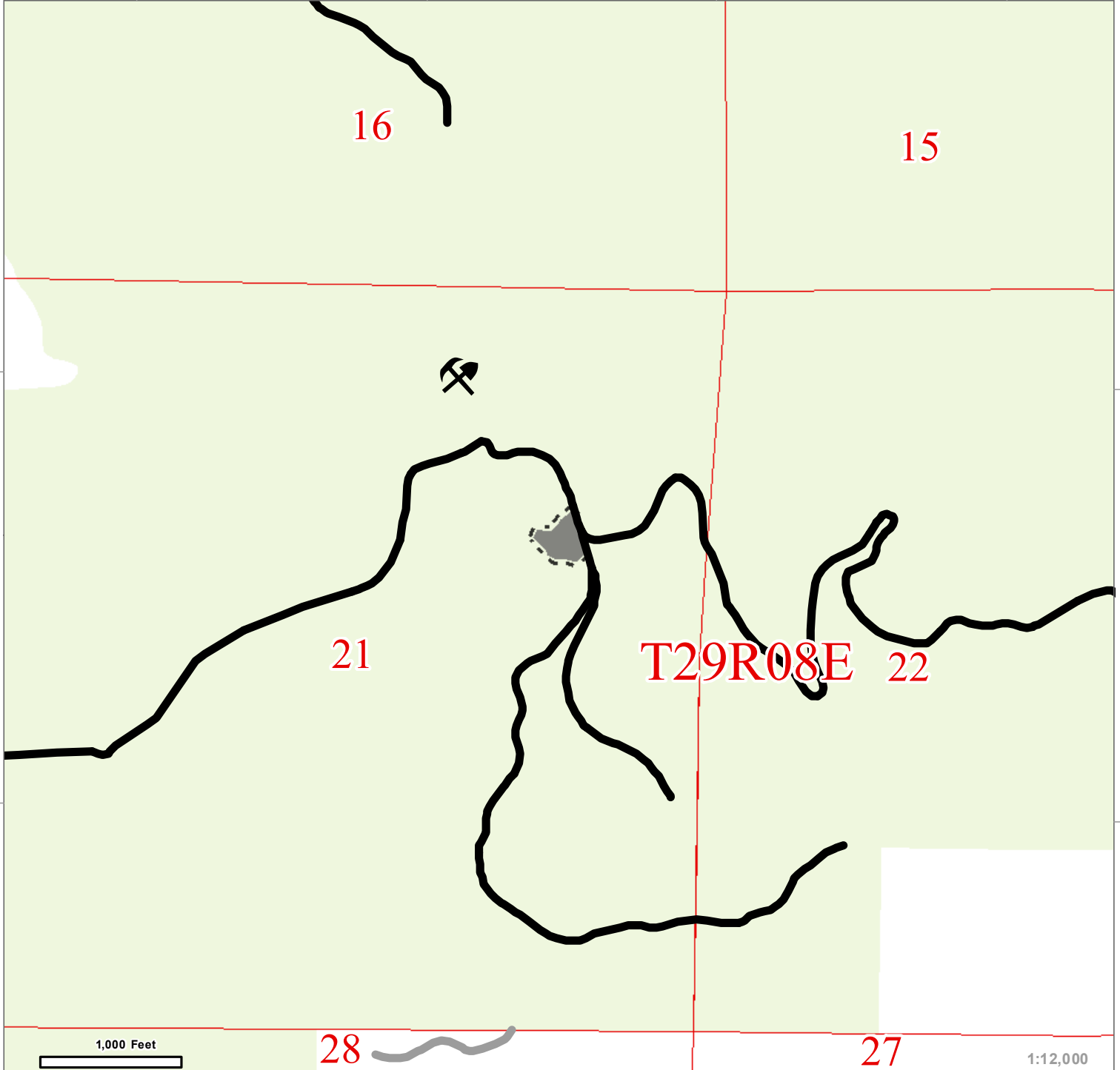
121°46'W

47°60'N

47°60'N

47°59'N

47°59'N



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Non-DNR Roads
	Public Land Survey Townships		Existing Rock Pit
	Public Land Survey Sections		

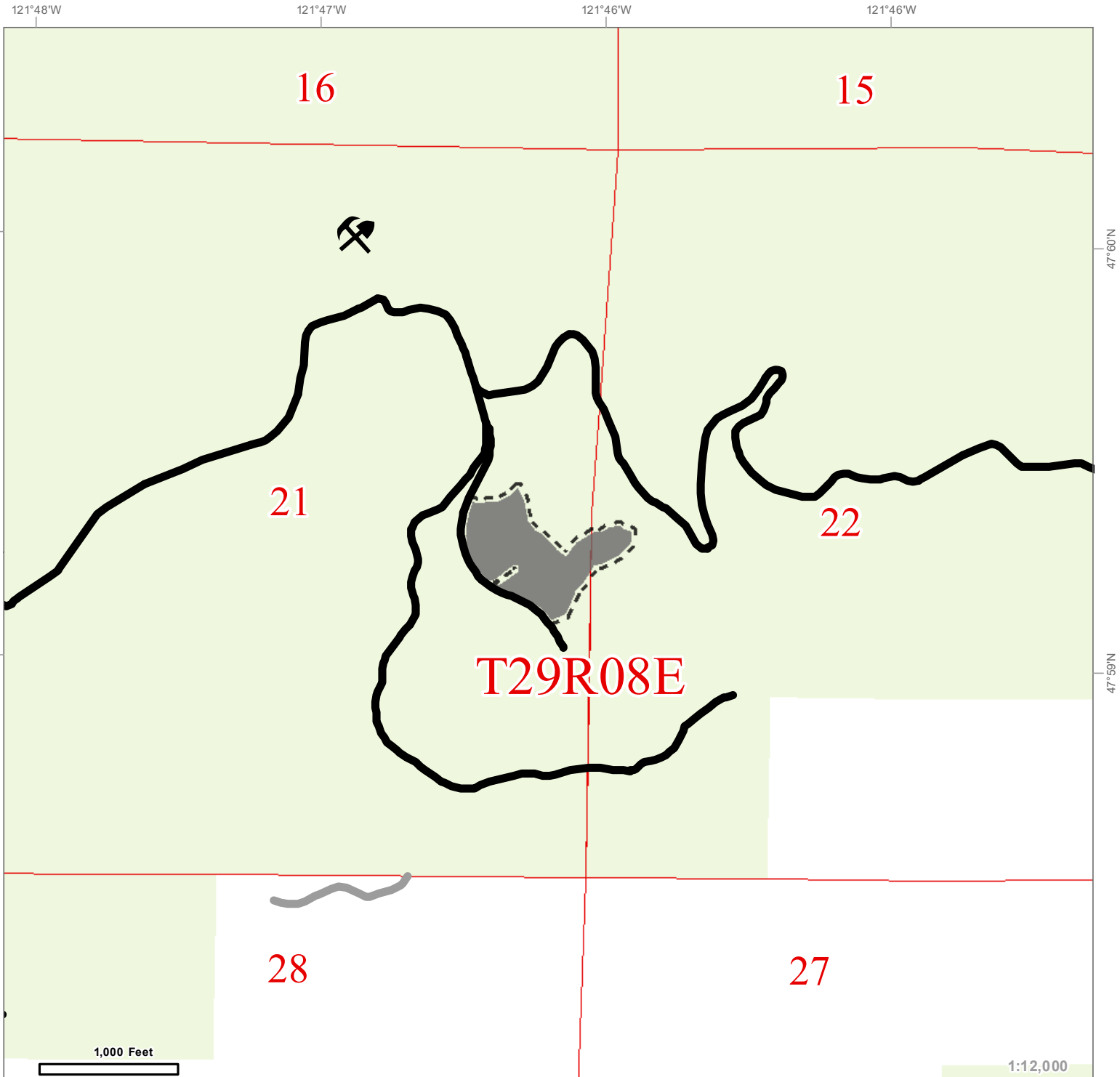
Activity ID	Activity Name	Area (ac)
333750	HOG WILD U2D	1.67461464








HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 11.7
 SALE STATUS: PLANNED



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Non-DNR Roads
	Public Land Survey Townships		Existing Rock Pit
	Public Land Survey Sections		

Activity ID	Activity Name	Area (ac)
333751	HOG WILD U2E	11.69639597

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 16.4
 SALE STATUS: PLANNED

121°48'W

121°47'W

121°46'W

121°46'W

47°60'N

47°60'N

47°59'N

47°59'N

47°59'N

47°59'N

16

15

21

22

28

27

T29R08E

1,000 Feet

1:12,000

121°48'W

121°47'W

121°46'W

121°46'W

-  Forest Management Activity
-  DNR Managed Timber Lands
-  Public Land Survey Townships
-  Public Land Survey Sections
-  DNR Active Roads
-  Non-DNR Roads
-  Existing Rock Pit

Activity ID	Activity Name	Area (ac)
333752	HOG WILD U2F	16.36808882

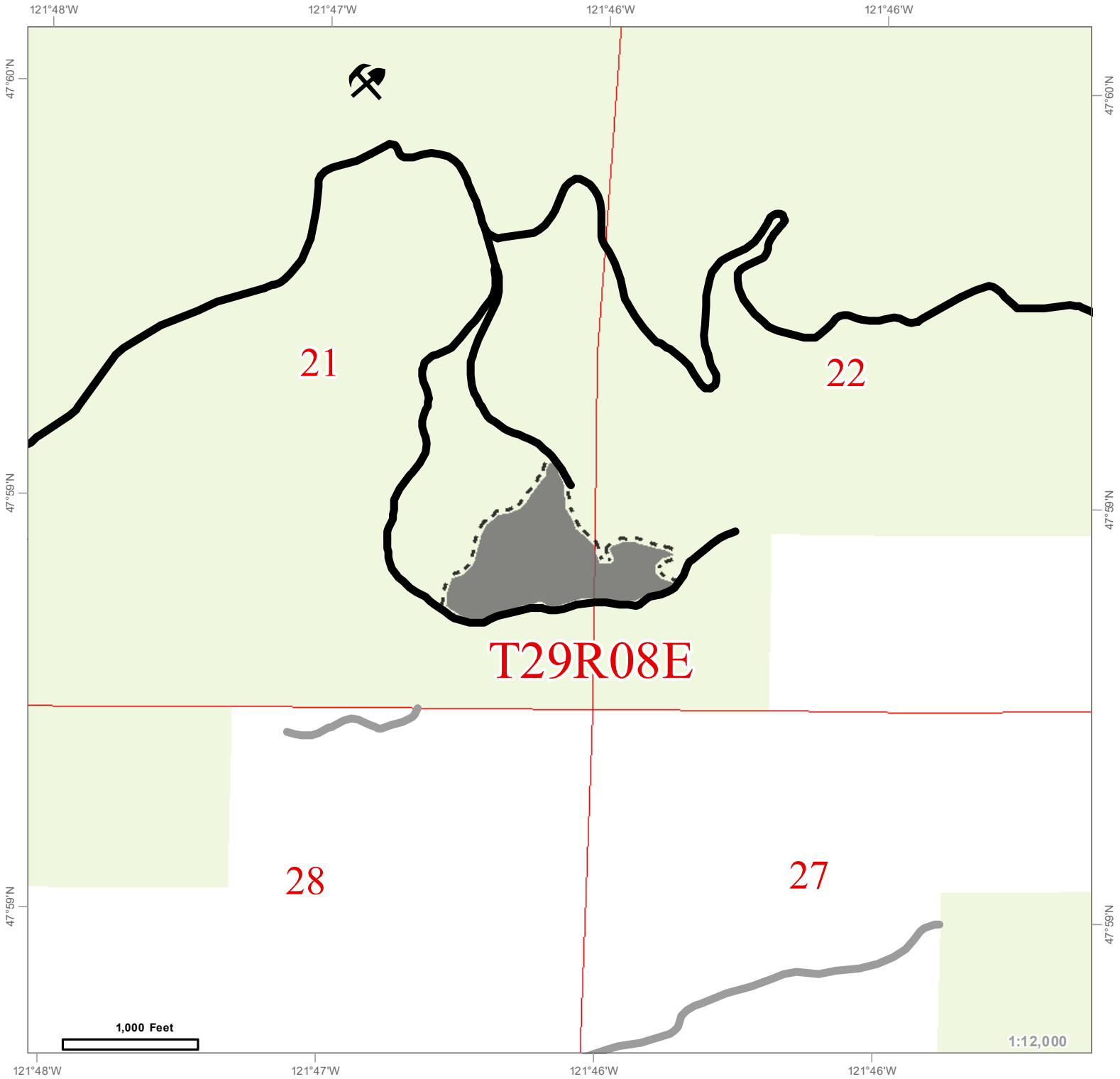
N








HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 20
 SALE STATUS: PLANNED



 Forest Management Activity	 DNR Active Roads
 DNR Managed Timber Lands	 Non-DNR Roads
 Public Land Survey Townships	 Existing Rock Pit
 Public Land Survey Sections	

Activity ID	Activity Name	Area (ac)
333753	HOG WILD U2G	20.01209946

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 0.4
 SALE STATUS: PLANNED

121°48'W

121°47'W

121°46'W

121°46'W

47°60'N

47°60'N

47°59'N

47°59'N

47°59'N

121°48'W

121°47'W

121°46'W

121°46'W

16

15

T29R08E

21

22

28

27

1,000 Feet

1:12,000



Forest Management Activity

DNR Active Roads



DNR Managed Timber Lands

Non-DNR Roads



Public Land Survey Townships

Existing Rock Pit



Public Land Survey Sections

Activity ID	Activity Name	Area (ac)
333754	HOG WILD U2H	0.41393812

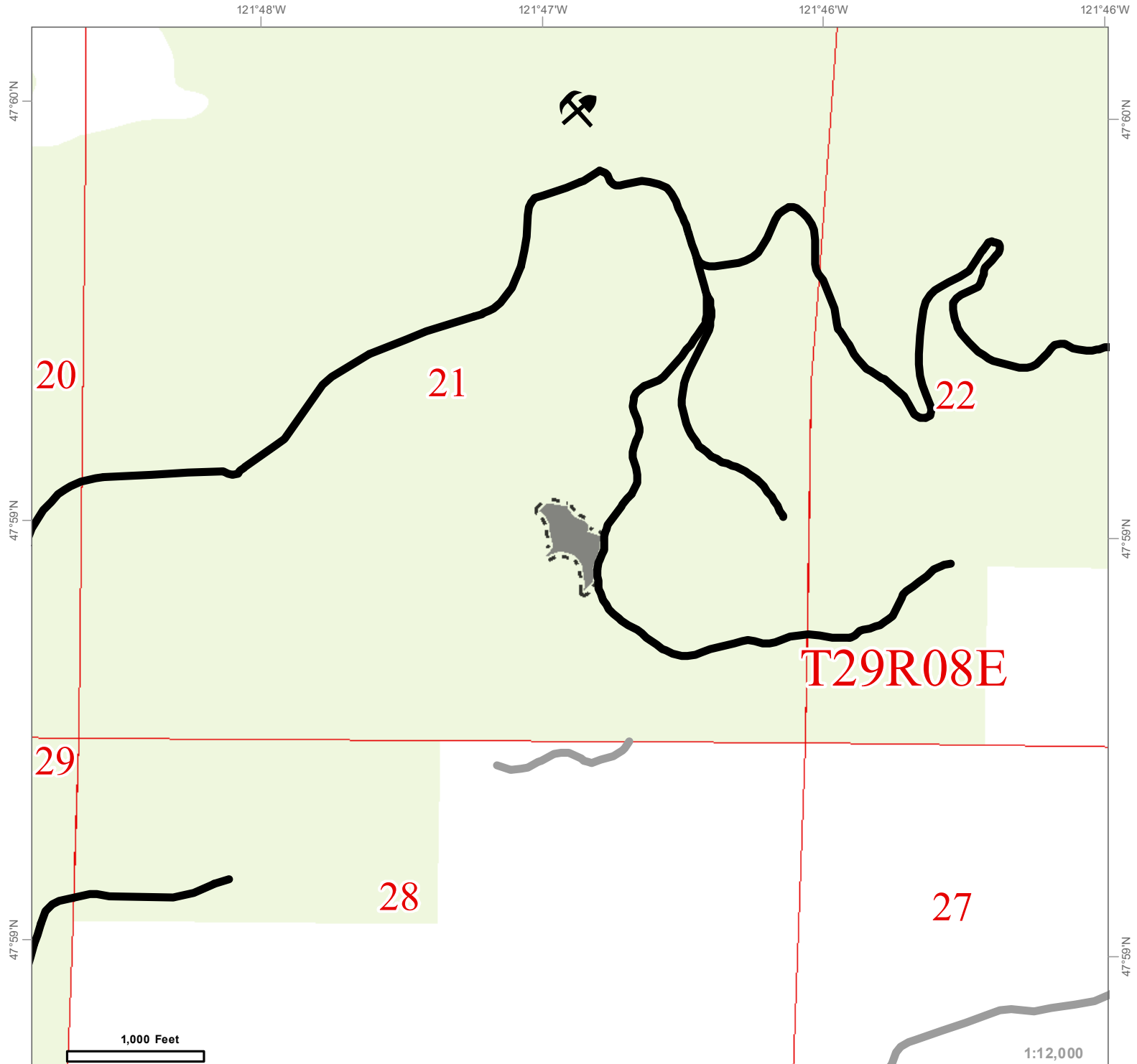
N








HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 2.8
 SALE STATUS: PLANNED



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Non-DNR Roads
	Public Land Survey Townships		Existing Rock Pit
	Public Land Survey Sections		

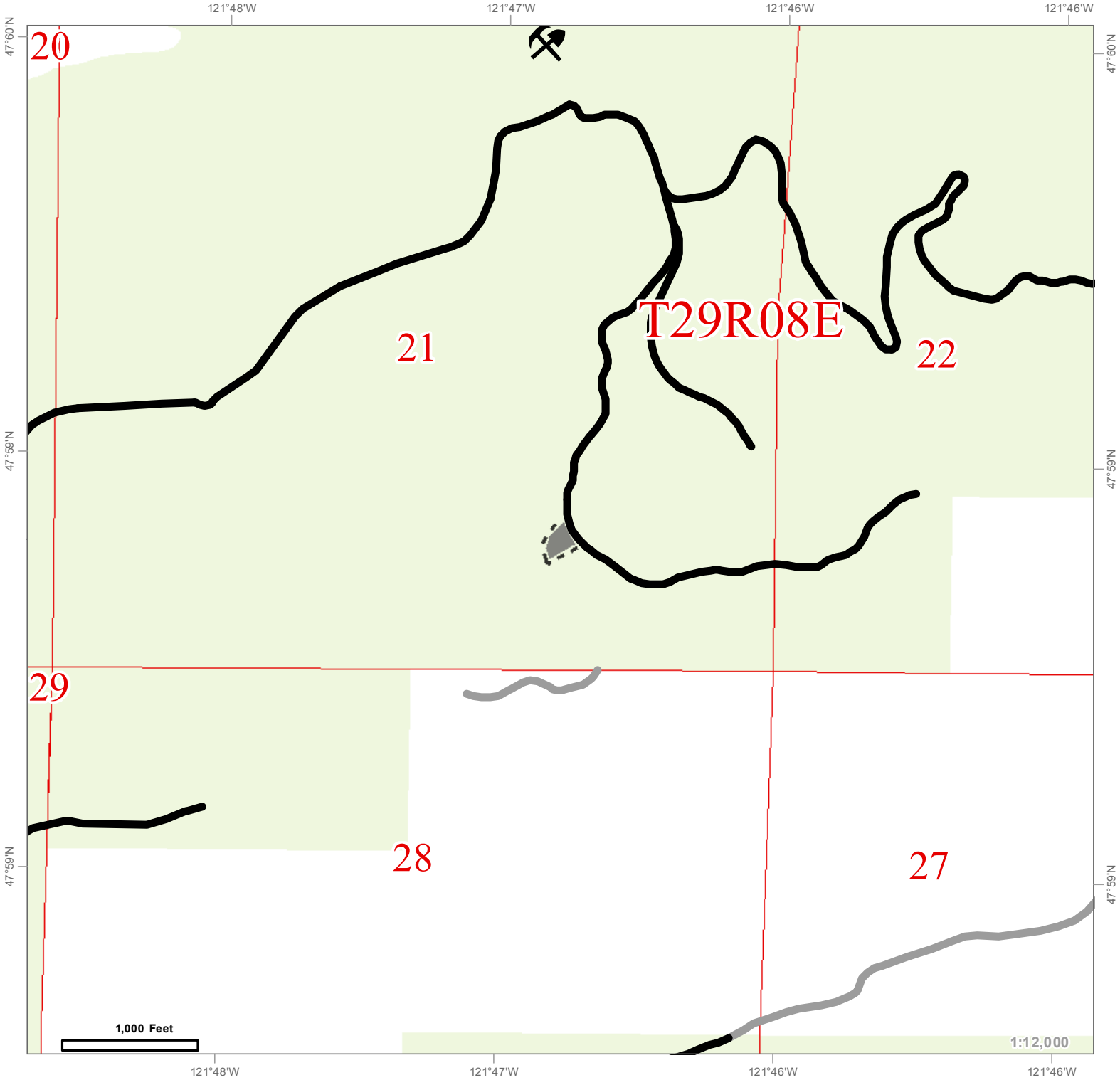
Activity ID	Activity Name	Area (ac)
333755	HOG WILD U2I	2.7988395








HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 0.7
 SALE STATUS: PLANNED



 Forest Management Activity	 DNR Active Roads
 DNR Managed Timber Lands	 Non-DNR Roads
 Public Land Survey Townships	 Existing Rock Pit
 Public Land Survey Sections	

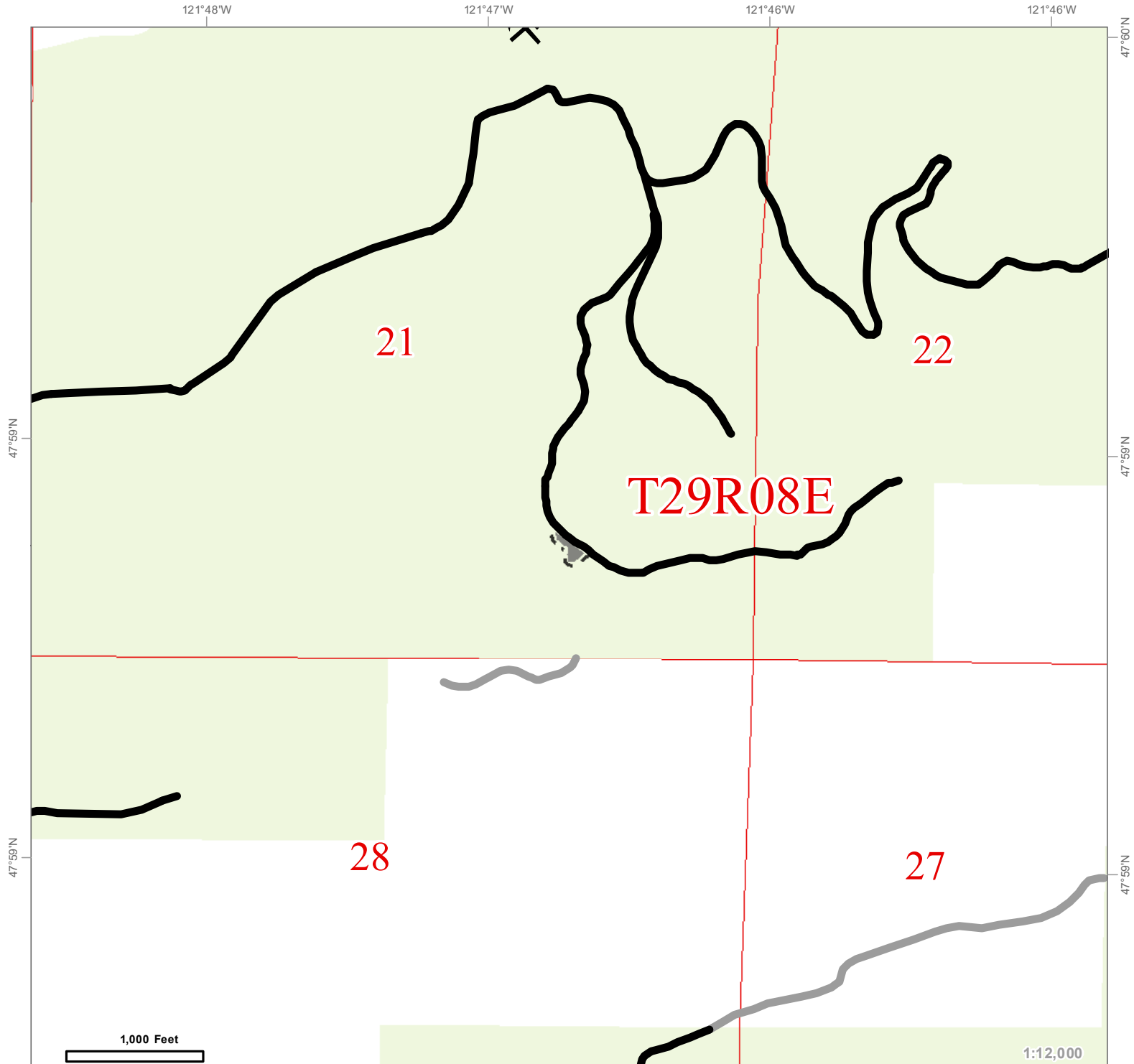
Activity ID	Activity Name	Area (ac)
333756	HOG WILD U2J	0.69118256

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 0.3
 SALE STATUS: PLANNED



	Forest Management Activity		DNR Active Roads
	DNR Managed Timber Lands		Non-DNR Roads
	Public Land Survey Townships		Existing Rock Pit
	Public Land Survey Sections		

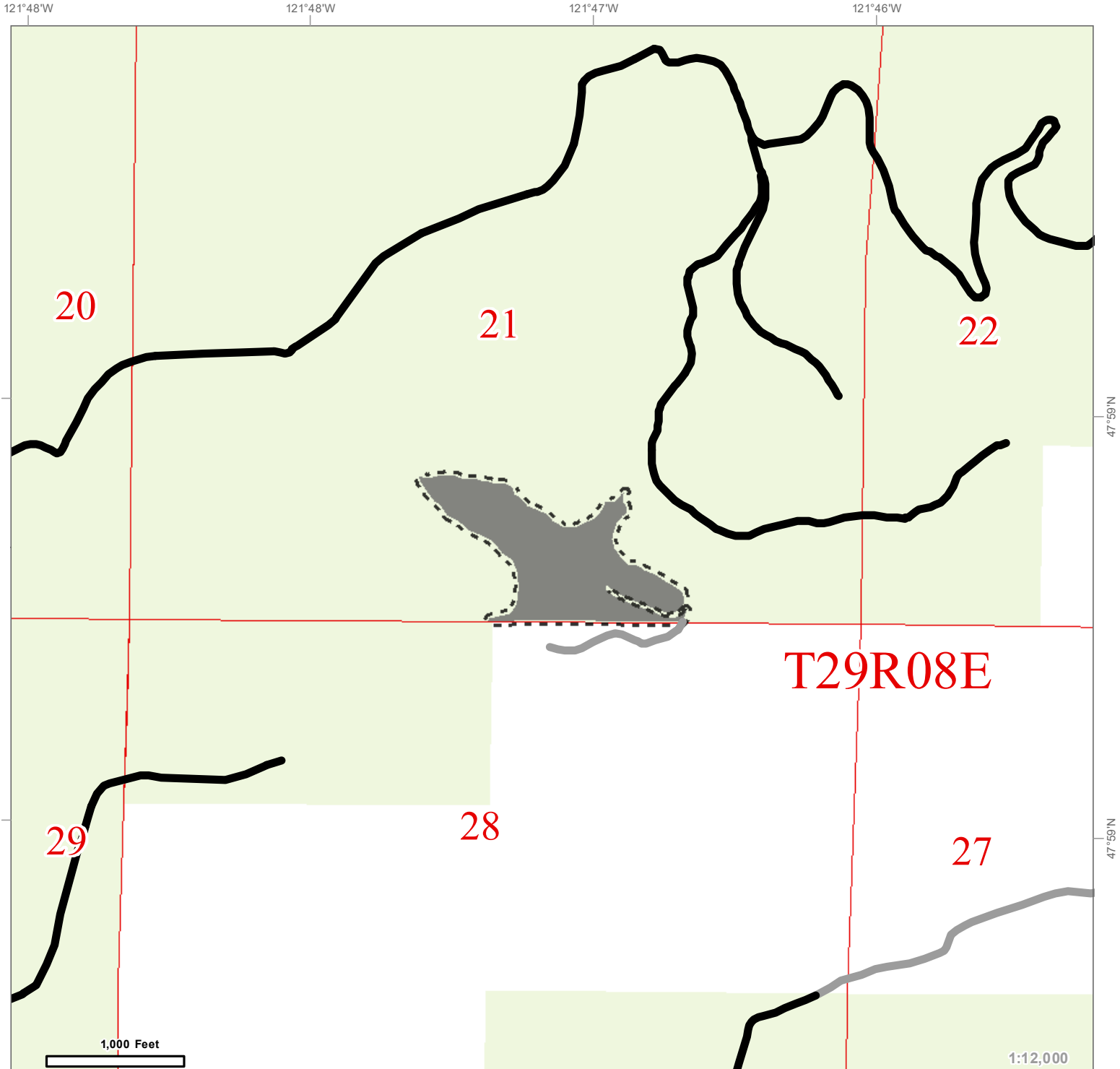
Activity ID	Activity Name	Area (ac)
333757	HOG WILD U2K	0.3322497

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
DISTRICT: CASCADE
ADMIN: STARBIRD

SALE ID: 100580
SALE AREA: 21.7
SALE STATUS: PLANNED



- Forest Management Activity
- DNR Managed Timber Lands
- Public Land Survey Townships
- Public Land Survey Sections
- DNR Active Roads
- Non-DNR Roads

Activity ID	Activity Name	Area (ac)
333760	HOG WILD U2L	21.70335374

N

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 3.7
 SALE STATUS: PLANNED

121°48'W

121°47'W

121°46'W

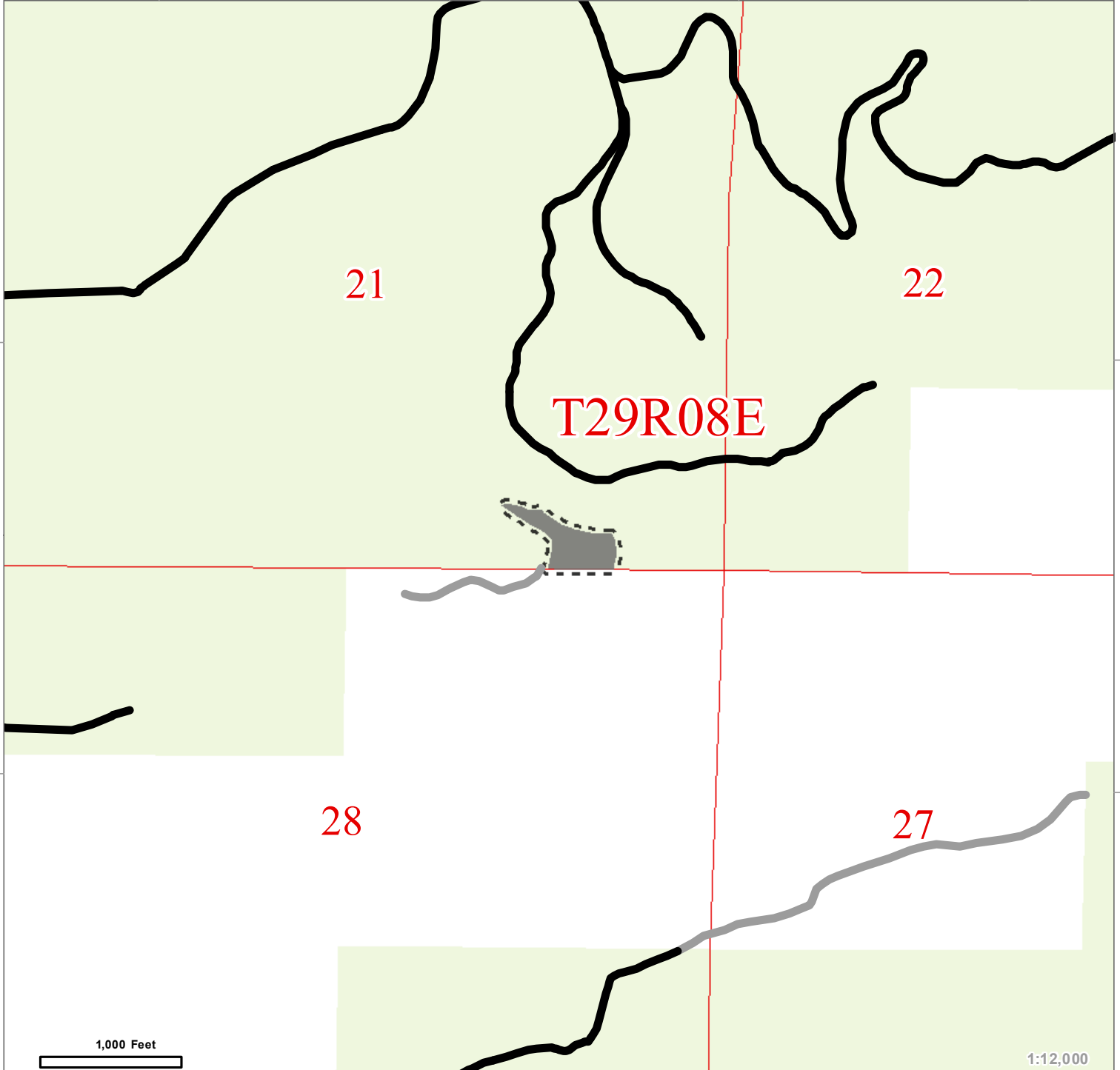
121°46'W

47°59'N

47°59'N

47°59'N

47°59'N



1,000 Feet

1:12,000

121°48'W

121°47'W

121°46'W

121°46'W

-  Forest Management Activity
-  DNR Managed Timber Lands
-  Public Land Survey Townships
-  Public Land Survey Sections
-  DNR Active Roads
-  Non-DNR Roads

Activity ID	Activity Name	Area (ac)
333761	HOG WILD U2M	3.70364665

N

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 0.5
 SALE STATUS: PLANNED

121°48'W

121°47'W

121°46'W

121°46'W

47°59'N

47°59'N

47°59'N

47°59'N

21

22

T29R08E

28

27

1,000 Feet

1:12,000

121°48'W

121°47'W

121°46'W

121°46'W

-  Forest Management Activity
-  DNR Managed Timber Lands
-  Public Land Survey Townships
-  Public Land Survey Sections
-  DNR Active Roads
-  Non-DNR Roads

Activity ID	Activity Name	Area (ac)
333762	HOG WILD U2N	0.54684219

N

HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 26.9
 SALE STATUS: PLANNED

121°47'W

121°46'W

121°46'W

121°45'W

48°0'N

16

15

T29R08E

21

22

28

1,000 Feet

27
1:12,000

121°47'W

121°46'W

121°46'W

121°45'W

-  Forest Management Activity
-  DNR Managed Timber Lands
-  Public Land Survey Townships
-  Public Land Survey Sections
-  DNR Active Roads
-  Non-DNR Roads
-  Existing Rock Pit

Activity ID	Activity Name	Area (ac)
287490	HOG WILD U3	26.92475612

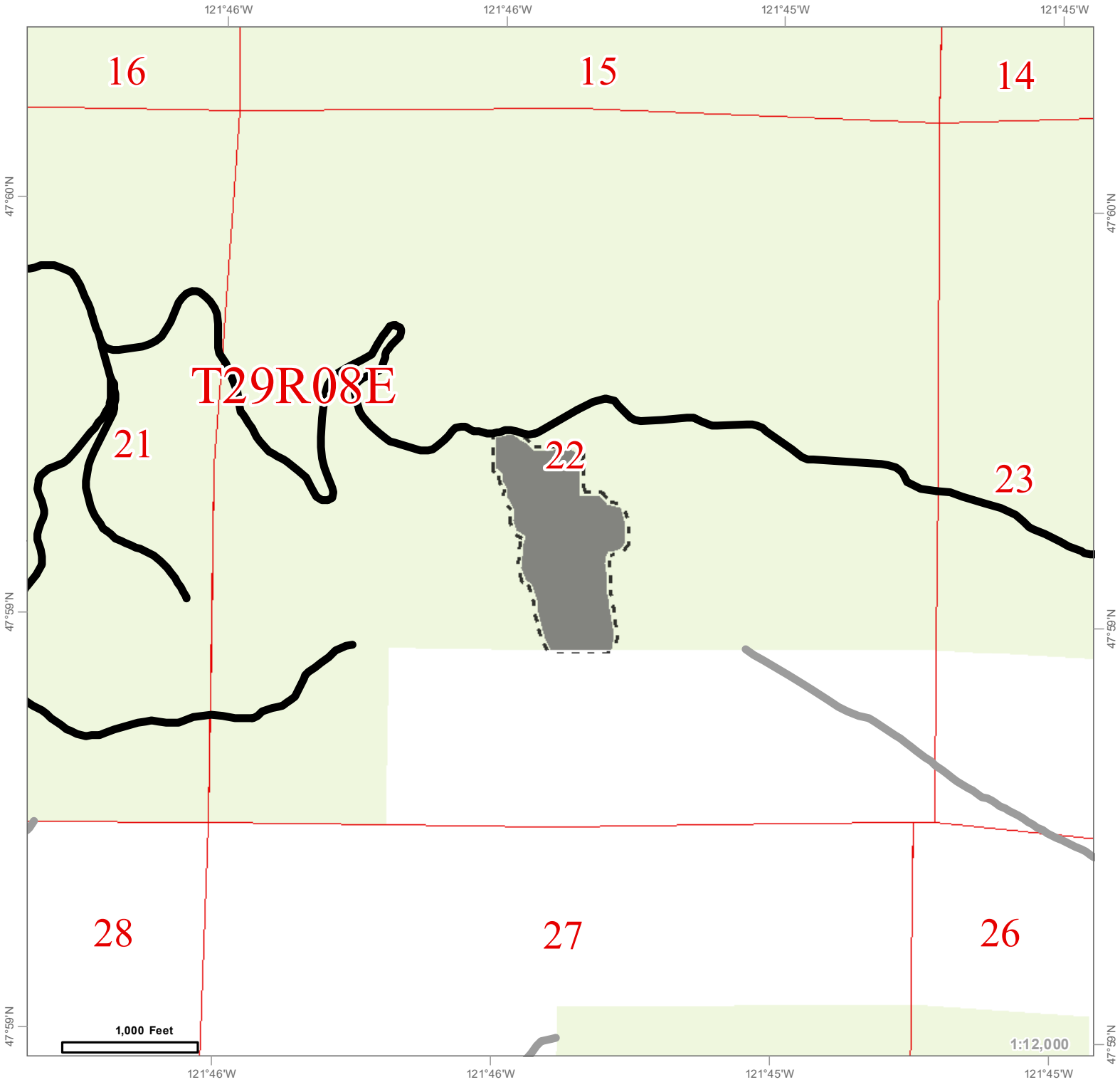
N







HOG WILD

Timber Sale Review Map

REGION: NORTHWEST
 DISTRICT: CASCADE
 ADMIN: STARBIRD

SALE ID: 100580
 SALE AREA: 20.9
 SALE STATUS: PLANNED



 Forest Management Activity	 DNR Active Roads
 DNR Managed Timber Lands	 Non-DNR Roads
 Public Land Survey Townships	
 Public Land Survey Sections	

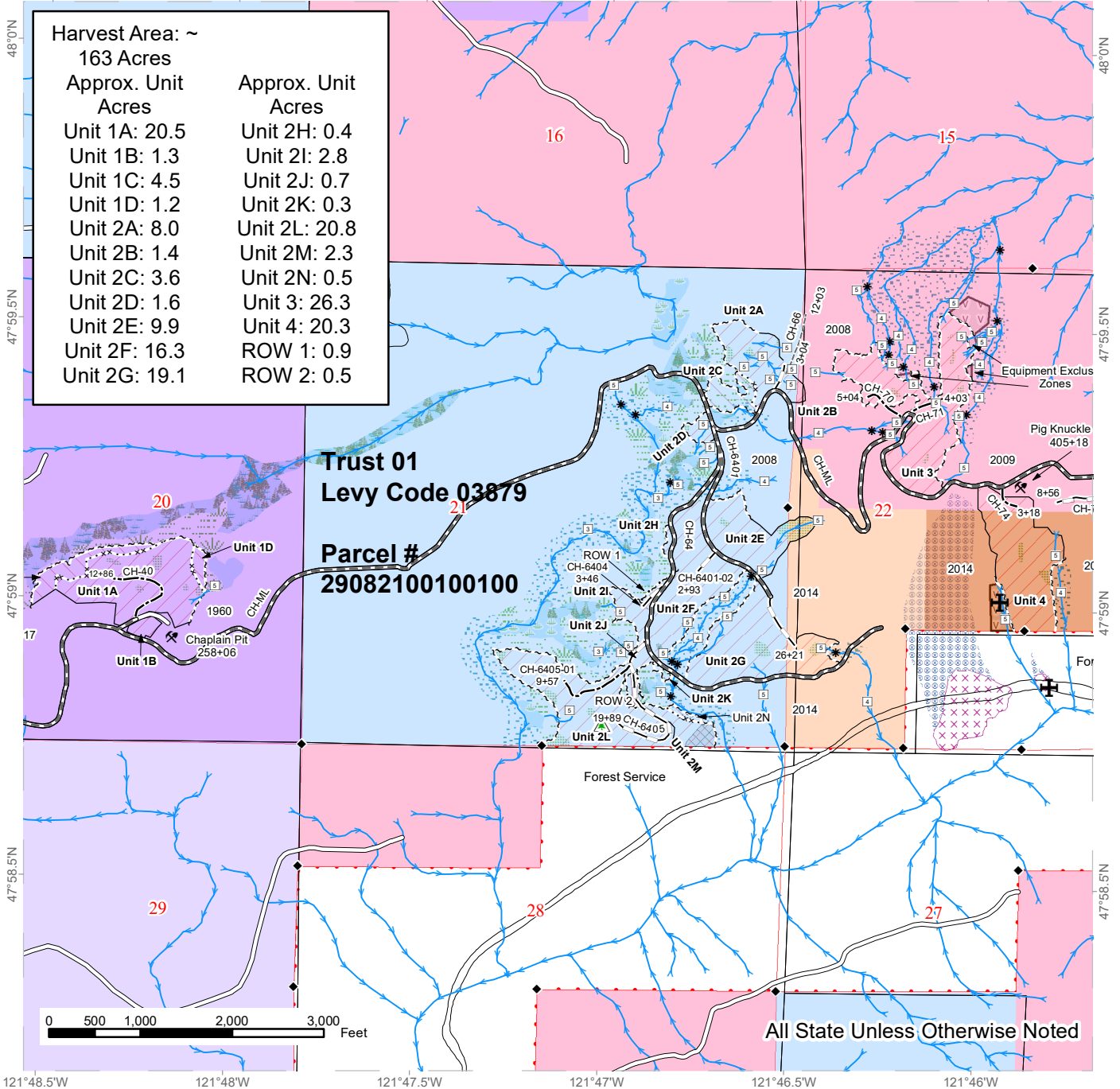
Activity ID	Activity Name	Area (ac)
287515	HOG WILD U4	20.85226449

TIMBER SALE MAP

SALE NAME: HOG WILD
AGREEMENT #: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280

121°48.5'W 121°48'W 121°47.5'W 121°47'W 121°46.5'W 121°46'W



Variable Retention Harvest	Sale Boundary Tags	Streams
Variable Density Thinning	Special Mgmt Area	Stream Type
Special Mgmt Area	Right of Way Tags	Stream Type Break
Wetlands - Non-forested	Property Line	Survey Monument
Non-Tradeable Leave Clump	Timber Type Change	Non-Tradeable Leave Trees
Leave Tree Area	Existing Roads	Other Feature 1
Riparian Mgt Zone	Required Pre-Haul Maintenance	Rock Pit
Forested Wetland	Optional Construction	
Wetland Mgt Zone	Optional Reconstruction	
Equipment Exclusion Zone	Old Grades/Trails	
Hazard Abatement Area		



[Home](#)[Other Property Data](#)[Help](#)[Property Search](#) > [Search Results](#) > Property Summary

Property Account Summary

2/13/2023

Parcel Number	29082100100100	Property Address	UNKNOWN UNKNOWN , UNKNOWN,
---------------	----------------	------------------	----------------------------

General Information

Property Description	SEC 21 TWP 29 RGE 08ALL SEC 21
Property Category	Land and Improvements
Status	Active, Locally Assessed
Tax Code Area	03879

Property Characteristics

Use Code	910 Undeveloped (Vacant) Land
Unit of Measure	Acre(s)
Size (gross)	633.71

Related Properties

No Related Properties Found

Parties

Role	Percent	Name	Address
Taxpayer	100	WA STATE OF PARKS & REC	PO BOX 42650, OLYMPIA, WA 98504 United States
Owner	100	WA STATE OF PARKS & REC	PO BOX 42650, OLYMPIA, WA 98504 United States

Property Values

Value Type	Tax Year 2023	Tax Year 2022	Tax Year 2021	Tax Year 2020	Tax Year 2019
Taxable Value Regular					
Exemption Amount Regular	\$950,600	\$380,200	\$380,200	\$380,200	\$380,200
Market Total	\$950,600	\$380,200	\$380,200	\$380,200	\$380,200
Assessed Value	\$950,600	\$380,200	\$380,200	\$380,200	\$380,200
Market Land	\$950,600	\$380,200	\$380,200	\$380,200	\$380,200
Market Improvement					
Personal Property					

Active Exemptions

Government Property

Events

Effective Date	Entry Date-Time	Type	Remarks
No Events Found			

Tax Balance

No Available Tax Charges Information for this Property at the Moment.

Distribution of Current Taxes

District	Rate	Amount	Voted Amount	Non-Voted Amount
TOTAL				

Levy Rate History

Tax Year	Total Levy Rate
2022	8.336026
2021	9.485473
2020	10.005416

Real Property Structures

Description	Type	Year Built	More Information
No Real Property Structures Found			

Receipts

Date	Receipt No.	Amount Tendered	Amount Due
No Receipts Found			

Sales History

Sale Date	Entry Date	Recording Date	Recording Number	Sale Amount	Excise Number	Deed Type	Transfer Type	Grantor(Seller)	Grantee(Buyer)	Other Parcels
No Sales History Found										

Property Maps

Neighborhood Code	Township	Range	Section	Quarter	Parcel Map
4102000	29	08	21	NE	View parcel maps for this Township/Range/Section

[Printable Version](#)

Developed by Aumentum Technologies.
 @2005-2020 All rights reserved.
 Version 4.0.3.0

**State of Washington
Department of Natural Resources
Timber Bill of Sale Extension Charges**

Extension Per Acre Charge Worksheet

Agreement No.:

Sale Name:

Region:

Sale Method:

Harvest Type:

Geographic Area:

Site Class (westside only):

- 1. Growth Loss
 - 2. Additional Growth
 - 3. Loss thru Disrupt.
- Per Acre Charge**

Westside PC/Thin		Westside Evenage		Eastside PC/Thin		Eastside Evenage	
scale	lump	scale	lump	scale	lump	scale	lump
	0.00						
	118.26						
	5.91						
\$0.00	\$124.17	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Total Per Acre Charge:

This figure to be Input into the G-050 or G051 clause.

**State of Washington
Department of Natural Resources
Timber Bill of Sale Extension Charges**

Extension Per Acre Charge Worksheet

Agreement No.:

Sale Name:

Region:

Sale Method:

Harvest Type:

Geographic Area:

Site Class (westside only):

- 1. Growth Loss
 - 2. Additional Growth
 - 3. Loss thru Disrupt.
- Per Acre Charge**

Westside PC/Thin		Westside Evenage		Eastside PC/Thin		Eastside Evenage	
scale	lump	scale	lump	scale	lump	scale	lump
			15.00				
			812.49				
			40.62				
\$0.00	\$0.00	\$0.00	\$868.11	\$0.00	\$0.00	\$0.00	\$0.00

Total Per Acre Charge:

This figure to be Input into the G-050 or G051 clause.

PRE-CRUISE NARRATIVE

Sale Name: Hog Wild	Region: Northwest
Agreement #: 30-104148	District: Cascade
Contact Forester: John Moon Phone / Location: 360-770-4436 / Granite Falls	County(s): Snohomish
Alternate Contact: Greg Anderson Phone / Location: 360-333-7983 / Granite Falls	Other information:

Type of Sale: Lump Sum	Harvest System: See Logging Plan Map
------------------------	--------------------------------------

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description <small>(Enter only one legal for each unit)</small> Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determinatio n <small>(List method and error of closure if applicable)</small>
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1A VRH	20/T29/R8	10	21.4		0.9			20.5	GPS (Garmin)/GIS
1B VRH	20/T29/R8	10	1.3					1.3	GPS (Garmin)/GIS
1C WMZ	20/T29/R8	10	4.5					4.5	GPS (Garmin)/GIS
1D WMZ	20/T29/R8	10	1.2					1.2	GPS (Garmin)/GIS
2A VRH	21/T29/R8	01	8.6		0.6			8.0	GPS (Garmin)/GIS
2B VRH	21/T29/R8	01/03	1.4					1.4	GPS (Garmin)/GIS
2C WMZ	21/T29/R8	01	3.6					3.6	GPS (Garmin)/GIS
2D VRH	21/T29/R8	01	1.7		0.1			1.6	GPS (Garmin)/GIS
2E VRH	21/T29/R8	01/06	11.7		1.8			9.9	GPS (Garmin)/GIS
2F VRH	21/T29/R8	01	16.4		0.1			16.3	GPS (Garmin)/GIS
2G VRH	21/T29/R8	01/06	20.0		0.9			19.1	GPS (Garmin)/GIS
2H VRH	21/T29/R8	01	0.4					0.4	GPS (Garmin)/GIS

2I VRH	21/T29/R8	01	2.8				2.8	GPS (Garmin)/GIS
2J VRH	21/T29/R8	01	0.7				0.7	GPS (Garmin)/GIS
2K RMZ	21/T29/R8	01	0.3				0.3	GPS (Garmin)/GIS
2L VRH	21/T29/R8	01	22.1		1.3		20.8	GPS (Garmin)/GIS
2M VRH	21/T29/R8	01	3.7		1.4		2.3	GPS (Garmin)/GIS
2N RMZ	21/T29/R8	01	0.5				0.5	GPS (Garmin)/GIS
3 VRH	22/T29/R8	03	26.9		0.6		26.3	GPS (Garmin)/GIS
4 VRH	22/T29/R8	03/07	20.9		0.6		20.3	GPS (Garmin)/GIS
ROW 1	21/T29/R8	01	0.9				0.9	Length x Width
ROW 2	21/T29/R8	01	0.5				0.5	Length x Width
TOTAL ACRES			171.5		8.3		163.2	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
Unit 1A and 1B	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags, Blue "Special Management Unit" tags, young stand to the southwest and the CH-ML road. Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees are marked with a single band of blue paint.		Clumped: 167 Scattered: 15 Total: 182
Unit 1C and 1D	Variable Density Thinning (VDT). Thin all timber following the prescription in Schedule B, bounded by white "Timber Sale Boundary" tags and blue "Special Management Unit" tags.		N/A

Unit 2A, 2B, 2D, 2E, 2F, 2G, 2H, 2I, 2J, 2L, and 2M	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags, blue "Special Management Unit" tags, existing roads, pink ribbon along young stand breaks, and property lines marked with two yellow bands and a red "T". Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees are marked with either a single or double band of blue paint.		Clumped: 672 Scattered: 65 Total: 737
Unit 2C, and 2K	Variable Density Thinning (VDT). Thin all timber following the prescription in Schedule B, bounded by white "Timber Sale Boundary" tags and blue "Special Management Unit" tags.		N/A
Unit 3	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags, adjacent young stands and the CH-ML road. Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees are marked with a single band of blue paint.		Clumped: 172 Scattered: 44 Total: 216
Unit 4	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags, adjacent young stands, property lines marked with two yellow bands and a red "T", and the CH-ML road. Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees are marked with a single band of blue paint.		Clumped: 114 Scattered: 54 Total: 168
ROW 1 and 2	Right-of-Way areas are tagged along abandoned roads to be re-opened. There is no merchantable timber to be removed from either ROW.		N/A

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
Unit 1A	WH, DF / 640 MBF	See Driving Directions	See driving and traverse maps
Unit 1B	WH, DF / 40 MBF	See Driving Directions	See driving and traverse maps
Unit 1C	WH, DF / 36 MBF	See Driving Directions	See driving and traverse maps
Unit 1D	WH, DF / 10 MBF	See Driving Directions	See driving and traverse maps
Unit 2A	WH, DF / 260 MBF	See Driving Directions	See driving and traverse maps
Unit 2B	WH, DF / 30 MBF	See Driving Directions	See driving and traverse maps
Unit 2C	WH, DF / 30 MBF	See Driving Directions	See driving and traverse maps
Unit 2D	WH, DF / 60 MBF	See Driving Directions	See driving and traverse maps
Unit 2E	WH, DF / 350 MBF	See Driving Directions	See driving and traverse maps
Unit 2F	WH, DF / 500 MBF	See Driving Directions	See driving and traverse maps
Unit 2G	WH, DF / 600 MBF	See Driving Directions	See driving and traverse maps
Unit 2H	WH, DF / 15 MBF	See Driving Directions	See driving and traverse maps
Unit 2I	WH, DF / 80 MBF	See Driving Directions	See driving and traverse maps
Unit 2J	WH, DF / 30 MBF	See Driving Directions	See driving and traverse maps
Unit 2K	WH, DF / 8 MBF	See Driving Directions	See driving and traverse maps
Unit 2L	WH, DF / 660 MBF	See Driving Directions	See driving and traverse maps
Unit 2M	WH, DF / 110 MBF	See Driving Directions	See driving and traverse maps
Unit 2N	WH, DF / 8 MBF	See Driving Directions	See driving and traverse maps
Unit 3	WH, DF / 800 MBF	See Driving Directions	See driving and traverse maps
Unit 4	WH, DF / 420 MBF	See Driving Directions	See driving and traverse maps
TOTAL MBF	MBF 4,687		

REMARKS:

- GPS points in units 1 and 2 are marked with blue and red flagging and a rectangular aluminum tag.
- GPS points in units 3 and 4 are marked with green and pink flagging.
- Unit 1 has a higher concentration of western red cedar than the other units. Unit 1 also has a greater snag component.
- Cedar salvage will occur in all VRH units following harvest.

Schedule B:

Unit 1C and 1D

- Thin from below, leaving a minimum of 100 – 110 trees per acre maintained at uniform spacing throughout the unit. Target average 20’ x 20’ spacing.
- Only live trees 8 inches or greater in DBH shall be used to calculate trees per acre.

To accomplish this prescription, fallers shall harvest species in the following order:

1. Hardwoods
2. Pacific Silver Fir
3. Western Hemlock
4. Douglas-fir

Western red cedar may only be cut to facilitate yarding, or if they pose a safety hazard and must be approved by the Contract Administrator (CA). If felled they shall contribute to final trees per acre and basal area goals. Any snags felled for safety reasons shall be left on site.

Unit 2C, 2K, and 2N

- Thin from below, leaving a minimum of 100 – 110 trees per acre maintained at uniform spacing throughout the unit. Target average 20’ x 20’ spacing.
- Only live trees 8 inches or greater in DBH shall be used to calculate trees per acre.

To accomplish this prescription, fallers shall harvest species in the following order:

1. Hardwoods
2. Pacific Silver Fir
3. Western Hemlock
4. Douglas-fir

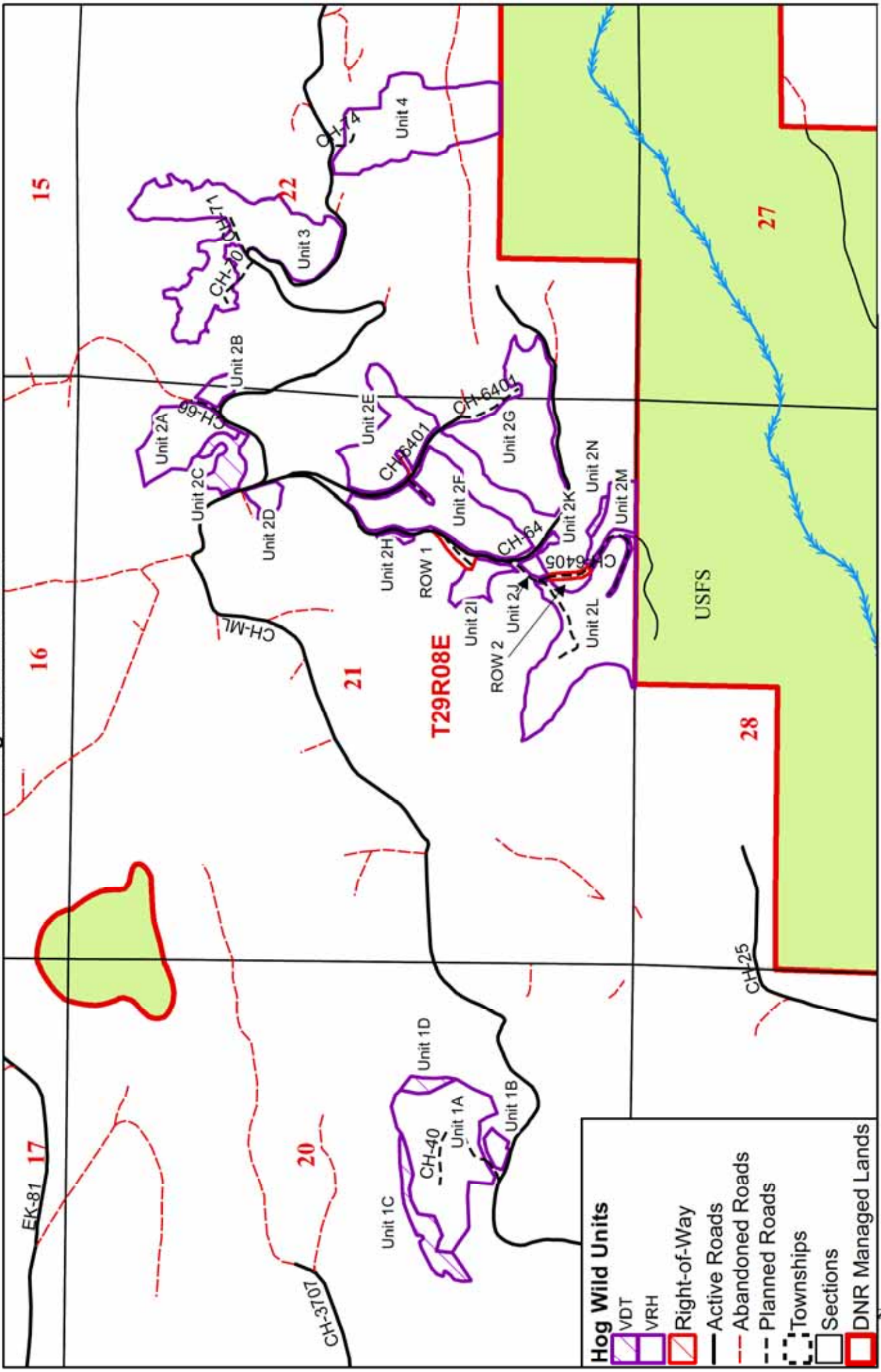
Western red cedar may only be cut to facilitate yarding, or if they pose a safety hazard and must be approved by the Contract Administrator (CA). If felled they shall contribute to final trees per acre and basal area goals. Any snags felled for safety reasons shall be left on site.

Driving Directions:

From Granite Falls follow Menzel Lake Rd 9.6 miles to the intersection with Monroe Camp Rd. Turn left onto Monroe Camp Rd and follow it for 1.7 miles to the EK-ML gate on the left. F1-3 key required. Follow the EK-ML for 8.7 miles, then turn left onto the CH-37. Follow the CH-37 for 1.2 miles then turn left onto the CH-ML. Continue on the CH-ML for 1.1 miles, unit 1 will be on the left at the rock pit. Continue following the CH-ML for 1.6 miles to the junction with the CH-64 and the northern sub-units of unit 2. Stay on the CH-ML for 0.6 mile to reach unit 3 on the left and an additional 0.4 mile to reach unit 4 on the right. From the junction of the CH-ML and CH-64 continue south on the CH-64 for 0.1 mile to reach the junction with the CH 6401. The CH 64 (1.1 miles) and CH 6401 (0.4 mile) can be

Prepared By: John Moon	Title: Unit Forester	CC: Greg Anderson
Date: 11/12/2022		

Hog Wild timber sale



Hog Wild Units

- VDT
- VRH
- Right-of-Way
- Active Roads
- Abandoned Roads
- Planned Roads
- Townships
- Sections
- DNR Managed Lands



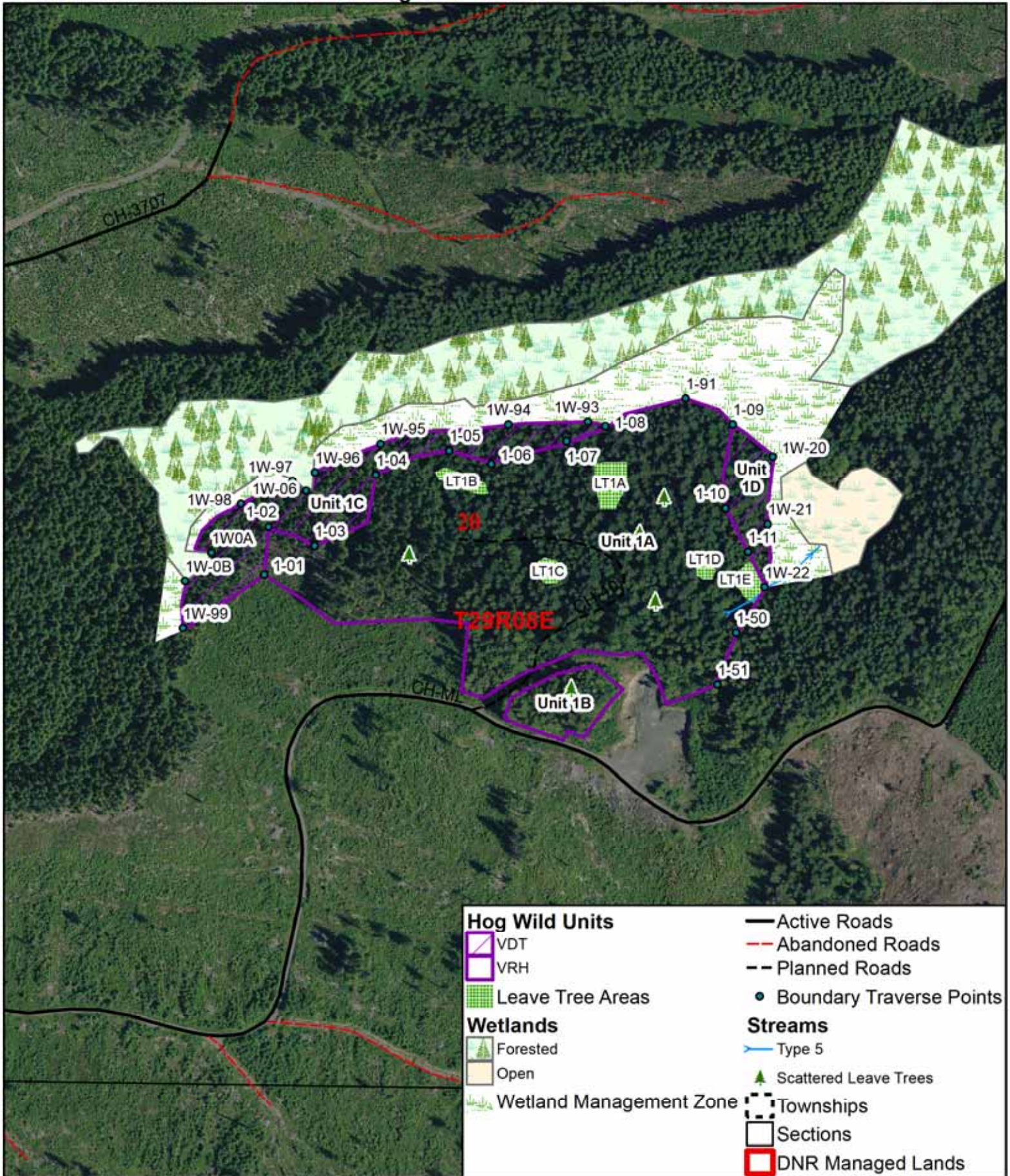
1 inch = 1,200 feet



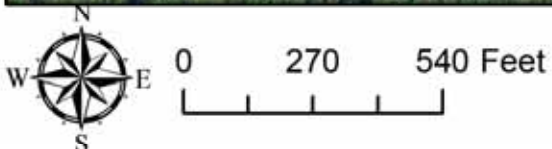
WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Date: 11/13/2022

Hog Wild timber sale



Hog Wild Units		— Active Roads
	VDT	— Abandoned Roads
	VRH	- - Planned Roads
	Leave Tree Areas	• Boundary Traverse Points
Wetlands		Streams
	Forested	
	Open	
	Wetland Management Zone	

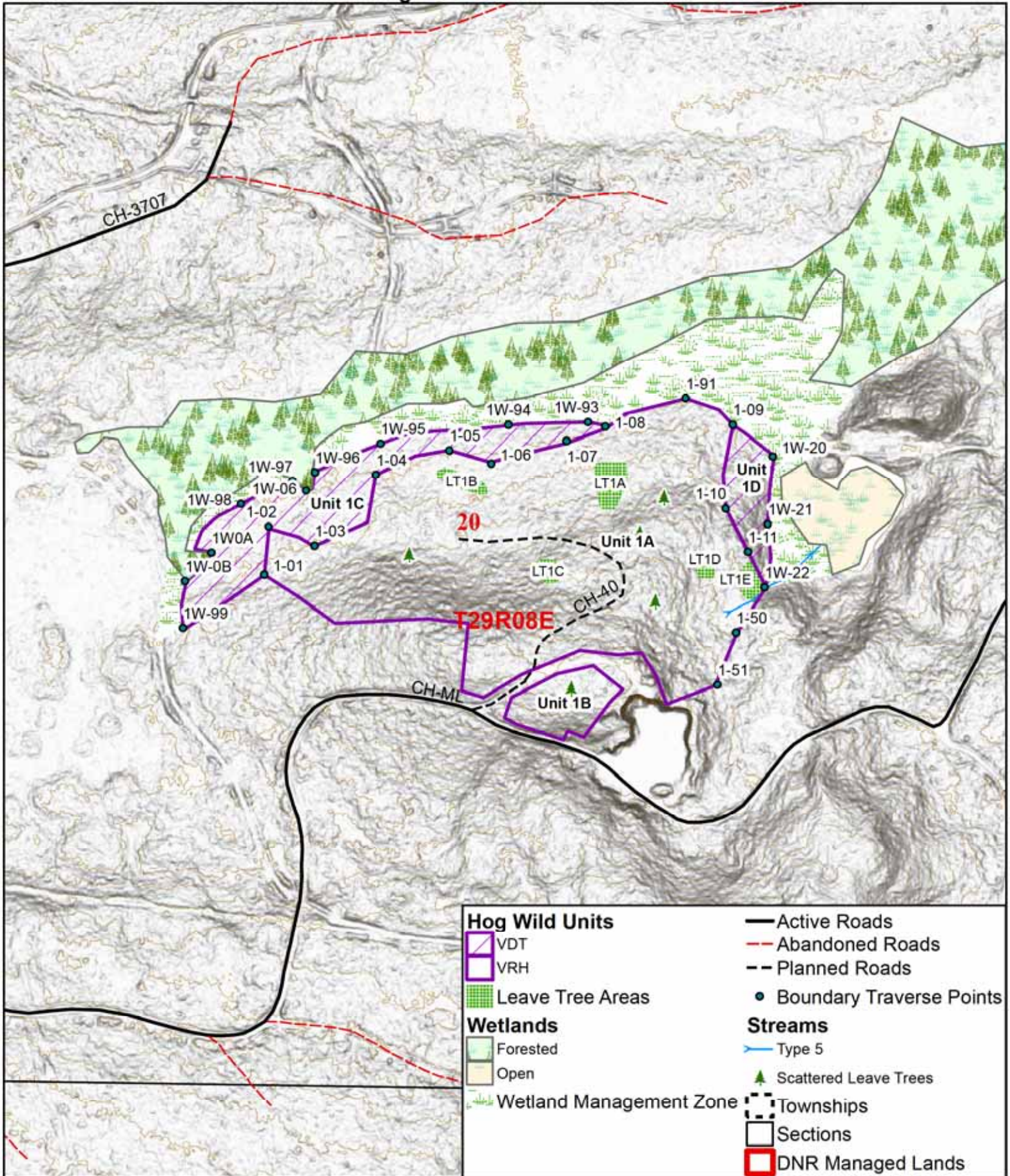


1 inch = 400 feet

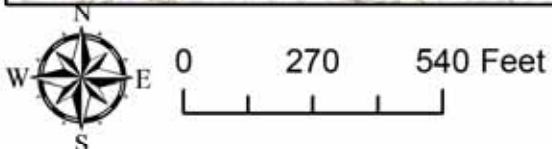


Date: 11/13/2022

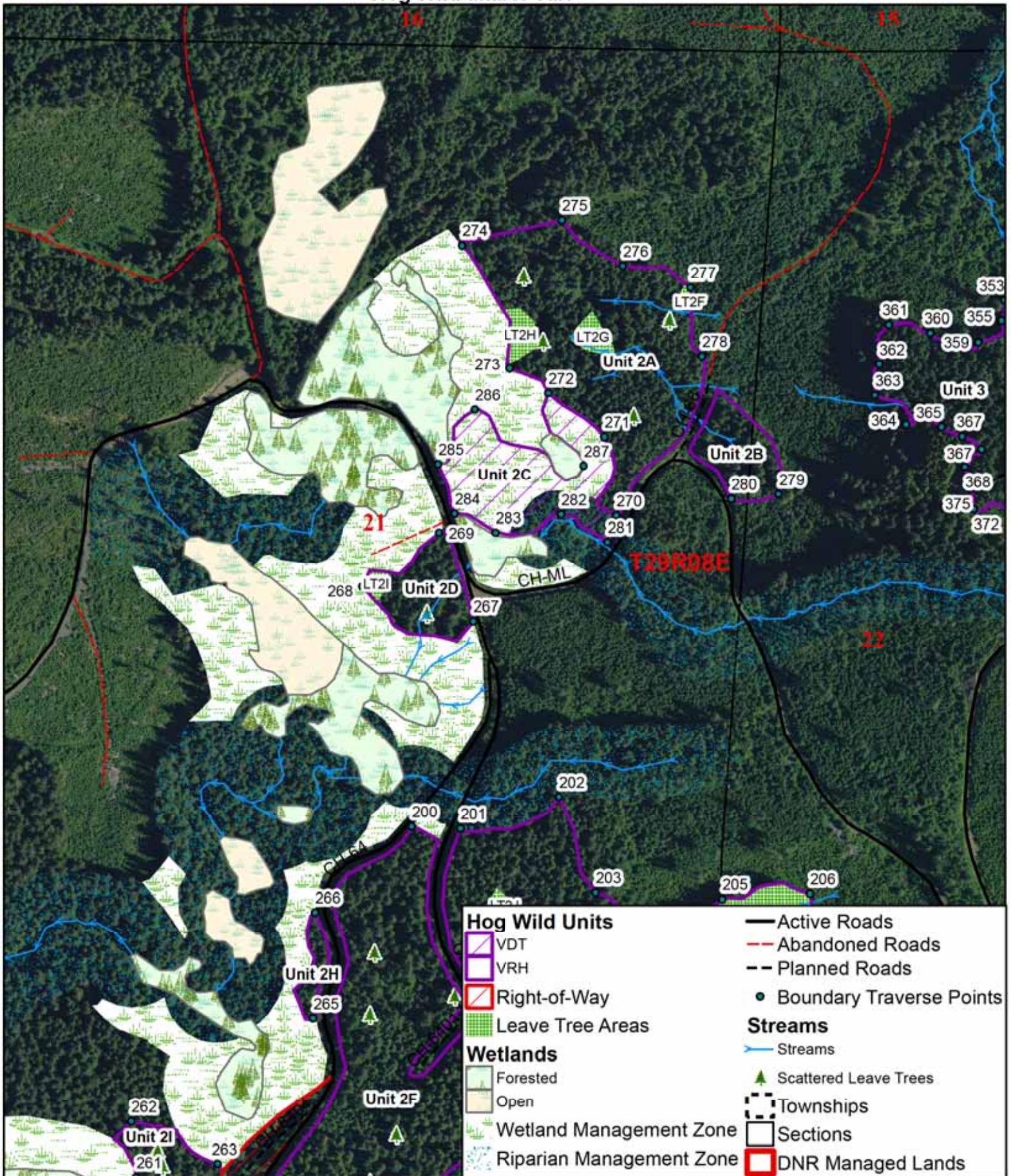
Hog Wild timber sale



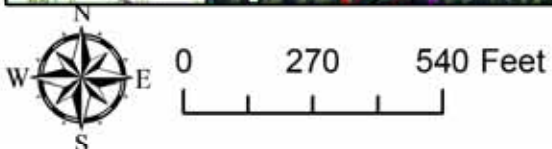
Hog Wild Units		— Active Roads
	VDT	- - Abandoned Roads
	VRH	- - Planned Roads
	Leave Tree Areas	• Boundary Traverse Points
	Forested	Streams
	Open	— Type 5
	Wetland Management Zone	▲ Scattered Leave Trees
	Townships	□ Sections
	DNR Managed Lands	



Hog Wild timber sale



Hog Wild Units		Streams	
	VDT		Streams
	VRH		Scattered Leaf Trees
	Right-of-Way		Townships
	Leave Tree Areas		Sections
	Forested		DNR Managed Lands
	Open		
	Wetland Management Zone		
	Riparian Management Zone		
	Active Roads		
	Abandoned Roads		
	Planned Roads		
	Boundary Traverse Points		

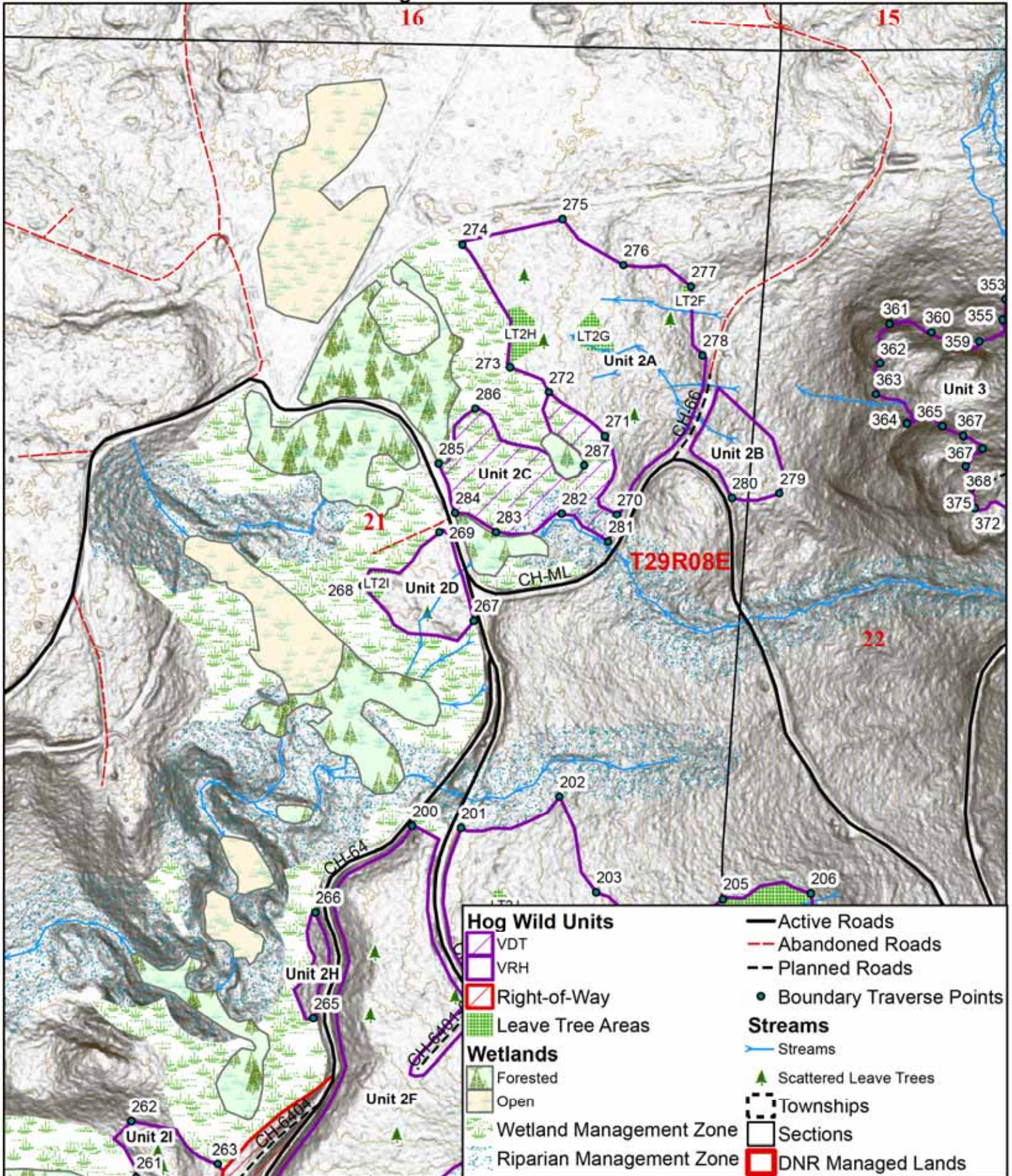


1 inch = 400 feet

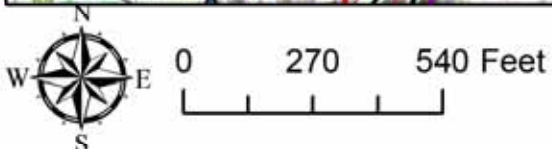


Date: 11/13/2022

Hog Wild timber sale



Hog Wild Units		— Active Roads
	VDT	- - - Abandoned Roads
	VRH	- - - Planned Roads
	Right-of-Way	● Boundary Traverse Points
	Leave Tree Areas	Streams
Wetlands		— Streams
	Forested	▲ Scattered Leaf Trees
	Open	⊞ Townships
	Wetland Management Zone	□ Sections
	Riparian Management Zone	□ DNR Managed Lands

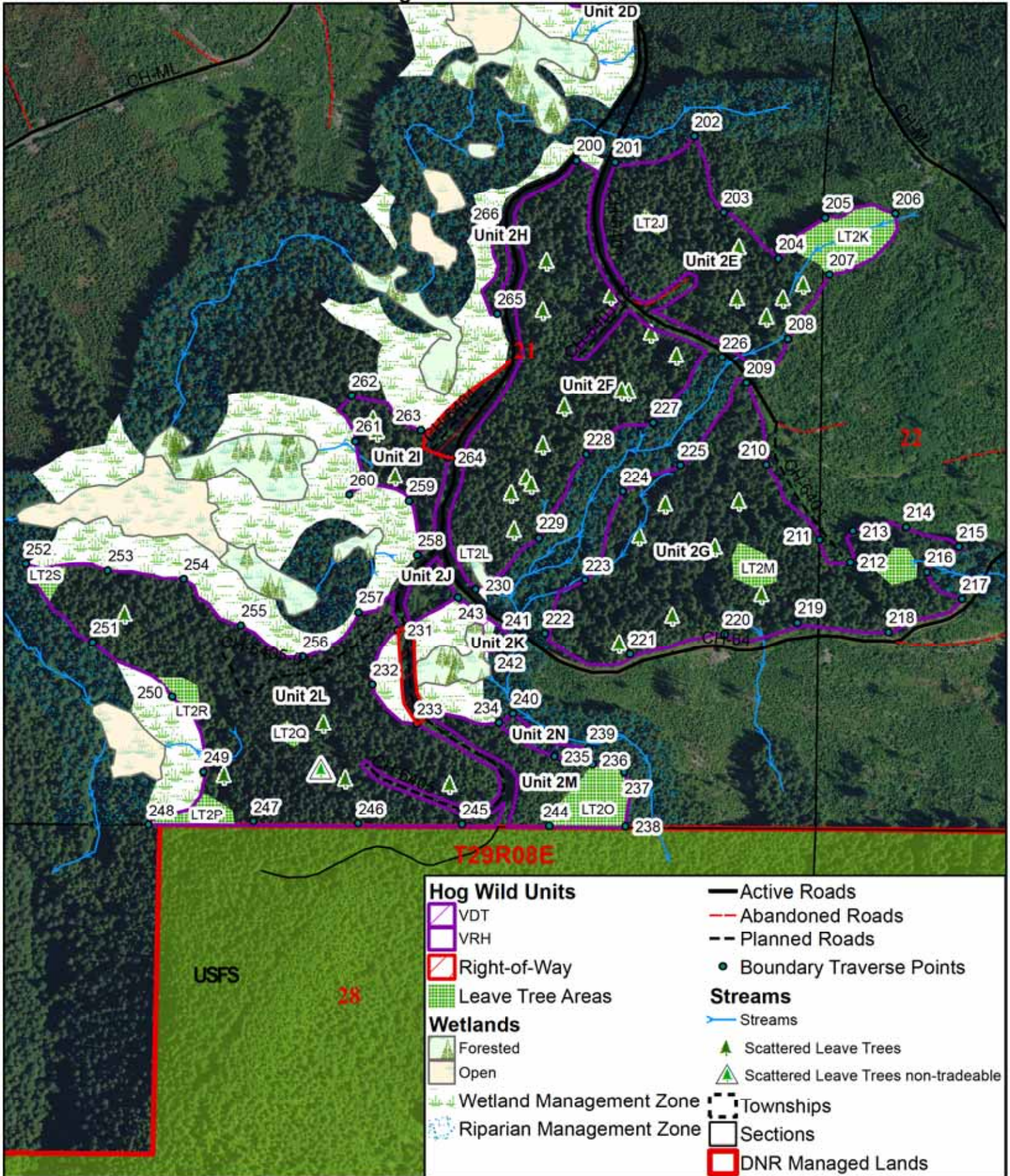


1 inch = 400 feet

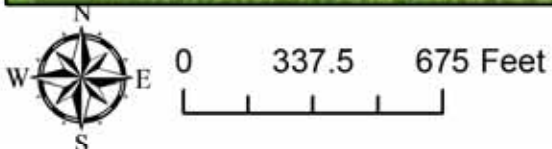


Date: 11/13/2022

Hog Wild timber sale



Hog Wild Units		— Active Roads	
	VDT		Abandoned Roads
	VRH		Planned Roads
	Right-of-Way		Boundary Traverse Points
	Leave Tree Areas	Streams	
Wetlands			Streams
	Forested		Scattered Leaf Trees
	Open		Scattered Leaf Trees non-tradeable
	Wetland Management Zone		Townships
	Riparian Management Zone		Sections
			DNR Managed Lands

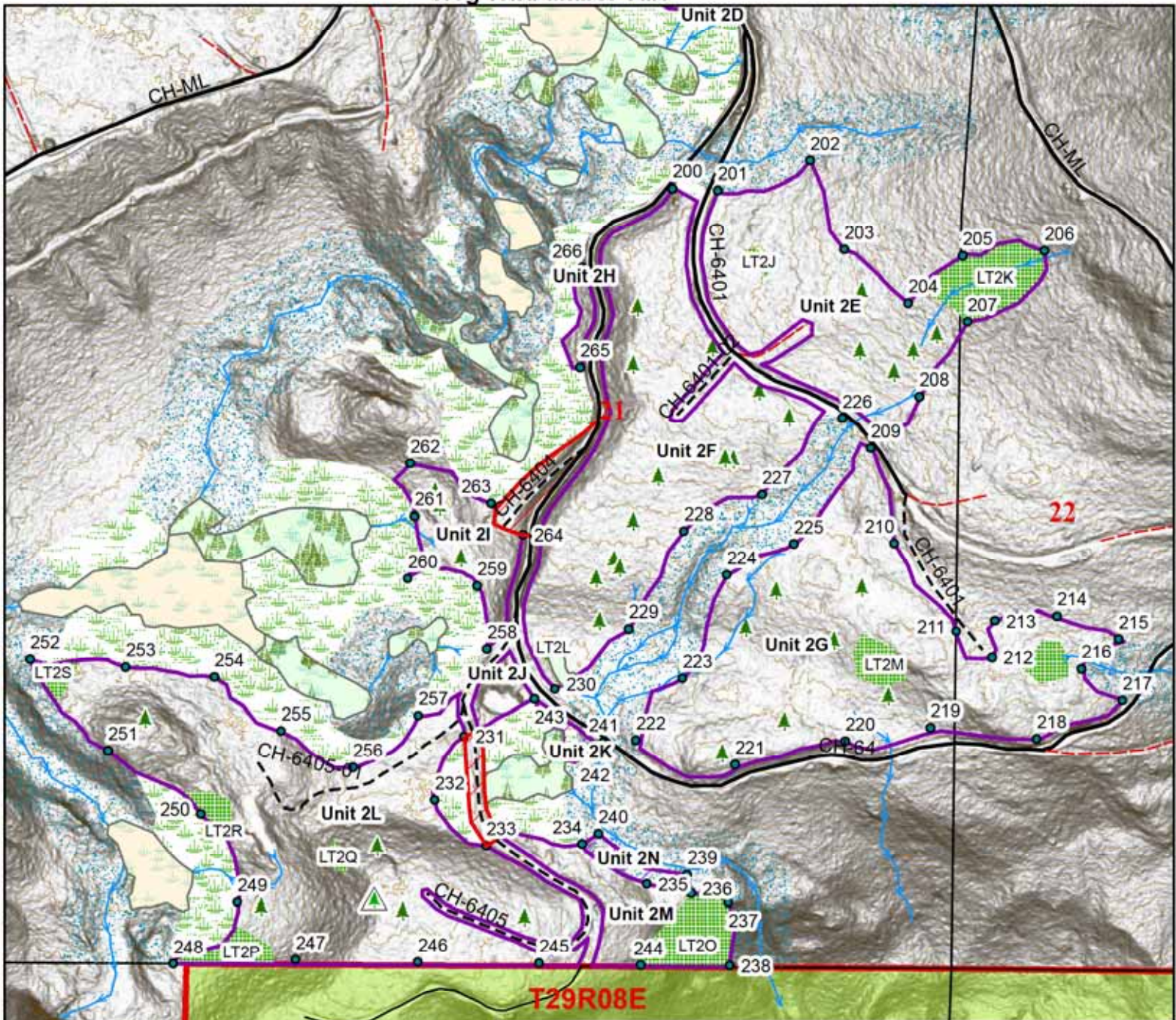


1 inch = 500 feet

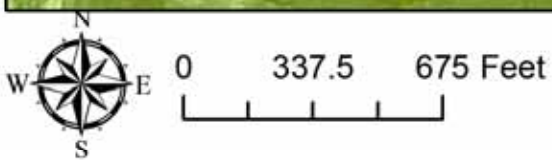


Date: 11/13/2022

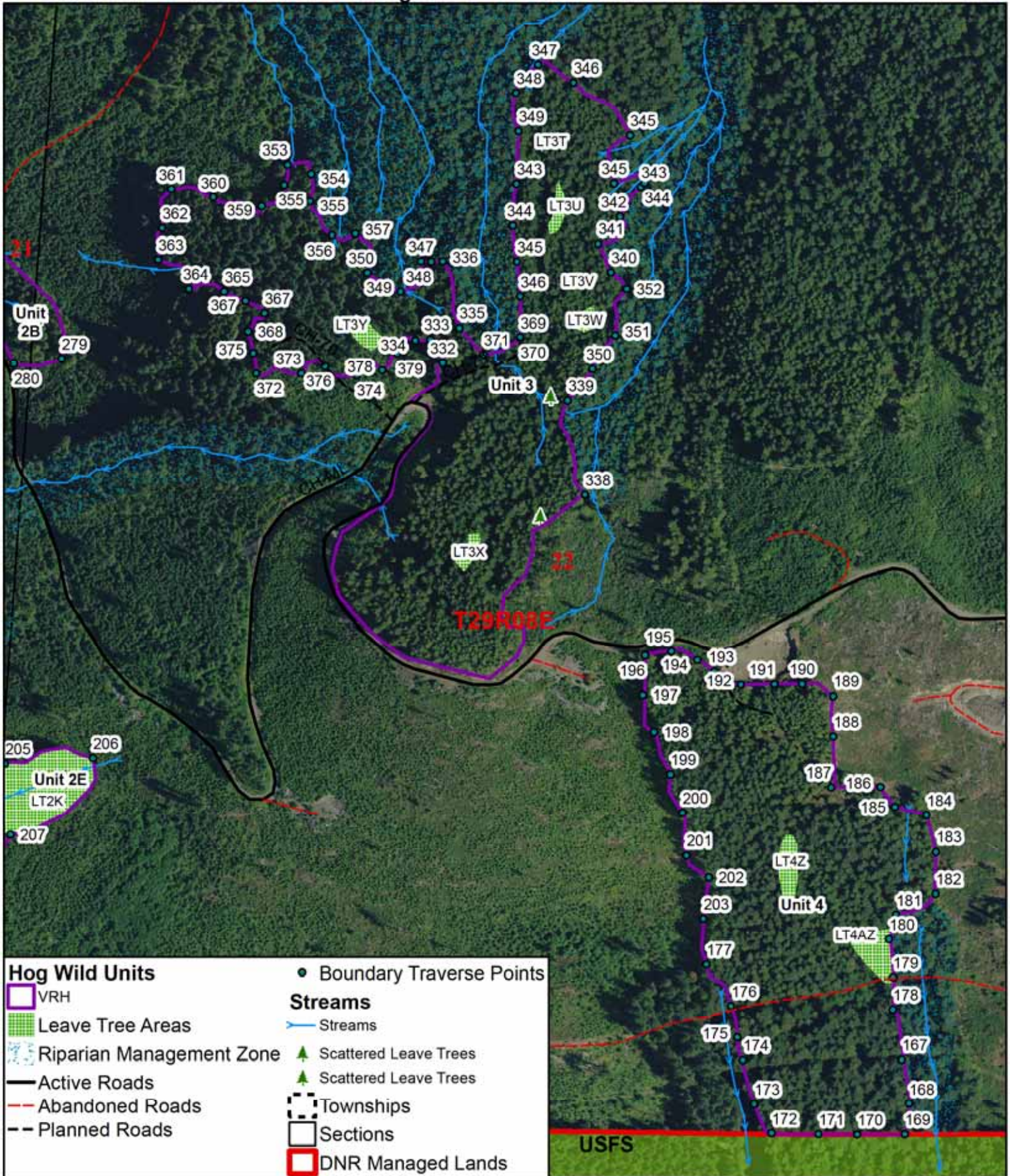
Hog Wild timber sale



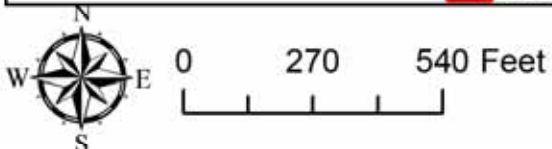
Hog Wild Units		— Active Roads
VDT	Abandoned Roads	- - - Planned Roads
Right-of-Way	Leave Tree Areas	• Boundary Traverse Points
Forested	Wetlands	Streams
Open	Forested	— Streams
Wetland Management Zone	Open	Scattered Leave Trees
Riparian Management Zone	Wetland Management Zone	Scattered Leave Trees non-tradeable
	Townships	Sections
	DNR Managed Lands	



Hog Wild timber sale

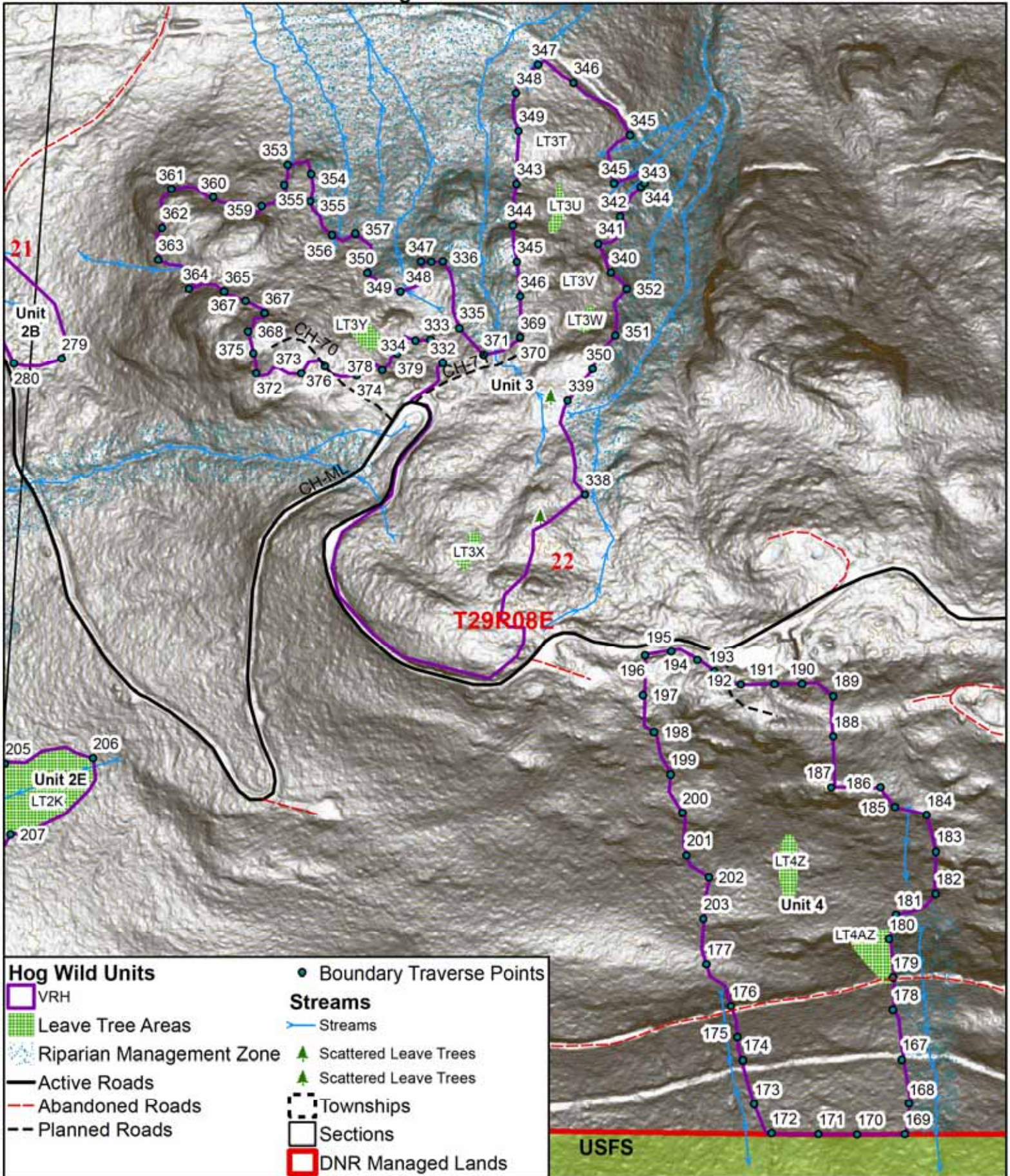


Hog Wild Units	
	VRH
	Leave Tree Areas
	Riparian Management Zone
	Active Roads
	Abandoned Roads
	Planned Roads
	Boundary Traverse Points
	Streams
	Scattered Leave Trees
	Scattered Leave Trees
	Townships
	Sections
	DNR Managed Lands

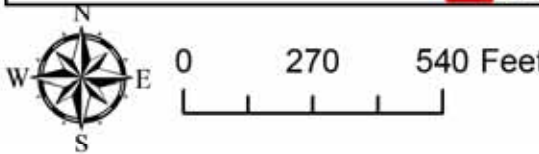


1 inch = 400 feet

Hog Wild timber sale



Hog Wild Units		● Boundary Traverse Points
VRH	Leave Tree Areas	Streams
Riparian Management Zone	Scattered Leave Trees	Streams
Active Roads	Scattered Leave Trees	Scattered Leave Trees
Abandoned Roads	Townships	Sections
Planned Roads	DNR Managed Lands	



1 inch = 400 feet



Date: 11/13/2022

Timber Sale Cruise Report Hog Wild - NW

Sale Name: HOG WILD

Sale Type: LUMP SUM

Region: NORTHWEST

District: CASCADE

Lead Cruiser: Matthew Llobet

Other Cruisers:

Cruise Narrative:

Location:

Hog Wild is a four unit timber sale located south of Granite Falls off the Menzel Lake Rd. The sale ranges from 1,320 feet to 2,280 feet in elevation and has good road access to all four units.

Cruise Design:

Hog Wild was cruised using a 54.4/40 BAF. The smallest merchantable tree cruised throughout the sale had a DBH of 7.0 inches and 5.0 inches at 16 feet.

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.

If a plot landed near or in a "Leave Tree Area" the leave trees were recorded as leave. A species and DBH was obtained. This volume is not included in the sale volume.

Unit 1:

The stand characteristics throughout unit 1 showed a variable stocking with dense areas of Western Hemlock reproduction throughout the understory. The terrain throughout unit 1 was gentle/mild - making for good operator ground. The species composition consists of Douglas fir, Western Hemlock, Pacific Silver fir, Western Red Cedar, and scattered hardwoods.

Unit 2:

The stand consists of a variable timber type with dense Western Hemlock reproduction throughout the understory. The operator ground was straightforward with gentle/mild terrain throughout. The species composition consists of Douglas fir, Western Hemlock, Pacific Silver fir, Western Red Cedar, and hardwoods.

Unit 3:

Unit 3 consists of a dominant white wood stand with scattered Douglas fir. Unit 3 has a combination of both cable and ground base harvest with productive operator ground.

Unit 4:

Unit 4 consists of a dominant Douglas fir timber type with variable terrain. Rocky outcroppings were observed throughout the central portion of the unit.

VDT:

Thin to an average spacing of 20' x 20' selecting trees from the smallest diameter class. Take trees were established and the prescription was applied out in the field while conducting the cruise. The VDT units consist of a uniform Douglas fir, Western Hemlock, Pacific Silver fir, and Western Red Cedar timber type. The operator ground throughout the VDT units was flat - making for good productive thinning ground.

Right of Way:

The right of way volume associated with Hog Wild is located on old road grade - with timber scattered throughout the cut and fill slopes.

Logging and Stand Conditions:

Approximately 30% of the sale is cable harvest, 64% percent is ground base harvest, and 6% ground base VDT. Hog Wild is susceptible to heavy snow accumulation in the winter months.

Timber Sale Notice Volume (MBF)

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
WH	17.6			3,582			1,452	1,814	229	86
DF	21.6	8.0		2,158	34	163	1,335	541	84	1
SF	21.1			410			300	99	12	
RC	18.5			116				94	22	
BC	24.0			17			17			
RA	13.1			9					9	
ALL	18.8	8.0		6,292	34	163	3,104	2,548	356	88

Timber Sale Notice Weight (tons)

Sp	Tons by Grade						
	All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
WH	29,660			10,854	15,891	2,336	580
DF	15,004	199	995	8,684	4,369	743	14
SF	2,890			1,982	798	110	
RC	1,010				832	179	
BC	89			89			
RA	86					86	
ALL	48,740	199	995	21,609	21,889	3,454	595

Timber Sale Overall Cruise Statistics (Cut + Leave Trees)

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
264.6	3.9	161.1	1.3	42,795	4.2

Timber Sale Unit Cruise Design

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
HOG WILD U1A	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	21.4	21.4	14	14	0
HOG	B2C: VR, 2 BAF (54.44, 40 for some	1.3	1.3	1	1	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
WILD U1B	species) Measure/Count Plots, Sighting Ht = 4.5 ft					
HOG WILD U1C	FX: FR plots (20 tree / acre expansion)	4.5	4.5	2	2	0
HOG WILD U1D	FX: FR plots (20 tree / acre expansion)	1.2	1.2	1	1	0
HOG WILD U2A	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	8.6	8.6	6	6	0
HOG WILD U2B	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.4	1.4	1	1	0
HOG WILD U2C	FX: FR plots (20 tree / acre expansion)	3.6	3.6	2	2	0
HOG WILD U2D	B1: VR, 1 BAF (54.44) Measure All, Sighting Ht = 4.5 ft	1.7	1.7	2	2	0
HOG WILD U2E	B2C: VR, 2 BAF (62.5, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	11.7	11.7	7	7	0
HOG WILD U2F	B2: VR, 2 BAF (62.5, 40 for some species) Measure All, Sighting Ht = 4.5 ft	16.4	16.4	10	10	1
HOG WILD U2G	B2: VR, 2 BAF (62.5, 40 for some species) Measure All, Sighting Ht = 4.5 ft	20.0	20.0	11	11	0
HOG WILD U2H	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.4	0.4	1	1	0
HOG WILD U2I	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	2.8	2.8	1	1	0
HOG WILD U2J	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.7	0.7	1	1	0
HOG WILD U2K	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.3	0.3	1	1	0
HOG WILD U2L	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	20.8	21.7	5	3	0
HOG WILD U2M	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	2.3	3.7	2	1	0

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
HOG WILD U2N	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.5	0.6	1	1	0
HOG WILD U3	B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	26.3	26.9	15	7	0
HOG WILD U4	B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	20.9	20.9	15	15	0
ROW 1	ST: Strip/Percent Sample (1 tree expansion)	0.9		1	1	0
ROW 2	ST: Strip/Percent Sample (1 tree expansion)	0.5		1	1	0
All		168.2	169.7	101	90	1

Timber Sale Log Grade x Sort Summary

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
BC	LIVE	2 SAW	Domestic	15.5	35	101	101	0.0	88.9	17.0
DF	LIVE	2 SAW	Domestic	15.7	38	5,939	5,840	1.7	6,219.6	982.2
DF	LIVE	2 SAW	HQ-A	14.2	39	950	938	1.2	1,185.0	157.8
DF	LIVE	2 SAW	HQ-B	14.9	40	1,161	1,156	0.4	1,279.8	194.5
DF	LIVE	3 PEELER	HQ-A	24.6	40	203	203	0.0	199.0	34.1
DF	LIVE	3 SAW	Domestic	9.3	36	3,240	3,220	0.6	4,368.4	541.5
DF	LIVE	4 SAW	Domestic	6.5	24	501	497	0.7	743.3	83.6
DF	LIVE	CULL	Cull	13.9	11	152	0	100.0	0.0	0.0
DF	LIVE	SPECIAL MILL	HQ-A	18.3	39	984	970	1.4	994.7	163.2
DF	LIVE	UTILITY	Pulp	5.7	28	7	7	0.0	14.4	1.3
RA	LIVE	4 SAW	Domestic	8.5	30	53	53	0.0	86.2	8.9
RC	LIVE	3 SAW	Domestic	10.1	37	565	559	1.1	831.9	94.0
RC	LIVE	4 SAW	Domestic	6.1	23	130	128	1.4	178.4	21.6
RC	LIVE	CULL	Cull	22.0	14	48	0	100.0	0.0	0.0
SF	LIVE	2 SAW	Domestic	15.5	40	1,805	1,781	1.3	1,982.2	299.6
SF	LIVE	3 SAW	Domestic	9.0	36	585	585	0.0	798.2	98.5
SF	LIVE	4 SAW	Domestic	6.7	21	73	73	0.0	109.9	12.3
SF	LIVE	CULL	Cull	18.1	15	38	0	100.0	0.0	0.0
WH	LIVE	2 SAW	Domestic	14.9	39	8,727	8,636	1.1	10,853.5	1,452.5
WH	LIVE	3 SAW	Domestic	8.9	37	10,908	10,783	1.1	15,890.3	1,813.7
WH	LIVE	4 SAW	Domestic	5.9	26	1,384	1,364	1.4	2,335.8	229.4
WH	LIVE	CULL	Cull	16.9	8	270	0	100.0	0.0	0.0
WH	LIVE	UTILITY	Pulp	12.0	26	569	513	9.8	580.3	86.3

Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
BC	5+	LIVE	Domestic	15.5	35	101	0.0	88.9	17.0
DF	5 - 7	LIVE	Cull	5.1	16	0	100.0	0.0	0.0
DF	5 - 7	LIVE	Pulp	5.7	28	7	0.0	14.4	1.3
DF	5 - 7	LIVE	Domestic	6.5	28	802	0.5	1,167.2	134.9
DF	8 - 11	LIVE	Domestic	9.8	35	2,895	0.7	3,922.5	487.0
DF	12 - 15	LIVE	HQ-B	13.3	40	393	0.7	478.0	66.1
DF	12 - 15	LIVE	Domestic	13.5	39	2,349	0.8	2,814.2	395.1
DF	12 - 15	LIVE	HQ-A	14.2	39	938	1.2	1,185.0	157.8
DF	12 - 15	LIVE	Cull	15.1	7	0	100.0	0.0	0.0
DF	16 - 19	LIVE	HQ-B	16.9	40	582	0.4	621.7	97.9
DF	16 - 19	LIVE	Cull	17.5	11	0	100.0	0.0	0.0
DF	16 - 19	LIVE	HQ-A	17.5	39	698	1.3	731.8	117.5
DF	16 - 19	LIVE	Domestic	17.6	39	2,188	1.2	2,176.0	368.0
DF	20+	LIVE	HQ-B	20.9	40	181	0.0	180.1	30.5
DF	20+	LIVE	Domestic	22.9	37	1,322	4.0	1,251.4	222.4
DF	20+	LIVE	HQ-A	23.0	40	475	1.0	462.0	79.8
DF	20+	LIVE	Cull	24.3	5	0	100.0	0.0	0.0
RA	5+	LIVE	Domestic	8.8	30	53	0.0	86.2	8.9
RC	5+	LIVE	Domestic	8.0	30	688	1.1	1,010.3	115.7
RC	5+	LIVE	Cull	22.0	14	0	100.0	0.0	0.0
SF	5 - 7	LIVE	Domestic	6.6	29	179	0.0	276.8	30.2
SF	8 - 11	LIVE	Cull	9.4	18	0	100.0	0.0	0.0
SF	8 - 11	LIVE	Domestic	9.6	34	479	0.0	631.3	80.6
SF	12 - 15	LIVE	Domestic	13.5	40	940	0.0	1,137.8	158.1
SF	16 - 19	LIVE	Domestic	17.3	40	454	1.9	476.6	76.4
SF	20+	LIVE	Domestic	21.9	40	387	3.8	367.9	65.0
SF	20+	LIVE	Cull	29.6	12	0	100.0	0.0	0.0
WH	5 - 7	LIVE	Pulp	5.6	25	43	0.0	66.3	7.2
WH	5 - 7	LIVE	Domestic	6.2	30	2,978	0.7	4,769.4	500.9
WH	8 - 11	LIVE	Domestic	9.9	37	9,161	1.3	13,444.3	1,540.9
WH	12 - 15	LIVE	Cull	13.8	6	0	100.0	0.0	0.0
WH	12 - 15	LIVE	Domestic	13.8	39	4,969	1.1	6,577.8	835.8
WH	12 - 15	LIVE	Pulp	14.5	25	111	33.4	125.3	18.6
WH	16 - 19	LIVE	Cull	16.0	12	0	100.0	0.0	0.0
WH	16 - 19	LIVE	Domestic	17.2	39	3,348	0.9	3,931.4	563.1
WH	16 - 19	LIVE	Pulp	17.7	29	195	0.0	207.8	32.8
WH	20+	LIVE	Pulp	20.5	40	165	0.0	180.9	27.7

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
WH	20+	LIVE	Cull	20.6	9	0	100.0	0.0	0.0
WH	20+	LIVE	Domestic	21.1	36	327	1.7	356.6	54.9

Cruise Unit Report HOG WILD U1A

Unit Sale Notice Volume (MBF): HOG WILD U1A

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
WH	18.8			499		283	170	26	20
DF	24.3	8.0		137	22	90	21	4	
SF	22.5			97		79	14	3	
RC	17.5			45			39	7	
BC	24.0			17		17			
ALL	19.6	8.0		795	22	469	244	40	20

Unit Cruise Design: HOG WILD U1A

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	21.4	21.4	14	14	0

Unit Cruise Summary: HOG WILD U1A

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	36	40	2.9	0
DF	8	9	0.6	1
SF	6	9	0.6	0
RC	8	8	0.6	0
BC	1	1	0.1	0
ALL	59	67	4.8	1

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U1A

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	155.5	61.2	16.3	166.7	21.1	3.5	25,926	64.7	16.7
DF	35.0	131.0	35.0	206.0	15.4	5.4	7,210	131.9	35.4
SF	35.0	189.1	50.5	193.4	27.6	11.3	6,768	191.1	51.8
RC	22.9	164.1	43.9	92.7	11.7	4.2	2,119	164.5	44.0
BC	3.9	374.2	100.0	204.4	0.0	0.0	795	374.2	100.0
ALL	252.3	46.4	12.4	169.7	27.6	3.6	42,818	53.9	12.9

Unit Summary: HOG WILD U1A

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
BC	LIVE	CUT	1	ALL	24.0	101	127	795	795	0.0	1.2	3.9	0.8	17.0
DF	LIVE	CUT	8	ALL	24.3	106	136	6,608	6,409	3.0	9.7	31.1	6.3	137.2
RC	LIVE	CUT	5	ALL	16.6	67	85	1,337	1,325	0.9	9.5	14.3	3.5	28.3
RC	LIVE	POLE	3	ALL	19.3	70	89	802	795	0.9	4.2	8.6	2.0	17.0
SF	LIVE	CUT	6	ALL	22.5	84	110	4,930	4,512	8.5	8.5	23.3	4.9	96.6
WH	LIVE	CUT	36	ALL	18.8	85	108	24,553	23,333	5.0	72.6	140.0	32.3	499.3
ALL	LIVE	POLE	3	ALL	19.3	70	89	802	795	0.9	4.2	8.6	2.0	17.0
ALL	LIVE	CUT	56	ALL	19.6	86	109	38,223	36,374	4.8	101.5	212.6	47.8	778.4
ALL	ALL	ALL	59	ALL	19.6	85	108	39,025	37,169	4.8	105.7	221.2	49.8	795.4

Cruise Unit Report HOG WILD U1B

Unit Sale Notice Volume (MBF): HOG WILD U1B

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	19.8			39	20	20	
DF	21.0			10	7	3	
RC	17.0			5		4	1
ALL	19.5			54	27	26	1

Unit Cruise Design: HOG WILD U1B

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	1.3	1.3	1	1	0

Unit Cruise Summary: HOG WILD U1B

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	2	3	3.0	0
DF	1	1	1.0	0
RC	1	1	1.0	0
ALL	4	5	5.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U1B

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	184.6	8.1	5.7	30,150	8.1	5.7
DF	54.4	0.0	0.0	137.2	0.0	0.0	7,468	0.0	0.0
RC	40.0	0.0	0.0	87.6	0.0	0.0	3,502	0.0	0.0
ALL	257.8	0.0	0.0	159.5	28.4	14.2	41,120	28.4	14.2

Unit Summary: HOG WILD U1B

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	21.0	101	129	10,070	7,468	25.8	22.6	54.4	11.9	9.7
RC	LIVE	CUT	1	ALL	17.0	66	83	3,502	3,502	0.0	25.4	40.0	9.7	4.6

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	2	ALL	19.8	89	112	30,150	30,150	0.0	76.4	163.3	36.7	39.2
ALL	LIVE	CUT	4	ALL	19.5	86	109	43,723	41,120	6.0	124.4	257.8	58.3	53.5
ALL	ALL	ALL	4	ALL	19.5	86	109	43,723	41,120	6.0	124.4	257.8	58.3	53.5

Cruise Unit Report HOG WILD U1C

Unit Sale Notice Volume (MBF): HOG WILD U1C

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	14.2			45	39	6
ALL	14.2			45	39	6

Unit Cruise Design: HOG WILD U1C

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	4.5	4.5	2	2	0

Unit Cruise Summary: HOG WILD U1C

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		4	2.0	0
SF		2	1.0	0
WH	6	10	5.0	0
ALL	6	16	8.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U1C

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	88.7	141.4	100.0						
SF	56.7	141.4	100.0						
WH	117.0	44.0	31.1	150.9	12.4	5.1	17,655	45.7	31.5
ALL	262.4	2.4	1.7	150.9	12.4	5.1	39,588	12.6	5.3

Unit Summary: HOG WILD U1C

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	6	ALL	14.2	79	99	9,930	9,930	0.0	59.9	65.8	17.5	44.7
ALL	LIVE	CUT	6	ALL	14.2	79	99	9,930	9,930	0.0	59.9	65.8	17.5	44.7
ALL	ALL	ALL	6	ALL	14.2	79	99	9,930	9,930	0.0	59.9	65.8	17.5	44.7

Cruise Unit Report HOG WILD U1D

Unit Sale Notice Volume (MBF): HOG WILD U1D

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.4			24	9	12	2
ALL	15.4			24	9	12	2

Unit Cruise Design: HOG WILD U1D

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	1.2	1.2	1	1	0

Unit Cruise Summary: HOG WILD U1D

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF		1	1.0	0
RC		5	5.0	0
WH	5	5	5.0	0
ALL	5	11	11.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U1D

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	66.0	0.0	0.0						
RC	100.0	0.0	0.0						
WH	129.4	0.0	0.0	152.1	5.8	2.6	19,680	5.8	2.6
ALL	295.5	0.0	0.0	152.1	5.8	2.6	44,927	5.8	2.6

Unit Summary: HOG WILD U1D

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	5	ALL	15.4	85	106	19,680	19,680	0.0	100.1	129.4	33.0	23.6
ALL	LIVE	CUT	5	ALL	15.4	85	106	19,680	19,680	0.0	100.1	129.4	33.0	23.6
ALL	ALL	ALL	5	ALL	15.4	85	106	19,680	19,680	0.0	100.1	129.4	33.0	23.6

Cruise Unit Report HOG WILD U2A

Unit Sale Notice Volume (MBF): HOG WILD U2A

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	17.2			290	132	138	8	12
SF	20.1			113	89	21	3	
DF	27.0			14	10	4		
RC	13.9			10		7	3	
ALL	17.8			427	232	169	14	12

Unit Cruise Design: HOG WILD U2A

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	8.6	8.6	6	6	0

Unit Cruise Summary: HOG WILD U2A

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	21	24	4.0	0
SF	8	10	1.7	0
DF	1	2	0.3	0
RC	2	4	0.7	0
ALL	32	40	6.7	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2A

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	217.8	59.2	24.2	176.8	17.2	3.7	38,508	61.6	24.4
SF	90.7	62.0	25.3	180.6	14.0	4.9	16,389	63.5	25.8
DF	18.1	244.9	100.0	179.0	0.0	0.0	3,249	244.9	100.0
RC	26.7	154.9	63.2	88.0	51.3	36.3	2,346	163.2	72.9
ALL	353.3	33.1	13.5	171.2	21.0	3.7	60,493	39.2	14.0

Unit Summary: HOG WILD U2A

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	27.0	93	118	1,625	1,625	0.0	2.3	9.1	1.7	14.0
RC	LIVE	CUT	2	ALL	13.9	56	69	1,173	1,173	0.0	12.7	13.3	3.6	10.1
SF	LIVE	CUT	8	ALL	20.1	95	121	13,283	13,111	1.3	32.9	72.6	16.2	112.8
WH	LIVE	CUT	21	ALL	17.2	85	108	34,186	33,695	1.4	118.1	190.5	45.9	289.8
ALL	LIVE	CUT	32	ALL	17.8	85	108	50,267	49,604	1.3	166.0	285.5	67.5	426.6
ALL	ALL	ALL	32	ALL	17.8	85	108	50,267	49,604	1.3	166.0	285.5	67.5	426.6

Cruise Unit Report HOG WILD U2B

Unit Sale Notice Volume (MBF): HOG WILD U2B

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	20.0			41	22	17	2
RC	15.0			6		5	1
ALL	18.3			47	22	22	3

Unit Cruise Design: HOG WILD U2B

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	1.4	1	1	0

Unit Cruise Summary: HOG WILD U2B

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	3	3	3.0	0
RC	1	1	1.0	0
ALL	4	4	4.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2B

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	178.0	11.7	6.7	29,072	11.7	6.7
RC	54.4	0.0	0.0	76.6	0.0	0.0	4,170	0.0	0.0
ALL	217.8	0.0	0.0	152.7	35.0	17.5	33,242	35.0	17.5

Unit Summary: HOG WILD U2B

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RC	LIVE	CUT	1	ALL	15.0	55	68	4,170	4,170	0.0	44.4	54.4	14.1	5.8
WH	LIVE	CUT	3	ALL	20.0	85	107	29,771	29,072	2.3	74.9	163.3	36.5	40.7
ALL	LIVE	CUT	4	ALL	18.3	74	93	33,940	33,242	2.1	119.3	217.8	50.6	46.5
ALL	ALL	ALL	4	ALL	18.3	74	93	33,940	33,242	2.1	119.3	217.8	50.6	46.5

Cruise Unit Report HOG WILD U2C

Unit Sale Notice Volume (MBF): HOG WILD U2C

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	14.7			30	7	21	2
ALL	14.7			30	7	21	2

Unit Cruise Design: HOG WILD U2C

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
FX: FR plots (20 tree / acre expansion)	3.6	3.6	2	2	0

Unit Cruise Summary: HOG WILD U2C

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		1	0.5	0
WH	5	13	6.5	0
ALL	5	14	7.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2C

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	12.3	141.4	100.0						
WH	232.5	26.4	18.7	139.2	18.5	8.3	32,361	32.2	20.4
ALL	244.7	32.2	22.7	139.2	18.5	8.3	34,069	37.1	24.2

Unit Summary: HOG WILD U2C

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	5	ALL	14.7	78	98	8,430	8,240	2.3	50.2	59.2	15.4	29.7
ALL	LIVE	CUT	5	ALL	14.7	78	98	8,430	8,240	2.3	50.2	59.2	15.4	29.7
ALL	ALL	ALL	5	ALL	14.7	78	98	8,430	8,240	2.3	50.2	59.2	15.4	29.7

Cruise Unit Report HOG WILD U2D

Unit Sale Notice Volume (MBF): HOG WILD U2D

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	2 Saw	3 Saw
WH	22.6			41	31	11
DF	24.4			18	16	2
ALL	23.1			59	47	12

Unit Cruise Design: HOG WILD U2D

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	1.7	1.7	2	2	0

Unit Cruise Summary: HOG WILD U2D

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	5	5	2.5	0
DF	2	2	1.0	0
ALL	7	7	3.5	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2D

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	136.1	28.3	20.0	178.4	11.5	5.1	24,286	30.5	20.6
DF	54.4	0.0	0.0	189.1	38.7	27.3	10,297	38.7	27.3
ALL	190.5	20.2	14.3	181.5	19.1	7.2	34,583	27.8	16.0

Unit Summary: HOG WILD U2D

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	24.4	96	123	10,472	10,297	1.7	16.8	54.4	11.0	17.5
WH	LIVE	CUT	5	ALL	22.6	91	114	24,286	24,286	0.0	48.9	136.1	28.6	41.3
ALL	LIVE	CUT	7	ALL	23.1	92	117	34,757	34,583	0.5	65.7	190.5	39.6	58.8
ALL	ALL	ALL	7	ALL	23.1	92	117	34,757	34,583	0.5	65.7	190.5	39.6	58.8

Cruise Unit Report HOG WILD U2E

Unit Sale Notice Volume (MBF): HOG WILD U2E

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	21.8			261	185	54	10	13
SF	24.7			79	70	9		
DF	31.8			50	47	3		
ALL	23.0			389	301	66	10	13

Unit Cruise Design: HOG WILD U2E

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (62.5, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	11.7	11.7	7	7	0

Unit Cruise Summary: HOG WILD U2E

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	14	21	3.0	0
SF	4	5	0.7	0
DF	2	3	0.4	0
ALL	20	29	4.1	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2E

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	187.5	74.5	28.2	178.5	20.5	5.5	33,465	77.3	28.7
SF	44.6	68.3	25.8	187.8	19.7	9.9	8,385	71.1	27.6
DF	26.8	124.7	47.1	236.7	6.4	4.5	6,340	124.9	47.4
ALL	258.9	61.4	23.2	186.1	20.5	4.6	48,190	64.8	23.7

Unit Summary: HOG WILD U2E

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	31.8	108	139	4,338	4,227	2.6	3.2	17.9	3.2	49.5
SF	LIVE	CUT	4	ALL	24.7	91	116	6,708	6,708	0.0	10.7	35.7	7.2	78.5

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	14	ALL	21.8	85	107	23,211	22,310	3.9	48.2	125.0	26.8	261.0
ALL	LIVE	CUT	20	ALL	22.9	87	110	34,257	33,245	3.0	62.1	178.6	37.1	389.0
ALL	ALL	ALL	20	ALL	22.9	87	110	34,257	33,245	3.0	62.1	178.6	37.1	389.0

Cruise Unit Report HOG WILD U2F

Unit Sale Notice Volume (MBF): HOG WILD U2F

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	20.3			468	327	130	11
DF	23.2			116	81	28	7
SF	22.8			20	15	6	
ALL	20.8			604	422	164	18

Unit Cruise Design: HOG WILD U2F

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (62.5, 40 for some species) Measure All, Sighting Ht = 4.5 ft	16.4	16.4	10	10	1

Unit Cruise Summary: HOG WILD U2F

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	25	26	2.6	0
DF	6	6	0.6	0
SF	1	1	0.1	0
ALL	32	33	3.3	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2F

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	162.5	68.3	21.6	175.7	15.6	3.1	28,550	70.1	21.8
DF	37.5	179.2	56.7	188.7	18.4	7.5	7,077	180.1	57.2
SF	6.3	316.2	100.0	195.0	0.0	0.0	1,219	316.2	100.0
ALL	206.3	60.7	19.2	178.6	15.9	2.8	36,846	62.7	19.4

Unit Summary: HOG WILD U2F

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	6	ALL	23.2	96	122	7,144	7,077	0.9	12.8	37.5	7.8	116.1
SF	LIVE	CUT	1	ALL	22.8	95	122	1,219	1,219	0.0	2.2	6.3	1.3	20.0
WH	LIVE	CUT	25	ALL	20.3	87	109	28,682	28,550	0.5	72.3	162.5	36.1	468.2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	32	ALL	20.8	88	111	37,045	36,846	0.5	87.3	206.3	45.2	604.3
ALL	ALL	ALL	32	ALL	20.8	88	111	37,045	36,846	0.5	87.3	206.3	45.2	604.3

Cruise Unit Report HOG WILD U2G

Unit Sale Notice Volume (MBF): HOG WILD U2G

Sp	DBH	Rings/In	Age	MBF Volume by Grade						
				All	Peeler	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	23.7			674	34	108	408	111	13	
WH	20.9			237			157	66	3	11
RC	25.4			31				29	2	
SF	21.8			21			16	5		
ALL	22.9			962	34	108	581	211	17	11

Unit Cruise Design: HOG WILD U2G

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (62.5, 40 for some species) Measure All, Sighting Ht = 4.5 ft	20.0	20.0	11	11	0

Unit Cruise Summary: HOG WILD U2G

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	31	32	2.9	0
WH	13	16	1.5	0
RC	5	5	0.5	0
SF	1	1	0.1	0
ALL	50	54	4.9	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2G

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	181.8	79.1	23.8	191.2	28.8	5.2	34,771	84.2	24.4
WH	90.9	145.4	43.8	160.3	26.1	7.2	14,576	147.7	44.4
RC	18.2	180.4	54.4	85.3	44.9	20.1	1,552	185.9	58.0
SF	5.7	331.7	100.0	181.7	0.0	0.0	1,032	331.7	100.0
ALL	296.6	35.7	10.8	175.1	33.5	4.7	51,931	49.0	11.8

Unit Summary: HOG WILD U2G

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	31	ALL	23.7	97	124	34,635	33,684	2.7	57.5	176.1	36.2	673.7
RC	LIVE	CUT	5	ALL	25.4	74	92	1,989	1,552	22.0	5.2	18.2	3.6	31.0
SF	LIVE	CUT	1	ALL	21.8	95	122	1,032	1,032	0.0	2.2	5.7	1.2	20.6
WH	LIVE	CUT	13	ALL	20.9	87	110	12,891	11,843	8.1	31.0	73.9	16.2	236.9
ALL	LIVE	CUT	50	ALL	22.9	92	118	50,547	48,111	4.8	95.9	273.9	57.2	962.2
ALL	ALL	ALL	50	ALL	22.9	92	118	50,547	48,111	4.8	95.9	273.9	57.2	962.2

Cruise Unit Report HOG WILD U2H

Unit Sale Notice Volume (MBF): HOG WILD U2H

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	17.0			20	5	12	2	0
ALL	17.0			20	5	12	2	0

Unit Cruise Design: HOG WILD U2H

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.4	0.4	1	1	0

Unit Cruise Summary: HOG WILD U2H

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

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2H

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	326.6	0.0	0.0	150.7	29.6	12.1	49,232	29.6	12.1
ALL	326.6	0.0	0.0	150.7	29.6	12.1	49,232	29.6	12.1

Unit Summary: HOG WILD U2H

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	6	ALL	17.0	73	90	50,195	49,232	1.9	207.2	326.6	79.2	19.7
ALL	LIVE	CUT	6	ALL	17.0	73	90	50,195	49,232	1.9	207.2	326.6	79.2	19.7
ALL	ALL	ALL	6	ALL	17.0	73	90	50,195	49,232	1.9	207.2	326.6	79.2	19.7

Cruise Unit Report HOG WILD U2I

Unit Sale Notice Volume (MBF): HOG WILD U2I

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	14.8			60	52	8
SF	15.5			39	32	7
ALL	15.1			99	84	15

Unit Cruise Design: HOG WILD U2I

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	2.8	2.8	1	1	0

Unit Cruise Summary: HOG WILD U2I

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

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2I

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	131.6	9.5	5.5	21,492	9.5	5.5
SF	108.9	0.0	0.0	126.2	7.4	5.2	13,742	7.4	5.2
ALL	272.2	0.0	0.0	129.4	8.0	3.6	35,234	8.0	3.6

Unit Summary: HOG WILD U2I

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
SF	LIVE	CUT	2	ALL	15.5	65	82	13,742	13,742	0.0	83.1	108.9	27.7	38.5
WH	LIVE	CUT	3	ALL	14.8	72	90	21,492	21,492	0.0	136.7	163.3	42.5	60.2
ALL	LIVE	CUT	5	ALL	15.1	70	87	35,234	35,234	0.0	219.8	272.2	70.1	98.7
ALL	ALL	ALL	5	ALL	15.1	70	87	35,234	35,234	0.0	219.8	272.2	70.1	98.7

Cruise Unit Report HOG WILD U2J

Unit Sale Notice Volume (MBF): HOG WILD U2J

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	12.4			12	7	5
DF	14.5			8	7	2
RA	14.0			2		2
ALL	13.2			22	14	9

Unit Cruise Design: HOG WILD U2J

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.7	0.7	1	1	0

Unit Cruise Summary: HOG WILD U2J

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	3	3	3.0	0
DF	2	2	2.0	0
RA	1	1	1.0	0
ALL	6	6	6.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2J

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	105.9	22.5	13.0	17,299	22.5	13.0
DF	108.9	0.0	0.0	107.7	2.3	1.6	11,726	2.3	1.6
RA	40.0	0.0	0.0	67.4	0.0	0.0	2,694	0.0	0.0
ALL	312.2	0.0	0.0	101.6	21.7	8.9	31,719	21.7	8.9

Unit Summary: HOG WILD U2J

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	14.5	62	78	11,726	11,726	0.0	95.0	108.9	28.6	8.2
RA	LIVE	CUT	1	ALL	14.0	54	66	2,694	2,694	0.0	37.4	40.0	10.7	1.9
WH	LIVE	CUT	3	ALL	12.4	59	73	17,299	17,299	0.0	194.8	163.3	46.4	12.1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
ALL	LIVE	CUT	6	ALL	13.2	60	74	31,719	31,719	0.0	327.2	312.2	85.7	22.2
ALL	ALL	ALL	6	ALL	13.2	60	74	31,719	31,719	0.0	327.2	312.2	85.7	22.2

Cruise Unit Report HOG WILD U2K

Unit Sale Notice Volume (MBF): HOG WILD U2K

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	15.5			5	4	1
ALL	15.5			5	4	1

Unit Cruise Design: HOG WILD U2K

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.3	0.3	1	1	0

Unit Cruise Summary: HOG WILD U2K

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RC		3	3.0	0
DF		2	2.0	0
WH	2	2	2.0	0
ALL	2	7	7.0	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2K

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	120.0	0.0	0.0						
DF	108.9	0.0	0.0						
WH	108.9	0.0	0.0	143.2	9.1	6.4	15,586	9.1	6.4
ALL	337.8	0.0	0.0	143.2	9.1	6.4	48,351	9.1	6.4

Unit Summary: HOG WILD U2K

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	2	ALL	15.5	75	94	15,586	15,586	0.0	83.1	108.9	27.7	4.7
ALL	LIVE	CUT	2	ALL	15.5	75	94	15,586	15,586	0.0	83.1	108.9	27.7	4.7
ALL	ALL	ALL	2	ALL	15.5	75	94	15,586	15,586	0.0	83.1	108.9	27.7	4.7

Cruise Unit Report HOG WILD U2L

Unit Sale Notice Volume (MBF): HOG WILD U2L

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	15.5			501	45	392	64
DF	17.5			86	37	41	8
ALL	15.8			586	82	433	72

Unit Cruise Design: HOG WILD U2L

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	20.8	21.7	5	3	0

Unit Cruise Summary: HOG WILD U2L

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	9	16	3.2	0
DF	2	3	0.6	0
ALL	11	19	3.8	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2L

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	174.2	26.1	11.7	138.2	8.5	2.8	24,073	27.5	12.0
DF	32.7	91.3	40.8	126.1	9.8	6.9	4,119	91.8	41.4
ALL	206.9	28.8	12.9	136.3	9.0	2.7	28,191	30.2	13.2

Unit Summary: HOG WILD U2L

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	17.5	75	95	4,119	4,119	0.0	19.6	32.7	7.8	85.7
WH	LIVE	CUT	9	ALL	15.5	74	93	24,403	24,073	1.4	133.0	174.2	44.2	500.7
ALL	LIVE	CUT	11	ALL	15.8	75	93	28,521	28,191	1.2	152.6	206.9	52.1	586.4
ALL	ALL	ALL	11	ALL	15.8	75	93	28,521	28,191	1.2	152.6	206.9	52.1	586.4

Cruise Unit Report HOG WILD U2M

Unit Sale Notice Volume (MBF): HOG WILD U2M

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	17.6			63	32	31	
DF	15.0			15		12	3
ALL	16.4			78	32	43	3

Unit Cruise Design: HOG WILD U2M

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	2.3	3.7	2	1	0

Unit Cruise Summary: HOG WILD U2M

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	3	7	3.5	0
DF	1	2	1.0	0
ALL	4	9	4.5	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2M

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	20.2	14.3	144.5	0.9	0.5	27,528	20.2	14.3
DF	54.4	141.4	100.0	117.3	0.0	0.0	6,388	141.4	100.0
ALL	245.0	47.1	33.3	138.4	9.8	4.9	33,916	48.2	33.7

Unit Summary: HOG WILD U2M

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	1	ALL	15.0	73	92	6,388	6,388	0.0	44.4	54.4	14.1	14.7
WH	LIVE	CUT	3	ALL	17.6	82	102	27,528	27,528	0.0	112.8	190.5	45.4	63.3
ALL	LIVE	CUT	4	ALL	16.9	79	99	33,916	33,916	0.0	157.2	245.0	59.5	78.0
ALL	ALL	ALL	4	ALL	16.9	79	99	33,916	33,916	0.0	157.2	245.0	59.5	78.0

Cruise Unit Report HOG WILD U2N

Unit Sale Notice Volume (MBF): HOG WILD U2N

Sp	DBH	Rings/In	Age	MBF Volume by Grade		
				All	3 Saw	4 Saw
WH	15.6			13	10	2
DF	15.6			7	6	1
ALL	15.6			20	17	3

Unit Cruise Design: HOG WILD U2N

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	0.5	0.6	1	1	0

Unit Cruise Summary: HOG WILD U2N

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

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U2N

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	163.3	0.0	0.0	153.0	0.3	0.2	24,983	0.3	0.2
DF	108.9	0.0	0.0	128.2	7.2	5.1	13,954	7.2	5.1
ALL	272.2	0.0	0.0	143.0	10.0	4.5	38,937	10.0	4.5

Unit Summary: HOG WILD U2N

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	2	ALL	15.6	74	94	13,954	13,954	0.0	82.0	108.9	27.6	7.0
WH	LIVE	CUT	3	ALL	15.6	76	95	24,983	24,983	0.0	123.0	163.3	41.4	12.5
ALL	LIVE	CUT	5	ALL	15.6	75	94	38,937	38,937	0.0	205.0	272.2	68.9	19.5
ALL	ALL	ALL	5	ALL	15.6	75	94	38,937	38,937	0.0	205.0	272.2	68.9	19.5

Cruise Unit Report HOG WILD U3

Unit Sale Notice Volume (MBF): HOG WILD U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
WH	15.2			825	172	560	63	31
DF	20.0			219	146	64	9	
SF	18.0			43	32	12		
RC	13.7			19		10	8	
ALL	15.7			1,106	350	646	80	31

Unit Cruise Design: HOG WILD U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2C: VR, 2 BAF (54.44, 40 for some species) Measure/Count Plots, Sighting Ht = 4.5 ft	26.3	26.9	15	7	0

Unit Cruise Summary: HOG WILD U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
WH	30	59	3.9	0
DF	6	14	0.9	0
SF	1	4	0.3	0
RC	2	4	0.3	0
ALL	39	81	5.4	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	214.1	35.3	9.1	151.6	18.1	3.3	32,456	39.6	9.7
DF	50.8	110.7	28.6	176.8	35.1	14.3	8,985	116.1	32.0
SF	14.5	171.7	44.3	151.7	0.0	0.0	2,202	171.7	44.3
RC	10.7	222.6	57.5	67.0	40.0	28.3	715	226.2	64.1
ALL	290.1	27.7	7.2	152.9	26.0	4.2	44,358	38.0	8.3

Unit Summary: HOG WILD U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	6	ALL	20.0	82	110	8,584	8,344	2.8	21.6	47.2	10.6	219.4
RC	LIVE	CUT	2	ALL	13.7	48	58	726	715	1.6	10.4	10.7	2.9	18.8
SF	LIVE	CUT	1	ALL	18.0	90	115	1,651	1,651	0.0	6.2	10.9	2.6	43.4
WH	LIVE	CUT	30	ALL	15.2	80	100	32,177	31,356	2.6	164.2	206.9	53.1	824.7
ALL	LIVE	CUT	39	ALL	15.8	79	100	43,139	42,065	2.5	202.4	275.6	69.1	1,106.3
ALL	ALL	ALL	39	ALL	15.8	79	100	43,139	42,065	2.5	202.4	275.6	69.1	1,106.3

Cruise Unit Report HOG WILD U4

Unit Sale Notice Volume (MBF): HOG WILD U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	19.4			806	33	492	241	38	1
WH	12.9			108		26	69	13	
RA	12.9			7				7	
ALL	17.7			921	33	518	310	58	1

Unit Cruise Design: HOG WILD U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B2: VR, 2 BAF (54.44, 40 for some species) Measure All, Sighting Ht = 4.5 ft	20.9	20.9	15	15	0

Unit Cruise Summary: HOG WILD U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	64	73	4.9	0
WH	11	11	0.7	0
RA	2	2	0.1	0
ALL	77	86	5.7	0

Unit Cruise Statistics (Cut + Leave Trees): HOG WILD U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	264.9	39.5	10.2	166.0	25.5	3.2	43,971	47.0	10.7
WH	39.9	249.7	64.5	129.4	10.1	3.0	5,165	249.9	64.5
RA	5.3	263.9	68.1	61.7	2.2	1.6	329	263.9	68.2
ALL	310.2	35.2	9.1	159.5	27.5	3.1	49,465	44.7	9.6

Unit Summary: HOG WILD U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	64	ALL	19.4	85	109	39,314	38,550	1.9	113.2	232.3	52.7	805.7
RA	LIVE	CUT	2	ALL	12.9	51	62	329	329	0.0	5.9	5.3	1.5	6.9

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	11	ALL	12.9	63	87	5,165	5,165	0.0	44.0	39.9	11.1	107.9
ALL	LIVE	CUT	77	ALL	17.7	78	101	44,808	44,044	1.7	163.1	277.5	65.3	920.5
ALL	ALL	ALL	77	ALL	17.7	78	101	44,808	44,044	1.7	163.1	277.5	65.3	920.5

Cruise Unit Report ROW 1

Unit Sale Notice Volume (MBF): ROW 1

Sp	DBH	Rings/In	Age	MBF Volume by Grade	
				All	4 Saw
RA	10.7			0	0
ALL	10.7			0	0

Unit Cruise Design: ROW 1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
ST: Strip/Percent Sample (1 tree expansion)	0.9		1	1	0

Unit Cruise Summary: ROW 1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
RA	3	3	3.0	0
ALL	3	3	3.0	0

Unit Cruise Statistics (Cut + Leave Trees): ROW 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 (%)
RA	2.1	0.0	0.0	88.2	20.1	11.6	184	20.1	11.6
ALL	2.1	0.0	0.0	88.2	20.1	11.6	184	20.1	11.6

Unit Summary: ROW 1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
RA	LIVE	CUT	3	ALL	10.7	60	74	184	184	0.0	3.3	2.1	0.6	0.2
ALL	LIVE	CUT	3	ALL	10.7	60	74	184	184	0.0	3.3	2.1	0.6	0.2
ALL	ALL	ALL	3	ALL	10.7	60	74	184	184	0.0	3.3	2.1	0.6	0.2

Cruise Unit Report ROW 2

Unit Sale Notice Volume (MBF): ROW 2

Sp	DBH	Rings/In	Age	MBF Volume by Grade			
				All	2 Saw	3 Saw	4 Saw
WH	23.1			2	2	0	0
ALL	23.1			2	2	0	0

Unit Cruise Design: ROW 2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
ST: Strip/Percent Sample (1 tree expansion)	0.5		1	1	0

Unit Cruise Summary: ROW 2

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

Unit Cruise Statistics (Cut + Leave Trees): ROW 2

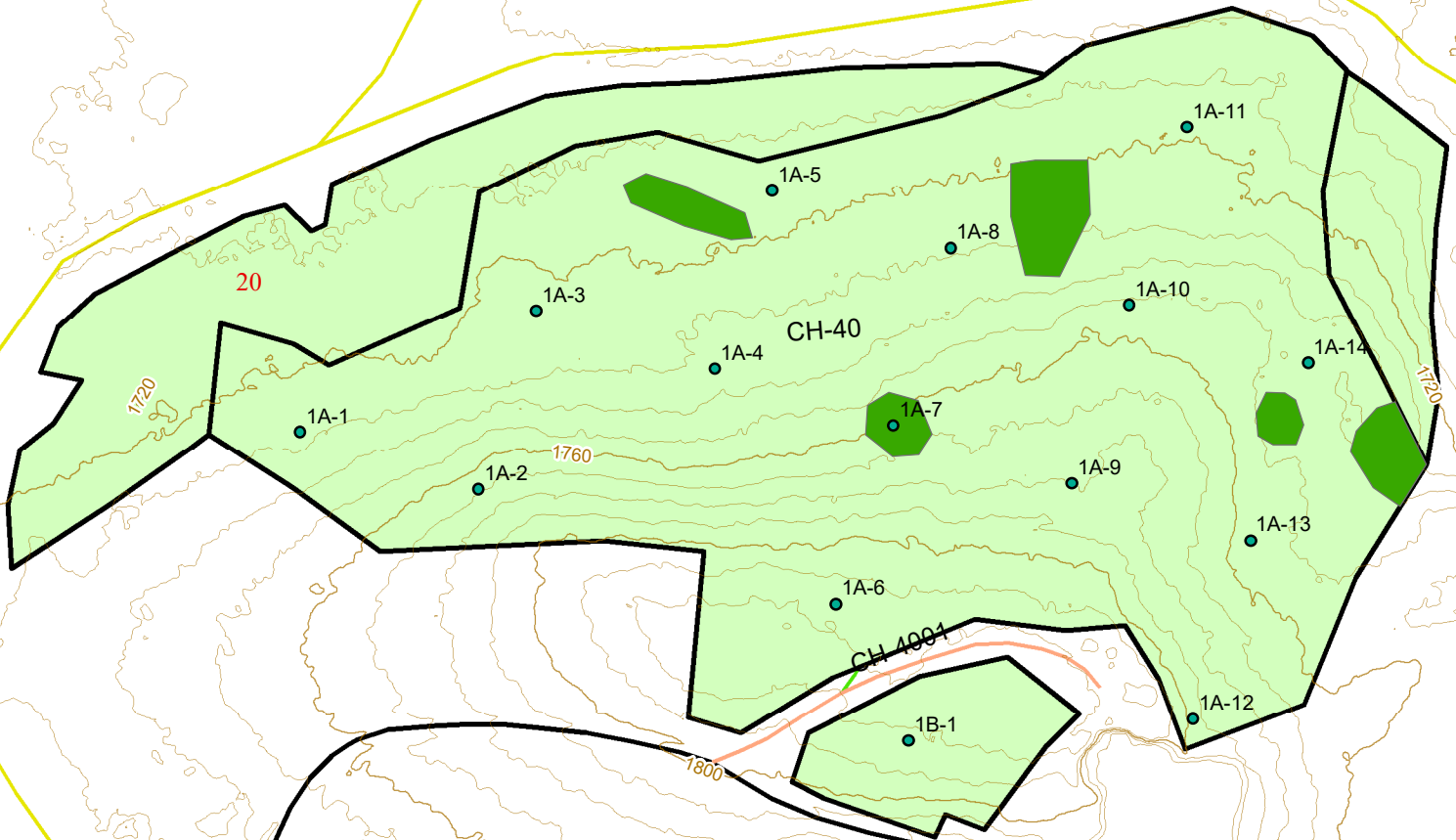
Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
WH	17.5	0.0	0.0	207.3	13.4	7.7	3,628	13.4	7.7
ALL	17.5	0.0	0.0	207.3	13.4	7.7	3,628	13.4	7.7

Unit Summary: ROW 2




Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
WH	LIVE	CUT	3	ALL	23.1	93	117	3,628	3,628	0.0	6.0	17.5	3.6	1.8
ALL	LIVE	CUT	3	ALL	23.1	93	117	3,628	3,628	0.0	6.0	17.5	3.6	1.8
ALL	ALL	ALL	3	ALL	23.1	93	117	3,628	3,628	0.0	6.0	17.5	3.6	1.8

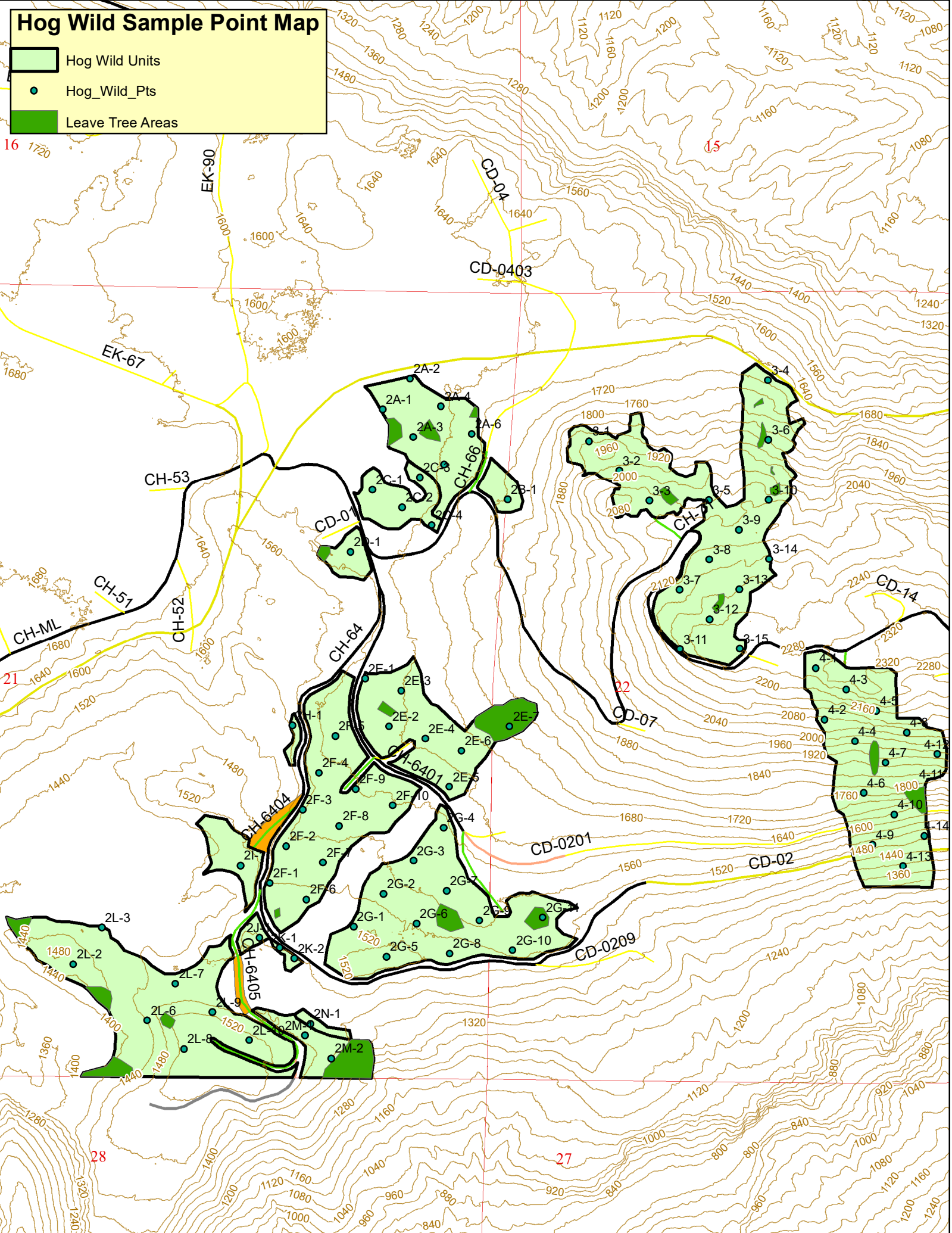
Hog Wild Sample Point Map

-  Hog Wild Units
-  Hog_Wild_Pts
-  Leave Tree Areas



Hog Wild Sample Point Map

-  Hog Wild Units
-  Hog_Wild_Pts
-  Leave Tree Areas





FPA/N #: 2818980

Received Date: 4/26/2023

Completed Date: 4/26/2023

WDFW Concurrence Due Date: N/A

WDFW Concurrence Received: N/A

Comments Due Date: 5/10/2023

Decision Due Date: 5/26/2023

FP Forester: SKY30

WDFW Biologist: A Kees

Shutdown Zone: 658

Forest Practices Application/Notification Office Checklist Page 1 Northwest Region

Table with FPA/N CLASSIFICATION, Landowner Name (DNR), Project Name (Hog Wild), WRIA, WAU, Legal, and Activity Type(s) with Harvest, Spoils, Crossing, and Construction data.

ALTERNATIVE PRESCRIPTIONS

- Checkboxes for Alternate Plan, Fixed-Width, Overstocked, 10-Year Management Plan, Statement of Intent, Columbia River Gorge National Scenic Area, WAU Prescriptions: Woods Creek, Habitat Conservation Plan, HCP Crosswalk(s), Landowner Option Plan for Northern Spotted Owl, Cooperative Habitat Enhancement Agreement.

RESOURCE REVIEW

- Checkboxes for Potentially Unstable Slopes, Soils Map, SLPSTAB, Landslide Inventory Polygon, Wetland, HCP Buffers, Bull Trout Overlay, HCP Bull Trout Population, Arsenic Plume, Group A or B Water Supply, Hatchery, Even-Aged Harvest, Ground-based Equipment, Road Construction, Saltwater Islands, Long Term Commitment Area, In or Over Typed Water, Water Verification, Wetland Verification, WAI.

ASSOCIATED NON-SCANNED DOCUMENTS - On file with the FPA/N at the Region office.

- Checkboxes for SEPA Checklist/Documents, Road Maintenance and Abandonment Plan # R2800010L.

ASSOCIATED SCANNED DOCUMENTS

- Checkboxes for Appendix A: Water Type Classification Worksheet, Appendix D: Slope Stability Informational Form, Appendix E: CMZ Assessment Form, Appendix F: Stream Shade Assessment, Appendix G: Np RMZ Worksheet, Appendix H: Natural Regeneration Plan, Appendix I: Watershed Analysis Worksheet, Appendix J: Marbled Murrelet Form, FPHP Plans & Specifications, SFLO RMAP Checklist #, COHP, SEPA DNS/MDNS, LGE Permit(s)/Info, DFC Printout, Other: Hydrologic Change Analysis, HCPWater typingkey.

ADDITIONAL COMMENTS:

Memo

To: Forest Practices

From: Theresa Klepl

Date: May 8, 2023

Subject Additional Information on Aquatics Addendum FPA No. 2818980

This is to provide additional information for the Hog Wild Timber Sale FPA Aquatics Addendum. The information on the form has been updated and hereby being submitted to replace the previous version.

The Aquatics Addendum has been updated as follows:

1. The box for “Wetland Protections, road construction through wetlands or wetland buffers, requires mitigation” has now been checked. Corresponding information has been added describing the road construction and mitigation measures:

*Wetlands protection road construction through wetland buffers
The HCP requires on-site and in-kind equal acreage mitigation for new road construction through wetlands and their buffers (HCP IV.70). Segments of ROW 1 and ROW 2 pass through unmanaged WMZs and are associated with orphaned grades. The road prism is still intact and the clearing limits of the old road are naturally regenerating, primarily with red alder, western hemlock, and vine maple. Similar areas of early seral forest type are not found within the adjacent harvest units. Therefore it was determined that in-kind mitigation to meet the spirit and intent of the HCP would be best met by marking individual leave trees along the tagged WMZ boundaries. In addition to the specific mitigation trees that were marked for the ROWs, Unit 2 (including all sub-units) contains an additional 21 leave trees in excess of the 8 trees per acre minimum required.*

2. Post-harvest stand characteristics for the managed WMZs has been added.

There are six managed WMZs associated with this proposal. These buffers will be treated with a thin from below strategy with a target density post-thinning of approximately 110-120 trees per acre with a 20' x 20' average spacing.

Thank you,

Theresa Klepl



For DNR Region Office Use Only	
FPA/N #:	2818980
Region:	NW
Received Date:	4/26/2023

Forest Practices Application/Notification Western Washington

Project Name: Hog Wild Timber Sale #30-104148

PLEASE USE THE INSTRUCTIONS TO COMPLETE THIS APPLICATION.

1. Landowner, Timber Owner and Operator

Legal Name of LANDOWNER Department of Natural Resources	Legal Name of TIMBER OWNER <input checked="" type="checkbox"/> Same as Landowner	Legal Name of OPERATOR <input checked="" type="checkbox"/> Same as Landowner
Mailing Address: 919 N. Township St.	Mailing Address:	Mailing Address:
City, State, Zip: Sedro-Woolley, WA 98284	City, State, Zip:	City, State, Zip:
Phone: 360-856-3500	Phone:	Phone:
Email:	Email:	Email:

2. Contact Person

Contact Person: Laurie Bergvall	Phone: 360.856.3500 Email: DNRreNWTimberSales@dnr.wa.gov
------------------------------------	---

3. Are you converting any portion of the land to non-forestry use within 3 years of harvest?

No Yes If yes, include your SEPA checklist and SEPA determination (if applicable) and county clearing and grading permit (if applicable).

4. If you are harvesting timber, enter the Forest Tax Number of the Timber Owner:

Contact the Department of Revenue at 360-534-1324 for tax reporting information or to obtain a number.

a. Are you eligible for EARR Tax Credit? No Yes

5. Are you a small forest landowner per RCW 76.09.450? See instructions

No Yes If yes, **Check all that apply.** If no, skip to Question 6.

- My entire proposed harvest area is on a single contiguous ownership consisting of one or more parcels.
- My proposed forest practices activities are within an area covered by an approved Forest Stewardship Plan or Forest Management Plan developed in cooperation with DNR.
- I received technical assistance from a DNR small forest landowner Stewardship and Technical Assistance Forester in preparing this FPA/N.
- I have participated in a Washington State University Extension Service and/or DNR-sponsored Forest Stewardship Coached Planning course.
- I have attended a Washington State University Extension Service and/or DNR-sponsored Family Forest Owner Field Day.

6. Are you substituting prescriptions from an approved state or federal conservation agreement or Watershed Analysis?

No Yes Write 'HCP' or 'Using Prescriptions' in tables that apply. Attach or reference prescriptions and/or crosswalks for approved state or federal conservation agreements or Watershed Analysis on file at the Region office.

7. What is the legal description of your forest practices?

Section	Township	Range	E/W	Tax Parcel Number	County
20	29	8	E		Snohomish
21	29	8	E		Snohomish
22	29	8	E		Snohomish

Note: Does not include legal description for pre-haul maintenance; it is not a Forest Practices regulated activity.

8. Have you reviewed this forest practices activity area to determine whether it may involve historic sites and/or Native American cultural resources? Read the instructions before answering this question.

No Yes If you made any contacts, please provide information in Question 28.

9. Do you have a DNR approved Road Maintenance and Abandonment Plan (RMAP)?

No Is a Small Forest Landowner RMAP Checklist required (see instructions)? No Yes

Yes Enter your RMAP number: R2800010L

Is this FPA/N for work that is included in this approved RMAP? No Yes

10. Are there potentially unstable slopes or landforms in or around the area of your forest practices activity?

No Yes If yes, attach Appendix D. Slope Stability Informational Form and map of areas reviewed for and locations of unstable slopes and landforms found. If applicable, attach a geotechnical letter, memo, or report, Watershed Analysis prescriptions, and/or a SEPA Environmental Checklist.

11. Is this Forest Practices Application/Notification (answer every question):

- a. No Yes A request for a multi-year permit? If yes, length requested: 4 years or 5 years. Not everyone qualifies for a multi-year permit. See instructions for details.
- b. No Yes An Alternate Plan? If yes, include a template or detailed plan. See instructions for details.
- c. No Yes For a funded Forest Family Fish Passage Program project?
- d. No Yes Within an urban growth area? If yes, see instructions for additional required documents.
- e. No Yes Within a public park? If yes, include SEPA Environmental Checklist or SEPA Determination, except for harvest/salvage of less than 5,000 board feet within a developed public park. Park name: _____
- f. No Yes Within 500 feet of a public park? Park name: _____
- g. No Yes In an approved Conversion Option Harvest Plan (COHP) from the local government? If yes, include a copy. This only applies to proposals within urban growth areas.
- h. No Yes Within 200 feet of the Ordinary High Water Mark (OHWM) or floodway of Type S Water? If yes, check with the county or city to determine whether a substantial development permit is required under the local shorelines master plan.
- i. No Yes Within 50 miles of saltwater AND you own more than 500 acres of forest land in Washington State? If yes, include Marbled Murrelet Form or attach/reference HCP prescriptions.
- j. No Yes In or directly adjacent to a potential Channel Migration Zone (CMZ)? If yes, include CMZ Assessment Form. Attach/reference applicable HCP and/or Watershed Analysis prescriptions.

You are required to verify all waters within 200 feet of your proposed forest practices activities prior to submitting a Forest Practices Application / Notification. Use the Water Type Classification Worksheet and/or a Water Type Modification form to explain how you verified water types. See Water Typing Requirements in the instructions.

******* If not working in or over typed Waters, skip to Question 16 *******

Prior to answering Questions 12-15 in this section please refer to the Forest Practices Application Instructions and Forest Practices Board Manual Section 5.

12. Are you proposing any of the following projects NOT permitted by current HPAs from WDFW?

- a. No Yes Installing, replacing, or repairing a culvert at or below the bankfull width of Type S or F Water(s) that exceeds a five percent gradient?
- b. No Yes Constructing, replacing, or repairing a bridge at or below the bankfull width of unconfined streams in Type S or F Water(s)?
- c. No Yes Placing fill material within the 100-year flood level of unconfined streams in Type S or F Water(s)?

13. Have you consulted with DNR and/or WDFW about the proposed hydraulic project(s) in or over Type S or F Water? No Yes

14. If installing, replacing, removing, or maintaining structures in or over any typed Water, complete the table below. Provide crossing locations and identifiers on your Activity Map. Provide plan details in Question 28 or attach plan to the FPA/N. Type S and F Waters require detailed plan information. Complex hydraulic projects in Type N Waters may also be required per WAC 222-24-042(2). See instructions for detailed plan requirements.

Crossing Identifier (letter, number)	Water Type (S, F, Np, Ns)	*Existing HPA Number (if applicable)	HPA Expiration Date (if applicable)	Planned Activity (install, replace, remove, temporary, structure maintenance)	Structure (bridge, ford/equipment crossing**, punchon/fill, arch, pipe arch, round culvert, other)	Proposed Size (width x length)	Culvert Design Method (no-slope, stream-sim, hydraulic, other) (F and S only)	Channel Bed Width (ft) (F and S only)	Stream Gradient (%) (F and S only)	Is this an RMAP Project?
See FPA Narrative										

*Existing HPAs issued by WDFW will be complied and enforced by WDFW until expiration. Plan details are not required for hydraulic projects permitted with an existing HPA (see instructions).

**Fords and/or equipment crossings on Type S and F Waters may result in an unauthorized incidental take of certain threatened or endangered fish species. For more information, see 'Background for the State's Incidental Take Permits for certain threatened and endangered fish species' following Question 22 of the FPA/N Instructions.

15. If conducting any of the following activities in or over typed Water(s), complete the table below. Some activities will require identifiers on the Activity Map and/or more information in Question 28. See instructions.

*Activity	Type S Water	Type F Water	Type Np Water	Type Ns Water
Equipment Crossing**	PROVIDE DETAILS IN QUESTION 14		X	X
Suspending Cables			X	X
Cable Yarding				X
LWD Placement/Removal			X	X
Beaver Dam Removal				
Felling and Bucking			X	X
Other (describe in Question 28)				

** Fords and/or equipment crossings on Type S and F Waters must be identified in Question 14.

16. If constructing or abandoning forest roads, complete the table below. Show the road locations and identifiers on the Activity Map. Include abandonment plans for all temporary roads and abandonment projects.

Road Identifier (name, number)	Road Construction		Road Abandonment	
	Length (feet)	Steepest Side-slope (%)	Length (feet)	Abandonment Date
See FPA Narrative				
Total	7,680	50	n/a	

20. Reforestation. Check all that apply:

- Planting. Tree Species: Douglas-fir, western redcedar
- Natural. Include a Natural Regeneration Plan
- Not required because of one or more of the following:
- I am converting some or all of this land to non-forest land in the next 3 years or lands are exempted under WAC 222-34-050.
 - Individual dead, dying, down, or wind-thrown trees will be salvaged.
 - Trees are removed under a thinning program reasonably expected to maximize the long-term productivity of commercial timber.
 - I am leaving at least 100 vigorous, undamaged, and well-distributed saplings or merchantable trees per acre.
 - An average of 190 tree seedlings per acre are established on the harvest area and my harvest will not damage them.
 - Road right-of-way or rock pit development harvest only.

**** Do you own MORE than 80 acres of forest land in Washington? If yes, skip to Question 25 ****

21. Are you using the exempt 20-acre parcel riparian management zone (RMZ) rule (WAC 222-30-023) on Type S, F, or No Waters?

- No Skip to Question 25.
- Yes Continue to Question 22. See instructions for qualifications and information.

22. Choose the answer below that best fits your situation. Show all RMZs on the Activity Map.

- a. ALL of the following apply to me and my land: (If no, answer b.)
- Between June 5, 2006 and today's date I have always owned less than 80 acres of forest land in Washington.
 - Between June 5, 2006 and today's date this parcel has always been 20 acres or less of contiguous ownership. See RCW 76.09.020 for definition of 'contiguous'.
 - Between June 5, 2006 and today's date this parcel has always been owned by me or someone else that has owned less than 80 acres of forest land in Washington.
- b. ONE OR MORE of the following apply to me and/or my land (check all that apply):
If any of the statements below apply AND you use the exempt 20-acre parcel RMZ rule, you are NOT authorized under the State's Incidental Take Permits (see explanation in FPA instructions under Question 22).
- Between June 5, 2006 and today's date I have owned more than 80 acres of forest land in Washington.
 - Between June 5, 2006 and today's date this parcel has been a part of more than 20 acres of contiguous ownership. See RCW 76.09.020 for definition of 'contiguous'.
 - Between June 5, 2006 and today's date this parcel has been owned by someone that has owned more than 80 forested acres in Washington?

23. If harvesting within 115 feet of a Type S or F Water on an exempt 20-acre parcel, complete the table below. Show RMZs and stream segment identifiers on the Activity Map. If you are harvesting within 75 feet or within the maximum RMZ (whichever is less), stream shade must be assessed and met following harvest. Describe in Question 28 how stream shade was determined to be met, using the 'Appendix F. Stream Shade Assessment Worksheet' if necessary.

Stream Segment Identifier (letter)	Water Type (S, F)	Segment Length (feet)	Bankfull Width (feet)	RMZ Maximum Width (feet)	Are you harvesting within the maximum RMZ? (Y or N)

24. Are you harvesting within 29 feet of a Type Np Water on an exempt 20-acre parcel?

- No Skip to Question 27.
- Yes See instructions and describe leave tree strategy in Question 28. Then skip to Question 27.

25. If harvesting within 200 feet of any Type S or F Water or periodically inundated areas of their associated wetlands, complete the table below. Include Desired Future Condition (DFC) for all inner zone harvests unless you have an HCP prescription. Show RMZs, CMZs, and stream segment identifiers on the Activity Map. If you are harvesting within 75 feet or within the maximum RMZ, whichever is less, stream shade must be assessed and met following harvest. Describe in Question 28 how stream shade was determined to be met or use the 'Appendix F. Stream Shade Assessment Worksheet' if necessary.

Stream Segment Identifier (letter)	Water Type (S, F)	Site Class (I - V)	Stream Width (feet)	Is there a CMZ? (Y or N)	RMZ Harvest Code(s) (see instructions)	DFC Run Number	Total width of RMZ (feet)
See Aquatics Addendum							

26. If harvesting within 50 feet of Type Np Water, complete the table(s) below. Show RMZs and stream segment identifiers on the Activity Map.

Stream Segment Identifier (letter)	Total Stream Length in Harvest Unit (feet)	Length of No-Harvest, 50-foot Buffers in Harvest Unit (feet)
See Aquatics Addendum		

Stream Segment Identifier (letter)	Total Stream Length in Harvest Unit (feet)	Length of No-Harvest, 50-foot Buffers in Harvest Unit (feet)

27. How are the following currently marked on the ground? (Flagging color, paint color, road, fence, etc.)

Harvest/Salvage Boundaries: White sale boundary tags, pink flagging, 2 yellow bands and a red "T" for last take tree

Clumped Wildlife Reserve Trees/Green Recruitment Trees: Yellow leave tree tags, and/or blue paint

Right-of-Way Limits/Road Centerlines: Orange right-of-way tags, orange flagging

Stream Crossing Work: Blue flagging

Riparian Management Zone Boundaries and Leave/Take Trees: White boundary tags, blue special management tags

Channel Migration Zone: N/A

Wetland Management Zone Boundaries and Leave/Take Trees: White boundary tags, blue special management tags


28. Additional Information (attach additional pages if necessary): For hydraulic projects in or over Type S, F, or complex N Water(s) see instructions for required plan information. If applicable, include mitigation measures from a geotechnical memo, letter, or report.

See attached FPA Narrative

29. We acknowledge the following:

- The information on this application/notification is true.
- We understand this proposed forest practice is subject to:
 - The Forest Practices Act and Rules AND
 - All other federal, state or local regulations.
- Compliance with the Forest Practices Act and Rules does not ensure compliance with the Endangered Species Act or other federal, state or local laws.
- If we said that we would not convert any portion of the land to non-forestry use, the county or city may deny development permits on this parcel for the next 6 years.
- The following may result in an unauthorized incidental take of certain endangered or threatened fish species:
 - Conversion of land to non-forestry use.
 - Harvesting within the maximum RMZ on a 20-acre exempt parcel that was acquired after June 5, 2006.
 - Equipment Crossings/Fords in or over Type S and F Waters.
- Inadvertent Discovery – Chapters 27.44, 27.53, 68.50 and 68.60 RCW
 - If you find or suspect you have found an archaeological object or Native American cairn, grave, or glyptic record, immediately cease disturbance activity, protect the area and promptly contact the Department of Archaeology and Historic Preservation at 360 586-3077.
 - If you find or suspect you have found human skeletal remains, immediately cease disturbance activity, protect the area, and contact the County Coroner or Medical Examiner and local law enforcement as soon as possible. Failure to report human remains is a misdemeanor.

The landowner understands that by signing and submitting this FPA, he/she is authorizing the Department of Natural Resources to enter the property in order to review the proposal, inspect harvest operations, and monitor compliance for up to three years after its expiration date. RCW 76.09.150

Signature of Legal LANDOWNER	Signature of Legal TIMBER OWNER*	Signature of Legal OPERATOR
	<i>(If different than landowner)</i>	<i>(If different than landowner)</i>
Print Name: <i>John Moon</i>	Print Name:	Print Name:
Date: <i>12/13/2022</i>	Date:	Date:

** NOTE: If you are a "Perpetual Timber Rights Owner," and are submitting this without the Landowner's Signature, provide written evidence the landowner has been notified.*

Please make a copy of this FPA/N for your records. If this FPA/N contains a hydraulic project requiring WDFW concurrence review, it will not be available online for public review until after the WDFW concurrence review period.

Hog Wild

FPA Narrative

This proposed activity is being conducted on lands covered by the Department’s multi-species HCP. These planned activities are consistent with our approved HCP dated September 1997 and associated Incidental Take Permits. See the attached HCP checklist for habitats and species both covered by our HCP agreement and specifically addressed with this proposal. Additionally, attached are DNR proprietary HCP/FPA substitute Addendums for Aquatic Resources, Northern Spotted Owl and Marbled Murrelets.

Question #8:

A thorough assessment of the historic and cultural resources in the proposal area has been conducted. This includes:

- A review of existing records relating to known historic remnants.
- Office review of the proposal area by a State Lands Archaeologist.
- Site visit and field review by a State Lands Cultural Resource Technician.

The Tulalip Tribes, Stillaguamish Tribe of Indians, and Snoqualmie Indian Tribe were contacted regarding cultural resources. No issues were raised. If any cultural resources are discovered during forest activity operations, a DNR archaeologist will be notified and will follow the Department’s “Cultural Resources Inadvertent Discovery Guidelines” procedure.

Question #14:

If installing, replacing, removing or maintaining structures in or over any typed water, complete the table below. Type S and F waters require detailed plan information. Provide plan details in number 31 or attach plan to the FPA/N. Provide crossing locations and identifiers on your Activity Map. (A detailed plan with profiles may also be required for more complex hydraulic projects in Type N Waters per WAC 222-24-042(2)).

Crossing Identifier (letter and/or number)	Water Type (S, F, Np, Ns)	*Existing HPA Number (if applicable)	HPA Expiration Date (if applicable)	Planned Activity (install, replace, remove, temporary, structure maintenance)	Structure (culvert, bridge, ford**, puncheon, arch, other)	Proposed Size (dimensions of structure)	Culvert Design Method (No-slope, Stream-sim, Hydraulic, Other) (F and S only)	Channel Bed Width (ft) (F and S only)	Stream Gradient (%) (F and S only)	RMAP Project (Y or N)	FFPP Project (Y or N)
CH-66 1+55	5	NA	NA	Replace	Culvert	24x30	NA	NA	NA	N	N
CH-6401 4+60	4	NA	NA	Replace	Culvert	30x30	NA	NA	NA	N	N
CH-6401 16+98	4	NA	NA	Replace	Culvert	30x30	NA	NA	NA	N	N
CH-71 2+74	5	NA	NA	Replace	Culvert	24x30	NA	NA	NA	N	N
CH-ML 107+06	4	NA	NA	Replace	Culvert	36x30	NA	NA	NA	N	N

*Existing HPAs issued by WDFW will be complied and enforced by WDFW until expiration. Plan details are not required for hydraulic projects permitted with an existing HPA (see instructions).

** Fords and equipment crossings on Type S and F Waters may result in an unauthorized incidental take of certain endangered or threatened fish species. For more information, see "Background for the state's Incidental Take Permits for certain endangered and threatened fish species" following number 24 of the FPA/N Instructions.

Note: See Culvert Location Map for structure locations on the proposal.

Question #15:

Further information relating to this question:

In order to achieve adequate deflection, cables may be suspended over type 4 and 5 streams. If yarding occurs over type 5 streams, lead end of logs will be suspended over streams. Equipment for ground-based operations will cross type 5 streams at designated crossings. Type 5 stream crossings by ground-based equipment shall be as close to perpendicular as possible and may require log cribbing, culvert installation, or other approved methods to be in place to protect channels and banks. Timber will be fallen and yarded away from all streams when possible.

LWD Placement/Removal

Thinning operations are occurring in the RMZs of some type 4 waters as per the agency's Riparian Forest Restoration Strategy (RFRS). This strategy requires that five trees per thinned acre are felled towards/into the streams to serve as large downed woody debris (DWD) recruitment where conifer is the primary removal species. Snags may be created in place of DWD where appropriate.

Question #16:

Of the road work listed in the table, zero feet up to the entire length listed may be built. For further information please see the road plan associated with the timber sale, on file at the Northwest Region Office.

Road Identifier (Name, Number)	Road Construction		Abandonment Plan	
	Length (feet)	Steepest Side-slope (%)	Length (feet)	Abandonment Date
CH-40	1,088	50%		
CH-6401*	622	30%		
CH-6401-02*	293	10%		
CH-6404*	346	35%		
CH-6405*	1989	30%		
CH-6405-01	957	50%		
CH-66*	304	35%		
CH-70	504	35%		
CH-71	403	30%		
CH-74	318	20%		
CH-77*	856	35%		

***roadwork is on an abandoned/orphaned grade**

Question #17:

Additional pit(s) may be developed/utilized along haul route or constructed roads. These will be less than 0.5 acre, and located outside RMZs or sensitive areas.

Rock Pit Identifier* (Name, Number, Letter)	Acres of New Rock Pit Developed	Acres of Existing Rock Pit Expanded
CHAPLAIN PIT		0.25
PIGNOCKLE PIT		0.25

Question #19:

Ground-based equipment operations will be limited to sustained slopes 40% or less. Self-leveling equipment may be used on sustained slopes 55% or less. Tethered equipment may be utilized on this proposal.

Unit Number	Harvest Type (Even-aged, Uneven-aged, Salvage, Right-of-Way)	Biomass Harvest (Y or N)	Harvest Method (rubber tired skidder, tracked skidder, dozer, shovel, full suspension cable, leading end suspension cable, helicopter, cable assist/tethered logging, animal, chipper, forwarder, slash bundler)	Acres to be Harvested	Volume to be Harvested (mbf)	Biomass Volume to be Harvested (tonnage)	Volume to be Harvested (%)	Steepest Slope in Harvest Unit (%)
1	Even-aged	N	Ground	27.5	918	N/A	93	70
	Comprised of:							
1A	Even-aged	N	Ground	20.5	795	N/A	95%	55%
1B	Even-aged	N	Ground	1.3	54	N/A	95%	55%
1C	Uneven-aged	N	Ground	4.5	45	N/A	30%	35%
1D	Uneven-aged	N	Ground	1.2	24	N/A	30%	70%
21	Even-aged	N	Ground	14.6	563	N/A	93	45
	Comprised of:							
2A	Even-aged	N	Ground	8.0	427	N/A	95%	40%
2B	Even-aged	N	Ground	1.4	47	N/A	95%	35%
2C	Uneven-aged	N	Ground	3.6	30	N/A	30%	35%

2D	Even-aged	N	Ground	1.6	59	N/A	95%	45%
25	Even-aged; R/W	N	Ground	74.5	2788	N/A	93	120
	Comprised of:							
2E	Even-aged	N	Ground	9.9	389	N/A	95%	60%
2F	Even-aged	N	Ground	16.3	604	N/A	95%	70%
2G	Even-aged	N	Ground	19.1	962	N/A	95%	70%
2H	Even-aged	N	Ground	0.4	20	N/A	95%	70%
2I	Even-aged	N	Ground	2.8	99	N/A	95%	55%
2J	Even-aged	N	Ground	0.7	22	N/A	95%	70%
2K	Uneven-aged	N	Ground	0.3	5	N/A	30%	45%
2L	Even-aged	N	Ground	20.8	586	N/A	95%	70%
2M	Even-aged	N	Ground	2.3	78	N/A	95%	120%
2N	Even-aged	N	Ground	0.5	20	N/A	95%	40%
ROW 1	Right-of-Way	N	Ground	0.9	1	N/A	100%	70%
ROW 2	Right-of-Way	N	Ground	0.5	2	N/A	100%	35%
3	Even-aged	N	Ground/Cable	26.3	1103	N/A	95%	120%
4	Even-aged	N	Ground/Cable	20.3	92	N/A	95%	120%

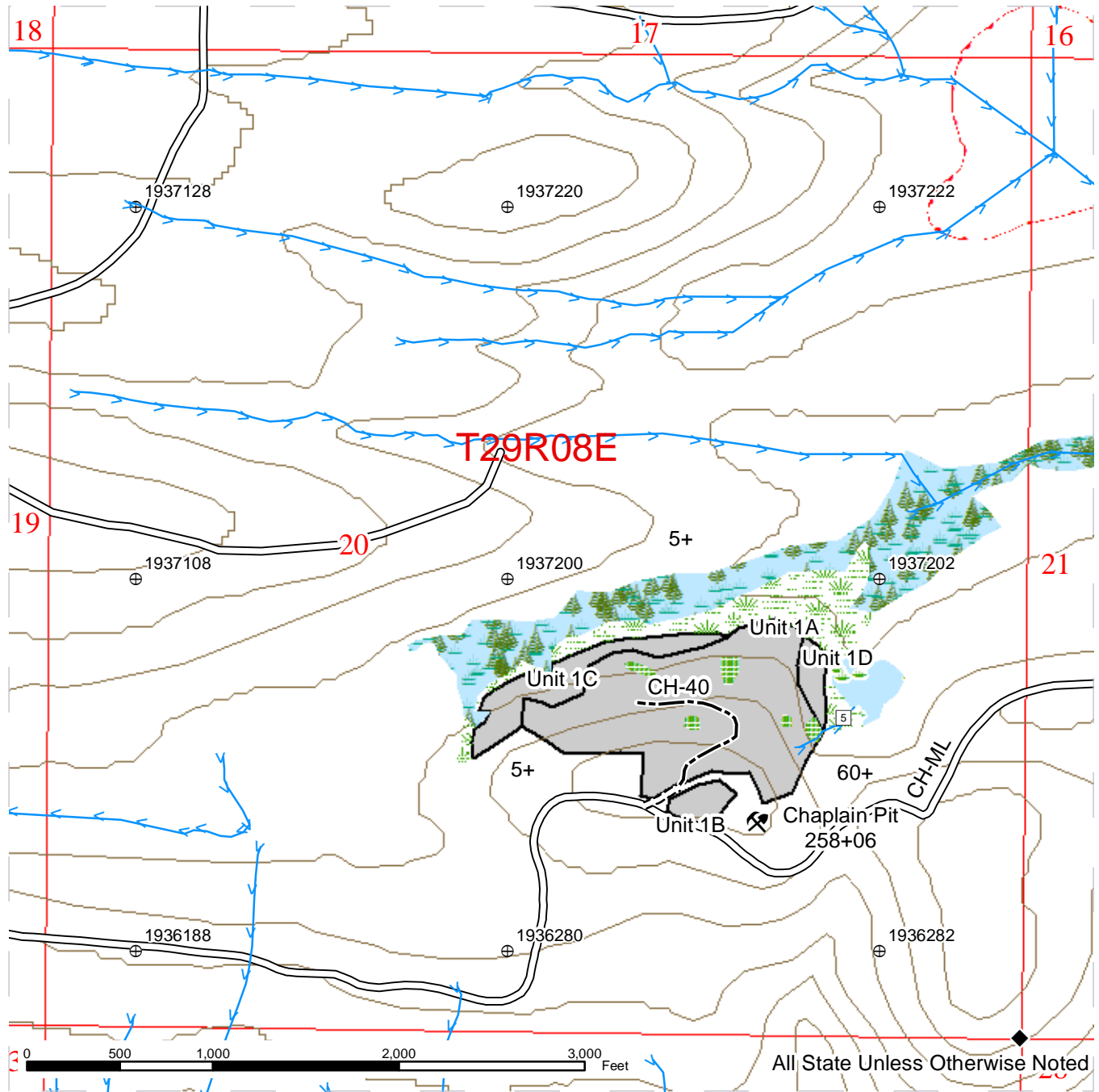
Question #28:

Activity Map – Leave Tree locations depicted are approximate. Leave trees may be exchanged or traded to locations other than mapped on the Activity Maps to facilitate operational feasibility, except those demarcated as non-tradeable.

FOREST PRACTICES ACTIVITY MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R8E

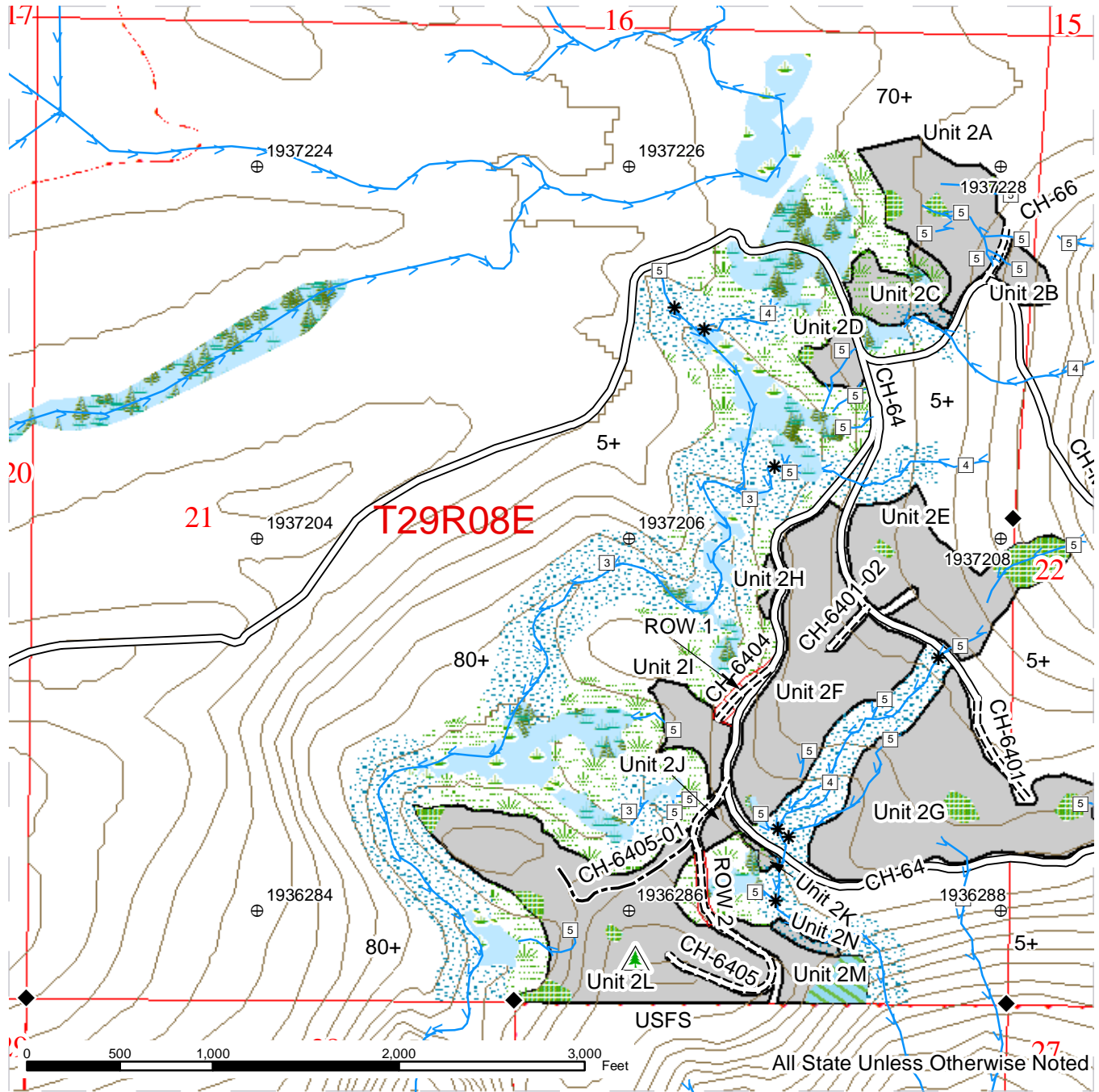


Sale Area	Existing Roads	Streams
Wetlands - Non-forested	New Construction	Stream Type
Leave Tree Area	Construction	Stream Type Break
Forested Wetland	Public Land Survey Townships	Rock Pit
Wetland Mgt Zone	Public Land Survey Sections	Survey Monument

FOREST PRACTICES ACTIVITY MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R8E



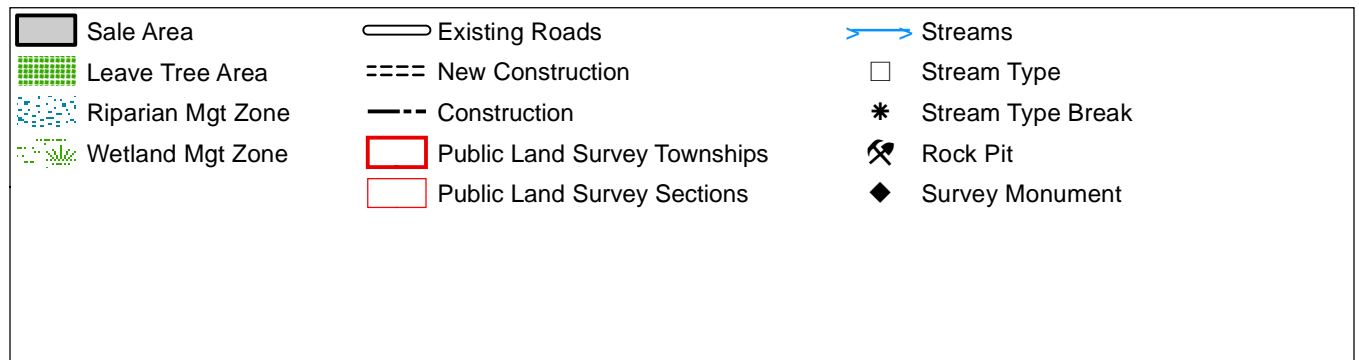
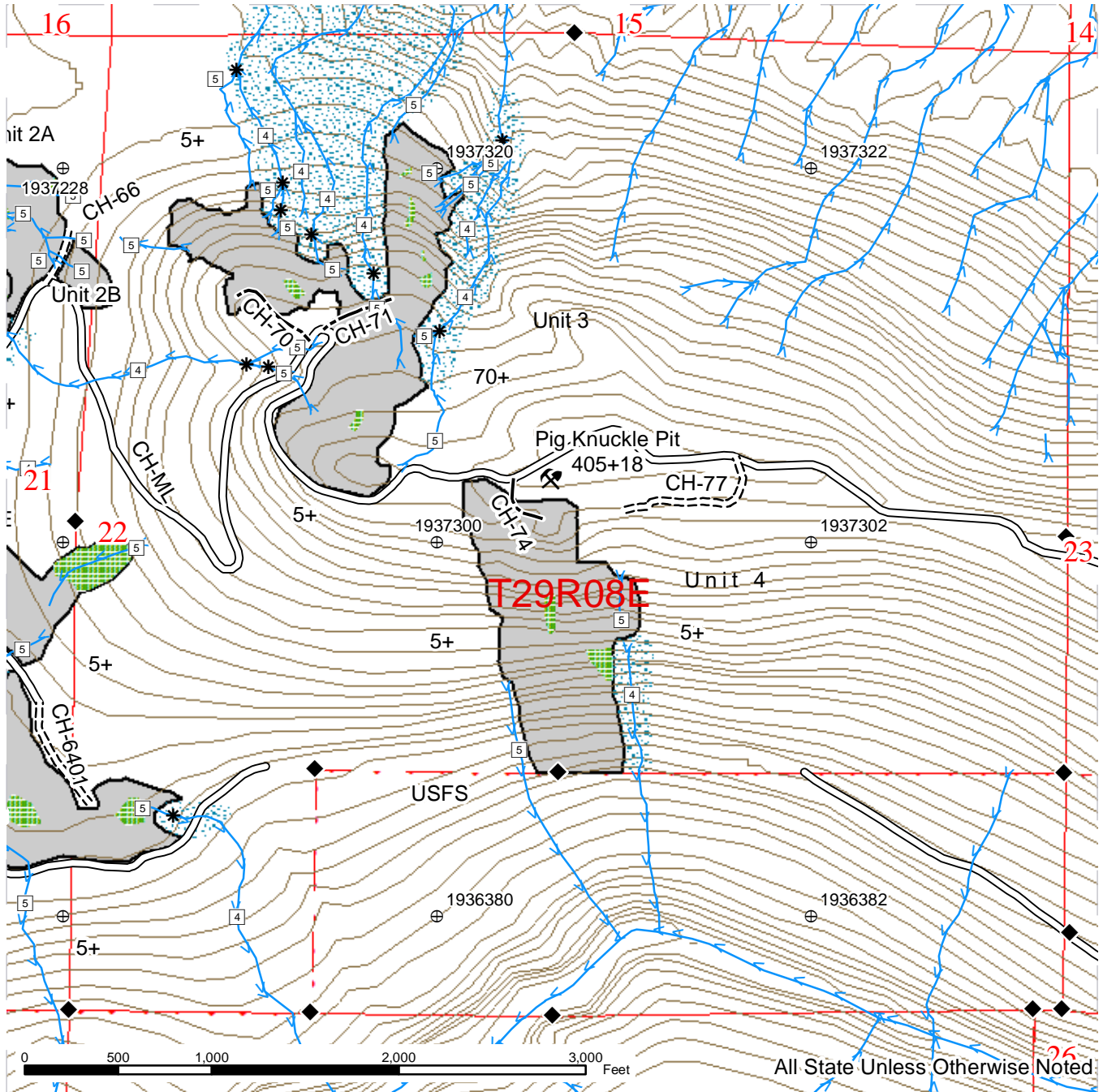
Sale Area	Existing Roads	Streams
Right-of-Way	New Construction	Stream Type
Wetlands - Non-forested	Construction	Stream Type Break
Non-Tradeable Leave Clump	Public Land Survey Townships	Non-Tradeable Leave Trees
Leave Tree Area	Public Land Survey Sections	Survey Monument
Riparian Mgt Zone		
Forested Wetland		
Wetland Mgt Zone		



FOREST PRACTICES ACTIVITY MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff

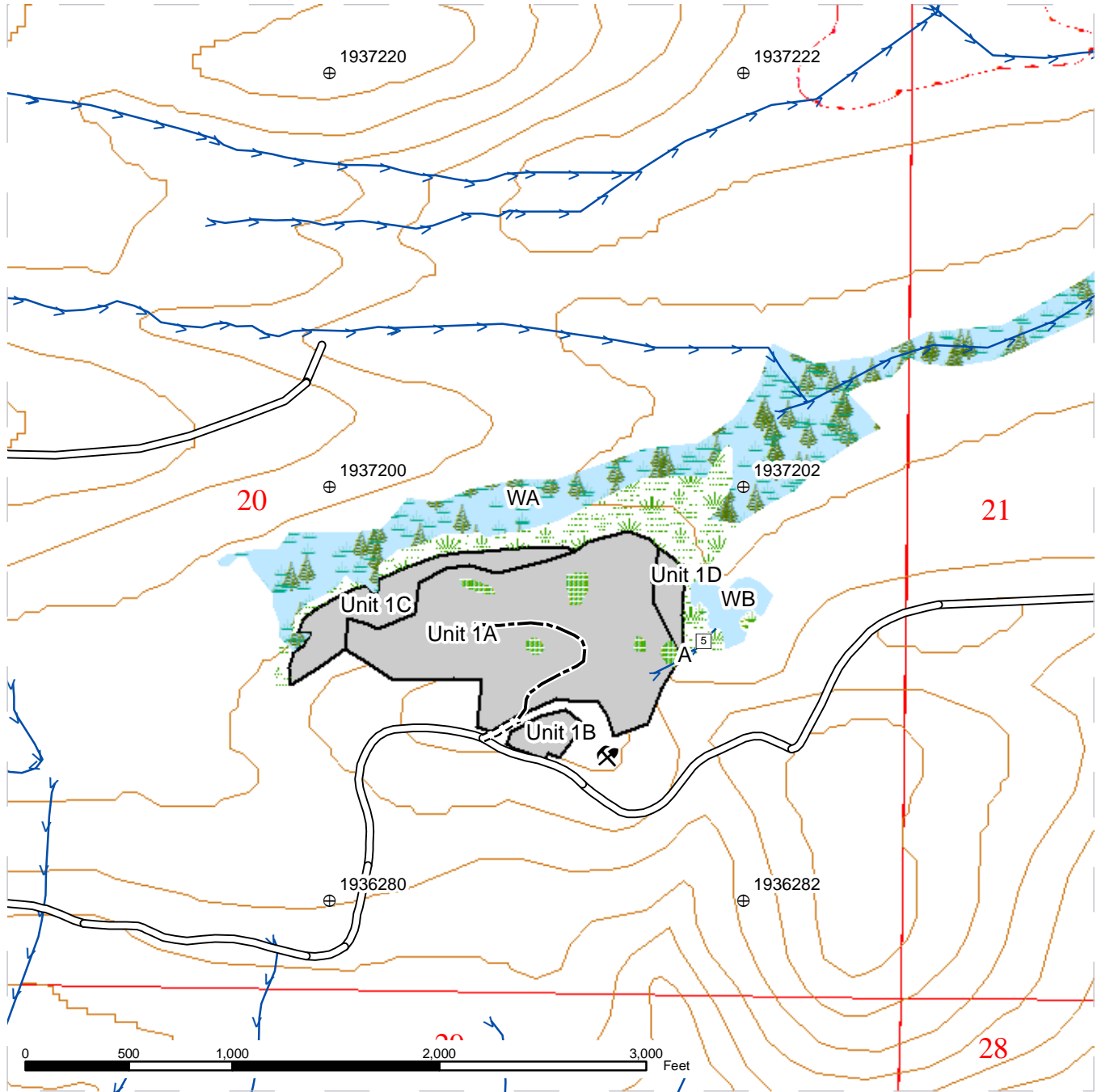
COUNTY(S): Snohomish
 TOWNSHIP(S): T29R8E



WATER TYPE MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff
 TOWNSHIP(S): T29R8E

COUNTY(S): Snohomish



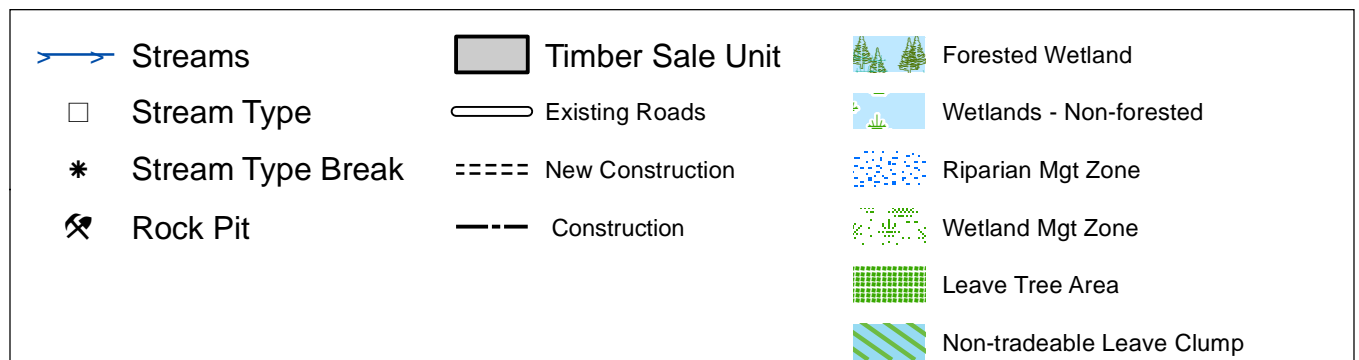
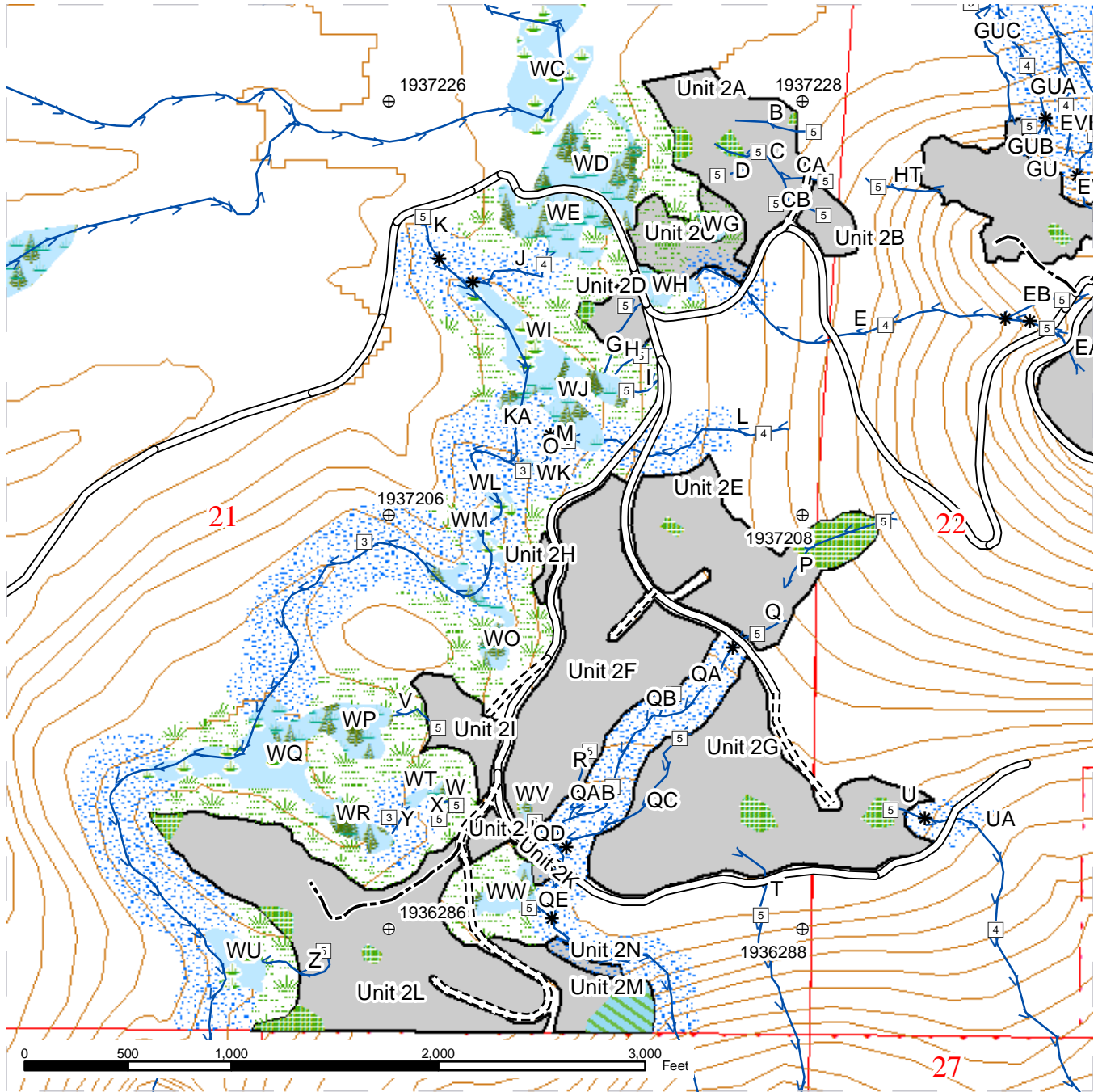
	Streams		Timber Sale Unit		Forested Wetland
	Stream Type		Existing Roads		Wetlands - Non-forested
	Stream Type Break		New Construction		Riparian Mgt Zone
	Rock Pit		Construction		Wetland Mgt Zone
					Leave Tree Area
					Non-tradeable Leave Clump



WATER TYPE MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff
 TOWNSHIP(S): T29R8E

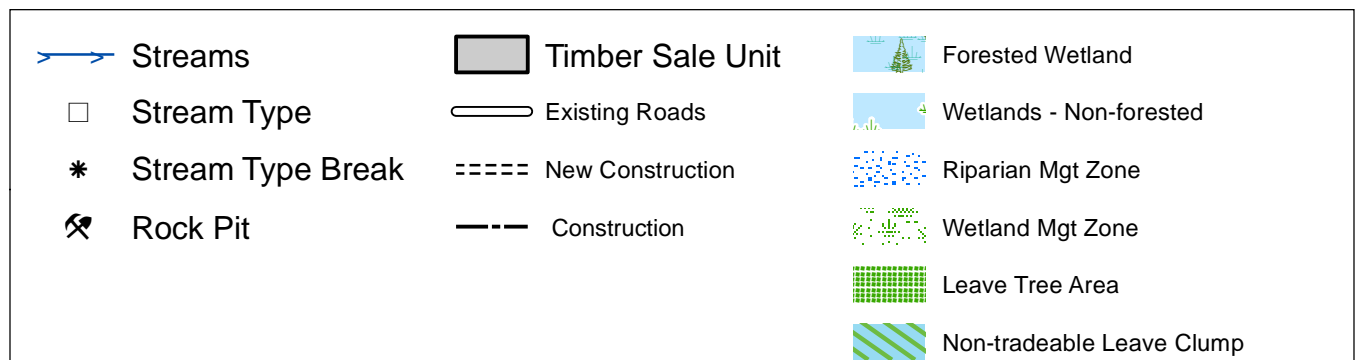
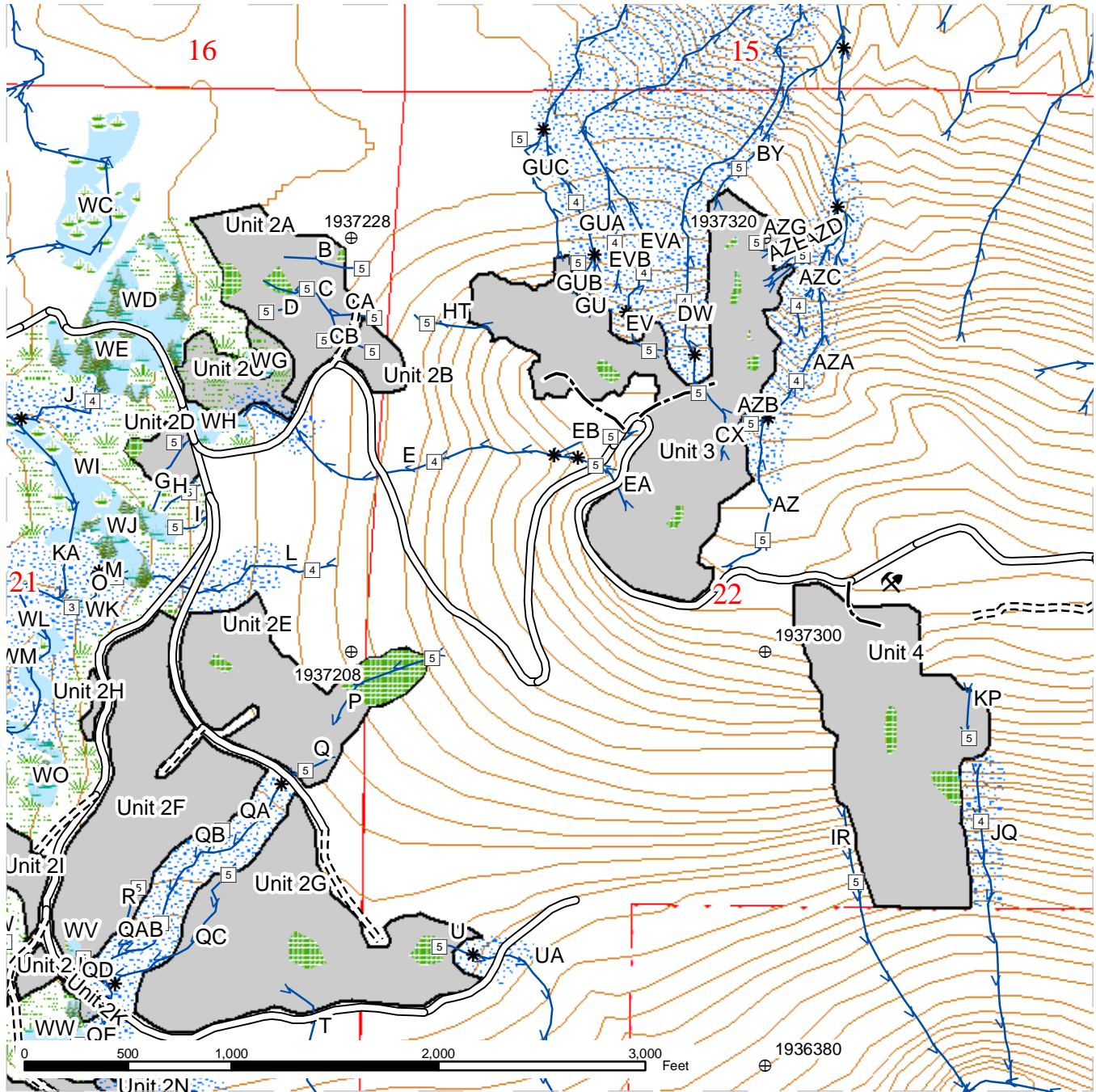
COUNTY(S): Snohomish



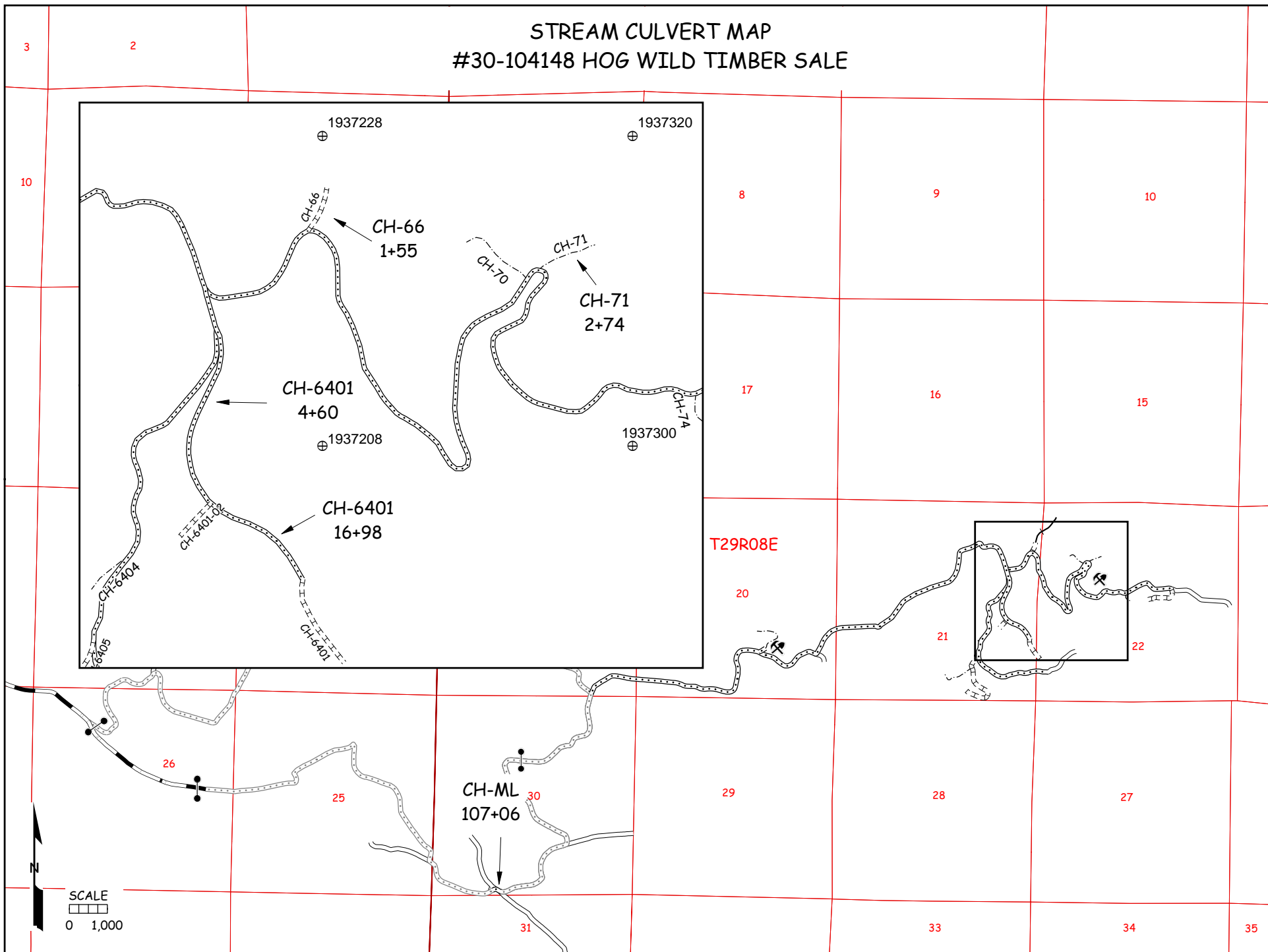
WATER TYPE MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff
 TOWNSHIP(S): T29R8E

COUNTY(S): Snohomish



STREAM CULVERT MAP #30-104148 HOG WILD TIMBER SALE



Appendix D. Slope Stability Informational Form

Complete and attach this form to your FPA/N if you indicated you are working in or around potential unstable slopes or landforms. Instructions for this appendix is located in in the Forest Practices Application/Notification Instructions document. Refer to WAC 222-16-050(1)(d) and Forest Practices Board Manual Section 16 - *Guidelines for Evaluating Potentially Unstable Slopes* for definitions and descriptions of potentially unstable slopes or landforms.

1. a. What preliminary screening tools were used to identify unstable slopes or landform features in and/or around your proposal?

Aerial Photo LiDAR Landslide Inventory GIS Field Review Other, describe:

See attached Geologic Memorandum for the Hog Wild Timber Harvest, dated November 15, 2022.

b. Did any of the features identified during the preliminary screening (1.a.) not exist when you performed a field review? No, go to Question 2.a. Yes, describe:

2. a. Are you conducting forest practices activities in or over potentially unstable slopes or landforms?

Inner Gorge Groundwater recharge areas for glacial deep-seated landslides
 Bedrock Hollow Convergent Headwall Outer edges of meander bends
 Toe of deep-seated landslide with slopes $\geq 65\%$
 Category E - see instructions and describe below (*i.e.: Active deep-seated landslides and others*)
 Other, describe:

b. What activities may occur in or over potentially unstable slopes or landforms? Check all that apply:

Timber harvest Road construction Suspending cables Yarding Tailholds

3. a. Are you conducting forest practices activities around potentially unstable slopes or landforms?

Inner Gorge Groundwater recharge areas for glacial deep-seated landslides
 Bedrock Hollow Convergent Headwall Outer edges of meander bends
 Toe of deep-seated landslide with slopes $\geq 65\%$
 Category E - see instructions and describe below (*i.e.: Active deep-seated landslides and others*)
 Other, describe:

See Geologic Memorandum for the Hog Wild Timber Harvest, dated November 15, 2022.

b. What activities may occur around potentially unstable slopes or landforms? Check all that apply:

Timber harvest Road construction Suspending cables Yarding Tailholds

4. a. Were any features identified in Question 3.a. excluded from your forest practices activity?

- No, go to Question 5. Yes, continue to Question 4.b.

b. Describe the field indicators you used to exclude potentially unstable slopes or landforms from your forest practices activity (*i.e.: flagging was placed a crown width away from the break in slope of the inner gorge.*):

See Geologic Memorandum for the Hog Wild Timber Harvest, dated November 15, 2022. All potentially unstable slopes and rule identified landforms were excluded from the timber harvest and associated road construction. These areas were bound out of harvest areas using white timber sale boundary tags or marking last take tree (two yellow bands and a red "T") along property lines.

5. Are there areas of public use located in or around the area of your proposed forest practices activity?

- No, go to Question 6 Yes, check all that apply and show locations on the map in Question 7.
- Public Road(s) Utilities Designated Recreation Area(s) Occupied Structure(s)
- Other, describe:

6. Complete the table below with date(s) and person(s) that conducted field review(s):

Date	Name	Title/Position
09/30/2022	Noah Dudley	State Lands Licensed Engineering Geologist (QE)
	Kody Beesley	Forester
	Shane McKinley	Forester
10/14/2022	Noah Dudley	State Lands Licensed Engineering Geologist (QE)
	Kody Beesley	Forester
	Shane McKinley	Forester

7. Attach a map that shows the following:

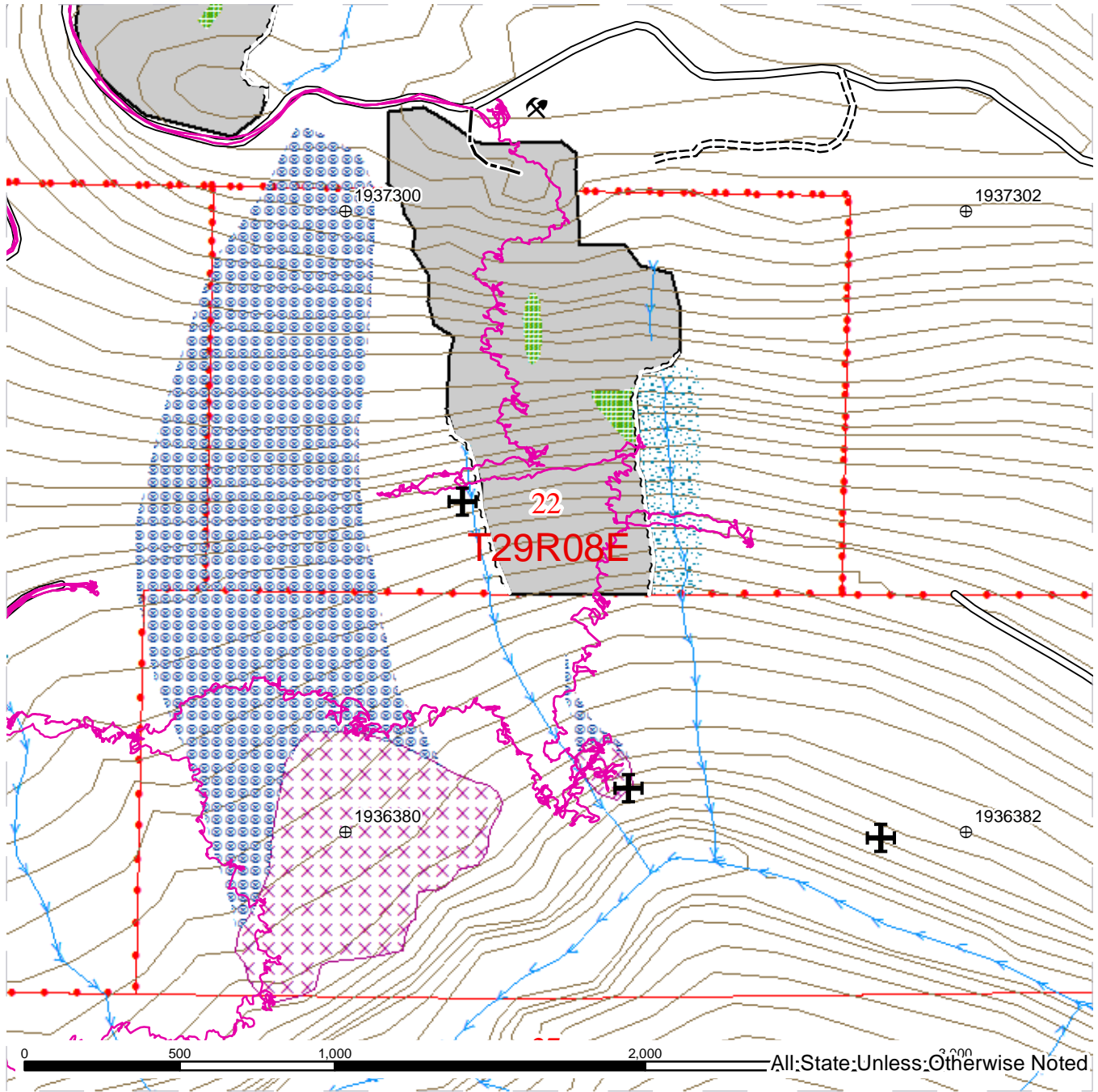
- Show all areas reviewed.
- Show locations of unstable slopes and landforms that were identified as described in Question 2.a. and 3.a. above.
- Show locations where areas of public use exist as described in Question 5 above.

This map is intended to be developed by the field practitioner. This can be a forest practices activity map, harvest map, or GIS map – See instructions for example map.

SLOPE STABILITY MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R8E



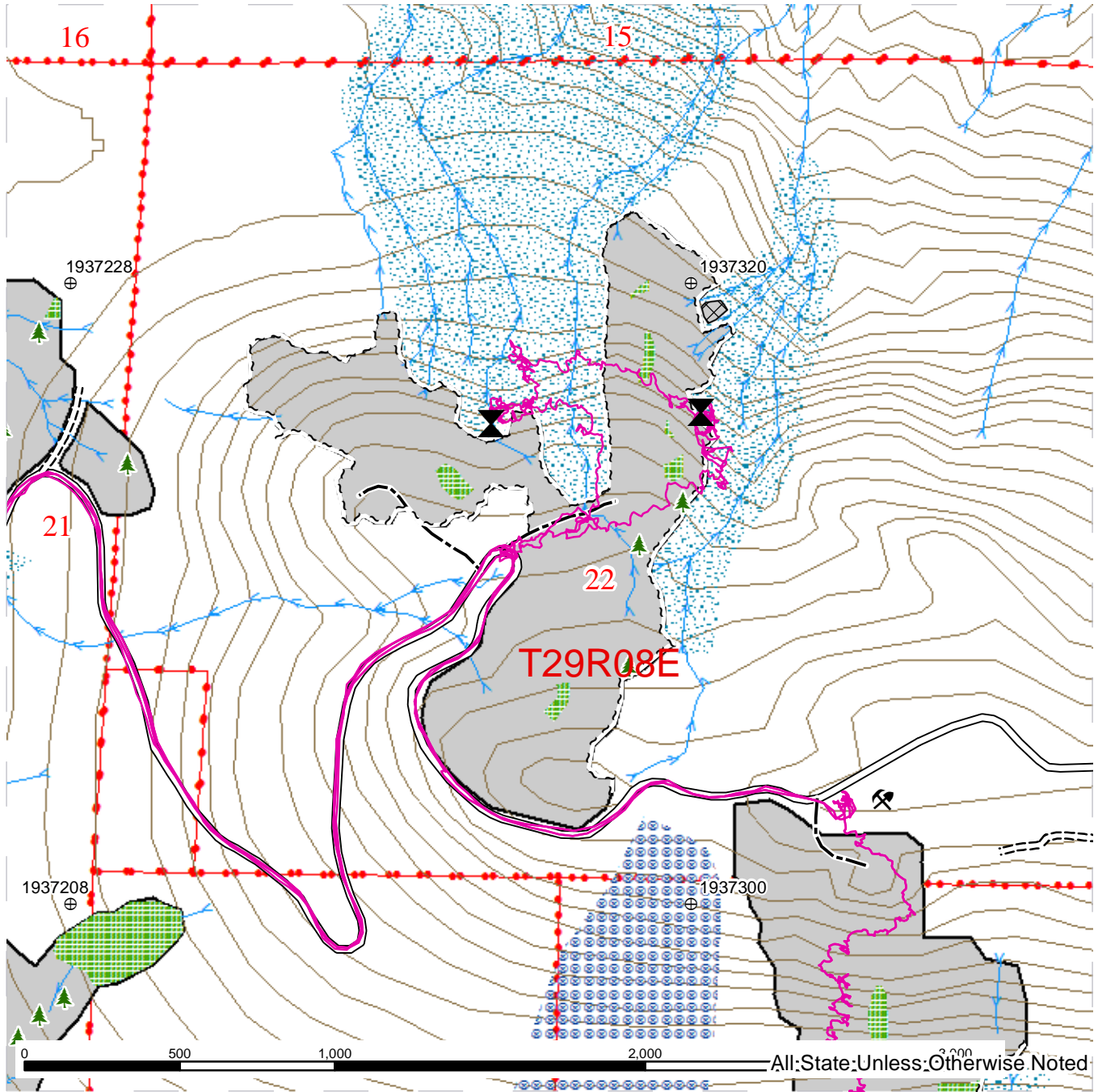
Sale Area	Existing Roads	Streams
Leave Tree Area	New Construction	Category E landslide
Riparian Mgt Zone	Construction	Rock Pit
Ground Water Recharge Area	Geologist GPS Tracks	
Glacial Deep Seated Landslide		



SLOPE STABILITY MAP

SALE NAME: HOG WILD
 APPLICATION #: TBD by FP Staff

COUNTY(S): Snohomish
 TOWNSHIP(S): T29R8E



Sale Area	Existing Roads	Streams
Inner Gorge	New Construction	Leave Tree Area <1/4-acre
Leave Tree Area	Construction	Bedrock Hollow
Riparian Mgt Zone	Geologist GPS Tracks	Rock Pit
Ground Water Recharge Area		



**DEPARTMENT OF
NATURAL RESOURCES**
FOREST RESOURCES DIVISION
1111 WASHINGTON ST. SE
OLYMPIA, WA 98504
360-995-2477
NOAH.DUDLEY@DNR.WA.GOV
WWW.DNR.WA.GOV

March 17, 2023

TO: John Moon, Unit Forester, Cascade District, Northwest Region, DNR

FROM: Noah Dudley, LEG #19110609, QE, Forest Resources Division, DNR

SUBJECT: Geologic Memorandum for the Hog Wild Timber Harvest, Snohomish County, Washington

This letter documents my observations and interpretations of potentially unstable slopes around the Hog Wild timber harvest (proposed harvest). This letter documents rule-identified landform interpretations, key observations used to make those interpretations, and the proposed mitigations and recommendations. It is not intended to document the full engineering geologic review that I conducted for this harvest, nor is it intended to satisfy the requirements for a Class IV special Forest Practices Application.

Project Description

The proposed harvest is located west of Spada Lake within the Sultan River, Pilchuck River, and Woods Creek Watershed Analysis Units (WAU). Proposed forest management activities include variable retention harvest and road construction. DNR proposes using ground based, tethered, and cable harvest methods.

The proposed harvest area is located on gentle to steep slopes. Rule-identified landforms around the proposed harvest include category E shallow landslides and debris flow paths, bedrock hollows, inner gorges, and groundwater recharge areas (GWRA) to glacial deep-seated landslides (DSL). The timber harvest boundary excludes rule-identified landforms, therefore there is a low potential for the proposed harvest to deliver sediment to a public resource or impact public safety.¹

Geologist Field and Remote Review

I visited the proposal area on September 30, 2022, and October 14, 2022. Shane Mckinley (forester) and Kody Beesley (forester) accompanied me in the field.

Prior to the field visits, I conducted a remote review using the following resources:

- Washington State Department of Natural Resources (DNR) GIS data including:

¹ Washington Forest Practices Board, 2016, Washington Forest Practices Board manual: Washington Forest Practices Board, 1 v.

- Digital orthophotographs from the 1990's, 2003, 2006, 2009, 2013, 2015, 2017, 2019, 2021
- Light detection and ranging (LIDAR) data acquired in 2006 and 2017
- 1:24,000-scale geologic mapping²
- Forest Practices Landslide Inventory (LSI) mapping
- Watershed Analysis Landslide Hazard Zonation (LHZ) mapping
- WGS deep-seated landslide inventory mapping
- Historic aerial photograph from 1985

I focus this memorandum on Units 2 through 4. I did not observe remote evidence of potentially unstable slopes in or around Unit 1, and therefore do not discuss it in this document.

Geologic Setting

Bedrock in the harvest area includes metasedimentary to metavolcanic rock of the Western Mélange belt (Figure 2). The mélange belt represents Mesozoic siltstones, mudstones, granites, and basalts that were altered by heat and pressure during accretion to the North American continental plate. The geologic map shows a complex network of faults and folds in the harvest area.

Around 14,000 years ago, the Puget Lobe of the Cordilleran ice sheet flowed over the landscape. The ice sheet created ice-dammed lakes where it blocked drainages, depositing glaciolacustrine deposits. These deposits typically consist of laminated silt and clay with gravel dropstones and low permeability. Flowing water from the ice and from ice-dam releases deposited glacial outwash. These deposits typically consist of sorted and bedded sand, gravel, and silt with moderate to high permeability. Material deposited and compacted directly by the ice sheet is glacial till. Glacial till typically consists of very dense, tan, very silty, gravelly, sand, concrete-like diamict texture and low permeability.

In the field, I primarily observed phyllite, meta-tonalite, and meta-gabbro bedrock. I observed discontinuous deposits of glacial till, glaciolacustrine deposits, and glacial outwash mantling the right bank slopes above the Sultan River.

Dragovich et al. (2014) coarsely mapped landslide polygons downslope of the harvest area. The Washington Geological Survey and Forest Practices landslide inventories have more accurate landslide delineations.

² Dragovich, Joe D.; Frattali, Christina L.; Anderson, Megan L.; Mahan, Shannon A.; MacDonald, James H., Jr.; Stoker, Bruce A.; Smith, Daniel, T.; Koger, Curtis J.; Cakir, Recep; DuFrane, S. Andrew; Sauer, Kirsten B., 2014, Geologic map of the Lake Chaplain 7.5-minute quadrangle, Snohomish County, Washington: WADGER Map Series 2014-01,.

Landslide Databases Review

I used the WGS Landslide inventory, Forest Practices landslide inventory (LSI) and hazard zonation (LHZ) databases to screen the sale area for published landslide information (Figure 2). The Forest Practices LHZ database is available for the Sultan River and Woods Creek WAUs.

Washington Geological Survey (WGS) Landslide Inventory:

The WGS mapped seven landslide deposits around the proposed harvest, recent shallow landslide points, and rockfall deposits. All WGS LSI shapes are outside of the proposed management area, so I focused this review on polygons with potential for deep-seated landslide activity and possible GWRA delineation.

The table below summarizes WGS data and my observations for the seven landslide deposits mapped around the harvest area. Figure 3 shows additional polygons, but these are separated from the management area by topographic, and hydrologic barriers.

Table 1. WGS Landslide Inventory Table – Landslide Deposits

WGS Inventory Metadata				My Observations and Interpretations
LSI ID#	Movement	WGS Confidence	Field Verified by WGS?	
10418	Slide-Rotational	Low	No	Field verified active/recent deep-seated landslide in glacial till. Movement appears to have first occurred following 2009 debris flow. See DSL-1 text for more detail.
13809	Complex	Low	No	Outer edge meander bed on Sultan River gorge. Appears to be a shallow landslide using LiDAR and likely in bedrock. Outside proposed management area.
10420	Complex	Low	No	Bedrock cliff band at scarp. Incised by inner gorges and debris flow tracks. Likely not a DSL. Outside proposed management area.
10419	Slide-Translational	Moderate	No	Appears to be shallow inner gorge failures using LiDAR, not a DSL. Bedrock cliff band above polygon. Likely in bedrock. Not downslope of proposed management area.
13808	Complex	Moderate	No	Shallow to deep-seated failure at outer edge of Sultan River floodplain. Likely in bedrock. Not downslope of proposed management area.
13567	Complex	High	No	Relict glacial deep-seated landslide. Upright old growth stumps on scarp body and toe. Smooth diffuse topography. Gentle transition from scarp to body to toe to intact ground. Outside proposed management area.
13807	Complex	Moderate	No	Intact glacial stratigraphy observed in internal drainages. Continuous bedrock band that extends through the feature. Smooth scarp to body transition. Internal drainages dissect feature indicating low degree of activity. I do not interpret this polygon as a deep-seated landslide. However, if interpreted as a landslide, it is dormant-indistinct to relict and the failure plane is in bedrock. The feature is approximately 500 feet outside the proposed harvest boundary. Dormant-indistinct to relict bedrock DSLs are not rule-identified landforms.

Forest Practices Landslide Inventory (LSI) polygons:

There are eight Forest Practices LSI polygons around the proposed harvest (Figure 3). Table 2 summarizes the LSI data and my observations and interpretations.

Table 2. Forest Practices Landslide Inventory Table

Forest Practices LSI Metadata					My Observations and Interpretations	Proposed Mitigation
LSI ID#	ID date	Landform	Certainty	Delivery to a public resource?		
29026	1978	Inner gorge	Definite	Yes, delivery to public resource or safety	Shallow debris flow initiation from CD-02 road.	None – outside the proposed management area
29031	1991	Deep-seated	Questionable	Yes, delivery to public resource or safety	Appears to be colluvial apron below bedrock cliff band in LiDAR	None – outside the proposed management area
29029	1983	Inner gorge	Probable	Yes, delivery to public resource or safety	Shallow debris flow initiation point and track. Field verified by QE.	None – outside the proposed management area
29027	1978	Inner gorge	Definite	Yes, delivery to public resource or safety	Possible older debris flow track initiating from CD-02 road. Indistinct in the field.	None – outside the proposed management area
29028	1958	Inner gorge	Definite	Yes, delivery to public resource or safety	Possible older debris flow track initiating from CD-0209 road. Indistinct in field.	None – outside the proposed management area
28829	1991	Terrace face	Definite	Yes, delivery to public resource or safety	Appears to be a CD-0201 road fill slump or shallow slide.	None – outside the proposed management area
29025	1978	Inner gorge	Definite	Yes, delivery to public resource or safety	Debris flow initiated from CD-0201 road. Appears to have scoured and oversteepened till mantle on lower banks, triggering DSL-1. CD-0201 Road abandoned in 2005, before landslide.	Worked with forester to exclude landslide initiation area from proposed management area.
29030	1983	Inner gorge	Definite	Yes, delivery to public resource or safety	Possible older debris flow track initiating from CD-02. Indistinct in the field.	None – outside the proposed management area

Sultan River Landslide hazard zonation project:

Unit 4 is within a high instability potential area from the Sultan River LHZ project (Figure 3). The LHZ characterizes most of the project area as low to moderate instability potential. I traversed the high instability potential area in the field and observed steep, planar slopes with thin soil

and bedrock outcrops. DNR does not propose road construction in this area, opting instead for lower-impact cable yarding. I did not observe bedrock hollows or other rule identified landforms within these high instability potential areas.

Glacial Deep-Seated Landslide DSL-1

The WGS identified DSL-1 (WGS #10418) using 1-meter resolution 2017 LiDAR. I visited this landslide in the field and agree with the WGS' delineation (Image 1). The slopes around the landslide have low-permeability glacial till and bedrock. I delineated a groundwater recharge area for DSL-1 using three-foot topographic contours and LiDAR derived synthetic drainage pathways. The recharge area is not within the proposed management area.

My field observations of DSL-1 include:

- Intact glacial till in head scarp and in debris flow-scoured channel along lateral margin
- Hummocky body with internal scarps, grabens, and rotated blocks. Internal scarps and grabens are partly infilled with recent sedimentation
- Jackstrawed old growth stumps and conifers on body. Tree trunks are generally straight, but tilted
- Sword fern and young conifer understory
- Did not observe seeps, springs, wet ground, or hydrophytic vegetation
- Exposed soil in head scarp
- Intact bedrock in cliff band below DSL-1



Image 1: Panorama taken from intact ground west of DSL-1. Scoured channel is in foreground at lateral margin, just beyond large vertical

conifers. Note jack-strawed conifers on DSL-1 body – red indicates back tilting, blue indicates forward tilting. Not pictured: vertical old growth remnant Douglas Firs behind photographer.

Based on the above observations, I interpret DSL-1 to be an active/recent glacial deep-seated landslide. Conifers and old growth stumps appear to have been vertical before DSL-1 recently moved, tilting the trees. The intact glacial till in the adjacent channel and head scarp suggests that DSL-1 formed relatively recently in in-situ till.

I compared the most recent 2017 LiDAR with 2006 LiDAR (Images 2 and 3) to see if ground losses and gains are visible. I observed that a debris flow initiated from the CD-0201 road and scarp formed on DSL-1 between the LiDAR flights. I also observed the adjacent stream channel incised near the scarp, scoured the landslide margin, and moved to the west. The debris flow track is also visible in the 2017 LiDAR vegetation height raster and the 2009 orthophoto (Images 5 through 7).

I subtracted the 2017 LiDAR from the 2006 LiDAR to visualize ground movement in this interval (image 3). The differencing is noisy due to resolution and processing limitations, and shows intact bedrock outcrops as gaining in elevation. Despite the noise, I observed down-dropping of DSL-1's scarp and debris flow scour. I observed slight gains in DSL-1's body, where rotation caused local uplift.

Based on my field and remote observations, I interpret that the post-2006 debris triggered DSL-1. The debris flow scoured and oversteepened intact glacial till topography, creating a deep-seated rotational failure.

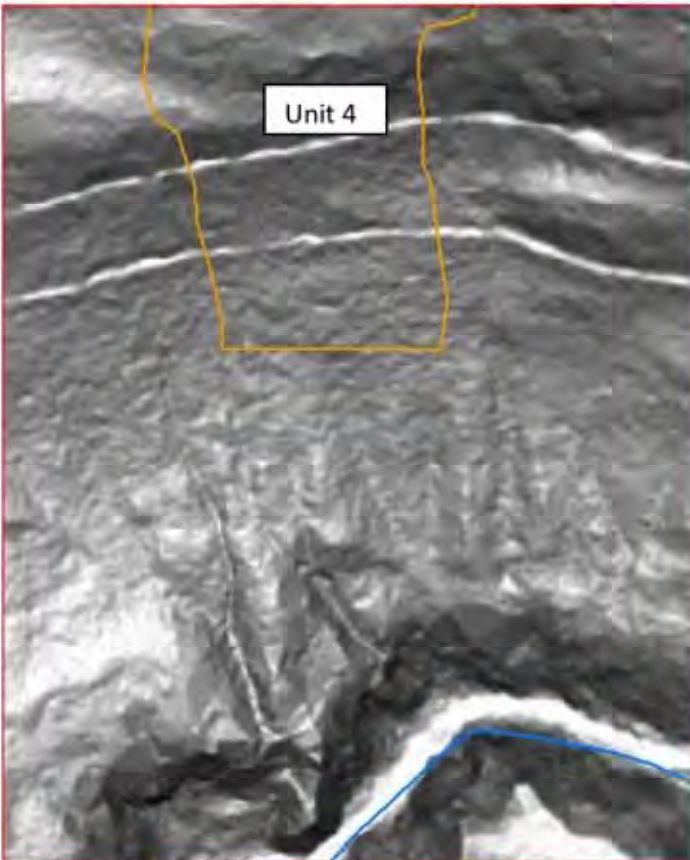


Image 2: Vertical LiDAR hillshade from Snohoco East 2006 survey (2 meter resolution).

DSL-1 location, while broadly arcuate, does not appear to be a deep-seated landslide at this time. Field evidence supporting this interpretation is discussed in text.

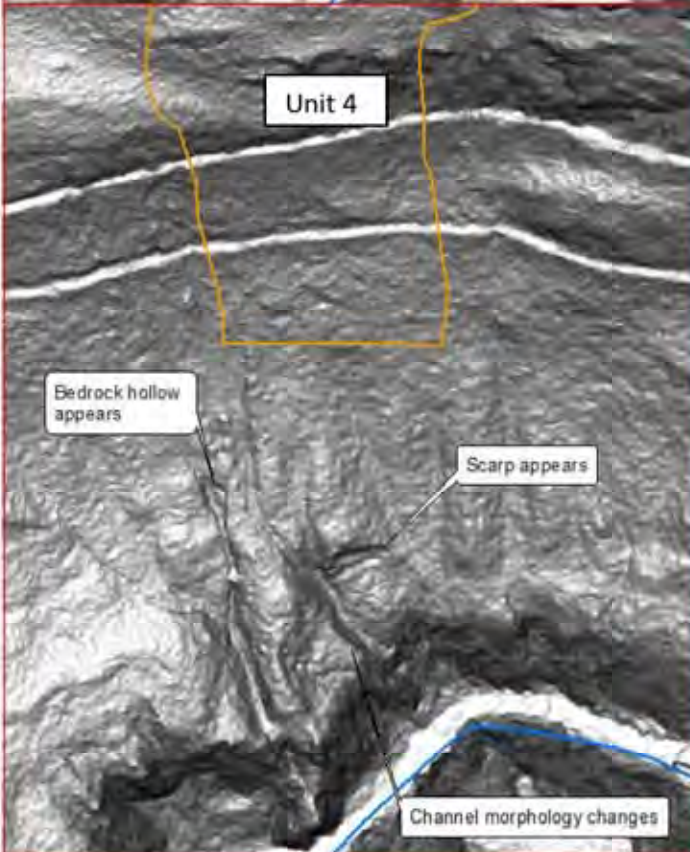


Image 3: Vertical LiDAR hillshade from North Puget 2017 survey (1 meter resolution).

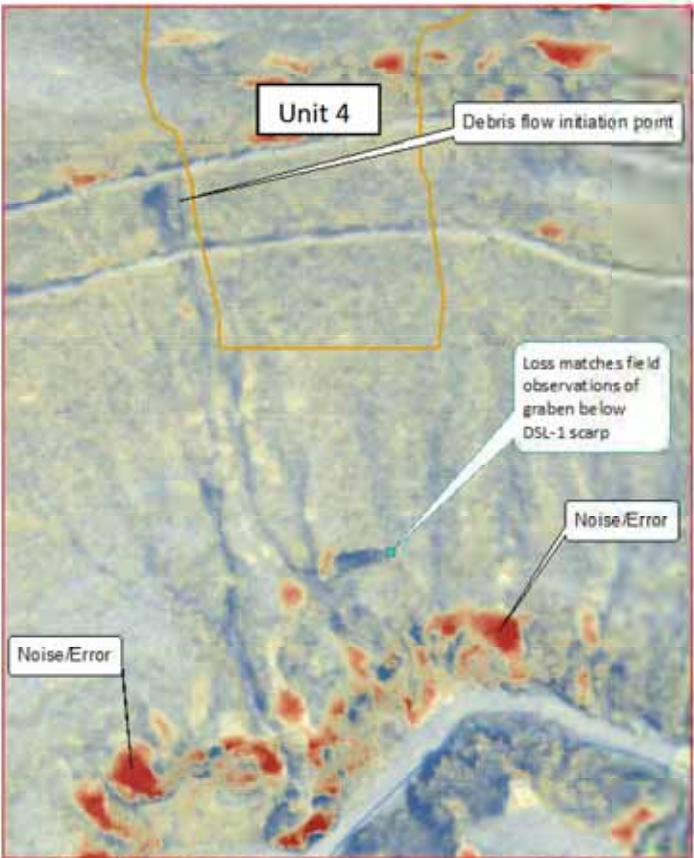


Image 4: Coarse LIDAR change detection raster generated by subtracting 2017 North Puget LIDAR DEM (1 meter) from 2006 Snohoco East LIDAR DEM (2 meter). Blues indicate losses, yellows indicate small losses/gains or no change, and reds indicate gains. Note that image is noisy due to DEM resolution differences and processing limitations. The red gain areas are generally intact bedrock outcrops and cliff bands.

Despite noise, debris flow movement and DSL-1 movement are visible.

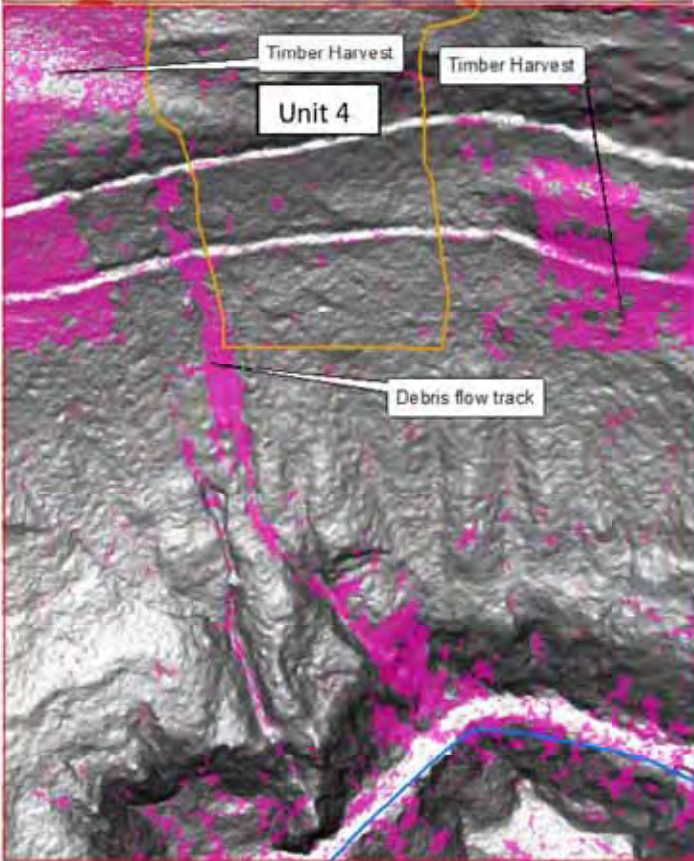


Image 5: LIDAR-derived vegetation height raster based on top-surface 2017 North Puget LiDAR. Color scheme changed to only show vegetation heights of 2 to 20 feet above surface, providing a rough visualization of canopy gap patterns.



Image 6: 2009 orthophotograph showing appearance of debris flow track from CD-0201 road.



Image 7: 2011 orthophotograph showing debris flow track from CD-0201 road.

Glacial Deep-Seated Landslide DSL-2

The WGS mapped DSL-2 as LSI 13567 using 1-meter resolution 2017 LiDAR. I visited this landslide in the field and agree with the WGS' delineation. The slopes around the landslide have low-permeability glacial till and bedrock. I delineated a groundwater recharge area for DSL-2 using three-foot topographic contours and LiDAR derived synthetic drainage pathways. The GWRA is not within the proposed management area.

I interpret DSL-2 to be a dormant-indistinct glacial deep-seated landslide.

My observations supporting a dormant-indistinct activity status include:

- Smooth vegetated head scarp
- Vague lateral margins
- Smooth rolling topography
- Upright old growth stumps and vertical conifer on scarp, body, and toe
- Smooth, diffuse transition from toe to non-landslide ground

Bedrock hollows and Inner Gorges

The forester and I identified several bedrock hollows and inner gorges around the proposed harvest area. These are excluded from the proposed harvest through timber sale boundary tags. Refer to Appendix D of the FPA for additional slope stability information.

Conclusion

The Hog Wild timber harvest excludes potentially unstable rule-identified landforms. The DNR excluded these features with harvest boundary tags. In my opinion, because the proposed harvest excludes potentially unstable rule-identified landforms, there is a low likelihood that the proposed forest practices will cause or contribute to movement on these landforms.

Limitations

This field summary is intended to summarize landform interpretations in and around the proposed Hog Wild timber harvest to DNR's foresters and engineers. This letter is not intended to document the full engineering geologic analysis conducted for this proposed timber harvest, instead it is intended to document the primary observations that form the basis of the rule-identified landform interpretations that are present, or interpreted to not be present, in or around the proposed forest practices activities.

Mitigation recommendations presented in this report were developed collaboratively with the forester. While forest practices inherently involve risk, the mitigations presented in this memorandum are intended to minimize adverse impacts on slope stability due to forest practices activities. Conclusions are based on professional judgement and do not guarantee slope stability or absolute absence of risk.

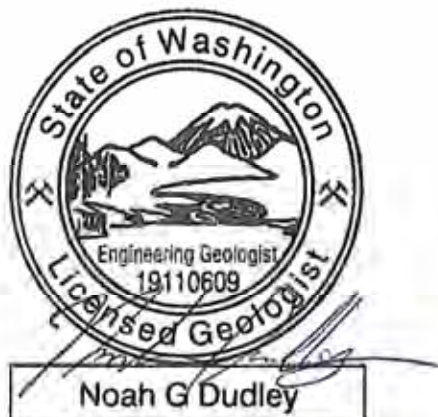
The conclusions presented in this report were developed using limited information, including office-based screening tools and surficial geologic observations, as they existed at the time of

the field visits. Actual geologic conditions may differ from those presented in this report. Site conditions can change with time and additional geologic information may become available. If this occurs, geologic interpretations and recommendations may require modification. It is not possible to fully define the geologic conditions of the site based on this limited investigation; however, the work was performed using practices consistent with geologic and geotechnical industry standards for forest slope stability in the region, at the time of this report. It is not possible to predict slope movement with certainty with the available scientific knowledge.

Do not rely on the interpretations or conclusions presented in this memorandum for any activities other than those evaluated for the proposed Hog Wild timber harvest. If any changes in the proposed FPA or road plan are formulated or carried out differently in the field than currently proposed, conclusions and recommendations shall not be considered valid unless those changes are reviewed in writing by the author or author's representative. No one other than the DNR should rely on this report.

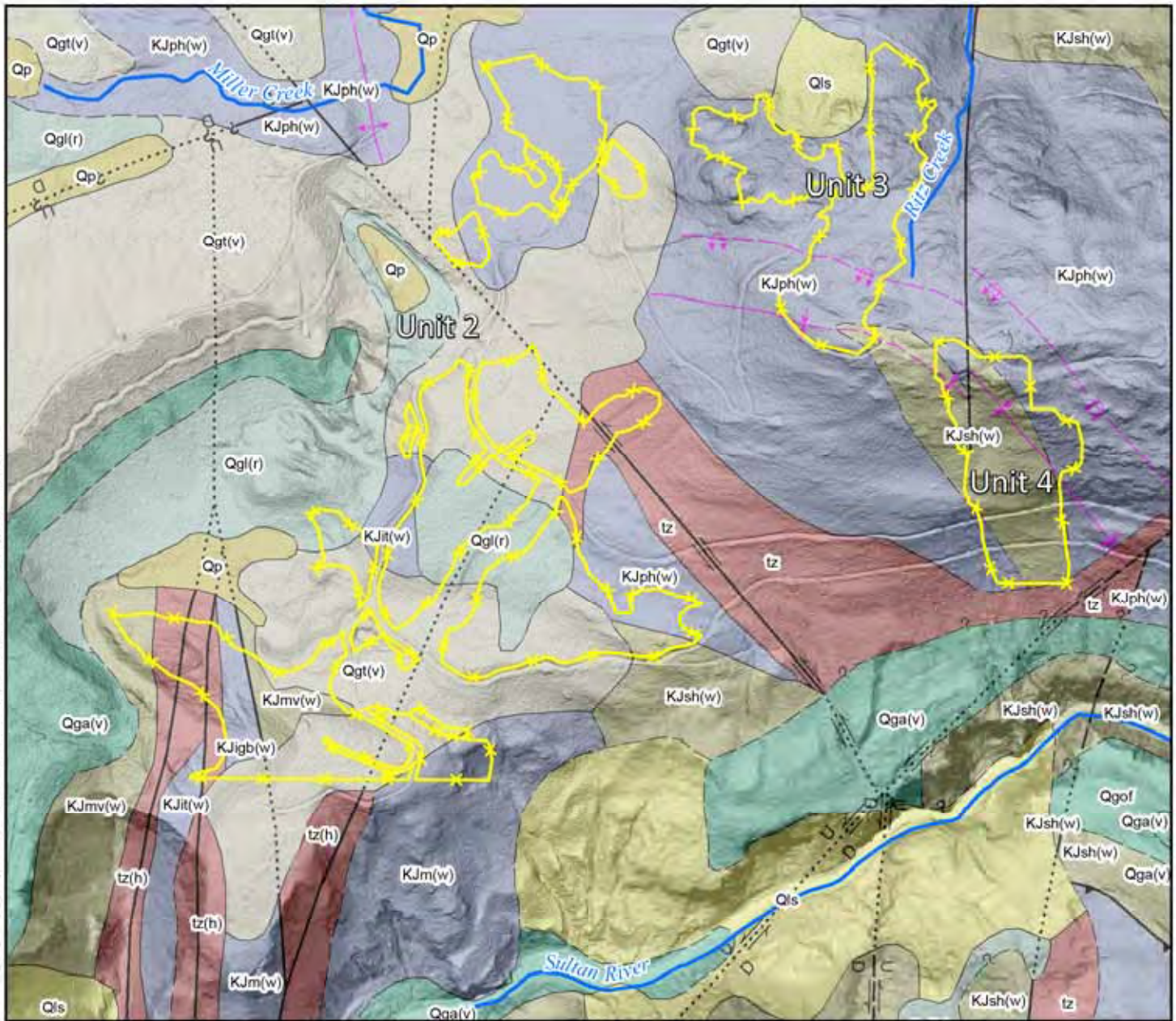
ATTACHMENTS:

- Figure 1, Vicinity Map
- Figure 2, Geologic Map
- Figure 3, Landslide Inventory Map
- Figure 4, Geomorphology Map – Unit 4
- Figure 5, Geomorphology Map – Unit 2
- Figure 6, Geomorphology Map – Unit 3



3/17/2023

Noah Dudley, QE, LEG # 19110609
State Lands Geologist



Legend

- | | | | | |
|---|---|--|--|--|
| <p>Timber Sale Units</p> <p>Quaternary Rocks and Deposits</p> <ul style="list-style-type: none"> Qp - Quaternary bog, marsh, swamp, or lake deposits Qls - Quaternary mass-wasting deposits Qga(v), Qgof, Qgos - Pleistocene continental drift Qgt(v) - Pleistocene continental glacial till Qgl(r) - Pleistocene glacialacustrine deposits <p>Mesozoic Rocks</p> <ul style="list-style-type: none"> KJit(w) - Mesozoic heterogeneous metamorphic rocks KJmv(w) - Mesozoic metavolcanic rocks | <p>Other</p> <ul style="list-style-type: none"> Tz - Tectonic zones Contact - identity and existence certain, location accurate Contact - identity or existence questionable, location accurate Contact - identity and existence certain, location approximate Contact - identity or existence questionable, location approximate | <ul style="list-style-type: none"> (F) Thrust, certain accurate (F) Thrust, certain concealed (C) High-angle, questionable accurate (C) High-angle, questionable concealed (D) Left-lateral, certain accurate (D) Left-lateral, certain approximate (D) Left-lateral, certain concealed | <ul style="list-style-type: none"> (Ec) Oblique high-angle left-lateral, certain accurate (Ec) Oblique high-angle left-lateral, certain approximate (Ec) Oblique high-angle left-lateral, certain concealed (A) Fault, certain accurate (A) Fault, certain approximate (A) Fault, certain concealed (A) Anticline, certain accurate | <ul style="list-style-type: none"> (B) Syncline, certain accurate (B) Syncline, certain approximate (C) Overturned anticline, certain approximate |
|---|---|--|--|--|

Fig. 2

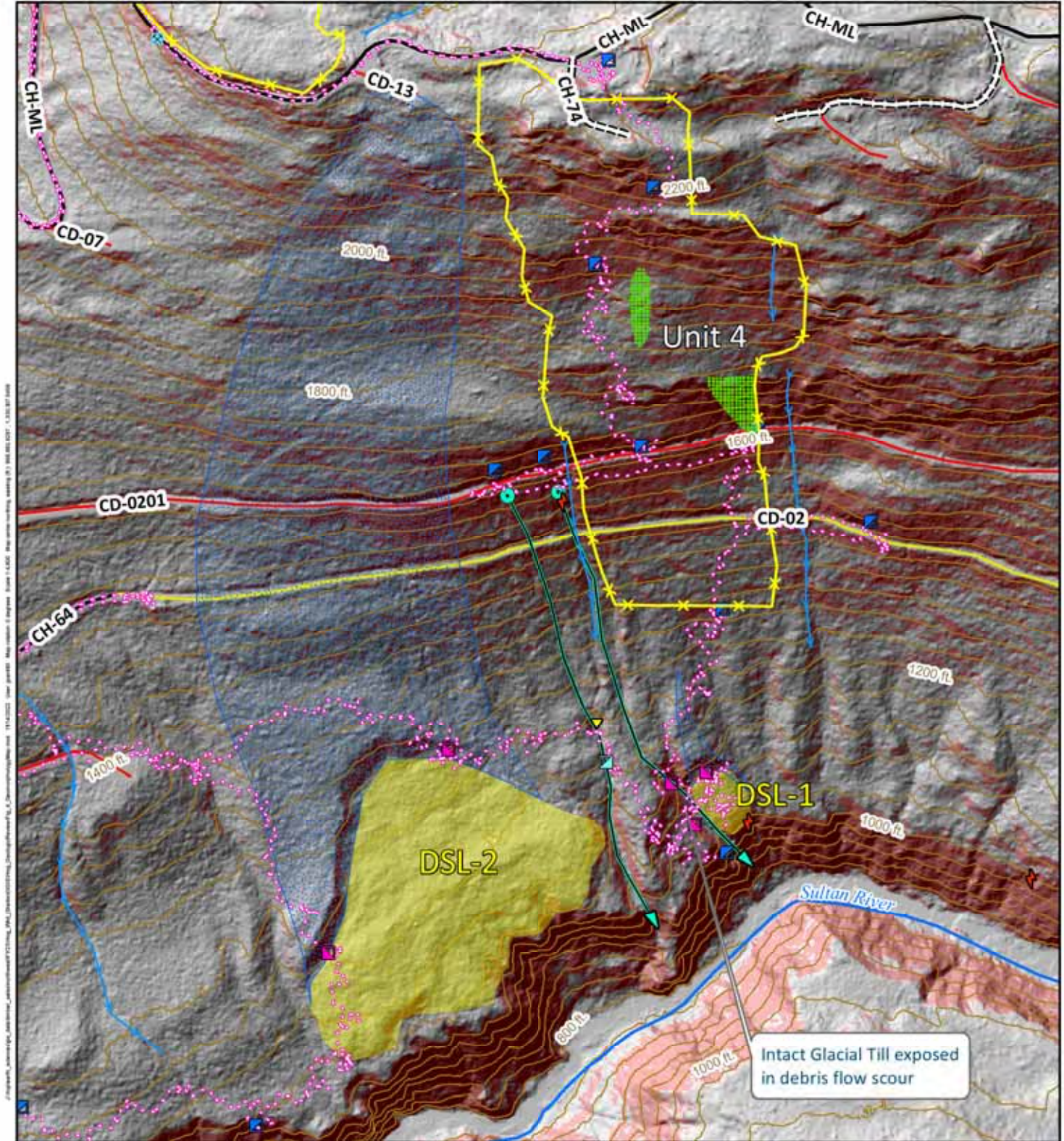
GEOLOGIC MAP
Hog Wild Timber Sale

Modified After: Dragevick, Joe D.; Frattali, Christina L.; Anderson, Megan L.; Mahan, Shannon A.; MacDonald, James H., Jr.; Stoker, Bruce A.; Smith, Daniel T.; Koger, Curtis J.; Calkie, Becep; DuFrane, S. Andrew; Sauer, Kirsten B., 2014, Geologic map of the Lake Chaplain 1.5-minute quadrangle, Snohomish County, Washington: WADGERS Map Series 2014-01.

1,000 Ft. Scale 1:12,000

Washington State Department of Natural Resources





/Users/.../Documents/.../Unit 4_Geomorphology_Map_Fig_4.docx
 11/14/2022 10:00 AM
 1:4,800
 2818980

Legend <ul style="list-style-type: none"> ■ Timber Sale Units ■ Leave Tree Areas — Proposed Road Construction — Forester Delineated Streams ● Forester identified bedrock locations ■ WGS Recent Landslides — Geologist Tracks — Slope 0 - 70% — Slope > 70% — 40-ft contour ▽ Bedrock hollow — Debris Flow Paths — Glacial DSL groundwater recharge — Glacial deep-seated landslide 		Geologic Material <ul style="list-style-type: none"> ■ Bedrock ■ Glacial Till ■ Glaciolacustrine 	State Lands - Roads by Activity Status Road Status <ul style="list-style-type: none"> — 1: Active — 5: Approved Abandoned — 6: Orphaned 	
--	--	--	--	--

Intact Glacial Till exposed in debris flow scour

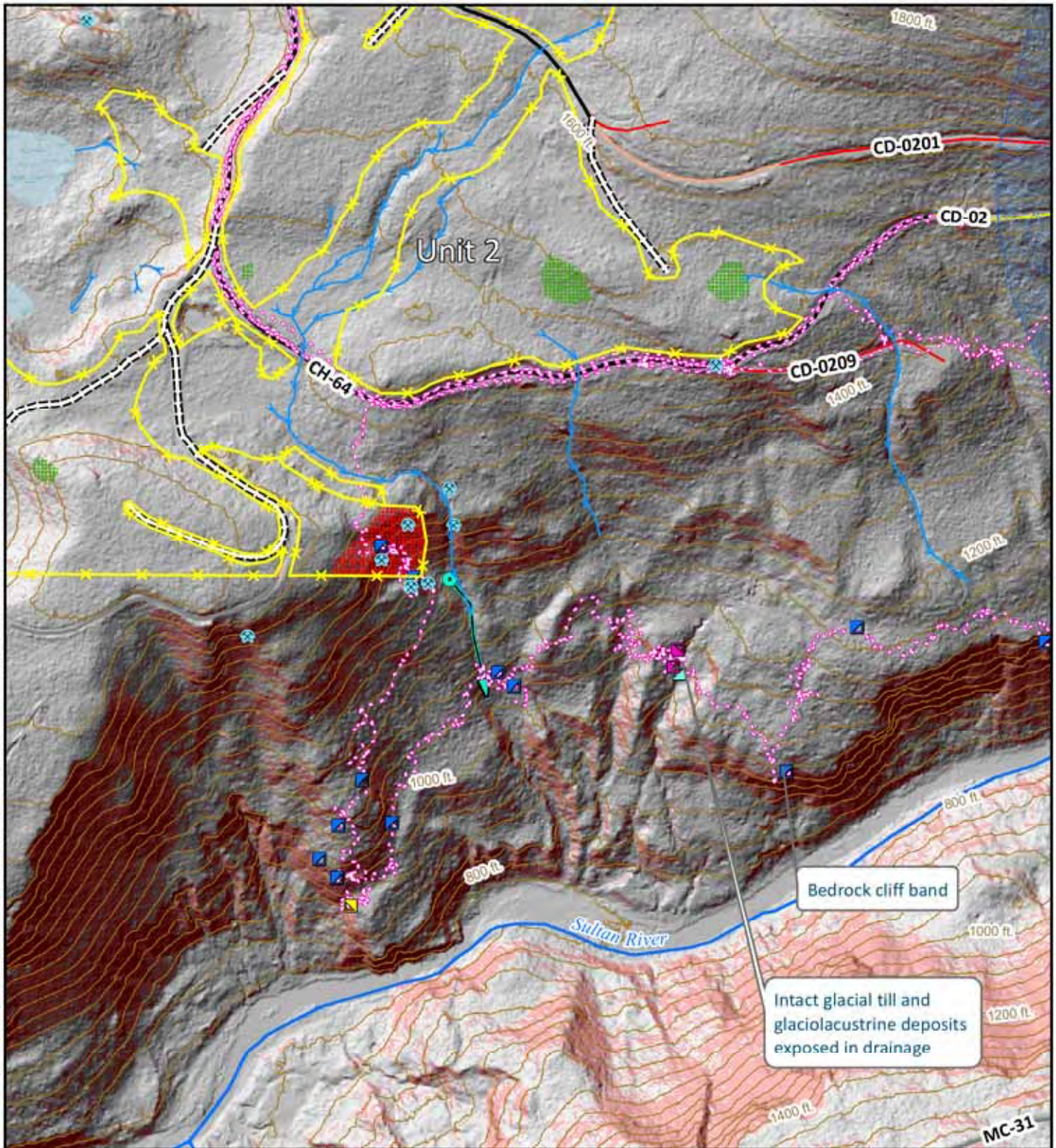
Fig. 4

GEOMORPHOLOGY MAP - UNIT 4
Hug Wild Timber Sale

400 Ft. Scale 1:4,800

Washington State Department of Natural Resources





File Path: \\c:\temp\map_data\geomorphology\fig5_fig5.mxd
 Date: 12/15/2010 10:00 AM
 User: jkelly

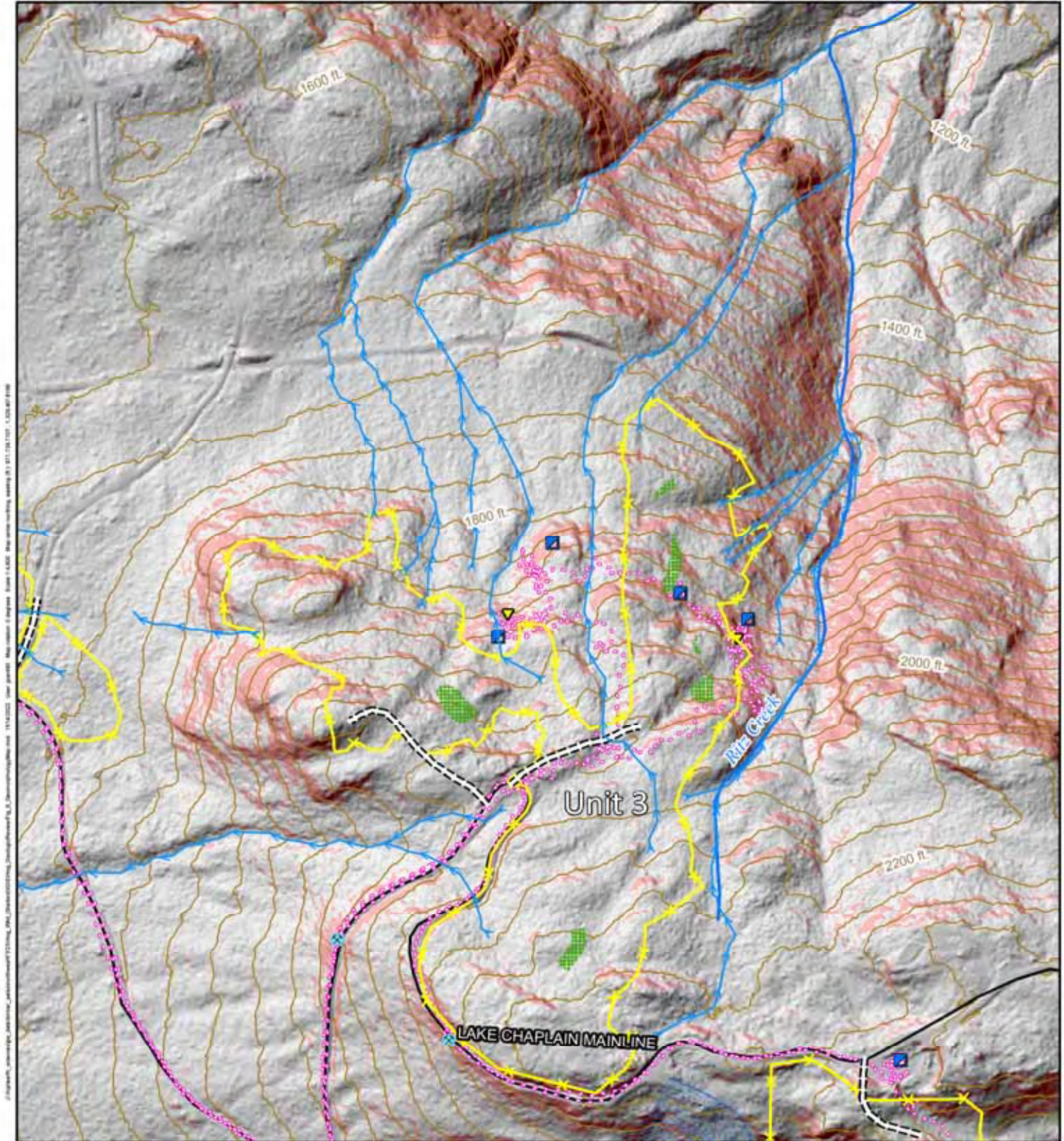
Timber Sale Units	Forester identified bedrock locations	Glacial DSL groundwater recharge	Outwash
Proposed Road Construction	Geologist Tracks	Bedrock	Glacial Till
Tradeable Leave Trees	Slope 0 - 70%	Glaciolacustrine	
Non-tradeable Leave Trees	Slope >70%		
Forester Delineated Streams	40-ft contour		
Debris Flow Paths			



Fig. 5 **GEOMORPHOLOGY MAP - UNIT 2**
 Hog Wild Timber Sale

500 Ft. Scale 1:6,000

Washington State Department of Natural Resources



/Users/.../Documents/.../Unit 3_Geomorphology_Map_3D_20180808.mxd
 11/14/2018 10:58:58 AM
 1:4,800
 10/11/2018 10:58:58 AM
 1:4,800
 10/11/2018 10:58:58 AM

Legend		Glacial DSL groundwater recharge Geologic Material Bedrock	
Timber Sale Units Leave Tree Areas Streams Proposed Road Construction Forester identified bedrock locations	Geologist Tracks Slope 0 - 70% Slope >70% 40-ft. contour Bedrock hollow		

Fig. 6 GEOMORPHOLOGY MAP - UNIT 3 Hog Wild Timber Sale	400 Ft. 	Scale 1:4,800	
	Washington State Department of Natural Resources		

Watershed Analysis Worksheet

(Use a separate worksheet for each Watershed Analysis Unit)

Watershed Administrative Unit Name: Woods Creek

Check all of the following that apply:

- I have reviewed the Watershed Analysis Prescription documents. My proposal is not located on or adjacent to any of the described features. Prescriptions do not effect my proposal.
- I have reviewed the descriptions and maps for all prescriptions.
My proposal is located on or adjacent to the following prescription areas:
 - Surface Erosion Prescriptions
 - Mass Wasting Prescriptions
 - Hydrology Prescriptions
 - Water Quality
 - Water Supply / Public Works
 - Riparian – applicable to landowners using the 20 acre exempt RMZ rule

Complete the following information for each prescription that affects your proposal or is adjacent to your proposal. Identify the resource sensitivity name and if you are implementing the prescriptions or not.

Attach required reports and additional information as necessary.

Resource Sensitivity Name/No:	Implementing Prescription: Yes or No
Describe harvest techniques proposed	
Describe road techniques proposed	
Describe other techniques proposed	

Resource Sensitivity Name/No:	Implementing Prescription: Yes or No
Describe harvest techniques proposed	
Describe road techniques proposed	
Describe other techniques proposed	

Resource Sensitivity Name/No:	Implementing Prescription: Yes or No
Describe harvest techniques proposed	
Describe road techniques proposed	
Describe other techniques proposed	

Watershed Analysis Worksheet Instructions

This form must be submitted along with your Forest Practice Application/Notification (FPA) form if:

- You are harvesting timber (including salvage) or constructing roads within or adjacent to an approved Watershed Administrative Unit. OR
- If you answered yes to Question # 5 of the FPA because you are substituting Watershed Analysis Prescriptions.

A separate worksheet should be used for each Watershed Administrative Unit.

The following information must be included in the space provided or on additional pages.

- The name of the Watershed Administrative Unit where your proposal is located.
- Check all of the boxes that apply regarding your review of Watershed Analysis Prescriptions.
- Indicate each Resource Sensitivity Name (prescription name) that may affect your proposal.
- Indicate if you are implementing the prescription.
- Describe the specific harvest, road and other techniques you will use to implement the prescription.

Many prescriptions provide a landowner with a variety of different operational options. Sufficient detail needs to be included so that we can evaluate your proposal.

If your proposal is located on an area of resource sensitivity (prescription) AND you are choosing not to follow the prescription your FPA will be processed as a Class IV-Special and require a State Environmental Policy Act (SEPA) checklist.

Forest Practices Application/Notification Addendum
State Trust Lands Habitat Conservation Plan (HCP) Addendum Implementation Checklist
for the Marbled Murrelet, 2019

OESF, Columbia, South Coast, South Puget, North Puget, and Straits HCP Planning Units

Refer to DNR's *State Trust Lands Final Habitat Conservation Plan Amendment for the Marbled Murrelet Long-term Conservation Strategy (MM LTCS) (2019)* and Memorandum for Phase One Implementation of the Marbled Murrelet Long-term Conservation Strategy (12/4/2019). The marbled murrelet GIS layer is available on the Quick Data Loader and State Uplands Viewing Tool and is titled "State Lands – Marbled Murrelet – HCP Policy."

1. Is the proposed Forest Practices activity within an occupied site?
 Yes, the proposal is inconsistent with the MM LTCS. Stop the proposed activity or document in Question #6 specifics of how the proposal follows MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, and provide approval from the Forest Resources Division.
 Not within an occupied site. Go to Question #2.
2. Is the proposed activity within an occupied site buffer?
 Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
 Not within outer occupied site buffer. Go to Question #3.
3. Is the proposed activity within a special habitat area (SHA)?
 Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
 Not within an SHA. Go to Question #4.
4. Is the proposed activity in marbled murrelet habitat within long-term forest cover?
 Yes, must follow MM LTCS guidance, as outlined in the Memorandum dated 12/04/2019, for the type of forest practices activity and document compliance with MM LTCS guidance in Question #6. If inconsistent with the MM LTCS, stop the proposed activity.
 Not within marbled murrelet habitat within long-term forest cover. Go to Question #5.
5. Is the proposed activity in marbled murrelet habitat that is identified for metering in the first decade of the implementation of the MM LTCS?
 Yes, must follow MM LTCS metering guidance, as outlined in the Memorandum dated 12/04/2019, for the type for forest practices activity. Document compliance with MM LTCS metering guidance in Question #6. If inconsistent with MM LTCS metering guidance, stop the proposed activity.
 Not within marbled murrelet habitat within long-term forest cover.
6. If directed to provide further documentation from any of the above questions, provide that information here. Additional information relevant to the proposal may also be added in this section. Also attach any documentation of consultations with the Forest Resources Division.

This proposal is consistent with the Long Term Conservation Strategy for the Marbled Murrelet.

**Forest Practices Application/Notification Addendum DNR
State Trust Lands HCP Implementation Checklist for the
Northern Spotted Owl, 2017 (all HCP planning units & OESF)**

Refer to the DNR State Trust Lands HCP Implementation Agreement for the NSO, 2017.

1. Is the Forest Practice activity within a NRF Management Area?
 Yes, Go to #2.
 No, Go to #6.
2. Is the Forest Practice activity within a designated 500-acre Nest Patch?
 Yes, Harvesting within a nest patch is **inconsistent** with HCP without consultation, refer to Substitution Agreement, Section I.A. **Stop Proposed Activity** or document in Question #17 the specifics of proposal and Forest Resources Division concurrence if intending to proceed. Maintenance of existing roads is permitted, describe road maintenance activity in Question #17. If able to proceed, go to #3.
 No, Go to #3.
3. Is the Forest Practice activity within 0.7 miles of a spotted owl nest site (status 1 or 2)?
 Yes, Apply timing restrictions; refer to Substitution Agreement, Section I. Go to #4.
 No, Go to #4.
4. Is the SOMU where the Forest Practice activity is located above the target amount of 50% NRF habitat?
 Yes, Proceed with the activity, ensuring that habitat within the SOMU will not fall below the target amount of 50% and no more than 5% of sub-mature or better habitat within the SOMU is harvested within two years. Please describe in Question #17; if the activity will be harvesting habitat or non-habitat, whether it is an enhancement activity or even- age harvest and how many acres or percentage of NRF habitat will remain within the SOMU after harvest. Go to #16.
 No, Go to #5.
5. Is the Forest Practice activity within suitable sub-mature habitat or better or “next best”?
 Yes, Ensure NRF habitat remains after completion of the harvest activity or that the activity will not increase the length of time for the target amount to reach a suitable habitat condition. Please describe in Question #17, type of activity, how habitat will be maintained or next best stands enhanced and what the final stand condition will be. Go to #16.
 No, Ensure that target amount of habitat within the SOMU will not take longer to achieve after activity. Please describe in Question #17 how management activity will maintain and/or achieve the NRF target amount. Go to #16.
6. Is the Forest Practice activity within a Dispersal or DFC Management Area?
 Yes, Go to #7.
 No, Go to #10.
7. Is the Forest Practice activity within 0.7 miles of a spotted owl nest site (status 1 or 2)?
 Yes, Apply timing restrictions; refer to Substitution Agreement, Section I. Go to #8.
 No, Go to #8.
8. Is the SOMU where the Forest Practice activity is located, above the target amount of 50% dispersal habitat?
 Yes, Proceed with the activity, ensuring that habitat within the SOMU will not fall

below the target amount of 50%. Please describe in Question #17; if the activity will be harvesting habitat or non-habitat, whether it is an enhancement activity or even- age harvest and how many acres or percentage of dispersal habitat will remain within the SOMU after harvest. Go to #16.

No, Go to #9.

9. Is the Forest Practice activity within suitable dispersal habitat or better or “next best”?

Yes, Ensure dispersal habitat remains after completion of the harvest activity or that the activity will not increase the length of time for the target amount to reach a suitable habitat condition. Please describe in Question #17, type of activity, how habitat will be maintained or next best stands enhanced and what the final stand condition will be. Go to #16.

No, Ensure that target amount of habitat within the SOMU will not take longer to achieve after activity. Please describe in Question #17 how management activity will maintain and/or achieve the dispersal target amount. Go to #16.

10. Is the Forest Practice activity located within the OESF?

Yes, Go to #11.

No, Go to #16.

11. Is the Forest Practice Activity within Young Forest Habitat, Old Forest Habitat, or a Pathways Management Candidate Stand?

Yes, Go to #12.

No, Proceed with the activity, Please describe in Question #17; whether it is an enhancement activity or even-age harvest and how many acres. Describe percentage of suitable habitat will remain within the SOMU after harvest. Go to #16.

12. Is the Forest Practice activity in a SOMU in the maintenance and enhancement phase?

Yes, Activity can proceed if it ensures commitments to OESF Forest Land Plan as described within the Substitution Agreement, Section II and that habitat within the SOMU will not fall below the target amount. For Old Forest Habitat both the 20% Old Forest and 40% Young Forest and Better thresholds must be maintained. Active and Passive Pathways Management Candidate Stands are available if thresholds are maintained. Please describe in Question #17 how management activity will maintain habitat thresholds and how any candidate stands will be managed in accordance with the pathway prescription. Go to #16.

No, Go to # 13.

13. Is the Forest Practice activity in Old Forest Habitat in a SOMU that is in the Restoration Phase?

Yes, No harvesting of Old Forest Habitat is allowed during the Restoration Phase.

No, Go to #14.

14. Is the Forest Practice activity a regeneration harvest of Young Forest Habitat in a SOMU that is in the Restoration Phase?

Yes, No regeneration harvest of Young Forest Habitat in a SOMU during the Restoration Phase without consultation with the HCP and Scientific Consultation Section. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest. Document the reasons for harvest of young forest habitat and provide documentation of approval. Go to #16.

No, Go to #15.

15. Is the Forest Practice activity in an Active or Passive Pathways Management Candidate Stand in a SOMU that is in the Restoration Phase?
- Yes, No harvesting of Passive Pathways Management Candidate Stand is allowed during the Restoration Phase. Active Pathways Management Candidate Stands can only have thinning activities. Please describe in Question # 17 how management activity will maintain habitat thresholds or how thinning activities will enhance habitat. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest.
- No, Proceed with the activity, if commitments to the OESF Forest Land Plan as described within the Substitution Agreement and the SOMU are maintained and habitat does not fall below the minimum threshold. Please describe in Question # 17 how management activity will maintain habitat thresholds or how thinning activities will enhance habitat. Describe in #17 how many acres or percentage of suitable habitat will remain within the SOMU after harvest. Go to #16.
16. Is the Forest Practice activity located within a Status 1 or 2 spotted owl management circle based on the WDFW database?
- Yes, Apply harvest timing restrictions to activities within the best 70-acre core around the site center; refer to Substitution Agreement, Section III. Include location of best 70-acre core on Forest Practices Map. Go to #17.
- No, Go to #17.
17. Provide any additional information or details requested from previous questions on the following lines. If no additional information is required, simply state “not applicable” below. Otherwise, include the SOMU name(s) when necessary if activity is within NRF or dispersal management areas or OESF and how habitat will be maintained or enhanced, etc. If varying from standard HCP guidance, attach concurrence/variance approval from Land Management Division and/or Federal Services and discuss below.

End checklist.

The proposal is not located on lands managed for the Northern Spotted Owl.

**Forest Practices Application/Notification Addendum
DNR Proprietary HCP, WAC Replacement Summary for Aquatic Resources, 2008
Five West-side Planning Units, Excluding the OESF**

Please refer to the DNR Proprietary HCP Substitution Agreement for Aquatic Resources, 2008. Please check all HCP prescriptions and/or activities, which are relevant to this proposal and describe the management prescriptions and final stand composition at the end of this checklist.

NOTE: When assessing hydrologic maturity for each sub-basin inside the rain-on-snow zone, DNR staff will use the most updated data layer delineating Watershed Administrative Units as designated by Forest Practices.

- Assessing Hydrologic Maturity in the Rain-On-Snow (ROS) Zone (Refer to item A in the Agreement Memo). If the activity lies within the ROS zone and subbasin will be managed for ROS, fill out the following table. If within ROS zone, but subbasin will not be managed for ROS, describe why in additional information section below.

1. SUB-BASIN NAME	2. TOTAL ROS ACRES (DNR) WITHIN SUB-BASIN	3. HYDRO MATURE TARGET ACRES (2/3 of Column 2)	4. CURRENT DNR SUB-BASIN ACRES IN HYDRO MATURE FOREST IN ROS	5. ACRES OF HYDRO MATURE FOREST TO BE REMOVED	6. SUPRPLUS (+) OR DEFICIT (-) ACRES AFTER ACTIVITY
Pilchuck Mtn Sub-basin 19*					
Sultan River Sub-basin 9*					

- Wetlands Protection, road construction within wetlands or wetland buffers, requires mitigation. (Refer to item B in the Agreement Memo). If this activity will include road construction within a wetland or WMZ, describe the type of wetland, potential loss of wetland function and how and where the loss of function will be mitigated.
- Harvesting within Forested Wetlands. (Refer to items C & E in the Agreement Memo). Describe the remaining stand characteristics within the wetland and map any forested wetlands greater than 3 acres.
- Wetland Management Zones. (Refer to item D in the Agreement Memo). Describe the site index and WMZ width. If harvesting within the WMZ, describe the remaining stand characteristics within the WMZ.
- Riparian Management Zones for Type 1, 2 and 3 Waters (Refer to item F and Appendix 1 in the Agreement Memo). Describe the site index, RMZ width and if a wind buffer was applied. Describe if the RMZ begins from the outer edge of a CMZ or 100-year floodplain and how they were typed.
- Riparian Management Zones for Type 4 and 5 Waters (Refer to item G and Appendix 1 in the Agreement Memo). Describe any special protection for Type 5 waters.
- Harvesting or Salvaging within Type 1, 2, 3 and 4 Riparian Management Zones. (Refer to item F-J and Appendix 3 in the Agreement Memo). If harvesting, describe the general

HCP Riparian Forest Restoration Strategy management scenario under which the proposal's riparian stand will be managed. Describe stand treatment including removals, down wood and snag recruitment and type of activities. Describe post-harvest stand; how it meets the management parameters of the general management scenario, what species composition and diameter classes will remain, trees per acre, basal area, relative density. If salvaging, describe how you will be meeting the RDFC conditions, what you will retain and removals and other salvage/restoration conditions described within the Ecosystem Services Section approved site specific restoration plan (and/or attach plan).

Please provide any requested additional information below. If varying from standard HCP guidance, attach concurrence/variance approval from Land Management Division and/or Federal Services and discuss below (e.g. research).

Assessing Hydrologic Maturity in the Rain-on-Snow Zone

Timber harvest will occur in the Rain-on-Snow zone of the Pilchuck Mountain WAU sub-basin 17 and Sultan River WAU sub-basin 8. Neither of these sub-basins will be managed for hydrologic maturity in the rain-on-snow zone because less than 2/3 of the total acres in each sub-basin is within the rain-on-snow zone.

*Pilchuck Mountain WAU, sub-basin 19 AND Sultan River, sub-basin 9:

See attached two reports, Level 1 hydrologic change analysis for proposed timber sale in sub-basin 19 of Pilchuck Mountain WAU and Level 1 hydrologic change analysis for proposed timber sale in sub-basin 9 of Sultan River WAU. Both reports dated November 21, 2022.

Wetlands protection road construction through wetland buffers

The HCP requires on-site and in-kind equal acreage mitigation for new road construction through wetlands and their buffers (HCP IV.70). Segments of ROW 1 and ROW 2 pass through unmanaged WMZs and are associated with orphaned grades. The road prism is still intact and the clearing limits of the old road are naturally regenerating, primarily with red alder, western hemlock, and vine maple. Similar areas of early seral forest type are not found within the adjacent harvest units. Therefore it was determined that in-kind mitigation to meet the spirit and intent of the HCP would be best met by marking individual leave trees along the tagged WMZ boundaries. In addition to the specific mitigation trees that were marked for the ROWs, Unit 2 (including all sub-units) contains an additional 21 leave trees in excess of the 8 trees per acre minimum required.

Wetland Management Zones

Forested and non-forested wetlands exist adjacent to this proposal. Wetlands between 0.25 acre and 1 acre are protected with 100-foot buffers. Wetlands greater than 1 acre are protected with site index buffers. There is a mixture of both managed and unmanaged buffers associated with this proposal. There are six managed WMZs associated with this proposal. These buffers will be treated with a thin from below strategy with a target density post-thinning of approximately 110-120 trees per acre with a 20' x 20' average spacing.

Riparian Management Zones for Type 1, 2, and 3 Waters

There are no type 1 or 2 streams adjacent to this proposal. Type 3 streams are protected with no-

harvest, site index buffers.

Riparian Management Zones for Type 4 and 5 Waters

All type 4 streams are protected with 100 foot buffers. There is a mixture of both managed and unmanaged type 4 stream buffers associated with this proposal. Type 5 streams will have a 30-foot equipment limitation zone. All trees are to be felled and yarded perpendicular to and away from streams where feasible.

Harvesting or Salvaging within Type 1, 2, 3, and 4 Riparian Management Zones

There are two type 4 streams that will have a managed RMZ. These buffers will be treated with a thin from below strategy with a target density post-thinning of approximately 110-120 trees per acre with a 20' x 20' average spacing.

See attached table for stream and wetland buffer widths and site index. The table also includes a list of which stream and wetland buffers will be managed.

**Forest Practices Application/Notification Addendum
DNR Proprietary HCP, WAC Replacement Summary for Aquatic Resources, 2008
Five West-side Planning Units, Excluding the OESF**

Stream Segment Identifier or Wetland Identifier	Water Type or Wetland "forested or open water"	Site Class FP Base Map / Other source	Stream Width (feet) or Wetland Size	Is there a CMZ? Yes or No	Thinning RMZ/WMZ? Yes or No	Total Width of RMZ/WMZ Actual width (feet)	Wind Buffer? Yes, No (for T-3, 2, 1) or N/A
A	5	III	< 2.0	No	No	30' ELZ	N/A
AZ	5	III	< 2.0	No	No	30' ELZ	N/A
AZB	5	III	< 2.0	No	No	30' ELZ	N/A
AZD	5	III	< 2.0	No	No	30' ELZ	N/A
AZE	5	III	< 2.0	No	No	30' ELZ	N/A
AZG	5	III	< 2.0	No	No	30' ELZ	N/A
B	5	III	< 2.0	No	No	30' ELZ	N/A
BY	5	III	< 2.0	No	No	30' ELZ	N/A
C	5	III	< 2.0	No	No	30' ELZ	N/A
CA	5	III	< 2.0	No	No	30' ELZ	N/A
CB	5	III	< 2.0	No	No	30' ELZ	N/A
CX	5	III	< 2.0	No	No	30' ELZ	N/A
D	5	III	< 2.0	No	No	30' ELZ	N/A
EA	5	III	< 2.0	No	No	30' ELZ	N/A
EB	5	III	< 2.0	No	No	30' ELZ	N/A
EV	5	III	< 2.0	No	No	30' ELZ	N/A
G	5	III	< 2.0	No	No	30' ELZ	N/A
GU	5	III	< 2.0	No	No	30' ELZ	N/A
GUB	5	III	< 2.0	No	No	30' ELZ	N/A
GUC	5	III	< 2.0	No	No	30' ELZ	N/A
H	5	III	< 2.0	No	No	30' ELZ	N/A
HT	5	III	< 2.0	No	No	30' ELZ	N/A
I	5	III	< 2.0	No	No	30' ELZ	N/A
IR	5	III	< 2.0	No	No	30' ELZ	N/A
K	5	III	< 2.0	No	No	30' ELZ	N/A
KP	5	IV	< 2.0	No	No	30' ELZ	N/A
M	5	III	< 2.0	No	No	30' ELZ	N/A
P	5	III	< 2.0	No	No	30' ELZ	N/A
Q	5	III	< 2.0	No	No	30' ELZ	N/A
QB	5	III	< 2.0	No	No	30' ELZ	N/A
QC	5	III	< 2.0	No	No	30' ELZ	N/A
QD	5	III	< 2.0	No	No	30' ELZ	N/A

QE	5	III	< 2.0	No	No	30' ELZ	N/A
R	5	III	< 2.0	No	No	30' ELZ	N/A
T	5	III	< 2.0	No	No	30' ELZ	N/A
U	5	III	< 2.0	No	No	30' ELZ	N/A
V	5	III	< 2.0	No	No	30' ELZ	N/A
W	5	III	< 2.0	No	No	30' ELZ	N/A
X	5	III	< 2.0	No	No	30' ELZ	N/A
Z	5	III	< 2.0	No	No	30' ELZ	N/A
E	4	III	> 2.0	No	Yes	100'	N/A
J	4	III	> 2.0	No	No	100'	N/A
L	4	III	> 2.0	No	No	100'	N/A
QA	4	III	> 2.0	No	Yes	100'	N/A
QAB	4	III	> 2.0	No	No	100'	N/A
UA	4	III	> 2.0	No	No	100'	N/A
AZA	4	III	> 2.0	No	No	100'	N/A
AZC	4	III	> 2.0	No	No	100'	N/A
DW	4	III	> 2.0	No	No	100'	N/A
EVA	4	III	> 2.0	No	No	100'	N/A
EVB	4	III	> 2.0	No	No	100'	N/A
GUA	4	III	> 2.0	No	No	100'	N/A
JQ	4	III	> 2.0	No	No	100'	N/A
KA	3	III	> 2.0	No	No	172'	No
O	3	III	> 2.0	No	No	172'	No
Y	3	III	> 2.0	No	No	172'	No
Wetland WA	Forested	III	> 1 acre	N/A	No	165'	N/A
Wetland WD	Forested	III	>1 acre	N/A	Yes	172'	N/A
Wetland WE	Forested	III	>1 acre	N/A	Yes	172'	N/A
Wetland WG	Forested	III	> 0.25 acre < 1 acre	N/A	Yes	100'	N/A
Wetland WH	Forested	III	> 0.25 acre < 1 acre	N/A	Yes	100'	N/A
Wetland WJ	Forested	III	>1 acre	N/A	No	172'	N/A
Wetland WK*	Forested	III	> 0.25 acre < 1 acre	N/A	No	172'	N/A
Wetland WO	Forested	III	>1 acre	N/A	No	172'	N/A
Wetland WP	Forested	III	>1 acre	N/A	No	172'	N/A
Wetland WR	Forested	III	>1 acre	N/A	No	172'	N/A
Wetland WT*	Forested	III	> 0.25 acre < 1 acre	N/A	No	172'	N/A
Wetland WV	Forested	III	< 0.25 acre	N/A	No	0'	N/A
Wetland WW	Forested	III	> 0.25 acre < 1 acre	N/A	Yes	100'	N/A

Wetland WB	Open	III	>1 acre	N/A	Yes	165'	N/A
Wetland WC	Open	III	>1 acre	N/A	No	172'	N/A
Wetland WI	Open	III	>1 acre	N/A	No	172'	N/A
Wetland WL*	Open	III	> 0.25 acre < 1 acre	N/A	No	172'	N/A
Wetland WM*	Open	III	> 0.25 acre < 1 acre	N/A	No	172'	N/A
Wetland WQ	Open	III	>1 acre	N/A	No	172'	N/A
Wetland WU	Open	III	>1 acre	N/A	No	172'	N/A

*** Site Index buffer due to connectivity to type 3 stream**

DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID KA, O, Y

DATE 11/14/2022

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?

Yes. Type 3 stream.

No. Go to question # 2.

2. Has the stream been surveyed?

Yes. Attach the survey data to the Application/Notification.

Fish found. Type 3 stream.

No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high

water marks?

Yes. Type 4 stream.

No. Type 5 stream.

No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?

Yes. Go to question # 4.

No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?

(Example: 16' fall in elevation over 100 feet of stream = $16/100 = .16$ or 16%).

Yes. Type 3 stream.

No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?

Yes. Go to question # 6.

No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?

Yes. Type 3 stream.

No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 foot intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.

Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters.

1-14-08

DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID E, J, L, QA, QAB, UA, AZA, AZC, DW, EVA, EVB, GUA, JQ _____
DATE 11/14/2022 _____

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?

Yes. Type 3 stream.

No. Go to question # 2.

2. Has the stream been surveyed?

Yes. Attach the survey data to the Application/Notification.

Fish found. Type 3 stream.

No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high

water marks?

Yes. Type 4 stream.

No. Type 5 stream.

No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?

Yes. Go to question # 4.

No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?

(Example: 16' fall in elevation over 100 feet of stream = $16/100 = .16$ or 16%).

Yes. Type 3 stream.

No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?

Yes. Go to question # 6.

No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?

Yes. Type 3 stream.

No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 foot intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.

Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters.

1-14-08

DNR Trust Forestland HCP Water Typing Key

ADDENDUM TO INSTRUCTIONS FOR COMPLETING THE FOREST PRACTICE APPLICATION

STREAM(S) ID A, AZ, AZB, AZD, AZE, AZG, B, BY, C, CA, CB, CX, D, EA, EB, EV, G, GU, GUB, GUC, H, HT, I, IR, K, KP, M, P, Q, QB, QC, QD, QE, R, T, U, V, W, X, Z DATE 11/14/2022

Within your road construction and harvest area, you need to physically review these streams on the ground to determine if they meet the criteria of Type 3 water. Refer to DNR Trust Forestland HCP Water Typing System to determine Type 1 and 2 waters.

1. Were any fish observed in the stream segment, or are fish known to use this stream segment?

Yes. Type 3 stream.

No. Go to question # 2.

2. Has the stream been surveyed?

Yes. Attach the survey data to the Application/Notification.

Fish found. Type 3 stream.

No fish. Is the average width of the stream segment two feet (2') or wider between the ordinary high

water marks?

Yes. Type 4 stream.

No. Type 5 stream.

No. Go to question # 3.

3. Is the average width of the stream segment two feet (2') or wider between the ordinary high water marks?

Yes. Go to question # 4.

No. Type 5 Stream.

4. Is the gradient of the stream segment 16% or less?

(Example: 16' fall in elevation over 100 feet of stream = $16/100 = .16$ or 16%).

Yes. Type 3 stream.

No. Go to question # 5.

5. Is the average gradient of the stream segment greater than 16% and less than or equal to 20%?

Yes. Go to question # 6.

No.. Type 4 stream.

6. Is the contributing basin (watershed) size to the stream segment greater than 50 acres?

Yes. Type 3 stream.

No. . Type 4 stream.

Definitions:

Stream Width: To determine the Ordinary High Water Mark (OHWM) of the stream(s), observe the break between the water influence zone and upland vegetation on the stream bank; this is usually the spring high water mark. Then measure stream width between the OHWMs on either side of the stream at 50 foot intervals along the stream bank for a minimum distance of 500 feet. This determines the average width of the stream. For further information see page M-11 of the board manual.

Stream Gradient: The gradient of a stream is defined as the inclination or rate of fall of a stream bed, expressed as a percentage. The average gradient of a stream is determined by calculating the inclination of individual sub-reaches over a minimum distance of 500 feet along a stream or to a point where distinct gradient changes occur. For further information see page M-14 of the board manual (only use the method for field measurements; do not use the mapping method).

Note: Streams with widths of twenty feet (20') or greater or lakes, ponds, or impoundments having a surface area of 1 acre or greater at seasonal low water, may be type 2 waters.

1-14-08



Forest Practices Application/Notification
Notice of Decision

FPA/N No: 2818980

Effective Date: 5/11/2023

Expiration Date: 5/11/2026

Shut Down Zone: 658

EARR Tax Credit: [X] Eligible [] Non-eligible

Reference: Hog Wild

Decision

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

FPA/N Classification

- [] Class II [X] Class III [] Class IVG [] Class IVS

Number of Years Granted on Multi-Year Request

- [] 4 years [] 5 years

Conditions on Approval/Reasons for Disapproval

Timing Limitations on Type S and F water(s):

No timing limitations apply.

Condition(s) required for approval/disapproval:

No additional conditions apply.

Issued By: Bryent Daugherty

Region: Northwest Region

Title: Resource Protection Forester

Date: 5/11/2023

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

Issued in person: [X] LO [X] TO [X] OP By: [Signature] Date: 5/11/2023

Appeal Information

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

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	Office of the Attorney General Natural Resources Division	Department Of Natural Resources Northwest Region
<u>Physical Address</u> 1111 Israel Road SW Suite 301 Tumwater, WA 98501 <u>Mailing address</u> Post Office Box 40903 Olympia, WA 98504-0903	<u>Physical Address</u> 1125 Washington Street, SE Olympia, WA 98504 <u>Mailing Address</u> Post Office Box 40100 Olympia, WA 98504-0100	<u>Physical Address</u> 919 North Township Street Sedro-Woolley, WA 98284 <u>Mailing Address</u> 919 North Township Street Sedro-Woolley, WA 98284

Information regarding the Pollution Control Hearings Board can be found at: <https://eluhu.wa.gov/content/11>

Other Applicable Laws

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

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

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

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

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

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

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

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

DNR Declaration of Mailing

I Choose an item., caused the Notice of Decision for FPA/N No. _____ To be placed in the United States mail at **Sedro-Woolley, WA**; postage paid. I declare under penalty of perjury of the laws of the State of Washington, that the foregoing is true and correct.

(Date) (City & State where signed) (Signature)



ROAD PLAN AND SPECIFICATIONS #30-104148 HOG WILD TIMBER SALE

SHEET INDEX

PROJECT MAPS.....	1 - 2
ROAD CLAUSES.....	3 - 25
TYPICAL SECTION.....	26 - 28
MATERIAL LIST.....	29 - 30
FARMS.....	31 - 32
SPECIAL DETAILS.....	33
STANDARD DETAILS.....	34 - 36

LEGEND

PRE-HAUL MAINTENANCE	=====
REQUIRED CONSTRUCTION	-----
OPTIONAL CONSTRUCTION	- - - - -
REQUIRED RECONSTRUCTION	=====
OPTIONAL RECONSTRUCTION	- - - - -

T29R07E

23
EK-ML 0+00 =
Monroe Camp Rd MP 1.6

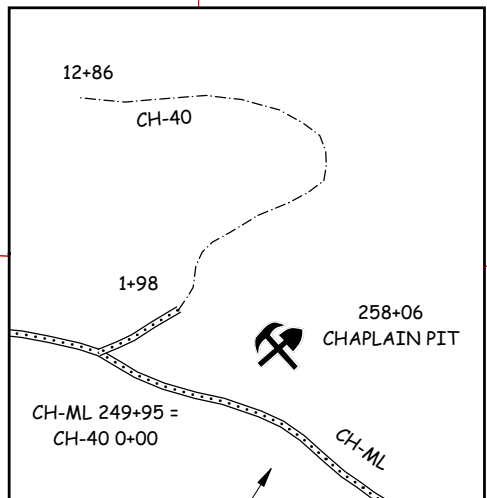
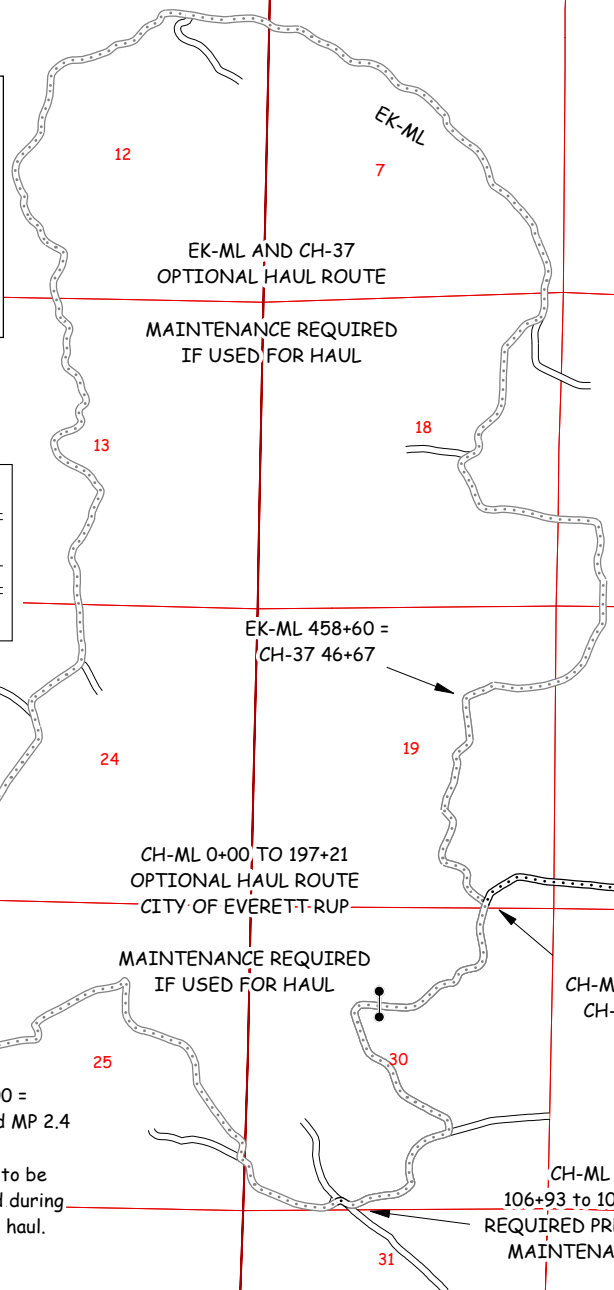
Gate at 0+15

26
Monroe Camp Rd

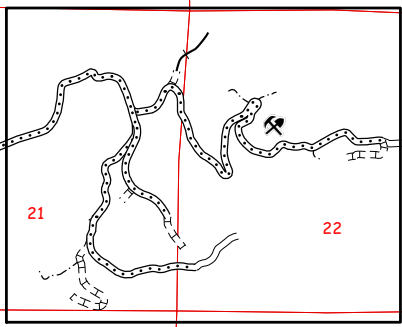
CH-ML 0+00 =
Monroe Camp Rd MP 2.4

Gate at 0+15 to be
shut and locked during
all periods of haul.

SCALE
0 1,000



SHEET 2 -- PROJECT MAP



T29R08E

EK-ML 458+60 =
CH-37 46+67

CH-ML 0+00 TO 197+21
OPTIONAL HAUL ROUTE
CITY OF EVERETT-RUP

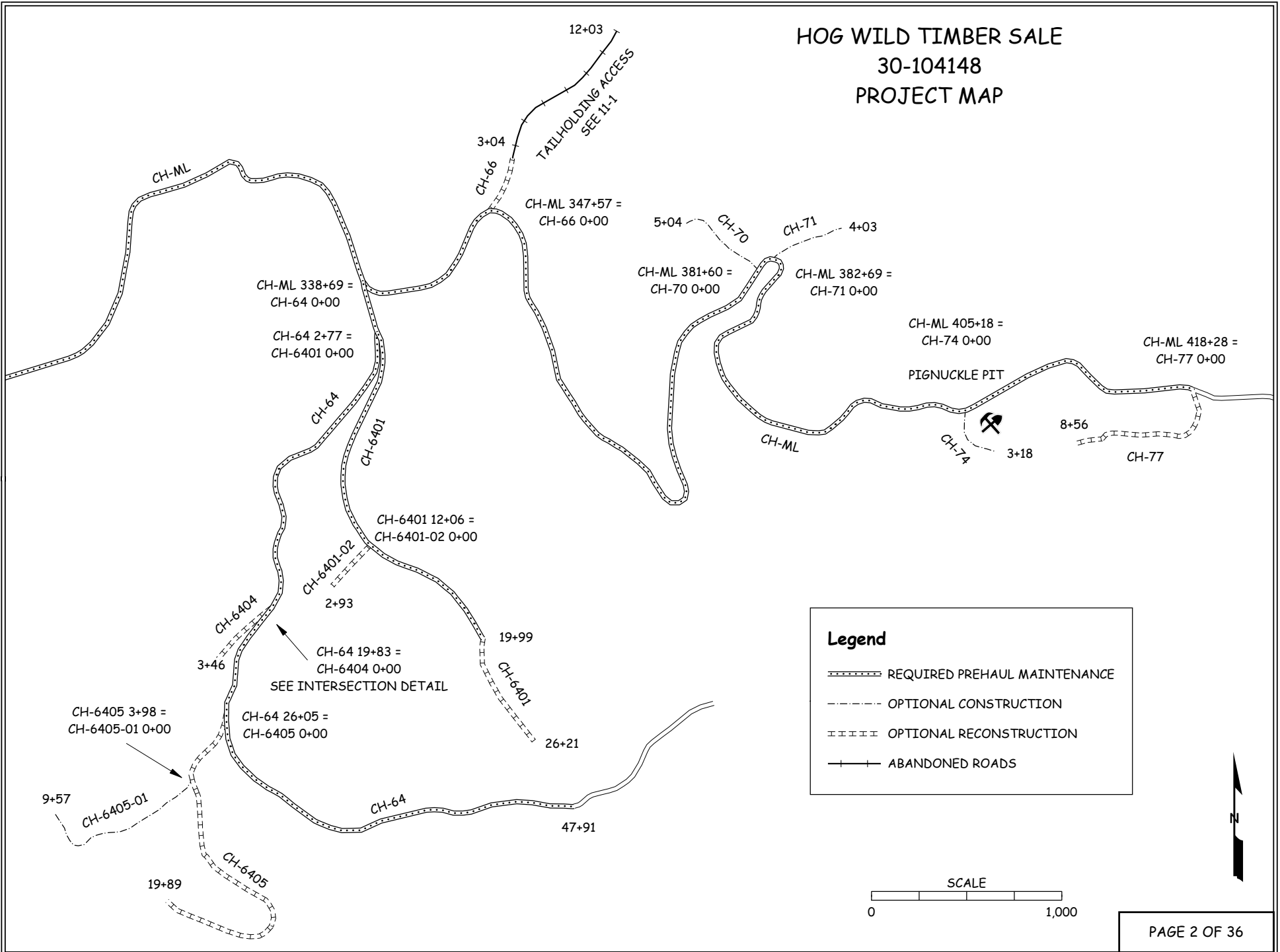
MAINTENANCE REQUIRED
IF USED FOR HAUL

CH-ML 197+21 =
CH-37 0+00

CH-ML
106+93 to 107+18
REQUIRED PREHAUL
MAINTENANCE

DESIGNED BY J. WESTRA	REVIEWED BY ZYLSTRA 11/9/2022	APPROVED BY ZYLSTRA 11/9/2022	PLAN DATE 10/25/22	SHEET 1 OF 36
--------------------------	-------------------------------------	-------------------------------------	-----------------------	------------------

HOG WILD TIMBER SALE 30-104148 PROJECT MAP



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

HOG WILD TIMBER SALE ROAD PLAN
SNOHOMISH COUNTY
CASCADE DISTRICT
NORTHWEST REGION

AGREEMENT NO.: 30-104148

STAFF ENGINEER: J. WESTRA

DATE: OCTOBER 25, 2022

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>
CH-ML	106+93 to 107+18 197+21 to 418+28	PREHAUL MAINTENANCE
CH-40	0+00 to 1+98	PREHAUL MAINTENANCE
CH-64	0+00 to 47+91	PREHAUL MAINTENANCE
CH-6401	0+00 to 19+99	PREHAUL MAINTENANCE

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
CH-ML	0+00 to 106+93 107+18 to 197+21	PREHAUL MAINTENANCE
CH-37	0+00 to 46+67	PREHAUL MAINTENANCE
CH-40	1+98 to 12+86	CONSTRUCTION
CH-6401	19+99 to 26+21	RECONSTRUCTION
CH-6401-02	0+00 to 2+93	RECONSTRUCTION
CH-6404	0+00 to 3+46	RECONSTRUCTION
CH-6405	0+00 to 19+89	RECONSTRUCTION
CH-6405-01	0+00 to 9+57	CONSTRUCTION
CH-66	0+00 to 3+04	RECONSTRUCTION
CH-70	0+00 to 5+04	CONSTRUCTION
CH-71	0+00 to 4+03	CONSTRUCTION
CH-74	0+00 to 3+18	CONSTRUCTION
CH-77	0+00 to 8+56	RECONSTRUCTION
EK-ML	0+00 to 458+60	PREHAUL MAINTENANCE

*PREHAUL MAINTENANCE is required on all road segments used as a haul route.

0-4 CONSTRUCTION

Construction may include, but is not limited to clearing, grubbing, excavation and embankment to subgrade, full bench construction, landing and turnout construction, culvert installation and application of 3-inch-minus ballast.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to clearing, grubbing, excavation and embankment to subgrade, landing and turnout construction, culvert installation and application of 3-inch-minus ballast.

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
CH-ML*	0+00 to 106+93	Brushing
CH-ML	106+93 to 107+18	Brushing, Culvert Replacement
CH-ML*	107+18 to 197+21	Brushing
CH-ML	197+21 to 418+28	Brushing
CH-37*	0+00 to 46+67	Brushing
CH-40	0+00 to 1+98	Brushing, Grading
CH-64	0+00 to 47+91	Brushing, Grading
CH-6401	0+00 to 19+99	Brushing, Grading, Ditch Reconstruction, Culvert Replacement, Rock Lift
EK-ML*	0+00 to 458+60	Brushing

*PREHAUL MAINTENANCE is required on these road segments if Purchaser chooses to haul any forest products over them. If the Purchaser loses the right to haul over the CH-ML due to violation of the associated RUP they must haul over the EK-ML and CH-37 and Purchaser shall conduct the required PREHAUL MAINTENANCE activities within 3 weeks of commencement of haul.

0-7 POST-HAUL MAINTENANCE

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

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve drilling, shooting and processing. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

<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. Road Plan Clauses.
3. Typical Section Sheet.
4. Standard Lists.
5. Standard Details.

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation.

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.

1-15 ROAD MARKING

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

- Orange flagging and/or stakes for road centerline

1-18 REFERENCE POINT DAMAGE

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

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 3 business days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

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

1-25 ACTIVITY TIMING RESTRICTION

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

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
ALL ROADS	ALL ACTIVITIES	November 1 to March 31

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

Purchaser's maintenance plan must include a total volume of rock that will be provided at the Purchaser's expense in addition to what is specified in this road plan. This rock shall be available before permission is granted to operate during the closure period and will be used as necessary along the haul route. The Contract Administrator may direct the Purchaser where to apply this maintenance rock.

Rock from stockpiles may not be used for out of season maintenance.

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 4 inches on crushed rock 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.

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.

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 all 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.

<u>Road</u>	<u>Stations</u>
CH-40	0+00 to 1+98
CH-64	0+00 to 47+91
CH-6401	0+00 to 19+99

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following roads, Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before timber haul.

<u>Road</u>	<u>Stations</u>
CH-64	0+00 to 47+91
CH-6401	0+00 to 19+99

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the PREHAUL MAINTENANCE roads, Purchaser shall cut vegetative material up to 6 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-8 PROHIBITED DECKING AREAS

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

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

3-10 GRUBBING

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

3-20 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 and BRUSHING DETAIL.

3-21 DISPOSAL COMPLETION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

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

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 50%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 500 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 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 SWITCHBACK STANDARDS

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

Purchaser shall follow these standards for switchbacks:

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

4-5 CUT SLOPE RATIO

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

<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 (on side slopes 56-70%)	¾:1	150
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.

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

4-12 FULL BENCH CONSTRUCTION

On the following road, and where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
CH-6405-01	6+48 to 7+55	Push ahead to 7+90 to 8+56 to make a maximum 15% grade.

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Purchaser shall construct turnarounds in accordance with the TURNAROUND DETAIL on all roads. 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 construct or reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Ditches must be constructed concurrently with construction of the subgrade.

4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be end hauled to the location specified in Clauses 4-36 through 4-38.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

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

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 55% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites identified by the Contract administrator.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in areas identified or approved by the Contract Administrator.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

4-55 ROAD SHAPING

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

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on MATERIALS LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and must meet the specifications in Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the MATERIALS LIST that are not installed will become the property of the state. Purchaser shall stockpile materials as directed 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.	TWO -- 18" x 30' culverts

5-15 CULVERT INSTALLATION

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

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 36 inches in diameter and over before backfilling.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

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

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 must weigh at least 50 pounds. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At stream crossing 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 MATERIALS LIST or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following sources on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock sources, a joint operating plan must be developed. All parties shall follow this plan.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
CHAPLAIN PIT	258+06 of the CH-ML	3-INCH-MINUS BALLAST, RIPRAP
PIGNOCKLE PIT	405+18 of the CH-ML	

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following existing stockpiles on state land at no charge to the Purchaser. Other stockpiles may not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity</u>
CHAPLAIN PIT	258+06 of the CH-ML	LIGHT AND HEAVY RIPRAP	ALL AVAILABLE
PIGNOCKLE PIT	405+18 of the CH-ML		

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from any commercial source at the Purchaser's expense.

6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER

Purchaser shall conduct rock source development and use at the following sources, in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source operations. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

<u>Source</u>	<u>Rock Type</u>
CHAPLAIN PIT	3-INCH-MINUS BALLAST, RIPRAP
PIGNOCKLE PIT	

Rock source development plans prepared by the Purchaser must show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.
- Rock source reclamation plan describing how the area will be left in a condition that will ensure public safety and minimize environmental impacts.
-

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications:

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

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

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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments too large to be converted by the Purchaser to a size that will meet specifications used for the roads in this sale.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads before blasting operations.

6-23 ROCK GRADATION TYPES

Purchaser shall provide rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation

6-34 3-INCH MINUS BALLAST ROCK

Ballast rock must be 100% equal to, or smaller than, 3 inches in at least one dimension.

Rock may contain no more than 5 percent organic debris, dirt, and trash.

6-50 LIGHT LOOSE RIP RAP

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

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	500 lbs. to 1 ton (18" - 28")
15% to 80%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

6-51 HEAVY LOOSE RIP RAP

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

<u>Quantity</u>	<u>Size Range</u>
30% to 90%	1 ton to 2 ton (28" - 36")
30% to 70%	500 lbs. to 1 ton (18" - 28")
20% to 50%	50 lbs. to 500 lbs. (8" - 18")
10% to 20%	3 inch to 50 lbs. (3" - 8")

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the TYPICAL SECTION. 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 in accordance with the TYPICAL SECTION 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 OPTIONAL CONSTRUCTION and RECONSTRUCTION roads, if hauling takes place from May 1 to September 30 Purchaser may provide and place less rock than shown on the TYPICAL SECTION and MATERIALS 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.

SECTION 7 – STRUCTURES

7-71 GATE CLOSURE DURING HAUL

On the following road, Purchaser shall keep gates closed and locked except for passing vehicles. If Purchaser elects to use an alternate plan for gate security, Purchaser shall submit a detailed plan to the Contract Administrator for written approval.

<u>Road</u>	<u>Station</u>	<u>Comment</u>
CH-ML	0+15	Per conditions of RUP with City of Everett

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 3-inch layer of straw to all exposed soils at culvert installations. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-10 STABILIZE SLOPES – ROCK APPLICATION

On the following road, Purchaser shall stabilize embankment slopes by applying rock as specified below. Rock must be set in place in conjunction with construction of the embankment. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed. Rock must meet the specifications in Clause 6-51 HEAVY LOOSE RIPRAP.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>	<u>Slope</u>	<u>Comments</u>
CH-6404	0+00 to 0+80	HEAVY LOOSE RIPRAP	1¼:1	See INTERSECTION DETAIL

8-15 REVEGETATION

Purchaser shall spread seed and fertilizer on all exposed soils within the grubbing limits resulting from road work activities. Cover all exposed soils using manual dispersal of grass seed and fertilizer. Other methods of covering must be approved in writing by the Contract Administrator.

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed and fertilizer.

8-17 REVEGETATION TIMING

Purchaser shall revegetate during the first available opportunity after road work is completed. Soils may not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed straw, jute matting, or clear plastic sheets. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

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 grass seed and fertilizer 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 seed and fertilizer at no addition cost to the state.

8-25 GRASS SEED

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

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

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Creeping Red Fescue	50
Elf Perennial Rye Grass	25
Highland Colonial Bentgrass	15
White Clover	10
Inert and Other Crop	0.5

8-27 FERTILIZER

Purchaser shall evenly spread the fertilizer listed below on all exposed soil inside the grubbing limits at a rate of 200 pounds per acre of exposed soil. Fertilizer must meet the following specifications:

<u>Chemical Component</u>	<u>% by Weight</u>
Nitrogen	16
Phosphorous	16
Potassium	16
Sulphur	3
Inerts	49

SECTION 9 – POST-HAUL ROAD WORK

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-11 LANDING EMBANKMENT

Purchaser shall slope landing embankments to the original construction specifications.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

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

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.

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

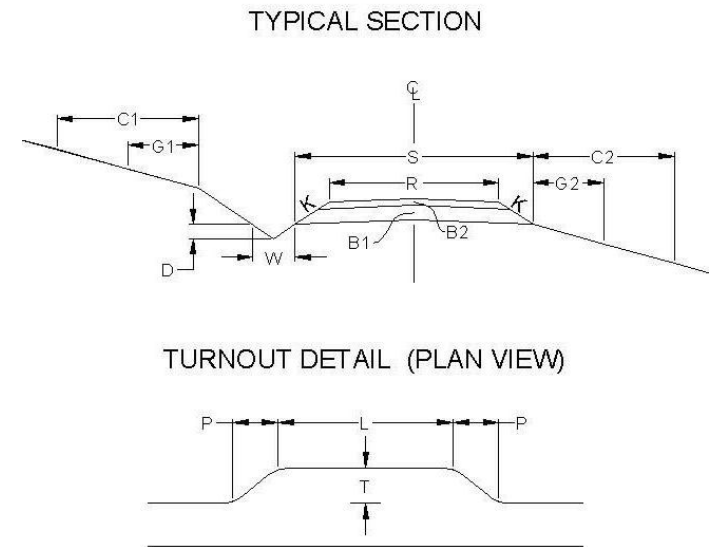
SECTION 11 SPECIAL NOTES

11-1 USE OF ABANDONED GRADES FOR TAILHOLDING

Purchaser may use the abandoned grades listed below to mobilize equipment to be used for cable logging tailholding. Purchaser must obtain permission from the Contract Administrator prior to use and shall repair all damaged waterbars and drainage infrastructure upon completion of tailholding activities.

<u>Abandoned Road</u>	<u>Stations</u>
CH-66	3+04 to 12+03

ROAD #		CH-ML	CH-ML	CH-ML	CH-ML
REQUIRED / OPTIONAL		OPTIONAL	REQUIRED	OPTIONAL	REQUIRED
CONSTRUCT / RECONSTRUCT		MAINTENANCE	MAINTENANCE	MAINTENANCE	MAINTENANCE
TOLERANCE CLASS (A/B/C)		C	C	C	C
STATION / MP TO		0+00	106+93	107+18	197+21
STATION / MP		106+93	107+18	197+21	418+28
ROAD WIDTH	R	12	12	12	12
CROWN (INCHES @ C/L)		3	3	3	3
DITCH WIDTH	W	3	3	3	3
DITCH DEPTH	D	1	1	1	1
TURNOUT LENGTH	L	--	--	--	--
TURNOUT WIDTH	T	--	--	--	--
TURNOUT TAPER	P	--	--	--	--
GRUBBING	G1	--	--	--	--
	G2	--	--	--	--
CLEARING	C1	--	--	--	--
	C2	--	--	--	--
ROCK FILLSLOPE	K:1	--	1 ½ :1	--	--
❖ BALLAST DEPTH	B1	--	--	--	--
CUBIC YARDS / STATION		--	--	--	--
➤ TOTAL CY BALLAST		--	--	--	--
❖ SURFACING DEPTH	B2	--	--	--	--
CUBIC YARDS / STATION		--	--	--	--
➤ TOTAL CY SURFACING		--	10 ^A	--	--
➤ TOTAL CUBIC YARDS		--	10	--	--
SUBGRADE WIDTH	S	12	12	12	12
BRUSHCUT (Y/N)		Y	Y	Y	Y
BLADE, SHAPE, & DITCH (Y/N)		N	N	N	N



SYMBOL NOTES

- ❖ Specified Rock Depth is FINISHED COMPACTED DEPTH in inches.
- Specified Rock Quantity is LOOSE MEASURE (Truck Cubic Yards) needed to accomplish specified FINISHED COMPACTED DEPTH. Rock quantities include volume for turnouts, curve widening and landings.

A: 3-Inch Ballast for culvert cover

Rock Totals Summary

Type	Quantity (Cubic Yards)
Ballast	5,940
Rip Rap	235

ROAD #		CH-37	CH-40	CH-40	CH-64	CH-6401	CH-6401	CH-6401-02	CH-6404
REQUIRED / OPTIONAL		OPTIONAL	REQUIRED	OPTIONAL	REQUIRED	REQUIRED	OPTIONAL	OPTIONAL	OPTIONAL
CONSTRUCT / RECONSTRUCT		MAINTENANCE	MAINTENANCE	CONSTRUCT	MAINTENANCE	MAINTENANCE	RECONSTRUCT	RECONSTRUCT	RECONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	C	C	C	C	C	C
STATION / MP TO		0+00	0+00	1+98	0+00	0+00	19+99	0+00	0+00
STATION / MP		46+67	1+98	12+86	47+91	19+99	26+21	2+93	3+46
ROAD WIDTH	R	12	12	12	12	12	12	12	12
CROWN (INCHES @ C/L)		3	3	3	3	3	3	3	3
DITCH WIDTH	W	3	3	3	3	3	3	3	3
DITCH DEPTH	D	1	1	1	1	1	1	1	1
TURNOUT LENGTH	L	--	--	50	--	--	--	--	--
TURNOUT WIDTH	T	--	--	10	--	--	--	--	--
TURNOUT TAPER	P	--	--	25	--	--	--	--	--
GRUBBING	G1	--	--	5	--	--	5	5	5
	G2	--	--	5	--	--	5	5	5
CLEARING	C1	--	--	10	--	--	10	10	10
	C2	--	--	10	--	--	10	10	10
ROCK FILLSLOPE	K:1	--	--	1 ½ :1	--	1 ½ :1	1 ½ :1	1 ½ :1	1 ½ :1
❖ BALLAST DEPTH	B1	--	--	18	--	4	9	9	9
CUBIC YARDS / STATION		--	--	114	--	23	53	53	53
➤ TOTAL CY BALLAST		--	--	1,240	--	460	330	100	185
❖ SURFACING DEPTH	B2	--	--	--	--	--	--	--	--
CUBIC YARDS / STATION		--	--	--	--	--	--	--	--
➤ TOTAL CY SURFACING		--	--	--	--	--	--	--	--
➤ TOTAL CUBIC YARDS		--	--	1,240	--	460	330	100	185
SUBGRADE WIDTH	S	12	12	16.5	12	13	14.5	14.5	14.5
BRUSHCUT (Y/N)		Y	Y	N	Y	Y	N	N	N
BLADE, SHAPE, & DITCH (Y/N)		N	Y	N	Y	Y	N	N	N

ROAD #		CH-6405	CH-6405-01	CH-66	CH-70	CH-71	CH-74	CH-77	EK-ML
REQUIRED / OPTIONAL		OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	CONSTRUCT	RECONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	RECONSTRUCT	MAINTENANCE
TOLERANCE CLASS (A/B/C)		C	C	C	C	C	C	C	C
STATION / MP TO		0+00	0+00	0+00	0+00	0+00	0+00	0+00	0+00
STATION / MP		19+89	9+57	3+04	5+04	4+03	3+18	8+56	458+60
ROAD WIDTH	R	12	12	12	12	12	12	12	12
CROWN (INCHES @ C/L)		3	3	3	3	3	3	3	3
DITCH WIDTH	W	3	3	3	3	3	3	3	3
DITCH DEPTH	D	1	1	1	1	1	1	1	1
TURNOUT LENGTH	L	50	50	--	--	--	--	--	--
TURNOUT WIDTH	T	10	10	--	--	--	--	--	--
TURNOUT TAPER	P	25	25	--	--	--	--	--	--
GRUBBING	G1	5	5	--	5	5	5	--	--
	G2	5	5	--	5	5	5	--	--
CLEARING	C1	10	10	--	10	10	10	--	--
	C2	10	10	--	10	10	10	--	--
ROCK FILLSLOPE	K:1	1 ½ :1	1 ½ :1	1 ½ :1	1 ½ :1	1 ½ :1	1 ½ :1	1 ½ :1	--
❖ BALLAST DEPTH	B1	9	18	3	18	18	18	--	--
CUBIC YARDS / STATION		53	114	17	114	114	114	--	--
➤ TOTAL CY BALLAST		1,055	1,090	50	575	460	365	--	--
❖ SURFACING DEPTH	B2	--	--	--	--	--	--	--	--
CUBIC YARDS / STATION		--	--	--	--	--	--	--	--
➤ TOTAL CY SURFACING		--	--	--	--	--	--	20 ^A	--
➤ TOTAL CUBIC YARDS		1,055	1,090	50	1,575	460	365	20	--
SUBGRADE WIDTH	S	14.5	16.5	12.5	16.5	16.5	16.5	12	12
BRUSHCUT (Y/N)		N	N	N	N	N	N	N	Y
BLADE, SHAPE, & DITCH (Y/N)		N	N	N	N	N	N	N	N

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS	
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE				Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:
													Diameter
CH-ML	107+06	36	30	XX	-	-	3	7	L	NT	C	REPLACE EXISTING CULVERT. TYPE 4 STREAM	
CH-40	5+07	18	30	XX	-	-	2	3	L	NT	C		
CH-40	10+11	18	30	XX	-	-	2	3	L	NT	C		
CH-6401	2+22	18	30	XX	-	-	2	3	L	NT	C	REPLACE EXISTING CULVERT	
CH-6401	4+60	30	30	XX	-	-	2	3	L	NT	C	REPLACE EXISTING CULVERT. TYPE 4 STREAM	
CH-6401	8+45	18	30	XX	-	-	2	3	L	NT	C		
CH-6401	11+95	18	30	XX	-	-	2	3	L	NT	C	REPLACE EXISTING CULVERT	
CH-6401	16+98	30	30	XX	-	-	2	3	L	NT	C	REPLACE EXISTING CULVERT. TYPE 4 STREAM	
CH-6401	23+69	18	30	XX	-	-	2	3	L	NT	C		
CH-6404	0+00 to 0+80	--	--	--	--	--	--	--	--	--	--	APPROX. 120 CUBIC YARDS RIPRAP. SEE 8-10	
CH-6405	7+47	18	30	XX	-	-	2	3	L	NT	C		
CH-6405	10+86	18	30	XX	-	-	2	3	L	NT	C		
CH-6405	13+84	18	30	XX	-	-	2	3	L	NT	C		
CH-6405-01	5+43	18	30	XX	-	-	2	3	L	NT	C		

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
 H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS		
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			Note: Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:		
												Diameter	Gage	Corrugation
CH-66	1+11	18	30	XX	-	-	2	3	L	NT	C			
CH-66	1+55	24	30	XX	-	-	2	3	L	NT	C	TYPE 5 STREAM		
CH-70	0+10	18	40	XX	-	-	2	3	L	NT	C	DITCHLAY		
CH-70	3+45	18	30	XX	-	-	2	3	L	NT	C			
CH-71	2+42	18	30	XX	-	-	2	3	L	NT	C			
CH-71	2+74	24	30	XX	-	-	2	3	L	NT	C	TYPE 5 STREAM		
CH-74	2+23	18	30	XX	-	-	2	3	L	NT	C			
CH-77	2+94	18	30	XX	-	-	2	3	L	NT	C			
CH-77	5+58	18	30	XX	-	-	2	3	L	NT	C			

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
 H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET. Inslope or outslope 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, created by grading, to facilitate drainage, except as marked or directed by the Contract Administrator.
- For roads with geotextile fabric: spread surface aggregate to fill in soft spots and wheel ruts (barrel spread) to prevent damage to the geotextile fabric.

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Preventative Maintenance

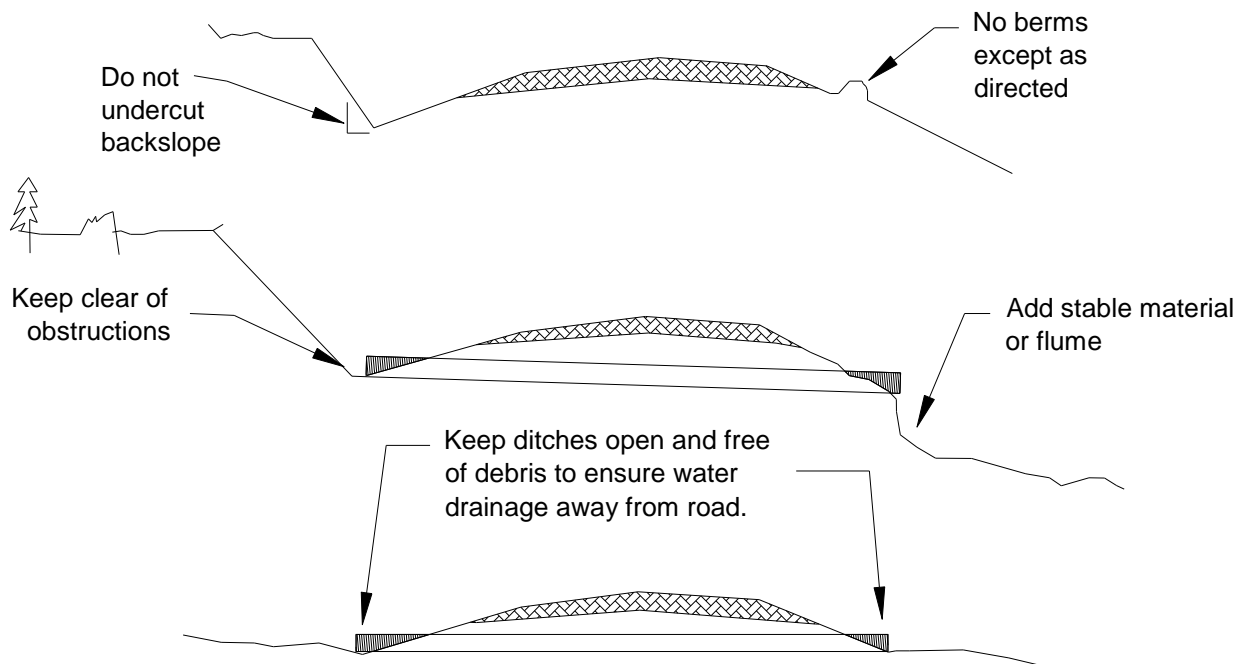
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

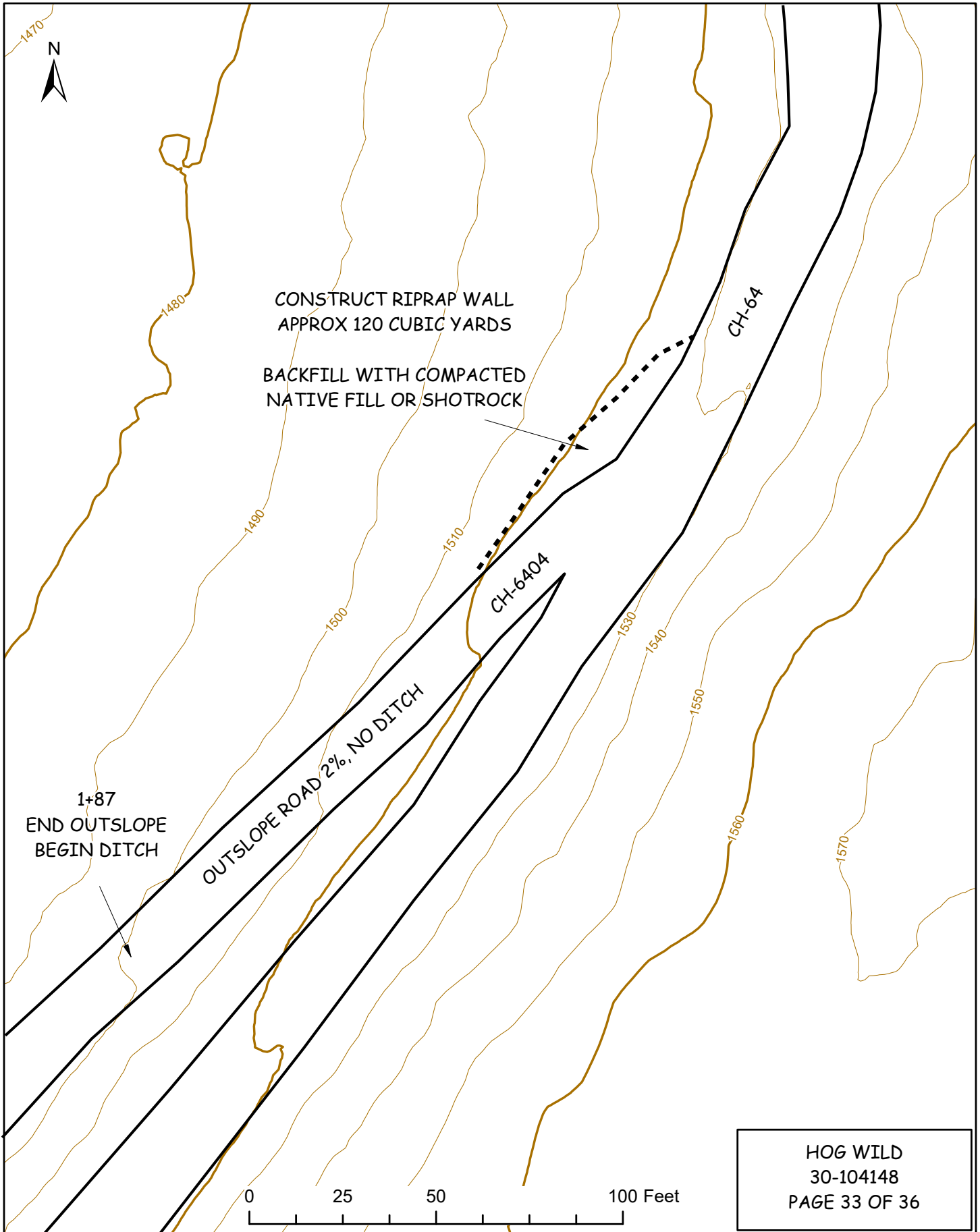
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

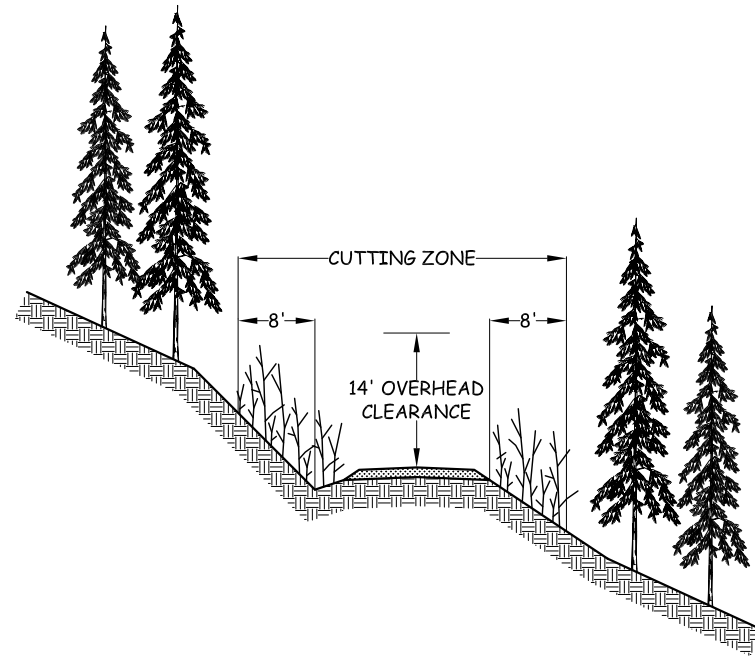
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



CH-6404 INTERSECTION DETAIL



ROAD BRUSHING DETAILS



SPECIFICATIONS

BRUSH SHALL BE CUT ON THE ROAD SURFACE AND 8 ft. BACK FROM ROAD DITCH AND OUTSIDE EDGE OF RUNNING SURFACE.

ON THE INSIDE OF SWITCHBACKS AND TIGHT CURVES, BRUSH SHALL BE CUT BACK 16 ft. FOR VISIBILITY.

ON TRUCK TURNOUTS, BRUSH SHALL BE CUT 8 ft. BACK FROM OUTSIDE EDGE.

BRUSH SHALL BE CUT TO PROVIDE AN OVERHEAD CLEARANCE OF 14 ft. ABOVE THE ROAD RUNNING SURFACE.

BRUSH SHALL BE CUT TO WITHIN 6 in. OF THE GROUND.

SLASH SHALL BE REMOVED FROM CUT SLOPES ABOVE THE ROAD AND SCATTERED ON EMBANKMENT SLOPES.

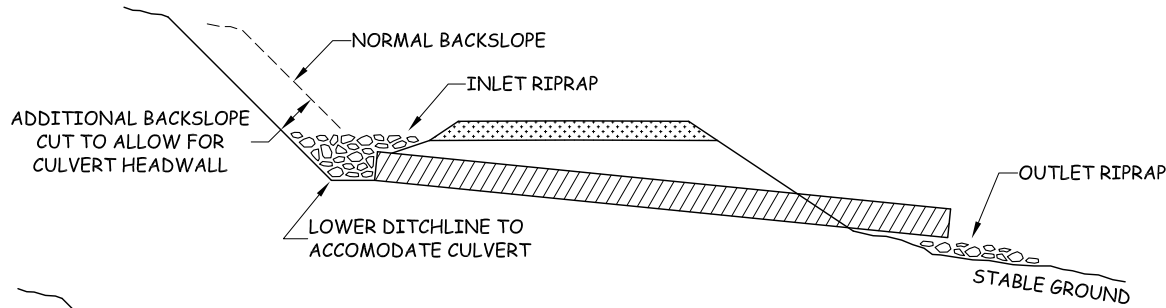
DITCHES SHALL BE CLEARED OF WOODY DEBRIS.

CULVERT INLETS AND OUTLETS SHALL BE CLEANED A MINIMUM DISTANCE OF TWO PIPE DIAMETERS AWAY.

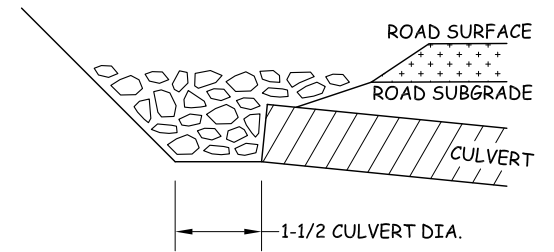
CONTRACT #	PROJECT	SHEET
30-104148	HOG WILD	34 OF 36

CULVERT AND DRAINAGE SPECIFICATIONS

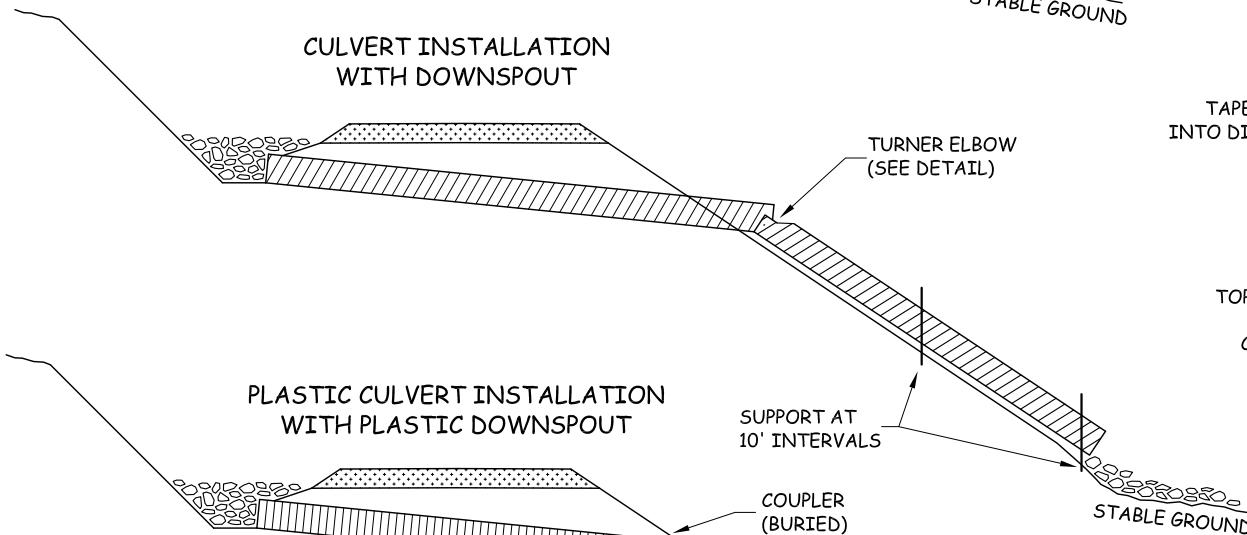
CULVERT INSTALLATION (TYPICAL)



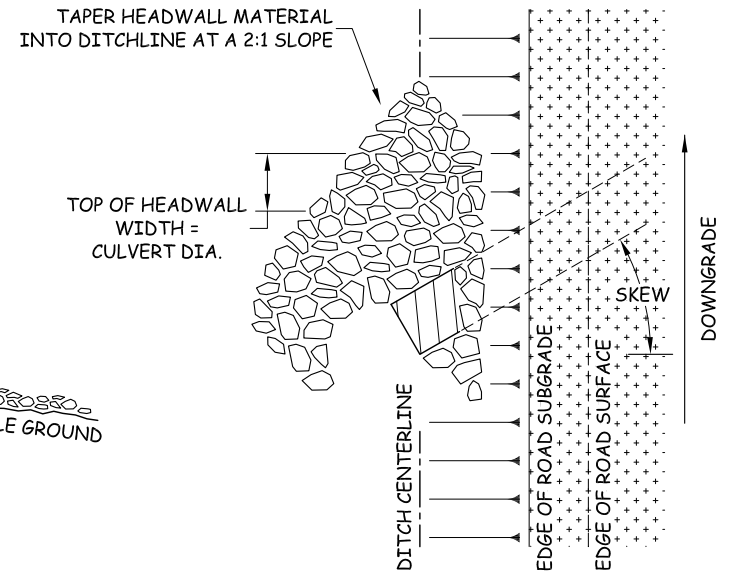
CULVERT HEADWALL - SECTION VIEW



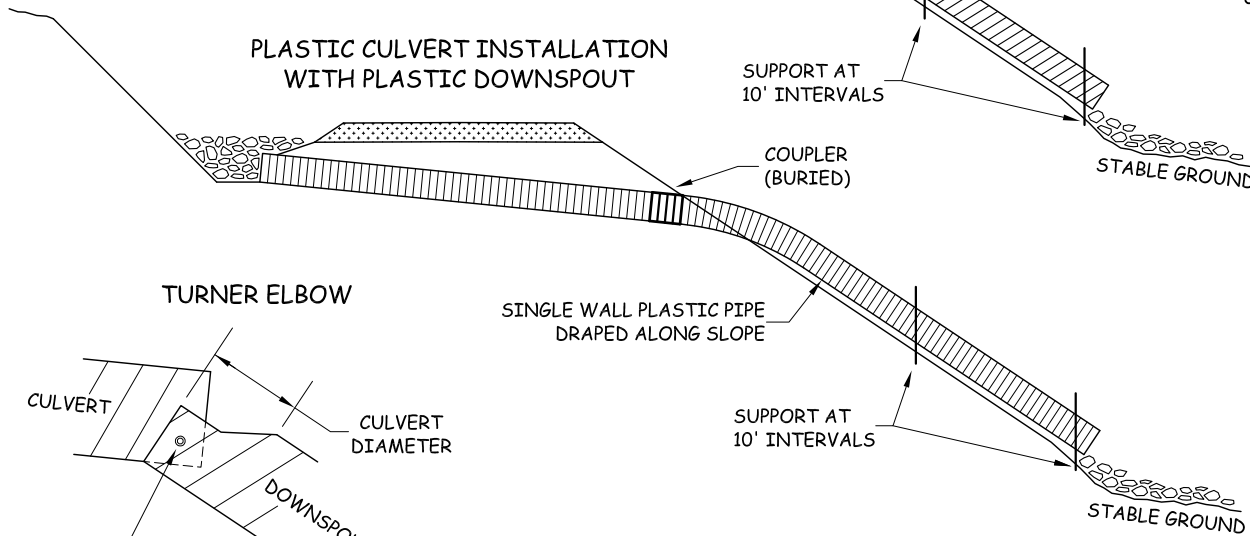
CULVERT INSTALLATION WITH DOWNSPOUT



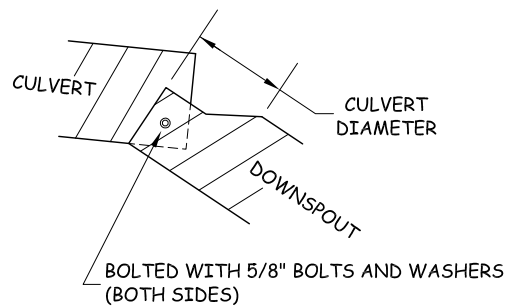
CULVERT HEADWALL - PLAN VIEW



PLASTIC CULVERT INSTALLATION WITH PLASTIC DOWNSPOUT



TURNER ELBOW

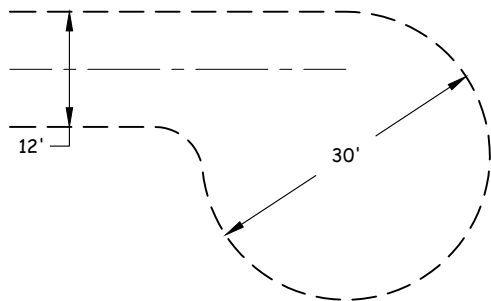
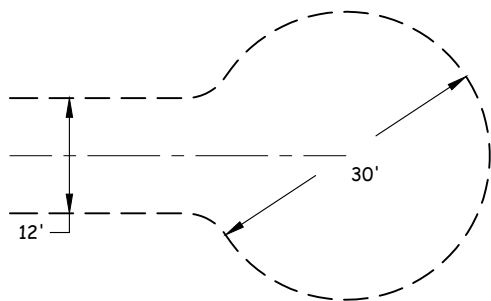


HEADWALL NOTE:

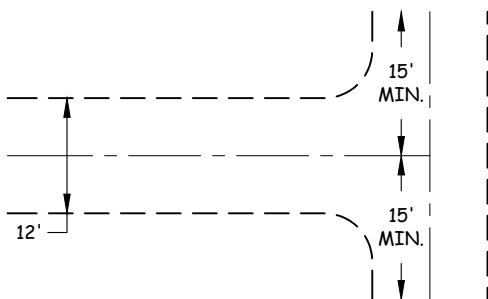
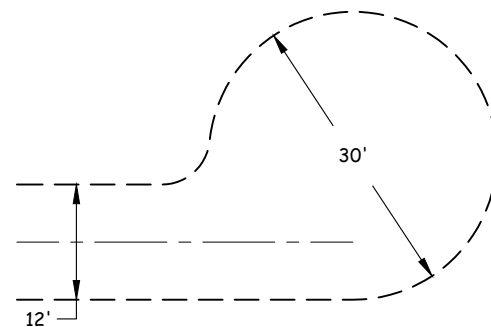
HEADWALL TO BE CONSTRUCTED OF IMPERVIOUS MATERIAL THAT WILL RESIST EROSION AND ARMORED WITH RIPRAP QUANTITY SPECIFIED IN ROAD PLAN.

CONTRACT # 30-104148	PROJECT HOG WILD	SHEET 35 OF 36
-------------------------	---------------------	-------------------

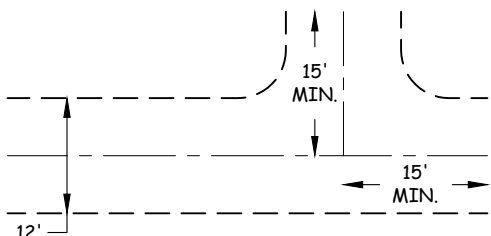
TURNAROUND DETAILS



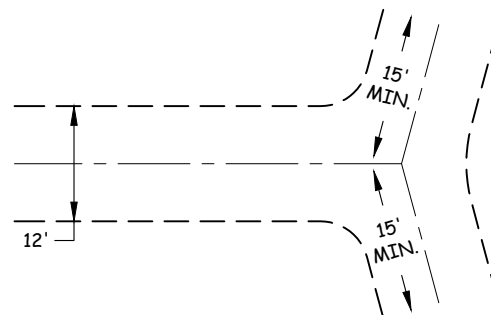
CUL-DE-SAC



HAMMERHEAD



3-POINT SIDE



3-POINT WYE

TURNAROUND TYPE AND TURNAROUND LOCATION ARE SUBJECT TO THE APPROVAL OF THE CONTRACT ADMINISTRATOR.

ROCK SHALL BE APPLIED THROUGHOUT THE TURNAROUND TO THE SAME DEPTH AND SPECIFICATIONS AS LISTED IN THE TYPICAL SECTION.

CONTRACT # 30-104148	PROJECT HOG WILD	SHEET 36 OF 36
-------------------------	---------------------	-------------------

SUMMARY - Road Development Costs

REGION: NW

DISTRICT: Cascade

SALE/PROJECT NAME: Hog Wild

CONTRACT #: 30-104148

ROAD NUMBERS:	CH-40, CH-70 CH-71, CH-74	CH-6401, CH-6401-02 CH-6404, CH-6405, CH,66, CH-77	CH-ML, CH-37, EK-ML
ROAD STANDARD:	Construction	Reconstruction	Pre-Haul Maintenance
NUMBER OF STATIONS:	32.70	44.10	993.43
CLEARING & GRUBBING:	\$12,529	\$7,724	\$0
EXCAVATION & FILL:	\$32,504	\$26,878	\$0
MISC. MAINTENANCE:	\$0	\$0	\$17,622
ROAD ROCK:	\$62,725	\$30,763	\$8,016
ROCK STOCKPILE PROD:	\$0	\$0	\$0
CULVERTS & FABRIC:	\$5,359	\$5,214	\$6,129
STRUCTURES:	\$0	\$0	\$0
MOBILIZATION:	\$2,576	\$2,576	\$1,982
TOTAL COSTS:	\$115,693	\$73,155	\$33,749
COST PER STATION:	\$3,538	\$1,659	\$34
ROAD DEACTIVATION & ABANDONMENT COSTS:		\$0	

TOTAL (All Roads) = \$222,597
SALE VOLUME MBF = 5350
TOTAL \$/MBF = \$41.61

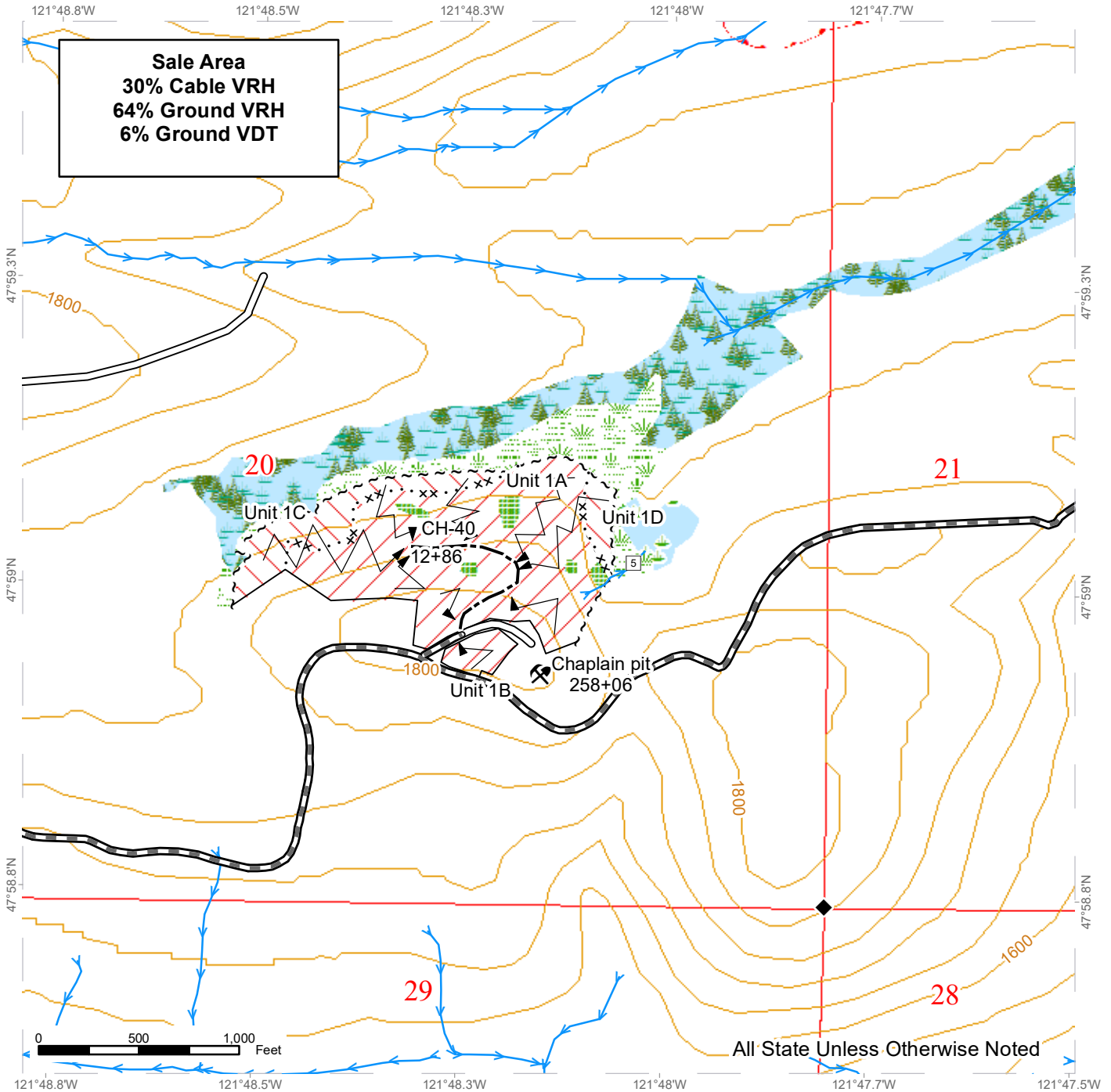
Compiled by: J. Westra

Date: 10/25/2022

LOGGING PLAN MAP

SALE NAME: HOG WILD
AGREEMENT#: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280



All State Unless Otherwise Noted

~ ~ ~ Sale Boundary Tags	Existing Roads	Streams	Wetlands - Non-forested
— Timber Type Change	Required Pre-Haul Maintenance	Stream Type	Leave Tree Area
· · · x Special Mgmt Area	Optional Construction	* Stream Type Break	Forested Wetland
— Property Line		◆ Survey Monument	Wetland Mgt Zone
→ Cable Harvest		⚡ Rock Pit	
↘ Ground Harvest			

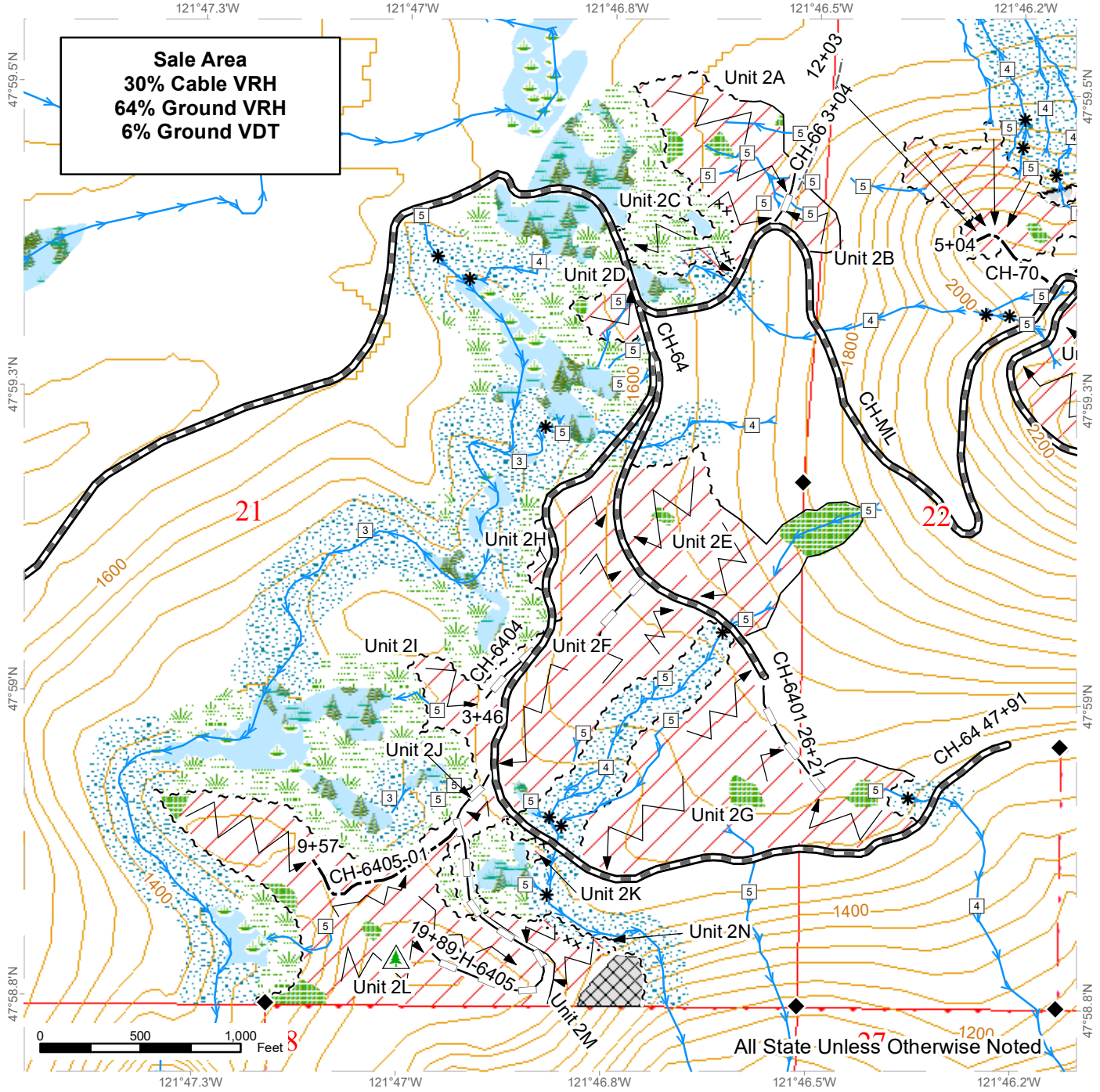


LOGGING PLAN MAP

SALE NAME: HOG WILD
AGREEMENT#: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280

Sale Area
30% Cable VRH
64% Ground VRH
6% Ground VDT



All State Unless Otherwise Noted

~ ~ ~ Sale Boundary Tags	Existing Roads	Streams	Wetlands - Non-forested
— Timber Type Change	Required Pre-Haul Maintenance	□ Stream Type	Non-Tradeable Leave Clump
· · · x Special Mgmt Area	Optional Construction	* Stream Type Break	Leave Tree Area
● Property Line	Optional Reconstruction	◆ Survey Monument	Riparian Mgt Zone
→ Cable Harvest	Old Grades/Trails	▲ Non-Tradeable Leave Trees	Forested Wetland
↘ Ground Harvest			Wetland Mgt Zone
			Equipment Exclusion Zone



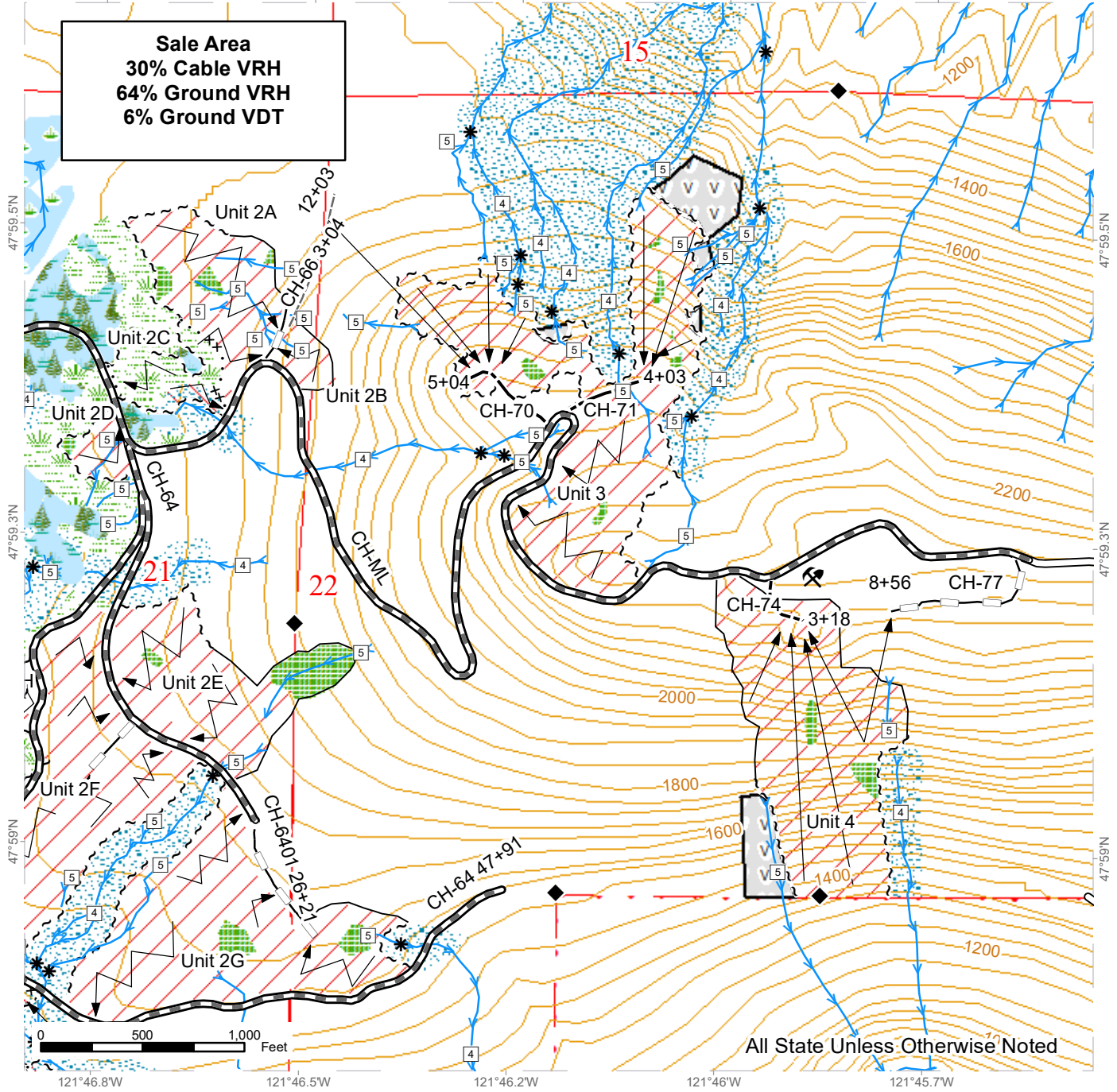
LOGGING PLAN MAP

SALE NAME: HOG WILD
AGREEMENT#: 30-104148
TOWNSHIP(S): T29R8E
TRUST(S): Capitol Grant (7), Charitable/Educational/Penal & Reformatory Instit. (6), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1320-2280

121°46.8'W 121°46.5'W 121°46.2'W 121°46'W 121°45.7'W

Sale Area
30% Cable VRH
64% Ground VRH
6% Ground VDT



All State Unless Otherwise Noted

~ ~ ~ Sale Boundary Tags	Existing Roads	Streams	Wetlands - Non-forested
— Timber Type Change	Required Pre-Haul Maintenance	□ Stream Type	Leave Tree Area
· · · x Special Mgmt Area	Optional Construction	* Stream Type Break	Riparian Mgt Zone
— Property Line	Optional Reconstruction	◆ Survey Monument	Forested Wetland
→ Cable Harvest	Old Grades/Trails	⚡ Rock Pit	Wetland Mgt Zone
↘ Ground Harvest			Equipment Exclusion Zone

