WASHINGTON STATE DEPARTMENT OF Natural Resources

TIMBER NOTICE OF SALE

***SALE NAME**: PILCHUCK REUNION VRH & VDT* ***AGREEMENT NO**: 30-091137*

AUCTION: December 16, 2015 starting at 10:00 a.m., Northwest Region Office, Sedro Woolley, WA

COUNTY: Snohomish

SALE LOCATION: Sale located approximately 10 miles southeast of Granite Falls, WA.

PRODUCTS SOLD AND SALE AREA:

All timber bounded by white timber sale boundary tags and the PK-ML and PK-07 roads, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

All timber bounded by white timber sale boundary tags, property lines and the PK-ML and PK-06 roads, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #2 (collectively labeled 2A and 2B).

All timber as described for removal in Schedule B, beyond blue special management tags, up to the white timber sale boundary tags, in Unit #2B.

All timber bounded by white timber sale boundary tags, property lines and the PK-06 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #3.

All timber bounded by white timber sale boundary tags and the PK-0602 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #4.

All timber as described for removal in Schedule B, bounded by white timber sale boundary tags, property lines and the PK-06 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #5 (collectively labeled 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I).

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed.

The above described products on part(s) of Sections 30 and 31 all in Township 30 North, Range 8 East, Sections 36 all in Township 30 North, Range 7 East, W.M., containing 219 acres, more or less.

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

TIMBER NOTICE OF SALE

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	Total $/MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	17	8	3,477	$78.00						1,838	1,321	298	20
Douglas fir	17	8	685	$175.00						200	390	88	7
Red cedar	20		96	$718.00							88	8	
Silver fir	14		66	$78.00						10	37	18	1
Red alder	11		14	$168.00								14	
Maple	16		5	$78.00							4	1	
Sale Total			4,343										

MINIMUM BID: $78/MBF (est. value $467,000.00)

BID METHOD: Sealed Bids

PERFORMANCE SECURITY: $93,400.00

SALE TYPE: MBF Scale

EXPIRATION DATE: January 2, 2018

ALLOCATION: Export Restricted

BIDDABLE SPECIES: **Silver fir, Hemlock combined.**

BID DEPOSIT: $46,700.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable; cable, forwarder, tracked skidder or shovel on sustained slopes 35% or less. Tracked skidders are limited to Unit #2B and Unit #5, upon permission from the Contract Administrator. 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.

Additional restrictions apply, see Remarks section below.

ROADS: 60.40 stations of required construction. 196.40 stations of required reconstruction. 61.85 stations of optional construction. 15.20 stations of existing road to be abandoned. 61.85 stations of road to be abandoned if built.

Rock may be obtained from the following source(s) on State land at no charge to the Purchaser: SZ-03 Hard Rock Pit at station 18+20 of the SZ-ML Road. PK-0616 Hard Rock Pit at station 82+40 of the PK-06 Road.

Development of existing rock source(s) will involve clearing, stripping, drilling, shooting, and processing rock to generate riprap, shot rock, and 3-inch-minus ballast.

An estimated total quantity of rock needed for this proposal: 918 cubic yards of riprap and 12,100 cubic yards of ballast rock.

Remove wood decking from existing 60-foot span bridge. Spot weld ½" x 8" steel plates to both sides of decking. Add crushed rock surfacing.

Additional restrictions apply, see Remarks section below.

Road construction, road reconstruction, road abandonment, 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.

ACREAGE DETERMINATION

CRUISE METHOD: Acres determined by GPS traverse. 305.2 acres gross. 8.6 acres deducted for green tree retention clumps, 29.9 acres deducted for existing roads, and 48.1 acres deducted for exclusion area. 218.6 acres net. Cruised using variable plot method. Expansion factor used is 40.00 and 54.4. Sighting height is 4.5 feet. A total of 139 plots were taken.

Shapefiles of units are available upon request.

FEES: 1. Purchaser shall furnish the State with a check made payable to Bascom Pacific, LLC, in the amount of $38,557.00 on the day of sale for permit #55-091987, for right of way timber and road use. 2. $77,088.25 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 red paint and a yellow "T" represent the last take tree along property line boundaries.

2. Cutting and yarding in Units 2B and 5 shall not be permitted during the bark slippage season unless 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. If permission is granted to operate during the bark slippage season the purchaser shall be required to provide a plan outlining mitigation measure.

3. Intermediate supports may be necessary for the northwest portion of Unit 3 and in parts of Unit 5.

4. The term for Road Use Permit #55-091987, for road use for sale operations, commences 1/2/2016 through 1/2/2018.

5. PRIOR TO ANY ONSITE SALE PREVIEW VISITATION: An access code and access agreement are required for the 2nd gate entrance. A Certificate of Liability Insurance must be presented to the DNR (NW Region Timber Sales Staff) in order to obtain the access agreement and the access code to preview the sale area. Please contact the Region Office for further details. First gate requires an F-1-3 key.

6. While accessing the sale, prospective purchasers and contractors are limited to the haul route and shall not deviate from the "100-road" from the existing gate (2nd gate on the haul route) to the PK-ML Road.

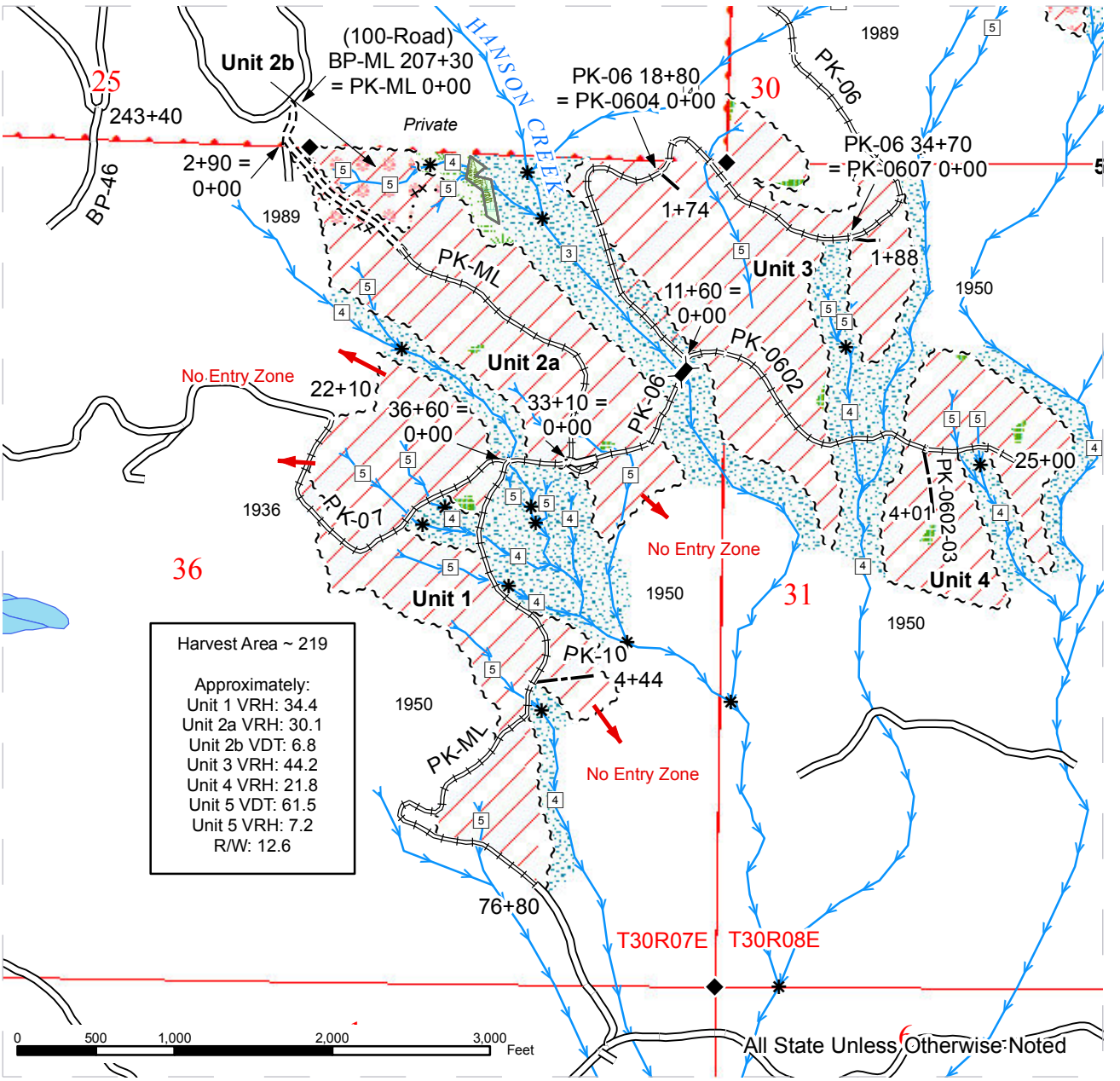
7. Purchaser of this sale shall furnish a set of identically-keyed locks and keys, as deemed acceptable to the State, to the DNR for usage on the 2nd gate for the duration of active operations of the sale. Lock replaces the access lock used during sale preview period prior to auction.

8. Road work shall be completed by August 2,2016 for the PK-ML Stations 0+00 to12+90; and by November 1, 2016 for the PK-ML Stations12+90 to 76+80.

TIMBER SALE MAP

SALE NAME: PILCHUCK REUNION
AGREEMENT#: 91137
TOWNSHIP(S): T30R07E, T30R08E
TRUST(S): Common School and Indemnity(3)

REGION: Northwest Region
COUNTY(S): SNOHOMISH
ELEVATION RGE: 871-2765



- Sale Area
- Variable Density Thiinning (VDT)
- Gap Cut Area
- Riparian Mgt Zone
- Wetland Mgt Zone
- Leave Tree Area
- DNR Managed Lands
- Wetland
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Required Construction
- Existing Roads
- Optional Construction
- Required Reconstruction
- Stream Type
- Stream Type Break
- Streams
- Survey Corners
- Existing Rock Pit
- Bridge
- No Entry Zone

N

Prepared By: jwra490

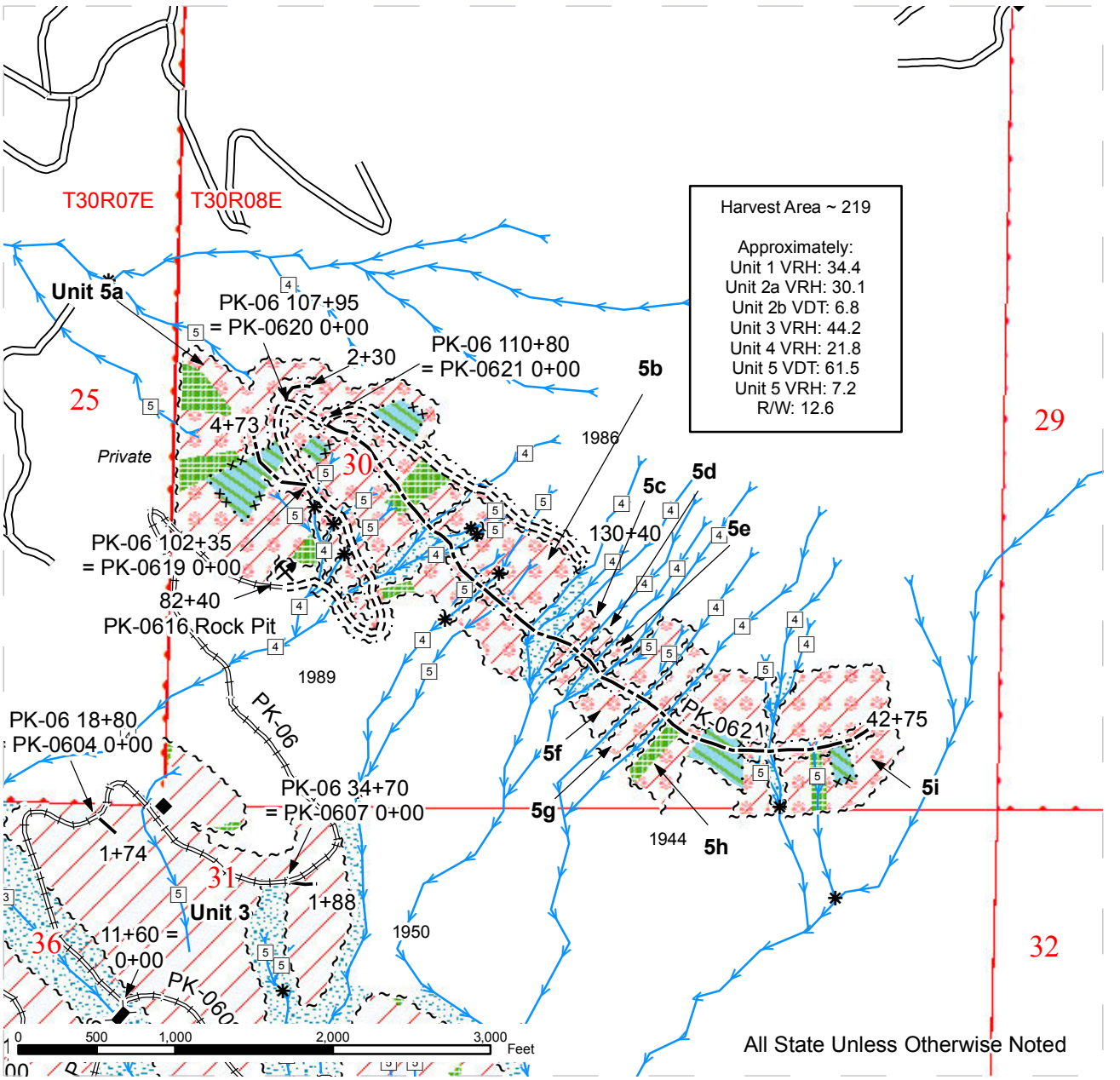
Creation Date: 6/27/2014

Modification Date/By: 9/24/2015
tkle490

TIMBER SALE MAP

SALE NAME: PILCHUCK REUNION
AGREEMENT#: 91137
TOWNSHIP(S): T30R07E, T30R08E
TRUST(S): Common School and Indemnity(3)

REGION: Northwest Region
COUNTY(S): SNOHOMISH
ELEVATION RGE: 871-2765



- Sale Area
- Variable Density Thiinning (VDT)
- Gap Cut Area
- Riparian Mgt Zone
- Wetland Mgt Zone
- Leave Tree Area
- DNR Managed Lands
- Wetland
- Sale Boundary Tags
- Special Mgt Area Tags
- Right of Way Tags
- Required Construction
- Existing Roads
- Optional Construction
- Required Reconstruction
- Stream Type
- Stream Type Break
- Streams
- Survey Corners
- Existing Rock Pit
- Bridge
- No Entry Zone

N

Prepared By: jwra490

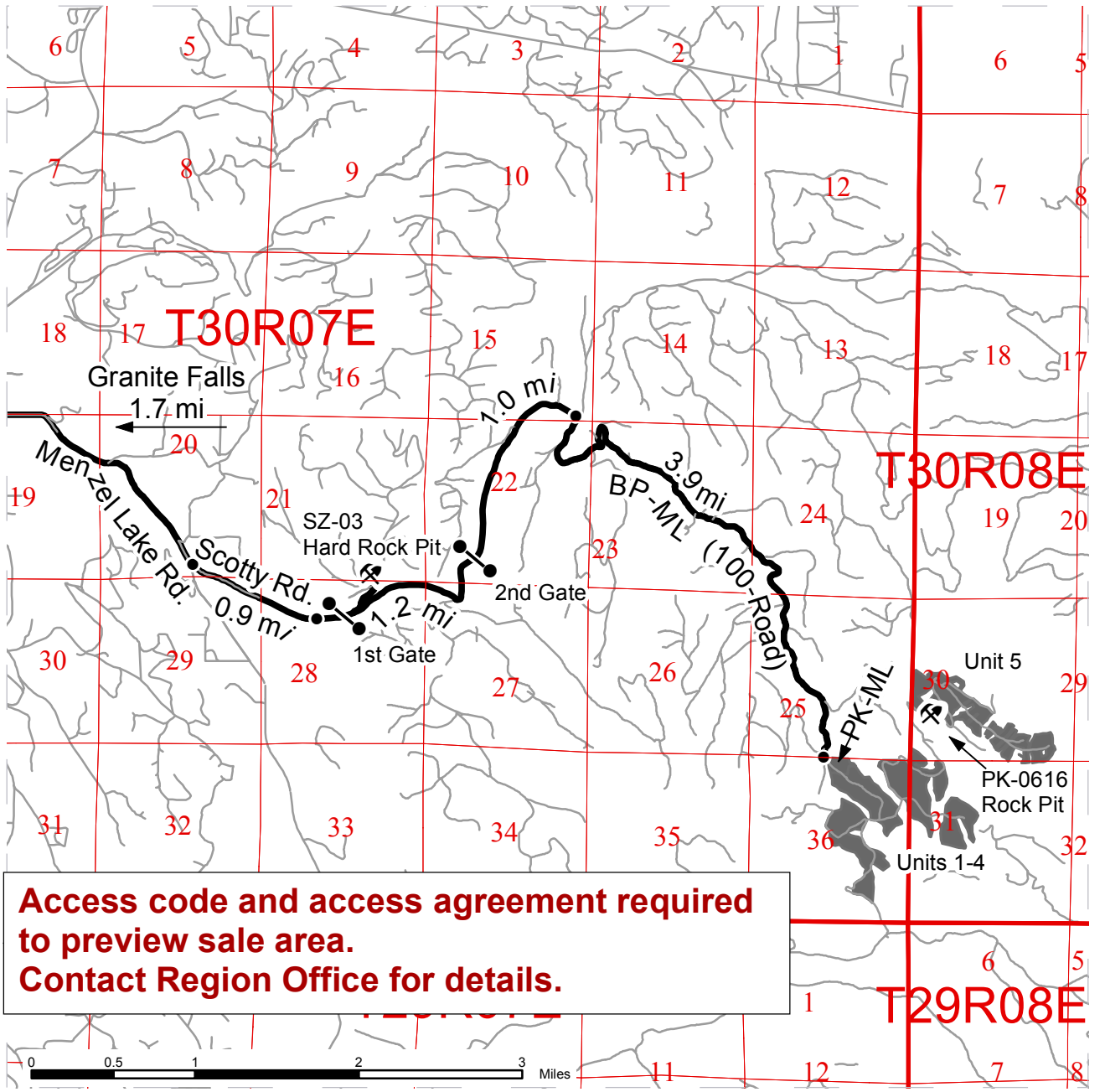
Creation Date: 6/27/2014

Modification Date/By: 9/24/2015
tkle490

DRIVING MAP

SALE NAME: PILCHUCK REUNION
AGREEMENT#: 91137
TOWNSHIP(S): T30R07E, T30R08E
TRUST(S): Common School and Indemnity(3)

REGION: Northwest Region
COUNTY(S): SNOHOMISH
ELEVATION RGE: 871-2765



Access code and access agreement required to preview sale area.
Contact Region Office for details.

- Timber Sale Unit
- Other Route
- Haul Route
- Highways
- Distance Indicator
- Gate
- Existing Rock Pit

DRIVING DIRECTIONS:

From Granite Falls, head south-east on Menzel Lake Rd. for 1.7 miles to Scotty Rd. Turn left and head east for 0.9 miles to gate, continue 1.2 miles to second gate. Continue another 1.0 miles where Scotty Rd becomes the Bascom Pacific Mainline (BP-ML). Follow the BP-ML for 3.9 miles to the Pilchuck Mainline (PK-ML). Parking and access is 300 feet up the PK-ML, follow the flag line and ROW tags to the south-east, this will lead into Unit 2.

N

Prepared By: tkle490 Creation Date: 6/19/2014 Modification Date: 9/24/2015

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted MBF Scale AGREEMENT NO. 30-091137

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

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

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

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

G-010 Products Sold and Sale Area

Purchaser was the successful bidder on December 16, 2015 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All timber bounded by white timber sale boundary tags and the PK-ML and PK-07 roads, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

All timber bounded by white timber sale boundary tags, property lines and the PK-ML and PK-06 roads, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #2 (collectively labeled 2A and 2B).

All timber as described for removal in Schedule B, beyond blue special management tags, up to the white timber sale boundary tags, in Unit #2B.

All timber bounded by white timber sale boundary tags, property lines and the PK-06 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #3.

All timber bounded by white timber sale boundary tags and the PK-0602 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #4.

All timber as described for removal in Schedule B, bounded by white timber sale boundary tags, property lines and the PK-06 Road, except trees marked with blue paint on the bole and root collar, forest products tagged out by yellow leave tree area tags and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #5 (collectively labeled 5A, 5B, 5C, 5D, 5E, 5F, 5G, 5H, 5I).

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed.

The above described products, located on approximately 219 acres on part(s) of Sections 30, and 31 all in Township 30 North, Range 8 East, Section 36 in Township 30 North, Range 7 East W.M. in Snohomish County(s) as shown on the attached timber sale map and as designated on the sale area.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	NW Ground-Based Equip Specifications (Rev11/05/14)
B	Thinning Prescription

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to January 2, 2018.

G-040 Contract Term Adjustment - No Payment

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

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

c. Excessive suspensions as provided in clause G-220.

d. Regulatory actions not arising from Purchaser's failure to comply with this contract which will prevent timber harvest for a period less than 6 months.

G-050 Contract Term Extension - Payment

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

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

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

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

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

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

d. Payment of an amount based on 12 percent interest per annum on the unpaid portion of the timber value of the contract.

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

e. Payment of $3.00 per acre per annum for the acres on which an operating release has not been issued in the Variable Density Thinning (VDT) areas. Payment of $16.00 per acre per annum for the acres on which an operating release has not been issued in the 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-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

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

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

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

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-090 Sale Area Adjustment

The Parties may agree to adjustments in the sale area boundary. The cumulative changes to the sale area during the term of the contract shall not exceed more than four percent of the original sale area. If the sale area is increased, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-100 Forest Products Not Designated

Any forest products not designated for removal, which must be removed in the course of operations authorized by the State, shall be approved and designated by the Contract Administrator. Added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

G-105 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 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 same rate and manner as other forest products under this contract.

G-110 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

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

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

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

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

G-140 Indemnity

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

officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

G-150 Insurance

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at 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 post office address:

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

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

G-210 Violation of Contract

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

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

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

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; 100 Road, PK-ML, (0+00 to 76+80), PK-01, PK-06, PK-0600, PK-0602, PK-0602-03, PK-0604, PK-0607, PK-0619, PK-0620, PK-0621, PK-07 (0+00 to 22+10), PK-10. 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:

Easements with:

Scott Paper Company; #55-000716; dated September 15, 1970.

Scott Paper Company; #55-000716 supplement; dated March 29, 1976.

RUP with:

Bascom Pacific, LLC; #55-091987; dated January 2, 2016.
While accessing the sale, purchasers and contractors are limited to the haul route and shall not be permitted to deviate from the “100-road” from the existing gate (2nd gate on the haul route) to the PK-ML Road.

Purchaser shall furnish the State with a check made payable to Bascom Pacific, LLC, in the amount of $38,557.00 on the day of sale for permit #55-091987, for right of way timber and road use.

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:

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Scott Paper Company
Disclosed by Application No.: 50-031964
Granted: 9/15/1970
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road

In Favor of: Scott Paper Company
Disclosed by Application No.: 50-034344
Granted: 8/3/1970
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: WA State Department of Natural Resources
Disclosed by Application No.: 50-026903
Granted: 11/18/1960
Expires: Indefinite

No pending applications of record.

No region encumbrances of record.

Special Notations

Property is located within the Mt. Baker – Snoqualmie Agreement Area (55-000035).

Section P: Payments and Securities

P-010 Initial Deposit

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

P-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus $77,088.25 on day of sale and $9.00 per MBF upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

DATA MISSING

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

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

P-027 Payment for Removal of Optional Forest Products

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

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

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of $50,200.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section L: Log Definitions and Accountability

L-010 Forest Products Conveyed

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

L-020 Short Logs - Peeler Blocks

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

L-060 Load Tickets

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

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

L-071 Log and Load Reporting Service

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

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

L-080 Scaling Rules

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

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

L-110 State Approval of Log Scaling and Weighing Locations

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

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

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

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

L-130 Conversion Factors

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

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

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

H-012 Leave Tree Damage Definition

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

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

a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 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 area, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

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

H-015 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

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

b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.

c. Skid trail location will be pre-approved by the Contract Administrator.

d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.

e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.

f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.

g. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 4 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-030 Timber Falling

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

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for the sale area. The plan shall address the felling, yarding and hauling of forest products, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

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

H-052 Branding and Painting

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

H-080 Snags Not to be Felled

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

H-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be felled by chainsaw and yarded by cable; felled by chainsaw or feller-buncher and yarded by cable, forwarder, tracked skidder or shovel on sustained slopes 35% or less; However, tracked skidders are limited to Units #2B and #5 upon permission from the Contract Administrator, unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-130 Hauling Schedule

The hauling of forest products will not be permitted on any road 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. An on-site pre-work meeting shall be scheduled with the Contract Administrator, which shall include the operator and fallers, prior to commencement of any activities on site.

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

C. Intermediate supports may be necessary for the northwest portion of Unit #3 and in parts of Unit #5. All intermediate supports shall be marked prior to falling of any adjacent unit trees.

D. Full suspension required over typed waters where possible, otherwise cribbing shall be in place.

E. Avoid cable yarding in, across, adjacent, or parallel to stream channels where possible. When it is necessary to yard across stream channels, crossings need to be as close to perpendicular as possible and cribbing shall be in place when full suspension is not possible.

F. Maintain a 30-foot equipment limitation zone on either side of all type-5 streams.

G. When thinning in RMZs, the tracks of the heavy equipment must stay 25 feet back from the white timber sale boundary tags.

H. Ground-based equipment crossings over type 5 streams shall be located by Purchaser and approved by Contract Administrator before use.

I. Ground-based yarding shall not exceed 600 feet from any road unless authorized in writing by the Contract Administrator.

J. Yarding Corridor Requirements for Units #2B and #5 (in addition to those outlined in Schedule B).

a. Location of the yarding corridors must be marked by Purchaser and approved by the Contract Administrator prior to use.

b. Landings shall be located to provide for parallel yarding corridors whenever possible. Ground-based corridors shall be limited to 14 feet including rub trees and cable corridors shall be limited to 12 feet. Corridors shall be at least 100 feet apart when parallel as measured from the center of the corridors. When radial yarding corridors are required from a central landing, the distance between yarding corridors must be no closer than 100 feet where the corridor leaves the unit as measured from the center of the corridors for cable-yarding and no closer than 75 feet for ground-based equipment.

c. Purchaser shall not have more than two ground-based yarding corridors open to active yarding at any one time. All other ground-based yarding corridors used for yarding timber shall not be active.

d. Once a yarding corridor is closed, which shall include water bars if necessary; Purchaser shall not reopen a yarding corridor unless approved in writing by the Contract Administrator.

e. Where possible corridors should be located in a manner to minimize the damage to or removal of leave trees. Following completion of yarding of each corridor, rub trees that do not meet take tree specifications may be left standing.

f. Radial yarding shall only be used when approved by the Contract Administrator.

K. Cutting and yarding in Units #2B & #5 will not be permitted during the bark slippage season unless authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but will vary depending on weather conditions. If permission is granted to operate during the bark slippage season the purchaser shall be required to provide a plan outlining mitigation measure.

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

M. In VRH areas only: leave trees may be exchanged for unmarked trees of similar size and wildlife characteristics upon prior approval by the Contract Administrator.

N. Any trees with a white “Timber Sale Boundary”, regardless of a second tag type on the respective tree, shall not be cut.

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. If the Purchaser determines that tailholds, guy line stumps, or cable-yarding corridors are needed on private property adjacent to the sale area, the

Purchaser shall obtain written permission from the landowner and subsequently provide that documentation to the Contract Administrator prior to using them.

B. Purchaser shall furnish a set of identically-keyed locks and keys (set shall include no less than 10 locks and 5 keys for the lock), as deemed acceptable to the State, to the DNR for usage on the 2nd gate for the duration of active operations of the sale. Lock replaces the access lock used during sale preview period prior to auction.

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

H-150 Required Removal of Forest Products

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

Species	Net bd ft	Log length (ft)	Log dib
All species	20	12	5

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

H-157 Optional Removal of Forest Products Not Designated

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

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

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

H-160 Mismanufacture

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

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

H-180 Removal of Specialized Forest Products or Firewood

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 8/8/2014 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on 100 Road, PK-ML, (0+00 to 76+80), PK-06, PK-0600, PK-0602, PK-0602-03, PK-0604, PK-0607, PK-0619, PK-0620, PK-0621, PK-07 (0+00 to 22+10), and PK-10. 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-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

Slash or debris which enters any type 5 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-120 Stream Protection

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

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

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

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

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

ECY - Eastern Region:
1-509-329-3400

(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

S-131 Refuse Disposal

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

Section D: Damages

D-010 Liquidated Damages

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

D-020 Failure to Remove Forest Products

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

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

Where:

LD = Liquidated Damage value.

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

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

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

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

A = Administrative Fee = $2,500.00.

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

Where:

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

LD = Liquidated damage value.

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

D-030 Inadequate Log Accountability

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

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of $100 each time a load of logs does not have branding as required in the contract, $250 each time a load of logs does not have a load ticket as required by the contract, $250 each time a load ticket has not been filled out as required by the plan of operations, $250 each time a load is weighed or scaled at a location not approved as required under this contract, $250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, $250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service within 24 hours of log removal, and $250 each time a ticket is either lost or otherwise unaccounted for.

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The

value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of $50.00 per tree for all damaged trees in the Variable Density Thinning area.

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.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Jean Fike Northwest Region Manager
Date: _____	Date: _____
Address:	

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
NW Ground-Based Equip Specifications (Rev11/05/14)

The following types of equipment are considered ground-based equipment: feller-buncher, processor, forwarder, skidder and shovel.

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, delimbing 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.

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

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

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

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

FOR ALL YARDING:

Equipment will remain at least 30 feet from all water courses or areas of wet/soft soils, except as necessary to cross at approved locations. Water course crossing structures must be approved by a HPA or by the Contract Administrator.

Logging debris created by the operation will be removed from water courses concurrently with yarding.

WHEN SHOVEL YARDING IS AUTHORIZED:

S1. When yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing.

S2. Shovel yarding will not be allowed to create ruts or soil puddling. Shovel routes should be dispersed to prevent creation of definable trails.

S3. Within shovel logged areas, to facilitate proper reforestation, logging debris will be dispersed as necessary to create clear, plantable spots at approximately a 11 foot x 11 foot spacing. Planting spots will be created concurrently with yarding.

LOG PROCESSORS will be allowed within the sale area only under one of the following conditions:

1. No tops or limbs will be allowed to accumulate on any landings, and all tops and limbs will be re-distributed into the unit, to the satisfaction of the Contract Administrator, and will provide for plantable spots every 11 feet by 11 feet.

2. Harvester must provide a written slash treatment plan, acceptable to the Contract Administrator, to address the additional slash accumulation. The Slash Treatment Plan will be a part of the Plan of Operations.

Schedule B
Thinning Prescription

Thinning Prescription

Trees with blue special management area tags or orange right of way tags may be cut if they meet the prescription below.

Unit 2B
•Residual stand must average 240 square feet of basal area per acre including corridor areas
•A minimum of 200 trees per acre shall be maintained throughout the unit including corridor areas.

To accomplish this prescription, fallers shall harvest trees by species in the following order:
•Cut all Pacific silver fir 8 inches diameter at breast height (DBH) and larger
•Cut all red alder 8 inches DBH and larger
•Western hemlock (8 to 19 inches DBH)

Unit 5

•Residual stand must average 160 square feet of basal area per acre including corridor areas
•A minimum of 150 trees per acre shall be maintained throughout the unit including corridor areas.

To accomplish this prescription, fallers shall harvest trees by species in the following order:
•Cut all Pacific silver fir 8 inches DBH and larger
•Cut all red alder 8 inches DBH and larger
•Western hemlock and Douglas-fir (8 to 19 inches DBH) evenly at a one-to-one ratio across diameter ranges as to not target only one or two diameter classes

All timber tagged out by blue special management tags, except trees marked with blue paint on the bole and root collar. These are dipicted as Gap Cut Area on the Timber Sale Map.

Unit 2B and 5
In riparian areas within 25 feet of white “Timber Sale Boundary” tags 5 trees per acre shall be marked by the Purchaser for approval by the Contract Administrator and subsequently felled by the Purchaser towards nearest stream. Up to 2 of these 5 trees may be girdled for snag recruitment. A total of 114 shall be felled into streams for Unit 5 with no more than 46 of these girdled. These actions shall be performed prior to implementation of thinning prescription and shall contribute to final trees per acre and basal area goals. These trees must be from the largest diameter class and dominate or co-dominate crown class.

Western redcedar may only be cut to facilitate yarding or road construction, or those which pose safety hazards, and must be approved by the Contract Administrator (CA) prior to falling.

Harvested hardwood pockets will not be counted towards residual stand criteria.

Thinning Conditions
Fallers/operators shall harvest trees of the first species and diameter range until the prescription is met. If there are not enough trees in a plot of the first species, then the faller shall harvest from the second species and diameter range and so on until the prescription is met. Fallers/operators shall cut from the full diameter range for each species as specified above and shall avoid targeting only one or two diameter ranges for harvest.

*Only live trees 8 inches or greater in DBH shall be used to calculate trees per acre and basal area. Trees that are less than 8 inches in DBH shall be protected during harvest operations where possible. There shall not be a gap between leave trees greater than 30 feet. The exception is for the tagged special management areas, as identified on the timber sale map.

The Contract Administrator (CA) shall 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.

Certification and Compliance
The Contract Administrator and Operator shall jointly review the take tree selection criteria as outlined in Schedule B of the contract. In conjunction with the Contract Administrator, the Faller/Harvest Operator shall mark a designated area as a test plot within the sale area boundary. Satisfactory thinning of this test plot completes the certification process. Certification may be revoked at any time by Contract Administrator if Contract Administrator determines that the prescription is not being implemented properly.

The contractor shall not deviate from the requirements set forth in the Compliance portion of this schedule without prior written approval by the Contract Administrator.

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

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northwest

Timber Sale Name: Pilchuck Reunion

Application Number: 30- 91137

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 6,040 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 19,640 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

Abandonment: 1,520 **linear feet**
Abandonment of existing roads not reconstructed under the contract

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

Pre-Haul Maintenance: 0 **linear feet**
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Optional Construction: 6,185 **linear feet**
Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 **linear feet**
Optional roads to be reconstructed and then abandoned

New Abandonment: 6,185 **linear feet**
Abandonment of roads constructed or reconstructed under the contract

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 6/13)

PRE-CRUISE NARRATIVE

Sale Name: Pilchuck Reunion	Region: **Northwest**
Agreement #: 30-091137	District: Cascade
Contact Forester: Jeremy Westra Phone / Location: Granite Falls / (360) 691-7677	County(s): Snohomish
Alternate Contact:Greg Anderson Phone / Location: Granite Falls / (360) 333-7983	Other information:

Type of Sale: MBF Scale	
Harvest System: Ground based	71%
Harvest System: Downhill Cable	3%
Harvest System: Cable Thinning	26%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres) RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)	Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
1	36/T30/R07E	3	52.2		0.3	12.5	5.0[1]	34.4	GPS (Garmin)/GIS
2a	36/T30/R07E	3	44.2		0.1	3.7	10.3[1]	30.1	GPS (Garmin)/GIS
2b	36/T30/R07E	3	7.7				0.9[2]	6.8	GPS (Garmin)/GIS
3	31/T30/R08E	3	58.7		0.5	5.3	8.7[1]	44.2	GPS (Garmin)/GIS
4	31/T30/R08E	3	27.6		0.4	1.1	4.3[1]	21.8	GPS (Garmin)/GIS
5 VDT	30/T30/R08E	3	95.0		7.3	7.3	7.2[3] +10.7 DL +1.0 R/W	61.5	GPS (Garmin)/GIS
5 Gaps	30/T30/R08E	3	7.2					7.2	GPS (Garmin)/GIS
2 R/W	36/T30/R07E	3	0.9					0.9	Laser/Compass
5 R/W and Day-light (DL)	30/T30/R08E		11.7					11.7	GPS (Garmin)/GIS
TOTAL ACRES			305.2		8.6	29.9	48.1	218.6	

[1] See remarks
[2] See remarks
[3] See remarks

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Variable Retention Harvest (VRH): Take all trees bounded by white "*Timber Sale Boundary"* tags, PK-07 road and the PK-ML. Leave tree areas marked with yellow "*Leave Tree Area"* tags or individual trees with blue paint.		192 scattered leave trees 87 clumped leave trees Total: 279
2a	Variable Retention Harvest (VRH): Take all trees bounded by white "*Timber Sale Boundary"* tags, blue "*Special Management Area"* tags, PK-06 road and the PK-ML. Leave tree areas marked with yellow "*Leave Tree Area"* tags or individual trees with blue paint.	Blue *special management area* tags mark boundary between VRH and VDT. Tags face towards unit 2a (VRH).	158 scattered leave trees 84 clumped leave trees Total: 242
2b	Variable Density Thinning (VDT): Thin to prescription all trees bounded by white "*Timber Sale Boundary"* tags and blue "*Special Management Area"* tags.	Blue *special management area* tags mark boundary between VRH and VDT. Tags face towards unit 2a.	See thinning prescription for thinning detail.
3	Variable Retention Harvest (VRH): Take all trees bounded by white "*Timber Sale Boundary"* tags, trees painted with two red bands and yellow "T" and PK-06 road. Leave tree areas marked with yellow "*Leave Tree Area"* tags or individual trees with blue paint.		222 scattered leave trees 138 clumped leave trees Total: 360
4	Variable Retention Harvest (VRH): Take all trees bounded white "*Timber Sale Boundary"* tags. Leave tree areas marked with yellow "*Leave Tree Area"* tags or individual trees with blue paint.		65 scattered leave trees 113 clumped leave trees Total: 178
5	Variable Density Thinning (VDT): Thin to prescription all trees bounded by white "*Timber Sale Boundary"* tags and PK-06 road. Leave tree areas (skips) marked with yellow "*Leave Tree Area"* tags. Gaps marked with blue "*Special Management Area"* tags are regeneration harvest with scattered blue painted leave trees within.	Gaps marked with blue *special management area* tags are regeneration harvest with scattered blue painted leave trees within.	7.2 acres of gaps with 84 scattered leave trees. 7.3 acres of leave tree clumps (skips). See thinning prescription for thinning detail.

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required

1	WH/DF/SF/WRC 300 MBF	Access off Scotty Rd. F-1 key needed at both gates.	See attached pre-cruise and vicinity map.
2a	WH/DF/SF/WRC 300 MBF	Same as above.	Same as above.
2b	WH/SF 136 MBF	Same as above.	Same as above.
3	WH/DF/SF/WRC 400 MBF	Same as above.	Same as above.
4	WH/DF/SF/WRC 200 MBF	Same as above.	Same as above.
5	WH/DF/SF 975 MBF	Same as above.	Same as above.
5 Gaps	WH/DF/SF 97 MBF	Same as above.	Same as above.
2 R/W	WH/SF 16 MBF	Same as above.	Same as above.
5 DL	WH/DF/SF 47.2 MBF	Same as above.	Same as above.
5 R/W	WH/DF/SF 13.6 MBF	Same as above.	Same as above.
TOTAL MBF	2485 MBF		

REMARKS:

1. Voids deducted from gross acreage in Units 1, 2, 3 and 4 due to excessive thinning and subsequent blowdown.
2. R/W deducted from gross acreage of Unit 2b and totaled on separate line in table.
3. Gaps acreage were deducted from gross acreage of Unit 5 VDT and totaled on separate line in table. Gaps will be harvested as VRH pockets within VDT unit.

Estimated corridor acreage for Unit 5 is 4.1 acres.

Right of Way determination for Unit 2: 650 feet of road multiplied by 60 feet width.

Right of Way determination for Unit 5:
Spur A: 0.65 acre for landing and 0.35 acre for road leading up to the gap which crosses road.
Daylighting (DL) was calculated for ROW.

See schedule B for thinning prescription detail.

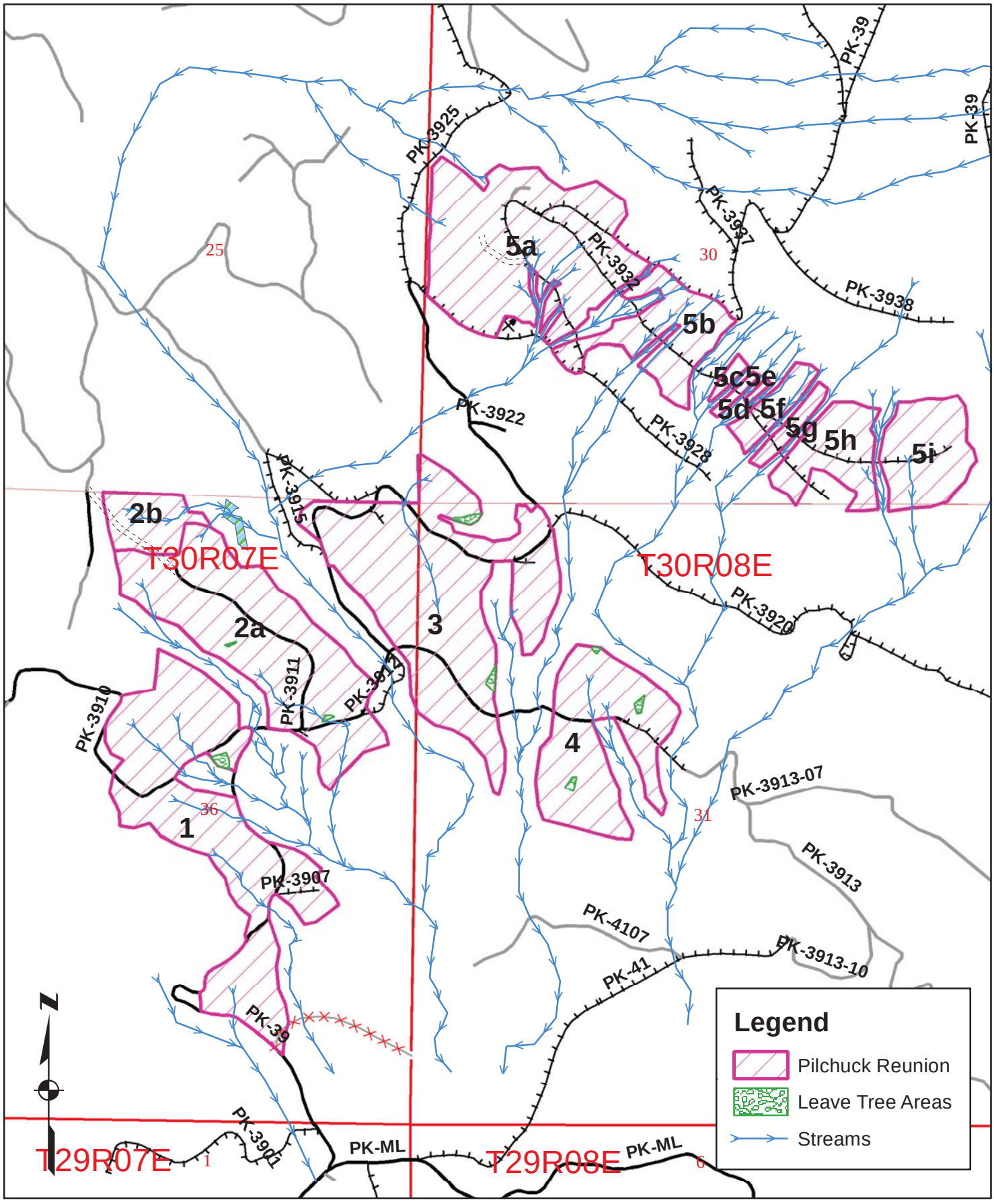
GPS points marked with lime and pink flagging.

Units 1-4 was thinnined heavily in 2002 and experienced subsequent heavy blowdown. Watch out for thick brush and hemlock regrowth and pay close attention to blue painted leave trees in brush.

From Granite Falls, head southeast on Menzel Lake Rd. for 1.7 miles to Scotty Rd. Turn left and head east for 0.9 miles to gate, continue 1.2 miles to second gate. Continue another 1.0 miles where Scotty Rd becomes the Bascom Pacific Mainline (BP-ML). Follow the BP-ML for 3.9 miles to the Pilchuck Mainline (PK-ML). Parking and access is 300 feet up the PK-ML, follow the flag line and ROW tags to the south-east, this will lead into Unit 2.

Prepared By: Jeremy Westra Date: 06/18/2014	Title: NRS1	CC:

Pilchuck Reunion Timber Sale

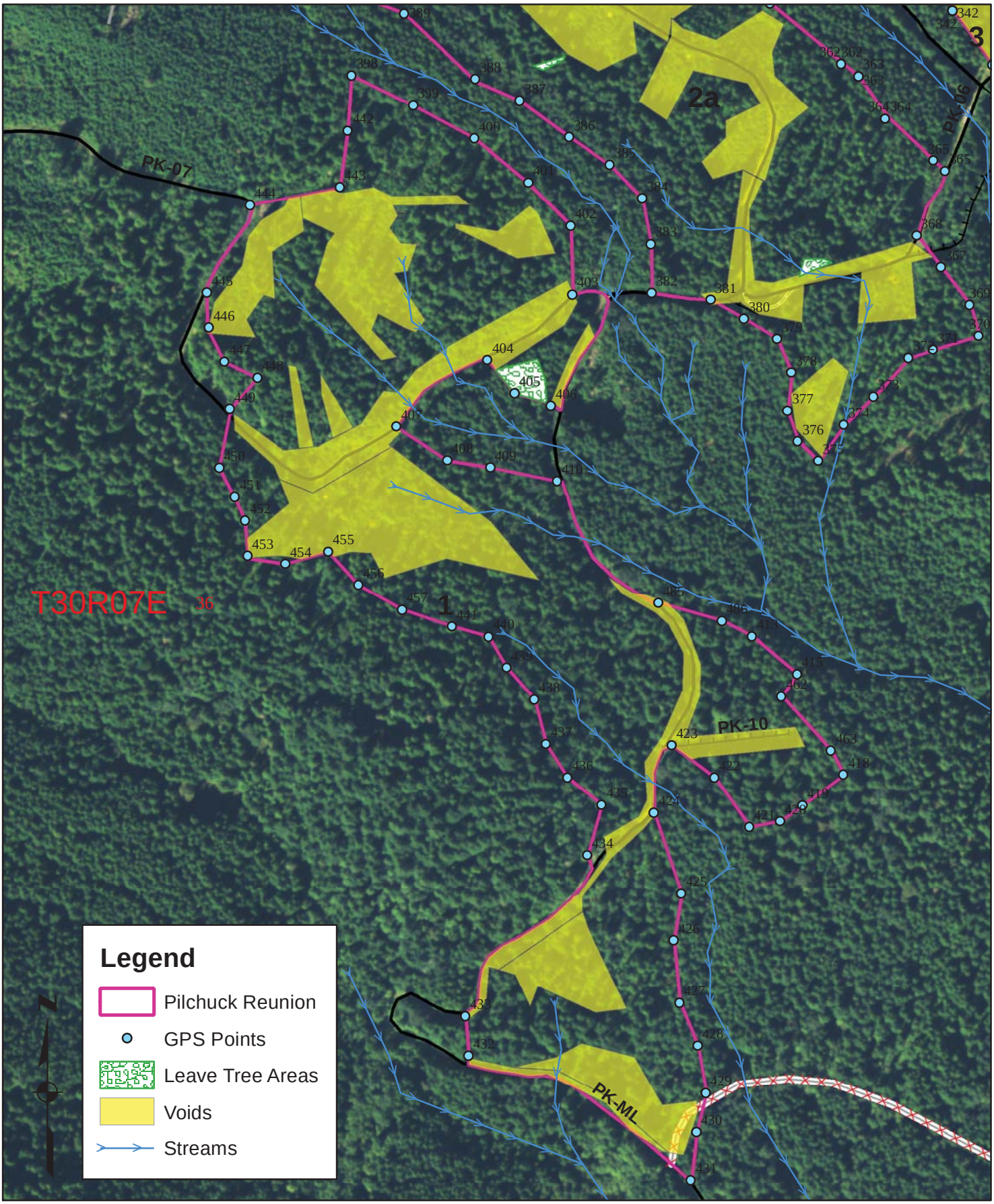


0 650 1,300 2,600 Feet

1 inch = 1,088 feet

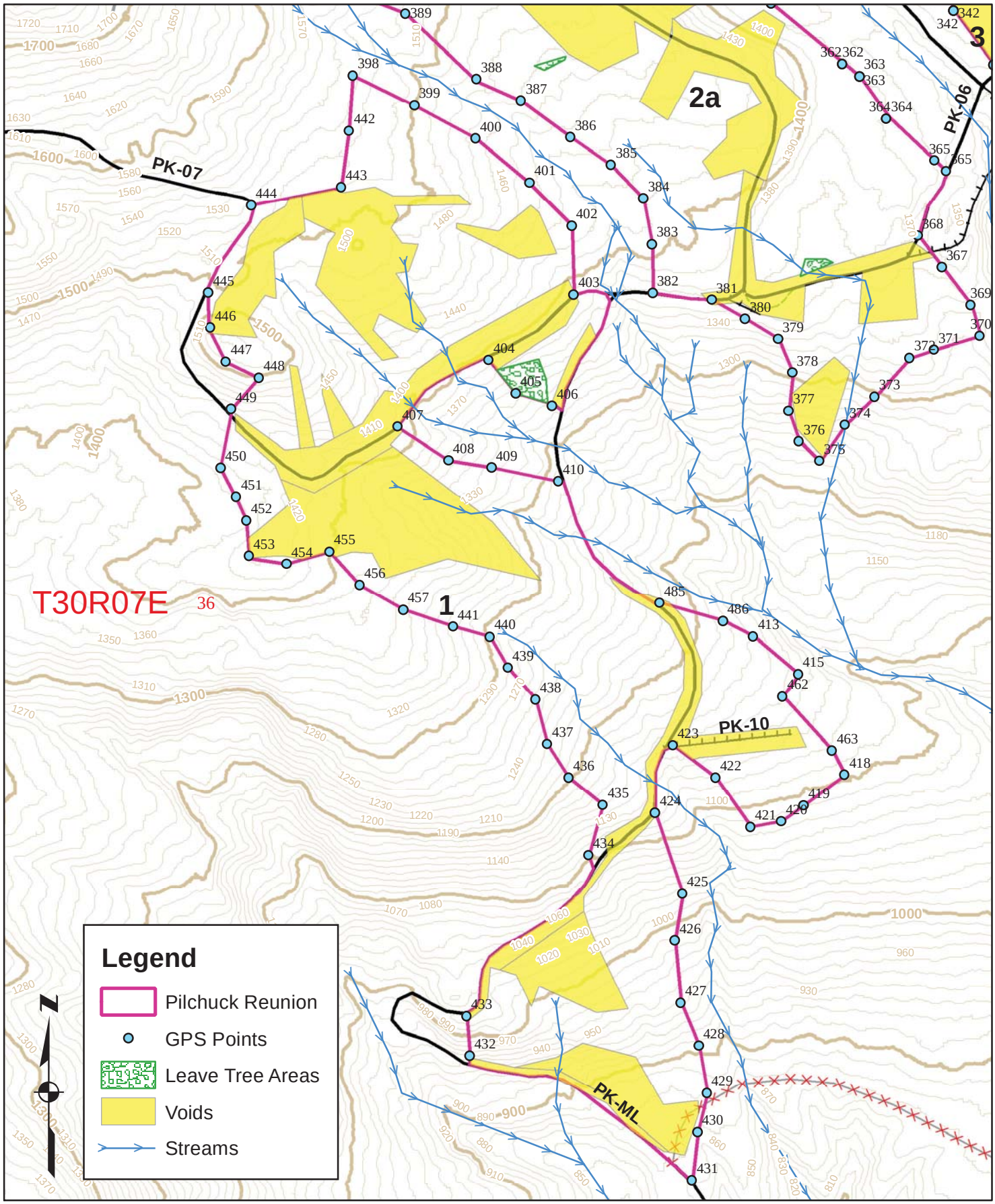
Pilchuck Reunion Timber Sale

Unit 1 -- VRH

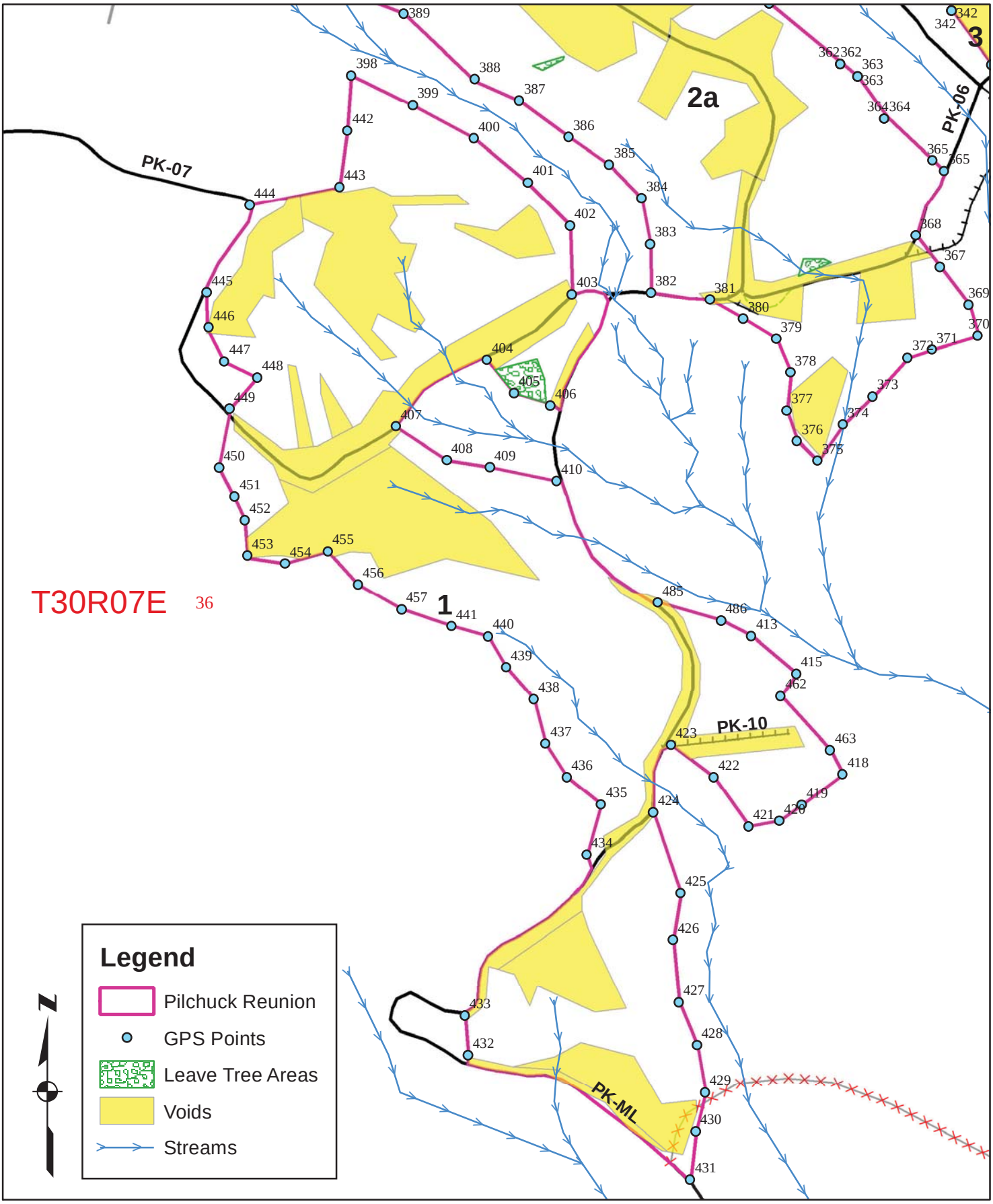


Pilchuck Reunion Timber Sale

Unit 1 -- VRH

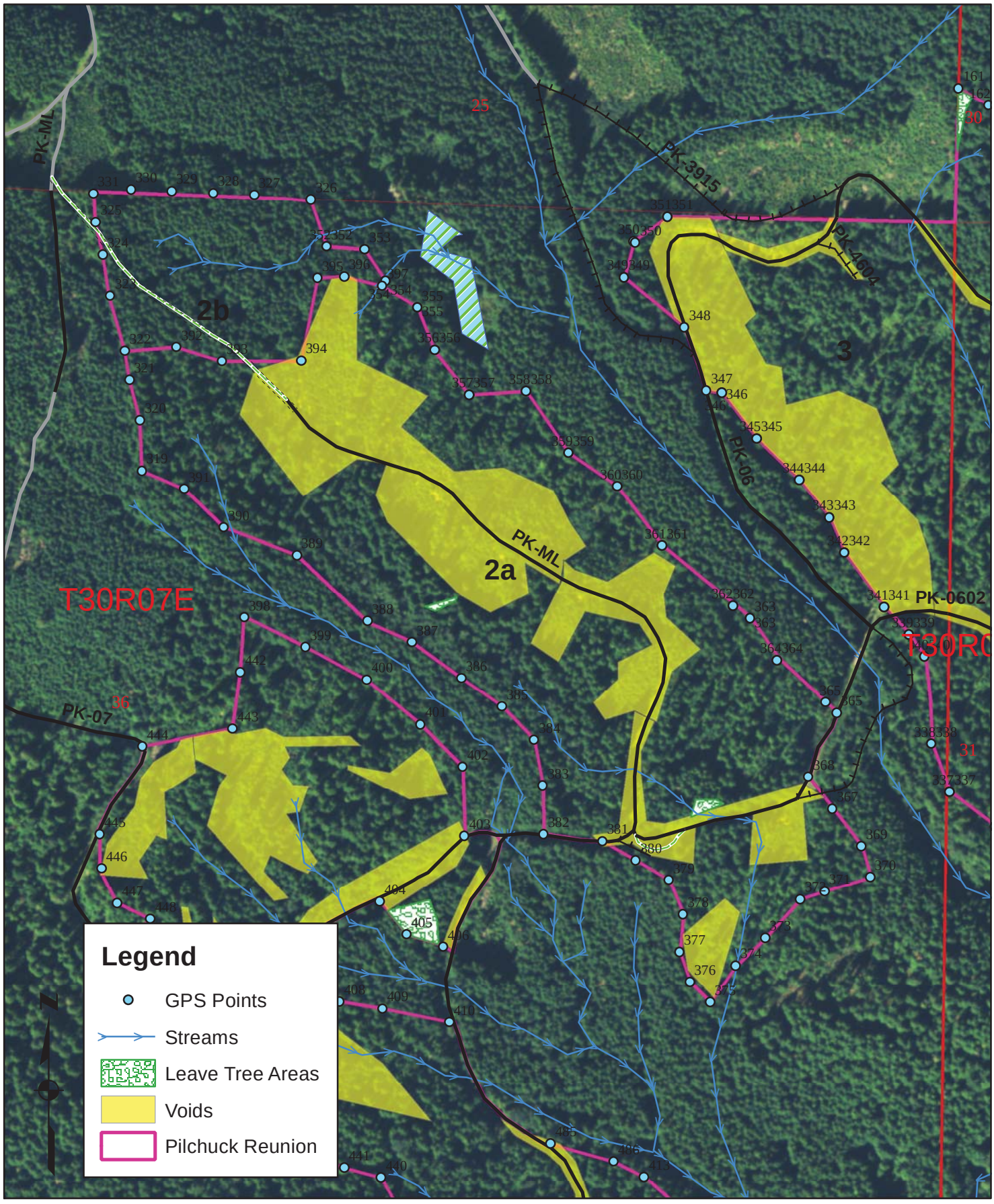


Pilchuck Reunion Timber Sale
Unit 1 -- VRH



Pilchuck Reunion Timber Sale

Unit 1 -- VRH

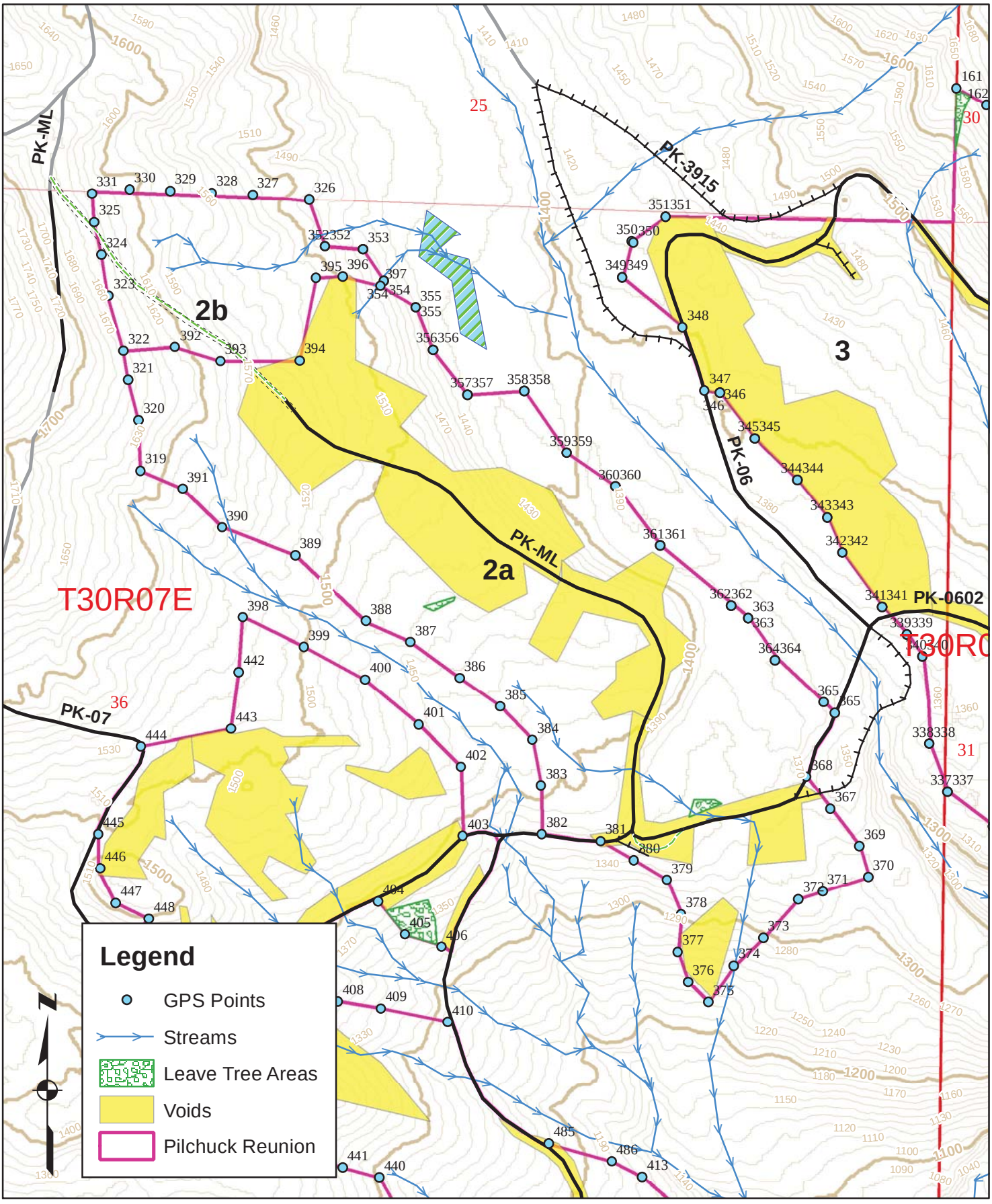


0 250 500 1,000 Feet

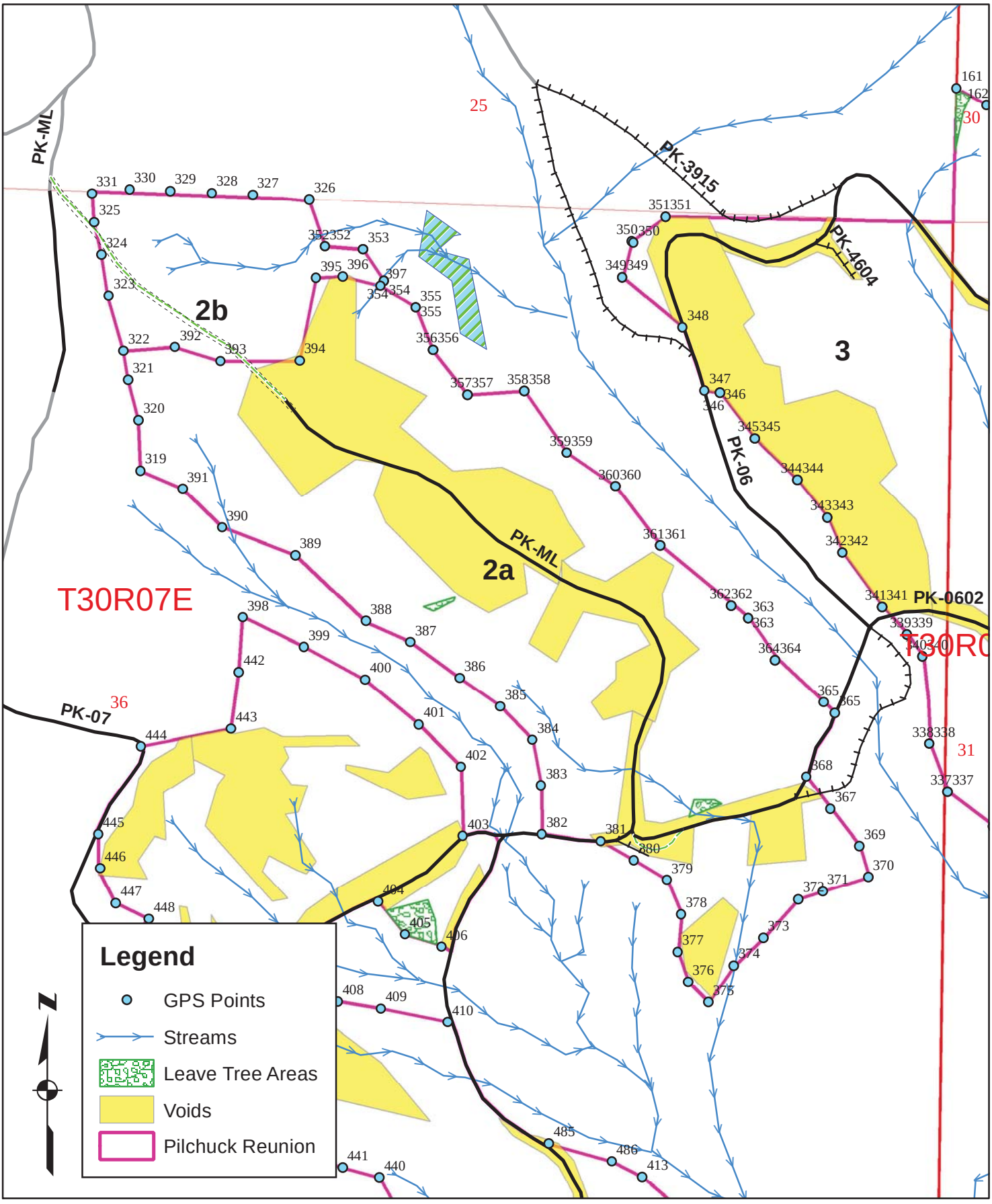
1 inch = 400 feet

Pilchuck Reunion Timber Sale

Unit 1 -- VRH

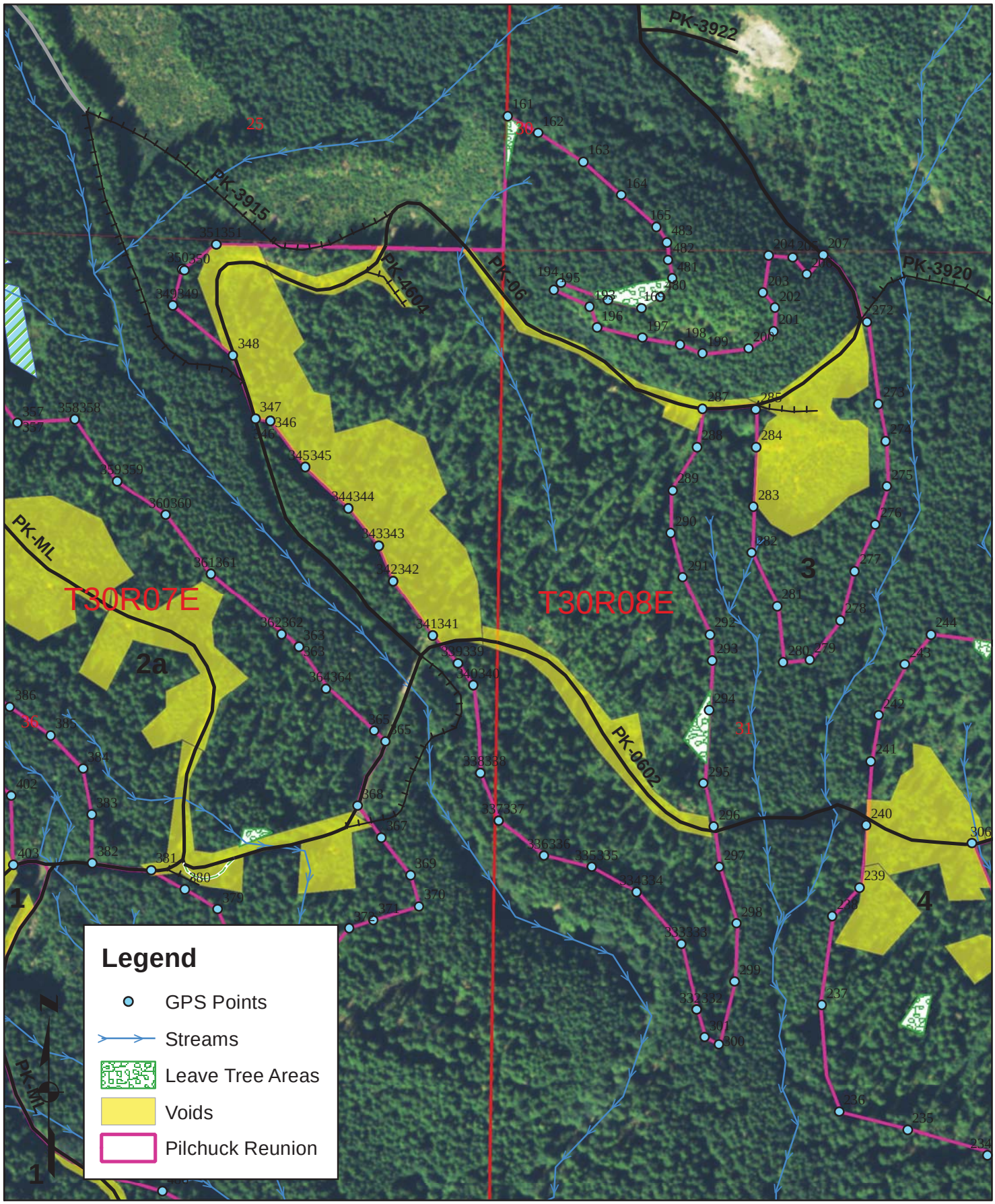


Pilchuck Reunion Timber Sale
Unit 1 -- VRH



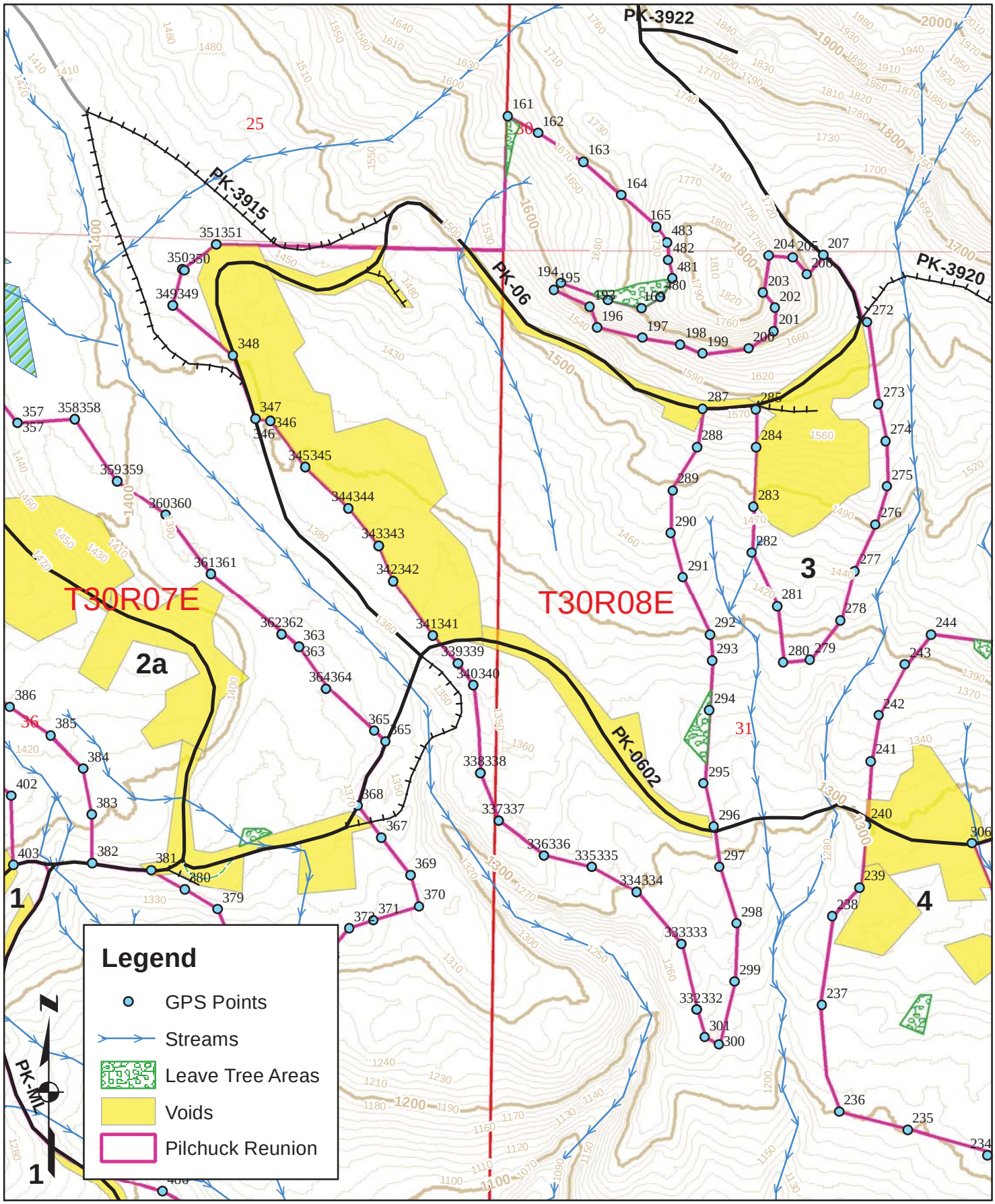
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



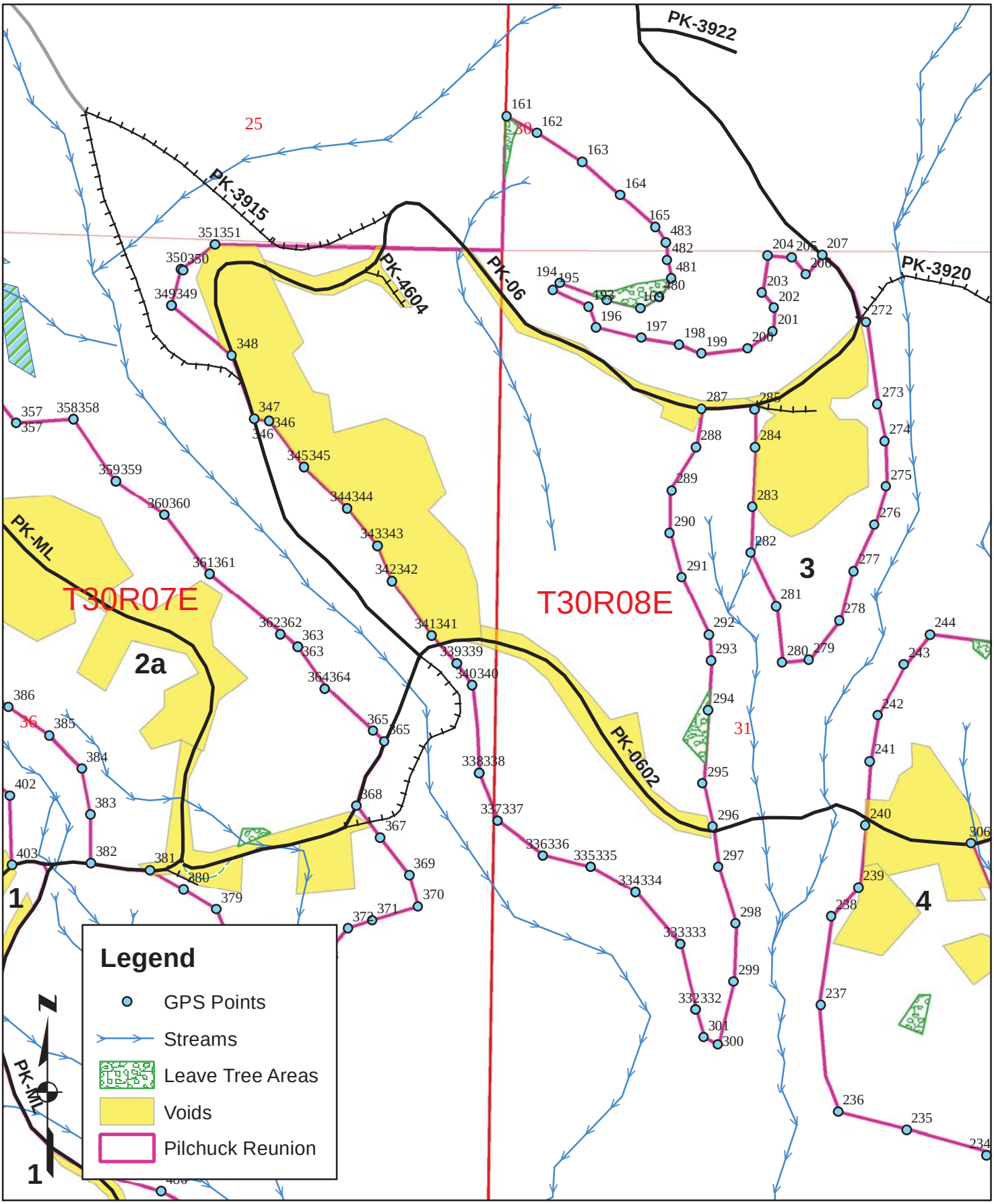
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



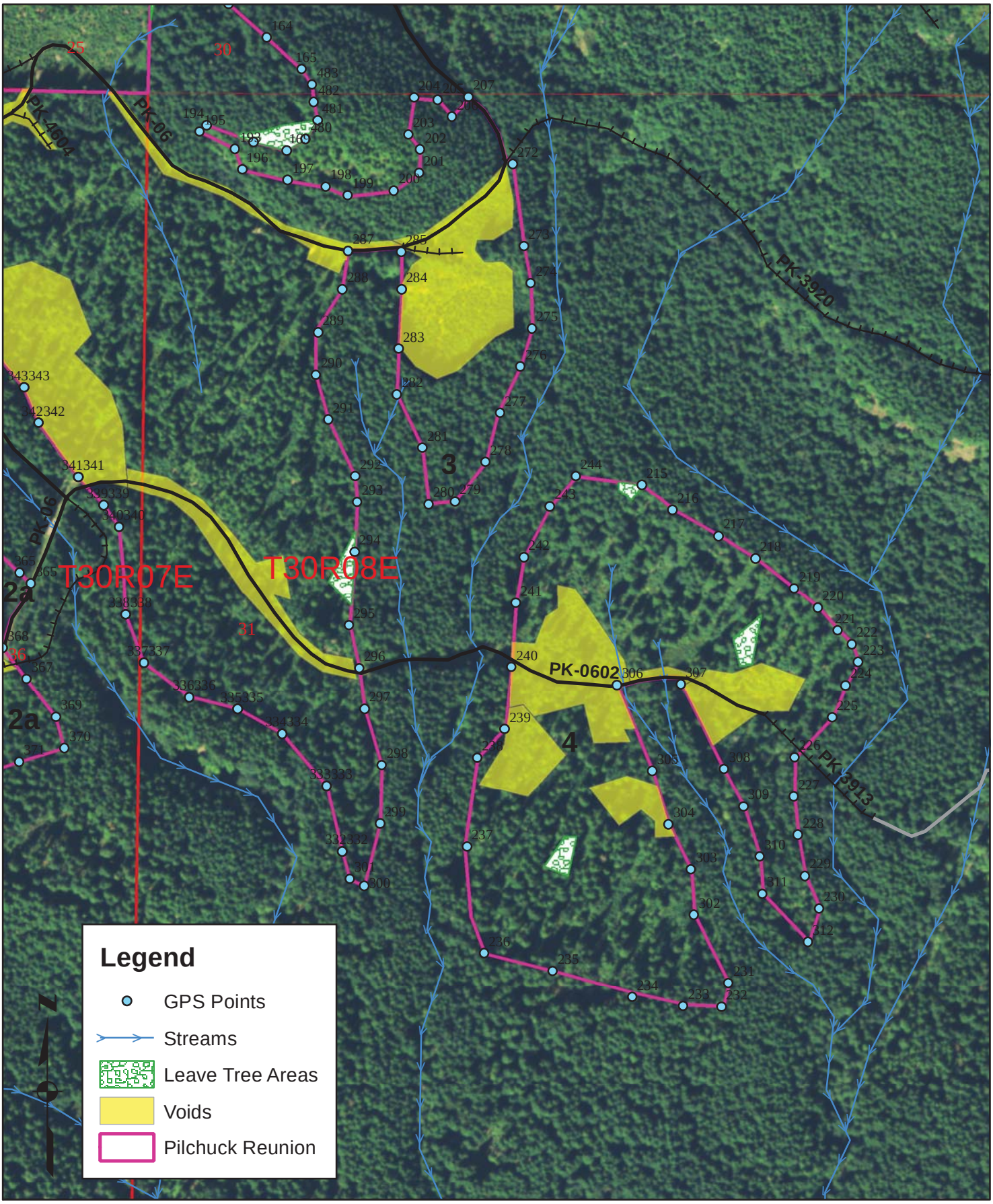
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



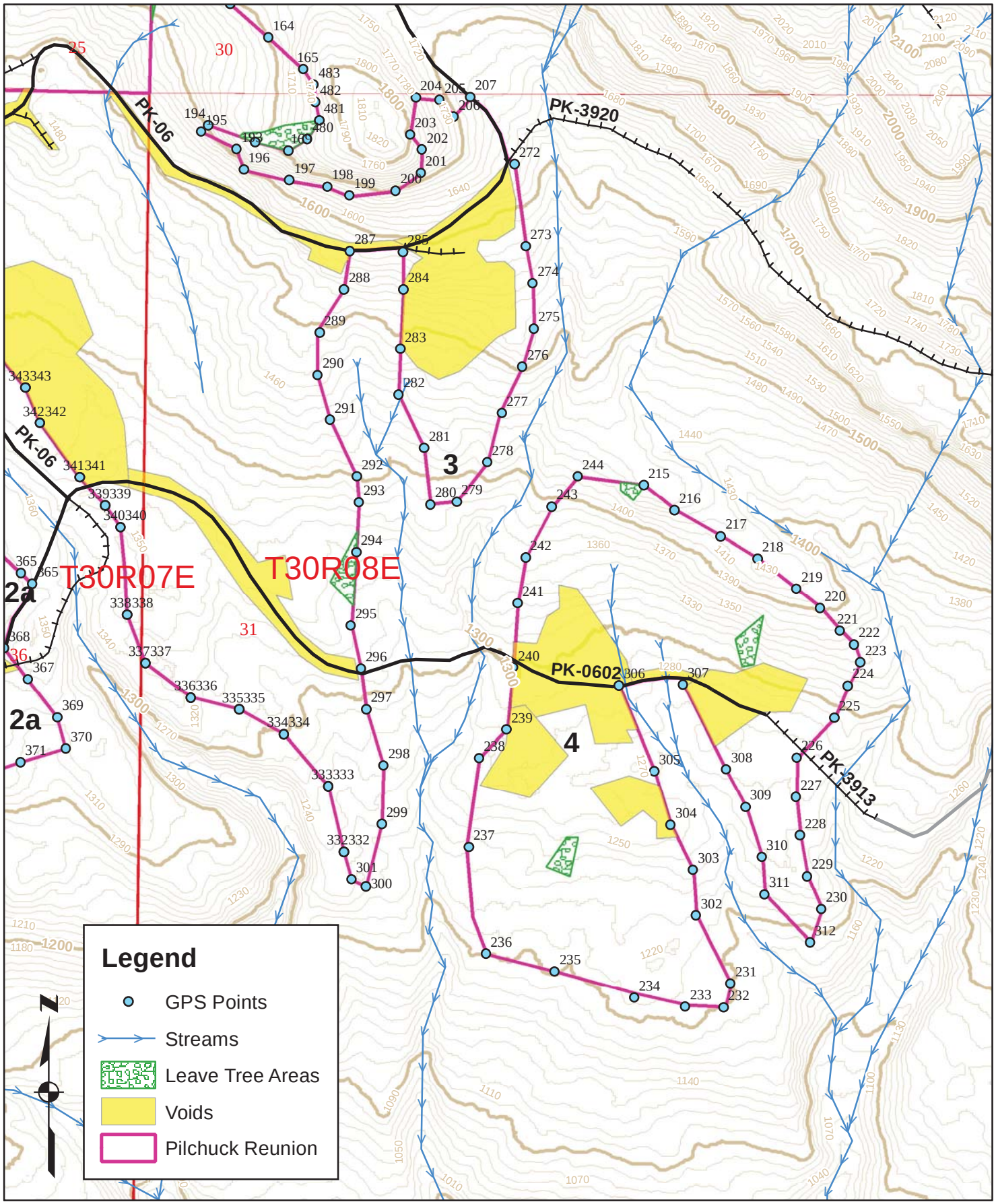
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



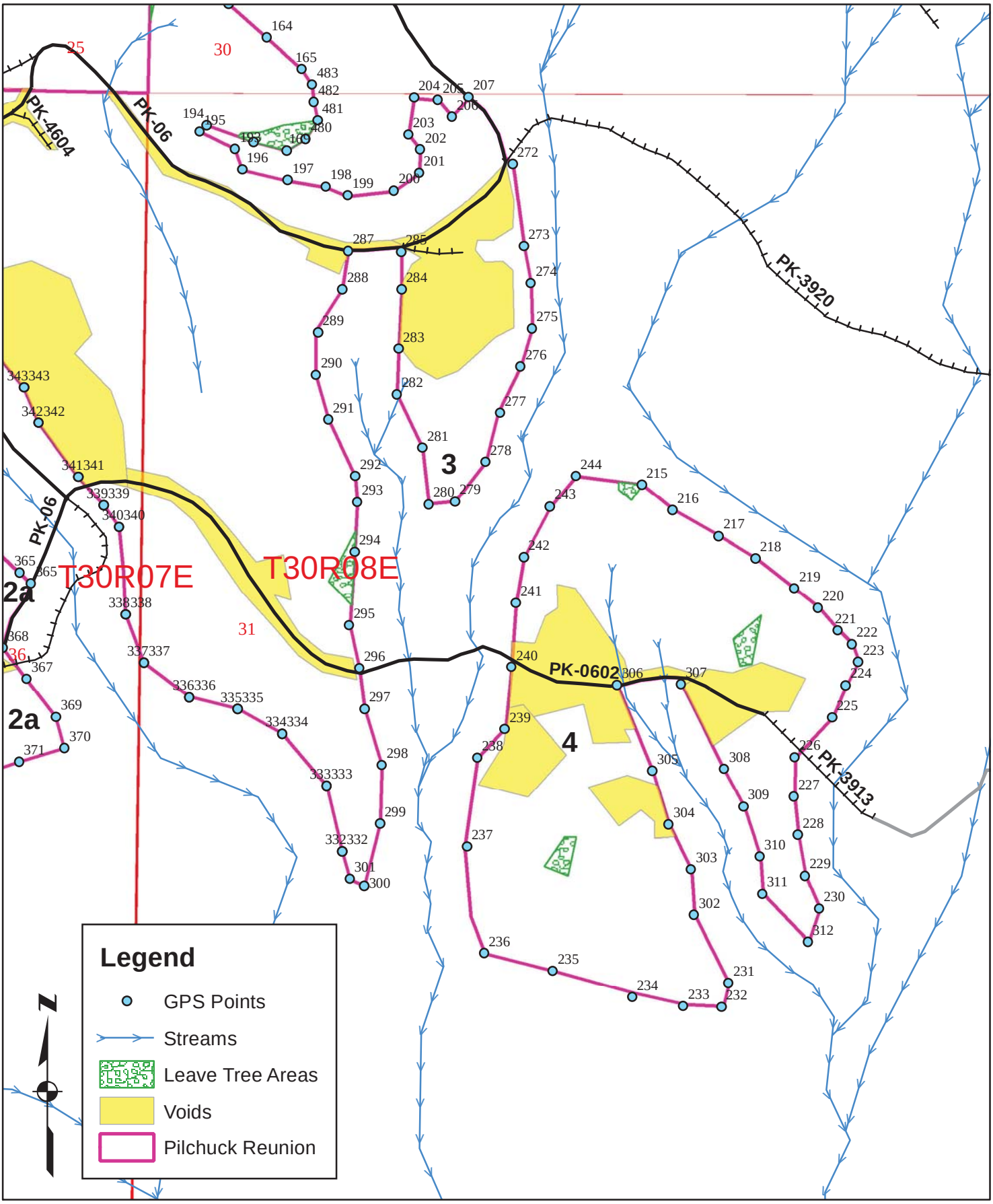
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



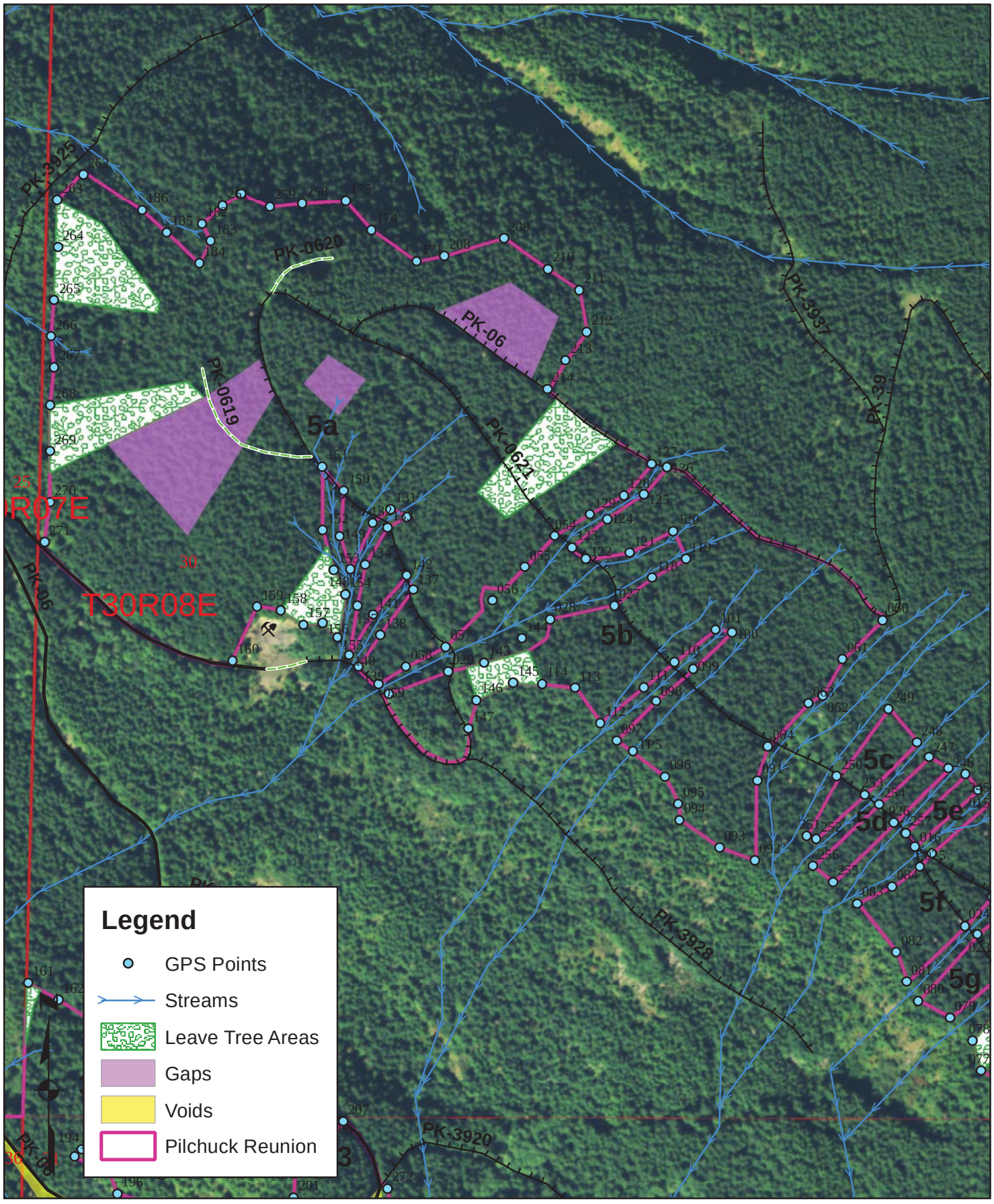
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



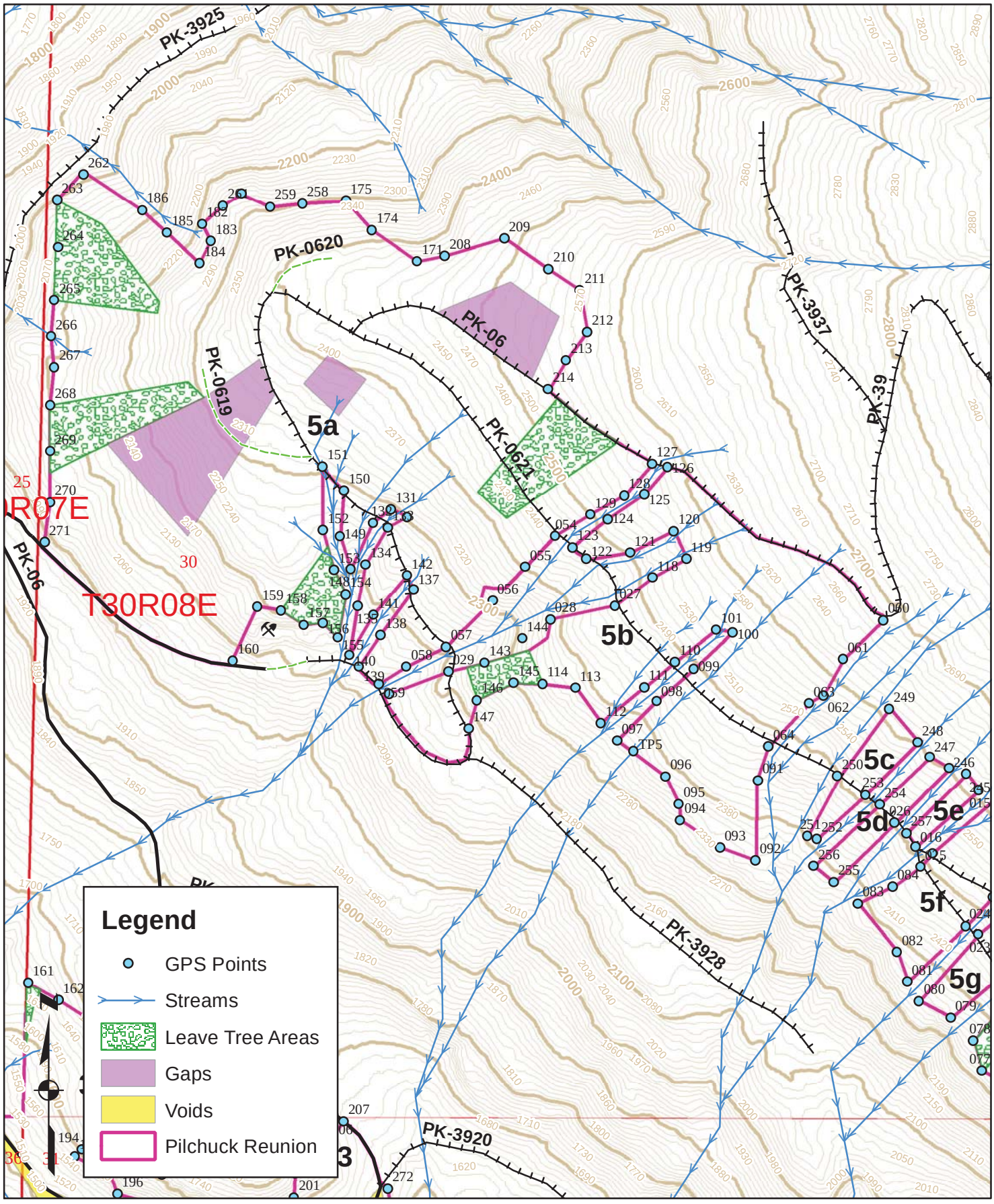
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



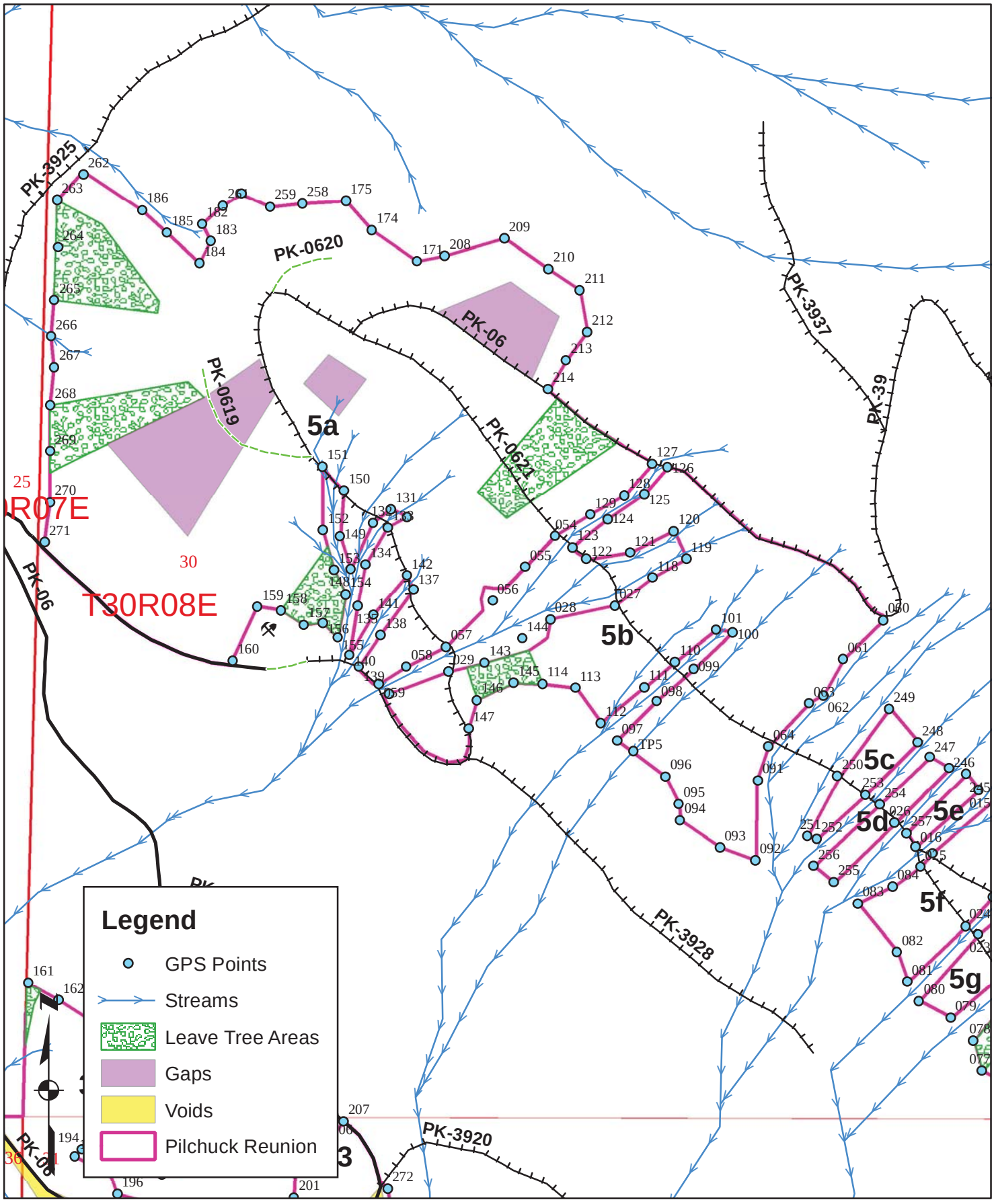
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



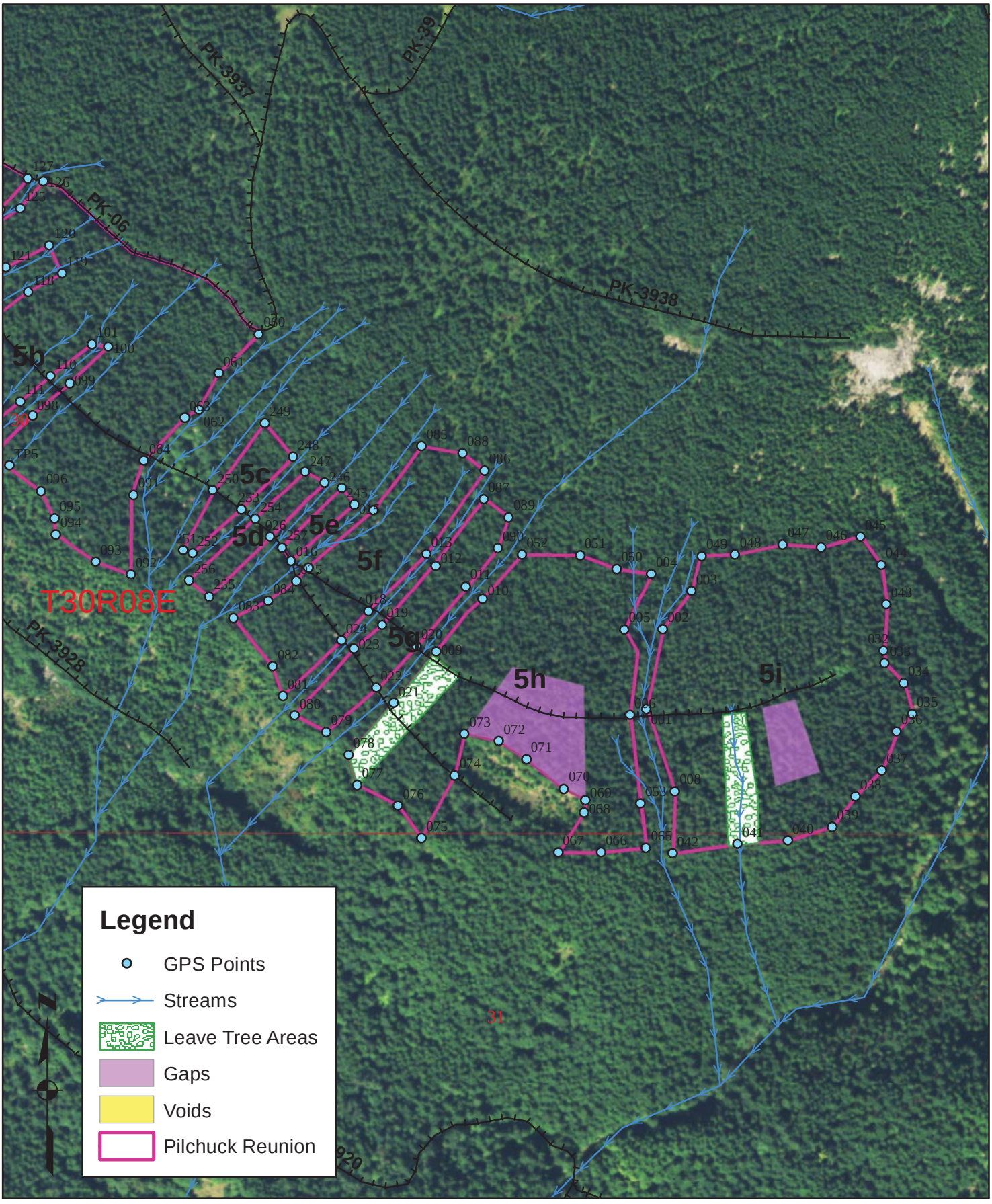
Pilchuck Reunion Timber Sale

Unit 1 -- VRH



Pilchuck Reunion Timber Sale

Unit 1 -- VRH

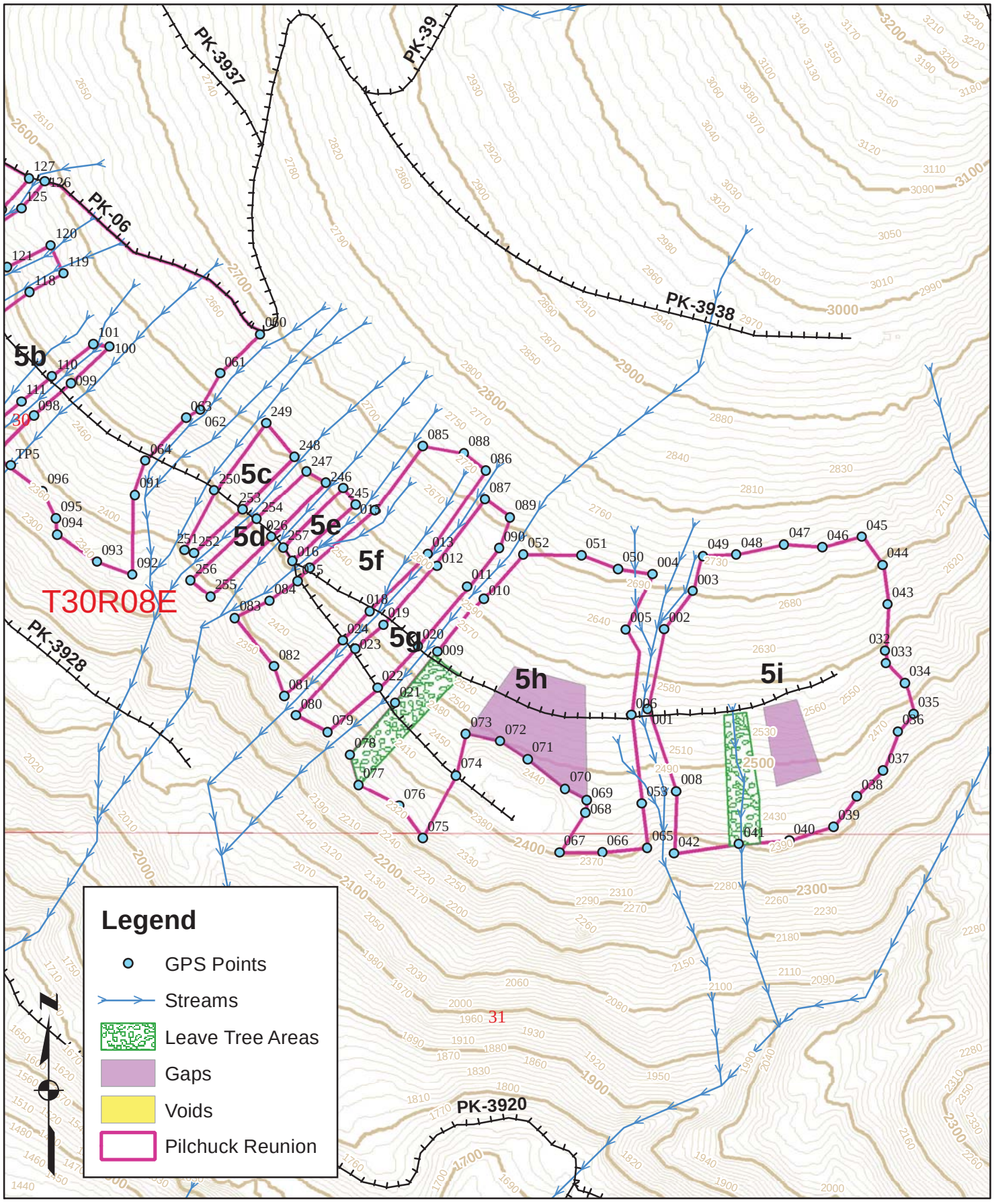


0 250 500 1,000 Feet

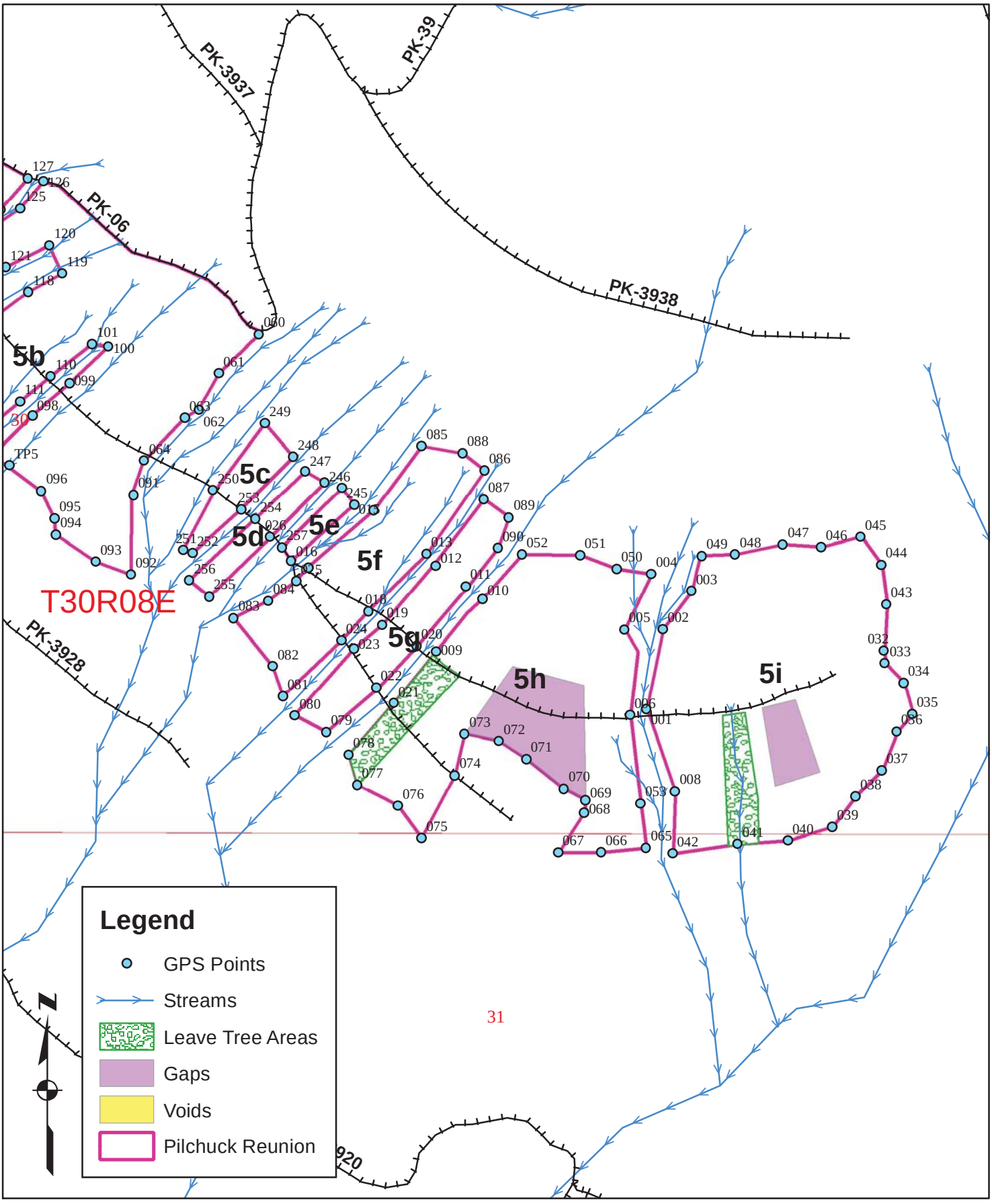
1 inch = 400 feet

Pilchuck Reunion Timber Sale

Unit 1 -- VRH



Pilchuck Reunion Timber Sale
Unit 1 -- VRH



Cruise Narrative

Sale Name: **Pilchuck Reunion**	**Region: Northwest**
Agree. #: **30-091137**	**District: Cascade**
Lead cruiser: **Matt Llobet**	**Completion date:** **12-15-14**
Other cruisers on sale: Ian M.	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	34.4	Yes	
2A	30.1	Yes	
2B	6.8	Yes	
3	44.2	Yes	
4	21.8	Yes	
5VDT	57.4	No	Subtracted out gap acreage and corridor acreage
5GAPS	7.2	Yes	Gap acreage out of unit 5 VDT
ROW2	0.9	Yes	
ROW5	11.7	Yes	
CORR5	4.1	Yes	Corridor acreage out of unit 5 VDT
Total	218.6	Yes	

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/ half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise:count)	Total number of plots
1	V.P.	40.0 BAF	4.5’	300’ x 300’	1:1	21
2A	V.P.	40.0 BAF	4.5’	275’ x 275’	1:1	15
2B	V.P.	54.4 BAF	4.5’	200’ x 200’	Cruise All	7
3	V.P.	40.0 BAF	4.5’	275’ x 275’	1:1	21
4	V.P.	40.0 BAF	4.5’	275’ x 275’	1:1	13
5 VDT	V.P.	40.0 BAF	4.5’	300’ x 300’	Cruise All	41

5 GAPS	V.P.	40.0 BAF	4.5’	1plot/acre	Cruise All	7
2 ROW	V.P.	54.4 BAF	4.5’	2plot/0.9acre	Cruise All	2
5 ROW	V.P.	40.0 BAF	4.5’	1plot/acre	Cruise All	12

Sale/Cruise Description:

Minor species cruise intensity:	-Used a full prism in all units.					
Minimum cruise spec:	Minimum DBH 8 inches, 10 Net Board feet, Minimum Top Diameter 5 inches or 40% of 16-foot form point					
Avg ring count by sp:	**DF** =	8	**WH** =	8	**SS** =	
Leave/take tree description:	**Pilchuck Reunion-** **Units 1, 2A, 3, 4- Variable Retention Harvest:** Take all trees bounded by white “Timber Sale Boundary” tags and roads. Leave tree areas are marked with yellow “Leave Tree Area” tags or individual trees with blue paint. **Unit 2B- Variable Density Thinning:** Thin to prescription all trees bounded by white “Timber Sale Boundary” tags and blue “Special Management Area “tags. **(See thinning prescription for thinning detail)** **Unit 5 - Variable Density Thinning**: Thin to prescription all trees bounded by white “Timber Sale Boundary” tags and PK-06 road. **(See thinning prescription for thinning detail)** **Unit 5 GAPS-** Gaps marked with blue special management area tags are regeneration harvest with scattered blue painted leave trees within. **Unit 2 and 5 ROW-** Marked with orange “Right of Way” tags					
Other conditions						

Field observations:

All timber was graded in variable log lengths with the Scaling Bureaus Westside/ Northwest log rules. The utility wood was given a board ft. volume. Pilchuck timber Sale was cruised using the variable plot sample method. Pilchuck timber sale is 219 acres. Pilchuck is 22% ground based logging and 78% cable logging. The species composition of the sale is: Douglas Fir, at 13%, Western Hemlock, at 65%. The Douglas Fir has an average diameter of 17 inches and an average bole height of 62 feet, Western Hemlock has an average diameter of 17 inches and an average bole height of 75 feet.

Prepared by: Matt Llobet

Title: Northwest Region Timber Cruiser

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T30N R07E S30 TyCORR
THRU
T30N R08E S31 Ty00U4

Project: **PILCHUCK**

Acres **218.60**

Page **1**
Date **12/31/2014**
Time **2:48:29PM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	D	2S	29	5.1	966	916	200			83	17				100	40	14	299	1.91	3.1
DF	T	D	3S	57	3.7	1,850	1,783	390	11	89				1	4	95	39	9	112	0.91	16.0
DF	T	D	4S	12	3.4	417	402	88	99	1			23	51	3	23	24	5	25	0.38	16.1
DF	T	D	PU	2	3.8	35	34	7	79		21		87	13			12	6	14	0.30	2.4
DF	**Totals**			13	4.1	3,268	3,135	685	20	51	24	5	4	7	3	86	31	8	84	0.83	37.5
DF	L	D	3S	82	4.6	1,802	1,720	376	23	77						100	40	8	96	0.81	17.8
DF	L	D	4S	16	5.9	351	330	72	100				38	30	4	28	22	5	21	0.34	15.6
DF	L	D	PU	2		24	24	5	65	35			100				10	6	13	0.35	1.9
DF	**Totals**			9	4.7	2,177	2,074	453	36	64			7	5	1	87	30	7	59	0.65	35.3
WH	T	D	2S	52	7.6	9,100	8,407	1,838			97	3				100	40	14	283	1.70	29.7
WH	T	D	3S	38	2.7	6,213	6,044	1,321	22	78			0		0	100	40	8	103	0.74	58.5
WH	T	D	4S	9	2.2	1,395	1,365	298	99	1			11	25	11	53	30	5	32	0.32	42.8
WH	T	D	PU	1	.5	91	91	20	92	8			100				9	6	11	0.30	8.3
WH	**Totals**			65	5.3	16,800	15,907	3,477	17	30	51	2	2	2	1	95	35	8	114	0.86	139.2
WH	L	D	2S	20	9.4	559	506	111			92	8				100	40	14	282	1.60	1.8
WH	L	D	3S	54	2.8	1,322	1,285	281	35	65						100	40	8	92	0.70	13.9
WH	L	D	4S	20	2.9	497	483	106	99	1			9	40	24	27	29	5	30	0.32	16.4
WH	L	D	PU	6		138	138	30	59	1	40		85		15		13	6	22	0.37	6.4
WH	**Totals**			10	4.1	2,516	2,412	527	42	35	22	2	7	8	6	80	31	7	63	0.58	38.4
RC	T	D	3S	92	13.2	462	401	88	7	34	42	16	2			98	37	11	164	1.63	2.4
RC	T	D	4S	8		35	35	8	85	15			60	40			22	5	25	0.40	1.4
RC	**Totals**			2	12.3	496	435	95	14	33	39	15	6	3		91	32	9	114	1.32	3.8
RC	L	D	4S	100		18	18	4	100				100				19	5	20	0.20	.9
RC	**Totals**			0		18	18	4	100				100				19	5	20	0.20	.9
RA	T	D	4S	100	4.9	67	64	14	100					71	12	17	29	5	28	0.42	2.3
RA	**Totals**			0	4.9	67	64	14	100					71	12	17	29	5	28	0.42	2.3
BM	T	D	4S	81	18.4	24	19	4		100			51	49			24	9	44	0.94	.4
BM	T	D	PU	19		4	4	1	100				100				11	5	10	0.27	.4
BM	**Totals**			0	15.5	28	24	5	18	82			60	40			18	7	27	0.74	.9
SF	T	D	2S	14	7.0	47	44	10			100					100	40	12	186	1.59	.2
SF	T	D	3S	56	2.7	175	170	37	31	69						100	40	8	91	0.77	1.9
SF	T	D	4S	27	7.9	88	81	18	100				21	31	36	12	27	5	27	0.35	3.0
SF	T	D	PU	3		8	8	2	100				59	41			12	5	14	0.31	.6
SF	**Totals**			1	4.7	318	303	66	47	39	14		7	9	10	74	30	6	53	0.60	5.7
Totals					5.1	25,690	24,372	5,328	22	36	40	2	3	4	2	91	33	8	92	0.79	264.0

TC PSTATS

PROJECT STATISTICS

PROJECT PILCHUCK

DATE 12/31/2014

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
30N	07E	30	PILCHUCK	CORR	THR	218.60	143	726	S	W
30N	08E	31	PILCHUCK	00U4						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	143	726	5.1		
CRUISE	108	527	4.9	32,492	1.6
DBH COUNT					
REFOREST					
COUNT	35	156	4.5		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-L	76	24.8	13.1	55	6.4	23.1	2,516	2,412	683	682
WHEMLOCK-T	203	73.0	16.5	75	26.7	108.3	16,800	15,907	4,185	4,186
DOUG FIR-L	77	21.0	15.2	56	6.8	26.4	2,177	2,074	699	699
DOUG FIR-T	138	20.2	16.9	62	7.7	31.5	3,268	3,135	958	958
WR CEDAR-L	1	.9	7.2	30	0.1	.3	18	18	3	3
WR CEDAR-T	7	2.1	20.3	63	1.0	4.6	496	435	158	158
R ALDER-T	8	2.3	11.0	36	0.5	1.5	67	64	28	28
PS FIR-T	15	3.9	13.7	51	1.1	4.0	318	303	104	104
BL MAPLE-T	2	.4	15.9	38	0.2	.6	28	24	11	11
TOTAL	*527*	*148.6*	*15.7*	*65*	*50.5*	*200.2*	*25,690*	*24,372*	*6,830*	*6,830*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
WHEMLOCK-L	100.6	11.6	155	175	196			
WHEMLOCK-T	68.7	4.9	275	290	304			
DOUG FIR-L	43.6	5.0	103	109	114			
DOUG FIR-T	89.8	7.6	167	181	194			
WR CEDAR-L								
WR CEDAR-T	105.1	42.8	199	349	498			
R ALDER-T			36	36	36			
PS FIR-T	61.5	16.4	86	103	120			
BL MAPLE-T	12.9	12.0	48	55	62			
TOTAL	*88.5*	*3.9*	*200*	*208*	*216*	*313*	*160*	*78*

TREES/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-L	220.9	18.5	20	25	29			
WHEMLOCK-T	115.9	9.7	66	73	80			
DOUG FIR-L	205.1	17.1	17	21	25			
DOUG FIR-T	187.8	15.7	17	20	23			
WR CEDAR-L	1195.8	99.9	0	1	2			
WR CEDAR-T	374.3	31.3	1	2	3			
R ALDER-T	553.7	46.3	1	2	3			
PS FIR-T	435.2	36.4	2	4	5			
BL MAPLE-T	1195.8	99.9	0	0	1			
TOTAL	*53.2*	*4.4*	*142*	*149*	*155*	*113*	*58*	*28*

BASAL AREA/ACRE

CL 68.1 SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-L	212.6	17.8	19	23	27			
WHEMLOCK-T	106.4	8.9	99	108	118			
DOUG FIR-L	200.7	16.8	22	26	31			

PROJECT STATISTICS

PROJECT PILCHUCK

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
30N	07E	30	PILCHUCK	CORR	THR	218.60	143	726	S	W
30N	08E	31	PILCHUCK	00U4						

CL 68.1 SD: .00

BASAL AREA/ACRE

	COEFF VAR.	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-T	169.8	14.2	27	31	36			
WR CEDAR-L	1195.8	99.9	0	0	1			
WR CEDAR-T	344.2	28.8	3	5	6			
R ALDER-T	542.9	45.4	1	2	2			
PS FIR-T	421.4	35.2	3	4	5			
BL MAPLE-T	1195.8	99.9	0	1	1			
TOTAL	*38.1*	*3.2*	*194*	*200*	*207*	*58*	*30*	*15*

CL 68.1 SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-L	268.8	22.5	1,870	2,412	2,954			
WHEMLOCK-T	115.3	9.6	14,375	15,907	17,439			
DOUG FIR-L	198.9	16.6	1,730	2,074	2,419			
DOUG FIR-T	168.2	14.1	2,695	3,135	3,576			
WR CEDAR-L	1195.8	99.9	0	18	36			
WR CEDAR-T	366.4	30.6	302	435	568			
R ALDER-T	541.2	45.2	35	64	92			
PS FIR-T	409.4	34.2	200	303	407			
BL MAPLE-T	1195.8	99.9	0	24	47			
TOTAL	*59.9*	*5.0*	*23,153*	*24,372*	*25,592*	*143*	*73*	*36*

CL 68.1 SD: 1.0

V BAR/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-L	238.9	20.0	81	104	128			
WHEMLOCK-T	42.5	3.6	133	147	161			
DOUG FIR-L	180.3	15.1	66	79	92			
DOUG FIR-T	157.9	13.2	86	100	114			
WR CEDAR-L	1195.8	99.9	0	71	141			
WR CEDAR-T	205.1	17.1	65	94	123			
R ALDER-T	541.2	45.2	23	42	61			
PS FIR-T	402.7	33.6	50	77	103			
BL MAPLE-T	1195.8	99.9	0	39	79			
TOTAL	*60.7*	*5.1*	*116*	*122*	*128*	*147*	*75*	*37*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R07E S30 TCORR

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	07E	30	PILCHUCK	CORR	4.10	4	21	S	W

T30N R07E S30 TCORR

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	D	2S	24	3.6	5,105	4,920	20			100					100	40	13	224	1.51	22.0
DF	T	D	3S	63	2.2	12,726	12,442	51	12	88					7	93	39	9	116	0.92	107.2
DF	T	D	4S	12	4.8	2,559	2,436	10	100				18	67	7	8	24	5	24	0.37	102.0
DF	T	D	PU	1		108	108	0	100				100				9	5	10	0.20	10.8
DF T Totals				97	2.9	20,498	19,907	82	20	55	25		3	8	5	84	31	8	82	0.81	242.1
WH	T	D	4S	100		606	606	2	100							100	39	5	40	0.34	15.2
WH T Totals				3		606	606	2	100							100	39	5	40	0.34	15.2
Type Totals					2.8	21,105	20,513	84	23	53	24		3	8	5	84	32	7	80	0.77	257.2

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Page 1
Date 12/31/2014
Time 2:48:30PM

T30N R07E S36 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	07E	36	PILCHUCK	00U1	34.40	21	46	S	W

T30N R07E S36 T00U1

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	57	8.5	15,923	14,566	501			93	7				100	40	15	342	2.01	42.6
WH	T	D	3S	33	1.4	8,586	8,462	291	9	91			0			100	40	9	119	0.84	71.0
WH	T	D	4S	9	4.6	2,415	2,304	79	98	2			8	40	5	46	31	5	32	0.32	71.6
WH	T	D	PU	1		176	176	6	93	7			100				10	6	12	0.32	14.8
WH	**T**	**Totals**		88	5.9	27,100	25,508	877	13	30	53	4	2	4	0	94	35	9	128	0.95	200.0
RC	T	D	3S	95	13.7	1,950	1,683	58		22	53	25	2			98	34	14	250	2.35	6.7
RC	T	D	4S	5		85	85	3	61	39			100				18	6	23	0.40	3.7
RC	**T**	**Totals**		6	13.1	2,035	1,768	61	3	23	51	23	7			93	29	11	170	1.90	10.4
DF	T	D	2S	79	9.1	1,416	1,288	44			56	44				100	40	17	414	2.73	3.1
DF	T	D	3S	17	3.2	287	278	10		100				16		84	34	10	126	0.94	2.2
DF	T	D	4S	4		52	52	2	100					100			22	7	40	0.46	1.3
DF	**T**	**Totals**		6	7.8	1,755	1,617	56	3	17	44	35		6		94	34	13	245	1.86	6.6
BM	T	D	4S	81	18.4	150	123	4		100			51	49			24	9	44	0.94	2.8
BM	T	D	PU	19		28	28	1	100				100				11	5	10	0.27	2.8
BM	**T**	**Totals**		1	15.5	178	150	5	18	82			60	40			18	7	27	0.74	5.5
Type Totals					6.5	31,067	29,044	999	12	29	52	7	2	4	0	94	34	9	130	1.01	222.6

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R07E S36 T0U2A

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	07E	36	PILCHUCK	0U2A	30.10	15	37	S	W

T30N R07E S36 T0U2A

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	57	7.5	15,702	14,527	437			100					100	40	14	266	1.62	54.6
WH	T	D	3S	36	3.7	9,479	9,132	275	33	67						100	40	8	99	0.73	91.9
WH	T	D	4S	6	1.9	1,508	1,480	45	100				13		42	45	32	5	35	0.31	42.6
WH	T	D	PU	1		113	113	3	100				100				9	6	11	0.31	9.9
WH	**T**	**Totals**		100	5.8	26,802	25,252	760	18	24	58		1		2	96	37	9	127	0.91	199.0
Type Totals					5.8	26,802	25,252	760	18	24	58		1		2	96	37	9	127	0.91	199.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R07E S36 T0U2B

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	07E	36	PILCHUCK	0U2B	6.80	7	36	S	W

T30N R07E S36 T0U2B

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	L	D	2S	37	9.4	17,958	16,270	111			92	8				100	40	14	282	1.60	57.6
WH	L	D	3S	53	2.6	23,255	22,650	154	29	71						100	40	8	97	0.61	233.7
WH	L	D	4S	8		3,113	3,113	21	95	5			23	16		60	28	5	30	0.28	104.4
WH	L	D	PU	2		820	820	6	94	6			100				9	5	10	0.21	79.7
WH	**L**	**Totals**		88	5.1	45,146	42,852	291	24	38	35	3	4	1		95	32	8	90	0.68	475.4
WH	T	D	2S	70		4,242	4,242	29			100					100	40	13	264	1.40	16.1
WH	T	D	3S	26		1,565	1,565	11		100						100	40	8	97	0.68	16.1
WH	T	D	4S	2		80	80	1	100				100				16	6	20	0.32	4.0
WH	T	D	PU	2		121	121	1	100				100				10	6	10	0.27	12.1
WH	**T**	**Totals**		12		6,008	6,008	41	3	26	71		3			97	31	9	125	0.95	48.2
Type Totals					4.5	51,154	48,860	332	21	37	39	3	4	1		95	32	8	93	0.70	523.6

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R07E S36 T2ROW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	07E	36	PILCHUCK	2ROW	.90	2	12	S	W

T30N R07E S36 T2ROW

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	53	8.2	34,166	31,354	28			100					100	40	15	306	1.69	102.3
WH	T	D	3S	35	6.6	22,323	20,842	19	13	87						100	40	9	105	0.68	197.9
WH	T	D	4S	11		6,590	6,590	6	96	4			21	6	18	55	31	6	36	0.31	185.5
WH	T	D	PU	1	50.0	226	113	0	100				100				11	7	10	0.35	11.3
WH	**T**	**Totals**		100	7.0	63,305	58,899	53	15	31	53		3	1	2	95	36	9	119	0.79	497.0
Type Totals					7.0	63,305	58,899	53	15	31	53		3	1	2	95	36	9	119	0.79	497.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Page 1
Date 12/31/2014
Time 2:48:30PM

T30N R08E S30 T00U5

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	08E	30	PILCHUCK	00U5	57.40	41	267	S	W

T30N R08E S30 T00U5

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	L	D	3S	82	4.6	6,864	6,549	376	23	77						100	40	8	96	0.81	68.0
DF	L	D	4S	16	5.9	1,336	1,257	72	100				38	30	4	28	22	5	21	0.34	59.3
DF	L	D	PU	2		92	92	5	65	35			100				10	6	13	0.35	7.1
DF L Totals				39	4.7	8,293	7,899	453	36	64			7	5	1	87	30	7	59	0.65	134.4
DF	T	D	2S	2	5.0	107	101	6			100					100	40	12	190	1.18	.5
DF	T	D	3S	78	4.1	3,528	3,381	194	13	87					3	97	40	9	107	0.86	31.6
DF	T	D	4S	18	4.0	806	773	44	100				28	42		30	24	5	24	0.36	32.3
DF	T	D	PU	2		64	64	4	100				100				10	5	12	0.23	5.6
DF T Totals				21	4.1	4,504	4,320	248	29	68	2		7	8	2	84	30	7	62	0.67	70.0
WH	L	D	3S	53	3.1	2,280	2,209	127	43	57						100	40	8	87	0.79	25.3
WH	L	D	4S	36	3.6	1,525	1,471	84	100				6	46	30	19	29	5	29	0.33	50.0
WH	L	D	PU	11		430	430	25	51		49		81		19		15	7	29	0.44	14.9
WH L Totals				20	3.0	4,235	4,110	236	64	31	5		10	17	13	60	30	6	46	0.51	90.1
WH	T	D	2S	3		115	115	7			100					100	40	12	200	1.18	.6
WH	T	D	3S	72	4.2	2,180	2,088	120	27	73						100	40	8	95	0.79	22.0
WH	T	D	4S	23		670	670	38	100				17	41	23	19	25	5	26	0.33	25.5
WH	T	D	PU	2		45	45	3	100				100				9	5	10	0.22	4.5
WH T Totals				14	3.1	3,011	2,918	168	44	53	4		6	9	5	80	30	6	55	0.60	52.7
SF	T	D	2S	16	7.0	180	167	10			100					100	40	12	186	1.59	.9
SF	T	D	3S	52	3.4	531	513	29	39	61						100	40	8	91	0.83	5.7
SF	T	D	4S	28	8.7	305	278	16	100				13	34	40	14	28	5	28	0.36	10.0
SF	T	D	PU	4		31	31	2	100				59	41			12	5	14	0.31	2.2
SF T Totals				5	5.5	1,046	989	57	51	32	17		5	11	11	73	30	6	53	0.62	18.8
RC	L	D	4S	100		69	69	4	100				100				19	5	20	0.20	3.5
RC L Totals				0		69	69	4	100				100				19	5	20	0.20	3.5
RA	T	D	4S	100		47	47	3	100					100			23	5	20	0.29	2.4
RA T Totals				0		47	47	3	100					100			23	5	20	0.29	2.4
Type Totals					4.0	21,205	20,352	1,168	42	55	3		8	9	5	79	30	6	55	0.61	371.8

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R08E S30 T5GAP

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	08E	30	PILCHUCK	5GAP	7.20	7	41	S	W

T30N R08E S30 T5GAP

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	D	2S	24	4.7	4,974	4,741	34			100					100	40	12	211	1.52	22.4
DF	T	D	3S	59	2.7	11,524	11,207	81	8	92					8	92	39	9	119	0.96	94.0
DF	T	D	4S	14	2.9	2,889	2,805	20	100				12	56	7	24	26	5	27	0.39	103.0
DF	T	D	PU	3	9.0	454	414	3	47		53		68	32			16	6	22	0.41	18.6
DF T Totals				88	3.4	19,842	19,167	138	20	54	26		3	9	6	82	32	8	81	0.80	238.0
WH	T	D	3S	72		1,425	1,425	10	80	20						100	40	7	73	0.75	19.4
WH	T	D	4S	21		408	408	3	100				15			85	29	5	27	0.31	14.9
WH	T	D	PU	7	.0	132	132	1	100				100				10	5	10	0.21	13.2
WH T Totals				9		1,966	1,966	14	85	15			10			90	28	6	41	0.55	47.5
SF	T	D	3S	81		558	558	4		100						100	40	8	90	0.57	6.2
SF	T	D	4S	19		124	124	1	100				100				19	5	20	0.24	6.2
SF T Totals				3		682	682	5	18	82			18			82	30	7	55	0.46	12.4
Type Totals					3.0	22,490	21,814	157	26	51	23		4	8	5	83	31	7	73	0.75	297.9

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R08E S30 T5ROW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	08E	30	PILCHUCK	5ROW	11.70	12	43	S	W

T30N R08E S30 T5ROW

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF	T	D	2S	36	5.8	2,787	2,625	31			100					100	40	12	205	1.52	12.8
DF	T	D	3S	50	5.0	3,868	3,675	43	16	84						100	40	9	109	1.00	33.7
DF	T	D	4S	13	1.6	930	915	11	100				25	56	6	14	23	6	26	0.45	35.0
DF	T	D	PU	1		31	31	0	100				100				18	6	20	0.43	1.5
DF T Totals				67	4.9	7,616	7,246	85	21	43	36		4	7	1	89	32	8	87	0.93	83.0
WH	T	D	3S	83	9.0	2,009	1,827	21	44	56						100	40	8	90	0.82	20.2
WH	T	D	4S	11	10.0	273	246	3	100				67			33	21	5	21	0.45	11.9
WH	T	D	PU	6		111	111	1	100				100				9	5	10	0.22	11.1
WH T Totals				20	8.7	2,392	2,183	26	54	46			13			87	27	6	51	0.68	43.1
RA	T	D	4S	100	6.0	1,019	957	11	100					64	15	21	31	5	31	0.46	31.0
RA T Totals				9	6.0	1,019	957	11	100					64	15	21	31	5	31	0.46	31.0
SF	T	D	3S	81		325	325	4		100						100	40	8	90	0.57	3.6
SF	T	D	4S	19		72	72	1	100				100				19	5	20	0.24	3.6
SF T Totals				4		398	398	5	18	82			18			82	30	7	55	0.46	7.2
Type Totals					5.6	11,424	10,785	126	35	41	24		6	10	2	82	30	7	66	0.76	164.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Page 1
Date 12/31/2014
Time 2:48:30PM

T30N R08E S31 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	08E	31	PILCHUCK	00U3	44.20	21	41	S	W

T30N R08E S31 T00U3

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	48	10.4	11,515	10,313	456			100					100	40	13	235	1.48	43.9
WH	T	D	3S	41	2.9	8,952	8,695	384	24	76					1	99	40	8	94	0.65	92.4
WH	T	D	4S	10	.7	2,198	2,182	96	100				3	28		68	32	5	33	0.30	65.6
WH	T	D	PU	1		51	51	2	64	36			100				9	7	12	0.36	4.2
WH T Totals				94	6.5	22,717	21,242	939	20	31	49		1	3	1	96	37	8	103	0.75	206.1
RC	T	D	3S	86	15.1	627	532	24	28	72						100	39	8	85	1.08	6.2
RC	T	D	4S	14		80	80	4	100				45	55			24	5	24	0.35	3.3
RC T Totals				3	13.4	706	611	27	37	63			6	7		87	34	7	65	0.90	9.5
DF	T	D	2S	69		475	475	21			100					100	40	17	460	2.63	1.0
DF	T	D	3S	27		186	186	8		100						100	40	11	180	1.12	1.0
DF	T	D	4S	4		21	21	1		100			100				12	8	20	0.50	1.0
DF T Totals				3	.0	682	682	30		30	70		3			97	31	12	220	1.70	3.1
Type Totals					6.5	24,105	22,535	996	20	32	48		1	3	0	96	36	8	103	0.76	218.7

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: PILCHUCK

Date 12/31/2014

Time 2:48:30PM

T30N R08E S31 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
30N	08E	31	PILCHUCK	00U4	21.80	13	25	S	W

T30N R08E S31 T00U4

Spp	ST	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH	T	D	2S	63	3.5	18,061	17,423	380			94	6				100	40	14	316	1.81	55.1
WH	T	D	3S	32	1.1	8,815	8,717	190	15	85						100	40	9	121	0.83	72.2
WH	T	D	4S	4	3.3	1,185	1,146	25	97	3			29			71	30	6	34	0.40	33.6
WH	T	D	PU	1		110	110	2	82	18			100				9	7	10	0.35	11.0
WH T Totals				92	2.8	28,171	27,396	597	9	27	60	4	2			98	36	10	159	1.10	171.8
DF	T	D	2S	93	3.8	2,105	2,026	44			67	33				100	40	18	517	2.60	3.9
DF	T	D	3S	7	12.1	162	142	3		100				38		62	33	8	72	0.86	2.0
DF T Totals				7	4.4	2,267	2,168	47		7	63	30		2		98	38	15	369	2.09	5.9
RC	T	D	3S	84		281	281	6			100					100	36	13	220	1.78	1.3
RC	T	D	4S	16		51	51	1	100					100			30	6	40	0.56	1.3
RC T Totals				1		333	333	7	15		85			15		85	33	10	130	1.23	2.6
Type Totals					2.8	30,770	29,896	652	9	25	60	6	1	0		98	36	10	166	1.14	180.3

TC TSTATS

STATISTICS

PAGE 1

PROJECT PILCHUCK

DATE 12/31/2014

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**07E**	**30**	**PILCHUCK**	**CORR**	4.10	4	21	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	4	21	5.3		
CRUISE	4	21	5.3	578	3.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	20	125.7	17.1	65	48.4	200.0	20,498	19,907	6,118	6,126
WHEMLOCK-T	1	15.2	11.0	46	3.0	10.0	606	606	201	201
TOTAL	*21*	*140.9*	*16.5*	*63*	*51.6*	*210.0*	*21,105*	*20,513*	*6,319*	*6,327*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	44.7	10.3	162	180	198			
WHEMLOCK-T								
TOTAL	*48.6*	*10.9*	*155*	*173*	*192*	*99*	*51*	*25*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	26.7	15.2	107	126	145			
WHEMLOCK-T	200.0	114.3		15	32			
TOTAL	*2.9*	*1.7*	*138*	*141*	*143*	*0*	*0*	*0*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	28.3	16.2	168	200	232			
WHEMLOCK-T	200.0	114.3		10	21			
TOTAL	*18.2*	*10.4*	*188*	*210*	*232*	*17*	*9*	*4*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	27.6	15.8	16,763	19,907	23,051			
WHEMLOCK-T	200.0	114.3		606	1,299			
TOTAL	*21.6*	*12.3*	*17,983*	*20,513*	*23,043*	*24*	*12*	*6*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	27.6	15.8	84	100	115			
WHEMLOCK-T	200.0	114.3		61	130			
TOTAL	*21.6*	*12.3*	*86*	*98*	*110*	*24*	*12*	*6*

STATISTICS

PROJECT **PILCHUCK**

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**07E**	**36**	**PILCHUCK**	**00U1**	34.40	21	102	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	21	102	4.9		
CRUISE	11	46	4.2	4,088	1.1
DBH COUNT					
REFOREST					
COUNT	10	56	5.6		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	39	109.5	16.6	73	40.3	163.8	27,100	25,508	6,528	6,528
WR CEDAR-T	3	4.3	25.4	71	3.0	15.2	2,035	1,768	566	566
DOUG FIR-T	2	2.2	28.2	106	1.8	9.5	1,755	1,617	422	422
BL MAPLE-T	2	2.8	15.9	38	1.0	3.8	178	150	72	72
TOTAL	*46*	*118.8*	*17.2*	*73*	*46.3*	*192.4*	*31,067*	*29,044*	*7,588*	*7,588*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % SD: 1.0

SAMPLE TREES - BF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
WHEMLOCK-T	53.0	8.8	386	423	461			
WR CEDAR-T	74.2	51.4	298	613	928			
DOUG FIR-T	36.7	34.4	505	770	1,035			
BL MAPLE-T	12.9	12.0	48	55	62			
TOTAL	*60.0*	*9.1*	*396*	*436*	*475*	*144*	*73*	*36*

CL: 68.1 % SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	81.8	18.3	90	110	130			
WR CEDAR-T	185.0	41.3	3	4	6			
DOUG FIR-T	227.5	50.9	1	2	3			
BL MAPLE-T	458.3	102.4		3	6			
TOTAL	*73.1*	*16.3*	*99*	*119*	*138*	*224*	*114*	*56*

CL: 68.1 % SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	57.2	12.8	143	164	185			
WR CEDAR-T	175.6	39.3	9	15	21			
DOUG FIR-T	226.4	50.6	5	10	14			
BL MAPLE-T	458.3	102.4		4	8			
TOTAL	*47.2*	*10.6*	*172*	*192*	*213*	*94*	*48*	*23*

CL: 68.1 % SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	57.1	12.8	22,251	25,508	28,766			
WR CEDAR-T	177.4	39.6	1,067	1,768	2,469			
DOUG FIR-T	226.7	50.7	798	1,617	2,437			
BL MAPLE-T	458.3	102.4		150	304			
TOTAL	*48.8*	*10.9*	*25,875*	*29,044*	*32,213*	*100*	*51*	*25*

CL: 68.1 % SD: 1.0

V-BAR/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T			136	156	176			
WR CEDAR-T	21.1	4.7	70	116	162			
DOUG FIR-T	85.3	19.1	84	170	256			
BL MAPLE-T	458.3	102.4		39	80			
TOTAL	*231.4*	*51.7*	*134*	*151*	*167*	*2,246*	*1,146*	*562*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	07E	36	PILCHUCK	0U2A	30.10	15	64	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	15	64	4.3		
CRUISE	8	37	4.6	2,975	1.2
DBH COUNT					
REFOREST					
COUNT	7	27	3.9		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	37	98.8	17.5	81	39.5	165.3	26,802	25,252	6,639	6,641
TOTAL	*37*	*98.8*	*17.5*	*81*	*39.5*	*165.3*	*26,802*	*25,252*	*6,639*	*6,641*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	45.8	7.5	297	321	345			
TOTAL	*45.8*	*7.5*	*297*	*321*	*345*	*84*	*43*	*21*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	63.6	17.0	82	99	116			
TOTAL	*63.6*	*17.0*	*82*	*99*	*116*	*173*	*88*	*43*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	59.9	16.0	139	165	192			
TOTAL	*59.9*	*16.0*	*139*	*165*	*192*	*153*	*78*	*38*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	62.5	16.7	21,035	25,252	29,468			
TOTAL	*62.5*	*16.7*	*21,035*	*25,252*	*29,468*	*167*	*85*	*42*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T			127	153	178			
TOTAL	*174.2*	*46.5*	*127*	*153*	*178*	*1,299*	*663*	*325*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	07E	36	PILCHUCK	0U2B	6.80	7	36	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	7	36	5.1		
CRUISE	7	36	5.1	1,421	2.5
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-L	32	192.9	15.4	86	63.4	248.7	45,146	42,852	10,361	10,358
WHEMLOCK-T	4	16.1	18.8	95	7.2	31.1	6,008	6,008	1,393	1,393
TOTAL	*36*	*208.9*	*15.7*	*87*	*70.7*	*279.8*	*51,154*	*48,860*	*11,755*	*11,752*

CONFIDENCE LIMITS OF THE SAMPLE

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

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-L	66.7	11.8	268	304	340			
WHEMLOCK-T	11.6	6.6	350	375	400			
TOTAL	*61.7*	*10.3*	*280*	*312*	*344*	*152*	*78*	*38*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-L	42.9	17.5	159	193	227			
WHEMLOCK-T	93.7	38.1	10	16	22			
TOTAL	*35.4*	*14.4*	*179*	*209*	*239*	*58*	*30*	*15*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-L	35.4	14.4	213	249	285			
WHEMLOCK-T	93.5	38.1	19	31	43			
TOTAL	*28.5*	*11.6*	*247*	*280*	*312*	*38*	*19*	*9*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-L	32.4	13.2	37,200	42,852	48,505			
WHEMLOCK-T	94.3	38.4	3,702	6,008	8,313			
TOTAL	*26.8*	*10.9*	*43,535*	*48,860*	*54,185*	*33*	*17*	*8*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-L	32.4	13.2	150	172	195			
WHEMLOCK-T	94.3	38.4	119	193	267			
TOTAL	*26.8*	*10.9*	*156*	*175*	*194*	*33*	*17*	*8*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**07E**	**36**	**PILCHUCK**	**2RO**	0.90	2	12	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	12	6.0		
CRUISE	2	12	6.0	217	5.5
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	12	241.2	15.8	85	82.2	326.4	63,305	58,899	14,183	14,162
TOTAL	*12*	*241.2*	*15.8*	*85*	*82.2*	*326.4*	*63,305*	*58,899*	*14,183*	*14,162*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	60.8	18.3	308	377	446			
TOTAL	*60.8*	*18.3*	*308*	*377*	*446*	*161*	*82*	*40*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	38.2	35.7	155	241	327			
TOTAL	*38.2*	*35.7*	*155*	*241*	*327*	*102*	*52*	*26*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T			326	326	326			
TOTAL			*326*	*326*	*326*			

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	4.9	4.6	56,212	58,899	61,586			
TOTAL	*4.9*	*4.6*	*56,212*	*58,899*	*61,586*	*2*	*1*	*0*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	4.9	4.6	172	180	189			
TOTAL	*4.9*	*4.6*	*172*	*180*	*189*	*2*	*1*	*0*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	08E	30	PILCHUCK	00U5	57.40	41	268	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	41	268	6.5		
CRUISE	41	225	5.5	14,154	1.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	77	80.1	15.2	56	25.8	100.5	8,293	7,899	2,662	2,662
DOUG FIR-T	52	39.4	15.4	59	12.9	50.7	4,504	4,320	1,396	1,396
WHEMLOCK-L	44	71.5	12.3	45	16.7	58.5	4,235	4,110	1,372	1,372
WHEMLOCK-T	37	36.5	13.5	50	9.8	36.1	3,011	2,918	952	952
PS FIR-T	13	13.2	13.8	50	3.7	13.7	1,046	989	353	353
WR CEDAR-L	1	3.5	7.2	30	0.4	1.0	69	69	13	13
R ALDER-T	1	2.4	8.7	35	0.3	1.0	47	47	16	16
TOTAL	*225*	*246.6*	*13.9*	*52*	*70.0*	*261.5*	*21,205*	*20,352*	*6,764*	*6,763*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR-L	43.6	5.0	103	109	114			
DOUG FIR-T	43.8	6.1	116	123	131			
WHEMLOCK-L	65.8	10.0	72	80	88			
WHEMLOCK-T	55.9	9.2	91	100	109			
PS FIR-T	67.0	19.3	83	102	122			
WR CEDAR-L								
R ALDER-T								
TOTAL	*52.5*	*3.5*	*100*	*104*	*108*	*110*	*56*	*28*

TREES/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-L	70.4	11.0	71	80	89			
DOUG FIR-T	143.7	22.4	31	39	48			
WHEMLOCK-L	112.1	17.5	59	72	84			
WHEMLOCK-T	137.7	21.5	29	37	44			
PS FIR-T	243.6	38.0	8	13	18			
WR CEDAR-L	640.3	99.9	0	3	7			
R ALDER-T	640.3	99.9	0	2	5			
TOTAL			*247*	*247*	*247*			

BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-L	66.7	10.4	90	100	111			
DOUG FIR-T	141.1	22.0	40	51	62			
WHEMLOCK-L	96.8	15.1	50	59	67			
WHEMLOCK-T	133.0	20.8	29	36	44			
PS FIR-T	232.5	36.3	9	14	19			
WR CEDAR-L	640.3	99.9	0	1	2			
R ALDER-T	640.3	99.9	0	1	2			
TOTAL			*261*	*261*	*261*			

NET BF/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-L	65.0	10.1	7,097	7,899	8,701			

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**08E**	**30**	**PILCHUCK**	**00U5**	57.40	41	268	S	W

CL: 68.1 % COEFF **NET BF/ACRE** # OF PLOTS REQ. INF. POP.
SD: 1.0 VAR. S.E.% LOW AVG HIGH 5 7 10

DOUG FIR-T	151.8	23.7	3,297	4,320	5,343			
WHEMLOCK-L	99.7	15.5	3,471	4,110	4,749			
WHEMLOCK-T	139.9	21.8	2,281	2,918	3,555			
PS FIR-T	233.6	36.4	628	989	1,349			
WR CEDAR-L	640.3	99.9	0	69	138			
R ALDER-T	640.3	99.9	0	47	94			
TOTAL			*20,352*	*20,352*	*20,352*			

CL: 68.1 % COEFF **V-BAR/ACRE** # OF PLOTS REQ. INF. POP.
SD: 1.0 VAR.% S.E.% LOW AVG HIGH 5 7 10

DOUG FIR-L	46.6	7.3	71	79	87			
DOUG FIR-T	151.8	23.7	65	85	105			
WHEMLOCK-L	84.4	13.2	59	70	81			
WHEMLOCK-T	139.9	21.8	63	81	98			
PS FIR-T	229.0	35.7	46	72	99			
WR CEDAR-L	640.3	99.9	0	71	141			
R ALDER-T	640.3	99.9	0	48	97			
TOTAL	*48.7*	*7.6*	*78*	*78*	*78*	*95*	*48*	*24*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	08E	30	PILCHUCK	5GAP	7.20	7	41	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	7	41	5.9		
CRUISE	7	41	5.9	1,149	3.6
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	35	125.3	17.1	64	48.4	200.0	19,842	19,167	6,036	6,040
WHEMLOCK-T	5	28.1	13.7	53	7.7	28.6	1,966	1,966	740	740
PS FIR-T	1	6.2	13.0	65	1.6	5.7	682	682	169	169
TOTAL	*41*	*159.6*	*16.4*	*62*	*57.8*	*234.3*	*22,490*	*21,814*	*6,945*	*6,949*

CONFIDENCE LIMITS OF THE SAMPLE

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

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	41.5	7.0	161	173	185			
WHEMLOCK-T	28.8	14.3	65	76	87			
PS FIR-T								
TOTAL	*46.5*	*7.3*	*148*	*160*	*171*	*86*	*44*	*22*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	33.6	13.7	108	125	142			
WHEMLOCK-T	125.1	50.9	14	28	42			
PS FIR-T	264.6	107.7		6	13			
TOTAL	*12.4*	*5.0*	*152*	*160*	*168*	*7*	*4*	*2*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	32.7	13.3	173	200	227			
WHEMLOCK-T	133.2	54.2	13	29	44			
PS FIR-T	264.6	107.7		6	12			
TOTAL	*15.4*	*6.3*	*220*	*234*	*249*	*11*	*6*	*3*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	34.5	14.0	16,479	19,167	21,854			
WHEMLOCK-T	136.3	55.5	875	1,966	3,056			
PS FIR-T	264.6	107.7		682	1,416			
TOTAL	*15.7*	*6.4*	*20,421*	*21,814*	*23,208*	*11*	*6*	*3*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR-T	34.5	14.0	82	96	109			
WHEMLOCK-T	136.3	55.5	31	69	107			
PS FIR-T	264.6	107.7		119	248			
TOTAL	*15.7*	*6.4*	*87*	*93*	*99*	*11*	*6*	*3*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**08E**	**30**	**PILCHUCK**	**5RO**	11.70	12	43	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	12	43	3.6		
CRUISE	12	43	3.6	1,254	3.4
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-T	26	49.6	17.9	59	20.5	86.7	7,616	7,246	2,479	2,480
WHEMLOCK-T	9	22.9	15.5	54	7.6	30.0	2,392	2,183	796	796
R ALDER-T	7	31.0	11.7	36	6.8	23.3	1,019	957	446	445
PS FIR-T	1	3.6	13.0	65	0.9	3.3	398	398	99	99
TOTAL	*43*	*107.2*	*15.7*	*52*	*36.2*	*143.3*	*11,424*	*10,785*	*3,819*	*3,821*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
DOUG FIR-T	41.1	8.2	155	169	183			
WHEMLOCK-T	47.7	16.8	87	104	122			
R ALDER-T			38	38	38			
PS FIR-T								
TOTAL	*56.0*	*8.6*	*124*	*135*	*147*	*125*	*64*	*31*

TREES/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-T	65.8	19.8	40	50	59			
WHEMLOCK-T	140.5	42.3	13	23	33			
R ALDER-T	158.5	47.7	16	31	46			
PS FIR-T	346.4	104.3		4	7			
TOTAL	*47.4*	*14.3*	*92*	*107*	*123*	*98*	*50*	*24*

BASAL AREA/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-T	58.5	17.6	71	87	102			
WHEMLOCK-T	140.7	42.4	17	30	43			
R ALDER-T	154.3	46.5	12	23	34			
PS FIR-T	346.4	104.3		3	7			
TOTAL	*45.2*	*13.6*	*124*	*143*	*163*	*89*	*45*	*22*

NET BF/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-T	62.2	18.7	5,888	7,246	8,604			
WHEMLOCK-T	147.5	44.4	1,214	2,183	3,153			
R ALDER-T	154.6	46.6	512	957	1,403			
PS FIR-T	346.4	104.3		398	813			
TOTAL	*55.0*	*16.6*	*8,998*	*10,785*	*12,571*	*132*	*67*	*33*

V-BAR/ACRE

CL: 68.1 % / SD: 1.0	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR-T	62.2	18.7	68	84	99			
WHEMLOCK-T	147.5	44.4	40	73	105			
R ALDER-T	154.6	46.6	22	41	60			
PS FIR-T	346.4	104.3		119	244			
TOTAL	*55.0*	*16.6*	*63*	*75*	*88*	*132*	*67*	*33*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	**08E**	**31**	**PILCHUCK**	**00U3**	44.20	21	83	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	21	83	4.0		
CRUISE	9	41	4.6	4,979	.8
DBH COUNT					
REFOREST					
COUNT	12	42	3.5		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	37	105.4	15.9	79	36.3	144.8	22,717	21,242	5,642	5,644
WR CEDAR-T	3	6.2	16.8	59	2.3	9.5	706	611	292	290
DOUG FIR-T	1	1.0	26.0	95	0.7	3.8	682	682	161	161
TOTAL	*41*	*112.6*	*16.0*	*78*	*39.5*	*158.1*	*24,105*	*22,535*	*6,095*	*6,094*

CONFIDENCE LIMITS OF THE SAMPLE

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

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	43.8	7.2	237	255	273			
WR CEDAR-T	53.2	36.8	72	113	155			
DOUG FIR-T								
TOTAL	*51.2*	*8.0*	*234*	*255*	*275*	*105*	*53*	*26*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	74.1	16.6	88	105	123			
WR CEDAR-T	190.2	42.5	4	6	9			
DOUG FIR-T	315.8	70.6	0	1	2			
TOTAL	*70.3*	*15.7*	*95*	*113*	*130*	*208*	*106*	*52*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	47.4	10.6	129	145	160			
WR CEDAR-T	183.3	41.0	6	10	13			
DOUG FIR-T	315.8	70.6	1	4	6			
TOTAL	*50.9*	*11.4*	*140*	*158*	*176*	*109*	*55*	*27*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T	45.8	10.2	19,068	21,242	23,416			
WR CEDAR-T	186.2	41.6	357	611	866			
DOUG FIR-T	315.8	70.6	201	682	1,163			
TOTAL	*49.6*	*11.1*	*20,036*	*22,535*	*25,034*	*103*	*53*	*26*

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

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK-T			132	147	162			
WR CEDAR-T	130.5	29.2	37	64	91			
DOUG FIR-T	211.2	47.2	53	179	305			
TOTAL	*208.4*	*46.6*	*127*	*143*	*158*	*1,822*	*929*	*455*

STATISTICS

PROJECT PILCHUCK

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
30N	08E	31	PILCHUCK	00U4	21.80	13	56	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	13	56	4.3		
CRUISE	7	25	3.6	1,679	1.5
DBH COUNT					
REFOREST					
COUNT	6	31	5.2		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	22	73.8	19.9	88	35.8	160.0	28,171	27,396	6,825	6,825
DOUG FIR-T	2	2.0	29.4	116	1.7	9.2	2,267	2,168	463	463
WR CEDAR-T	1	1.3	21.0	68	0.7	3.1	333	333	103	103
TOTAL	*25*	*77.0*	*20.3*	*89*	*38.3*	*172.3*	*30,770*	*29,896*	*7,392*	*7,392*

CONFIDENCE LIMITS OF THE SAMPLE

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

SAMPLE TREES - BF

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	7	INF. POP. 10
WHEMLOCK-T	35.3	8.1	446	485	524			
DOUG FIR-T	23.3	21.8	880	1,125	1,370			
WR CEDAR-T								
TOTAL	*48.3*	*10.3*	*476*	*531*	*586*	*97*	*50*	*24*

TREES/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	73.8	21.3	58	74	89			
DOUG FIR-T	190.9	55.0	1	2	3			
WR CEDAR-T	360.6	103.9		1	3			
TOTAL	*68.7*	*19.8*	*62*	*77*	*92*	*204*	*104*	*51*

BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	72.2	20.8	127	160	193			
DOUG FIR-T	190.0	54.8	4	9	14			
WR CEDAR-T	360.6	103.9		3	6			
TOTAL	*64.5*	*18.6*	*140*	*172*	*204*	*180*	*92*	*45*

NET BF/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T	73.4	21.2	21,598	27,396	33,193			
DOUG FIR-T	190.4	54.9	978	2,168	3,358			
WR CEDAR-T	360.6	103.9		333	678			
TOTAL	*65.1*	*18.8*	*24,284*	*29,896*	*35,509*	*183*	*93*	*46*

V-BAR/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK-T			135	171	207			
DOUG FIR-T	143.5	41.4	106	235	364			
WR CEDAR-T	360.6	103.9		108	220			
TOTAL	*254.1*	*73.2*	*141*	*174*	*206*	*2,789*	*1,423*	*697*

TC PSPCTLTCM

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

T30N R07E S30 TyCOR	4.1
T30N R07E S36 Ty00U1	34.4
T30N R08E S31 Ty00U	21.8

Project PILCHUCK
Acres 218.60

Page No 1
Date: 12/31/2014
Time 2:48:30PM

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
WHEMLOCK	T	15,966	30,435	29,277	57.31	30.06	0.86	9,149	9,150	3,672	3,477
DOUG FIR	T	4,425	8,189	5,968	47.35	25.59	0.84	2,094	2,095	714	685
WHEMLOCK	L	5,417	8,405	4,775	27.54	17.75	0.58	1,492	1,492	550	527
DOUG FIR	L	4,597	7,715	4,355	33.24	19.81	0.64	1,528	1,528	476	453
WR CEDAR	T	452	833	814	76.41	41.46	1.30	346	345	108	95
PS FIR	T	844	1,250	648	26.81	18.11	0.60	226	226	70	66
R ALDER	T	499	499	168	12.25	12.25	0.43	61	61	15	14
BL MAPLE	T	95	190	65	25.94	12.97	0.72	25	25	6	5
WR CEDAR	L	198	198	18	3.83	3.83	0.20	8	8	4	4
Totals		32,492	57,713	46,088	45.95	25.87	0.79	14,929	14,930	5,616	5,328

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	31,899	57,024	45,855	46.53	26.03	0.79	14,844	14,844	5,595	5,309
H	594	689	234	14.44	12.45	0.48	86	86	21	19
Totals	32,492	57,713	46,088	45.95	25.87	0.79	14,929	14,930	5,616	5,328

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

FPA/N No: 2814476
Effective Date: 3/18/2015
Expiration Date: 3/18/2018
Shut Down Zone: 658
EARR Tax Credit: **[X] Eligible** **[] Non-eligible**
Reference: Pilchuck Reunion

Forest Practices Application/Notification
Notice of Decision

DECISION:

[] NOTIFICATION	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.
[] CLOSED	Applicant has withdrawn FPA/N.

FPA/N CLASSIFICATION

[] Class II [X] Class III [] Class IVG [] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 4yrs [ ] 5 yrs

Conditions on Approval / Reasons for Disapproval

THIS OPERATION IS SUBJECT TO THESE CONDITIONS:

No additional condition.

FOR YOUR INFORMATION:

Notify DNR Northwest Region Office (360-856-3500) 48 business hours before commencing timber harvest operations. Please provide the application number and legal description for your operation.

Issued By: Steven Huang **Region:** Northwest

Title: Skykomish Forest Practice Forester **Date:** 3/18/2015

Copies to: [X] Landowner, Timber Owner and Operator
Issued in Person: [X] Landowner, [ ]Timber Owner [ ] Operator By:

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:

Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501

Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903

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

At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

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

And

Department Of Natural Resources
Northwest Region
919 N Township Street
Sedro-Woolley, WA 98284

Other Applicable Laws

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

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

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

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

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

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

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

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

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

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

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

DNR affidavit of mailing:

On this day _____, I placed in the United States mail at Sedro-Woolley, WA, postage paid, a true and accurate copy of the attached document. Notice of Decision FPA #_____

_____L Utgard_____ _____

(Printed name) (Signature)

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

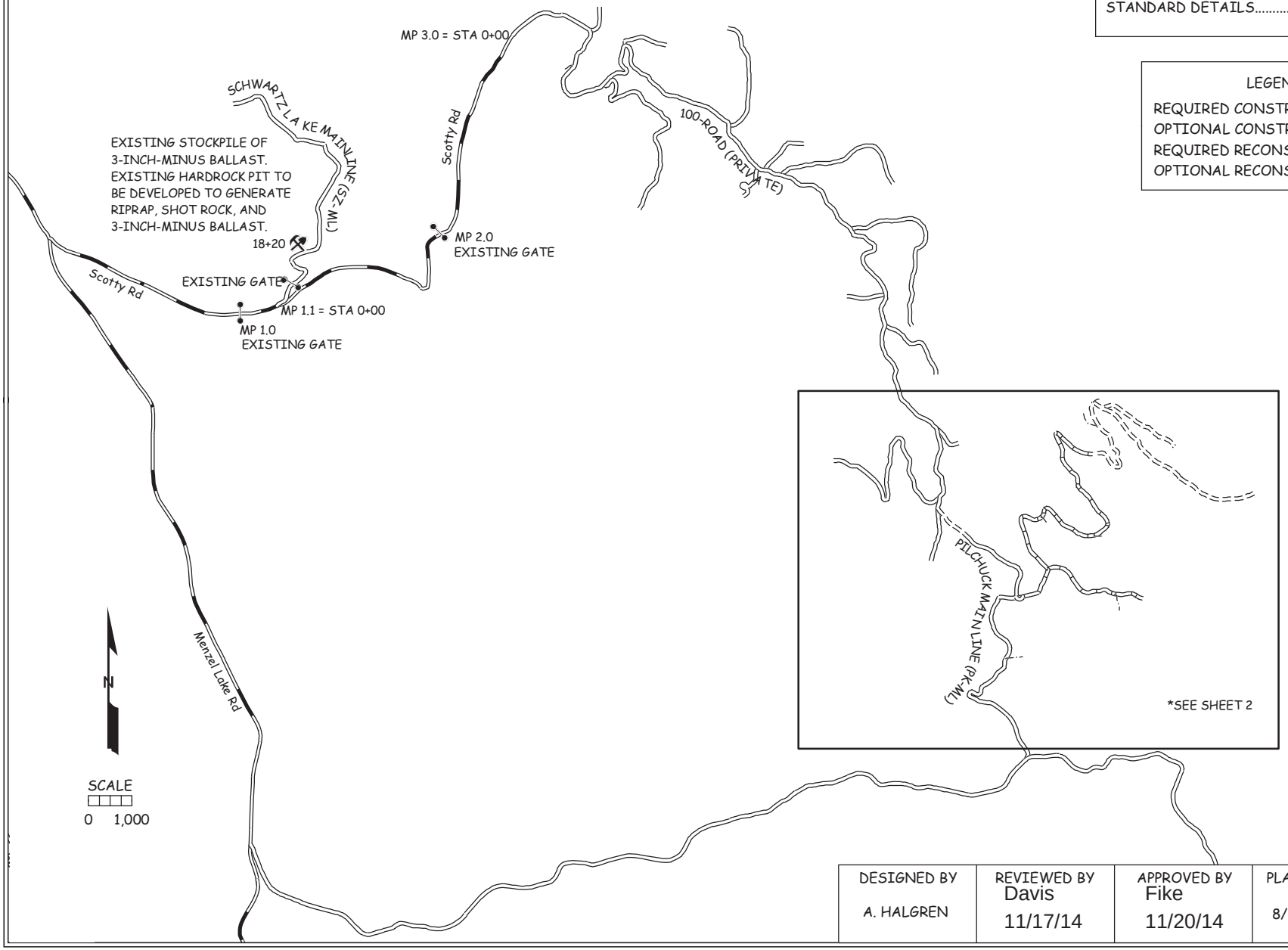
ROAD PLAN AND SPECIFICATIONS
#91137 PILCHUCK REUNION

CASCADE DISTRICT STARBIRD UNIT
S36 - T30N - R07E S30,31 - T30N - R08E

SHEET INDEX

LEGEND

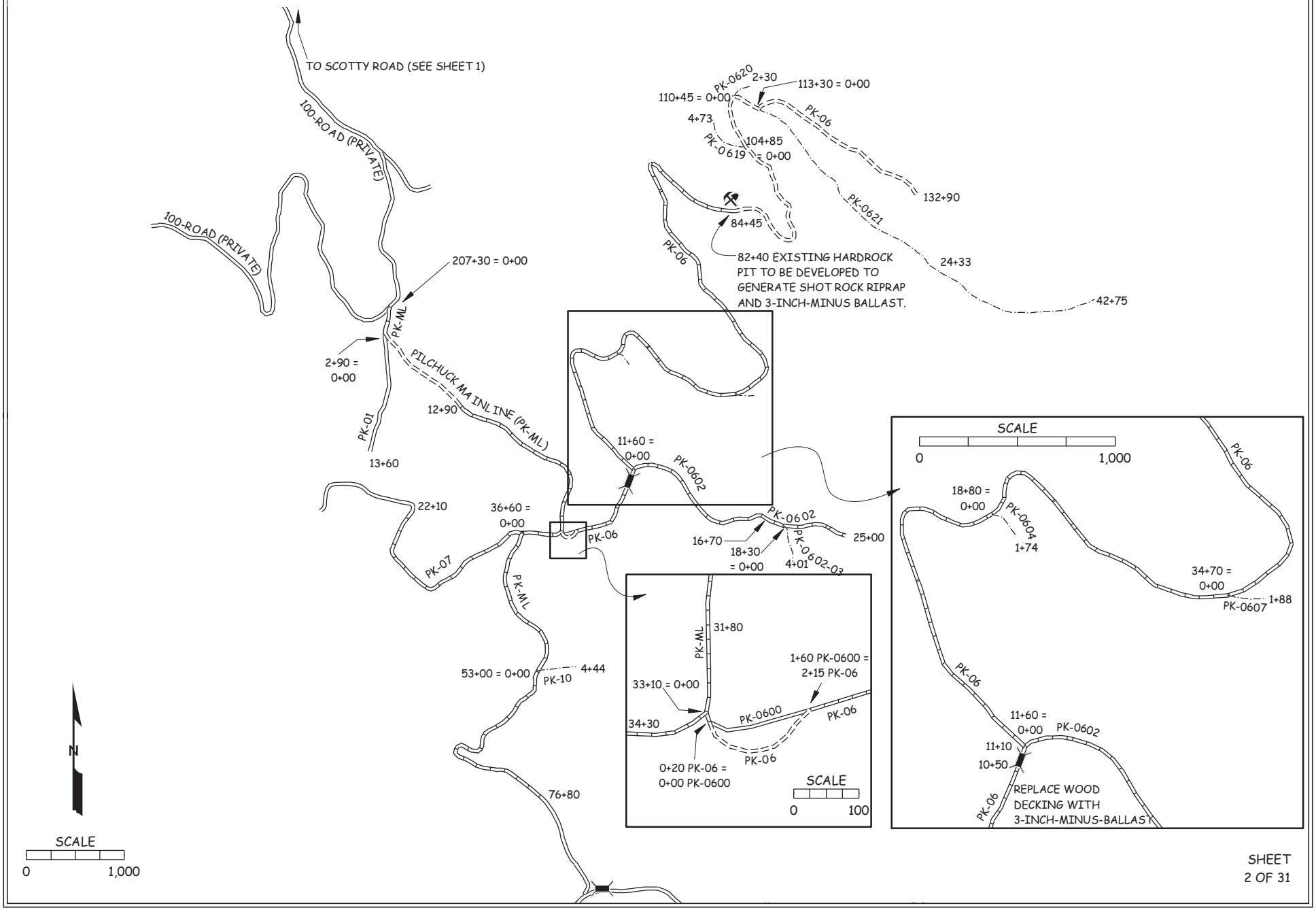
- REQUIRED CONSTRUCTION
- OPTIONAL CONSTRUCTION
- REQUIRED RECONSTRUCTION
- OPTIONAL RECONSTRUCTION



DESIGNED BY	REVIEWED BY	APPROVED BY	PLAN DATE	SHEET
A. HALGREN	Davis 11/17/14	Fike 11/20/14	8/8/2014	1 OF 31

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

PILCHUCK REUNION DETAIL



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

PILCHUCK REUNION TIMBER SALE ROAD PLAN
SNOHOMISH COUNTY
CASCADE DISTRICT

AGREEMENT NO.: 30-91137 STAFF ENGINEER: A. HALGREN

DATE: 7/14/2014

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
PK-ML*	66.80	RECONSTRUCTION
PK-ML*	10.00	CONSTRUCTION
PK-06	82.50	RECONSTRUCTION
PK-06	50.40	CONSTRUCTION
PK-0602	25.00	RECONSTRUCTION
PK-07	22.10	RECONSTRUCTION

*See clause 1-20 for required completion dates.

0-3 OPTIONAL ROADS

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

Road	Stations	Type
PK-0602-03	4.01	CONSTRUCTION
PK-0604	1.74	CONSTRUCTION
PK-0607	1.88	CONSTRUCTION
PK-0619	4.73	CONSTRUCTION
PK-0620	2.30	CONSTRUCTION
PK-0621	42.75	CONSTRUCTION
PK-10	4.44	CONSTRUCTION

0-4 CONSTRUCTION

Construction includes, but is not limited to clearing, grubbing, excavation and embankment to sub-grade, landing and turnout construction, culvert installation, and application of 3-inch-minus ballast rock.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to blading, shaping, and ditching the road surface, brushing, clearing, grubbing, culvert installation, existing culvert clean out, application of 3-inch-minus ballast rock, and bridge deck replacement (see Section 11).

0-12 DEVELOP ROCK SOURCE

The Purchaser shall develop existing rock sources. Development will involve clearing, stripping, drilling, shooting, and processing rock to generate shot rock, riprap, and 3-inch-minus ballast. 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 shall be submitted, in writing, to the Contract Administrator for consideration. The State must approve the submitted plans before road work begins.

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

Unless controlled by construction stakes, road work shall be performed in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan.

1-4 ROAD TOLERANCES

Road work shall be performed within the tolerance listed below. The tolerance class for each road is listed on the TYPICAL SECTION SHEET.

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

1-5 DESIGN DATA

Design data is available at the Department of Natural Resources Northwest Region Office in Sedro Woolley, WA upon request.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-18 REFERENCE POINT DAMAGE

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

1-20 COMPLETE BY DATE

On the following road(s), road work shall be completed by the specified date.

Road	Stations	Date
PK-ML	0+00 to 12+90	August 1, 2016
PK-ML	12+90 to 76+80	November 1, 2016

1-21 HAUL APPROVAL

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

1-25 ACTIVITY TIMING RESTRICTION

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

Activity	Closure Period
Rock hauling, construction, reconstruction, inactivation, or abandonment	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 the Purchaser shall provide a maintenance plan to include further protection of state resources. The Contract Administrator must approve the maintenance plan in writing, and preventative measures shall be put in place, before operation in the closure period. The Purchaser shall be required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan shall be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

Silt-bearing runoff shall not be permitted to go into streams.

1-33 SNOW PLOWING RESTRICTION

Snowplowing shall be permitted only after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request.

SECTION 2 – MAINTENANCE

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean the ditchlines, culvert headwalls, and catch basins. Work shall be completed before application of rock and shall be done in accordance with the TYPICAL SECTION.

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

Fell all vegetative material larger than 2 inches DBH or over 5 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing shall be completed before starting excavation and embankment.

3-10 GRUBBING

Remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Those stumps outside the grubbing limits but with undercut roots shall also be removed. Grubbing shall 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 Clauses G-010 PRODUCTS SOLD AND SALE AREA or G-011 RIGHT TO REMOVE FOREST PRODUCTS AND CONTRACT AREA, that is larger than one cubic foot in volume within the clearing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Organic debris shall not be deposited in the following areas:

- Within 30 feet of a cross drain culvert.
- Within 30 feet of a live stream, or wetland
- On embankments.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush will fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Organic debris shall be scattered outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering shall not extend past construction that will be completed during the current construction season. Pioneering shall not extend more than 500 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions shall be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

The following road grade and alignment standards shall be followed:

- Grade and alignment shall have smooth continuity, without abrupt changes in direction.
- Maximum grade shall not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 50 feet at centerline.
- Sag vertical curves shall not have a grade change greater than 5% in 100 feet.
- Crest vertical curves shall not have a grade change greater than 4% in 100 feet.

4-5 CUT SLOPE RATIO

Excavation slopes shall be constructed no steeper than shown on the following table:

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-12 FULL BENCH CONSTRUCTION

Where side slopes exceed 50% full bench construction shall be utilized for the entire subgrade width except as construction staked or designed.

4-21 TURNOUTS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

The Purchaser shall construct or reconstruct ditches into the subgrade as specified on the TYPICAL SECTION SHEET. Excavated slopes shall be consistent with Clause 4-5CUT SLOPE RATIO. Ditches shall be constructed concurrently with construction of the subgrade.

4-28 DITCH DRAINAGE

Ditches shall drain to cross-drain culverts and ditchouts.

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

Waste material may be sidecast on side slopes up to 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, all excavation shall be end hauled or pushed to designated embankment sites and waste areas.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Waste material shall not be deposited in the following areas, except as otherwise specified in this plan:

- Within 30 feet of a cross drain culvert.
- Within 30 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

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

4-60 FILL COMPACTION

All embankment and waste material shall be compacted by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Constructed or reconstructed subgrades shall be compacted by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-5 CULVERTS

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

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Installation shall 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."

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

Installation of culverts 36 inches in diameter and over shall be subject to written approval by the Contract Administrator before making backfill.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-25 CATCH BASINS

Catch basins shall be constructed to resist erosion in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 2 feet wide and 4 feet long with backslopes consistent with Clause 4-5 CUT SLOPE RATIO.

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Headwalls shall be constructed in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls shall weigh at least 50 pounds. Rock shall be placed on shoulders, slopes, and around culvert inlets and outlets. Rock shall not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock shall be 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 source(s) on state land at no charge to the Purchaser. Use of material from any other source must have prior written approval from the Contract Administrator. If other operators are using, or desire to use the rock source(s), a joint operating plan shall be developed. All parties shall follow this plan.

Source	Location	Rock Type
SZ-03 Hard Rock Pit	STA 18+20 of the SZ-ML road.	shot rock, riprap, and 3-inch-minus ballast
PK-0616 Hard Rock Pit	STA 82+40 of the PK-06 road.	shot rock, riprap, and 3-inch-minus ballast

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 stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator. Stockpiles not listed shall not be used.

Source	Location	Rock Type
SZ-03 Pit	STA 18+20 of the SZ-ML road.	Approximately 1200 cubic yards of 3-inch-minus ballast.

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. Rock sources will be subject to written approval by the Contract Administrator before their use.

6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER

All rock source development and use shall be 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 development or use. Upon completion of operations, the rock source shall be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

Rock source development plans prepared by the Purchaser shall 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.

6-23 ROCK GRADATION TYPES

Purchaser shall supply manufacture rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock shall 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 for conformance to specifications will be determined by the Contract Administrator.

6-34 3-INCH MINUS BALLAST ROCK

Ballast rock shall be 100% equal to, or smaller than, 3 inches in at least one dimension.

Rock shall contain no more than 5 percent organic debris, dirt, and trash. All percentages are by weight.

6-50 LIGHT LOOSE RIP RAP

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

At Least/Not More Than	Weight Range
20% / 90%	300 lbs. to 1 ton
80% / --	50 lbs. to ½ ton
10% / 20%	50 lbs. max

6-51 HEAVY LOOSE RIP RAP

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

At Least/Not More Than	Weight Range	Size Range
30% / 90%	1 ton to 3 ton	36”- 54”
70% / 90%	500 lbs. to 1 ½ ton	24”- 42”
10% / 30%	50 lbs. max	3”- 8”

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the 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

Subgrade drainage installation including culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction, shall be completed and approved in writing by the Contract Administrator, before rock application.

6-71 ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

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

SECTION 8 – EROSION CONTROL

8-15 REVEGETATION

Purchaser shall spread seed and fertilizer on all exposed soils within the grubbing limits resulting from road work activities. Covering of all exposed soils shall be accomplished by manual dispersal of grass seed and fertilizer. Other methods of covering must be approved in writing by the Contract Administrator.

8-17 REVEGETATION TIMING

The Purchaser shall perform revegetation during the first available opportunity after road work is completed. Soils shall not be allowed to sit exposed for longer than one month without receiving revegetation treatment unless otherwise approved in writing by the Contract Administrator.

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 shall consist of, but not be limited to dispersed straw, jute matting, or clear plastic sheets as approved by the Contract Administrator. The protective cover requirement may be waived by the Contract Administrator, in writing, if the 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

The Purchaser shall be responsible to ensure a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. The Purchaser shall reapply the grass seed and fertilizer in areas that have failed to germinate or have been damaged through any cause, before approval from the Contract Administrator. The Purchaser shall restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the seed and 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 shall meet the following specifications:

1. Weed seed shall not exceed 0.5% by weight.
2. All seed species shall have a minimum 90% germination rate, unless otherwise specified.
3. Seed shall be certified.
4. Seed shall be furnished in standard containers the show 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 shall conform to the following mixture.

Kind and Variety of Seed in Mixture	% by Weight
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 shall meet the following specifications:

Chemical Component	% by Weight
Nitrogen	16
Phosphorous	16
Potassium	16
Sulphur	3
Inerts	49

SECTION 9 – POST-HAUL ROAD WORK

9-3 REMOVAL OF CULVERT MATERIAL FROM STATE LAND

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

9-10 LANDING DRAINAGE

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

9-12 LANDING EMBANKMENT REMOVAL

The Purchaser shall reduce or relocate landing embankment, in a manner approved, in writing, by the Contract Administrator. Excavated material shall be placed in a waste area designated by the Contract Administrator.

9-21 ROAD ABANDONMENT

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

Road	Stations
PK-0600	STA 0+00 to 1+60
PK-0602-03	STA 0+00 to 4+01
PK-0604	STA 0+00 to 1+74
PK-0607	STA 0+00 to 1+88
PK-0619	STA 0+00 to 4+73
PK-0620	STA 0+00 to 2+30
PK-0621	STA 0+00 to 42+75
PK-01	0+00 to 13+60
PK-10	STA 0+00 to 4+44

9-22 ABANDONMENT

- Remove all ditch relief culverts. The resulting slopes shall be 1:1 or flatter. The removed fill material shall be placed and compacted in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Remove all culverts in natural drainages. The resulting slopes shall be 1:1 or flatter. Strive for matching the existing native stream bank gradient. The natural streambed width shall be re-established. The removed fill material shall be placed and compacted in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Transport all removed culverts off site. All removed culverts shall become the property of the Purchaser.
- Construct non-drivable waterbars at natural drainage points and at a spacing that will produce a vertical drop of no more than 20 feet between waterbars and with a maximum horizontal spacing of 400 feet.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars shall be outsloped to provide positive drainage. Outlets shall be on stable locations.
- Inslope or outslope the road as appropriate.
- Remove bridges and other structures.
- Pull back unstable fill that has potential of failing and entering any Type 1 through 5 waters or wetlands. Removed material shall be placed and compacted in a stable location.
- Remove berms except as designed.
- Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cutslope to toe of fillslope. Long term effectiveness is the primary objective. If necessary construct a vehicular turn-around near the point of abandonment.
- Apply grass seed to all exposed soils resulting from the abandonment work and in accordance with Section 8 EROSION CONTROL.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts shall meet AASHTO M-36 (ASTM A-760) specifications. Culverts shall be galvanized (zinc coated meeting AASHTO M-218).

10-16 CORRUGATED ALUMINUM CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-21 METAL BAND

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

10-22 PLASTIC BAND

Plastic coupling and end bands shall meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer shall be used.

10-23 GAGE AND CORRUGATION

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

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

SECTION 11 SPECIAL NOTES

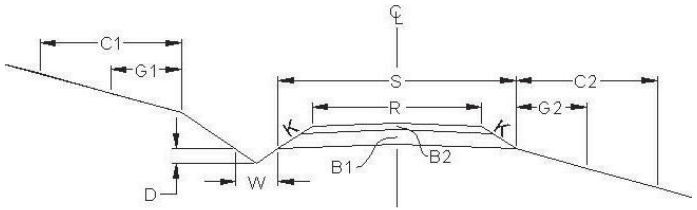
11-1 SPECIAL RECONSTRUCTION REQUIREMENTS

The Purchaser shall reconstruct the following roads as directed.

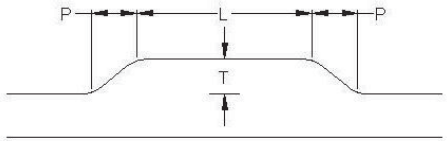
Road	Location	Activity
PK-ML	31+80 to 34+30	Widen the existing road to provide a running surface and curve widening at the PK-06 junction consistent with clauses 4-8 CURVE WIDENING and 6-67 ROCK FOR WIDENED PORTIONS for a curve with a minimum radius of 70 feet.
PK-06	10+50 to 11+10	Remove wood decking from the existing 60' span bridge. Spot weld ¼" x 8"steel plate material to both sides of the steel corrugated decking to provide retention for ¾-inch-minus crushed surfacing rock. The 8" steel plate must be installed to provide 4" of crushed surfacing rock depth on top of the decking corrugations. A total of 120 linear feet of ¼" x 8" steel plate is required for this modification.
PK-06	34+75 to 35+90	Armor scoured ditch with 20 cubic yards of shot rock.
PK-06	50+70 to 53+60	Armor scoured ditch with 60 cubic yards of shot rock.

ROAD #		PK-ML	PK-ML	PK-ML	PK-ML[A]
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	REQUIRED	REQUIRED
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	CONSTRUCT	RECONSTRUCT	RECONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	C	C
STATION / MP TO		0+00	2+90	12+90	31+80
STATION / MP		2+90	12+90	31+80	34+30
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	50	50	50	50
TURNOUT WIDTH	T	10	10	10	10
TURNOUT TAPER	P	25	25	25	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 ½	1 ½	1 ½
❖ BALLAST DEPTH	B1	12	18	6	12
CUBIC YARDS / STATION		72	114	34	72
➢ TOTAL CY BALLAST		210	1450	650	190[A]
❖ SURFACING DEPTH	B2				
CUBIC YARDS / STATION					
➢ TOTAL CY SURFACING					
➢ TOTAL CUBIC YARDS		210	1450	650	190[A]
SUBGRADE WIDTH	S	15	16.5	13.5	15
BRUSHCUT (Y/N)		N	N/A	N	N
BLADE, SHAPE, & DITCH (Y/N)		Y	N/A	Y	Y

TYPICAL SECTION



TURNOUT DETAIL (PLAN VIEW)



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] Road segment shall be reconstructed as specified in section 11.1. Ballast volumes listed are for rocking the widened portion of the road.

[B] Total cubic yards of ¾-inch-minus crushed rock to be used for bridge surfacing. See clause 11-1 for bridge deck modification instructions.

[C] Construction is located on top of an abandoned road grade.

[D] Includes 80 cubic yards of shot rock for ditch armoring as directed in clause 11-1 and 40 cubic yards of 3-inch-minus ballast for repair of holes in the PK-06 road located at stations 41+50 and 64+90. Additional ballast is for spot patching as directed by the Contract Administrator.

ROAD #		PK-ML	PK-06	PK-06	PK-06	PK-06 [B]	PK-06	PK-06[C]
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED	REQUIRED
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	RECONSTRUCT	CONSTRUCT	RECONSTRUCT	RECONSTRUCT	RECONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	C	C	C	C	C
STATION / MP TO		34+30	0+00	0+20	2+15	10+50	11+10	84+45
STATION / MP		76+80	0+20	2+15	10+50	11+10	84+45	132+90
ROAD WIDTH	R	12	12	12	12	21	12	12
CROWN (INCHES @ C/L)		3	3	3	3	3	3	3
DITCH WIDTH	W	3	3	3	3	-	3	3
DITCH DEPTH	D	1	1	1	1	-	1	1
TURNOUT LENGTH	L	50	50	50	50	-	50	50
TURNOUT WIDTH	T	10	10	10	10	-	10	10
TURNOUT TAPER	P	25	25	25	25	-	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 ½	-	-	-	1 ½
❖ BALLAST DEPTH	B1	-	6	18	-	-	-	12
CUBIC YARDS / STATION		-	34	114	-	-	-	72
➢ TOTAL CY BALLAST		-	10	230	-	-	520[D]	3490
❖ SURFACING DEPTH	B2					-		
CUBIC YARDS / STATION						-		
➢ TOTAL CY SURFACING						50		
➢ TOTAL CUBIC YARDS		-	10	230	-	50	520[D]	3490
SUBGRADE WIDTH	S	-	13.5	16.5	-	21	-	15
BRUSHCUT (Y/N)		N	N	N/A	N	N	N	N/A
BLADE, SHAPE, & DITCH (Y/N)		Y	Y	N/A	Y	N	Y	N/A

ROAD #		PK-0602	PK-0602	PK-0602-03	PK-0604 [C]	PK-0607 [C]	PK-0619	PK-0620 [C]	PK-0621 [C]
REQUIRED / OPTIONAL		REQUIRED	REQUIRED	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	RECONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	C	C	C	C	C	C
STATION / MP TO		0+00	16+70	0+00	0+00	0+00	0+00	0+00	0+00
STATION / MP		16+70	25+00	4+01	1+74	1+88	4+73	2+30	42+75
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	2	2	2	2	2	2
DITCH DEPTH	D	1	1	1	1	1	1	1	1
TURNOUT LENGTH	L	50	50	25	25	25	25	25	25
TURNOUT WIDTH	T	10	10	10	10	10	10	10	10
TURNOUT TAPER	P	25	25	25	25	25	25	25	25
GRUBBING	G1	5	5	5	5	5	5	5	5
	G2	5	5	5	5	5	5	5	5
CLEARING	C1	10	10	10	10	10	10	10	10
	C2	10	10	10	10	10	10	10	10
ROCK FILLSLOPE	K:1	-	1 ½	1 ½	1 ½	1 ½	1 ½	1 ½	1 ½
❖ BALLAST DEPTH	B1	-	12	18	6	6	18	12	12
CUBIC YARDS / STATION		-	72	114	34	34	114	72	72
➢ TOTAL CY BALLAST		-	600	460	60	70	540	170	3080
❖ SURFACING DEPTH	B2								
CUBIC YARDS / STATION									
➢ TOTAL CY SURFACING									
➢ TOTAL CUBIC YARDS		-	600	460	60	70	540	170	3080
SUBGRADE WIDTH	S	-	15	16.5	13.5	13.5	16.5	15	15
BRUSHCUT (Y/N)		N	N	N/A	N/A	N/A	N/A	N/A	N/A
BLADE, SHAPE, & DITCH (Y/N)		Y	Y	N/A	N/A	N/A	N/A	N/A	N/A

ROAD #		PK-07	PK-10 [C]			
REQUIRED / OPTIONAL		REQUIRED	OPTIONAL			
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	CONSTRUCT			
TOLERANCE CLASS (A/B/C)		C	C			
STATION / MP TO		0+00	0+00			
STATION / MP		22+10	4+44			
ROAD WIDTH	**R**	12	12			
CROWN (INCHES @ C/L)		3	3			
DITCH WIDTH	**W**	3	2			
DITCH DEPTH	**D**	1	1			
TURNOUT LENGTH	**L**	50	25			
TURNOUT WIDTH	**T**	10	10			
TURNOUT TAPER	**P**	25	25			
GRUBBING	**G1**	5	5			
	G2	5	5			
CLEARING	**C1**	10	10			
	C2	10	10			
ROCK FILLSLOPE	**K:1**	-	1 ½			
❖ **BALLAST DEPTH**	**B1**	-	12			
CUBIC YARDS / STATION		-	72			
➢ **TOTAL CY BALLAST**		-	320			
❖ **SURFACING DEPTH**	**B2**					
CUBIC YARDS / STATION						
➢ **TOTAL CY SURFACING**						
➢ **TOTAL CUBIC YARDS**		-	320			
SUBGRADE WIDTH	**S**	-	15			
BRUSHCUT (Y/N)		N	N/A			
BLADE, SHAPE, & DITCH (Y/N)		Y	N/A			

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** **18" / 16 / 2 2/3" x 1/2"** **24" – 48" / 14 / 2 2/3" x 1/2"** **54" – 96" / 14 / 3" x 1"**
PK-ML	4+23	18	36	XX			3	5	L	NT	C	
	5+12	18	36	XX			3	5	L	NT	C	
	5+80	24	36	XX			5	7	L/H	NT	C	
	7+19	18	36	XX			3	5	L	NT	C	
	7+78	18	34	XX			3	5	L	NT	C	
	8+56	18	36	XX			3	5	L	NT	C	
	9+85	18	36	XX			3	5	L	NT	C	
	11+34	18	36	XX			3	5	L	NT	C	
	11+98	24	36	XX			5	7	L/H	NT	C	
PK-06	34+75	-	-	-	-	-	-	-	-	-	-	Begin ditch armoring, see section 11-1.
	35+90	-	-	-	-	-	-	-	-	-	-	End ditch armoring.
	41+50	-	-	-	-	-	-	-	-	-	-	Repair hole in road with 20 CY of 3-inch-minus ballast.
	50+70	-	-	-	-	-	-	-	-	-	-	Begin ditch armoring, see section 11-1.
	53+60	-	-	-	-	-	-	-	-	-	-	End ditch armoring.
	64+90	-	-	-	-	-	-	-	-	-	-	Repair hole in road with 20 CY of 3-inch-minus ballast.
	87+98	36	40	GM			6	12	L/H	NT	C	Replace existing culvert.
	88+41	30	40	GM			6	12	L/H	NT	C	
	89+56	48	60	GM			12	38	L/H	NT	C	
	90+42	18	36	XX			3	5	L	NT	C	
	91+55	18	36	XX			3	5	L	NT	C	
	97+05	36	60	GM			8	12	L/H	NT	C	
	98+30	18	36	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 Spall

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** **18" / 16 / 2 2/3" x 1/2"** **24" – 48" / 14 / 2 2/3" x 1/2"** **54" – 96" / 14 / 3" x 1"**
PK-06 (continued)	99+92	30	36	GM			5	7	L/H	NT	C	
	100+70	18	36	XX			3	5	L	NT	C	
	101+72	30	40	GM			5	7	L/H	NT	C	
	102+38	24	36	GM			5	7	L/H	NT	C	
	102+60	18	36	XX			2	3	L	NT	C	
	103+68	24	48	GM			5	7	L/H	NT	C	
	104+87	24	48	GM			5	7	L/H	NT	C	Locate outlet below junction.
	108+82	18	36	XX			3	5	L	NT	C	
	113+00	18	50	XX			3	5	L	NT	C	
	115+13	18	50	XX			3	5	L	NT	C	
	117+40	18	50	XX			3	7	L	NT	C	
	119+12	18	32	XX			3	5	L	NT	C	
	120+87	24	36	XX			3	5	L/H	NT	C	
	122+22	18	36	XX			3	5	L	NT	C	
	124+42	30	40	GM			3	5	L/H	NT	C	
	124+93	18	40	XX			3	5	L	NT	C	
	126+00	24	36	XX			3	5	L/H	NT	C	
	126+90	24	36	XX			3	5	L/H	NT	C	
	128+01	24	40	GM			3	5	L/H	NT	C	
	129+12	18	40	XX			3	5	L	NT	C	
	130+61	24	36	GM			3	5	L/H	NT	C	
	131+09	18	40	XX			3	5	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** **18" / 16 / 2 2/3" x 1/2"** **24" – 48" / 14 / 2 2/3" x 1/2"** **54" – 96" / 14 / 3" x 1"**
PK-0602	22+00	24	30	XX			3	5	L/H	NT	C	
PK-0602-03	2+90	18	30	XX			3	5	L	NT	C	
PK-0619	1+02	18	36	XX			3	5	L	NT	C	
	2+63	18	36	XX			3	5	L	NT	C	
PK-0620	0+00	18	40	XX			3	5	L	NT	C	
PK-0621	2+37	24	40	XX			7	12	L/H	NT	C	
	3+43	24	36	XX			5	7	L/H	NT	C	
	4+31	24	36	XX			5	7	L/H	NT	C	
	4+97	18	36	XX			3	5	L	NT	C	
	5+75	24	36	XX			5	7	L/H	NT	C	
	6+57	18	36	XX			3	5	L	NT	C	
	7+63	24	36	XX			5	7	L/H	NT	C	
	8+50	24	36	XX			5	7	L/H	NT	C	
	9+53	48	48	GM			6	14	L/H	NT	C	
	10+71	48	48	GM			6	14	L/H	NT	C	
	11+81	30	48	GM			6	14	L/H	NT	C	
	12+66	24	32	XX			5	7	L/H	NT	C	
	14+93	24	40	XX			7	12	L/H	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** **18”** / **16** / **2 2/3" x 1/2"** **24” – 48”** / **14** / **2 2/3" x 1/2"** **54” – 96”** / **14** / **3" x 1"**
PK-0621 (continued)	15+74	24	36	GM			5	7	L/H	NT	C	
	16+20	24	36	XX			5	7	L/H	NT	C	
	17+54	18	30	XX			3	5	L	NT	C	
	18+57	30	40	GM			7	14	L/H	NT	C	
	18+91	24	40	XX			3	5	L/H	NT	C	
	20+58	48	48	GM			6	14	L/H	NT	C	
	21+36	18	32	XX	30	XX	3	7	L	NT	C	
	22+28	36	40	GM			6	12	L/H	NT	C	
	23+18	24	32	GM			5	7	L/H	NT	C	
	24+50	24	40	GM			3	5	L/H	NT	C	
	25+08	18	30	XX	20	XX	2	5	L	NT	C	
	26+47	18	30	XX			2	3	L	NT	C	
	27+02	30	48	GM			8	12	L/H	NT	C	
	27+53	18	30	XX			3	5	L	NT	C	
	28+62	18	30	XX			3	5	L	NT	C	
	29+24	36	40	GM			8	12	L/H	NT	C	
	30+34	18	36	GM			2	5	L	NT	C	
	32+73	18	40	XX			3	5	L	NT	C	Replace existing culvert
	36+00	24	36	XX			3	5	L/H	NT	C	
	36+49	36	48	GM			8	12	L/H	NT	C	
	36+99	18	36	XX			2	5	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** **18" / 16 / 2 2/3" x 1/2"** **24" – 48" / 14 / 2 2/3" x 1/2"** **54" – 96" / 14 / 3" x 1"**
PK-0621 (continued)	38+98	18	36	XX			3	5	L	NT	C	
	39+31	24	40	XX			5	7	L/H	NT	C	
	39+74	24	40	XX			3	5	L/H	NT	C	
	41+08	24	40	XX			3	7	L/H	NT	C	
	41+60	18	40	XX			2	3	L	NT	C	
	42+50	-	-	-	-	-	-	-	-	-	-	Ditchout

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.

Preventative Maintenance

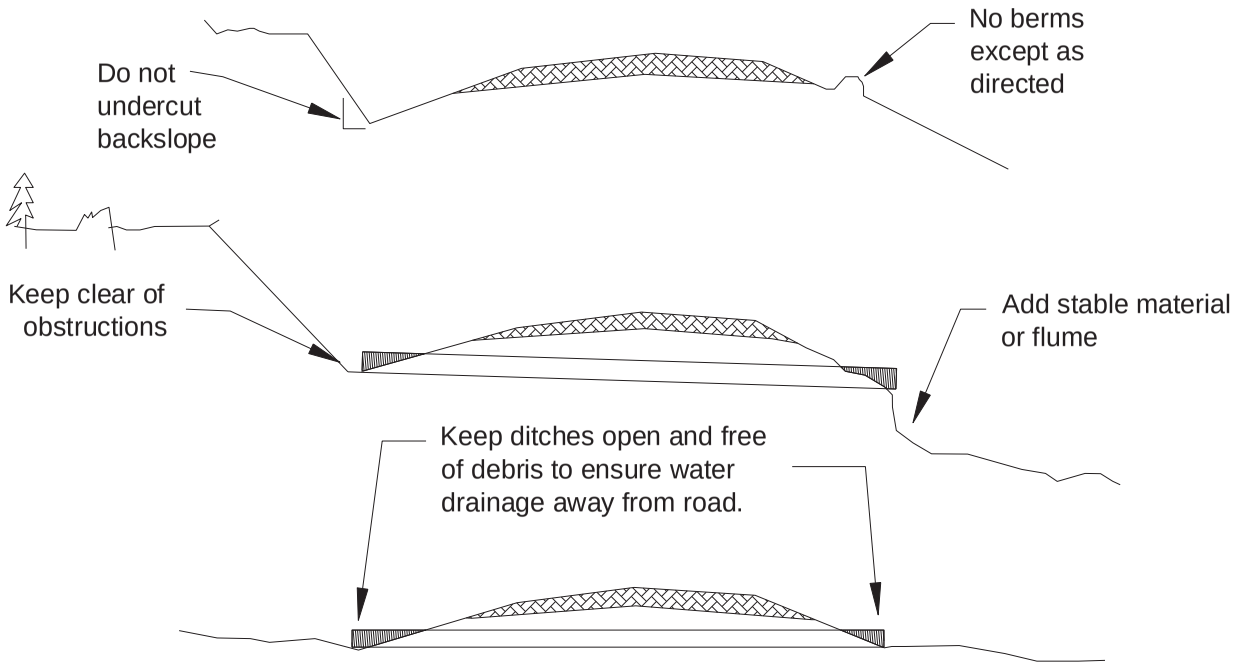
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

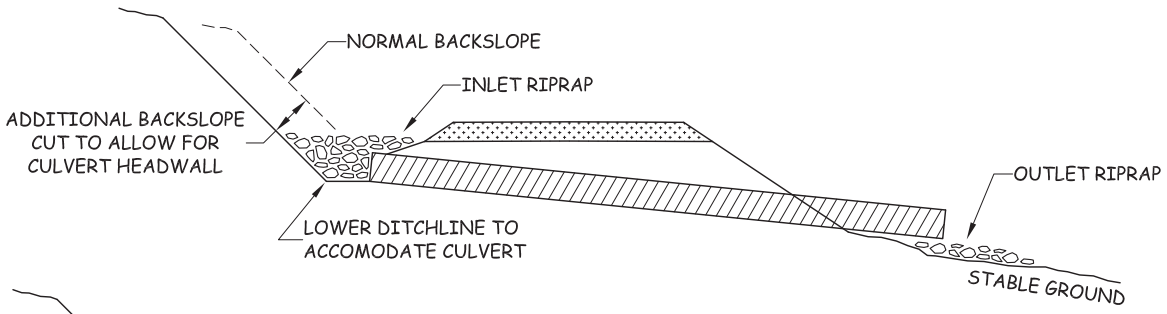
Debris

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

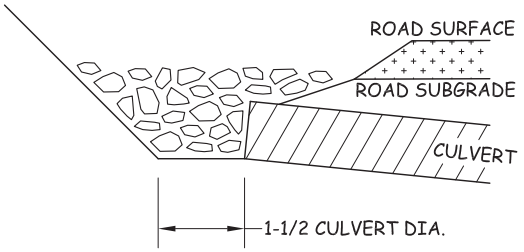


CULVERT AND DRAINAGE SPECIFICATIONS

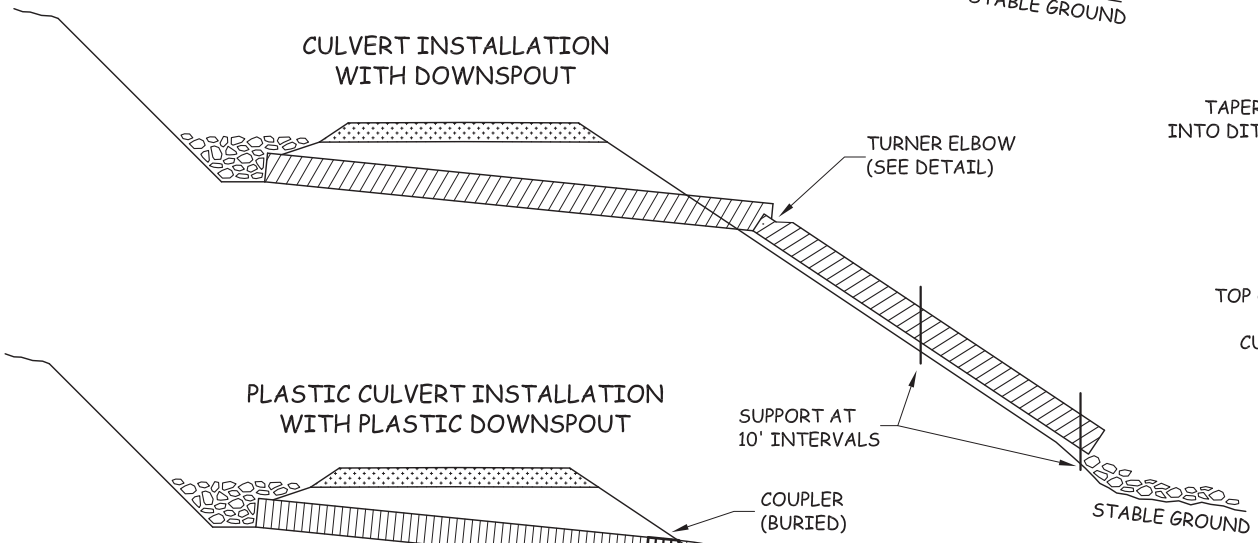
CULVERT INSTALLATION (TYPICAL)



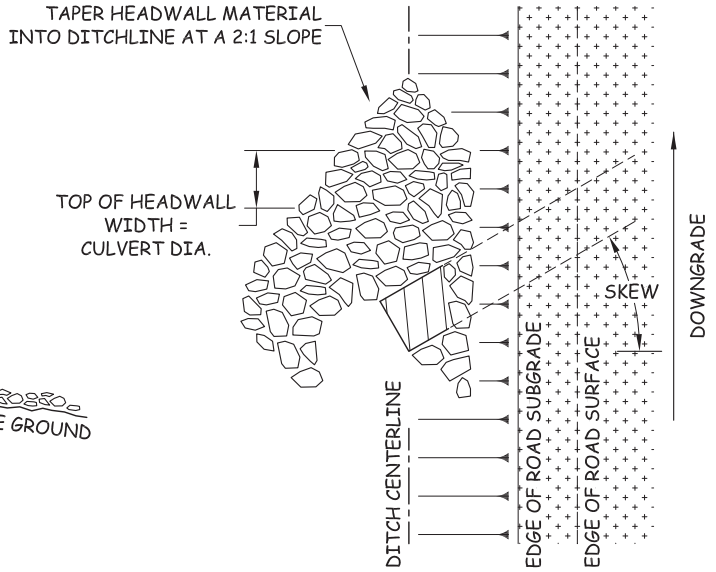
CULVERT HEADWALL - SECTION VIEW



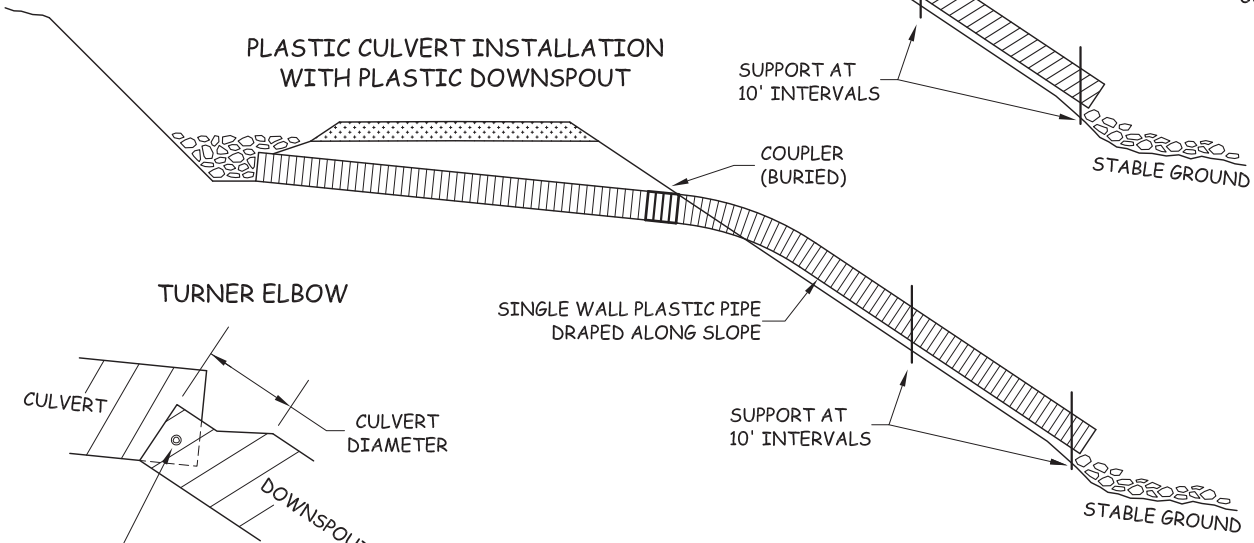
CULVERT INSTALLATION WITH DOWNSPOUT



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 #	PROJECT	SHEET
30-091137	PILCHUCK REUNION	31 OF 31

SUMMARY - Road Development Costs

REGION:
DISTRICT:

SALE/PROJECT NAME: Pilchuck Reunion CONTRACT #: 91137

ROAD NUMBERS:	-	-	-
ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	122.25	196.40	0.00
CLEARING & GRUBBING:	$7,920	$2,107	
EXCAVATION AND FILL:	$6,256	$418	-
MISC. MAINTENANCE:		$15,818	-
ROAD ROCK:	$134,428	$28,158	-
ROCK STOCKPILE PROD:	-	-	-
CULVERTS AND FLUMES:	$35,316	$760	-
STRUCTURES:	-	-	-
MOBILIZATION:	$15,630	-	-
TOTAL COSTS:	$199,549	$47,261	$0
COST PER STATION:	$1,632	$241	#DIV/0!
ROAD DEACTIVATION & ABANDONMENT COSTS:		$2,507	

TOTAL (All Roads) = $249,317
SALE VOLUME MBF = 2485
TOTAL $/MBF = $100

Compiled by: A. Halgren Date: 41949