WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: KITTEN KABOODLE WMZ VRH RMZ* ***AGREEMENT NO**: 30-99574*

AUCTION: February 26, 2020 starting at 10:00 a.m., Northwest Region Office, Sedro Woolley, WA **COUNTY:** Snohomish

SALE LOCATION: Sale located approximately 18 miles southeast of Granite Falls.

PRODUCTS SOLD AND SALE AREA: All timber including cedar salvage of preexisting dead and down cedar trees and cedar logs only bounded by white timber sale boundary tags and flagline, except cedar salvage (cedar snags and blue marked, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Unit #1.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning area bounded by white timber sale boundary tags in Units #2 and #3.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning area bounded by white timber sale boundary tags and blue special management tags in Unit #4.

All timber including cedar salvage of preexisting dead and down cedar trees and cedar logs only bounded by white timber sale boundary tags, flagline, the EK-73, EK-7303 and EK49 roads, except cedar salvage (cedar snags and blue marked, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar and forest products tagged out by yellow leave tree area tags in Unit #6.

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 13 all in Township 29 North, Range 7 East, Sections 7, 17, 18, 19 and 20 all in Township 29 North, Range 8 East, W.M., containing 133 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Hemlock	14	8	2,071						761	906	337	67
Douglas fir	27	8	812						686	78	28	20
Silver fir	17		428						220	160	45	3
Red cedar	15		232							150	66	16
Spruce	20		16						14	1	1	
Sale Total			3,559									

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

MINIMUM BID:	$782,000.00	**BID METHOD:**	Sealed Bids
PERFORMANCE SECURITY:	$100,000.00	**SALE TYPE:**	Lump Sum
EXPIRATION DATE:	March 31, 2022	**ALLOCATION:**	Export Restricted

BID DEPOSIT: $78,200.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable; shovel on sustained slopes 35% or less; tracked skidder on the designated equipment trails (depicted on the timber sale map); self-leveling equipment on sustained slopes 50% or less; tethered equipment may be utilized (See H-141 for restrictions); also, a feller-buncher may be utilized on sustained slopes 35% or less. Falling and Yarding will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator(THIS PERTAINS TO GROUND-BASED EQUIPMENT ONLY) to reduce soil damage and erosion.

Falling and yarding in the RMZ/WMZ thinning areas 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 dependent 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 measures.

ROADS: 34.48 stations of optional construction. 14.52 stations of optional reconstruction. 16.52 stations of required prehaul maintenance. Rock may be obtained from the following source(s) on State land at no charge to the Purchaser: EK-6612 Pit at station 34+34 of the EK-73 Road.

Development of an existing rock source will involve drilling, shooting, and processing rock to generate riprap and 3-inch-minus ballast rock.

An estimated total quantity of rock needed for this proposal: 65 cubic yards of riprap and 5,985 cubic yards of ballast rock.

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

ACREAGE DETERMINATION

CRUISE METHOD: Acres determined by GPS traverse for units and length x width calculation for right-of-way. Cruise was conducted via variable plot sample type, as well as 1/25 acre fixed plot for right-of-way #1. See Cruise Narrative for further details. Shapefiles of units are available upon request after the BNR meeting in which the sale is presented.

FEES: $60,503.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

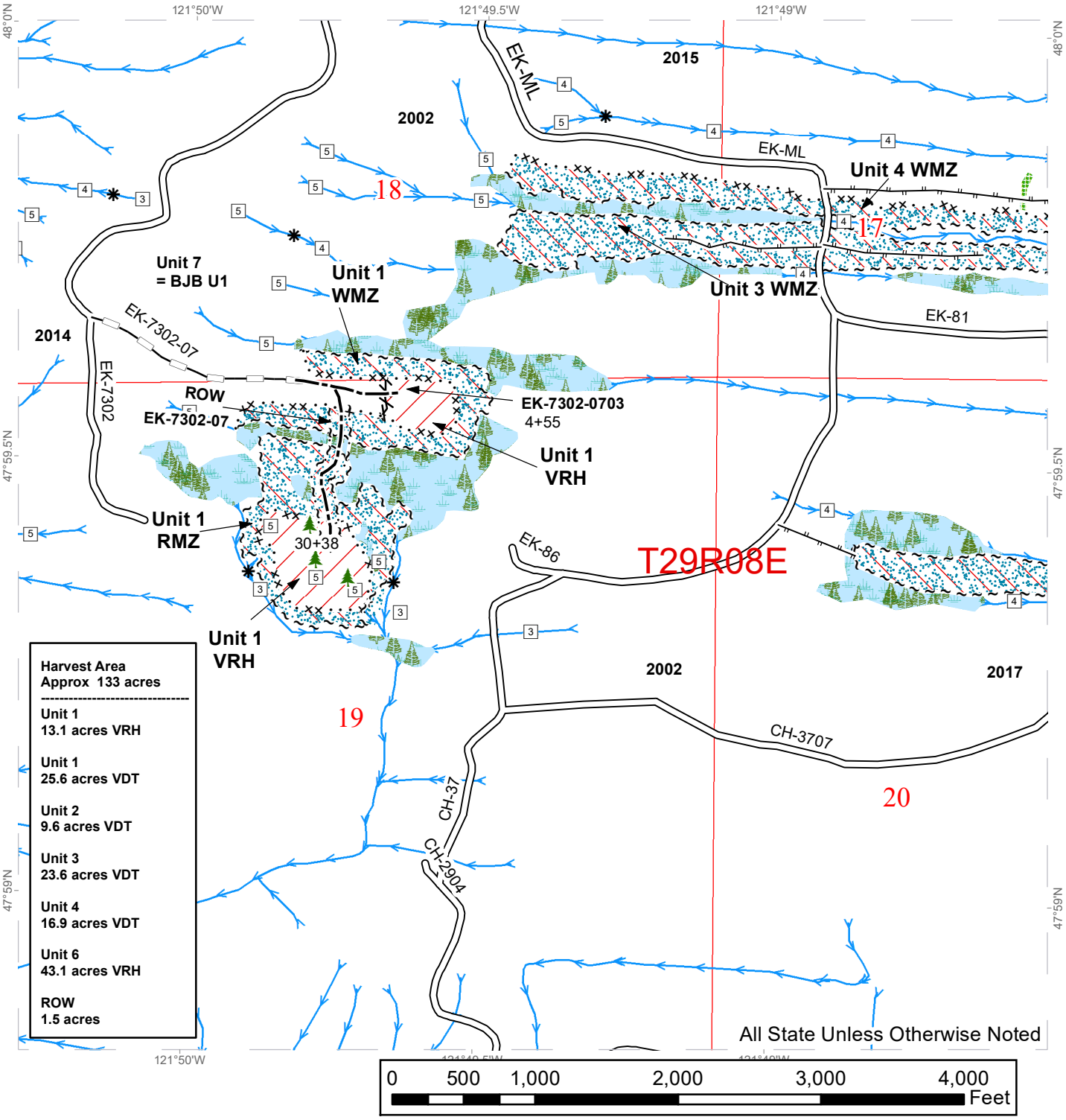
SPECIAL REMARKS: 1. Units 1 through 4 are intended for ground-based harvest. A portion of Unit 6 contains steeper slopes which may necessitate cable or tethered yarding. There is no Unit 5.

2. Portions of the sale area have been previously thinned.
3. HQ DF noted within the sale area. See cruise for further details (approximately 34 mbf of the above listed DF 2S is deemed high quality and 9 mbf of the above listed DF 3S is deemed high quality by the Department).
4. Also, redcedar poles were noted within Unit 1 thinning portion of the sale area. No formal cruise was conducted for cedar poles.
5. CEDAR SALAVGE: The DNR's standard conversion factor is 600 board feet per cord (cord = 128 cubic feet). Cedar salvage forest products removed on a cord basis will be converted to MBF for payment purposes. Approximately 27 cords scattered throughout the VRH areas (% shingle material and % shake material estimates were not made). This volume equates to approximately 16 mbf of cedar which was added to the UT in the sale volume above.
6. No rubber-tired skidders will be authorized for use.

Timber Sales Map

SALE NAME: KITTEN KABOODLE WMZ VRH RMZ
AGREEMENT #: 30-099574
TOWNSHIP(S): T29R8E
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1640-2160



Variable Density Thinning
Variable Retention Harvest
kittenkaboodle_rmz
Leave Tree Area
Forested Wetland
Existing Roads
Optional Construction
Optional Reconstruction
Designated Equipment Trail
Flag Line
Right of Way Tags
Sale Boundary Tags
Special Mgmt Area
Streams
Stream Type 3
Stream Type 4
Stream Type 5
Stream Break
Leave Tree Area <1/4-acre

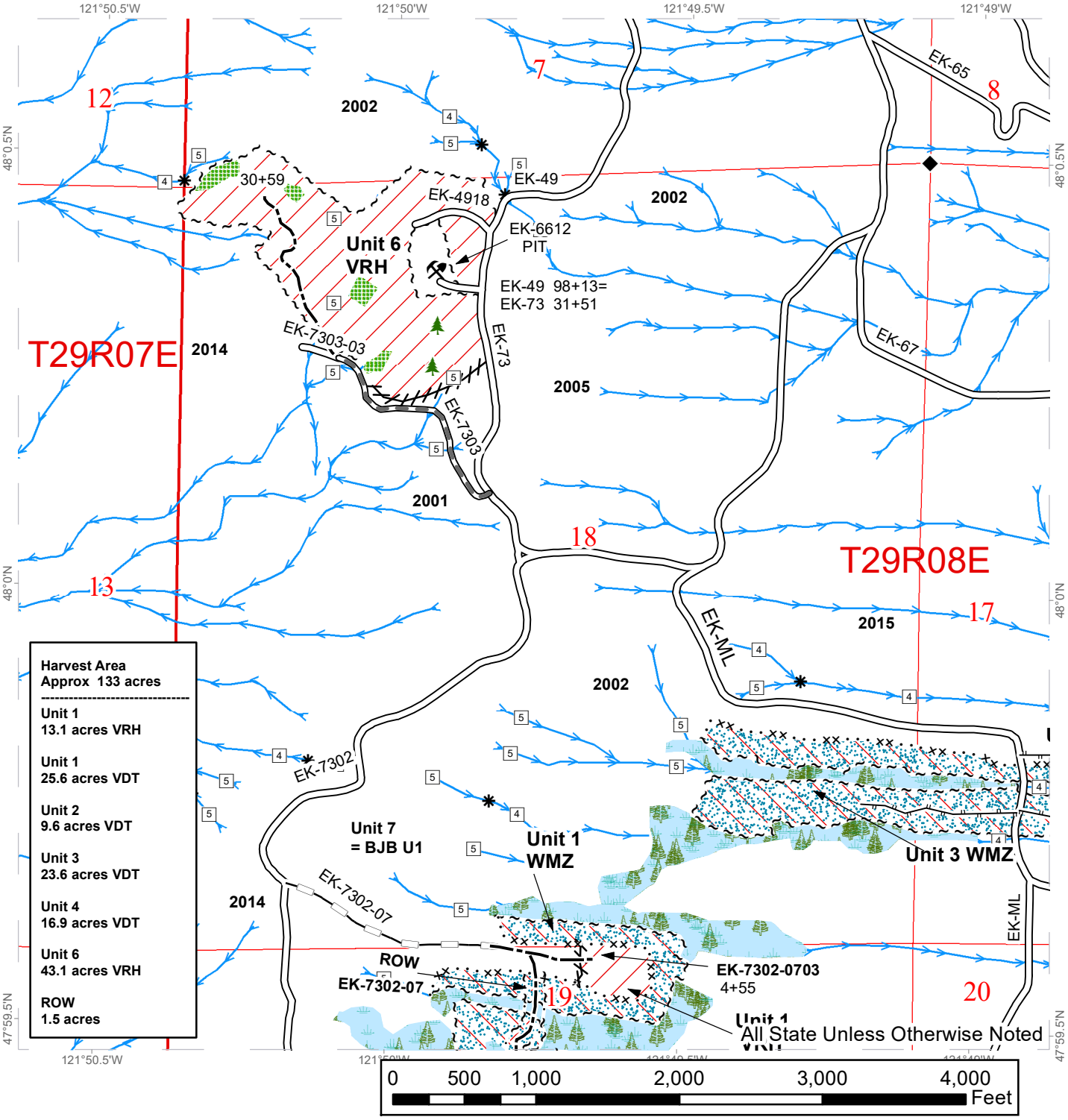
Prepared By: smky490

Modification Date: pfer490 1/3/2020

Timber Sales Map

SALE NAME: KITTEN KABOODLE WMZ VRH RMZ
AGREEMENT #: 30-099574
TOWNSHIP(S): T29R8E
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1640-2160



Variable Density Thinning
Variable Retention Harvest
kittenkaboodle_rmz
Leave Tree Area
Forested Wetland
Existing Roads
Required Pre-Haul Maintenance
Optional Construction
Optional Reconstruction
Designated Equipment Trail
Flag Line
Right of Way Tags
Sale Boundary Tags
Special Mgmt Area
Streams
Stream Type 3
Stream Type 4
Stream Type 5
Stream Break
Survey Monument
Leave Tree Area <1/4-acre
Rock Pit

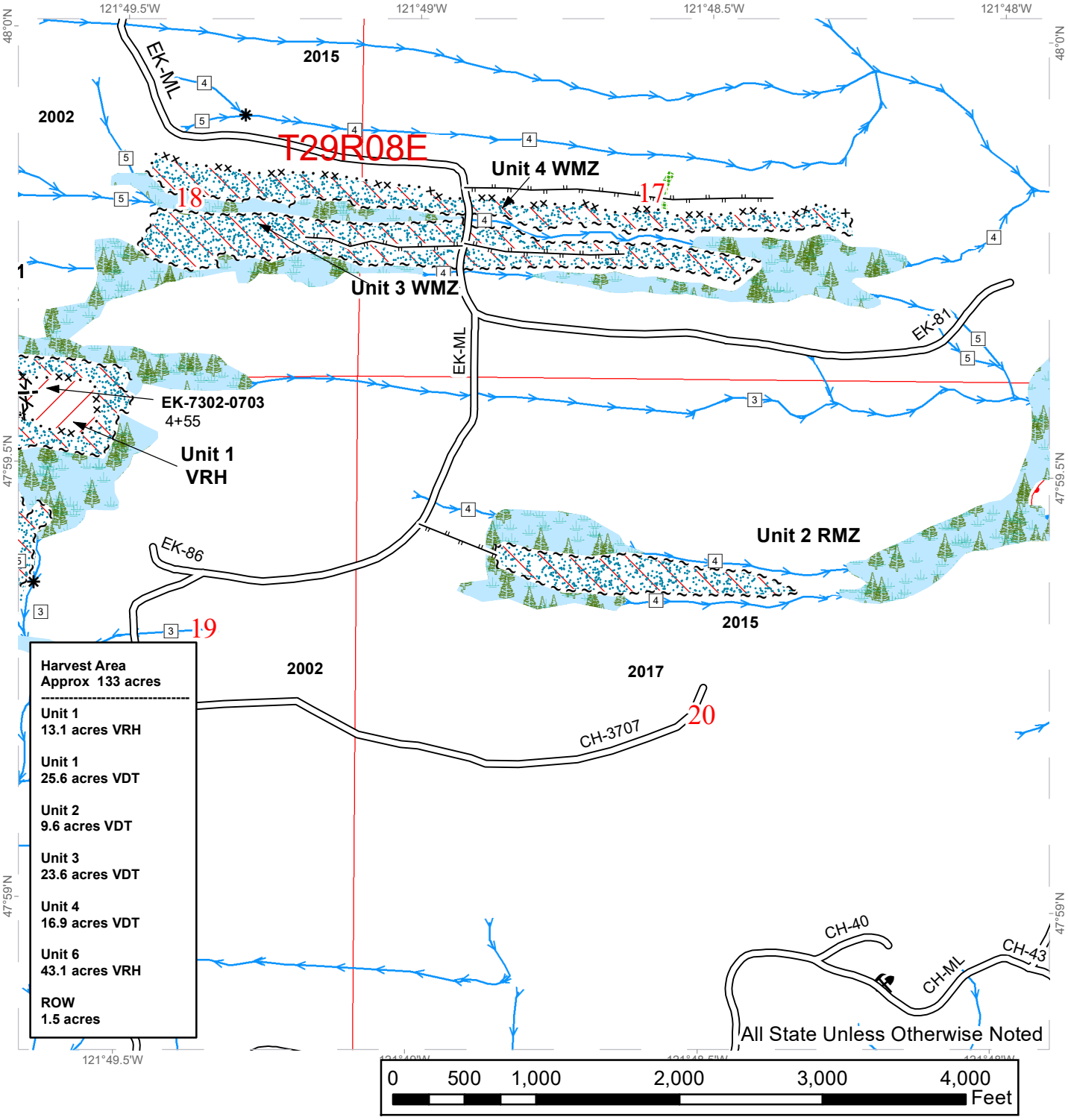
Prepared By: smky490

Modification Date: pfer490 1/3/2020

Timber Sales Map

SALE NAME: KITTEN KABOODLE WMZ VRH RMZ
AGREEMENT #: 30-099574
TOWNSHIP(S): T29R8E
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1640-2160



Variable Density Thinning	Existing Roads	Sale Boundary Tags	Stream Type 3
Variable Retention Harvest	Optional Construction	Special Mgmt Area	Stream Type 4
kittenkaboodle_rmz	Designated Equipment Trail	Streams	Stream Type 5
Leave Tree Area	Flag Line		Stream Break
Forested Wetland			Rock Pit

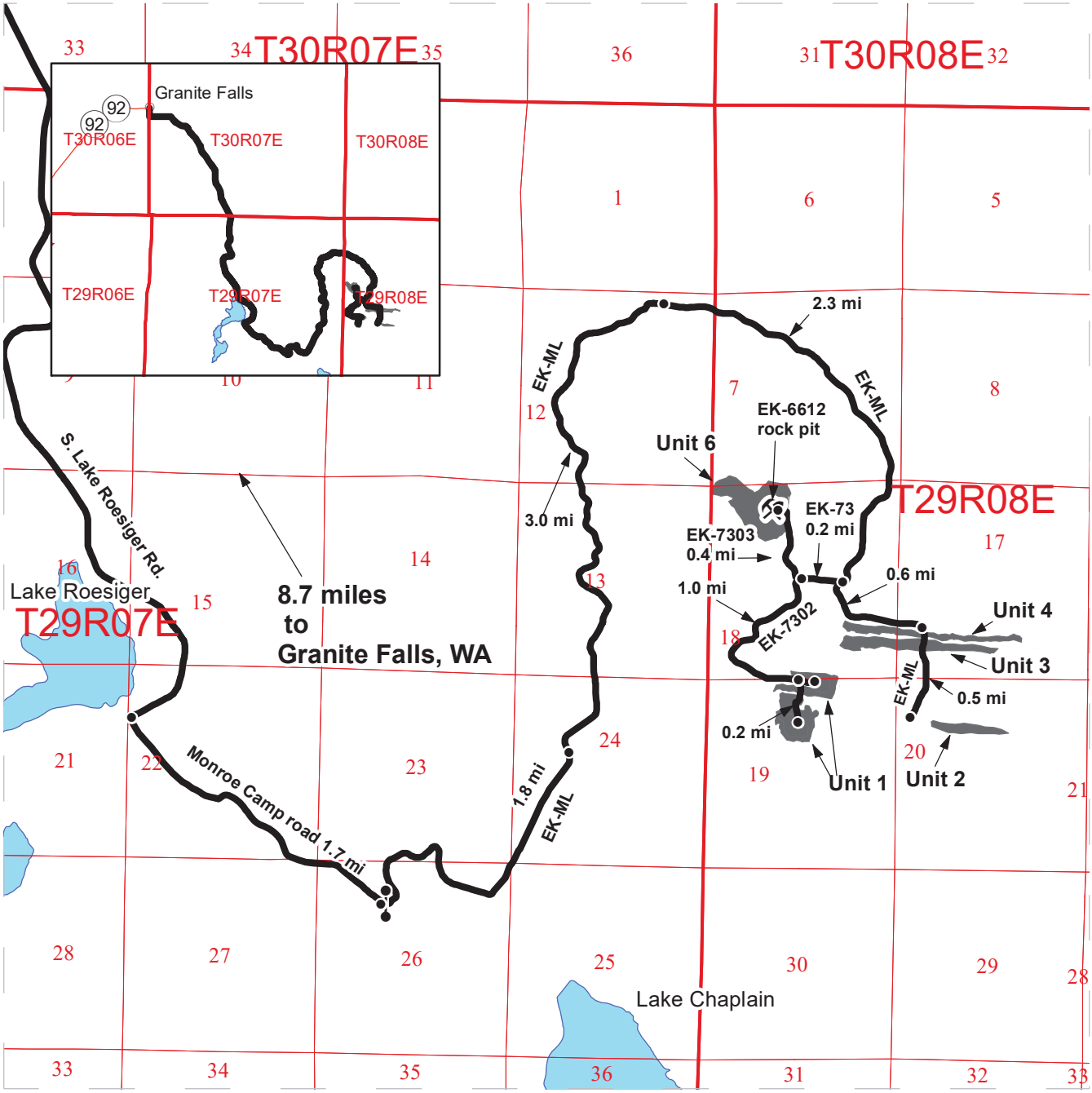
Prepared By: smky490

Modification Date: pfer490 1/3/2020

DRIVING MAP

SALE NAME: Kitten Kaboodle
AGREEMENT#: 30-099574
TOWNSHIP(S): T29R07E, T29R08E
TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Agricultural School(4), Scientific School(10)

REGION: Northwest Region
COUNTY(S): SNOHOMISH
ELEVATION RGE: 1720-2200



Haul Route
Other Route
Distance Indicator
Gate
Existing Rock Pit

Driving Directions:

From Granite Falls, travel south towards Lake Roesiger on Menzel Lake Road for approximately 6 miles.
Continue onto S Lake Roesiger Road and follow for approximately 2 miles to the Lake Roesiger Store.
At the store turn left onto Monroe Camp Road.
Continue on Monroe Camp Road for 1.7 miles to the junction with the EK-ML gate. Turn left onto the EK-ML.
Continue driving on the EK-ML for 7.1 miles to the junction with EK-73.
Unit 6: At the junction of EK-ML and EK-73 turn right, and then drive for .2 miles to the junction with EK-7303.
Turn right onto EK-7303 and drive for .4 miles.
Unit 1: At the junction of EK-ML and EK-73 turn right, and then drive for .2 miles to the junction with EK-7302.
Turn left onto EK-7302 and drive for 1 mile.
Units 3 and 4: At the junction of EK-ML and EK-73 take a left and continue on the EK-ML.
Units are located along the EK-ML for the next 1.1 miles.

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Prepared By: Alan Herrman 08/19/2019

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-099574

SALE NAME: KITTEN KABOODLE WMZ VRH RMZ

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on February 26, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber including cedar salvage of preexisting dead and down cedar trees and cedar logs only bounded by white timber sale boundary tags and flagline, except cedar salvage (cedar snags and blue marked, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar, forest products tagged out by blue special management tags (WMZs/RMZs), and forest products tagged out by yellow leave tree area tags in Unit #1.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning areas (beyond the blue special management tags up to the white timber sale boundary tags) within Unit #1.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning area bounded by white timber sale boundary tags in Units #2 and #3.

All timber as described for removal in Schedule B located in the RMZ/WMZ thinning area bounded by white timber sale boundary tags and blue special management tags in Unit #4.

All timber including cedar salvage of preexisting dead and down cedar trees and cedar logs only bounded by white timber sale boundary tags, flagline, the EK-73, EK-7303 and EK49 roads, except cedar salvage (cedar snags and blue marked, preexisting dead and down cedar trees and cedar logs), trees marked with blue paint on the bole and root collar and forest products tagged out by yellow leave tree area tags in Unit #6.

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 133 acres on part(s) of Section 13 in Township 29 North, Range 7 East, Sections 7, 17, 18, 19, and 20 all in Township 29 North, Range 8 East W.M. in Snohomish County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
B	Thinning Prescription

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to March 31, 2022.

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

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

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

G-051 Contract Term Extension - Payment

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

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

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

c. For the first extension, not to exceed 1 year, payment of at least 25 percent of the total contract price.

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

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

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

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

e. Payment of $109.00 per acre per annum for the acres on which an operating release has not been issued in the RMZ Thinning areas and WMZ Thinning areas. Payment of $761.00 per acre per annum for the acres on which an operating release has not been issued in Variable Retention Harvest (VRH) areas.

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

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

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

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

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

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

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

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

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

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

G-062 Habitat Conservation Plan

The State has entered into a Habitat Conservation Plan (HCP) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (the Services) to address

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

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

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

G-063 Incidental Take Permit Notification Requirements

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

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

c. Purchaser shall refer to a specific ITP number, ITP TE812521-1 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

determined by the Contract Administrator. Added forest products shall be paid for at the following contract payment rates per Mbf Scribner log scale.

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

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

G-111 Title and Risk of Loss

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

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: 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 via endorsement on all general liability, excess, umbrella, and property insurance policies.

All insurance provided in compliance with this contract shall be primary as to any other insurance or self-insurance programs afforded to or maintained by State. Purchaser

waives all rights against State for recovery of damages to the extent these damages are covered by general liability or umbrella insurance maintained pursuant to this contract.

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

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

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

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

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

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

If Purchaser, subcontractor or sub-subcontractor fails to comply with all State of Washington workers' compensation statutes and regulations and State incurs fines or is required by law to provide benefits to or obtain coverage for such employees, Purchaser

shall indemnify State. Indemnity shall include all fines, payment of benefits to Purchaser or subcontractor employees, or their heirs or legal representatives, and the cost of effecting coverage on behalf of such employees.

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

G-151 Aviation Insurance

If Purchaser elects or is required to use aircraft to perform the duties as required by this contract, Purchaser shall buy and maintain aircraft liability insurance coverage for bodily injury and property damage, including passengers, for all operations involving the aircraft including, but not limited to, liability assumed under a contract. The limits shall be not less than per occurrence and a general aggregate limit of $5,000,000. 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.

G-160 Agents

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

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

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

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

G-220 State Suspends 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; EK-ML, EK-49, EK-4918, EK-73, EK-7302, EK-7302-07, EK-7302-0703, EK-7303, EK-81. 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-350 Permanent Plots

There are permanent plot(s) located within the sale area. The aluminum tags at the base of the trees within the plot(s) shall not be removed or destroyed.

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the DATA MISSING, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easements with:

City of Everett; #55-090098; dated May 28, 2014.

G-430 Open Fires

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

G-450 Encumbrances

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

DATA MISSING

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of $92,534.00. The total contract price consists of a $0.00 contract bid price plus $92,534.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

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

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of $100,000.00. The Security provided shall

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from October 1 to April 30 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 200 square inches.

b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.

c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

H-013 Reserve Tree Damage Definition

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

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

a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 200 square inches.

b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.

c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-016 Skid Trail Requirements

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

Purchaser shall comply with the following during the yarding operation:

a. A skid trail will not exceed 14 feet in width, including rub trees.

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

c. Location of the skid trails must be marked by Purchaser and 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. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.

h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.

i. 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 8 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-110 Stump Height

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using Cable; shovel on sustained slopes 35% or less; tracked skidder on the designated equipment trails (depicted on the timber sale map); self-leveling equipment on sustained slopes 50% or less; tethered equipment may be utilized (See H-141 for restrictions); also, a feller-buncher may be utilized on sustained slopes 35% or less,. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-130 Hauling Schedule

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

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

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

LOG PROCESSOR/DE-LIMBER is defined as a mobile machine with a hydraulic boom capable of simultaneously bucking, 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.

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.

B. Equipment shall 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 the Contract Administrator.

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

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

E. Falling and yarding will occur away from all typed waters where possible. Type 3, 4, and 5 streams will have a 50-foot equipment limitation zone measured from each bank. Avoid parallel cable yarding in, across, or adjacent to stream channels where possible. The limited crossings shall be as close to perpendicular as possible and be pre-approved in writing by the Contract Administrator prior to use.

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

G. Down woody debris shall be left where they lie, where operationally feasible.

H. Marked leave trees may be traded for trees of the same size and species with prior approval from the Contract Administrator.

I. There are designated equipment trails flagged in Units 2, 3, and north side of Unit 4. Designated equipment trails can be moved from these locations, if approved in writing by the Contract Administrator.

J. Designated equipment trails shall be used when ground based yarding (shovel logging) occurs over 600’ from an existing road. These shall be located by the Purchaser and approved by the Contract Administrator in writing prior to use. These trails shall be as narrow as practical and shall be water barred and shall be grass seeded and mulched following completion of that setting. Stump pulling is not authorized for these trails.

K. Trees with blue “Special Management Unit Boundary” tags can be considered for thinning if the trees meet the prescription described in Schedule B.

L. Note: No trees are marked to be felled toward the stream or girdled per the RFRS. Over time, this will occur due to natural processes according to the wildlife biologist.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

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

B. Purchaser must obtain prior written approval from the Contract Administrator for areas as to where to utilize tethered equipment prior to use. Trees may be felled and pre-bunched by the equipment but must be yarded by cable, if authorized by the Contract Administrator.

C. When harvesting, avoid exposing mineral soil within 50 feet of any type 3, 4, and 5 streams. These streams have a 50-foot Equipment Limitation Zone.

D. Six blue double-banded trees are in Unit 3. Part of a permanent plot shall remain standing throughout the harvest operation.

E. Pioneering shall not extend more than 500 feet beyond completed construction at any time unless approved in writing by the Contract Administrator.

F. All exposed soil areas resulting from road construction will be grass seeded or received protective cover of straw or other suitable material.

G. Drainage shall be provided on all uncompleted construction as approved by Contract Administrator. All ditch water will be diverted onto forest floor by means of cross drain culverts or ditch outs in order to avoid delivery of sediments to streams.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 7/18/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on EK-7302-07, EK-7302-0703, EK-7303 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the EK-ML, EK-49, EK-4918, EK-73, EK-7302, EK-81 roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-030 Landing Debris Clean Up

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

S-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-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 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain &

recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

Releases of oil or hazardous materials to the environment must be reported according to the State Department of Ecology (ECY). It is the responsibility of the Purchaser to have all emergency contact information readily available and a means of remote communication for purposes of quick notification. In the event of a spill, 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-013 Liquidated Damages or Failure to Perform

The following clauses provide for payments by Purchaser to the State for breaches of the terms of this contract other than failure to perform. These payments are agreed to

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

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

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of $250.00 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	Tim Stapleton
_____	Northwest Region Manager
Print Name	
Date: _____	Date: _____
Address:	

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

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule B
Thinning Prescription

UNIT 1, 2, 3, 4 RMZ/WMZ REMOVAL:

- Thinning, leave the "best" 154 trees per acre across entire unit, including yarding corridors, (approximately 17' x 17' foot spacing). The residual stand must have a basal area greater than or equal to 155.
  - o To accomplish these criteria, the take tree preference is as follows:
    1. Cut all silver-fir
    2. Cut all western hemlock between 8" - 18" DBH
    3. Cut all western redcedar between 12"-16" DBH
    4. All other trees necessary for operations must be preapproved for felling by the Contract Administrator.

- "Best" tree definition is having the following characteristics:
  - o Free of disease, major defect, and damage
  - o Fullest and most vigorous crowns
  - o Best form: tallest tree, straightest boles, and smallest limb diameters

- In Unit 3, 6 blue double-banded trees must remain standing throughout and after the harvest operation. They are associated with a permanent plot.
- Trees with blue "Special Management Unit" tags may be harvested if they meet the prescription.
- Damage Compartments: This sale features one damage compartment per RMZ/WMZ thinning unit (five total).
- No cedar salvage allowed in the RMZ/WMZ thinning areas.
- If the prescription creates an opening greater than 50 feet between residual trees, the purchaser shall leave one prescription tree in that area to prevent the large gap.
- Note: No trees are marked to be felled toward the stream or girdled per the RFRS. Over time, this will occur due to natural processes according to the wildlife biologist.

Compliance:

- A variable radius plot will be utilized to measure and determine basal area. The average of all plots in the RMZ/WMZ thinning unit will determine the basal area per acre for that unit. Only live trees greater than or equal to 8.0 inches DBH will be measured.
- Certification of fallers and yarder operators (additional requirements beyond those outlined in the H-011)
- The Contract Administrator and faller/harvest operator will jointly review the take tree selection criteria as outlined in Schedule B of the sale contract. In conjunction with the Contract Administrator, the faller/harvest operator will mark a designated area as a test plot within the sale boundary. Satisfactory thinning of the test plot completes the certification process. Certifications will be issued to individuals when they demonstrate to the Contract Administrator their ability to perform within the requirements set forth in the contract.

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Northwest

Timber Sale Name: KITTEN KABOODLE

Application Number: 30- 099574

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 3,448 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 1452 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

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

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

Pre-Haul Maintenance: 1652 **linear feet**
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 0 **linear feet**
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: 0 **linear feet**
Roads to be reconstructed (optional and required) and then abandoned

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 9/18)

PRE-CRUISE NARRATIVE

Sale Name: Kitten Kaboodle	Region: **Northwest**
Agreement #: 30-099574	District: Cascade
Contact Forester: Shane McKinley Phone / Location: 425-359-5285 / Granite Falls	County: Snohomish
Alternate Contact: Greg Anderson Phone / Location: 360-333-7983/Granite Falls	Other information:

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

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
U1 VRH	Sec 19, 18 / Twp 29 / Rng 08 E	01	13.2	0.0	0.1	0.0		13.1	GPS (Garmin)
U1 WMZ	Sec 19, 18 / Twp 29 / Rng 08 E	01, 04	27.0	0.4	0.0	0.0		26.6	GPS (Garmin)
U2 RMZ	Sec 20, Twp 29 / Rng 08 E	10	9.7	0.0	0.0	0.1		9.6	GPS (Garmin)
U3 WMZ	Sec 17, 18 / Twp 29 / Rng 08 E	01, 03, 04, 10	24.0	0.0	0.0	0.4		23.6	GPS (Garmin)
U4 WMZ	Sec 17, 18 / Twp 29 / Rng 08 E	01, 03, 04, 10	18.4	0.0	0.0	0.2		18.2	GPS (Garmin)
U5 RMZ	Sec 17, 18 / Twp 29 / Rng 08 E	01	8.1	0.0	0.0	0.0		8.1	GPS (Garmin)
U6 VRH	Sec 7, 18 / Twp 29 / Rng 08 E Sec 13 / Twp 29 / Rng 07 E	01, 03	46.7	0.0	2.5	1.1		43.1	GPS (Garmin)
ROW Unit	Sec 19 / Twp 29 / Rng 08 E	01	0.9	0.0	0.0	0.0		0.9	Lenth x width
TOTAL ACRES			148.0	0.4	2.6	1.8		143.2	

Revised 03/15/2010 (FRCD)

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags. Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees marked with blue paint.		Clumped: 77 Scattered: 29
1 WMZ	Harvest all timber described by the thinning prescription (See REMARKS below) on and beyond the blue special management tag lines, and bounded by white timber sale boundary tags.	Trees with blue "Special Management" tags may be felled only if necessary to meet thinning prescription.	
2 RMZ	Same as above	Same as above	
3 WMZ	Same as above	Same as above	
4 WMZ	Same as above	Same as above	
5 RMZ	Same as above	Same as above	
6 VRH	Variable Retention Harvest (VRH). Take all trees bounded by white "Timber Sale Boundary" tags. Leave tree areas are marked with yellow "Leave Tree Area" tags and individual trees marked with blue paint.		Clumped: 345 Scattered: 20
ROW	Take all trees bounded by orange "Right of Way" tags.		

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1 VRH	Douglas-fir, western hemlock/ 440 MBF	See Driving Directions	See driving and traverse maps
2 WMZ	Douglas-fir, western hemlock/ 180 MBF		
3 WMZ	Douglas-fir, western hemlock/ 110 MBF		

4 WMZ	Douglas-fir, western hemlock/ 200 MBF		
5 RMZ	Douglas-fir, western hemlock/ 70 MBF		
6 VRH	Douglas-fir, western hemlock/ 1000 MBF		
ROW	Douglas-fir, western hemlock/ 50 MBF		
TOTAL MBF	2350 MBF		

REMARKS:

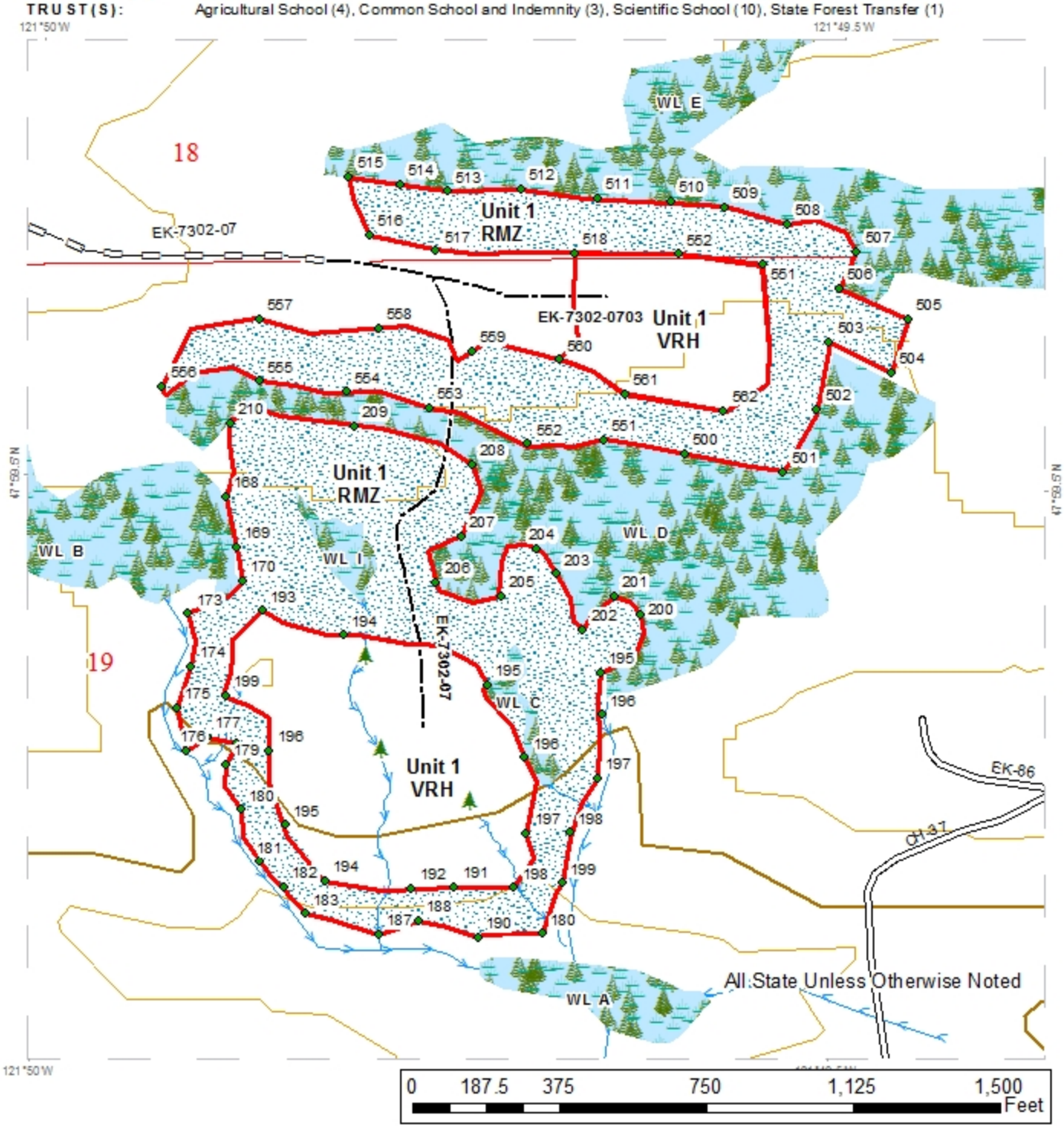
- GPS points are marked with lime and pink flagging.
- Leave Tree Area acreage calculation: GPS (Garmin) points and tracks / GIS
- Existing road acreage calculation: Length of road x ROW Width

  ROW
  620ft long x 60ft wide = 37,000sqft.
  37,000sqft=0.9acres

Prepared By: Shane McKinley Date: 8/16/19	Title: NRS II	CC:

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
TRUST(S):	Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)		



Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Optional Construction
Optional Reconstruction
Leave Tree Area <1/4-acre
Forested Wetland
N

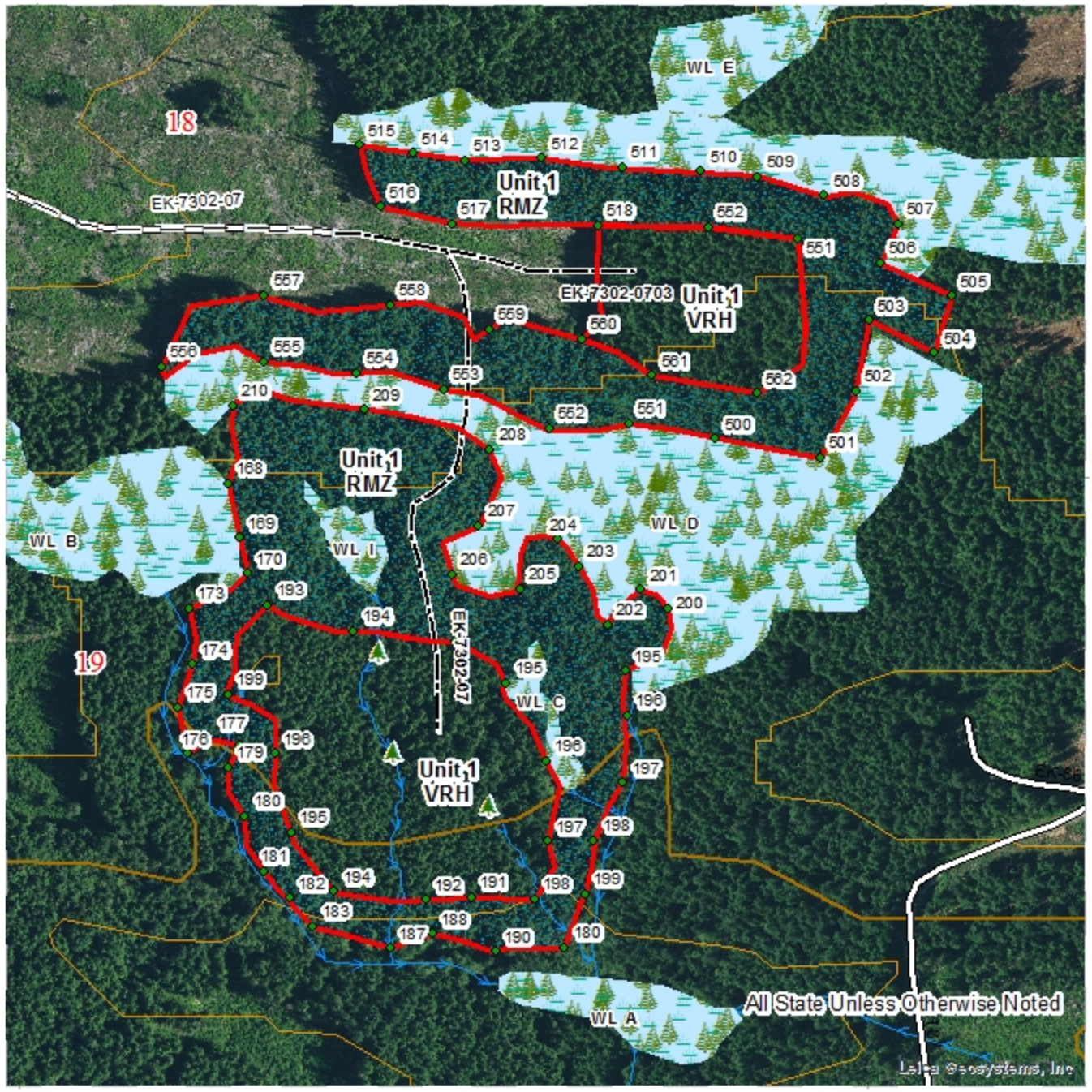
Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
TRUST(S):	Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)		

121°50'W 121°49.5'W



47°59.5'N

121°50'W

0 187.5 375 750 1,125 1,500 Feet

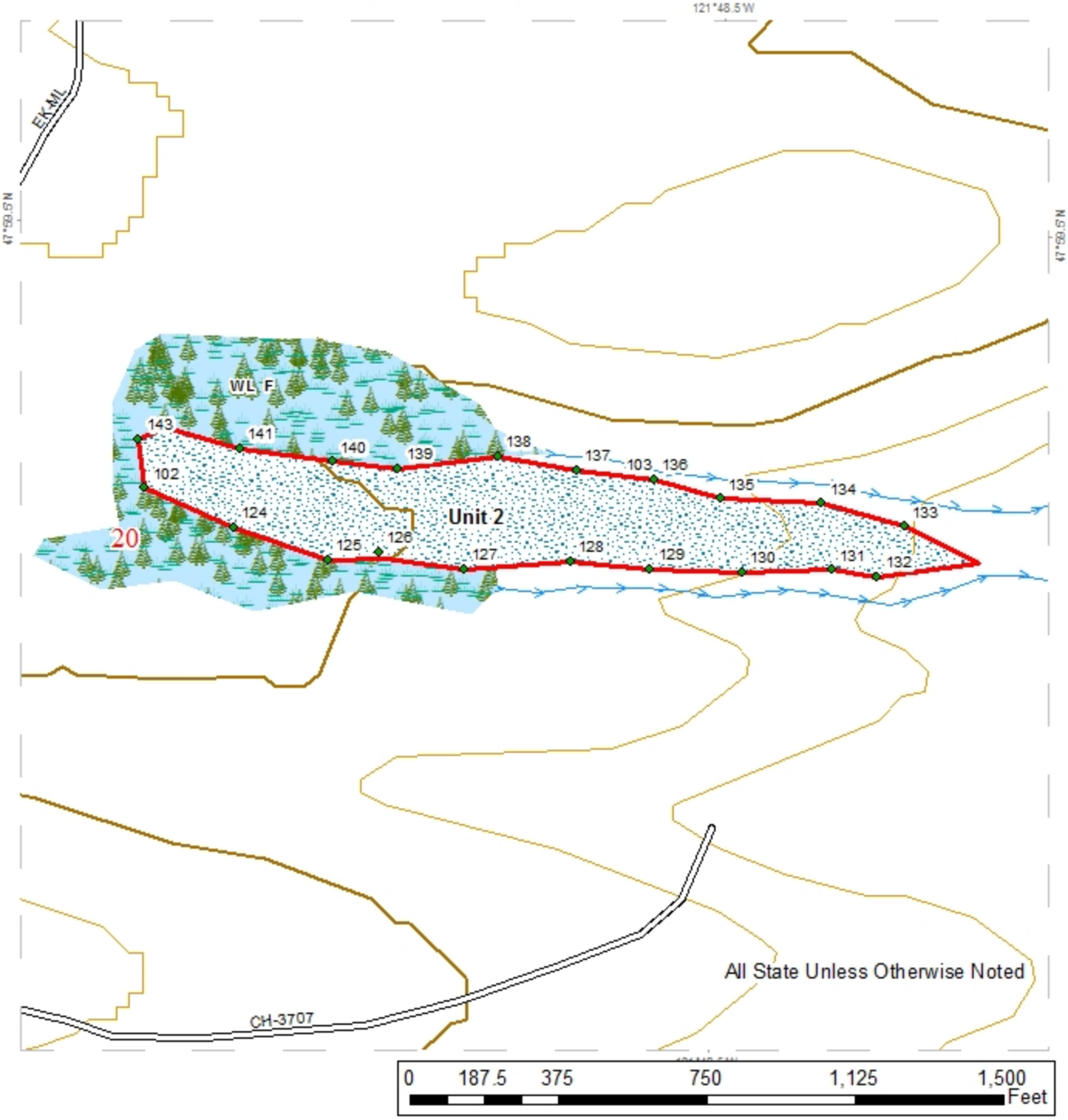
Sale Area	Existing Roads	N
Public Land Survey Townships	Optional Construction	
Public Land Survey Sections	Optional Reconstruction	
Riparian Mgt Zone	Leave Tree Area <1/4-acre	
	Forested Wetland	

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
TRUST(S):	Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)		



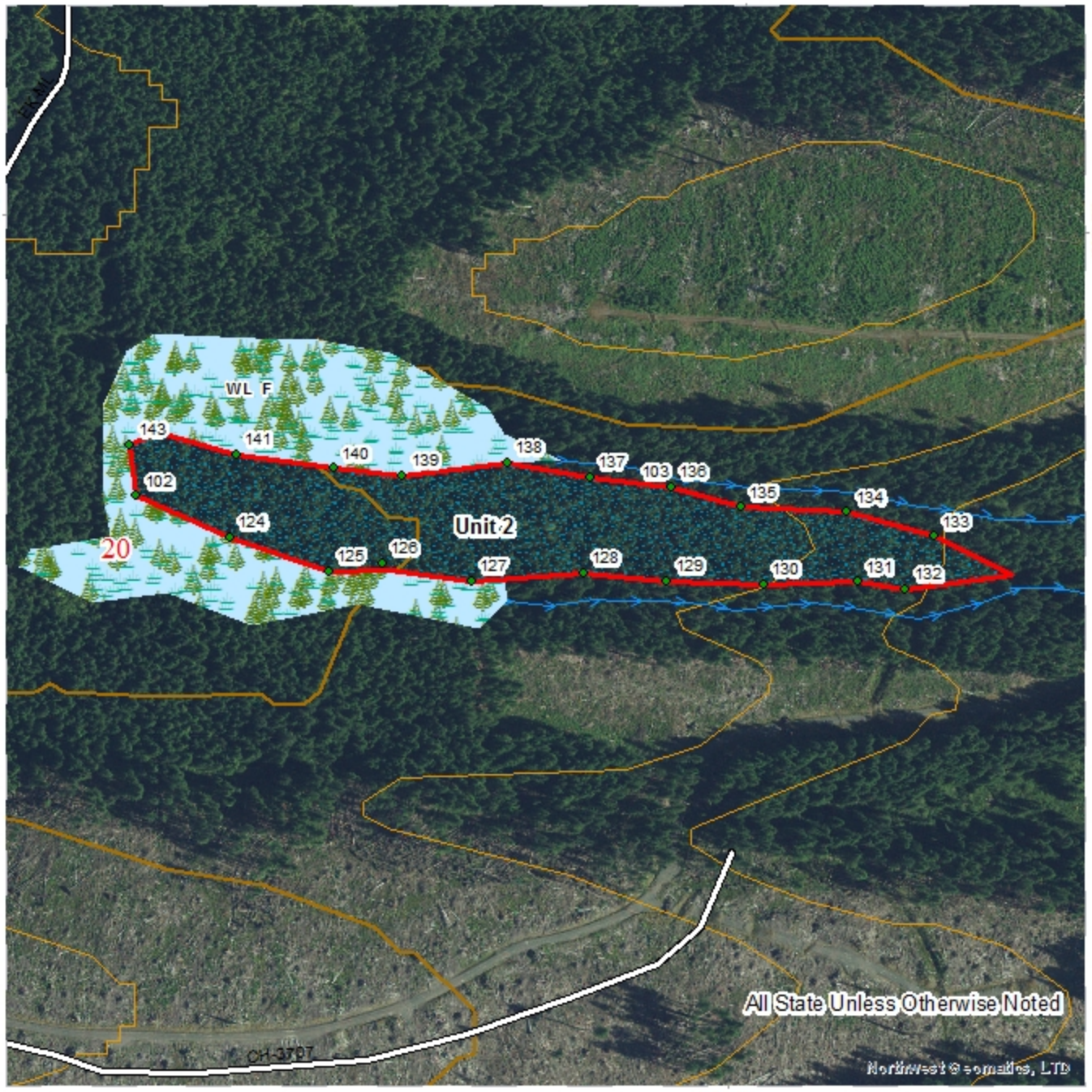
Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Forested Wetland
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
TRUST(S):	Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)		



0 187.5 375 750 1,125 1,500 Feet

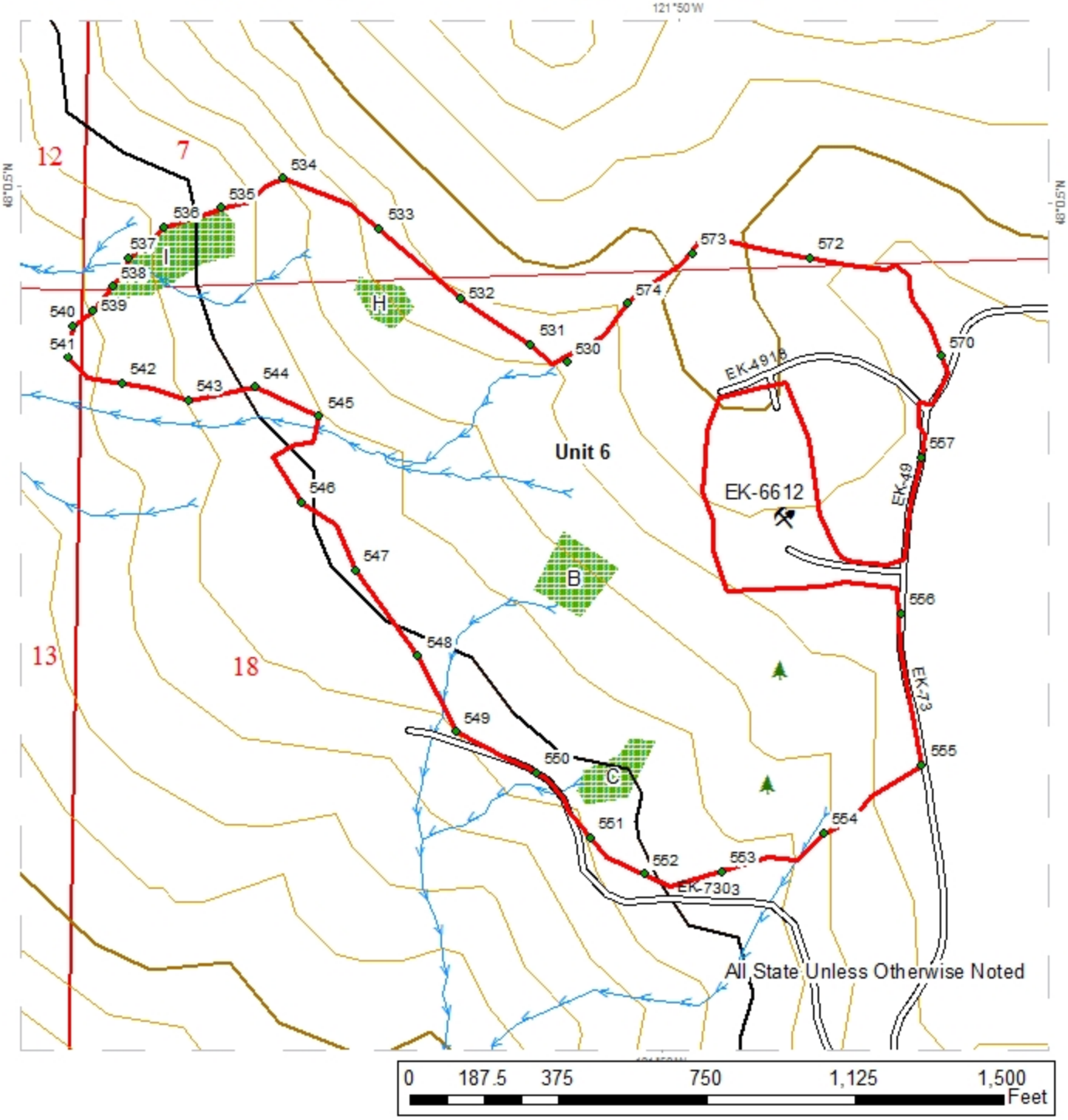
Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Forested Wetland
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
TRUST(S):	Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)		



Sale Area
Public Land Survey Townships
Public Land Survey Sections
Leave Tree Area
Rock Pit
Existing Roads
Leave Tree Area <1/4-acre
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
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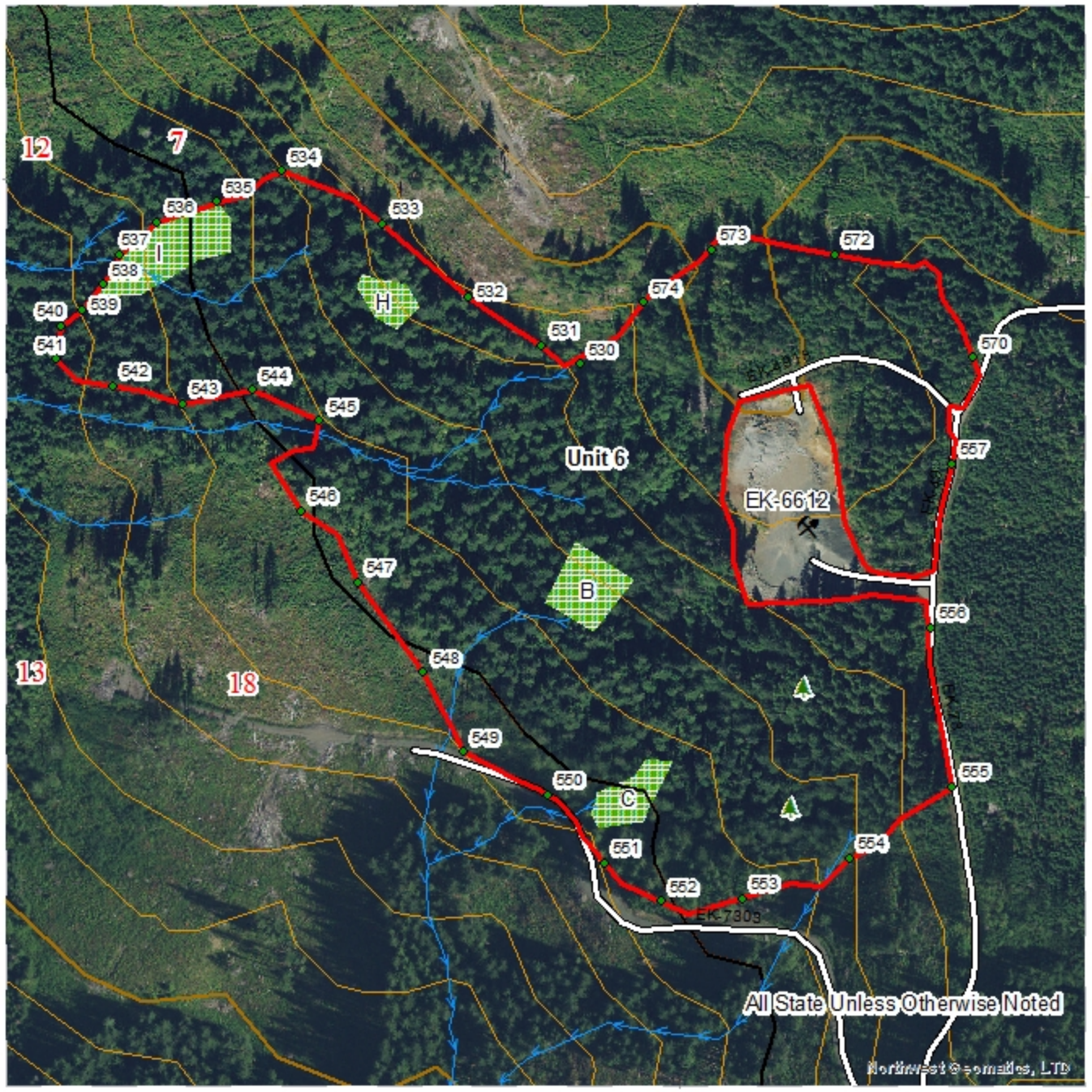

0 187.5 375 750 1,125 1,500 Feet

Sale Area
Public Land Survey Townships
Public Land Survey Sections
Leave Tree Area
Rock Pit
Existing Roads
Leave Tree Area <1/4-acre
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	**REGION:**	Northwest Region
AGREEMENT #:	30-099574	**COUNTY(S):**	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	**ELEVATION RGE:**	1640-2160
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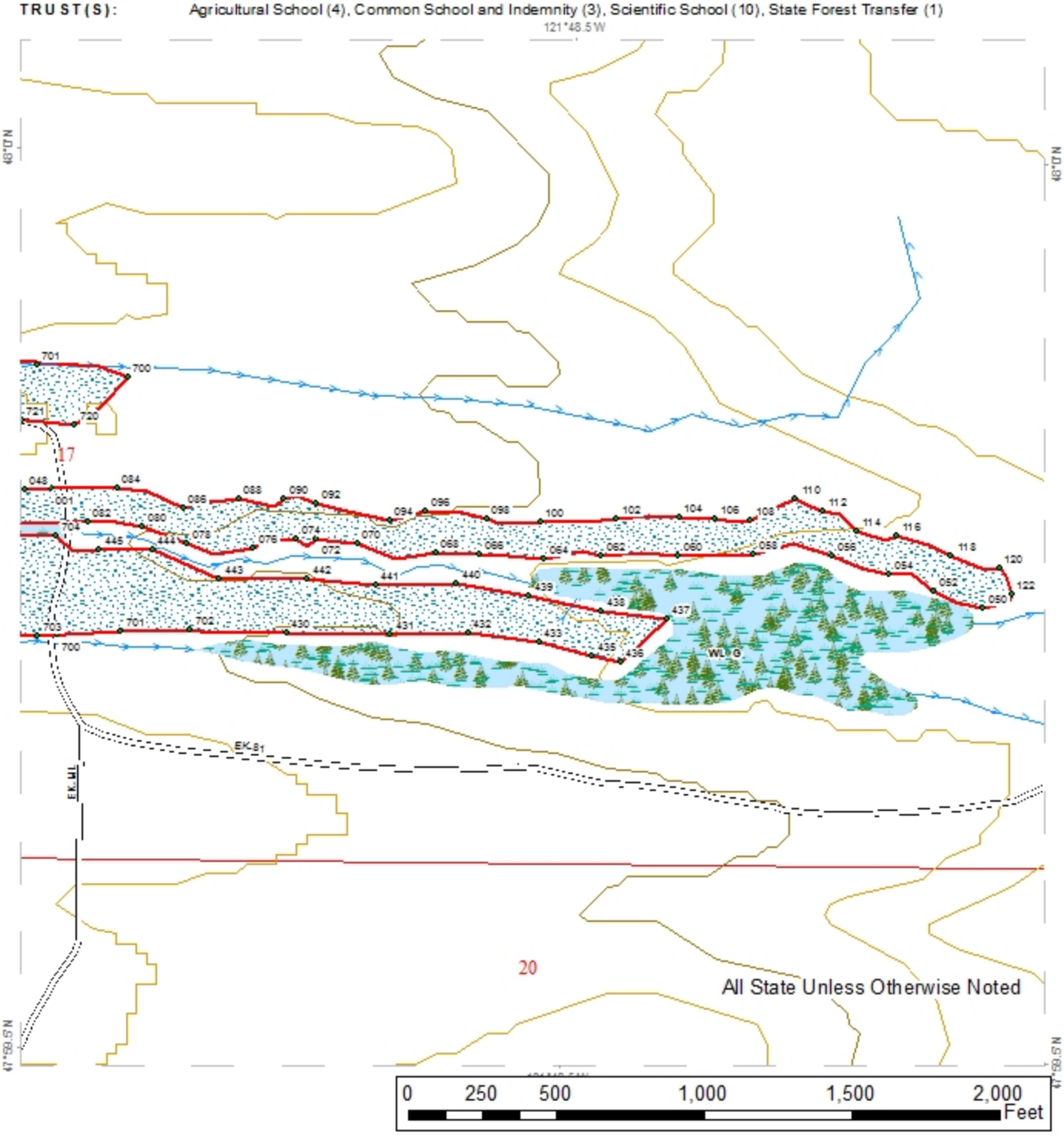

Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Forested Wetland
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
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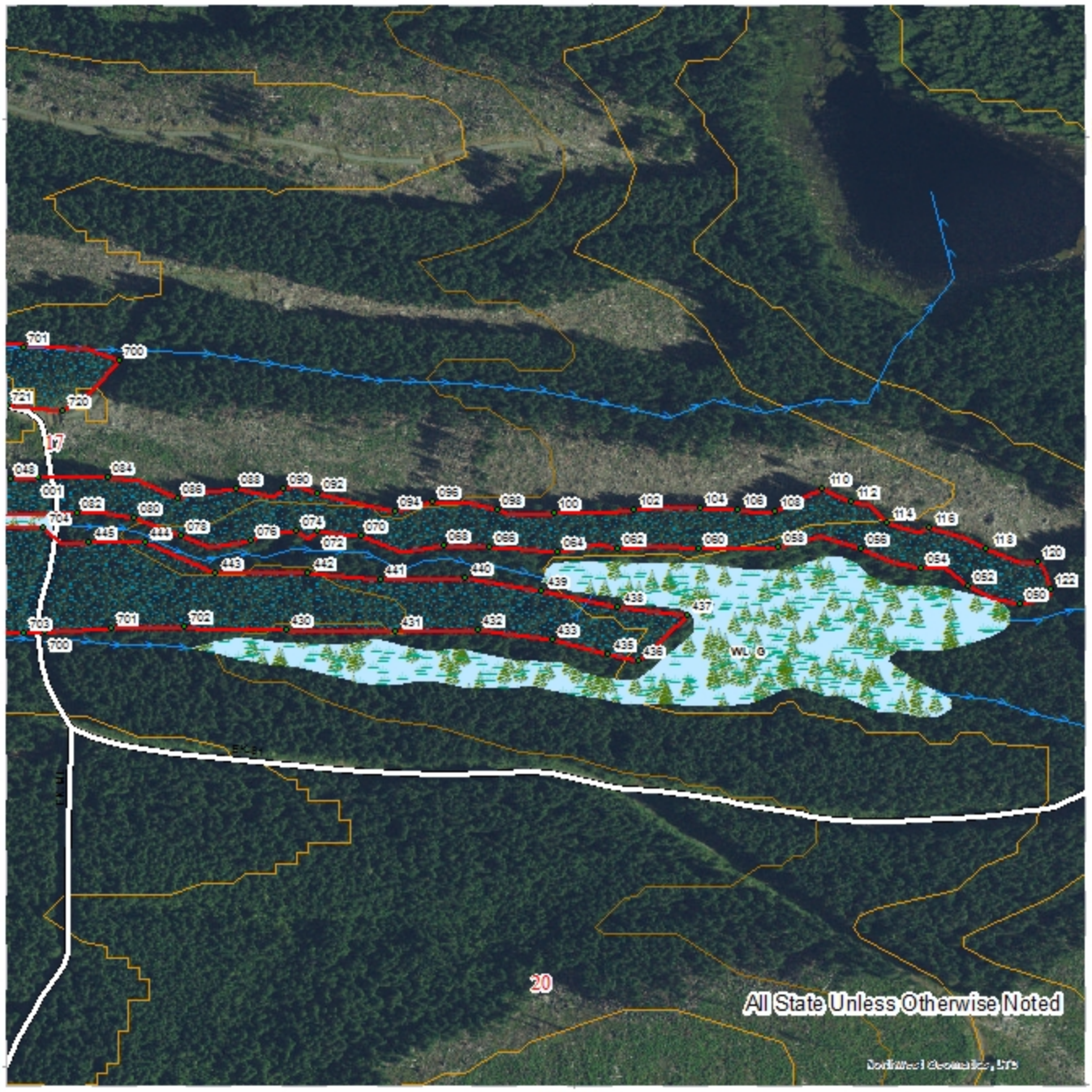

0 250 500 1,000 1,500 2,000 Feet

Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Forested Wetland
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
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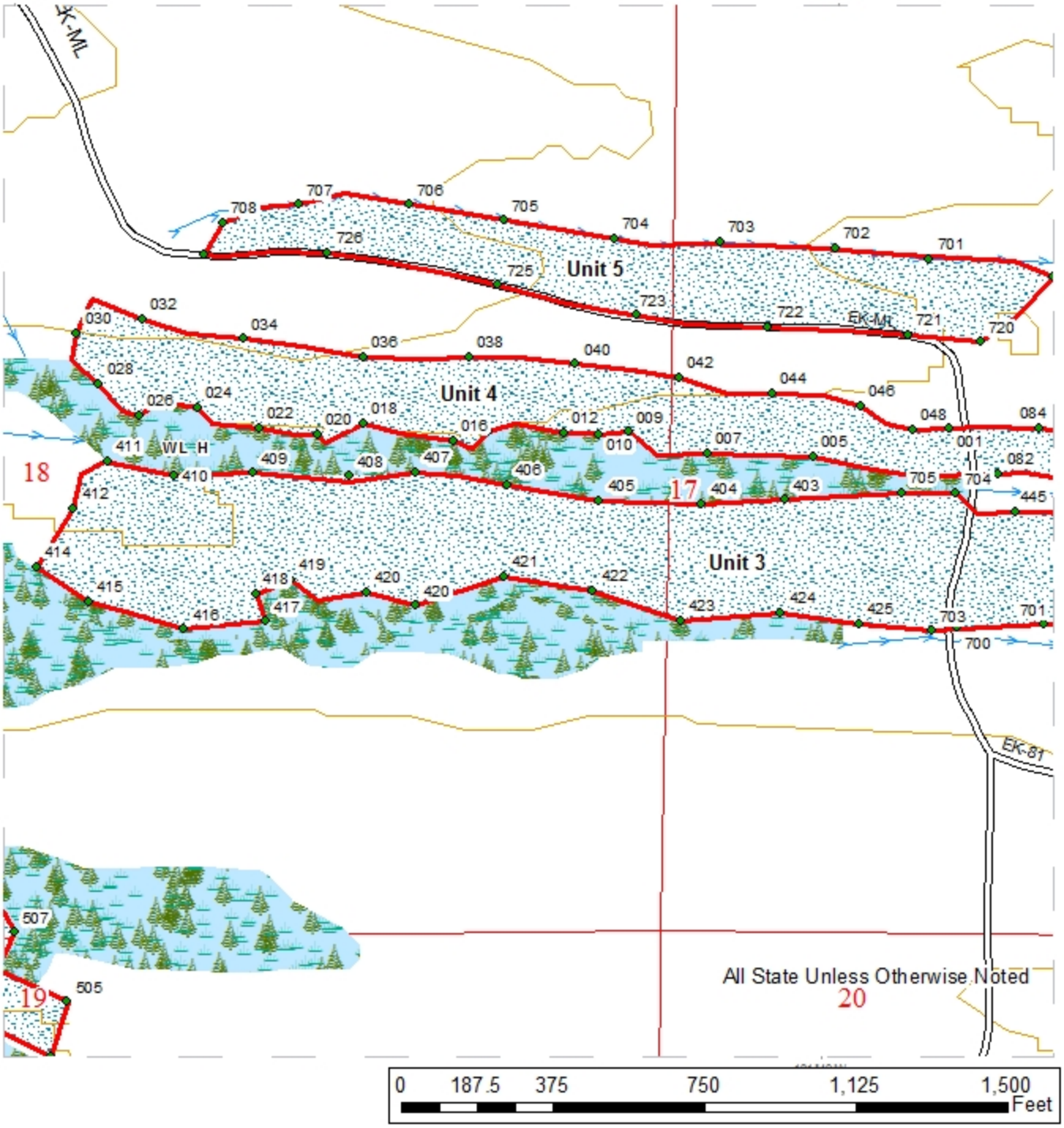

Prepared By: smky490

Modification Date: smky490 8/13/2019

TRAVERSE MAP

SALE NAME:	KITTEN KABOODLE	REGION:	Northwest Region
AGREEMENT #:	30-099574	COUNTY(S):	Snohomish
TOWNSHIP(S):	T29R7E, T29R8E	ELEVATION RGE:	1640-2160
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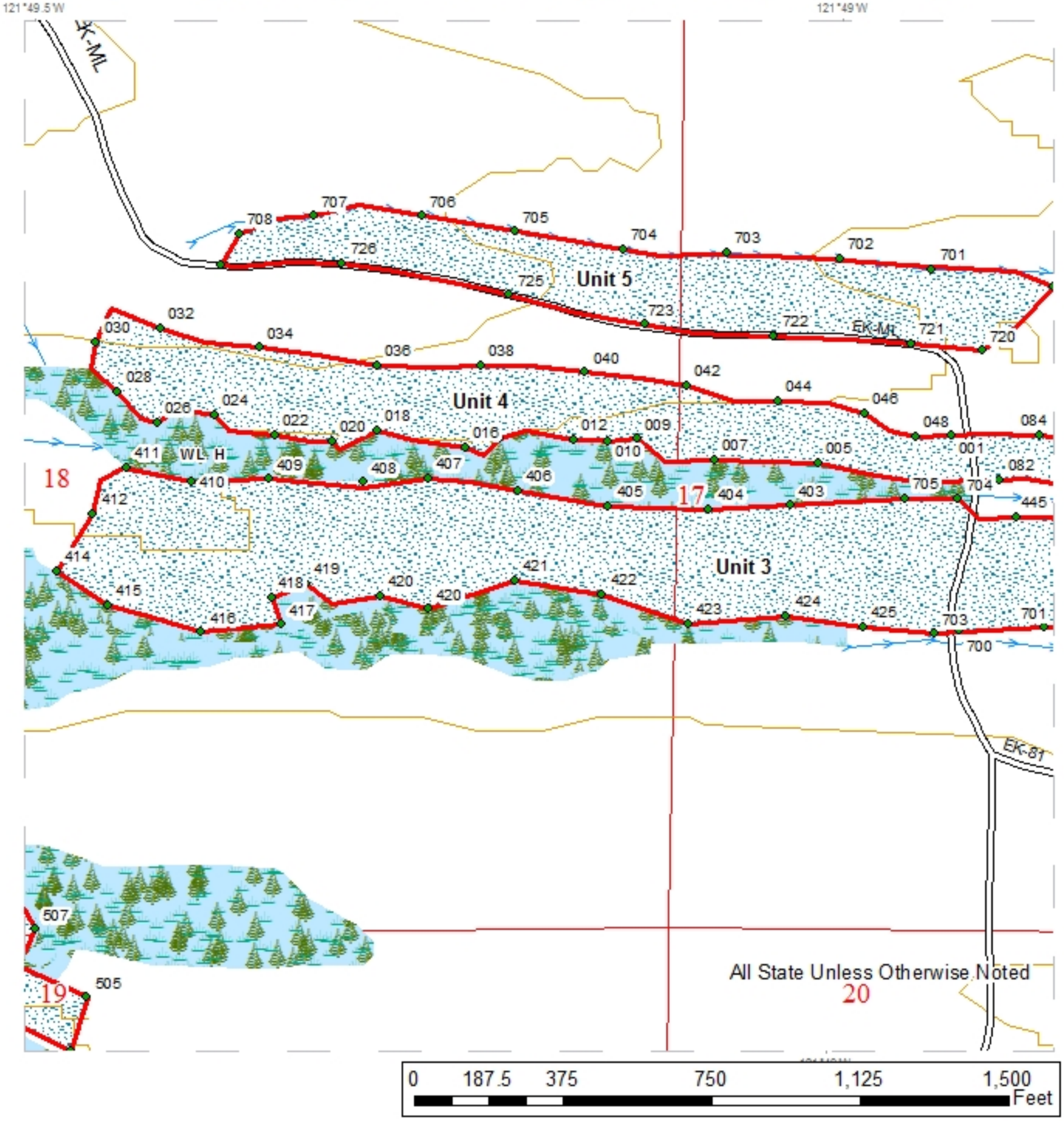

Sale Area
Public Land Survey Townships
Public Land Survey Sections
Riparian Mgt Zone
Existing Roads
Forested Wetland
N

Prepared By: smky490

Modification Date: smky490 8/13/2019

CRUISE NARRATIVE

Sale Name: Kitten Kaboodle	**Region:** Northwest
Agree. #: 30-099574	**District:** Cascade
Lead cruiser: Alan Herrman	**Completion date:** 09/12/2019
Other cruisers on sale: Matt llobet	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1 VRH	13.1	Yes	
1 WMZ	26.2	Yes	Acreage adjusted down by 0.4 ac.
2 RMZ	9.6	No	Units 2, 3, 4, and 5 combined into one cruise unit titled “VDT”.
3 WMZ	23.6	No	Units 2, 3, 4, and 5 combined into one cruise unit titled “VDT”.
4 WMZ	16.9	No	Units 2, 3, 4, and 5 combined into one cruise unit title “VDT”. Acreage adjusted down by 1.3 ac
6 VRH	43.1	Yes	
ROW	0.9	Yes	
Total:	133.4		Unit 5 WMZ dropped and acreage adjustments were made to unit 1WMZ and 4WMZ. (by DR 12/9/19)

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 VRH	VP	54.44	4.5	208 x 208	1:1	13
1 WMZ	VP	46.94	4.5	208 x 208	Cruise all	21
2 RMZ	VP	46.94	4.5	250 x 250	Cruise all	8
3 WMZ	VP	46.94	4.5	250 x 250	Cruise all	19
4 WMZ	VP	46.94	4.5	220 x 220	Cruise all	15
5 RMZ	VP	46.94	4.5	208 x 208	Cruise all	8
6 VRH	VP	46.94	4.5	208 x 208	1:1	43
ROW	FP	1/25 acre	NA	300’	Cruise all	2
Total						129

Sale/Cruise Description:

Minor species cruise intensity:						
Minimum cruise spec:	**Minimum DBH 7 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	**RA** =	
Leave/take tree description:	**Variable Retention Harvest-** Take all trees bounded by blue “Special Management” tags and white “timber sale boundary” tags. Leave tree areas are marked with yellow “Leave Tree Area” tags and /or individual trees marked with one or two bands of blue paint. **Variable Density Thinning/Gap cuts-** See Schedule B. **ROW-** Remove all timber bounded by orange “Right of Way” tags.					

Other conditions:	In cruise reports, take (harvest) trees for all units have a "T" in their status column. Leave (residual) trees in thinning units have an "L" in their status column.
Sort Description:	High quality Douglas-fir logs are labeled "H" or "HB" sorts and meet the following criteria: Surface characteristics for a high quality "H" sort will have sound tight knots not to exceed 1.0" diameter and not number more than one per linear foot. The minimum top diameter for high quality "H" logs is 12.0". Surface characteristics for a high quality "HB" sort will have sound tight knots not to exceed 1.5" in diameter and may include logs with not more than two larger knots up to 2.5" in diameter. The minimum top diameter for high quality "HB" logs is 8.0". High quality logs will have a growth ring count of 6 or more rings per inch in the outer third end of the log.

Field observations:

Kitten Kaboodle is located approximately 9 miles southeast of Granite Falls, WA. It can be reached via Monroe Camp Rd. and the EK-ML forest road.

The sale consists of two Variable Retention Harvest (VRH) units, three WMZ thinning units, two RMZ thinning units, and one Right of Way. Topography is mostly flat except for in Unit 6, which has moderate slopes. Understory conditions are clear except for in Unit 6, which was previously thinned and now has a dense understory of non-merchantable hemlock. The EK-ML forest road provides direct access to most of the sale but Unit 1 requires a short walk on foot to reach.

Unit 1 is composed of two VRH areas surrounded by a WMZ thinning area. It primarily contains western hemlock and western red cedar; with some large Douglas-fir mixed in. Many sampled trees show straight form with clear boles and few observable defects. Approximately 22 mbf of red cedar poles were cruised in unit 1 VDT and fall within thinning parameters.

Units 2, 3, 4, and 5 are long, narrow thinning units that are densely stocked with western hemlock, silver fir, and western red cedar. Defect averages low, however, some frost damage was observed in the hemlock and silver fir.

Unit 6 is a VRH. The dominant tree species are Douglas-fir and western hemlock. When compared with the rest of the sale, trees in this area are larger, wider spaced, and show more defect. Common defects include: spike knots, sway, crooks, and forked tops.

A typical view from within Kitten Kaboodle timber sale.

Western hemlock and western red cedar in Unit 1 VRH.

Silver fir and western hemlock in Unit 3 WMZ.

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T29N R08E S19 Ty1ROW
THRU
T29N R08E S19 TyVDT

Project: **KABOODLE**

Acres **133.40**

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Date **12/9/2019**
Time **2:23:50PM**

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RC	L	D	3S	54	4.5	1,635	1,562	208	9	57	31	2		23	0	76	34	10	119	1.24	13.2
RC	L	D	4S	46	.7	1,310	1,301	174	98	2			10	46	19	25	28	5	32	0.34	40.8
RC	**Totals**			7	2.8	2,945	2,863	382	50	32	17	1	4	34	9	53	29	6	53	0.60	54.0
RC	T	D	3S	69	2.7	1,156	1,125	150	29	34	36			14	1	85	35	8	93	1.00	12.1
RC	T	D	4S	31	1.7	502	494	66	98	2			14	42	11	32	26	5	31	0.37	16.1
RC	**Totals**			4	2.4	1,658	1,619	216	50	24	25		4	23	4	69	30	7	57	0.68	28.2
WH	T	D	2S	36	2.7	5,867	5,707	761			88	12		3	1	95	38	15	313	1.84	18.2
WH	T	D	3S	44	.6	6,829	6,788	906	27	73				1	1	98	39	8	95	0.64	71.5
WH	T	D	4S	16		2,525	2,525	337	98	2			10	24	14	51	30	5	34	0.29	74.5
WH	T	D	UT	4		504	504	67	71	13	16		74	9	5	13	17	6	23	0.27	22.3
WH	**Totals**			37	1.3	15,724	15,524	2,071	30	33	33	4	4	6	3	87	33	7	83	0.62	186.5
WH	L	D	2S	39	1.8	4,550	4,470	596			96	4	1	2	1	96	38	14	262	1.60	17.0
WH	L	D	3S	48	.9	5,505	5,457	728	11	89					1	99	39	9	117	0.78	46.6
WH	L	D	4S	11	.4	1,242	1,237	165	99	1			12	13	21	53	31	5	35	0.33	35.3
WH	L	D	UT	2		184	184	25	8	16	64	12	63	31		5	17	12	90	1.29	2.0
WH	**Totals**			27	1.2	11,481	11,347	1,514	16	43	39	2	3	3	3	91	36	8	112	0.79	101.0
DF	T	HB	2S	2	7.1	178	166	22			100					100	39	15	335	2.05	.5
DF	T	HB	3S	1		69	69	9		100						100	40	10	150	0.81	.5
DF	T	D	2S	81	4.0	5,093	4,889	652			54	46		2		98	39	17	488	2.72	10.0
DF	T	D	3S	8	1.2	525	518	69		100			4	9	9	79	35	10	124	0.93	4.2
DF	T	D	4S	4	1.8	211	207	28	59	41			24	49	8	19	26	7	41	0.50	5.0
DF	T	D	UT	2		152	152	20			22	78	22			78	19	15	237	2.54	.6
DF	T	H	2S	2		87	87	12			100					100	39	15	330	1.97	.3
DF	**Totals**			15	3.6	6,315	6,088	812	2	11	48	39	2	4	1	93	35	13	289	1.88	21.1
DF	L	HB	2S	27	1.6	279	275	37			100					100	39	14	309	1.87	.9
DF	L	HB	3S	7		65	65	9		100						100	38	10	131	0.89	.5
DF	L	D	2S	29	4.5	305	291	39			100					100	39	14	283	1.78	1.0
DF	L	D	3S	24	.7	240	239	32	28	72					4	96	37	8	100	0.73	2.4
DF	L	D	4S	7		71	71	9	95	5			37	33		30	26	6	30	0.35	2.3
DF	L	H	2S	6		50	50	7			100					100	36	14	260	1.63	.2
DF	**Totals**			2	2.0	1,009	989	132	14	24	62		3	2	1	94	34	9	135	1.00	7.3
SS	L	D	2S	66	5.7	147	138	18			100					100	39	17	417	2.32	.3
SS	L	D	3S	27	2.4	58	57	8		100						100	40	9	126	0.90	.5
SS	L	D	4S	7		14	14	2	66	34				34	66		31	6	35	0.38	.4
SS	**Totals**			0	4.5	219	209	28	4	30	66			2	4	93	36	10	176	1.17	1.2
SS	T	D	2S	85		103	103	14			100					100	40	14	299	1.66	.3
SS	T	D	3S	6	10.0	9	8	1		100						100	36	9	90	1.19	.1
SS	T	D	4S	9		10	10	1	100							100	39	5	40	0.46	.3
SS	**Totals**			0	.7	122	122	16	9	6	85					100	39	10	176	1.16	.7
SF	T	D	2S	51	2.7	1,693	1,648	220			100					100	38	14	301	1.77	5.5
SF	T	D	3S	37	1.3	1,217	1,201	160	13	87					1	99	38	9	114	0.76	10.5

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T29N R08E S19 Ty1ROW
THRU
T29N R08E S19 TyVDT

Project: **KABOODLE**

Acres **133.40**

Page **2**
Date **12/9/2019**
Time **2:23:50PM**

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
SF	T	D 4S	11	1.3	345	341	45	95	5			23	20	9	48	28	6	35	0.35	9.7
SF	T	D UT	1		19	19	3	100				100				14	5	11	0.18	1.7
SF	**Totals**		8	2.0	3,274	3,209	428	16	33	51		3	2	1	93	33	9	117	0.85	27.5
Totals				1.8	42,748	41,969	5,599	23	32	38	8	3	7	3	87	33	8	98	0.76	427.5

Total take volume: 3,543 mbf
Acreage adjusted 12/9/2019

TC PSTATS

PROJECT STATISTICS

PROJECT KABOODLE

DATE 12/9/2019

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1RO	THR	133.40	129	796	S	W
29N	08E	19	KITTEN	VDT						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	129	796	6.2		
CRUISE	103	659	6.4	28,506	2.3
DBH COUNT					
REFOREST COUNT	24	127	5.3		
BLANKS	2				
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	203	45.6	17.2	84	17.7	73.1	11,481	11,347	2,853	2,853
WHEMLOCK-T	202	93.5	14.1	74	27.1	101.9	15,724	15,524	3,791	3,791
WR CEDAR-L	84	33.8	13.4	55	9.1	33.2	2,945	2,863	944	944
WR CEDAR-T	53	16.6	15.2	60	5.4	20.9	1,658	1,619	577	577
DOUG FIR-L	16	3.1	19.5	84	1.5	6.4	1,009	989	249	249
DOUG FIR-T	42	7.9	27.3	97	6.2	32.2	6,315	6,088	1,374	1,374
PS FIR-T	54	12.3	16.9	79	4.7	19.2	3,274	3,209	776	776
S SPRUCE-L	3	.5	19.6	84	0.3	1.1	219	209	51	51
S SPRUCE-T	2	.3	20.1	81	0.2	.8	122	122	31	31
TOTAL	*659*	*213.7*	*15.7*	*73*	*72.8*	*288.9*	*42,748*	*41,969*	*10,645*	*10,646*

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	COEFF VAR.%	S.E.%	SAMPLE TREES - BF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-L	54.5	3.8	281	292	303			
WHEMLOCK-T	99.5	7.0	216	233	249			
WR CEDAR-L	77.7	8.5	138	150	163			
WR CEDAR-T	103.9	14.3	123	144	164			
DOUG FIR-L	50.9	13.1	342	394	445			
DOUG FIR-T	45.2	7.0	851	915	978			
PS FIR-T	51.4	7.0	340	366	391			
S SPRUCE-L	71.3	49.3	270	533	796			
S SPRUCE-T	68.4	64.1	167	465	763			
TOTAL	*92.5*	*3.6*	*283*	*294*	*304*	*342*	*86*	*38*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	SAMPLE TREES - CF LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-L	46.9	3.3	70	73	75			
WHEMLOCK-T	90.1	6.3	53	56	60			
WR CEDAR-L	82.8	9.0	49	54	58			
WR CEDAR-T	94.5	13.0	41	47	53			
DOUG FIR-L	44.1	11.4	87	98	109			
DOUG FIR-T	40.6	6.3	192	205	217			
PS FIR-T	47.2	6.4	81	87	92			
S SPRUCE-L	61.6	42.6	71	124	177			
S SPRUCE-T	62.3	58.3	49	117	185			
TOTAL	*80.6*	*3.1*	*71*	*74*	*76*	*259*	*65*	*29*

CL 68.1 SD: 1.0	COEFF VAR.%	S.E.%	TREES/ACRE LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-L	137.7	12.1	40	46	51			
WHEMLOCK-T	93.9	8.3	86	93	101			
WR CEDAR-L	221.0	19.4	27	34	40			
WR CEDAR-T	229.0	20.1	13	17	20			

PROJECT STATISTICS

PROJECT **KABOODLE**

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1RO	THR	133.40	129	796	S	W
29N	08E	19	KITTEN	VDT						

CL 68.1	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-L	312.8	27.5	2	3	4			
DOUG FIR-T	187.6	16.5	7	8	9			
PS FIR-T	269.3	23.7	9	12	15			
S SPRUCE-L	732.5	64.4	0	1	1			
S SPRUCE-T	898.1	79.0	0	0	1			
TOTAL	*63.6*	*5.6*	*202*	*214*	*226*	*162*	*40*	*18*

CL 68.1	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	135.7	11.9	64	73	82			
WHEMLOCK-T	81.1	7.1	95	102	109			
WR CEDAR-L	185.1	16.3	28	33	39			
WR CEDAR-T	222.5	19.6	17	21	25			
DOUG FIR-L	290.3	25.5	5	6	8			
DOUG FIR-T	169.3	14.9	27	32	37			
PS FIR-T	229.3	20.2	15	19	23			
S SPRUCE-L	654.4	57.6	0	1	2			
S SPRUCE-T	802.4	70.6	0	1	1			
TOTAL	*35.8*	*3.2*	*280*	*289*	*298*	*51*	*13*	*6*

CL 68.1	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	138.1	12.1	9,969	11,347	12,726			
WHEMLOCK-T	89.1	7.8	14,307	15,524	16,740			
WR CEDAR-L	191.5	16.8	2,380	2,863	3,345			
WR CEDAR-T	226.0	19.9	1,297	1,619	1,941			
DOUG FIR-L	310.0	27.3	719	989	1,259			
DOUG FIR-T	169.7	14.9	5,179	6,088	6,998			
PS FIR-T	228.2	20.1	2,565	3,209	3,853			
S SPRUCE-L	669.9	58.9	86	209	333			
S SPRUCE-T	800.3	70.4	36	122	207			
TOTAL	*38.0*	*3.3*	*40,567*	*41,969*	*43,372*	*58*	*14*	*6*

CL 68.1	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	137.0	12.0	2,509	2,853	3,197			
WHEMLOCK-T	86.9	7.6	3,501	3,791	4,081			
WR CEDAR-L	184.6	16.2	790	944	1,097			
WR CEDAR-T	232.3	20.4	459	577	695			
DOUG FIR-L	297.4	26.2	184	249	314			
DOUG FIR-T	169.1	14.9	1,169	1,374	1,578			
PS FIR-T	228.4	20.1	620	776	932			
S SPRUCE-L	658.8	58.0	21	51	80			
S SPRUCE-T	802.9	70.6	9	31	54			
TOTAL	*36.4*	*3.2*	*10,305*	*10,646*	*10,986*	*53*	*13*	*6*

CL 68.1	COEFF		**V_BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	138.1	12.1	136	155	174			
WHEMLOCK-T	31.9	2.8	140	152	164			
WR CEDAR-L	191.5	16.8	72	86	101			
WR CEDAR-T	209.5	18.4	62	78	93			
DOUG FIR-L	310.0	27.3	112	154	196			
DOUG FIR-T	66.2	5.8	161	189	217			
PS FIR-T	228.2	20.1	133	167	201			
S SPRUCE-L	669.9	58.9	75	183	291			
S SPRUCE-T	800.8	70.4	47	159	271			
TOTAL	*37.4*	*3.3*	*140*	*145*	*150*	*56*	*14*	*6*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: KABOODLE

Date 12/9/2019

Time 2:23:51PM

T29N R08E S19 T1ROW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	08E	19	KITTEN	1ROW	.90	2	28	S	W

T29N R08E S19 T1ROW

Spp	St	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	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	19		5,000	5,000	4			100					100	40	16	400	2.27	12.5
WH	T	D	3S	48	1.0	12,750	12,625	11	24	76						100	38	8	92	0.58	137.5
WH	T	D	4S	29		7,625	7,625	7	75	25			11		18	70	33	6	47	0.35	162.5
WH	T	D	UT	4		1,000	1,000	1	50	50			100				13	6	20	0.43	50.0
WH T Totals				67	.5	26,375	26,250	24	35	46	19		7		5	88	33	7	72	0.53	362.5
RC	T	D	3S	32		3,000	3,000	3	67	33				42		58	33	7	60	0.57	50.0
RC	T	D	4S	68	2.0	6,375	6,250	6	100				8	64	20	8	26	5	29	0.30	212.5
RC T Totals				24	1.3	9,375	9,250	8	89	11			5	57	14	24	28	6	35	0.36	262.5
DF	T	D	3S	28		1,000	1,000	1		100						100	36	8	80	0.57	12.5
DF	T	D	4S	7		250	250	0	100					100			21	5	20	0.24	12.5
DF	T	H	2S	65		2,250	2,250	2			100					100	36	12	180	1.28	12.5
DF T Totals				9		3,500	3,500	3	7	29	64			7		93	31	8	93	0.77	37.5
Type Totals					.6	39,250	39,000	35	46	36	19		6	14	7	73	31	6	59	0.48	662.5

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: KABOODLE

Date 12/9/2019

Time 2:23:51PM

T29N R08E S19 T1VDT

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	08E	19	KITTEN	1VDT	26.20	21	132	S	W

T29N R08E S19 T1VDT

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	20+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RC	L	D	3S	43	5.5	3,787	3,579	94	18	54	26	2		33	1	66	34	9	108	1.07	33.2
RC	L	D	4S	57	.3	4,751	4,738	124	99	1			11	40	15	34	28	5	32	0.32	149.9
RC L Totals				23	2.6	8,538	8,318	218	65	23	11	1	6	37	9	48	29	6	45	0.48	183.0
RC	T	D	3S	57	1.8	1,957	1,923	50	42	58				32		68	34	8	65	0.75	29.4
RC	T	D	4S	43	1.9	1,454	1,426	37	100				18	47	4	31	25	5	31	0.37	46.6
RC T Totals				9	1.8	3,411	3,349	88	67	33			8	38	2	53	29	6	44	0.54	76.0
WH	T	D	2S	5		763	763	20			100				32	68	35	13	196	1.29	3.9
WH	T	D	3S	70	.7	9,325	9,260	243	27	73					1	99	38	8	96	0.63	96.2
WH	T	D	4S	20		2,741	2,741	72	100				11	22	18	49	30	5	32	0.28	86.7
WH	T	D	UT	5	.0	557	557	15	43	16	41		83	17			16	6	24	0.33	22.8
WH T Totals				37	.5	13,385	13,319	349	41	52	7		6	5	6	83	32	7	64	0.49	209.6
WH	L	D	2S	72	.7	4,996	4,960	130			93	7				100	37	14	289	1.68	17.2
WH	L	D	3S	21		1,433	1,433	38	16	84					5	95	37	8	96	0.75	14.9
WH	L	D	4S	3		222	222	6	87	13			79			21	21	6	24	0.37	9.1
WH	L	D	UT	4		214	214	6			47	53	100				12	20	211	3.82	1.0
WH L Totals				19	.5	6,865	6,829	179	6	18	69	7	6		1	93	33	10	162	1.15	42.2
DF	L	HB	2S	24	1.8	817	802	21			100					100	37	16	351	2.11	2.3
DF	L	HB	3S	10		329	329	9		100						100	38	10	131	0.89	2.5
DF	L	D	2S	29	1.6	971	955	25			100					100	38	15	315	1.82	3.0
DF	L	D	3S	22	1.1	751	743	19	26	74					6	94	36	9	104	0.76	7.1
DF	L	D	4S	7		228	228	6	100				58	15		27	24	6	28	0.34	8.3
DF	L	H	2S	8		254	254	7			100					100	36	14	260	1.63	1.0
DF L Totals				9	1.1	3,349	3,311	87	13	26	61		4	1	1	94	32	9	137	1.01	24.2
SF	T	D	2S	47		295	295	8			100					100	36	15	320	1.82	.9
SF	T	D	3S	21		129	129	3		100						100	36	10	140	0.89	.9
SF	T	D	4S	32		195	195	5	100					14		86	37	5	38	0.34	5.1
SF T Totals				2		618	618	16	32	21	48			4		96	37	7	89	0.61	6.9
SS	L	D	2S	74	13.0	327	285	7			100					100	40	17	400	2.36	.7
SS	L	D	3S	26	6.7	107	100	3		100						100	40	10	140	1.06	.7
SS L Totals				1	11.5	434	384	10		26	74					100	40	14	270	1.71	1.4
Type Totals					1.3	36,599	36,129	947	39	34	25	2	6	14	5	75	31	7	66	0.58	543.4

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: KABOODLE

Date 12/9/2019

Time 2:23:51PM

T29N R08E S19 T1VRH

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	08E	19	KITTEN	1VRH	13.10	13	40	S	W

T29N R08E S19 T1VRH

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	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	39	2.2	15,409	15,063	197			88	12				100	38	14	277	1.57	54.3
WH	T	D	3S	47	1.1	17,890	17,701	232	14	86				1		99	38	9	112	0.70	157.6
WH	T	D	4S	12		4,518	4,518	59	97	3			25	28		47	28	5	30	0.31	149.1
WH	T	D	UT	2		631	631	8	52	48			100				12	6	13	0.37	48.1
WH T Totals				73	1.4	38,448	37,913	497	19	41	35	5	5	4		92	31	8	93	0.70	409.1
RC	T	D	3S	72	4.1	3,810	3,652	48	36	40	24					100	36	8	82	1.02	44.4
RC	T	D	4S	28	1.8	1,407	1,382	18	100				10	33	24	33	27	5	29	0.34	47.6
RC T Totals				10	3.5	5,217	5,034	66	54	29	18		3	9	7	82	31	6	55	0.72	92.0
DF	T	HB	2S	7		660	660	9			100					100	36	16	360	2.27	1.8
DF	T	HB	3S	9		704	704	9		100						100	40	10	150	0.81	4.7
DF	T	D	2S	46	5.5	4,118	3,890	51			82	18				100	39	15	350	2.07	11.1
DF	T	D	3S	20	2.2	1,686	1,649	22		100						100	39	10	134	0.83	12.3
DF	T	D	4S	9		720	720	9	93	7			14	30		56	31	6	39	0.38	18.4
DF	T	H	2S	9		733	733	10			100					100	40	16	400	2.27	1.8
DF T Totals				16	3.1	8,620	8,356	109	8	29	55	8	1	3		96	36	10	167	1.09	50.2
SS	T	D	2S	83		531	531	7			100					100	40	12	200	1.18	2.7
SS	T	D	4S	17		106	106	1	100							100	39	5	40	0.46	2.7
SS T Totals				1	.0	638	638	8	17		83					100	40	9	120	0.83	5.3
Type Totals					1.9	52,924	51,942	680	21	38	37	5	4	4	1	92	32	8	93	0.74	556.6

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: KABOODLE

Date 12/9/2019

Time 2:23:51PM

T29N R08E S19 T6VRH

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	08E	19	KITTEN	6VRH	43.10	43	99	S	W

T29N R08E S19 T6VRH

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	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	72	3.0	12,906	12,518	540			88	12		5	1	94	38	15	336	1.98	37.3
WH	T	D	3S	24	.7	4,220	4,192	181	25	75				3	1	96	39	8	101	0.80	41.5
WH	T	D	4S	3		542	542	23	100				20	43	8	29	26	6	30	0.37	17.9
WH	T	D	UT	1		118	118	5			100		100				12	18	160	2.45	.7
WH T Totals				49	2.3	17,786	17,370	749	9	18	64	9	1	6	1	92	36	10	178	1.23	97.4
DF	T	HB	2S	1	11.1	352	313	13			100					100	40	15	320	1.93	1.0
DF	T	D	2S	86	3.9	14,511	13,949	601			51	49		3		97	39	17	505	2.80	27.6
DF	T	D	3S	7	.8	1,091	1,082	47		100			5	13	13	68	33	10	121	0.99	8.9
DF	T	D	4S	3	2.8	430	418	18	41	59			30	59	12		23	8	43	0.59	9.7
DF	T	D	UT	3		470	470	20			22	78	22			78	19	15	237	2.54	2.0
DF T Totals				46	3.7	16,853	16,231	700	1	8	47	44	2	5	1	92	34	14	330	2.16	49.2
RC	T	D	3S	91	2.3	1,168	1,140	49	8	4	88			9	3	88	35	12	230	1.92	5.0
RC	T	D	4S	9		110	110	5	73	27			9	18	10	63	32	6	40	0.56	2.7
RC T Totals				4	2.1	1,278	1,251	54	14	6	80		1	10	4	86	34	10	162	1.46	7.7
SS	T	D	2S	86		159	159	7			100					100	40	19	600	3.12	.3
SS	T	D	3S	14	10.0	26	24	1		100						100	36	9	90	1.19	.3
SS T Totals				1	1.4	185	183	8		13	87					100	38	14	345	2.21	.5
SF	T	D	2S	64		125	125	5			100					100	36	12	180	1.18	.7
SF	T	D	3S	28		55	55	2		100						100	36	8	80	0.57	.7
SF	T	D	4S	8		14	14	1	100				100				16	5	20	0.24	.7
SF T Totals				1		194	194	8	7	29	64		7			93	29	8	93	0.76	2.1
Type Totals					2.9	36,296	35,229	1,518	6	13	57	25	2	5	1	92	35	12	224	1.52	157.0

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: KABOODLE

Date 12/9/2019

Time 2:23:51PM

T29N R08E S19 TVDT

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
29N	08E	19	KITTEN	VDT	50.10	50	360	S	W

T29N R08E S19 TVDT

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-19	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	34	2.1	9,504	9,308	466			97	3	1	3	1	95	38	14	256	1.58	36.4
WH	L	D	3S	52	.9	13,908	13,780	690	11	89					1	99	39	9	118	0.78	116.4
WH	L	D	4S	12	.4	3,191	3,178	159	99	1			10	14	22	54	32	5	36	0.33	89.3
WH	L	D	UT	2	.0	377	377	19	11	21	69		53	41		7	17	11	77	1.10	4.9
WH L Totals				55	1.2	26,980	26,643	1,335	18	46	35	1	2	3	3	91	36	8	108	0.76	246.9
WH	T	D	3S	52		4,771	4,771	239	40	60				1	2	97	39	7	78	0.52	60.8
WH	T	D	4S	39		3,504	3,504	176	99	1			4	23	17	56	32	5	37	0.27	95.6
WH	T	D	UT	9		766	766	38	95	5			60	9	9	22	20	5	23	0.20	33.3
WH T Totals				19		9,041	9,041	453	67	33			7	10	8	75	32	6	48	0.36	189.8
SF	T	D	2S	51	2.8	4,247	4,126	207			100					100	38	15	305	1.79	13.5
SF	T	D	3S	38	1.3	3,125	3,083	154	14	86					1	99	38	9	114	0.76	26.9
SF	T	D	4S	10	1.5	805	793	40	94	6			25	21	11	44	28	6	35	0.35	22.7
SF	T	D	UT	1		51	51	3	100				100				14	5	11	0.18	4.6
SF T Totals				17	2.1	8,227	8,053	403	15	34	51		3	2	1	93	33	9	119	0.87	67.7
RC	L	D	3S	69	3.7	2,373	2,286	115	2	60	36	2		15		85	35	10	129	1.41	17.7
RC	L	D	4S	31	1.8	1,005	986	49	95	5			6	62	28	4	27	5	32	0.39	30.3
RC L Totals				7	3.1	3,378	3,272	164	30	44	25	1	2	29	9	61	30	7	68	0.83	48.0
DF	L	HB	2S	34	1.3	316	312	16			100					100	40	13	266	1.65	1.2
DF	L	D	2S	30	9.5	303	275	14			100					100	40	13	240	1.72	1.1
DF	L	D	3S	28		247	247	12	31	69						100	39	8	94	0.69	2.6
DF	L	D	4S	8		69	69	3	87	13				65		35	29	6	36	0.36	1.9
DF L Totals				2	3.5	935	902	45	15	20	65			5		95	37	9	132	0.99	6.9
SS	L	D	2S	61		219	219	11			100					100	38	17	430	2.28	.5
SS	L	D	3S	28		100	100	5		100						100	40	9	120	0.83	.8
SS	L	D	4S	11		38	38	2	66	34				34	66		31	6	35	0.38	1.1
SS L Totals				1		356	356	18	7	32	61			4	7	89	35	9	147	0.99	2.4
Type Totals					1.3	48,917	48,268	2,418	27	41	31	1	3	6	4	87	34	7	86	0.65	561.7

TC TSTATS

STATISTICS

PAGE 1

PROJECT **KABOODLE** DATE 12/9/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1ROW	0.90	2	28	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	28	14.0		
CRUISE	2	28	14.0	315	8.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK-T	14	175.0	13.4	73	46.7	170.6	26,375	26,250	6,322	6,322
WR CEDAR-T	13	162.5	10.5	52	30.2	98.1	9,375	9,250	2,612	2,612
DOUG FIR-T	1	12.5	18.0	99	5.2	22.1	3,500	3,500	893	893
TOTAL	*28*	*350.0*	*12.3*	*64*	*82.8*	*290.8*	*39,250*	*39,000*	*9,827*	*9,827*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % SD: 1.0

SAMPLE TREES - BF	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	89.9	24.9	113	150	187			
WR CEDAR-T	42.1	12.1	50	57	64			
DOUG FIR-T								
TOTAL	*99.4*	*19.1*	*90*	*111*	*133*	*410*	*102*	*46*

CL: 68.1 % SD: 1.0

SAMPLE TREES - CF	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	88.7	24.6	27	36	45			
WR CEDAR-T	46.1	13.3	14	16	18			
DOUG FIR-T								
TOTAL	*93.6*	*18.0*	*23*	*28*	*33*	*363*	*91*	*40*

CL: 68.1 % SD: 1.0

TREES/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	20.2	18.9	142	175	208			
WR CEDAR-T	76.1	71.3	47	163	278			
DOUG FIR-T	141.4	132.4		13	29			
TOTAL	*30.3*	*28.4*	*251*	*350*	*449*	*64*	*16*	*7*

CL: 68.1 % SD: 1.0

BASAL AREA/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	36.0	33.7	113	171	228			
WR CEDAR-T	54.9	51.4	48	98	149			
DOUG FIR-T	141.4	132.4		22	51			
TOTAL	*8.2*	*7.6*	*269*	*291*	*313*	*5*	*1*	*1*

CL: 68.1 % SD: 1.0

NET BF/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	48.5	45.4	14,332	26,250	38,168			
WR CEDAR-T	53.5	50.1	4,615	9,250	13,885			
DOUG FIR-T	141.4	132.4		3,500	8,135			
TOTAL	*7.3*	*6.8*	*36,352*	*39,000*	*41,648*	*4*	*1*	*0*

CL: 68.1 % SD: 1.0

NET CUFT FT/ACRE	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	42.6	39.9	3,798	6,322	8,845			
WR CEDAR-T	49.5	46.3	1,401	2,612	3,822			
DOUG FIR-T	141.4	132.4		893	2,076			

TC TSTATS

STATISTICS

PAGE 2

PROJECT **KABOODLE**

DATE 12/9/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	**08E**	**19**	**KITTEN**	**1ROW**	0.90	2	28	S	W

CL: 68.1 %	COEFF		**NET CUFT FT/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL	*1.4*	*1.3*	*9,696*	*9,827*	*9,957*	*0*	*0*	*0*

CL: 68.1 %	COEFF		**V-BAR/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	30.7	28.7	84	154	224			
WR CEDAR-T	76.0	71.2	47	94	142			
DOUG FIR-T	141.4	132.4		158	368			
TOTAL	*14.9*	*14.0*	*125*	*134*	*143*	*16*	*4*	*2*

TC TSTATS

STATISTICS

PROJECT KABOODLE

DATE 12/9/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1VDT	26.20	21	132	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	21	132	6.3		
CRUISE	21	132	6.3	7,827	1.7
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WR CEDAR-L	42	122.7	11.8	53	27.3	93.9	8,538	8,318	2,525	2,525
WR CEDAR-T	19	43.3	13.4	56	11.6	42.5	3,411	3,349	1,180	1,180
WHEMLOCK-L	18	16.6	21.1	89	8.8	40.2	6,865	6,829	1,606	1,606
WHEMLOCK-T	41	100.6	12.9	75	25.5	91.6	13,385	13,319	3,316	3,316
DOUG FIR-L	9	9.7	19.5	85	4.5	20.1	3,349	3,311	793	793
PS FIR-T	2	5.1	12.7	56	1.3	4.5	618	618	154	154
S SPRUCE-L	1	.7	24.0	89	0.5	2.2	434	384	97	97
TOTAL	*132*	*298.7*	*13.5*	*64*	*80.4*	*295.1*	*36,599*	*36,129*	*9,671*	*9,671*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	83.6	12.9	102	117	132			
WR CEDAR-T	27.6	6.5	75	80	85			
WHEMLOCK-L	43.1	10.4	410	458	506			
WHEMLOCK-T	43.3	6.8	146	157	167			
DOUG FIR-L	42.2	14.9	364	428	492			
PS FIR-T	120.1	112.4		265	563			
S SPRUCE-L								
TOTAL	*89.0*	*7.7*	*182*	*197*	*212*	*316*	*79*	*35*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	88.4	13.6	33	38	44			
WR CEDAR-T	24.2	5.7	27	28	30			
WHEMLOCK-L	33.6	8.1	97	105	114			
WHEMLOCK-T	40.9	6.4	37	39	42			
DOUG FIR-L	39.6	14.0	87	101	115			
PS FIR-T	109.0	102.1		60	120			
S SPRUCE-L								
TOTAL	*76.1*	*6.6*	*48*	*52*	*55*	*231*	*58*	*26*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	84.1	18.8	100	123	146			
WR CEDAR-T	99.7	22.3	34	43	53			
WHEMLOCK-L	148.8	33.3	11	17	22			
WHEMLOCK-T	72.1	16.1	84	101	117			
DOUG FIR-L	154.2	34.5	6	10	13			
PS FIR-T	380.5	85.0	1	5	9			
S SPRUCE-L	458.3	102.4		1	1			
TOTAL	*30.7*	*6.9*	*278*	*299*	*319*	*40*	*10*	*4*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	72.5	16.2	79	94	109			
WR CEDAR-T	104.3	23.3	33	42	52			

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PROJECT KABOODLE

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1VDT	26.20	21	132	S	W

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	139.4	31.2	28	40	53			
WHEMLOCK-T	65.7	14.7	78	92	105			
DOUG FIR-L	139.4	31.2	14	20	26			
PS FIR-T	315.8	70.6	1	4	8			
S SPRUCE-L	458.3	102.4		2	5			
TOTAL	*29.0*	*6.5*	*276*	*295*	*314*	*35*	*9*	*4*

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	74.0	16.5	6,941	8,318	9,694			
WR CEDAR-T	108.3	24.2	2,538	3,349	4,160			
WHEMLOCK-L	143.2	32.0	4,644	6,829	9,014			
WHEMLOCK-T	71.7	16.0	11,184	13,319	15,455			
DOUG FIR-L	147.7	33.0	2,218	3,311	4,403			
PS FIR-T	350.7	78.4	134	618	1,103			
S SPRUCE-L	458.3	102.4		384	778			
TOTAL	*39.0*	*8.7*	*32,979*	*36,129*	*39,279*	*64*	*16*	*7*

CL: 68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	70.3	15.7	2,128	2,525	2,922			
WR CEDAR-T	106.7	23.8	898	1,180	1,461			
WHEMLOCK-L	142.6	31.9	1,095	1,606	2,118			
WHEMLOCK-T	68.7	15.4	2,806	3,316	3,825			
DOUG FIR-L	143.6	32.1	539	793	1,048			
PS FIR-T	327.4	73.2	41	154	267			
S SPRUCE-L	458.3	102.4		97	197			
TOTAL	*35.0*	*7.8*	*8,915*	*9,671*	*10,428*	*51*	*13*	*6*

CL: 68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WR CEDAR-L	74.0	16.5	74	89	103			
WR CEDAR-T	108.3	24.2	60	79	98			
WHEMLOCK-L	143.2	32.0	115	170	224			
WHEMLOCK-T	71.7	16.0	122	145	169			
DOUG FIR-L	147.7	33.0	110	165	219			
PS FIR-T	350.7	78.4	30	138	247			
S SPRUCE-L	458.3	102.4		172	348			
TOTAL	*39.0*	*8.7*	*112*	*122*	*133*	*64*	*16*	*7*

TC TSTATS

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PROJECT KABOODLE

DATE 12/9/2019

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1VRH	13.10	13	80	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	13	80	6.2		
CRUISE	9	40	4.4	3,205	1.2
DBH COUNT					
REFOREST					
COUNT	4	30	7.5		
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	22	166.2	15.5	95	55.3	217.8	38,448	37,913	8,901	8,901
WR CEDAR-T	9	55.7	14.9	65	17.4	67.0	5,217	5,034	2,072	2,072
DOUG FIR-T	8	20.1	20.5	95	10.2	46.1	8,620	8,356	1,986	1,986
S SPRUCE-T	1	2.7	17.0	81	1.0	4.2	638	638	173	173
TOTAL	*40*	*244.7*	*15.8*	*88*	*84.2*	*335.0*	*52,924*	*51,942*	*13,132*	*13,132*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF

SD: 1.0

SAMPLE TREES - BF

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	83.2	18.1	273	333	394			
WR CEDAR-T	58.1	20.5	91	114	138			
DOUG FIR-T	45.6	17.2	453	548	642			
S SPRUCE-T								
TOTAL	*83.9*	*13.2*	*282*	*325*	*367*	*281*	*70*	*31*

CL: 68.1 % COEFF

SD: 1.0

SAMPLE TREES - CF

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	69.7	15.2	64	76	87			
WR CEDAR-T	64.8	22.9	37	48	59			
DOUG FIR-T	44.6	16.8	108	130	152			
S SPRUCE-T								
TOTAL	*69.0*	*10.9*	*71*	*80*	*89*	*190*	*48*	*21*

CL: 68.1 % COEFF

SD: 1.0

TREES/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	47.9	13.8	143	166	189			
WR CEDAR-T	120.5	34.7	36	56	75			
DOUG FIR-T	150.4	43.3	11	20	29			
S SPRUCE-T	360.6	103.9		3	5			
TOTAL	*17.9*	*5.2*	*232*	*245*	*257*	*14*	*3*	*2*

CL: 68.1 % COEFF

SD: 1.0

BASAL AREA/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	40.8	11.8	192	218	243			
WR CEDAR-T	124.8	36.0	43	67	91			
DOUG FIR-T	106.2	30.6	32	46	60			
S SPRUCE-T	360.6	103.9		4	9			
TOTAL			*335*	*335*	*335*			

CL: 68.1 % COEFF

SD: 1.0

NET BF/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	42.4	12.2	33,278	37,913	42,548			
WR CEDAR-T	125.3	36.1	3,216	5,034	6,852			
DOUG FIR-T	100.6	29.0	5,933	8,356	10,780			
S SPRUCE-T	360.6	103.9		638	1,300			
TOTAL			*51,942*	*51,942*	*51,942*			

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	1VRH	13.10	13	80	S	W

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

CL: 68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	41.9	12.1	7,826	8,901	9,977			
WR CEDAR-T	125.2	36.1	1,324	2,072	2,819			
DOUG FIR-T	100.9	29.1	1,409	1,986	2,564			
S SPRUCE-T	360.6	103.9		173	353			
TOTAL			*13,132*	*13,132*	*13,132*			

CL: 68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T			153	174	195			
WR CEDAR-T	72.4	20.9	48	75	102			
DOUG FIR-T	81.4	23.5	129	181	234			
S SPRUCE-T	360.6	103.9		152	311			
TOTAL	*177.3*	*51.1*	*155*	*155*	*155*	*1,358*	*339*	*151*

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PROJECT KABOODLE

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	6VRH	43.10	43	196	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	43	196	4.6		
CRUISE	21	99	4.7	3,013	3.3
DBH COUNT					
REFOREST					
COUNT	20	97	4.8		
BLANKS	2				
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	52	46.1	21.0	83	24.1	110.3	17,786	17,370	4,311	4,312
DOUG FIR-T	33	18.1	29.4	98	15.7	85.1	16,853	16,231	3,630	3,630
WR CEDAR-T	12	4.8	25.1	67	3.3	16.4	1,278	1,251	385	385
S SPRUCE-T	1	.3	27.5	80	0.2	1.1	185	183	45	44
PS FIR-T	1	.7	17.0	91	0.3	1.1	194	194	46	46
TOTAL	*99*	*69.9*	*23.7*	*86*	*44.0*	*214.0*	*36,296*	*35,229*	*8,417*	*8,417*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % SD: 1.0

SAMPLE TREES - BF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	56.9	7.9	434	471	508			
DOUG FIR-T	37.4	6.5	956	1,023	1,090			
WR CEDAR-T	50.4	15.2	305	360	415			
S SPRUCE-T								
PS FIR-T								
TOTAL	*63.2*	*6.3*	*601*	*642*	*683*	*159*	*40*	*18*

CL: 68.1 % SD: 1.0

SAMPLE TREES - CF

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF TREES REQ. 5	10	INF. POP. 15
WHEMLOCK-T	46.5	6.4	107	114	121			
DOUG FIR-T	33.1	5.8	214	227	240			
WR CEDAR-T	46.6	14.0	93	108	124			
S SPRUCE-T								
PS FIR-T								
TOTAL	*53.6*	*5.4*	*143*	*151*	*159*	*115*	*29*	*13*

CL: 68.1 % SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	93.5	14.2	39	46	53			
DOUG FIR-T	76.2	11.6	16	18	20			
WR CEDAR-T	255.4	38.9	3	5	7			
S SPRUCE-T	655.7	99.9	0	0	1			
PS FIR-T	655.7	99.9	0	1	1			
TOTAL	*63.0*	*9.6*	*63*	*70*	*77*	*159*	*40*	*18*

CL: 68.1 % SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	76.5	11.7	97	110	123			
DOUG FIR-T	76.3	11.6	75	85	95			
WR CEDAR-T	257.0	39.2	10	16	23			
S SPRUCE-T	655.7	99.9	0	1	2			
PS FIR-T	655.7	99.9	0	1	2			
TOTAL	*46.7*	*7.1*	*199*	*214*	*229*	*87*	*22*	*10*

CL: 68.1 % SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	10	INF. POP. 15
WHEMLOCK-T	77.4	11.8	15,323	17,370	19,418			

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	6VRH	43.10	43	196	S	W

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
DOUG FIR-T	76.8	11.7	14,332	16,231	18,131			
WR CEDAR-T	272.8	41.6	731	1,251	1,771			
S SPRUCE-T	655.7	99.9	0	183	365			
PS FIR-T	655.7	99.9	0	194	388			
TOTAL	*49.6*	*7.6*	*32,565*	*35,229*	*37,893*	*98*	*25*	*11*

CL: 68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T	76.9	11.7	3,806	4,312	4,818			
DOUG FIR-T	76.9	11.7	3,205	3,630	4,055			
WR CEDAR-T	280.0	42.7	220	385	549			
S SPRUCE-T	655.7	99.9	0	44	89			
PS FIR-T	655.7	99.9	0	46	93			
TOTAL	*48.4*	*7.4*	*7,796*	*8,417*	*9,039*	*94*	*23*	*10*

CL: 68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-T			139	158	176			
DOUG FIR-T			168	191	213			
WR CEDAR-T	261.8	39.9	45	76	108			
S SPRUCE-T	655.7	99.9	0	167	334			
PS FIR-T	655.7	99.9	0	178	355			
TOTAL	*207.7*	*31.6*	*152*	*165*	*177*	*1,722*	*431*	*191*

TC TSTATS

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PROJECT KABOODLE

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TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	VDT	50.10	50	360	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	50	360	7.2		
CRUISE	50	360	7.2	14,147	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	185	112.6	16.8	84	42.4	173.7	26,980	26,643	6,757	6,757
WHEMLOCK-T	73	110.0	10.7	62	21.0	68.5	9,041	9,041	2,209	2,209
PS FIR-T	51	29.6	17.2	81	11.5	47.9	8,227	8,053	1,946	1,946
WR CEDAR-L	42	25.9	16.7	60	9.6	39.4	3,378	3,272	1,192	1,192
DOUG FIR-L	7	3.2	19.5	83	1.5	6.6	935	902	247	247
S SPRUCE-L	2	1.1	17.8	83	0.4	1.9	356	356	85	85
TOTAL	*360*	*282.4*	*14.8*	*73*	*87.8*	*338.0*	*48,917*	*48,268*	*12,436*	*12,437*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 %	COEFF		**SAMPLE TREES - BF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	52.8	3.9	265	276	287			
WHEMLOCK-T	40.3	4.7	87	91	95			
PS FIR-T	50.3	7.0	345	371	397			
WR CEDAR-L	68.4	10.5	164	184	203			
DOUG FIR-L	65.8	26.8	256	350	444			
S SPRUCE-L	101.4	94.9	27	530	1,033			
TOTAL	*68.8*	*3.6*	*235*	*244*	*253*	*189*	*47*	*21*

CL: 68.1 %	COEFF		**SAMPLE TREES - CF**			# OF TREES REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	46.5	3.4	67	69	72			
WHEMLOCK-T	39.8	4.7	21	22	23			
PS FIR-T	46.1	6.4	83	88	94			
WR CEDAR-L	70.6	10.9	61	69	76			
DOUG FIR-L	53.1	21.6	74	94	115			
S SPRUCE-L	90.8	85.0	18	118	219			
TOTAL	*63.5*	*3.3*	*61*	*63*	*65*	*161*	*40*	*18*

CL: 68.1 %	COEFF		**TREES/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	50.7	7.2	105	113	121			
WHEMLOCK-T	94.5	13.4	95	110	125			
PS FIR-T	163.2	23.1	23	30	36			
WR CEDAR-L	140.3	19.8	21	26	31			
DOUG FIR-L	270.5	38.2	2	3	4			
S SPRUCE-L	562.8	79.5	0	1	2			
TOTAL	*35.4*	*5.0*	*268*	*282*	*296*	*50*	*13*	*6*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	53.3	7.5	161	174	187			
WHEMLOCK-T	88.8	12.6	60	69	77			
PS FIR-T	130.6	18.5	39	48	57			
WR CEDAR-L	145.0	20.5	31	39	48			
DOUG FIR-L	250.4	35.4	4	7	9			
S SPRUCE-L	494.9	69.9	1	2	3			

STATISTICS

PROJECT KABOODLE

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
29N	08E	19	KITTEN	VDT	50.10	50	360	S	W

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	10	15
TOTAL	*24.0*	*3.4*	*327*	*338*	*349*	*23*	*6*	*3*

CL: 68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	56.8	8.0	24,507	26,643	28,780			
WHEMLOCK-T	94.2	13.3	7,837	9,041	10,244			
PS FIR-T	128.5	18.2	6,591	8,053	9,516			
WR CEDAR-L	155.0	21.9	2,556	3,272	3,989			
DOUG FIR-L	263.8	37.3	566	902	1,238			
S SPRUCE-L	517.7	73.1	96	356	617			
TOTAL	*31.1*	*4.4*	*46,144*	*48,268*	*50,392*	*39*	*10*	*4*

CL: 68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	54.7	7.7	6,234	6,757	7,280			
WHEMLOCK-T	91.4	12.9	1,924	2,209	2,495			
PS FIR-T	129.0	18.2	1,591	1,946	2,301			
WR CEDAR-L	151.4	21.4	937	1,192	1,448			
DOUG FIR-L	253.7	35.9	159	247	336			
S SPRUCE-L	502.2	71.0	25	85	145			
TOTAL	*27.1*	*3.8*	*11,961*	*12,437*	*12,912*	*29*	*7*	*3*

CL: 68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	10	15
WHEMLOCK-L	56.8	8.0	141	153	166			
WHEMLOCK-T	94.2	13.3	114	132	149			
PS FIR-T	128.5	18.2	138	168	199			
WR CEDAR-L	155.0	21.9	65	83	101			
DOUG FIR-L	263.8	37.3	86	137	188			
S SPRUCE-L	517.7	73.1	51	190	328			
TOTAL	*31.1*	*4.4*	*137*	*143*	*149*	*39*	*10*	*4*

TC PSPCTLTCM

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

T29N R08E S19 Ty1RO	.9
T29N R08E S19 Ty1VD	26.2
T29N R08E S19 TyVDT	50.1

Project KABOODLE
Acres 133.40

Page No 1
Date: 12/9/2019
Time 2:23:52PM

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	12,469	24,884	16,181	40.56	20.32	0.62	5,057	5,057	2,098	2,071
WHEMLOCK	L	6,078	13,476	12,180	62.63	28.24	0.81	3,806	3,806	1,532	1,514
DOUG FIR	T	1,055	2,813	5,223	173.65	65.16	1.92	1,833	1,833	842	812
PS FIR	T	1,646	3,663	2,966	62.89	28.26	0.88	1,035	1,035	437	428
WR CEDAR	L	4,512	7,202	2,958	27.90	17.48	0.60	1,259	1,259	393	382
WR CEDAR	T	2,216	3,766	1,809	34.73	20.44	0.68	770	770	221	216
DOUG FIR	L	411	978	945	80.68	33.93	0.99	332	332	135	132
S SPRUCE	L	73	159	176	93.00	42.76	1.18	68	68	29	28
S SPRUCE	T	46	92	109	90.56	45.28	1.15	42	42	16	16
Totals		28,506	57,033	42,548	49.82	24.90	0.76	14,201	14,201	5,703	5,599

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	28,506	57,033	42,548	49.82	24.90	0.76	14,201	14,201	5,703	5,599
Totals	28,506	57,033	42,548	49.82	24.90	0.76	14,201	14,201	5,703	5,599

FPA/N No:	2817251
Effective Date:	11/14/2019
Expiration Date:	11/14/2022
Shut Down Zone:	658
EARR Tax Credit:	[x] Eligible [ ] Non-eligible
Reference:	Kitten Kaboodle

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

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

No additional conditions.

FOR YOUR INFORMATION:

Please 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:** 11/14/2019

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 St
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.

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

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

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

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

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

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

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

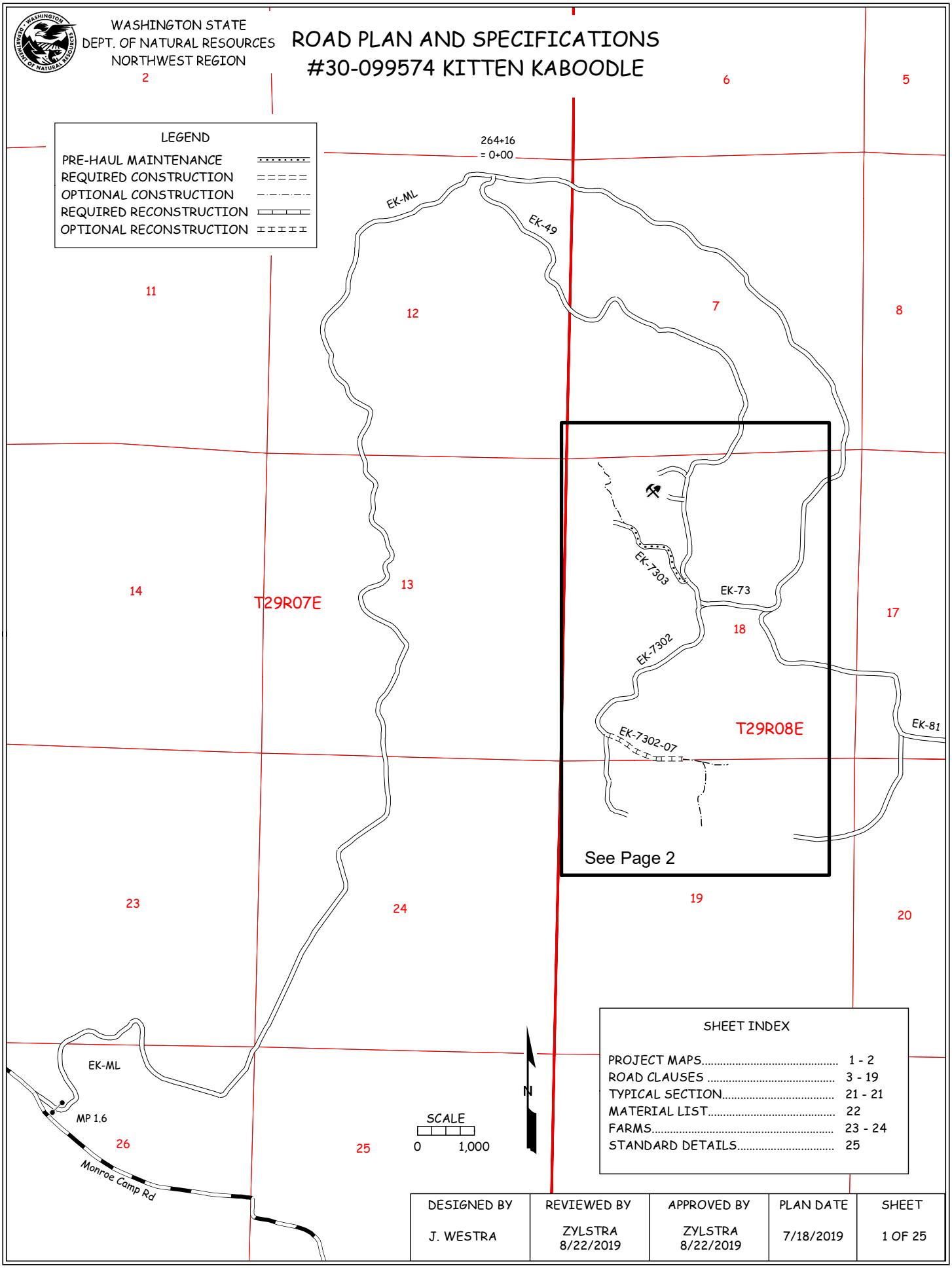
DNR affidavit of mailing:

On this day_____, I placed in the United States mail at Sedro-Woolley, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 2817251

L Utgard
(Printed name) (Signature)

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

ROAD PLAN AND SPECIFICATIONS
#30-099574 KITTEN KABOODLE



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DESIGNED BY	REVIEWED BY	APPROVED BY	PLAN DATE	SHEET
J. WESTRA	ZYLSTRA 8/22/2019	ZYLSTRA 8/22/2019	7/18/2019	1 OF 25

WASHINGTON STATE
DEPT. OF NATURAL RESOURCES
NORTHWEST REGION

KITTEN KABOODLE
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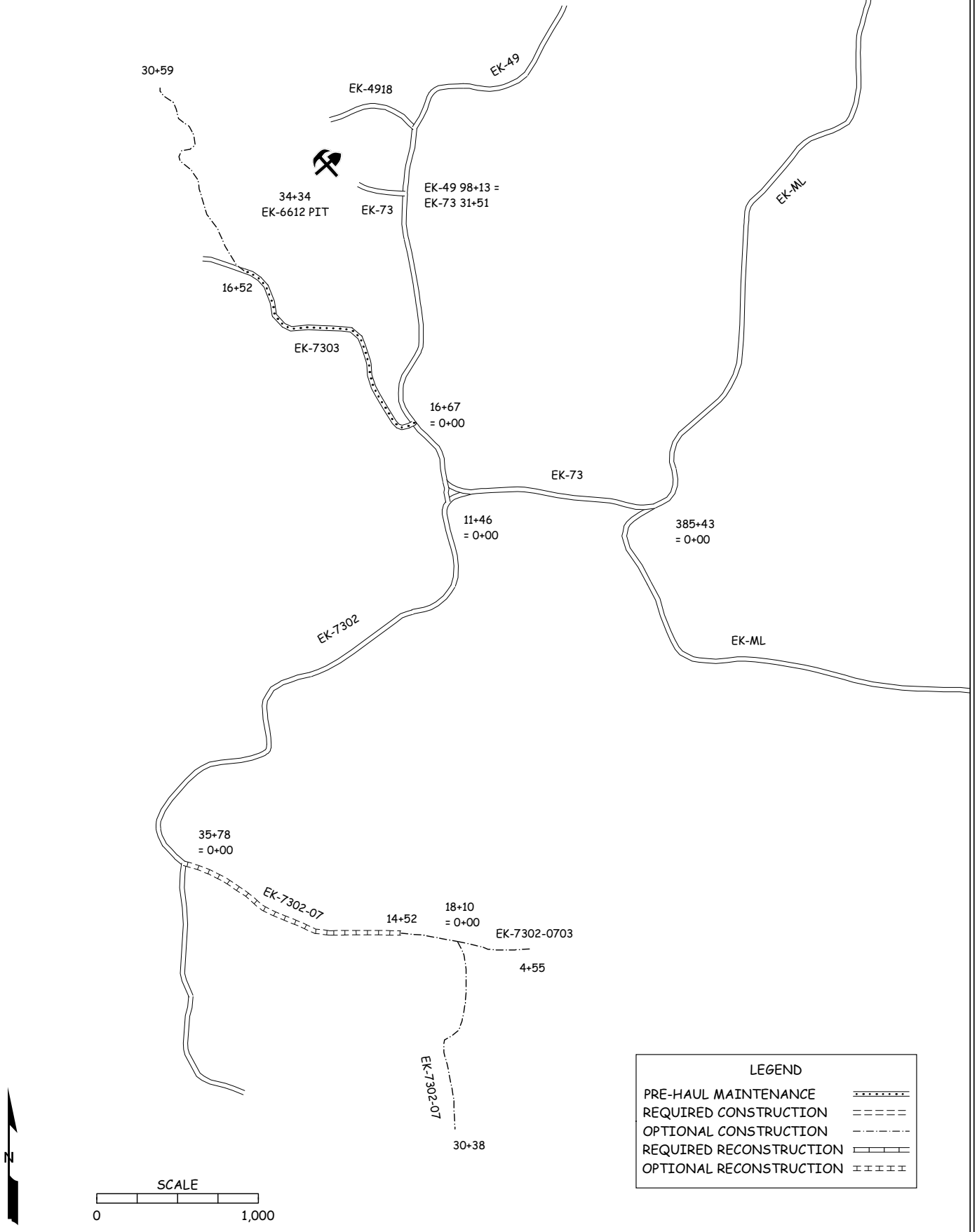


STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

KITTEN KABOODLE TIMBER SALE ROAD PLAN
SNOHOMISH COUNTY
CASCADE DISTRICT
NORTHWEST REGION

AGREEMENT NO.: 30-099574 STAFF ENGINEER: J. WESTRA

DATE: JULY 18, 2019

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
EK-7303	0+00 to 16+52	PREHAUL MAINTENANCE

0-3 OPTIONAL ROADS

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

Road	Stations	Type
EK-7302-07	0+00 to 14+52	RECONSTRUCTION
EK-7302-07	14+52 to 30+38	CONSTRUCTION
EK-7302-0703	0+00 to 4+55	CONSTRUCTION
EK-7303	16+52 to 30+59	CONSTRUCTION

0-4 CONSTRUCTION

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

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to road shaping and culvert installation.

0-6 PRE-HAUL MAINTENANCE

Pre-haul maintenance includes, but is not limited to spot blading as needed and spot patching as directed by contract administrator.

0-7 POST-HAUL MAINTENANCE

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

0-12 DEVELOP ROCK SOURCE

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

1. Addenda.
2. Road Plan Clauses.
3. Typical Section Sheet.
4. Standard Lists.
5. Standard Details.

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

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer's recommendation.

1-9 DAMAGED METALLIC COATING

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

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-25 ACTIVITY TIMING RESTRICTION

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

Activity	Closure Period
ALL	November 1 to March 31

1-26 OPERATING DURING CLOSURE PERIOD

If permission is granted to operate during a closure period listed in Clause 1-25 ACTIVITY TIMING RESTRICTION, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on crushed rock roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- Against standing trees.

3-10 GRUBBING

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

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland**.**
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

Purchaser shall scatter organic debris outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-21 TURNOUTS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or 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

Purchaser may sidecast waste material on side slopes up to 55% if the waste material is compacted and free of organic debris. On side slopes greater than 55%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 WASTE AREA LOCATION.

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in areas identified or approved by the Contract Administrator.

4-38 PROHIBITED WASTE DISPOSAL AREAS

Purchaser shall not deposit waste material in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

4-55 ROAD SHAPING

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

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material by routing equipment over the entire width of each lift.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades by routing equipment over the entire width.

SECTION 5 – DRAINAGE

5-5 CULVERTS

Purchaser shall install culverts as part of this contract. Culverts must be installed concurrently with subgrade work and must be installed before subgrade compaction and rock application. Culvert locations and the minimum requirements for culvert length and diameter are designated on MATERIALS LIST. Culvert, downspout, and flume lengths may be adjusted to fit as-built conditions and may not terminate directly on unprotected soil. Culverts must be new material and must meet the specifications in Clauses 10-15 through 10-24.

5-12 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

Culvert installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the National Corrugated Metal Pipe Association's "Installation Manual for Corrugated Steel Drainage Structures" and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings".

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls must weigh at least 50 pounds. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

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 on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source, a joint operating plan must be developed. All parties shall follow this plan.

Source	Location	Rock Type
EK-6612 PIT	34+34 of the EK-73	3-INCH-MINUS BALLAST, RIPRAP

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 are subject to written approval by the Contract Administrator before their use.

6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER

Purchaser shall conduct rock source development and use at the following sources, in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source operations. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

Rock source development plans prepared by the Purchaser must show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications **<**, unless otherwise specified in the ROCK SOURCE DEVELOPMENT <AND RECLAMATION> PLAN**>**:

- Pit walls may not be undermined or over steepened. The maximum slope of the walls must be consistent with recognized engineering standards for the type of material being excavated in accordance with the following table:

Material	Maximum Slope Ratio (Horiz. :Vert.)	Maximum Slope Percent
Sand	2:1	50
Gravel	1.5:1	67
Common Earth	1:1	100
Fractured Rock	0.5:1	200
Solid Rock	0:1	vertical

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.
- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked.

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 5% of the total volume mined in that source.
- Oversize material is defined as rock fragments too large to be converted by the Purchaser to a size that will meet specifications used for the roads in this sale.
- Purchaser shall notify the Contract Administrator a minimum of 2 working days before blasting operations.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

6-23 ROCK GRADATION TYPES

Purchaser shall provide rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-34 3-INCH MINUS BALLAST ROCK

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

Rock may contain no more than 5 percent organic debris, dirt, and trash.

6-50 LIGHT LOOSE RIP RAP

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

Quantity	Approximate Size Range
20% to 90%	500 lbs. to 1 ton (18”- 28”)
15% to 80%	50 lbs. to 500 lbs. (8”- 18”)
10% to 20%	3 inch to 50 lbs. (3”- 8”)

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

Purchaser shall obtain written approval from the Contract Administrator for culvert installation, ditch construction, ditch reconstruction, headwall construction, and headwall reconstruction before rock application.

6-65 ROCK STOCKPILE LOCATION

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

Rock Source	Rock Type	Quantity (c.y.)	Stockpile Location
EK-6612 PIT	3-INCH-MINUS	2,000	EK-6612 PIT

6-67 ROCK STOCKPILE SPECIFICATIONS

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

Before placing aggregates upon the stockpile site, the site must be cleared of vegetation, trees, stumps, brush, rocks, or other debris and the ground leveled to a smooth, firm, uniform surface.

When completed, the stockpile must be neat and regular in shape. The stockpile height is limited to a maximum of 24 feet. Stockpiles in excess of <200> cubic yards must be built up in layers of not more than 4 feet deep. Stockpile layers must be constructed by trucks, clamshells, or other methods approved in writing by the Contract Administrator. Each layer must be completed over the entire area of the pile before depositing aggregates in the next layer. The aggregates may not be dumped so that they run down and over the lower layers in the stockpile.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for timber haul before rock application.

6-71 ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

Purchaser shall apply rock to turnarounds, turnouts, and areas with curve widening to the same depth and specifications as the traveled way.

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 3-inch layer of straw to all exposed soils at culvert installations. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

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

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed and fertilizer.

8-17 REVEGETATION TIMING

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

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed straw, jute matting, or clear plastic sheets. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

8-19 ASSURANCE FOR SEEDED AREA

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

8-25 GRASS SEED

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

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

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 must meet the following specifications:

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

SECTION 9 – POST-HAUL ROAD WORK

9-5 POST-HAUL MAINTENANCE

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

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

SECTION 10 MATERIALS

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes must meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes must be Type C – corrugated single walled pipe.

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

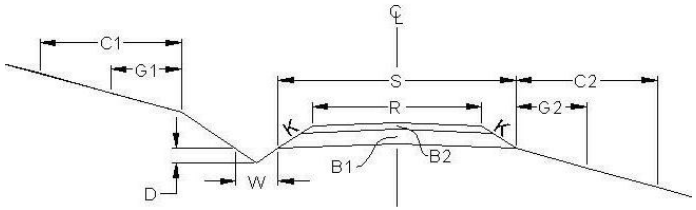
10-24 GAUGE AND CORRUGATION

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

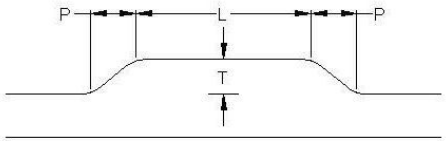
Diameter	Gage	Corrugation
18"	16 (0.064”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
24" to 48"	14 (0.079”)	2 $^{2}/_{3}$" X $^{1}/_{2}$"
54" to 96"	14 (0.079”)	3" X 1"

ROAD #		EK-7302-07	EK-7302-07	EK-7302-0703
REQUIRED / OPTIONAL		OPTIONAL	OPTIONAL	OPTIONAL
CONSTRUCT / RECONSTRUCT		RECONSTRUCT	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)		C	C	C
STATION / MP TO		0+00	14+52	0+00
STATION / MP		14+52	30+38	4+55
ROAD WIDTH	R	12	12	12
CROWN (INCHES @ C/L)		3	3	3
DITCH WIDTH	W	3	3	3
DITCH DEPTH	D	1	1	1
TURNOUT LENGTH	L	25	--	--
TURNOUT WIDTH	T	10	--	--
TURNOUT TAPER	P	25	--	--
GRUBBING	G1	5	5	5
	G2	5	5	5
CLEARING	C1	10	10	10
	C2	10	10	10
ROCK FILLSLOPE	K:1	1 : 1 ½	1 : 1 ½	1 : 1 ½
❖ BALLAST DEPTH	B1	--	18	18
CUBIC YARDS / STATION		--	114	114
➢ TOTAL CY BALLAST		--	1,810	520
❖ SURFACING DEPTH	B2	--	--	--
CUBIC YARDS / STATION		--	--	--
➢ TOTAL CY SURFACING		--	--	--
➢ TOTAL CUBIC YARDS		0	1,810	520
SUBGRADE WIDTH	S	12	16.5	16.5
BRUSHCUT (Y/N)		N	N	N
BLADE, SHAPE, & DITCH (Y/N)		N	N	N

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: Rock for Spot Patching as directed by Contract Administrator

Rock Totals Summary

Type	Quantity (Cubic Yards)
Ballast	5,985
Rip Rap	65

ROAD #		EK-7303	EK-7303						
REQUIRED / OPTIONAL		REQUIRED	OPTIONAL						
CONSTRUCT / RECONSTRUCT		PREHAUL	CONSTRUCT						
TOLERANCE CLASS (A/B/C)		C	C						
STATION / MP TO		0+00	16+52						
STATION / MP		16+52	30+59						
ROAD WIDTH	**R**	12	12						
CROWN (INCHES @ C/L)		3	3						
DITCH WIDTH	**W**	3	3						
DITCH DEPTH	**D**	1	1						
TURNOUT LENGTH	**L**	--	25						
TURNOUT WIDTH	**T**	--	10						
TURNOUT TAPER	**P**	--	25						
GRUBBING	**G1**	--	5						
	G2	--	5						
CLEARING	**C1**	--	10						
	C2	--	10						
ROCK FILLSLOPE	**K:1**	--	1 : 1 ½						
❖ **BALLAST DEPTH**	**B1**	--	18						
CUBIC YARDS / STATION		--	114						
➢ **TOTAL CY BALLAST**		--	1,605						
❖ **SURFACING DEPTH**	**B2**	--	--						
CUBIC YARDS / STATION		--	--						
➢ **TOTAL CY SURFACING**		--	--						
➢ **TOTAL CUBIC YARDS**		50[A]	1,605						
SUBGRADE WIDTH	**S**	16.5	16.5						
BRUSHCUT (Y/N)		N	N						
BLADE, SHAPE, & DITCH (Y/N)		N	N						

MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS
ROAD #	STATION	DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE			**Note:** Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:
												Diameter / 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"**
EK-7302-07	5+79	18	30	XX	--	--	2	3	L	NT	C	
EK-7302-07	8+44	18	30	XX	--	--	2	3	L	NT	C	
EK-7302-07	11+41	18	30	XX	--	--	2	3	L	NT	C	
EK-7302-07	14+53	18	30	XX	--	--	2	3	L	NT	C	
EK-7302-07	16+40	18	30	XX	--	--	2	3	L	NT	C	
EK-7302-07	24+42	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	19+40	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	21+54	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	22+83	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	25+88	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	26+22	18	30	XX	--	--	2	3	L	NT	C	Type 5 Stream
EK-7303	26+82	18	30	XX	--	--	2	3	L	NT	C	
EK-7303	28+30	18	30	XX	--	--	2	3	L	NT	C	

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM
H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Preventative Maintenance

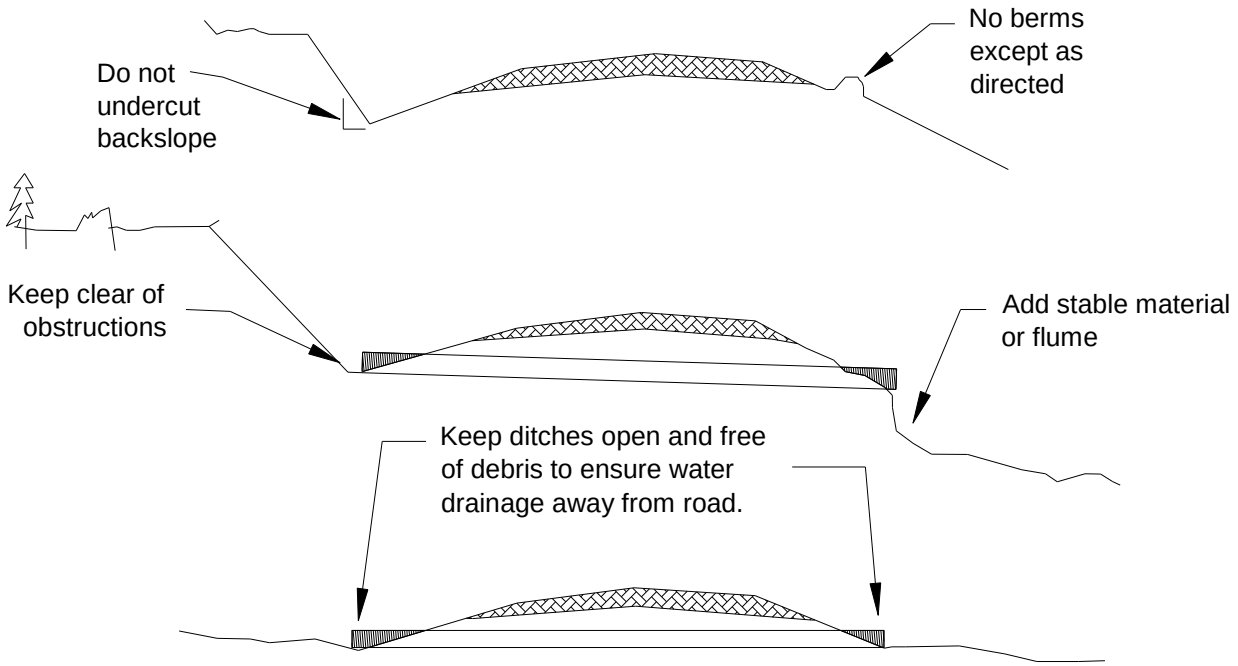
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

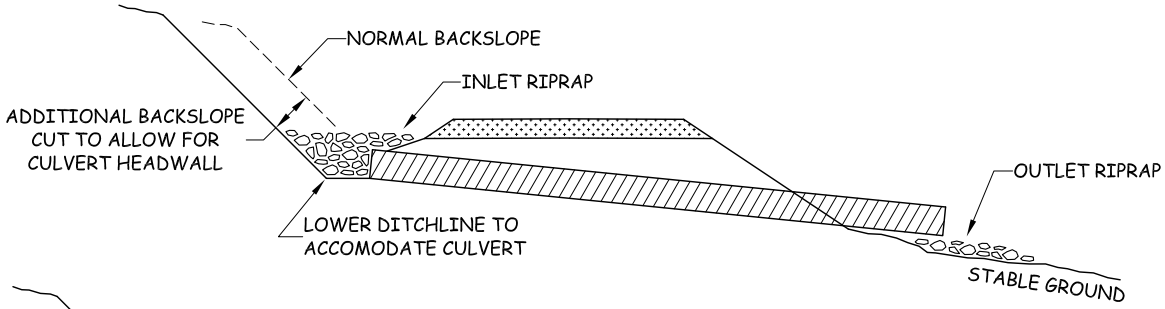
Debris

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

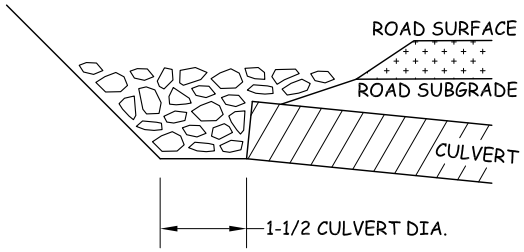


CULVERT AND DRAINAGE SPECIFICATIONS

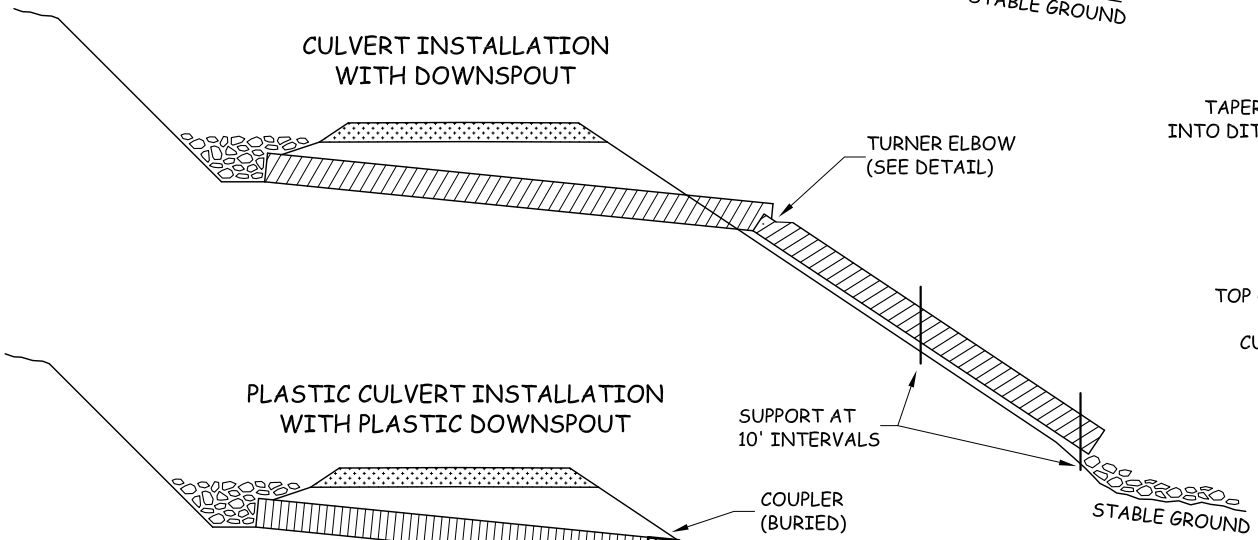
CULVERT INSTALLATION (TYPICAL)



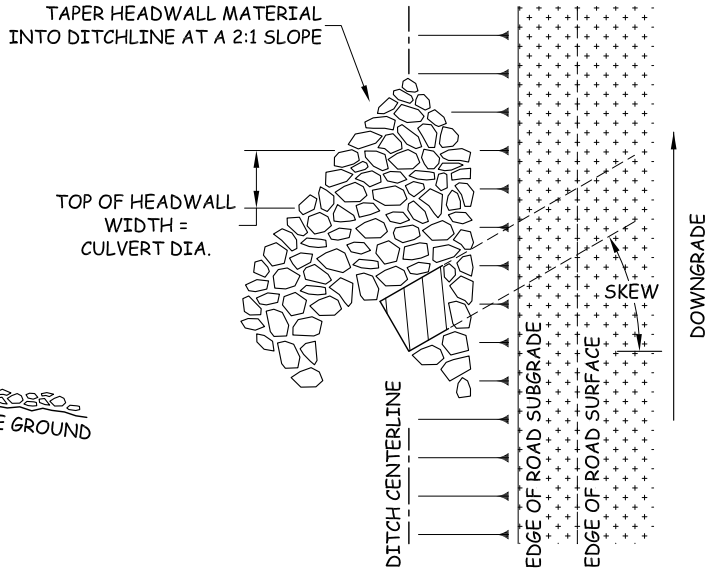
CULVERT HEADWALL - SECTION VIEW



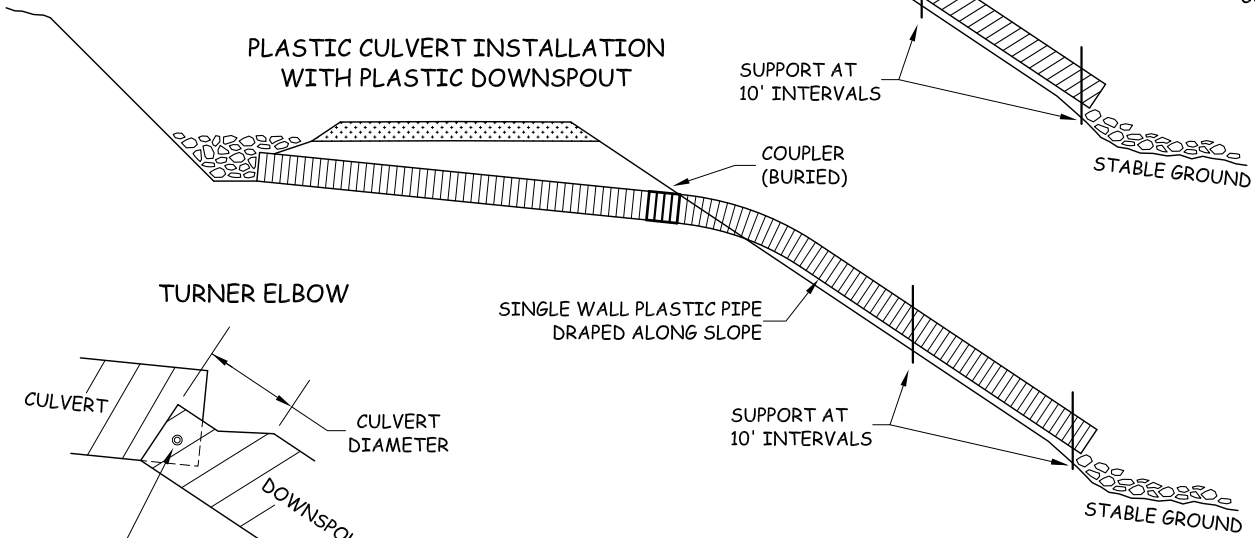
CULVERT INSTALLATION WITH DOWNSPOUT



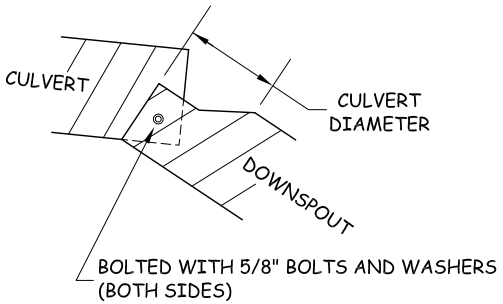
CULVERT HEADWALL - PLAN VIEW



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
30-099574	KITTEN KABOODLE	26 OF 26

SUMMARY - Road Development Costs

REGION: NW

DISTRICT: Cascade

SALE/PROJECT NAME: Kitten Kaboodle CONTRACT #: 30-099574

ROAD NUMBERS:	EK-7302-07, EK-7302-0703, EK-7303	EK-7302-07	EK-7303
ROAD STANDARD:	Construction	Reconstruction	Pre-Haul Maintenance
NUMBER OF STATIONS:	34.48	14.52	16.52
CLEARING & GRUBBING:	$11,024	$2,005	$0
EXCAVATION & FILL:	$2,638	$57	$0
MISC. MAINTENANCE:	$0	$0	$456
ROAD ROCK:	$48,309	$48	$566
ROCK STOCKPILE PROD:	$14,009	$0	$0
CULVERTS & FABRIC:	$4,320	$1,296	$0
STRUCTURES:	$0	$0	$0
MOBILIZATION:	$2,611	$2,611	$2,250
TOTAL COSTS:	$82,910	$6,017	$3,272
COST PER STATION:	$2,405	$414	$198

ROAD DEACTIVATION & ABANDONMENT COSTS: $0

TOTAL (All Roads) = $92,200

SALE VOLUME MBF = 1950

TOTAL $/MBF = $47.28

Compiled by: J. Westra Date: 7/18/2019

Road Summary

SUMMARY INFORMATION

Prehaul Maintenance (ft)	1,652	Construction (ft)	3,448	Reconstruction (ft)	1,452
Abandonment (ft)	0	Subgrade (acres)	1.31	Subgrade (acres)	0.55
Ballast Rock (CY)	5,985	Steepest Side Slope	20%	Steepest Side Slope	5%
Rip Rap (CY)	65				

PREHAUL MAINTENANCE

Road	From	To	STA	$/STA	Total Cost
EK-7303	0	1,652	16+52	$62	$1,022
			16+52		**$1,022**

NEW CONSTRUCTION

Road	From	To	STA	Side Slope	Subgrade Width	$/STA	Total Cost
EK-7302-07	1,452	3,038	15+86	5%	16.50	$1,932.13	$30,644
EK-7302-0703	0	455	4+55	5%	16.50	$1,742.68	$7,929
EK-7303	1652	3,059	14+07	20%	16.50	$1,969.98	$27,718
			+				
STOCKPILE CREATION			+			#DIV/0!	$14,009
TOTAL			**34+48**				**$80,299**

RECONSTRUCTION

Road	From	To	STA	Side Slope	Subgrade Width	Current Width	Current Cut Slope	$/STA	Total Cost
EK-7302-07	0	1,452	14+52	5%	12.0	12.0	10%	$234.60	$3,406
TOTAL			**14+52**						**$3,406**

Prehaul Maintenance

Road	STA	Miles	Brushing	Brushing $	Grading	Grading $	Rock*	*Misc Cost*	Total
EK-7303	16+52.	0.31	No		No		$566	$456	$1,022
TOTAL				**$0**			**$566**		**$1,022**

*See Rock Production sheet

Clearing and Grubbing

CONSTRUCTION

Road	Side Slope	Acres	Factor	$/Acre*	$/STA	Cost
EK-7302-07	5%	1.40	1.2	$3,450	$366.37	$5,811
EK-7302-0703	5%	0.40	1.2	$2,600	$276.10	$1,256
EK-7303	20%	1.27	1.2	$2,600	$281.22	$3,957
TOTAL						**$11,024**

RECONSTRUCTION

Road	Side Slope	Acres	Factor	$/Acre*	$/STA	Cost
EK-7302-07	5%	1.28	1.2	$1,300	$138.05	$2,005
TOTAL						**$2,005**

Excavation and Shaping

CONSTRUCTION

Road	Full Bench	CY/STA	TOTAL CY	Factor	Expansion Factor	Waste Area (mi)	Endhaul Cost	Excavation Cost	Shaping Cost		$/STA	Total $
EK-7302-07	No	7.06	111.95	1				$517	$63		$37	$580
EK-7302-0703	No	7.06	32.12	1				$148	$18		$37	$166
EK-7303	No	28.24	397.28	1				$1,835	$56		$134	$1,891
												$2,638

RECONSTRUCTION

Road	End Haul	CY/STA	TOTAL CY	Factor	Expansion Factor	Waste Area (mi)	Endhaul Cost	Excavation Cost	Shaping Cost		$/STA	Total $
EK-7302-07	No			1					$57		$4	$57
												$57

Rock Production, Haul and Spread

PREHAUL MAINTENANCE

Road	Ballast Depth	CY / STA	Ballast	Stockpile	Haul Mi	Rip Rap	Stockpile	Haul Mi	Prod Cost	$/Load Ballast	$/Load Riprap	Haul Cost	Spread Cost	Total Cost
EK-7303			50	No	0.49				$350	$14.62	$8.17	$73	$143	$566
TOTAL			50						**$350**			**$73**	**$143**	**$566**

CONSTRUCTION

Road	Ballast Depth	CY / STA	Ballast	Stockpile	Haul Mi	Rip Rap	Stockpile	Haul Mi	Prod Cost	$/Load Ballast	$/Load Riprap	Haul Cost	Spread Cost	Total Cost
EK-7302-07	18"	114	1,810	No	1.52	15	Yes	1.52	$12,678	$27.98	$27.98	$5,120	$5,159	$22,957
EK-7302-0703	18"	114	520	No	1.41		Yes	1.41	$3,642	$26.58	$26.58	$1,382	$1,482	$6,507
EK-7303	18"	114	1,605	No	0.78	35	Yes	0.78	$11,242	$18.36	$18.36	$3,029	$4,574	$18,846
										$8.17	$8.17			
STOCKPILE CREATION			2,000	No					$14,009	$8.17	$8.17			$14,009
			5,935			50			**$27,563**			**$9,532**	**$11,215**	**$48,309**

RECONSTRUCTION

Road	Ballast Depth	CY / STA	Ballast	Stockpile	Haul Mi	Rip Rap	Stockpile	Haul Mi	Prod Cost	$/Load Ballast	$/Load Riprap	Haul Cost	Spread Cost	Total Cost
EK-7302-07					1.23	15	Yes	1.23		$24.22	$24.22	$48		$48
						15						**$48**		**$48**

Road Abandonment

CONSTRUCTION

Road	Abandon	STA	Barriers	Culverts	Waterbars	Seed Acres		$/STA	Cost
EK-7302-07	No	+.							
EK-7302-0703	No	+.							
EK-7303	No	+.							
		+.							

RECONSTRUCTION

Road	Abandon	STA	Barriers	Culverts	Waterbars	Seed Acres		$/STA	Cost
EK-7302-07	No	+.							
		+.							

Culverts

PREHAUL MAINTENANCE

	Round Culvert Pipe												Pipe-Arch				
	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	54"	60"	72"	84"	
Road	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	**Total**
EK-7303																	
TOTAL																	

NEW CONSTRUCTION

	Round Culvert Pipe												Pipe-Arch				
	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	54"	60"	72"	84"	
Road	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	**Total**
EK-7302-07	3 90																$1,296
EK-7302-0703																	
EK-7303	7 210																$3,024
TOTAL	10																**$4,320**

RECONSTRUCTION

	Round Culvert Pipe												Pipe-Arch				
	18"	24"	30"	36"	42"	48"	54"	60"	66"	72"	84"	96"	54"	60"	72"	84"	
Road	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	# LF	**Total**
EK-7302-07	3 90																$1,296
TOTAL	3																**$1,296**

Mobilization

Prehaul Maintenance	0.00	miles from gate					
Equipment	#	*Haul Rate*	*Gravel mph*	*Hours*	*Move In*	*Move Out*	*Comments*
Brusher (80 PTO HP)		$110.00	15	1			Truck and tilt trailer
Grader (175 HP)		$123.00	5	1			Small lowboy.
				Subtotal			

Construction/Reconstruction	8.00	miles from gate					
Equipment	#	*Haul Rate*	*Gravel mph*	*Hours*	*Move In*	*Move Out*	*Comments*
Excavator (Large)	1	$145.00	2	5	$725	$725	Large Lowboy
Truck (10CY Dual Axle)	2	$98.00	20	2	$392	$392	Rate from 2015 ARRF
Cat (Medium: D5, 650J)	1	$123.00	5	3	$369	$369	Small Lowboy
Grader (175 HP)		$123.00	5	3			Small Lowboy.
				Subtotal	**$1,486**	**$1,486**	

Pit	8.00	miles from gate					
Equipment	#	*Haul Rate*	*Gravel mph*	*Hours*	*Move In*	*Move Out*	*Comments*
Rock Drill	1	$110.00	15	2	$220	$220	Truck and tilt trailer. Half prehaul/construction
Jaw Crusher	1	$145.00	1	9	$1,305	$1,305	Large lowboy. Half prehaul/construction
Front End Loader (Large)	1	$145.00	2	5	$725	$725	Large lowboy. Half prehaul/construction
				Subtotal	**$2,250**	**$2,250**	

City	Miles to Gate	
Everett	20	
Granite	10	
Arlington	25	
Sedro	60	
Bham	80	
Use	25	miles
pavement	30	mph

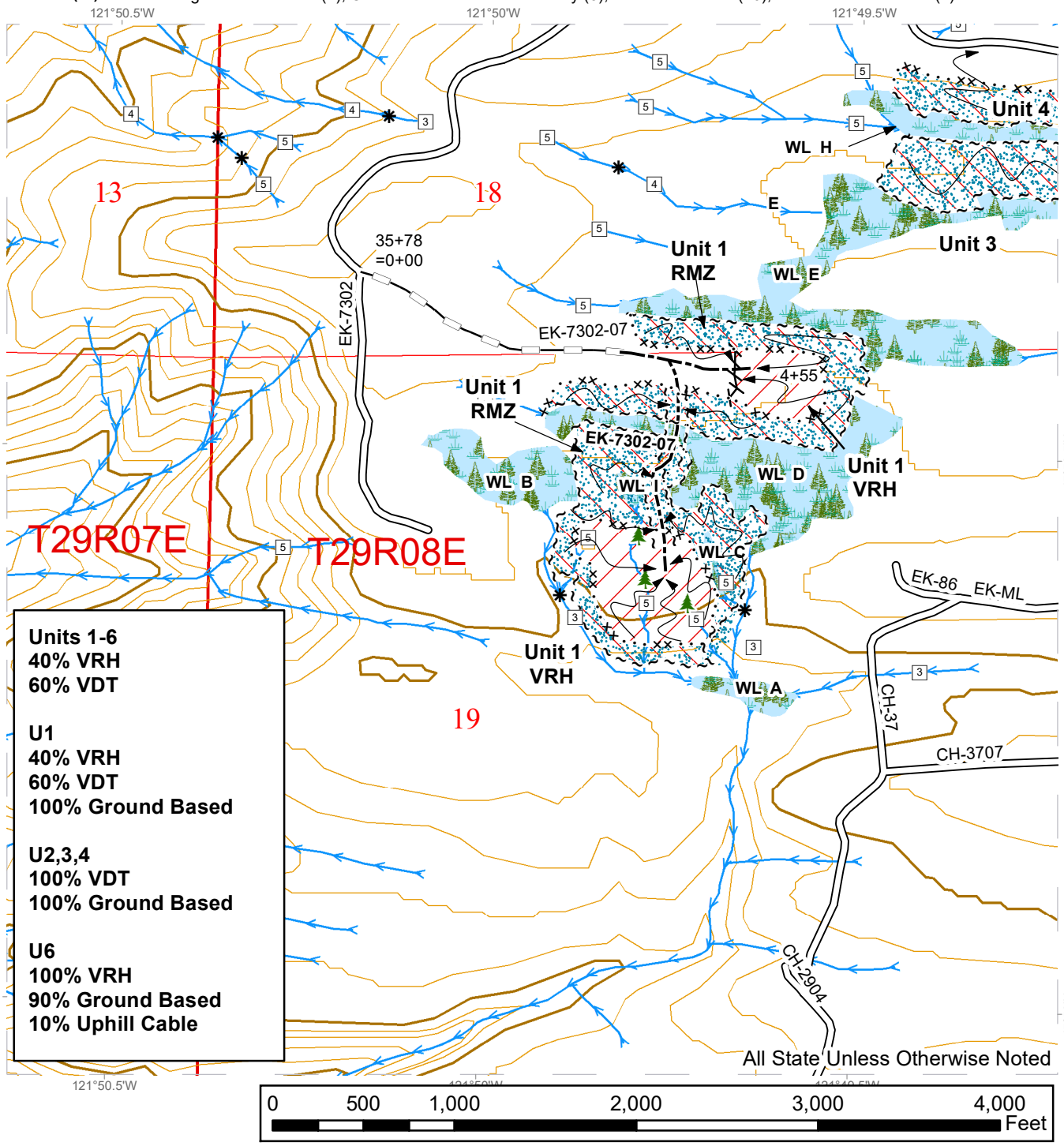
Prehaul Mob	**$2,250**
% of Project	**2.50%**
Construct/Reconstruct Mob	**$5,222**
% of Project	**6.00%**
Total Mob	**$7,472**
% of Project	**8.82%**

LOGGING PLAN MAP

SALE NAME: KITTEN KABOODLE
AGREEMENT #: 30-099574
TOWNSHIP(S): T29R7E, T29R8E
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1640-2160

N



Units 1-6
40% VRH
60% VDT

U1
40% VRH
60% VDT
100% Ground Based

U2,3,4
100% VDT
100% Ground Based

U6
100% VRH
90% Ground Based
10% Uphill Cable

Variable Density Thinning
Variable Retention Harvest
kittenkaboodle_rmz
Forested Wetland
Leave Tree Area <1/4-acre
Existing Roads
Optional Construction
Optional Reconstruction
Flag Line
Ground Based
Uphill Cable
Right of Way Tags
Sale Boundary Tags
Special Mgmt Area
Streams
Stream Type 3
Stream Type 4
Stream Type 5
Stream Break

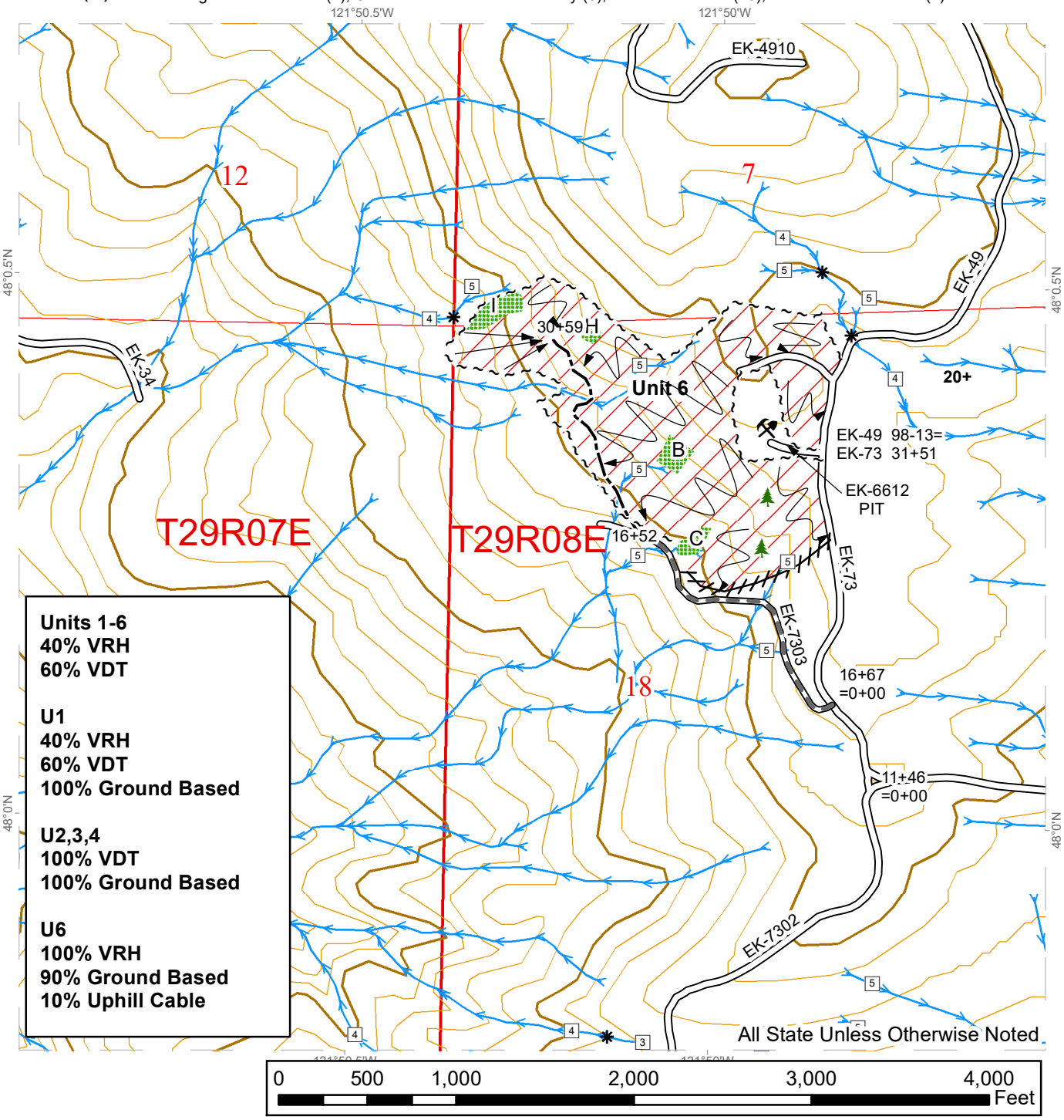
Prepared By: smky490

Modification Date: pfer490 1/3/2020

LOGGING PLAN MAP

SALE NAME: KITTEN KABOODLE
AGREEMENT #: 30-099574
TOWNSHIP(S): T29R7E, T29R8E
TRUST(S): Agricultural School (4), Common School and Indemnity (3), Scientific School (10), State Forest Transfer (1)

REGION: Northwest Region
COUNTY(S): Snohomish
ELEVATION RGE: 1640-2160



Variable Retention Harvest
Leave Tree Area
Leave Tree Area <1/4-acre
Existing Roads
Required Pre-Haul Maintenance
Optional Construction
Flag Line
Ground Based
Uphill Cable
Sale Boundary Tags
Streams
Stream Type 3
Stream Type 4
Stream Type 5
Stream Break
Rock Pit

Prepared By: smky490

Modification Date: pfer490 1/3/2020

LOGGING PLAN MAP

SALE NAME: KITTEN KABOODLE
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TOWNSHIP(S): T29R7E, T29R8E
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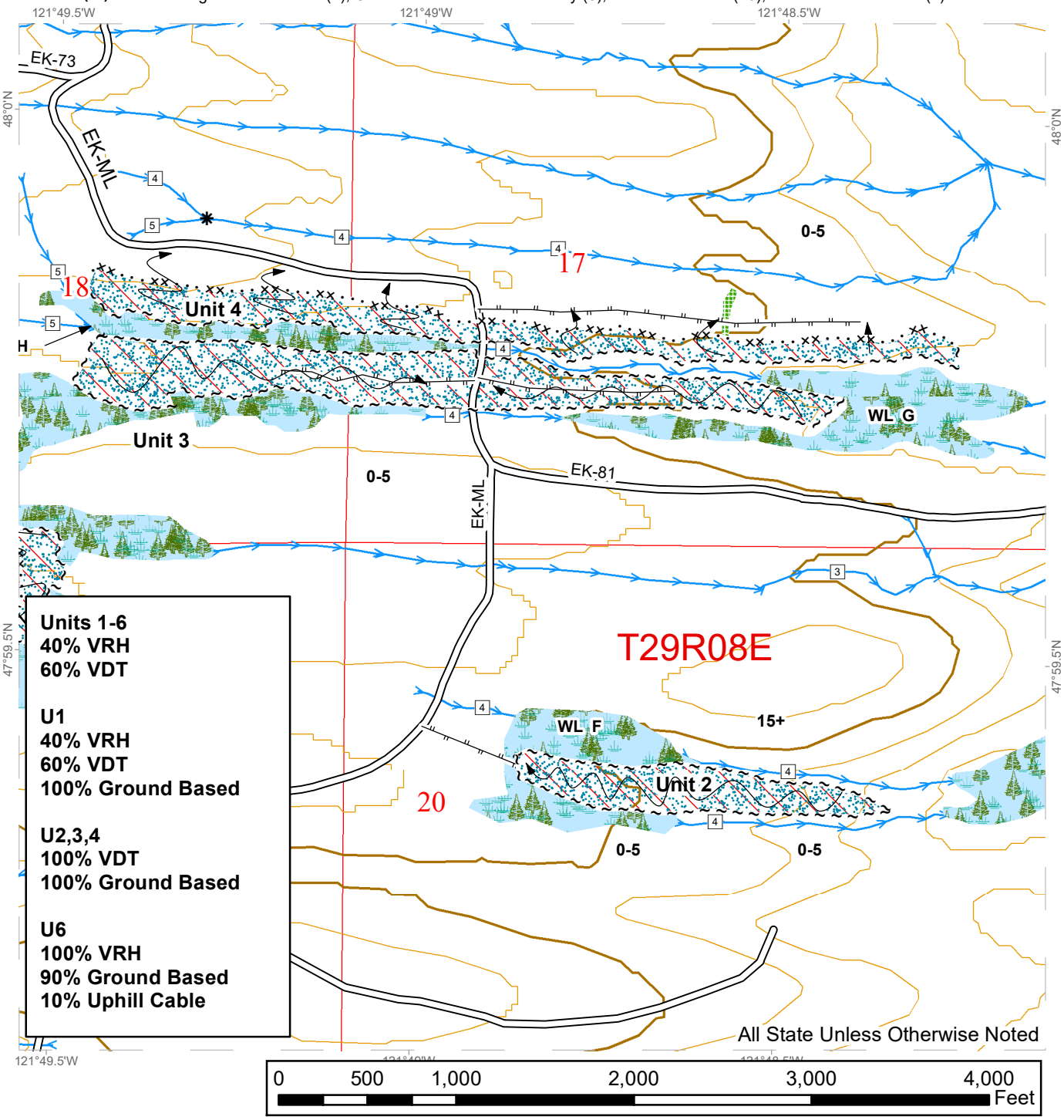

Variable Density Thinning
Variable Retention Harvest
kittenkaboodle_rmz
Leave Tree Area
Forested Wetland
Existing Roads
Designated Skid Trail
Sale Boundary Tags
Special Mgmt Area
Streams
Stream Type 3
Stream Type 4
Stream Type 5
Stream Break
Ground Based
Uphill Cable

Prepared By: smky490

Modification Date: pfer490 1/3/2020