

TIMBER NOTICE OF SALE

SALE NAME: WING IT HARDWOOD

AGREEMENT NO: 30-093092

AUCTION: May 25, 2016 starting at 10:00 a.m.,
Olympic Region Office, Forks, WA

COUNTY: Clallam, Jefferson

SALE LOCATION: Sale located approximately 10 miles southeast of Sequim, WA

**PRODUCTS SOLD
AND SALE AREA:**

All biomass as described in Schedule C, and all timber, except trees marked with a ring of blue paint or bounded out by Leave Tree Area tags, bounded by Timber Sale Boundary tags in Units 1, 2, 3, 4, 5, and 6; All timber bounded by Right-of-Way Boundary tags except that title to the timber within the Right-of-Way Boundary tags of the PT-B-1343, PT-B-1343.3, and the PT-O-3140 Roads is not conveyed to the Purchaser unless the road segment is actually constructed.

In no instance shall downed red cedar be removed from the sale area, unless it has fine branches and needles. All timber that has been on the ground for 5 years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of sap rot; on part(s) of Sections 7 all in Township 27 North, Range 1 West, Sections 12 and 13 all in Township 28 North, Range 2 West, Sections 16, 17, 20 and 21 all in Township 29 North, Range 2 West, W.M., containing 197 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	18.9	8	2,646				118		1,741	576	179	32
Red alder	13.2		1,514						354	445	434	281
Red cedar	18.4		340							252	88	
Maple	20		304						190	21	55	38
Hemlock	13.4	7	301						71	159	49	22
Grand fir	13.9		59						29	22	1	7
Spruce	15.9		18							16	1	1
Sale Total			5,182									

MINIMUM BID: \$1,157,000.00

BID METHOD: Sealed Bids

PERFORMANCE

SECURITY: \$100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2017

ALLOCATION: Export Restricted

BID DEPOSIT: \$115,700.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Ground - 100% - Cutting and yarding are not permitted from November 1 to June 30 in Units 1 & 2 and from November 1 to April 30 in Units 3 & 4. Cutting, yarding, loading, and timber hauling are not permitted in any unit on weekends or on State recognized holidays unless approved in writing by the Contract Administrator.

TIMBER NOTICE OF SALE

Tracked and rubber tired forwarders are limited to designated skid trails only in Units 1, 2, 3, & 4, and their use is restricted from November 1st through June 30th. Rubber tired skidders are limited to designated skid trails only in Units 5 & 6, and their use is restricted from November 1st through June 30th.

ROADS:

13.90 stations of required construction. 1.03 stations of required reconstruction. 109.71 stations of optional construction. 4.85 stations of optional reconstruction. 764.58 stations of required maintenance. 55.03 stations of optional maintenance. 8.73 stations of required abandonment and an additional 10.09 stations of required abandonment if the O-3140 Road is constructed.

No operation of road construction or maintenance equipment or rock hauling will be allowed from November 1 through April 30 or on weekends or on State recognized holidays. On the PT-O-3140 Road, no operation of road construction or maintenance equipment or rock hauling will be allowed from October 15 through June 30 or on weekends or on State recognized holidays unless authorized in writing by the Contract Administrator. There are 5 large culvert installations required. See the road plan for details.

ACREAGE DETERMINATION

CRUISE METHOD:

Unit 1, 2, 3, 4, 5, & 6 acreage was determined by GPS. Right-of-way acreage was stationed by measurement. Units 1, 2, 3, 4, 5, & 6 and right-of-way Units 9 & 10 were cruised using a variable plot sample. Right-of-way Units 7 & 8 were cruised using ITS method.

FEES:

\$91,981.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS:

There are locked gates on the PT-O-3000, PT-B-1200, PT-B-1020, and PT-Q-4200 Roads. Please contact Olympic Region Dispatch Center at 360-374-2800 to check out an AA1 key.

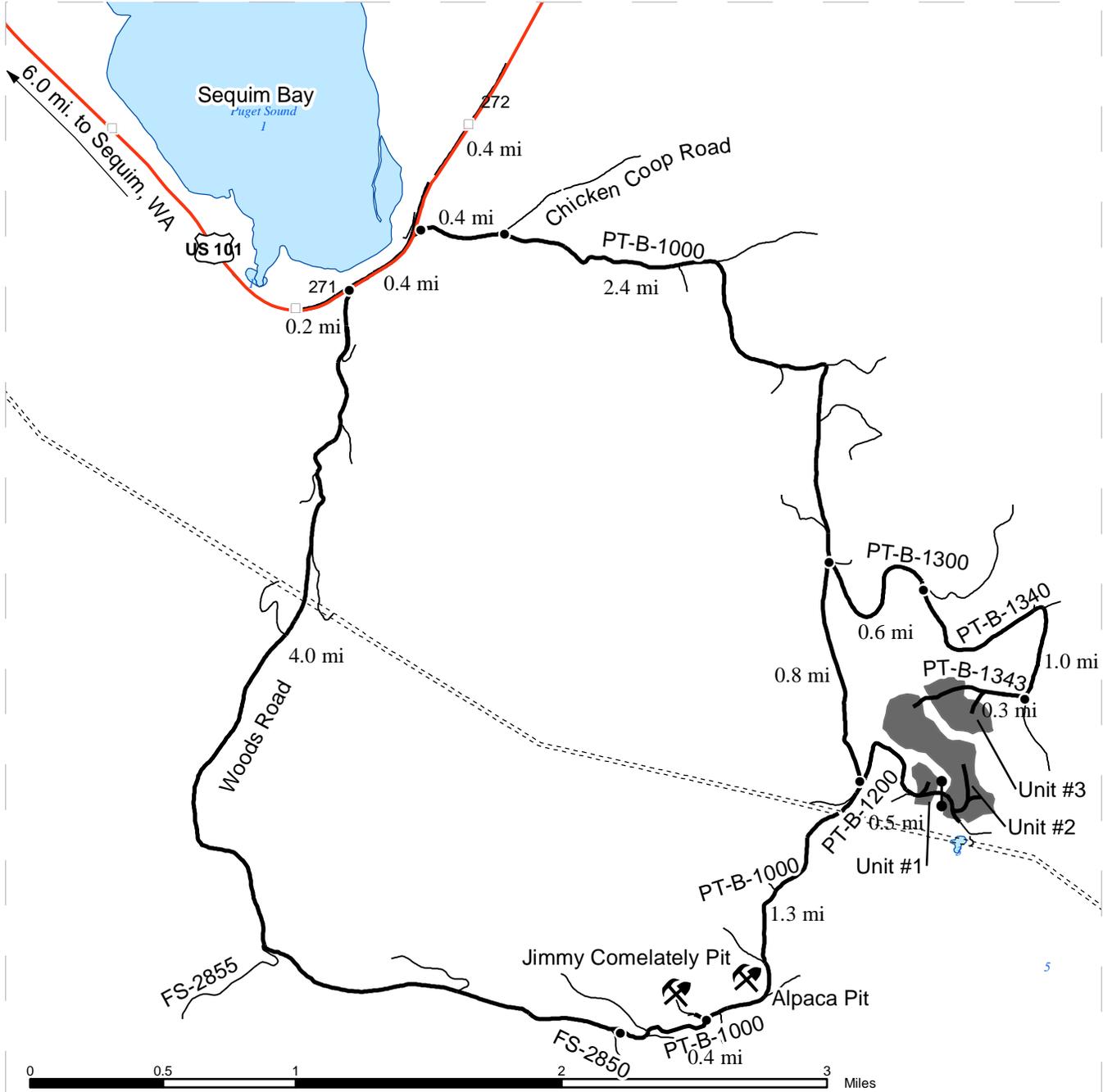
Units 3, 4, and parts of 5 contain a component of large Douglas fir with diameters greater than 30" and bole heights of 95'.

Purchaser must notify BPA and have utility lines located before beginning road maintenance activities. Purchaser is responsible for repairing any damage to utility lines due to road or harvest operations. The following roads have the potential for overhead and/or buried utilities: FS-2850/Woods Road, PT-B-1000, and PT-O-3000.

DRIVING MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T29N R02W
TRUST(S): State Forest Board Transfer (01), Common School (03), Capitol Grant (07)

REGION: Olympic
COUNTY(S): Clallam/ Jefferson
ELEVATION RGE: 400-1400 feet



Timber Sale Unit
 Highways
 Haul Route
 BPA Transmission Line
Features of Interest
 Gate (AA-1)
 Distance Indicator
 Milepost Markers
 Existing Rock Pit

Driving Directions

Unit #1, #2, & Jimmy Comelately Pit
 From milepost 271 on Hwy 101 travel 0.2 miles east and turn right onto Woods Rd/USFS-2855. Follow Woods Rd south for 4 miles and turn left onto the PT-B-1000. Follow PT-B-1000 east for 0.4 miles to the PT-B-1020 road on the left. Jimmy Comelately Pit is located behind the yellow gate (AA-1) on the PT-B-1020. Continue on the PT-B-1000 traveling east for 1.3 miles past BPA lines to the PT-B-1200 junction. Bear right onto the PT-B-1200 road and continue 0.5 miles to Unit #1 located on both sides of the road. Unit #2 is located through the large gate (AA-1) 0.1 miles east on both sides of the PT-B-1200. Unit #3

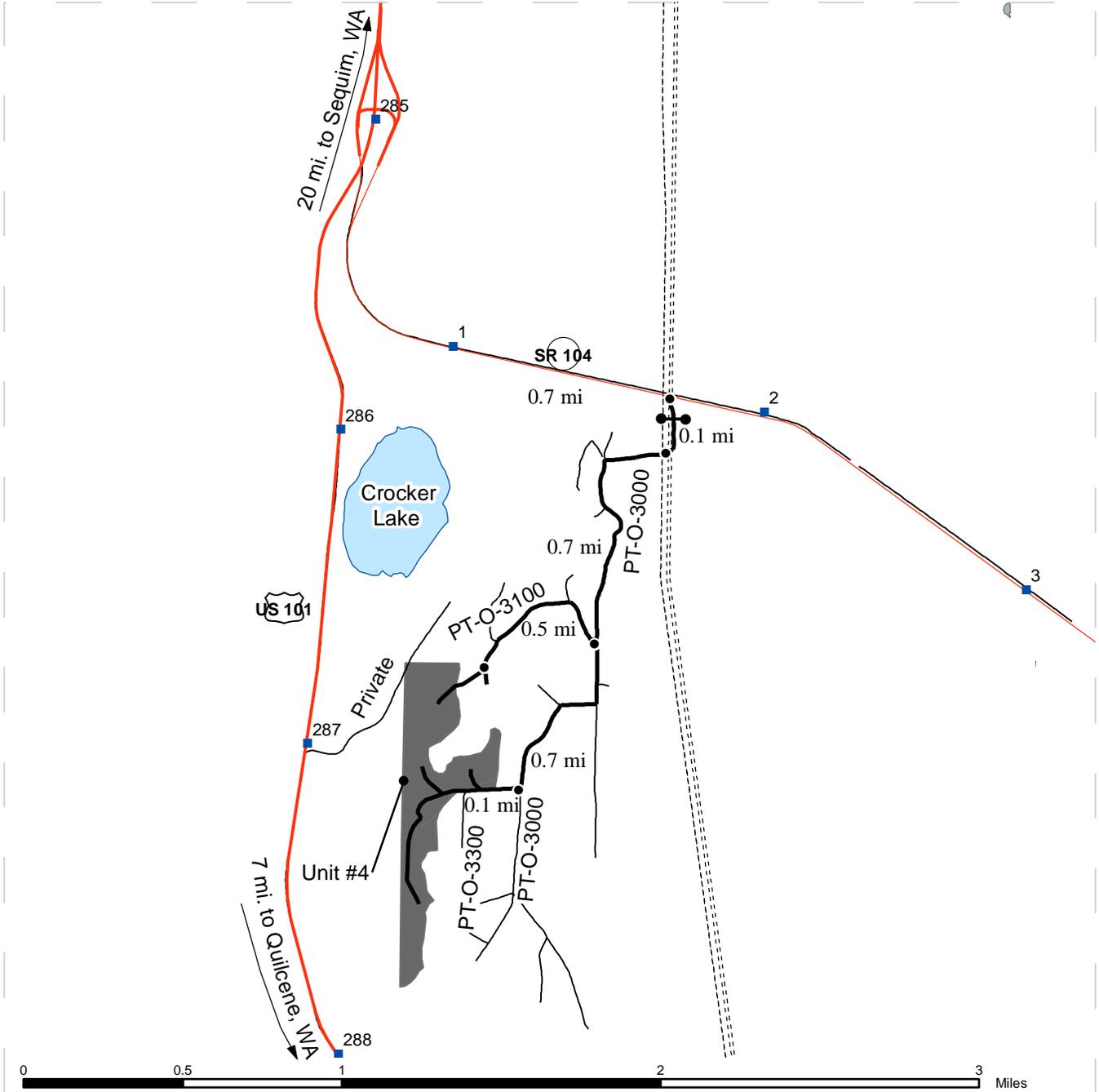
Unit #3
 From milepost 271 on Hwy 101 travel 0.6 miles east and turn right onto Chicken Coop Rd. Follow Chicken Coop Rd east for 0.4 miles and turn right onto the PT-B-1000 heading east. Follow for 2.4 miles until the junction with the PT-B-1300 road. Take left and follow PT-B-1300 0.6 miles to the junction with PT-B-1340 and bear right. Follow PT-B-1340 for 1.0 mile to junction with PT-B-1343. Walk in the last 0.3 miles to Unit #3, and 0.5 miles to Unit #2.



DRIVING MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T28N R02W
TRUST(S): State Forest Board Transfer (01)

REGION: Olympic
COUNTY(S): Clallam/ Jefferson
ELEVATION RGE: 200-1000 feet



	Timber Sale Unit
	Highways
	Haul Route
	BPA Transmission Line
Features of Interest	
	Gate
	Distance Indicator
	Milepost Markers

Driving Directions

Unit #4:

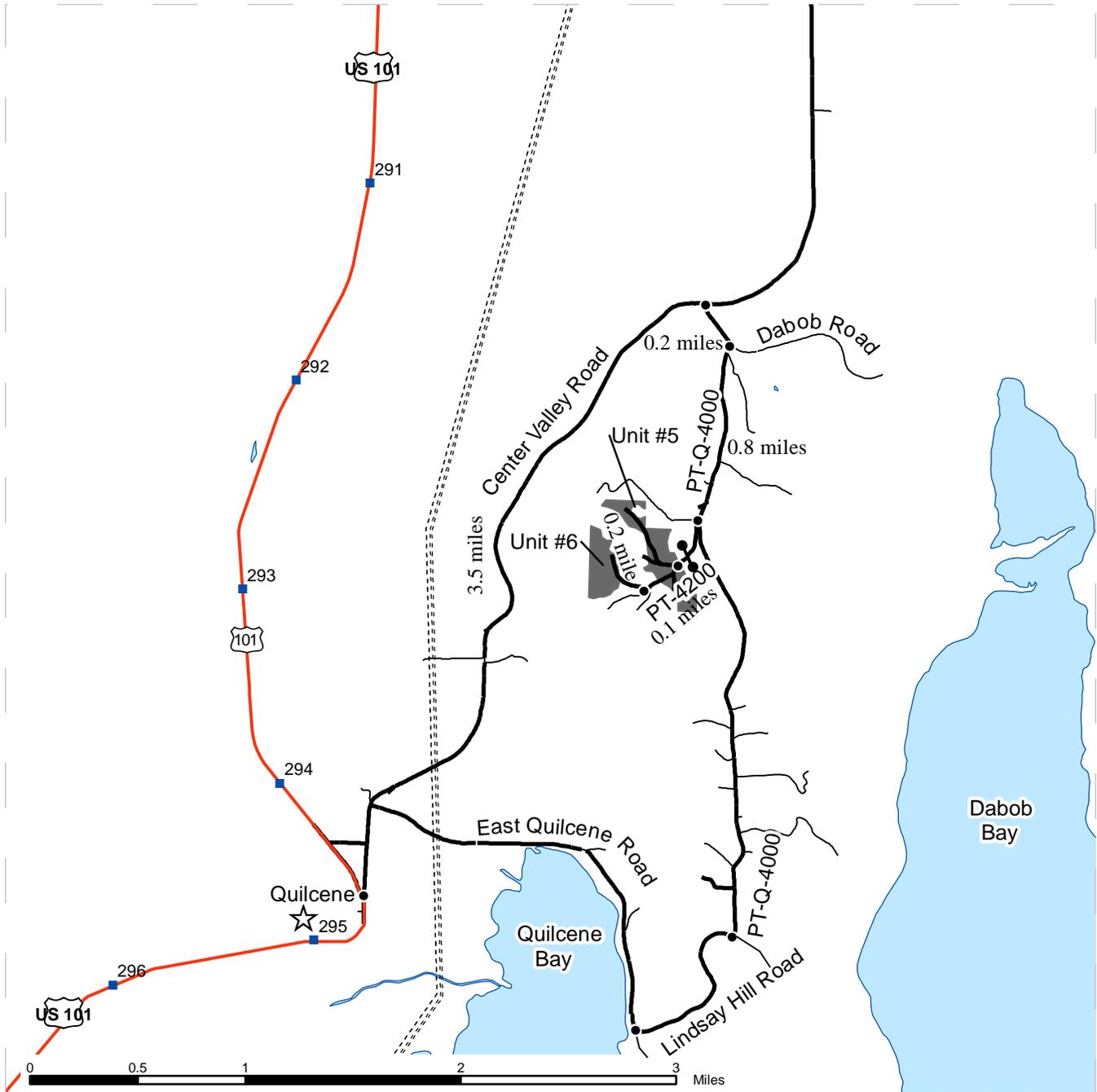
From milepost 1 on SR 104 travel 0.7 miles east and turn right under the BPA power lines on the PT-O-3000 road. Go through orange gate (AA1 lock) south of highway and follow utility R/W for 0.1 miles, turn right bearing west away from utilities on the PT-O-3000 following for 0.7 miles to junction with the PT-O-3100. Bear right onto the PT-O-3100 for 0.5 miles to the north end of Unit #4, or continue on PT-O-3000 for 0.7 miles to the junction with PT-O-3300, and turn right following the PT-O-3300 0.1 miles to Unit #4 located north and west of road.



DRIVING MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T27N R01W
 TRUST(S): Common School (03)

REGION: Olympic
 COUNTY(S): Clallam/ Jefferson
 ELEVATION RGE: 400-600 feet



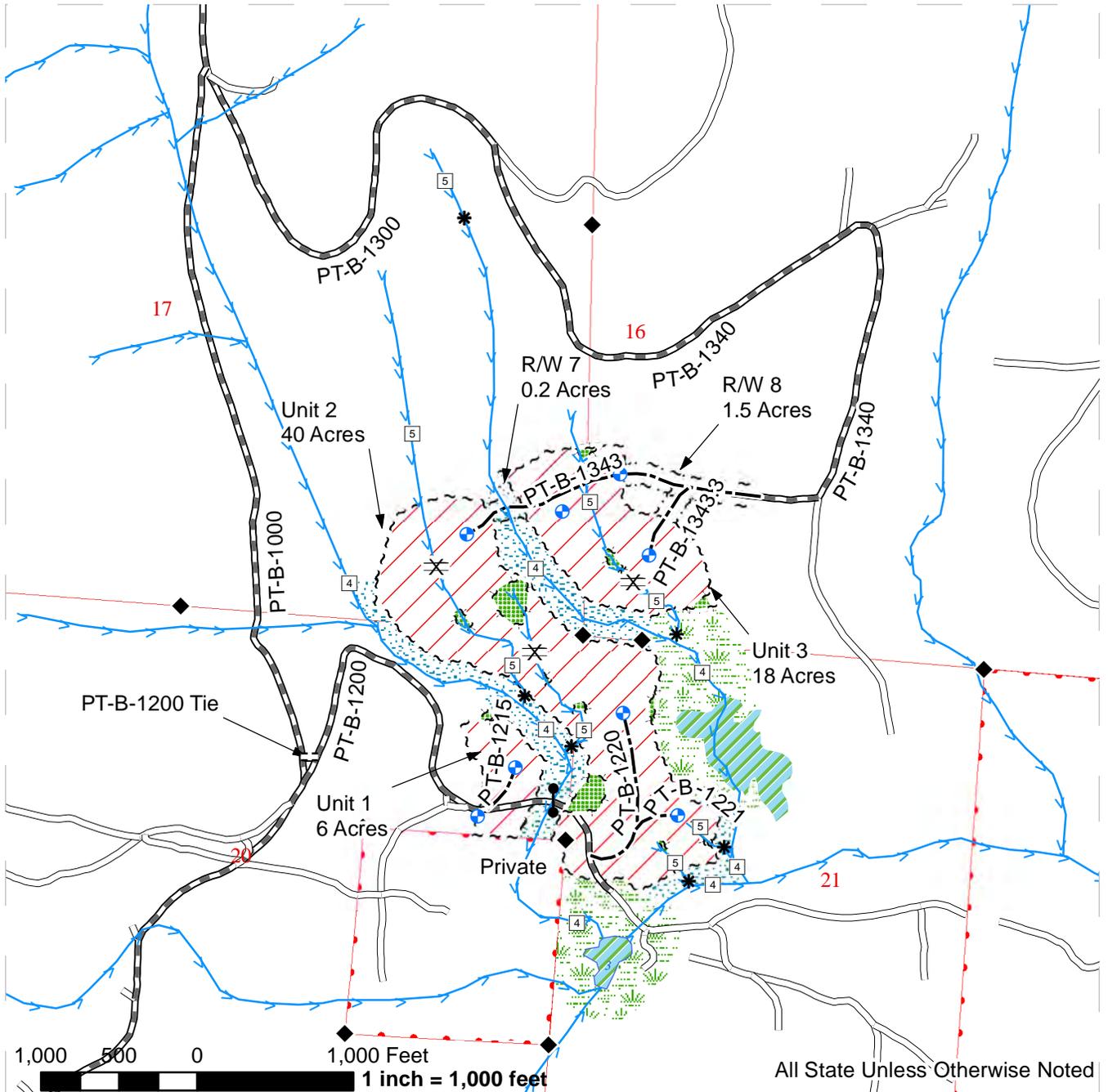
<ul style="list-style-type: none"> Timber Sale Unit Highways Haul Route BPA Transmission Line <p>Features of Interest</p> <ul style="list-style-type: none"> Gate (AA-1) Distance Indicator Milepost Markers 	<p>Driving Directions</p> <p>Unit #5</p> <p>From mile post 295 on US 101 in Quilcene, WA heading north bear right onto Center Valley Road. Follow north for 3.5 miles to junction with Dabob Road and turn right. Follow Dabob Road east for 0.2 miles to PT-Q-4000 on right. Turn right and follow PT-Q-4000 south for 0.8 miles to junction with PT-Q-4200 road. Bear right through orange gate (AA-1) onto PT-Q-4200 road. Follow for 0.1 miles to Unit #5 located on both sides of the road.</p> <p>Unit #6</p> <p>From Unit #5 continue on PT-Q-4200 road heading west for another 0.2 miles. Park at spur right flagged and painted in orange. Walk 0.2 miles through timber to Unit #6.</p>
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TIMBER SALE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T29N R02W
TRUST(S): State Forest Board Transfer (01), Common School (03), Capitol Grant (07)

REGION: OLYMPIC
COUNTY(S): Clallam/ Jefferson
ELEVATION RGE: 400-1,400 ft.

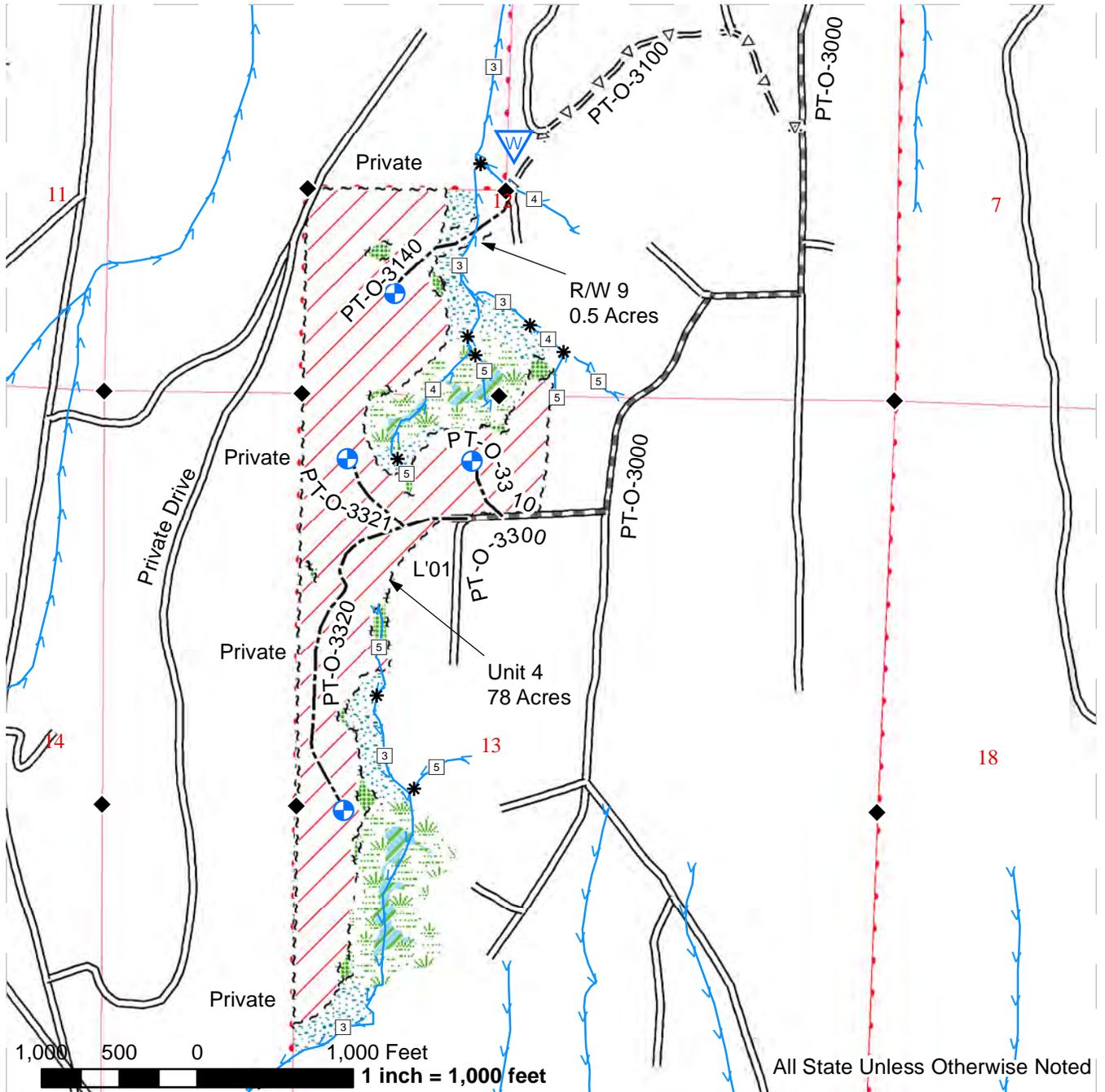


Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Timber Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	Designated Crossing

TIMBER SALE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T28N R02W
TRUST(S): State Forest Board Transfer (01)

REGION: OLYMPIC
COUNTY(S): Jefferson
ELEVATION RGE: 200-1,000 ft.

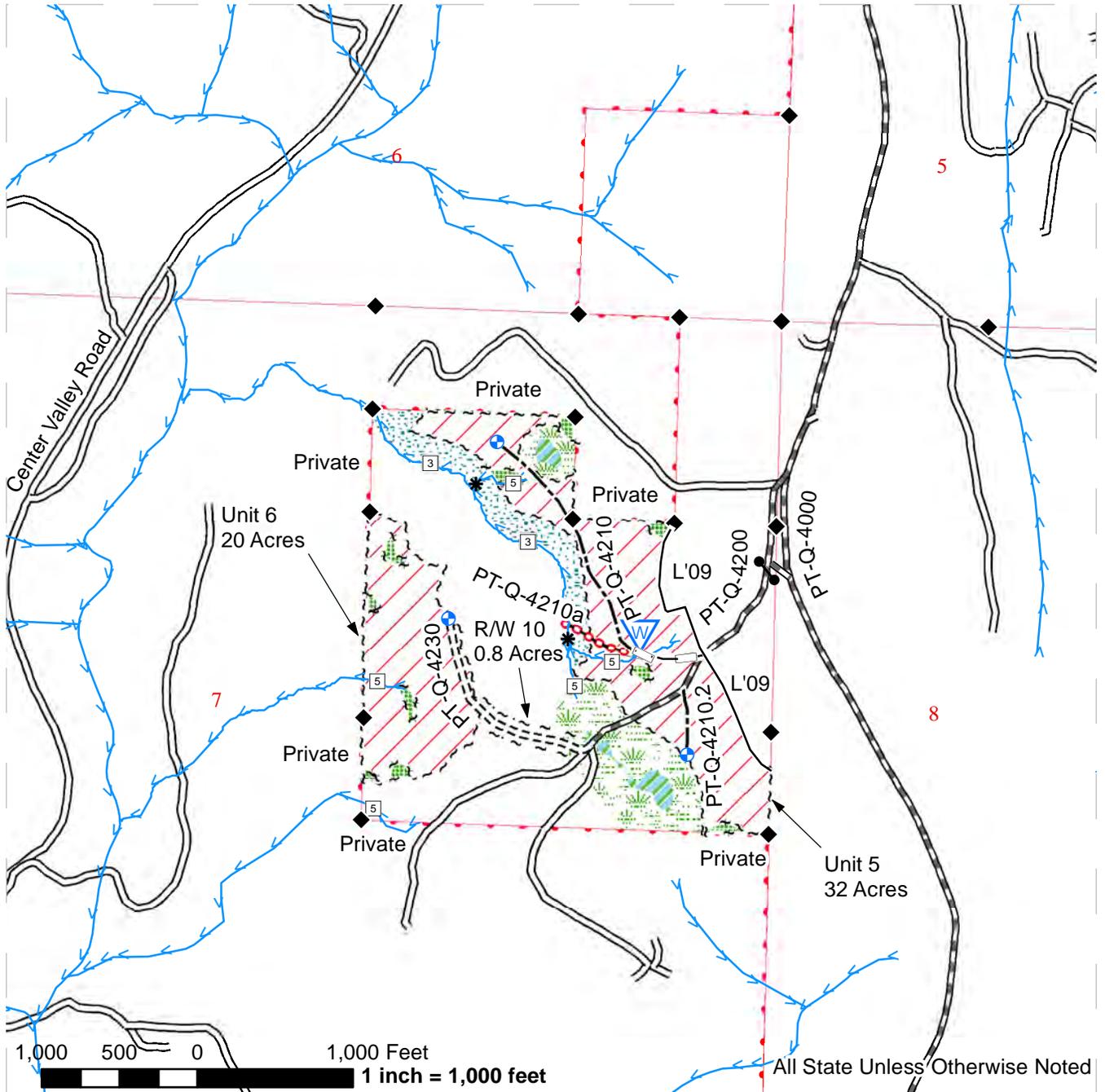


Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Timber Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	Waste Area

TIMBER SALE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T27N R01W
TRUST(S): Common School (03)

REGION: OLYMPIC
COUNTY(S): Jefferson
ELEVATION RGE: 400-600 ft.



Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Timber Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	Waste Area
	Reprod	

**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-093092

SALE NAME: WING IT HARDWOOD

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on May 25, 2016 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 biomass as described in Schedule C, and all timber, except trees marked with a ring of blue paint or bounded out by Leave Tree Area tags, bounded by Timber Sale Boundary tags in Units 1, 2, 3, 4, 5, and 6; All timber bounded by Right-of-Way Boundary tags except that title to the timber within the Right-of-Way Boundary tags of the PT-B-1343, PT-B-1343.3, and the PT-O-3140 Roads is not conveyed to the Purchaser unless the road segment is actually constructed.

In no instance shall downed red cedar be removed from the sale area, unless it has fine branches and needles. All timber that has been on the ground for 5 years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of sap rot; located on approximately 197 acres on part(s) of Section 7 in Township 27 North, Range 1 West, Sections 12, and 13 all in Township 28 North, Range 2 West, Sections 16, 17, 20, and 21 all in Township 29 North, Range 2 West W.M. in Clallam, and Jefferson 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 eligible for removal under the terms of this contract.

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

G-020 Inspection By Purchaser

Purchaser hereby warrants to the State that they have had an opportunity to fully inspect the sale area and the forest products being sold. Purchaser further warrants to the State that they enter this contract based solely upon their own judgment of the value

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Specifications for Slash Piling
B	Green Tree Retention Plan
C	Biomass Removal Schedule

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2017.

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 \$665.00 per acre per annum for the acres on which an operating release has not been issued.
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.

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

G-062 Habitat Conservation Plan

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

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

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

G-063 Incidental Take Permit Notification Requirements

- a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.
- b. Upon locating any live, dead, injured, or sick specimens of any permit species covered by the ITP, Purchaser shall immediately notify the Contract Administrator. Purchaser shall notify the Contract Administrator if there is any doubt as to the identification of a discovered permit species. Purchaser may be required to take certain actions to help the Contract Administrator safeguard the well-being of any live, injured or sick specimens of any permit species discovered, until the proper disposition of such specimens can be determined by the Contract Administrator. Any such requirements will be explained to Purchaser by the Contract Administrator during the Pre-Work Conference. In all circumstances, notification must occur within a 24 hour time period.
- c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.
- d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

In the event of a breach of any provision of this contract by the State, the exclusive remedy available to Purchaser will be limited to a return of the initial deposit, unapplied payments, and credit for unamortized improvements made by Purchaser.

The State shall not be liable for any damages, whether direct, incidental or consequential.

G-080 Scope of State Advice

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

G-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 on all general liability, excess, umbrella, and property insurance policies.

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

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

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

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

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

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

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

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

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

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

G-160 Agents

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

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

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

G-210 Violation of Contract

G-220 State Suspends Operations

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

G-210 Violation of Contract

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

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

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; PT-B-1000, PT-B-1020, PT-B-1200, PT-B-1200 Tie, PT-B-1215, PT-B-1220, PT-B-1221, PT-B-1300, PT-B-1340, PT-B-1343, PT-B-1343.3, FS-2850/Woods Road, PT-O-3000, PT-O-3100, PT-O-3140, PT-O-3300, PT-O-3310, PT-O-3320, PT-O-3321, PT-Q-4000, PT-Q-4200, PT-Q-4210, PT-Q-4210a, PT-Q-4210.2, and PT-Q-4230. The State may authorize in writing the use of other roads subject to fees, restrictions, and prior rights.

G-330 Pre-work Conference

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

G-340 Preservation of Markers

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

G-360 Road Use Reservation

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

G-370 Blocking Roads

Purchaser shall not block the FS-2850/Woods Road, PT-B-1000, PT-B-1200, PT-O-3000, or the PT-Q-4200, 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:

Easement 55-000049 granted to the Department of Natural Resources by Dept. of Agriculture dated September 23, 1968.

Easement 55-000575 granted to the Department of Natural Resources by Albert Haller dated July 30, 1964.

Easement 55-001520 granted to the Department of Natural Resources by Crown Zellerbach dated September 13, 1977

Easement 55-002063 granted to Department of Natural Resources by Merrill & Ring Incorporated and Ralph E. and Mildred K. Hall dated May 21, 1984

Easement 55-000314 granted to Department of Natural Resources by Crown Zellerbach Corp. dated December 21, 1967

G-430 Open Fires

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

G-450 Encumbrances

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

Easement, including the terms and provisions thereof,
For: Overhead Transmission Lines
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-001422
Granted: 12/28/1955
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Department of Natural Resources
Disclosed by Application No.: 50-27456
Granted: 3/31/1964
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-030214
Granted: 3/1/1965
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: United States of America

Disclosed by Application No.: 50-032612
Granted: 9/5/1968
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Craig Cheledinas & Jim Gadamus
Disclosed by Application No.: 50-042445
Granted: 9/7/1979
Expires: Indefinite

Pending Applications

Easement, including the terms and provisions thereof,
For: ROAD
In Favor of: Pope Resources, LP
Disclosed by Application No.: 50-089579
Granted: 3/5/2013

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 \$138,619.00. The total contract price consists of a \$0.00 contract bid price plus \$138,619.00 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-001 Operations Outside the Sale Boundaries**

No operations shall occur outside the sale boundaries, as described within the contract, unless approved in writing by the State.

H-010 Cutting and Yarding Schedule

Cutting and yarding are not permitted from November 1 to June 30 in Units 1 & 2 and from November 1 to April 30 in Units 3 & 4. In addition, cutting and yarding are not permitted in any unit on weekends or State recognized holidays unless authorized in writing by the Contract Administrator.

Tracked and rubber tired forwarders are limited to designated skid trails only in Units 1, 2, 3, & 4, and their use is restricted from November 1 through June 30. Rubber tired skidders are limited to designated skid trails only in Units 5 & 6, and their use is restricted from November 1 through June 30 unless authorized in writing by the Contract Administrator.

H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 100 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

H-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 12 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-018 Temporary Stream Crossings

A temporary stream crossing is required to access the western halves of Units 2 & 3.

Purchaser shall comply with the following during the yarding operation:

- a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required, amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.
- b. Location of the temporary stream crossing must be approved by the Contract Administrator.

- c. A temporary stream crossing shall not exceed 22 feet in width, including rub trees.
- d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.
- e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.
- f. Logs and slash shall be placed in the drainage bottom with a shovel to the satisfaction of the Contract Administrator.

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

H-035 Fall Trees Into Sale Area

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

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested by ground methods. Tracked and rubber tired forwarders are limited to designated skid trails only in Units 1, 2, 3, & 4, and their use is restricted from November 1 through June 30. Rubber tired skidders are limited to designated skid trails only in Units 5 & 6, and their use is restricted from November 1 through June 30 unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-127 Tailholds on Private Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted on weekends or on State recognized holidays unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.
2. Warning signs for brushing activities, rock truck traffic, and log truck traffic must be placed on both ends of the PT-B-1000, FS-2850/Woods Road, PT-Q-4000, and PT-O-3000 during active operations.
3. Designated skid trails shall be used in Unit 2 as approved by the Contract Administrator.
4. Purchaser shall perform approximately 4,800 feet of skid trail abandonment in the sale area. The location of this work will be determined by the Contract Administrator. Abandonment shall consist of re-establishing natural drainage and natural slopes, fluffing compacted soil to an 18 inch depth using shovel grapples, placing stumps and debris back into the trail, and installing water bars as directed by the Contract Administrator.
5. The Purchaser shall notify all employees and contractors working on this sale that any danger tree, marked or unmarked, may be felled. Any felled marked danger tree shall be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.
6. Feller buncher shall not operate on slopes over 40% in Units 4 and 6. Directional hand falling will be required in these areas.
7. Vine maple pulling will be required in Unit 4. All vine maple stems over 2" in diameter will be uprooted mechanically and piled concurrently with yarding.

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:

1. Purchaser is responsible for any fees or notification requirements associated with power line or utility shutdowns for operational purposes.
2. Road maintenance is in close proximity to overhead transmission lines managed by the Bonneville Power Administration (BPA). Purchaser is responsible for all liabilities associated with overhead transmission lines, their right of way, and following all BPA and other transmission line owner guidelines.
3. Purchaser must notify BPA and have utility lines located before beginning road maintenance activities. Purchaser is responsible for repairing any damage to utility lines due to road or harvest operations. The following roads have the potential for overhead and/or buried utilities: FS-2850/Woods Road, PT-B-1000, and PT-O-3000.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 9/29/2015 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on PT-B-1200, PT-B-1200 Tie, PT-B-1215, PT-B-1220, PT-B-1221, PT-B-1300, PT-B-1340, PT-B-1343, PT-B-1343.3, PT-O-3000, PT-O-3100, PT-O-3140, PT-O-3300, PT-O-3310, PT-O-3320, PT-O-3321, PT-Q-4000, PT-Q-4200, PT-Q-4210, PT-Q-4210a, PT-Q-4210.2, and PT-Q-4230. 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 PT-B-1000, PT-B-1020, FS-2850/Woods Road, and all other roads used and not listed in Clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State's current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

C-140 Water Bars

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

Section S: Site Preparation and Protection**S-001 Emergency Response Plan**

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-040 Noxious Weed Control

Purchaser shall notify the Contract Administrator in advance of moving equipment onto State lands. Purchaser shall thoroughly clean all off road equipment prior to entry onto State land to remove contaminated soils and noxious weed seed. If equipment is moved from one DNR project area to another, the Contract Administrator reserves the right to require the cleaning of equipment. Equipment shall be cleaned at a location approved by the Contract Administrator.

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-110 Resource Protection

No equipment may operate within the leave tree areas, areas of standing water, or typed streams (except at designated crossings) unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any riparian management zones (RMZs), wetland management zones (WMZs), or leave tree areas.

Ground based harvest equipment shall not operate within 30 feet of Type 5 streams within the harvest units. Trees in these areas must be cut and removed while keeping equipment outside of these equipment limitation zones.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

DNR Contract Administrator

ECY - Northwest Region:

1-425-649-7000

(Island, King, Kitsap, San Juan, Skagit, Snohomish, and Whatcom counties)

ECY - Southwest Region:

1-360-407-6300

(Clallam, Clark, Cowlitz, Grays Harbor, Jefferson, Mason, Lewis, Pacific, Pierce, Skamania, Thurston, and Wahkiakum counties)

ECY - Central Region:

1-509-575-2490

(Benton, Chelan, Douglas, Kittitas, Klickitat, Okanogan, and Yakima counties)

ECY - Eastern Region:

1-509-329-3400

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

S-131 Refuse Disposal

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

Section D: Damages

D-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-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 sale area.

DRAFT

DRAFT

DRAFT

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Susan K. Trettevik
Olympic Region Manager

Date: _____
Address: _____

Date: _____

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)

COUNTY OF _____)

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

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

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

Notary Public in and for the State of

My appointment expires _____

Schedule A
Specifications for Slash Piling

In all harvest units, all landing slash and concentrations of processor slash shall be piled by creating circular piles of slash and brush conforming to the following specifications or be removed from State Land:

- A. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 30 feet wide. Piles shall be cone shaped and stable.
- B. Piles shall be free of topsoil, large rotten logs, and large stumps. Any unburnable material shall be well scattered.
- C. Piles shall not be placed on large stumps, logs, or against standing snags.
- D. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave trees, culverts, any standing timber, and culverts; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.
- E. Piling shall be completed using an approved hydraulic shovel and grapples.
- F. Slash and displaced soil shall be removed from swales and natural drainage channels concurrent with yarding.

Schedule B
Green Tree Retention Plan

Leave the following:

1. All trees banded with blue paint and all leave tree area clumps shall remain standing. The perimeter of the leave tree clumps are designated by outward facing Leave Tree Area Tags, blue paint, and orange flashers. Individual trees are marked with blue paint and numbered.

Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	20	1	28	48
2	84	8	292	376
3	22	3	130	152
4	145	12	503	648
5	75	5	205	280
6	32	5	136	168

Permission to substitute leave trees must be granted by the Contract Administrator.

*Leave tree Area clumps in Unit #2 may not be exchanged or substituted.

Schedule C
Biomass Removal Schedule

Purchaser may remove biomass within 100 feet of roads and landings within the sale area.

Biomass is defined as the 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, and is eligible for removal under the terms of this contract.



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

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

(Revised 4/09)

PRE-CRUISE NARRATIVE

Sale Name: Wing It Hardwood	Region: Olympic
Agreement #: 30-093092	District: Straits
Contact Forester: Adam Morris Phone / Location: 360-732-6848 PT Workstation, or 360-301-2900 state cell	County(s): Clallam, Jefferson
Alternate Contact: Mark Benner Phone / Location: 360-732-6848	Other information: Adam.morris@dnr.wa.gov

Type of Sale: Lump Sum	
Harvest System: Ground based Units 1-6 are all ground based; with seasonal restrictions for Units 1,2, and 4.	100% Ground

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 Propo sal Acres	Deductions from Gross Acres (No harvest acres)				Net Harve st Acres	Acreage Determinati on (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describ e)		
1	Sec. 20 T29N R02W	01	6.1	0	0.2	0.4	none	5.5	GPS (Garmin)
2	Sec. 17, 20 and 21 T29N R02W	01;07	47.0	0	3.5	0.6	3.2 field & voids	39.7	GPS (Garmin)
3	Sec. 16 and 17 T29N R02W	01;03	19.1	0	0.9	0	none	18.2	GPS (Garmin)
4	Sec. 12 and 13 T28N R02W	01	81.4	0	3.6	0	none	77.8	GPS (Garmin)
5	Sec. 7 T27N R01W	03	34.8	0	1.5	1.2	none	32.1	GPS (Garmin)
6	Sec. 7 T27N R01W	03	21.4	0	1.2	0	none	20.2	GPS (Garmin)
R/W1	Sec. 17 T29N R02W	01	0.2	0.0 RMZ	0	0	none	0.2	Stationing by measurement
R/W2	Sec. 16 T29N R02W	03	1.5	0	0	0	none	1.5	Stationing by measurement
R/W 3	Sec. 12 T 28 R02W	01	0.5	0.0 RMZ	0	0	none	0.5	Stationing by measurement
R/W4	Sec. 7 T27N R01W	03	0.8	0.0 WMZ	0	0	none	0.8	Stationing by measurement
TOTAL ACRES			212.8	0	10.9	2.2	3.2	196.5	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Variable retention harvest, dispersed leave trees marked with blue paint & clumps marked by leave tree area tags	None	48 leave trees, 20 dispersed individuals, and 28 in 1 clump.
2	Same	None	376 leave trees, 84 dispersed individuals, and 292 in 8 clumps.
3	Same	None	152 leave trees, 22 dispersed individuals, and 130 in 3 clumps.
4	Same	None	648 leave trees, 145 dispersed individuals, and 503 in 12 clumps.
5	Same	None	280 leave trees, 75 dispersed individuals, and 205 in 5 clumps.
6	Same	None	168 leave trees, 32 dispersed individuals, and 136 in 5 clumps.
R/W1	Clearing Limits marked with orange paint and orange R/W tags and flashers.	None	None
R/W2	Same	None	R/W contains some mature trees remaining from previous harvest.
R/W3	Same	None	None
R/W4	Same	1+84 stations (0.25 ac.) of R/W is through WMZ.	WMZ Mitigation added 0.25 ac. to the 150' SI Buffer WMZ in Unit #5

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	1 RA, 2 DF / 120 MBF	Roads not blocked	Traverse maps enclosed
2	1 RA, 2 DF, 3 WH / 940 MBF	PT-B 1200 road; gate has AA-1 & BPA Locks	Same
3	1 DF, 2 WH, 3 RA / 532 MBF	Reprod to U3. Walk in from B-1343 rd	Same

4	1 RA, 2 DF / 2025 MBF	PT-Q-3000 gate broken; gate at SR 104 and BPA Line has AA-1, BPA & Pope Locks	Same
5	1 DF, 2 RC, 3 BLM / 945 MBF	PT-Q-4200 road; gate has OO-1 & Pope Locks	Same
6	1 DF, 2 BLM, 3 RC / 651 MBF	PT-Q-4200 road; gate has OO-1 & Pope Locks	Same
R/W1	1 DF, 2 RA, 3 WH / 8.5 MBF	RMZ between U2 &U3. Walk in from B-1343 rd	Same
R/W2	1 DF, 2 WH / 32 MBF	Reprod to U3. Walk in from B-1343 rd	Same
R/W3	1 DF, 2 WH / 54 MBF	RMZ between end of PT-O-3100 and U4	Same
R/W4	1 DF, 2 RA / 23 MBF	PT-Q-4200 road; gate has OO-1 & Pope Locks	Same
TOTAL MBF	5,331 MBF		

REMARKS:

All boundaries are marked with flashers and tags, with the exception of reprod and roads. All individual leave trees are painted with blue paint. Leave Tree Area clumps are marked with yellow tags, orange flashers, and pink flagging. All planned roads have been stationed and center lined in orange, only acreage for existing roads within the sale has been deducted. Unit 2 contains 3.2 acres of fields and voids that exist across the old homestead. They are considered non-stocked areas and will be replanted in conjunction with Unit 2 as a whole, their acreages have been deducted from gross.

Timber in Unit #1 is mostly RA with a solid small wood component of DF. There is also a lesser small wood component to Units 2, 5, and 6. In Units 5 and 6 portions of the younger stand is being harvested for revenue and to cleanout BLM stems upon reforestation. The area in Unit #2 where small diameter DF are growing will be harvested to facilitate multiple silvicultural objectives while reclaiming site ground that has been abused for decades by past harvesting activities and ORV abuse. Essentially the mixed hardwood and softwood types will be harvested together to clean the slate for a more uniform species mix. Lots of user built ATV trails exist in Units 2 and 3 to the North of the clearing.

Fully stocked conifer areas exist in Units 2, 3, 4, 5, and 6 that contain DF, WRC, WH, and some GF. These areas have very large second growth and advanced regen left from the first harvest. The most dominant class conifers and advance regen showing structure will be retained from harvest in these high volume areas. Units 2 and 4 in specific have large areas of mature hardwood timber with scattered oversized DF that were passed over during first harvest. These large diameter DF were retained where possible for LWD and snag recruitment. These units contain large rot pockets and areas of downed logs and wind throw exist making travel difficult. Unit 4 has a vine maple problem and when combined with BB, SB, ELD, and Huckleberries makes the vegetation thick and the ground difficult to walk.

All timber bounded by right-of-way boundary tags and orange paint is not conveyed to the Purchaser unless the road segment is actually constructed. In no instance shall downed red cedar be removed from the sale area, unless it has fine branches and needles. All timber that has been on the ground for 5 years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of

sap rot. There are many standing snags and cull BLM in Unit #4 that can be harvested and should be included in cruise.

There are four separate tagged right-of-way segments associated with the sale. The first consists of the clearing limit for the PT-B-1343 road through RMZ between Units 2 and 3. The second is the tagged R/W between Unit 3 and the current terminus of the PT-B-1343 through young reprod. The third R/W is the tagged clearing limits for the temporary crossing of a type 3 fish stream to extend the PT-O-3100 reaching the lowest reach of Unit 4. This area is in mature RMZ and conifer volume will be used to construct the designed crossing. Fourth is the tagged R/W through the older reprod into the top of Unit 6 which includes 1+84 stations through WMZ. Deductions were made in the acreage for the cleared portions of the existing roads.

Stand Age/ Origin(s):

Unit #1 1965 (age 50)

Unit #2 1950 (12 acres @ age 66) 1965 (35 acres @ age 50)

Unit #3 1952 (age 63)

Unit#4 1943 (age 72)

Unit#5 1942 (30 acres @ age 73) 1966 (5 acres @ age 49)

Unit #6 1957 (18 acres @ age 58) 1966 (3 acres @ age 49)

County (if more than one county need percent breakdown): 71% (149 acres) Jefferson, 29% (60 acres) Clallam (based on gross proposal acreage)

Trust(s) and % (By County):

6% 07, 39% 03, 55% 01 in Jefferson County (based on gross proposal acreage)

15% 03, 85% 01 in Clallam County (based on gross proposal acreage)

Trust(s) and % (By Acres):

(01) 64% (133 acres); (03) 32% (67 acres); (07) 4% (9 acres)

Prepared By: Adam L. Morris

Title: State Lands Forester

CC:

Date: 10/01/15

Straits District

DRIVING MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T29N R02W
 TRUST(S): 01, 03, 07

REGION: Olympic
 COUNTY(S): Clallam/ Jefferson
 ELEVATION RGE: 0-1000 feet



Legend

- Timber Sale Unit
- Highways
- Haul Route

Features of Interest

- Gate (AA-1)
- Distance Indicator
- Milepost Markers
- Existing Rock Pit

Driving Directions

Unit #1, #2, & Jimmy Comelately Pit
 From milepost 271 on Hwy 101 travel 0.1 miles east and turn right onto Woods Rd/USFS-2850. Follow Woods Rd south for 4 miles and turn left onto the PT-B-1000. Follow PT-B-1000 east for 0.4 miles to the PT-B-1020 road on the left. Jimmy Comelately Pit is located behind the yellow gate (AA-1) on the PT-B-1020. Continue on the PT-B-1000 traveling east for 1.3 miles past BPA lines to the PT-B-1200 junction. Bear right onto the PT-B-1200 road and continue 0.5 miles to Unit #1 located on both sides of the road. Unit #2 is located through the large gate (AA-1) 0.1 miles east on both sides of the PT-B-1200.

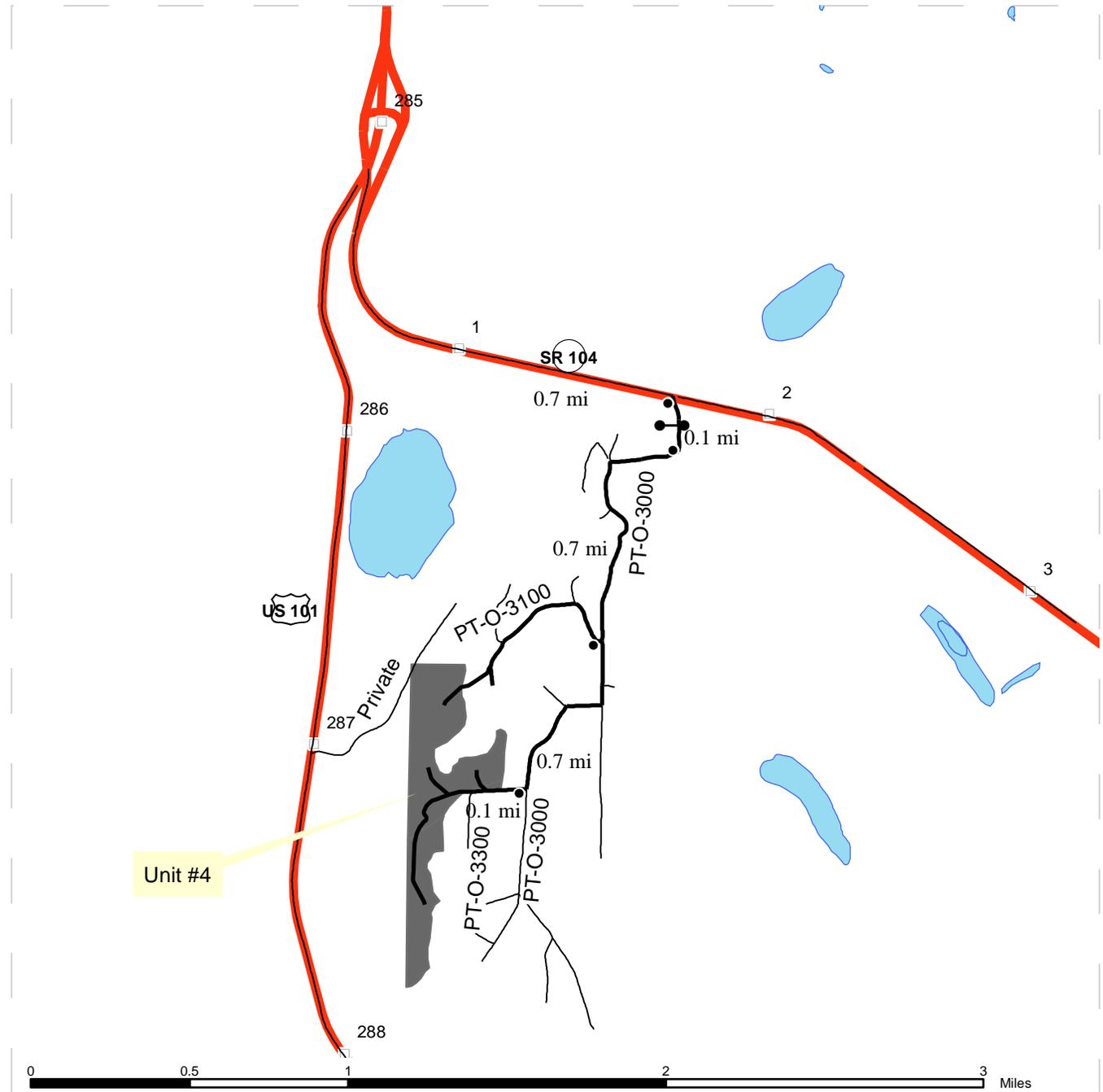
Unit #3
 From milepost 271 on Hwy 101 travel 0.4 miles east and turn right onto Chicken Coop Rd. Follow Chicken Coop Rd east for 0.4 miles and turn right onto the PT-B-1000 heading east. Follow for 2.4 miles until the junction with the PT-B-1300 road. Take left and follow PT-B-1300 0.6 miles to the junction with PT-B-1340 and bear right. Follow PT-B-1340 for 1 mile to junction with PT-B-1343. Walk in the last 0.3 miles to Unit #3, and 0.5 miles to Unit #2.



DRIVING MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T28N R02W
 TRUST(S): 01

REGION: Olympic
 COUNTY(S): Clallam/ Jefferson
 ELEVATION RGE: 0-1000 feet



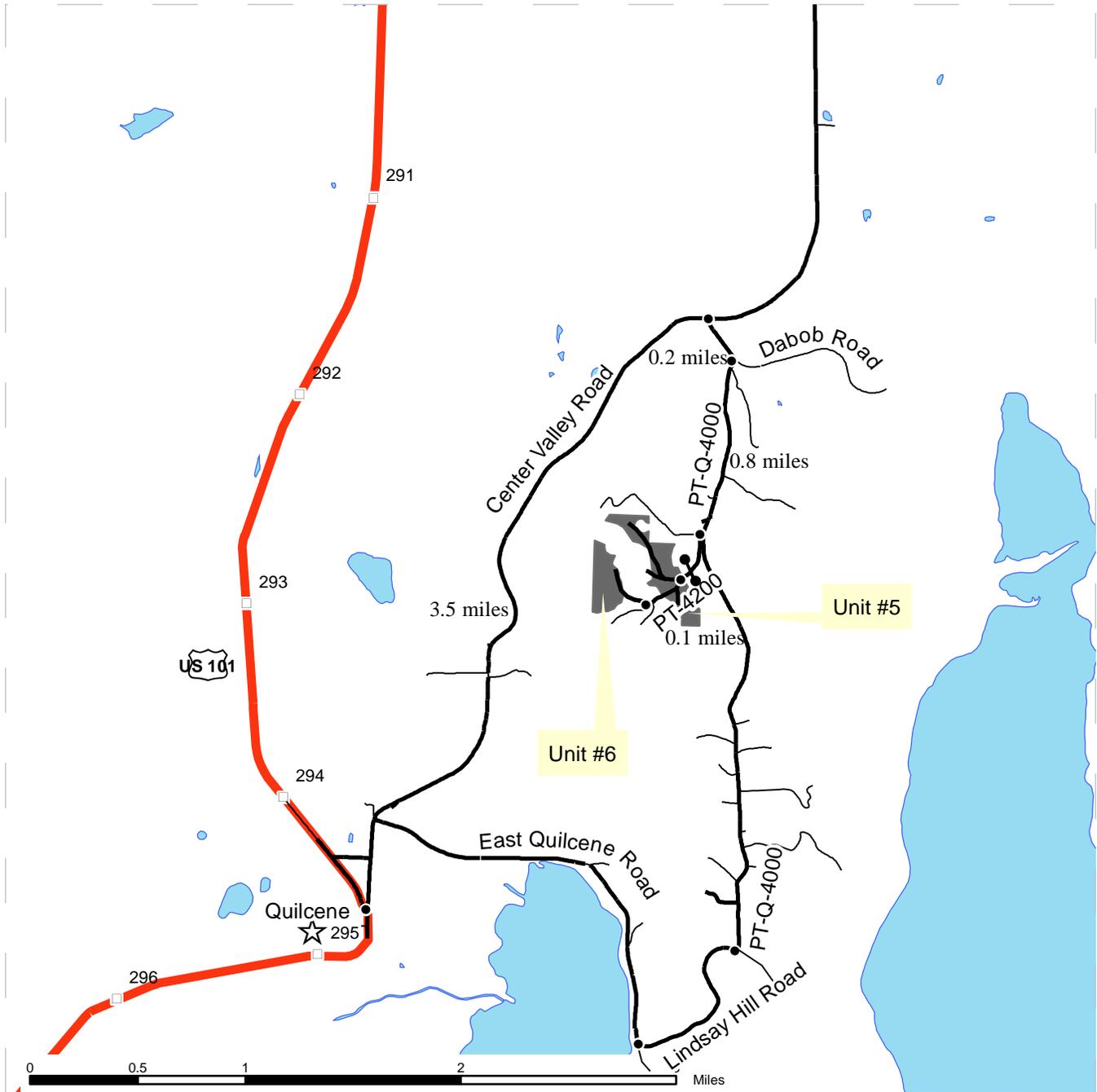
<ul style="list-style-type: none"> Timber Sale Unit Highways Haul Route <p>Features of Interest</p> <ul style="list-style-type: none"> Gate Distance Indicator Milepost Markers 	<p>Driving Directions</p> <p>Unit #4:</p> <p>From milepost 1 on SR 104 travel 0.7 miles east and turn right under the BPA power lines on the PT-O-3000 road. Go through orange gate (AA1 lock) south of highway and follow utility R/W for 0.1 miles, turn right bearing west away from utilities on the PT-O-3000 following for 0.7 miles to junction with the PT-O-3100. Continue on PT-O-3000 for 0.7 miles to the junction with PT-O-3300, and turn right following the PT-O-3000 0.1 miles to Unit #4 located north and west of road.</p>
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DRIVING MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T27N R01W
 TRUST(S): 03

REGION: Olympic
 COUNTY(S): Clallam/ Jefferson
 ELEVATION RGE: 0-1000 feet



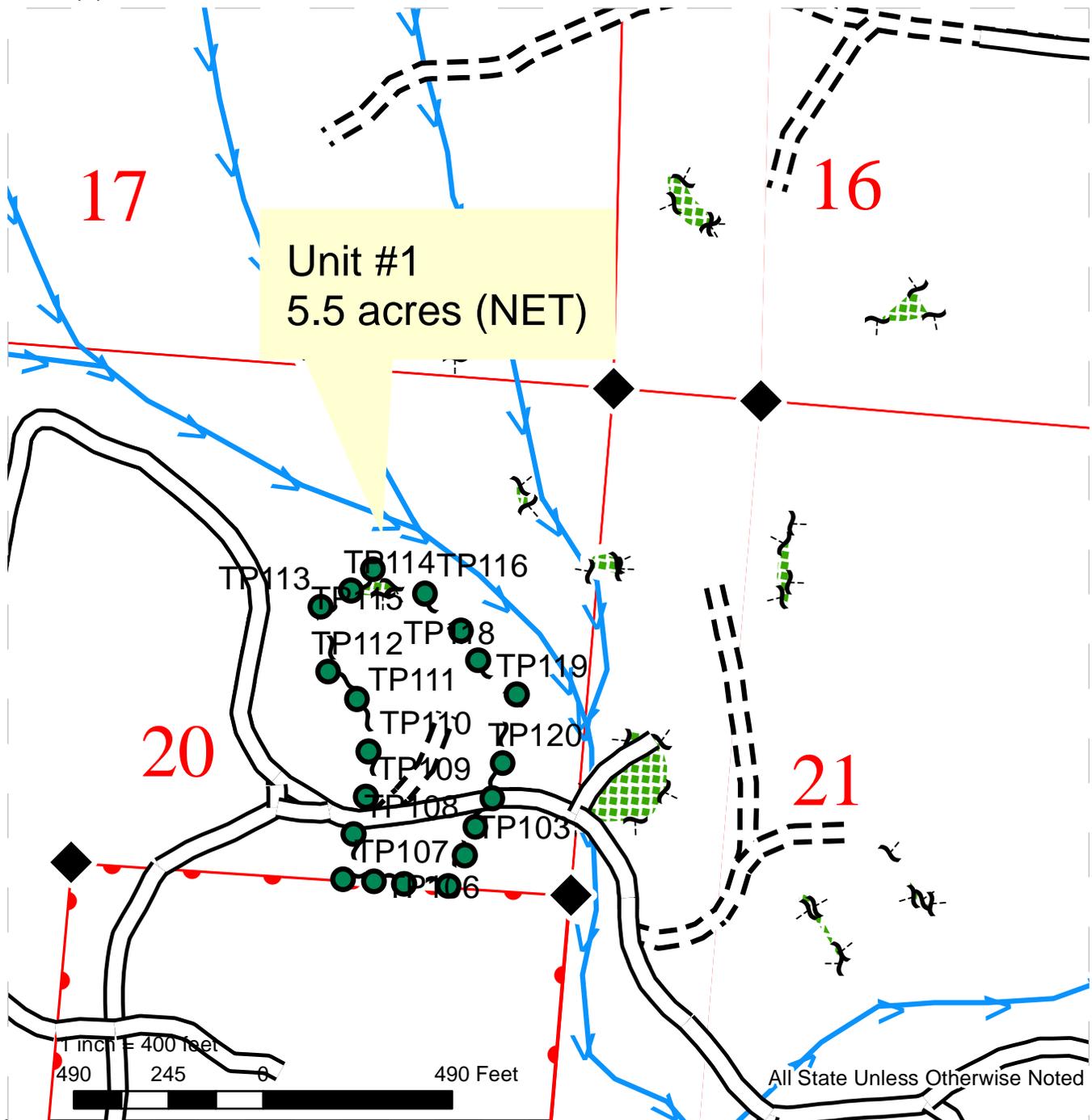
<ul style="list-style-type: none"> Timber Sale Unit Highways Haul Route <p>Features of Interest</p> <ul style="list-style-type: none"> Gate (OO-1) Distance Indicator Milepost Markers 	<p>Driving Directions</p> <p>Unit #5</p> <p>From mile post 295 on US 101 in Quilcene, WA heading north bear right onto Center Valley Road. Follow north for 3.5 miles to junction with Dabob Road turn right. Follow Dabob Road east for 0.2 miles to PT-Q-4000 on right. Turn right and follow Pt-Q-4000 south for 0.8 miles to junction with PT-Q-4200 road. Bear right through orange gate (OO-1) onto PT-Q-4200 road. Follow for 0.1 miles to Unit #5 located on both sides of the road.</p> <p>Unit #6</p> <p>From Unit #5 continue on PT-Q-4200 road heading west for another 0.2 miles. Park at spur right flagged and painted in orange. Walk 0.2 miles through timber to Unit #6.</p>
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CRUISE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T 29N R 02W
TRUST(S): 01

REGION: Olympic
COUNTY(S): Jefferson
ELEVATION RGE: 0-1000 ft



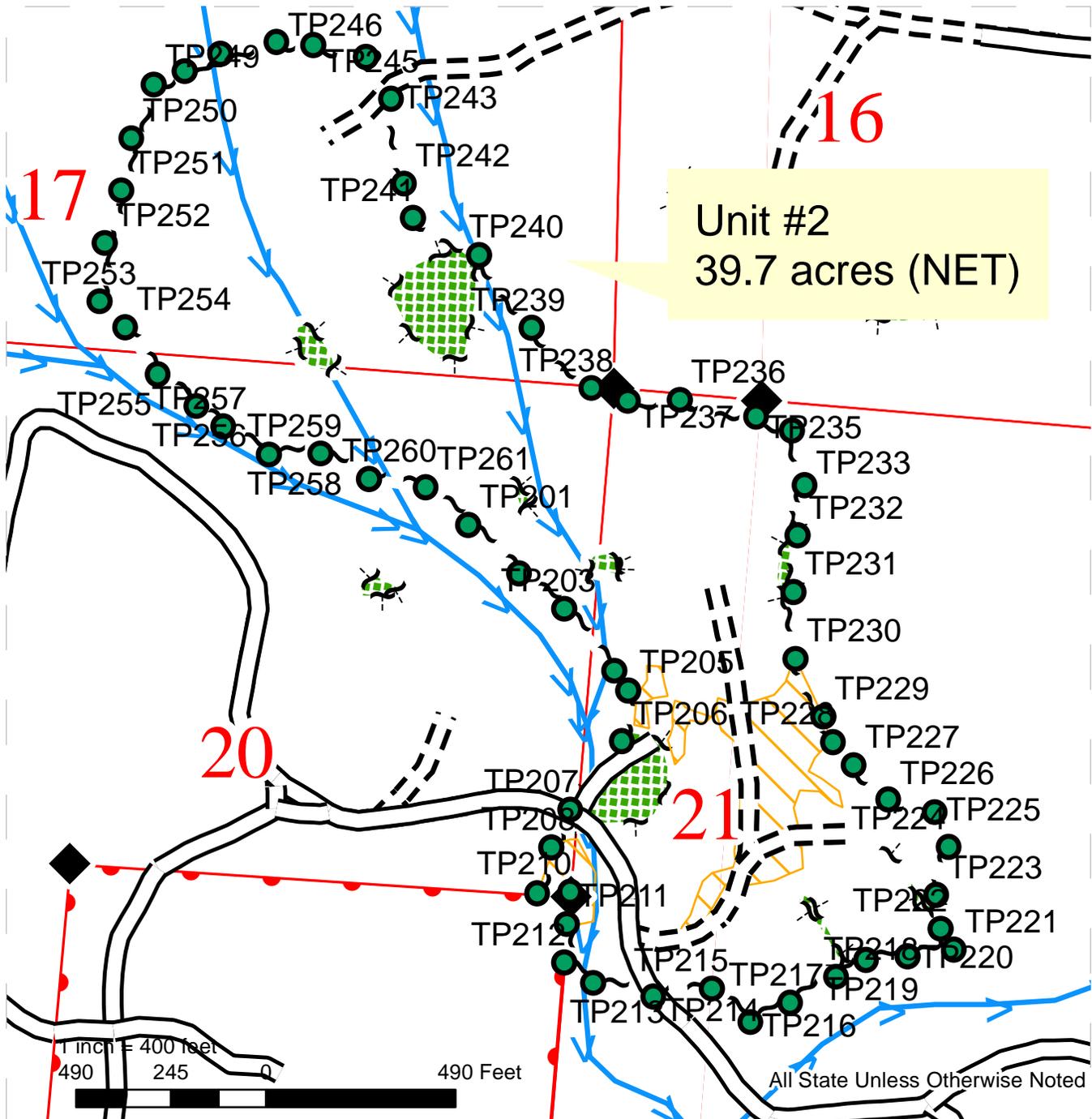
- Existing Roads
- - - - Optional Roads
- - - - Sale Boundary
- Leave Tree Area
- ◆ Monumented Corners



CRUISE MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T 29N R 02W
 TRUST(S): 01, 07

REGION: Olympic
 COUNTY(S): Jefferson
 ELEVATION RGE: 0-1000 ft

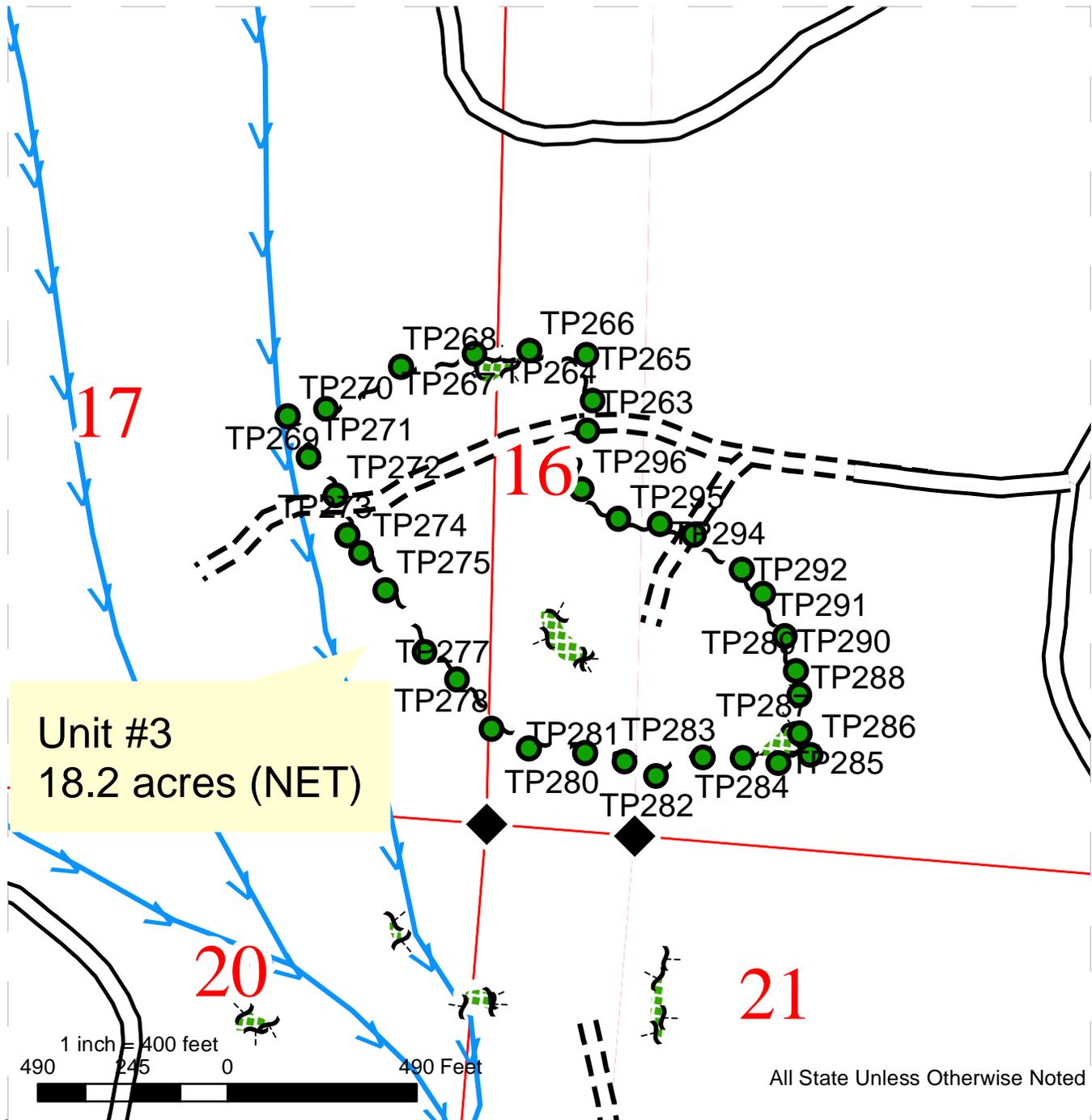


	Existing Roads		U2_Non_Stocked_Areas_Voids
	Optional Roads		
	Sale Boundary		
	Leave Tree Area		
	Monumented Corners		

CRUISE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T 29N R 02W
TRUST(S): 01, 03

REGION: Olympic
COUNTY(S): Jefferson
ELEVATION RGE: 0-1000 ft

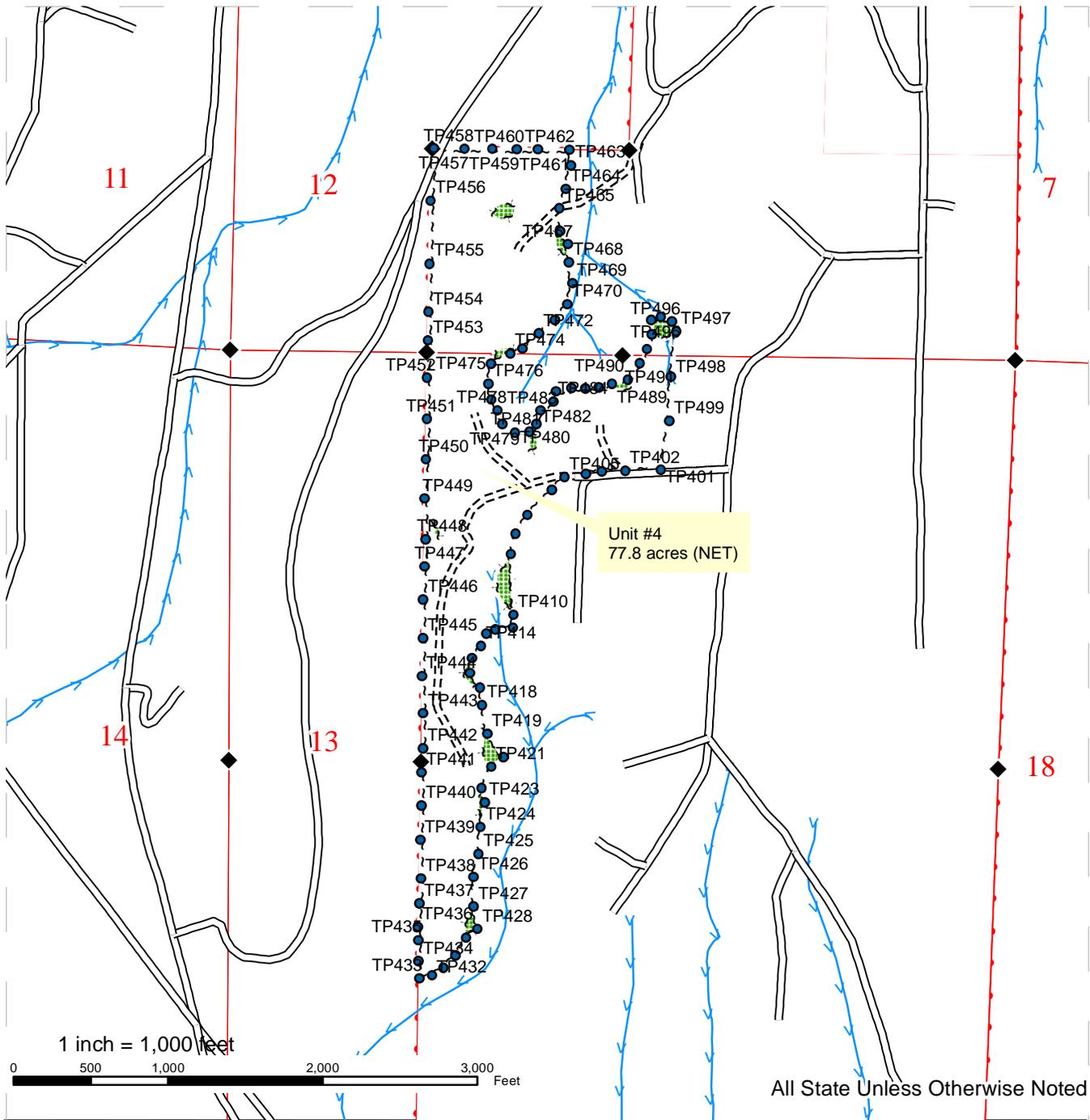


- Existing Roads
- Optional Roads
- - - - - Sale Boundary
- Leave Tree Area
- ◆ Monumented Corners

CRUISE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T 28N R 02W
TRUST(S): 01

REGION: Olympic
COUNTY(S): Jefferson
ELEVATION RGE: 0-1000 ft



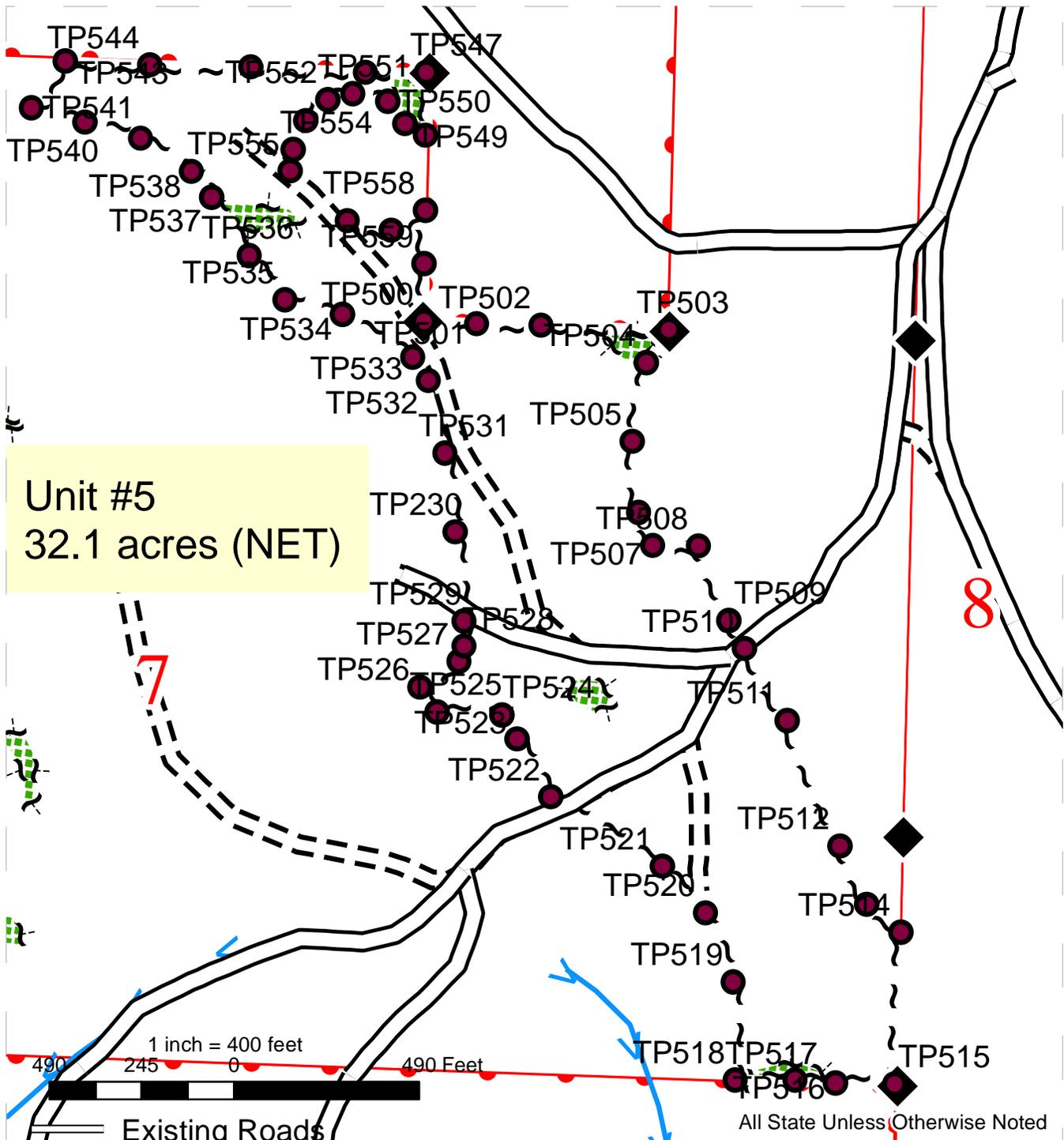
	Existing Roads
	Optional Roads
	Sale Boundary
	Leave Tree Area
	Monumented Corners



CRUISE MAP

SALE NAME: WING IT HARDWOOD
 AGREEMENT#: 30-093092
 TOWNSHIP(S): T 27N R 01W
 TRUST(S): 03

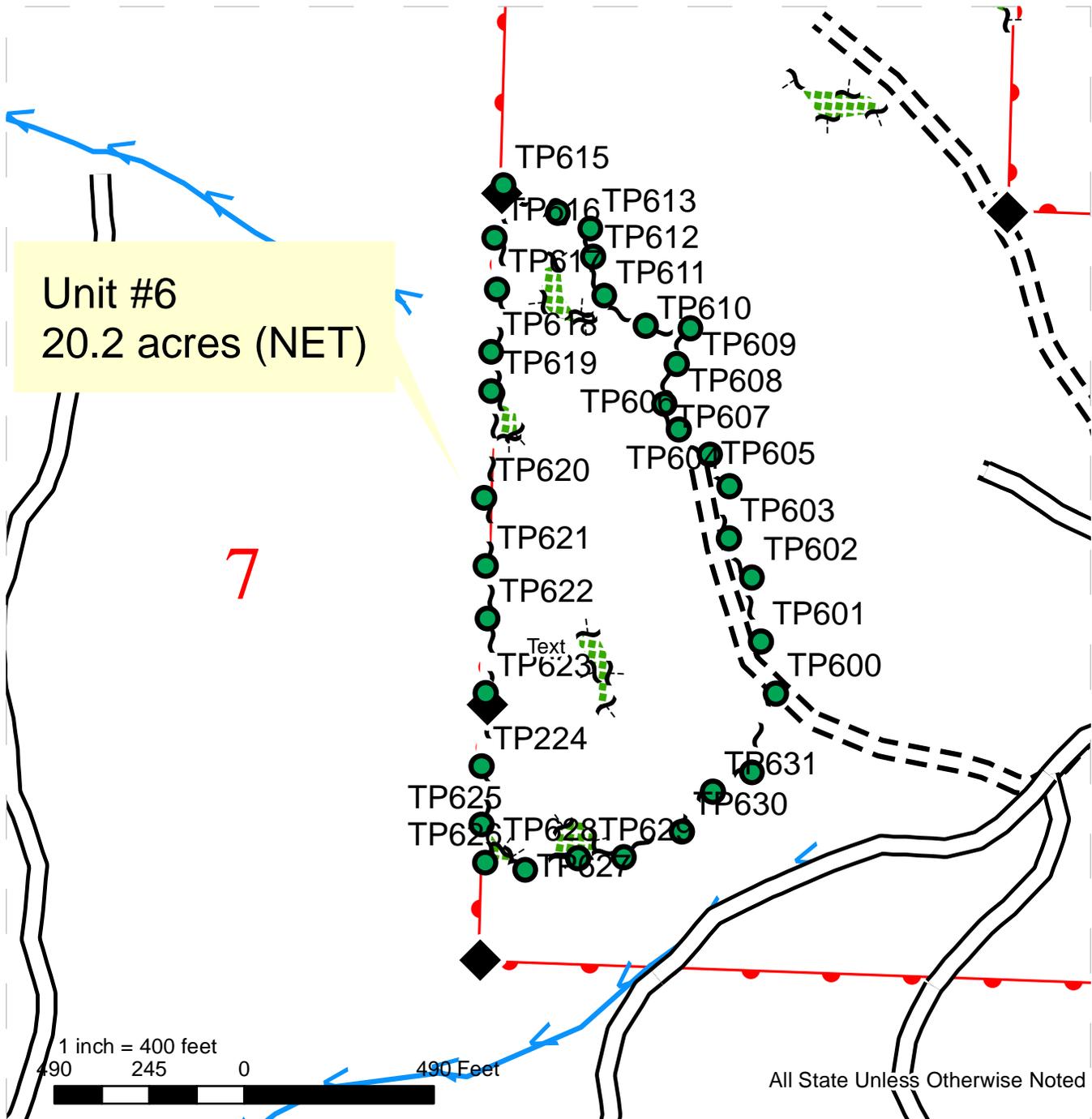
REGION: Olympic
 COUNTY(S): Jefferson
 ELEVATION RGE: 0-1000 ft



CRUISE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T 27N R 01W
TRUST(S): 03

REGION: Olympic
COUNTY(S): Jefferson
ELEVATION RGE: 0-1000 ft



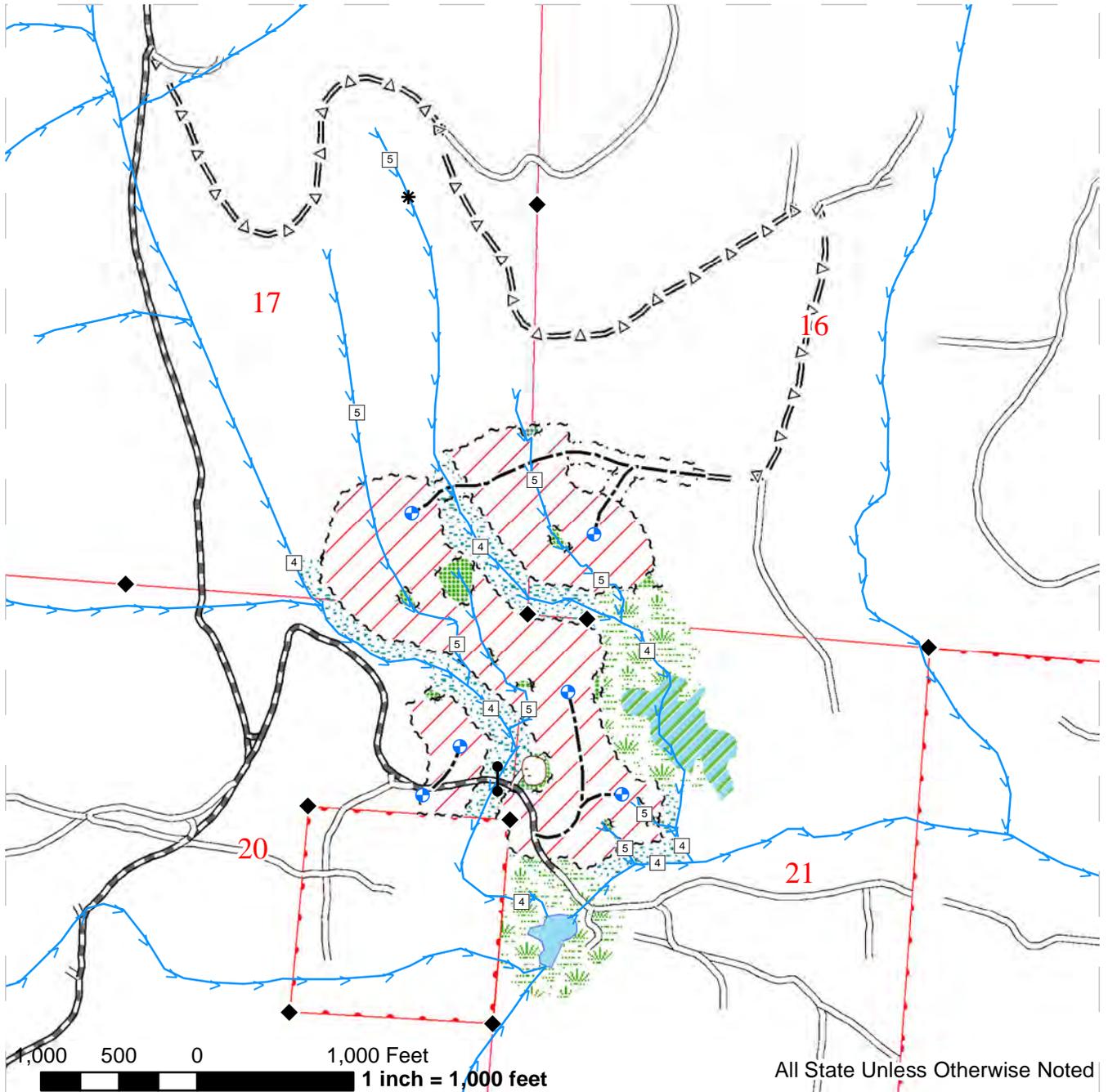
- Existing Roads
- Optional Roads
- Sale Boundary
- Leave Tree Area
- Monumented Corners

N

TIMBER SALE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T29N R02W
TRUST(S): 01, 03, 07

REGION: OLYMPIC
COUNTY(S): Clallam/ Jefferson
ELEVATION RGE: 0-1,000 ft.

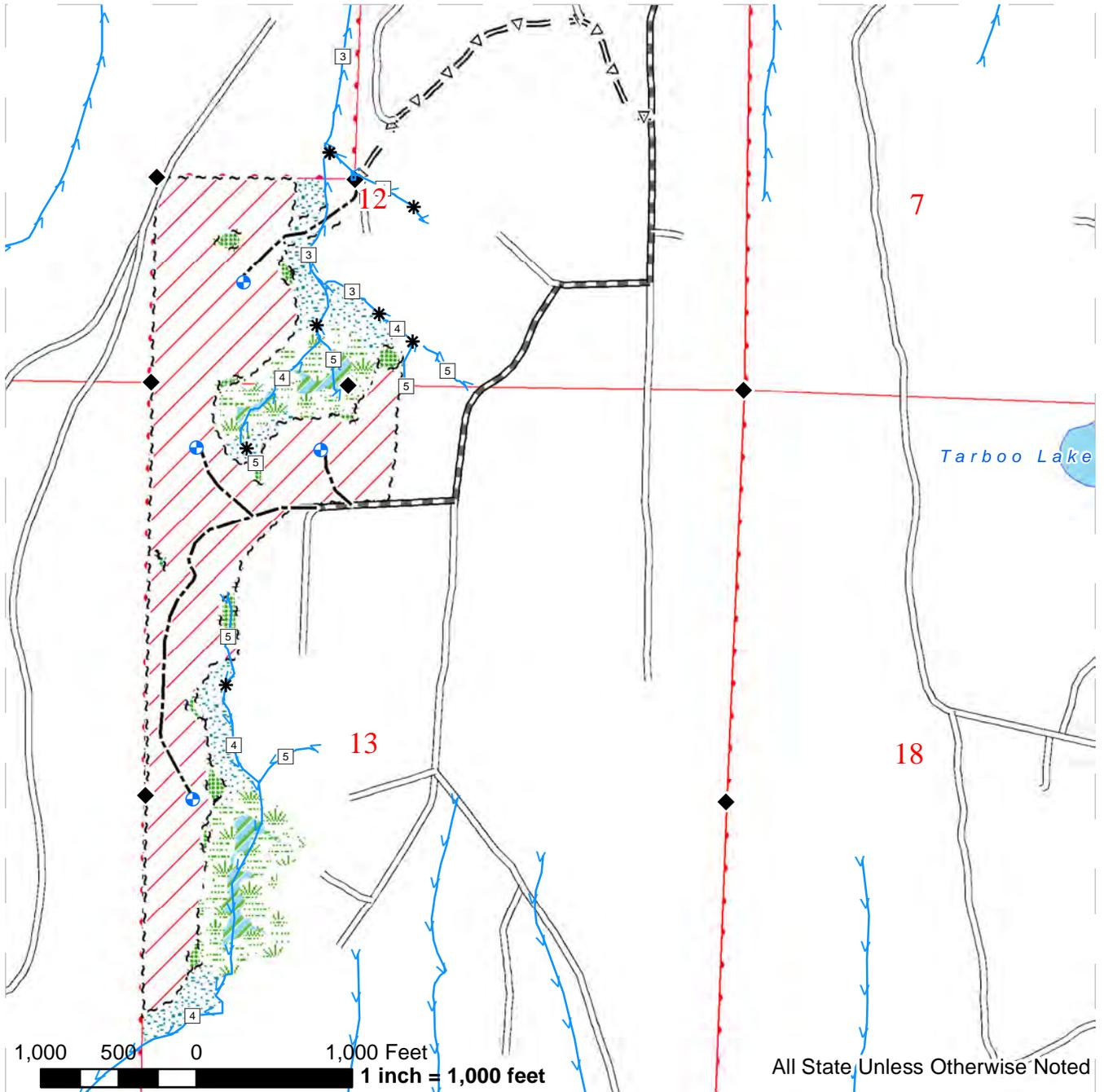


Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	Cultural Area #00527

TIMBER SALE MAP

SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T28N R02W
TRUST(S): 01

REGION: OLYMPIC
COUNTY(S): Jefferson
ELEVATION RGE: 0-1,000 ft.

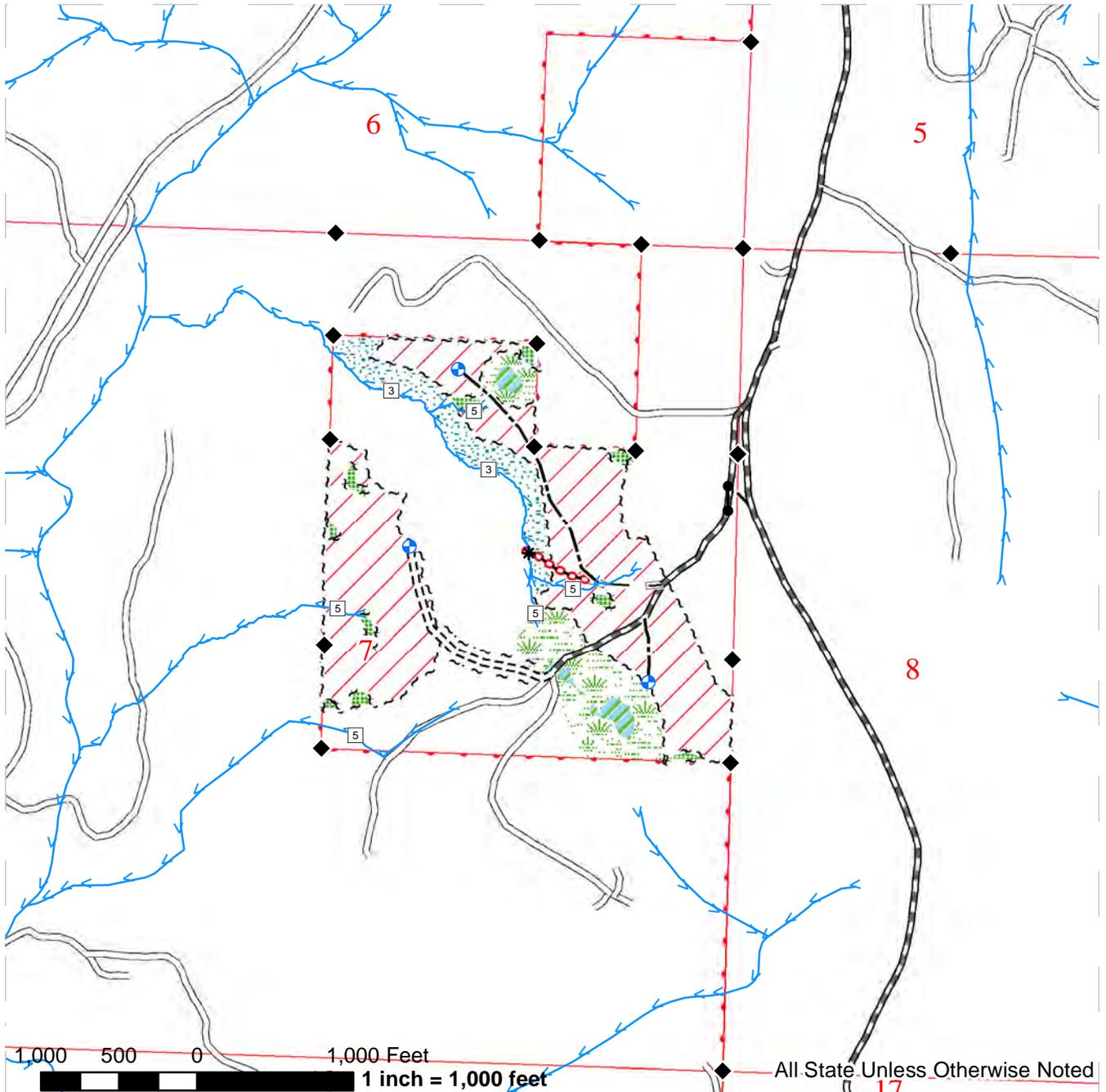


Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	

TIMBER SALE MAP

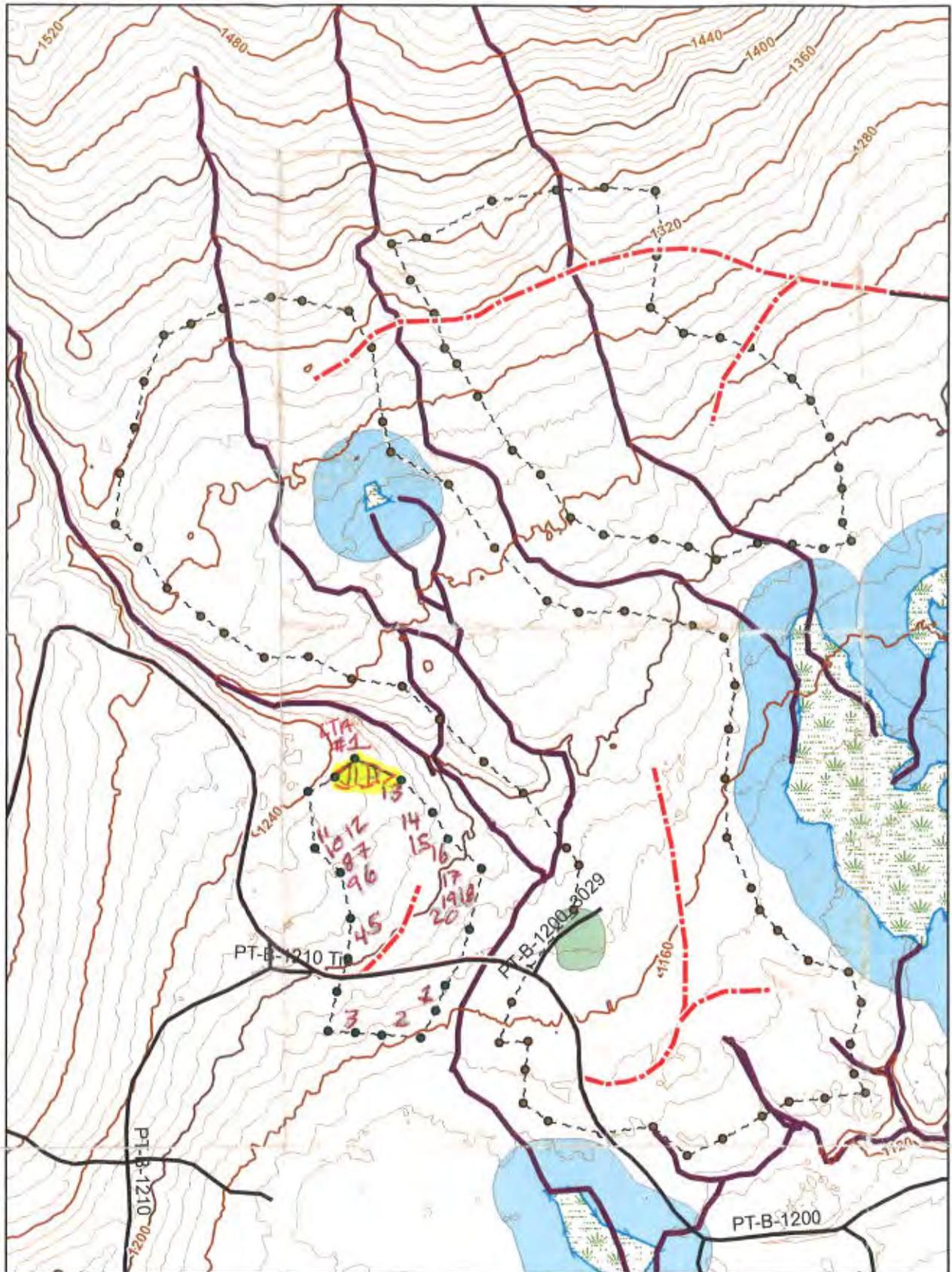
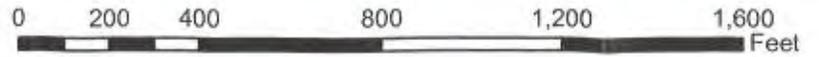
SALE NAME: WING IT HARDWOOD
AGREEMENT#: 30-093092
TOWNSHIP(S): T27N R01W
TRUST(S): 03

REGION: OLYMPIC
COUNTY(S): Jefferson
ELEVATION RGE: 0-1,000 ft.



Sale Area	Existing Road	Streams
Riparian Mgt Zone	Required Abandonment	Stream Type
Wetland Mgt Zone	Required Prehaul Maintenance	Stream Type Break
Forested Wetland	Required Construction	Monumented Corners
Leave Tree Area	Optional Prehaul Maintenance	Gate (AA-1)
Sale Boundary Tags	Optional Construction	Landing
Right of Way Boundary Tags	Optional Reconstruction	

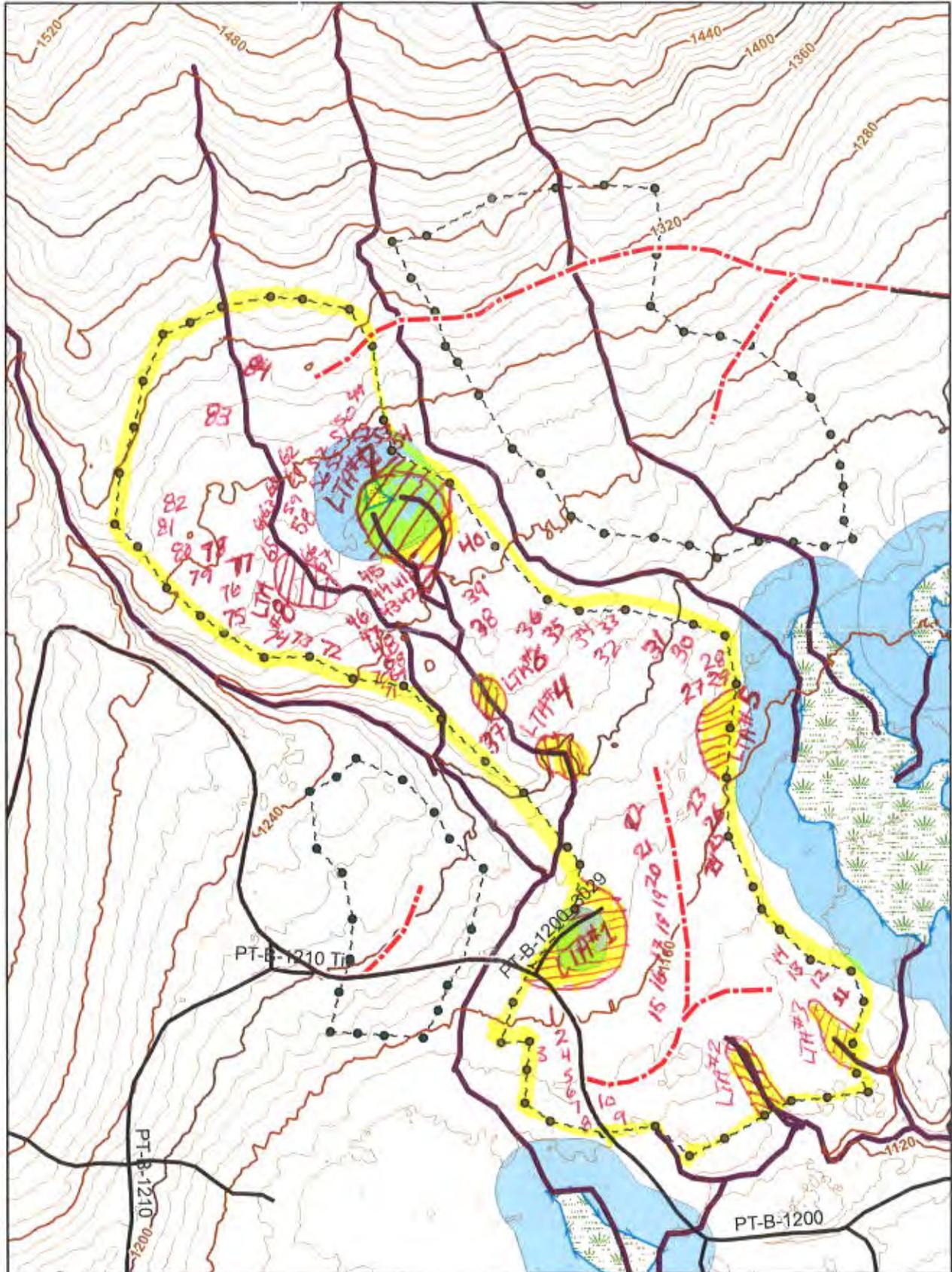
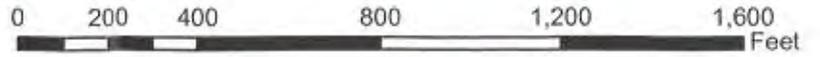
1 inch = 400 feet



Wing It Hrdwd U1 U2 & U3
Leave Tree Locations Map (Field)



1 inch = 400 feet

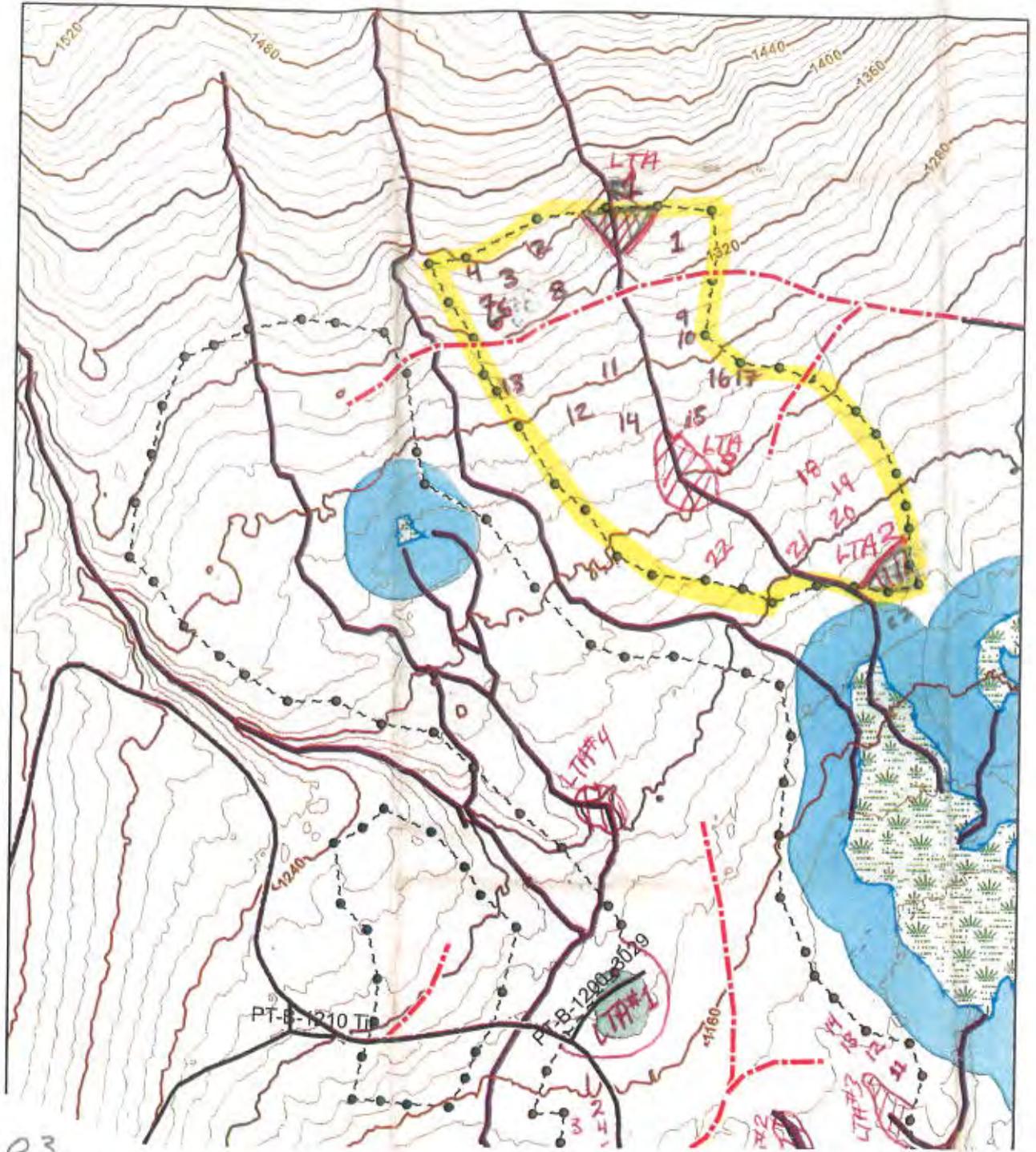
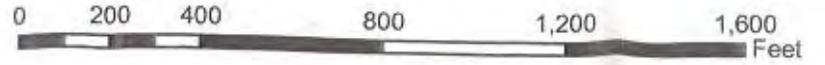


Wing It Hrdwd_U1_U2 & U3
Leave Tree Locations Map (Field)



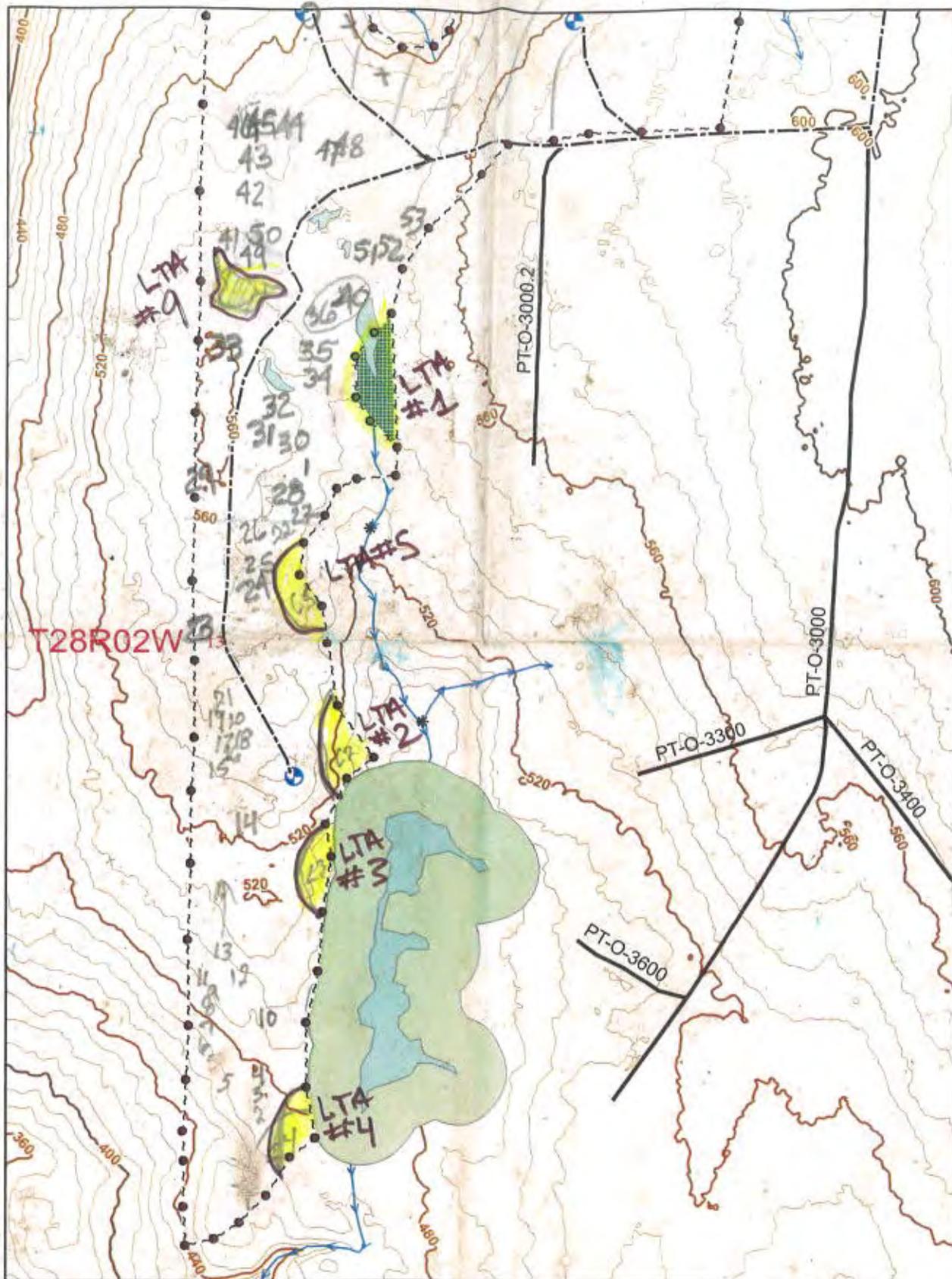
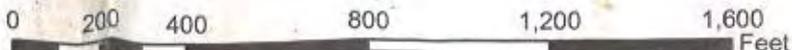
SRC 21 T29 R02W.

1 inch = 400 feet



UNIT 03

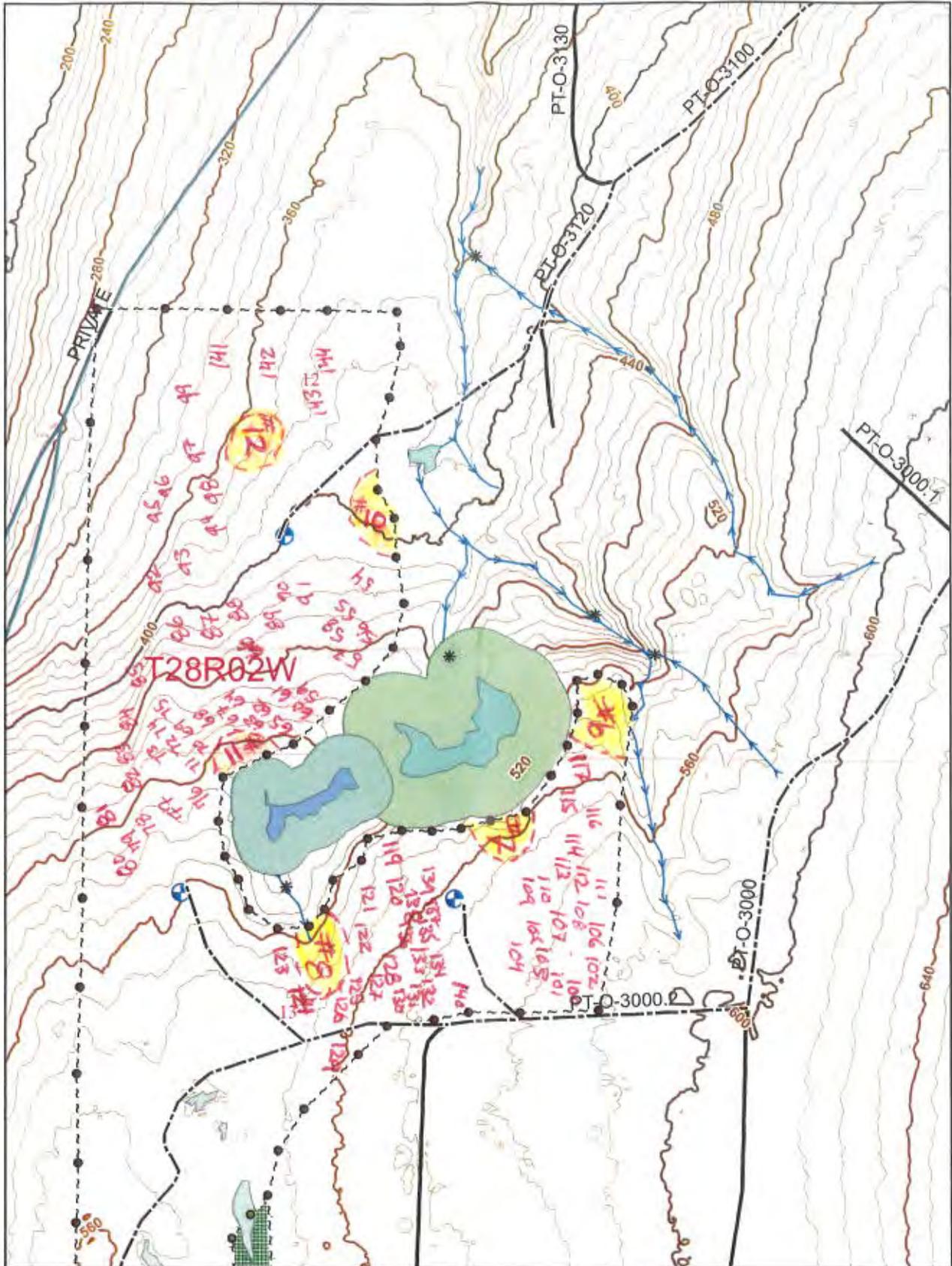
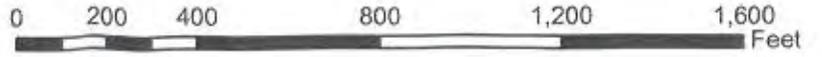
1 inch = 400 feet



Wing_Ir_Hrdwd_U4 (A)
SOUTH PORTION



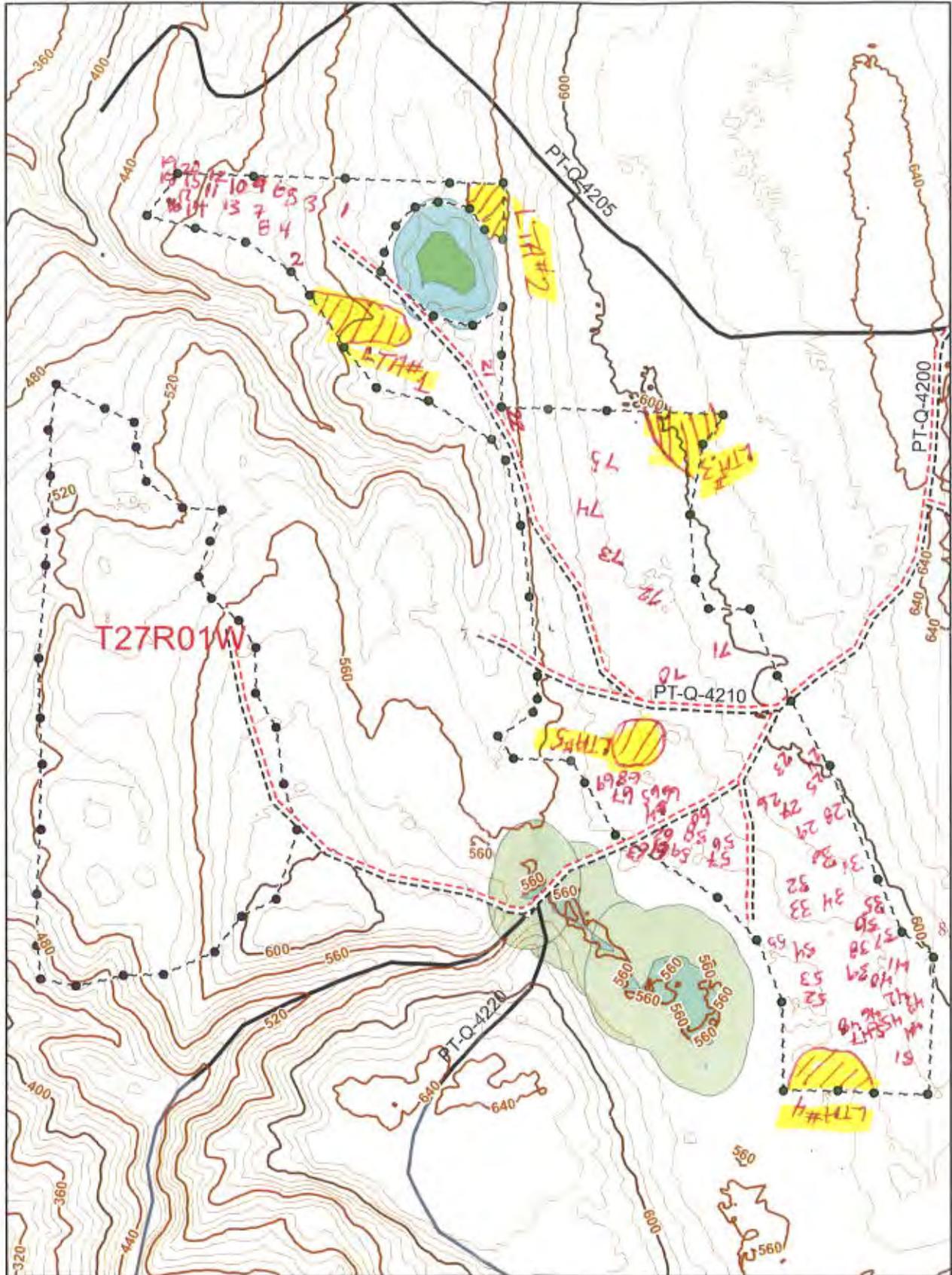
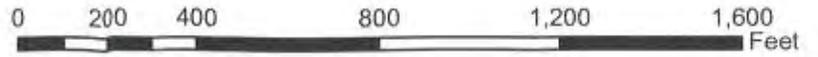
1 inch = 400 feet



Wing_lt_Hrdwd_U4 (B)
NORTH PORTION



1 inch = 400 feet

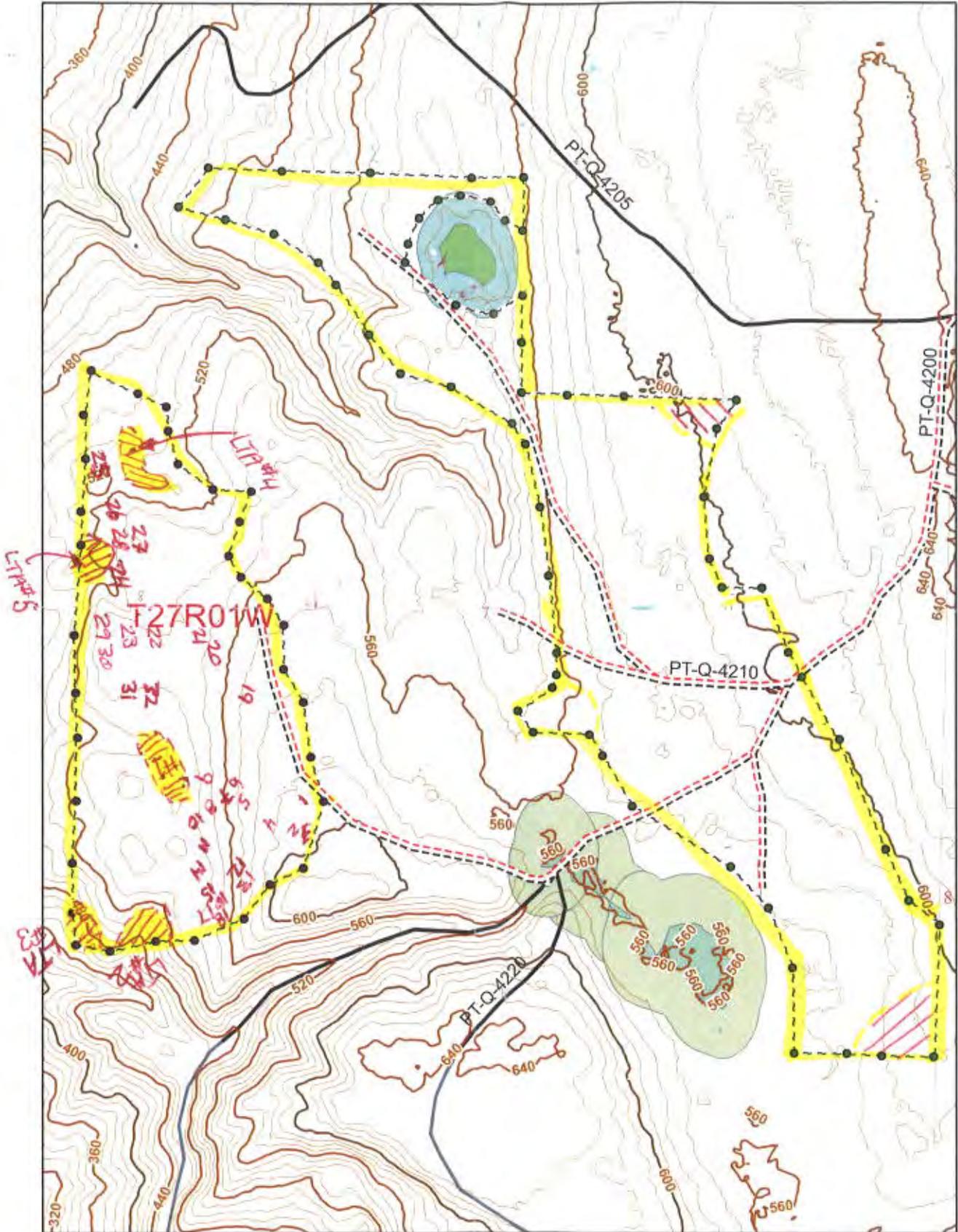
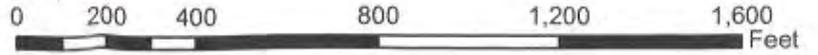


Wing_It Hrdwd U5&U6

280 trees.

U#6

1 inch = 400 feet



Wing_It_Hrdwd_U5&U6



Cruise Narrative

Sale Name: Wing It Hardwood	Region: Olympic
Agreement #: 30-093092	District: Straits
Lead Cruiser: Kevin Peterson	Completion Date: 11/23/2015
Other Cruisers: None	

Unit acreage specifications:

Unit #	Cruised Acres	Cruised acres agree with sale acres? Y/N	If acres do not agree explain why.
1	5.5	Y	
2	39.7	Y	
3	18.2	Y	
4	77.8	Y	
5	32.1	Y	
6	20.2	Y	
R/W1	0.2	Y	
R/W2	1.5	Y	
R/W3	0.5	Y	
R/W4	0.8	Y	
Total	196.5	Y	

Unit cruise specifications:

Unit #	Sample Type (VP,FP,ITS,100%)	Expansion Factor (baf,full/half)	Sighting Height (4.5', 16')	Grid Size (plot spacing)	Plot Ratio (cruise/count)	Number of plots
1	VP	54.44/40	4.5'	300x300	6:1	7
2	VP	54.44/40	4.5'	300x300	1:1	20
3	VP	54.44/40	4.5'	300x300	5:4	9
4	VP	54.44/40	4.5'	300x300	4:5	37
5	VP	54.44/40	4.5'	300x300	5:3	16
6	VP	54.44/40	4.5'	300x300	3:1	8
R/W1	ITS	n/a	n/a	n/a	n/a	n/a
R/W2	ITS	n/a	n/a	n/a	n/a	n/a
R/W3	VP	54.44/40	4.5'	Random	All Cruise	1
R/W4	VP	54.44/40	4.5'	Every 300'	All Cruise	2

Sale/Cruise Description:

Minor species cruise intensity	Minor species sampled using same cruise plots.					
Minimum cruise spec:	40% of Form Factor at 16 ft. D.O.B or 5 inch top or merchantable top					
Average ring count:	DF =	8	WH =	7	SS =	n/a
Leave/take tree description:	Leave tree clumps are bounded out with yellow tags, pink flashers and blue paint. Individual leave trees are marked with blue bands and two blue butt marks.					
Other conditions:	Exterior boundaries are marked with white tags and pink flashers					

Sort Description:	<p>HA– Logs meeting the following criteria: Surface characteristics for a high quality A sort will have sound tight knots not to exceed 1 ½” in diameter, numbering not more than an average of one per foot of log length. May include logs with not more than two larger knots. Knots and knot indicators ½” in diameter and smaller shall not be a determining factor. Logs will have a growth ring count of 6 or more rings per inch in the outer third top end of the log. (minimum diameter 8”.)</p> <p>HB – Logs meeting the following criteria: Surface characteristics for a B sort will have sound tight knots not to exceed 1 ½” in diameter. May include logs with not more than two larger knots up to 2 ½” in diameter. Logs will have a growth ring count of 6 or more rings per inch in the outer third to end of the log. (minimum diameter 8”.)</p> <p>R – Logs meeting the following criteria: Gross diameter of 12 inches or greater, excessive knots greater than 2 ½ inches with recovery less than 65% of the net scale.</p>
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Field Observations:

This is a 196.5 acre sale with 6 units located along US 101 and US 104. The total volume of the sale is 5,182 MBF and contains 51% Douglas-fir, 29% Red Alder, 7% Red Cedar, 6% Bigleaf Maple and 6% Western Hemlock, with some traces of Sitka Spruce and Grand-fir. The average DF has an 18.9" DBH with a bole height of 61', common defects are spike knots, crooks and forked tops. The average RA has 13.2" DBH with a bole height of 58' common defects are crooks and forks.

Units 1, 2 and 3 are located off of the B-1000 about 2 miles south of US 101. Unit 4 is located on the PT-O-3000 just south of US 104. Unit 5 and 6 are located off the PT-Q-4000 by Center Valley Road. All units are ground based harvest and generally have good access.

Units 3, 4 and parts of unit 5 contain a component of large DF with diameters greater than 30" and bole heights of 95'.

Grants: 01, 03 and 07

Prepared By: Kevin Peterson – Olympic Region Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																			
T027 R001 S07 Ty00U5 THRU T029 R002 S21 TyR/W1				Project: WINGIT													Page 1						
				Acres 196.50													Date 11/23/2015						
Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99							
BM	CU	CU			100.0	46											10	6		0.00	3.4		
BM	D	2S		62	28.2	1,346	967	190			48	52		29	45		26	28	16	210	2.53	4.6	
BM	D	3S		7	17.7	133	109	21		100				54	46			24	11	81	1.07	1.3	
BM	D	4S		18	25.9	378	280	55		82	18			31	40	5	23	29	8	49	0.75	5.7	
BM	D	UT		13	27.5	265	192	38	39	50		11		32	35	13	20	26	6	31	0.60	6.3	
BM Totals				6	28.6	2,168	1,548	304	5	28	33	34		32	43	3	23	24	9	73	1.11	21.3	
RC	CU	CU			100.0	7												2	6		0.00	5.0	
RC	D	3S		74	14.6	1,498	1,280	252		34	33	33			2	3	94	39	11	179	1.93	7.1	
RC	D	4S		26	5.1	472	448	88	28	72				28	2	17	53	26	6	37	0.68	12.2	
RC Totals				7	12.6	1,978	1,728	340	7	44	24	25		7	2	7	84	25	8	71	1.24	24.4	
RA	CU	CU			100.0	152												11	5		0.00	13.7	
RA	D	2S		23	5.5	1,908	1,803	354		100				27	67		7	26	12	131	1.25	13.7	
RA	D	3S		29	5.8	2,402	2,262	444		100				37	60		3	25	10	84	0.85	27.1	
RA	D	4S		29	7.6	2,391	2,210	434	3	97				23	44	1	33	29	7	43	0.49	51.3	
RA	D	UT		19	9.3	1,580	1,432	281	100	0				30	27	27	17	23	5	22	0.30	66.4	
RA Totals				29	8.6	8,433	7,707	1,514	19	57	23			29	51	5	15	24	7	45	0.53	172.2	
DF	CU	CU			100.0	21												2	7		0.00	6.5	
DF	HA	SM		4		599	599	118				100			62	38		26	25	778	5.62	.8	
DF	HB	2S		4	5.9	630	592	116			43	57					100	40	18	549	3.23	1.1	
DF	D	2S		62	4.7	8,673	8,262	1,624			34	66		2	0		98	38	16	413	2.55	20.0	
DF	D	3S		22	3.9	3,049	2,931	576	0	100				3	5	8	83	37	8	93	0.86	31.4	
DF	D	4S		6	9.2	1,005	913	179	72	28				25	28	32	15	24	5	26	0.38	35.6	
DF	D	UT		1		163	163	32	93	7				47	53			14	5	16	0.27	10.3	
DF	RO	2S		1	49.5	5	3	1				100					100	40	24	510	5.30	.0	
DF Totals				51	4.8	14,145	13,463	2,646	6	24	23	47		4	6	6	83	28	9	127	1.19	105.6	
WH	CU	CU			100.0	3												0	6		0.00	3.1	
WH	D	2S		23	5.6	381	359	71			55	45					100	40	17	429	2.74	.8	
WH	D	3S		53	2.9	834	809	159		100					1	2	97	40	8	87	0.71	9.3	
WH	D	4S		16	3.2	260	252	49	100	0				27	46	14	13	24	5	24	0.36	10.4	
WH	D	UT		8		113	113	22	100					17	83			21	5	25	0.27	4.6	
WH Totals				6	3.6	1,591	1,534	301	24	53	13	11		6	14	3	77	27	6	54	0.63	28.2	
GF	CU	CU			100.0	8												16	5		0.00	.4	
GF	D	2S		47	6.2	152	143	28			1	99					1	99	40	21	741	4.02	.2
GF	D	3S		38	6.9	122	113	22		100				7			93	38	10	121	1.10	.9	
GF	D	4S		2		4	4	1	97	3				97	3			14	5	10	0.35	.4	
GF	D	UT		13		38	38	7	100						100			22	5	20	0.24	1.9	
GF Totals				1	8.1	324	298	59	14	38	0	47		4	13	0	83	25	7	77	0.84	3.9	
SS	D	3S		90		83	83	16		100							100	40	8	98	0.91	.8	
SS	D	4S		4		3	3	1	100					100				14	5	10	0.34	.3	
SS	D	UT		6		5	5	1	100					100				11	5	10	0.20	.5	

Species, Sort Grade - Board Foot Volumes (Project)

T027 R001 S07 Ty00U5
 THRU
 T029 R002 S21 TyR/W1

Project: WINGIT
Acres 196.50

Page 2
Date 11/23/2015
Time 8:37:00AM

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99							
SS Totals			0	91	91	18	9	91					9		91			26	7	54	0.76	1.7
Totals				8.2	28,730	26,369	5,182	11	37	23	29	13	22	5	60	26	8	74	0.83	357.2		

TC PSTATS		PROJECT STATISTICS								PAGE	1
		PROJECT				WINGIT				DATE	11/23/2015
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
027	001	07	WINGIT	00U5	THR	196.50	102	591	S	W	
029	002	21	WINGIT	R/W1							
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		102	591	5.8							
CRUISE		59	342	5.8	35,837	1.0					
DBH COUNT											
REFOREST											
COUNT		43	249	5.8							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	135	53.1	18.9	61	23.8	103.4	14,145	13,463	3,573	3,567	
R ALDER	107	83.9	13.2	58	22.0	79.8	8,433	7,707	2,234	2,199	
WHEMLOCK	36	17.6	13.4	50	4.7	17.1	1,591	1,534	473	473	
WR CEDAR	34	14.1	18.4	46	6.1	26.1	1,978	1,728	754	751	
BL MAPLE	22	10.0	20.0	57	4.9	21.8	2,168	1,548	595	580	
GRAND F	6	2.8	13.9	39	0.8	3.0	324	298	84	82	
S SPRUCE	2	.8	15.9	56	0.3	1.2	91	91	33	33	
TOTAL	342	182.4	15.9	57	63.3	252.5	28,730	26,369	7,746	7,685	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		145.6	14.4	45	53	61					
R ALDER		106.1	10.5	75	84	93					
WHEMLOCK		219.3	21.7	14	18	21					
WR CEDAR		286.1	28.3	10	14	18					
BL MAPLE		229.2	22.7	8	10	12					
GRAND F		550.6	54.5	1	3	4					
S SPRUCE		741.7	73.4	0	1	1					
TOTAL		50.5	5.0	173	182	192	102	52	26		
CL	68.1	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		116.1	11.5	92	103	115					
R ALDER		96.3	9.5	72	80	87					
WHEMLOCK		221.4	21.9	13	17	21					
WR CEDAR		258.7	25.6	19	26	33					
BL MAPLE		187.3	18.5	18	22	26					
GRAND F		440.4	43.6	2	3	4					
S SPRUCE		710.6	70.4	0	1	2					
TOTAL		49.1	4.9	240	252	265	97	49	24		
CL	68.1	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.			
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		122.6	12.1	11,829	13,463	15,098					
R ALDER		96.7	9.6	6,969	7,707	8,445					
WHEMLOCK		256.9	25.4	1,143	1,534	1,924					
WR CEDAR		256.4	25.4	1,289	1,728	2,167					
BL MAPLE		191.1	18.9	1,255	1,548	1,841					
GRAND F		559.0	55.4	133	298	463					
S SPRUCE		711.2	70.4	27	91	155					
TOTAL		63.6	6.3	24,709	26,369	28,029	162	82	40		

PROJECT STATISTICS

PROJECT WINGIT

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
027	001	07	WINGIT	00U5	THR	196.50	102	591	S	W
029	002	21	WINGIT	R/W1						
CL	68.1	COEFF	V_BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		73.2	7.2	114	130	146				
R ALDER				87	97	106				
WHEMLOCK		225.2	22.3	67	90	112				
WR CEDAR		162.4	16.1	49	66	83				
BL MAPLE		99.3	9.8	57	71	84				
GRAND F		497.1	49.2	45	100	156				
S SPRUCE		711.2	70.4	23	78	133				
TOTAL		55.7	5.5	98	104	111	124	63	31	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	WINGIT			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
029	002	20	WINGIT	00U1	5.50	7	38	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		7	38	5.4						
CRUISE		6	33	5.5	1,420		2.3			
DBH COUNT										
REFOREST										
COUNT		1	5	5.0						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
R ALDER	25	184.3	13.1	51	47.4	171.4	15,346	14,500	4,212	4,172
DOUG FIR	5	46.7	10.6	39	8.8	28.6	1,651	1,651	499	499
WHEMLOCK	3	27.2	10.8	28	5.2	17.1	667	667	232	232
TOTAL	33	258.2	12.4	46	61.6	217.1	17,664	16,818	4,943	4,903
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
R ALDER		62.1	25.3	138	184	231				
DOUG FIR		264.6	107.8		47	97				
WHEMLOCK		176.9	72.1	8	27	47				
TOTAL		29.7	12.1	227	258	289	41	21	10	
CL:	68.1 %	COEFF	BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
R ALDER		56.7	23.1	132	171	211				
DOUG FIR		264.6	107.8		29	59				
WHEMLOCK		183.6	74.8	4	17	30				
TOTAL		25.7	10.5	194	217	240	31	16	8	
CL:	68.1 %	COEFF	NET BF/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
R ALDER		58.0	23.6	11,072	14,500	17,927				
DOUG FIR		264.6	107.8		1,651	3,431				
WHEMLOCK		186.6	76.0	160	667	1,174				
TOTAL		33.4	13.6	14,532	16,818	19,105	52	26	13	
CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
R ALDER		33.2	13.5	65	85	105				
DOUG FIR		264.6	107.8		58	120				
WHEMLOCK		186.6	76.0	9	39	68				
TOTAL		75.9	30.9	67	77	88	268	137	67	

T029 R002 S21 T00U2										T029 R002 S21 T00U2				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
029	002	21	WINGIT	00U2	39.70	20	47	S	W					

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
					Def%	Gross	Net		Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf		
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	38												2	6		0.00	18.9
DF		DM	2S	48	3.1	6,873	6,659	264			45	55		14			86	32	15	326	2.50	20.4
DF		DM	3S	34	2.9	4,828	4,686	186		100				7			93	38	9	100	0.94	47.1
DF		DM	4S	15	6.7	2,300	2,146	85	96	4				19	31	38	13	26	5	26	0.37	83.2
DF		DM	UT	3		336	336	13	100								100	26	5	30	0.34	11.2
DF	Totals			60	3.8	14,374	13,827	549	17	35	22	27		12	7	6	75	27	7	77	0.85	180.7
RA		CU	CU		100.0	27												11	5		0.00	2.7
RA		DM	2S	23	5.8	1,776	1,673	66			100			58	42			23	12	109	1.14	15.4
RA		DM	3S	19	4.0	1,354	1,299	52		100				77	23			22	10	73	0.88	17.7
RA		DM	4S	28	1.2	1,966	1,942	77	100					40	60			24	7	40	0.46	48.9
RA		DM	UT	30	1.3	2,118	2,091	83	100					28	32	8	33	23	5	24	0.27	87.8
RA	Totals			30	3.2	7,242	7,007	278	30	46	24			48	40	2	10	23	7	41	0.46	172.5
WH		CU	CU															8			0.00	1.0
WH		DM	2S	31	4.6	724	691	27			100						100	40	15	327	2.18	2.1
WH		DM	3S	48		1,050	1,050	42		100							6	39	8	96	0.73	11.0
WH		DM	4S	6		121	121	5	100								100	28	5	30	0.34	4.0
WH		DM	UT	15		321	321	13	100					15	85			19	5	23	0.23	13.9
WH	Totals			9	1.5	2,216	2,183	87	20	48	32			2	18	3	77	28	7	68	0.67	32.0
RC		DM	4S	100		91	91	4	100								100	18	5	20	0.29	4.5
RC	Totals			0		91	91	4	100								100	18	5	20	0.29	4.5
Type Totals					3.4	23,922	23,107	917	22	39	23	16		22	18	4	55	25	7	59	0.67	389.8

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	WINGIT			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
029	002	21	WINGIT	00U2	39.70	20	101	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				TREES	TREES	TREES				
TOTAL		20	101	5.1						
CRUISE		10	47	4.7	8,934		.5			
DBH COUNT										
REFOREST										
COUNT		10	54	5.4						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	21	109.9	16.1	49	38.7	155.2	14,374	13,827	4,189	4,178
R ALDER	19	90.5	12.1	54	20.7	72.0	7,242	7,007	1,860	1,853
WHEMLOCK	6	20.1	13.2	54	5.2	19.1	2,216	2,183	599	599
WR CEDAR	1	4.5	9.0	22	0.7	2.0	91	91	24	24
TOTAL	47	225.0	14.2	51	65.8	248.2	23,922	23,107	6,672	6,654
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		96.3	22.1	86	110	134				
R ALDER		133.4	30.6	63	91	118				
WHEMLOCK		240.6	55.2	9	20	31				
WR CEDAR		447.2	102.6		5	9				
TOTAL		40.4	9.3	204	225	246	69	35	17	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		86.9	19.9	124	155	186				
R ALDER		113.4	26.0	53	72	91				
WHEMLOCK		266.7	61.2	7	19	31				
WR CEDAR		447.2	102.6		2	4				
TOTAL		33.5	7.7	229	248	267	47	24	12	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		82.6	18.9	11,208	13,827	16,447				
R ALDER		111.8	25.7	5,209	7,007	8,804				
WHEMLOCK		279.6	64.2	782	2,183	3,583				
WR CEDAR		447.2	102.6		91	183				
TOTAL		37.0	8.5	21,143	23,107	25,071	58	29	14	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				72	89	106				
R ALDER		18.0	4.1	72	97	122				
WHEMLOCK		271.8	62.4	41	115	188				
WR CEDAR		447.2	102.6		45	92				
TOTAL		205.0	47.0	85	93	101	1,769	903	442	

T029 R002 S16 T00U3										T029 R002 S16 T00U3				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
029	002	16	WINGIT	00U3	18.20	9	31	S	W					

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	DM	2S	90	4.7	26,417	25,170	458		27	73				100	40	17	479	2.79	52.6	
DF	DM	3S	8		2,172	2,172	40		100			4	35	60	31	9	93	0.87	23.3	
DF	DM	4S	1		308	308	6		100			100			15	9	28	0.61	11.2	
DF	DM	UT	1		54	54	1		100			100			11	8	20	0.50	2.7	
DF	Totals		69	4.3	28,951	27,704	504		9	24	67	2	3	96	34	14	309	2.19	89.7	
RA	CU	CU															7	0.00	8.6	
RA	DM	2S	35	10.5	2,774	2,482	45		100			24	76		27	12	132	1.37	18.9	
RA	DM	3S	21	7.3	1,645	1,525	28		100				100		30	10	110	0.90	13.9	
RA	DM	4S	32	12.1	2,577	2,266	41		100			32	58	9	26	8	44	0.62	51.5	
RA	DM	UT	12		809	809	15	100				44	56		18	5	18	0.28	44.7	
RA	Totals		18	9.3	7,806	7,084	129	11	54	35		24	73	3	22	8	51	0.69	137.6	
WH	CU	CU															6	0.00	9.8	
WH	DM	3S	68	3.9	3,650	3,508	64		100					100	40	7	79	0.66	44.3	
WH	DM	4S	32		1,637	1,637	30	100				25	56	18	23	5	23	0.37	70.8	
WH	Totals		13	2.7	5,287	5,145	94	32	68			8	18	6	68	27	6	41	0.52	125.0
Type Totals				5.0	42,044	39,932	727	6	25	23	46	6	17	1	76	27	9	113	1.11	352.3

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	WINGIT			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
029	002	16	WINGIT	00U3	18.20	9	54	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		9	54	6.0						
CRUISE		5	31	6.2	3,093		1.0			
DBH COUNT										
REFOREST										
COUNT		4	23	5.8						
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	14	31.7	29.6	98	27.8	151.2	28,951	27,704	6,596	6,596
R ALDER	9	57.6	15.5	58	19.2	75.6	7,806	7,084	2,127	2,129
WHEMLOCK	8	80.7	12.8	48	20.3	72.6	5,287	5,145	1,764	1,764
TOTAL	<i>31</i>	<i>169.9</i>	<i>18.0</i>	<i>61</i>	<i>70.6</i>	<i>299.4</i>	<i>42,044</i>	<i>39,932</i>	<i>10,486</i>	<i>10,488</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		42.8	15.1	27	32	37				
R ALDER		99.1	35.0	37	58	78				
WHEMLOCK		59.9	21.2	64	81	98				
TOTAL		<i>20.3</i>	<i>7.2</i>	<i>158</i>	<i>170</i>	<i>182</i>	<i>18</i>	<i>9</i>	<i>5</i>	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		39.3	13.9	130	151	172				
R ALDER		104.0	36.7	48	76	103				
WHEMLOCK		53.0	18.7	59	73	86				
TOTAL		<i>15.3</i>	<i>5.4</i>	<i>283</i>	<i>299</i>	<i>316</i>	<i>11</i>	<i>5</i>	<i>3</i>	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		37.9	13.4	23,996	27,704	31,411				
R ALDER		94.7	33.5	4,713	7,084	9,454				
WHEMLOCK		54.8	19.4	4,148	5,145	6,141				
TOTAL		<i>20.6</i>	<i>7.3</i>	<i>37,026</i>	<i>39,932</i>	<i>42,838</i>	<i>19</i>	<i>10</i>	<i>5</i>	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR				159	183	208				
R ALDER		35.6	12.6	62	94	125				
WHEMLOCK				57	71	85				
TOTAL		<i>158.4</i>	<i>56.0</i>	<i>124</i>	<i>133</i>	<i>143</i>	<i>1,128</i>	<i>575</i>	<i>282</i>	

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				WINGIT		DATE		11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
028	002	12	WINGIT	00U4	77.80	37	187	S	W		
				TREES	ESTIMATED	PERCENT					
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE					
					TREES	TREES					
TOTAL		37	187	5.1							
CRUISE		17	82	4.8	12,203	.7					
DBH COUNT											
REFOREST											
COUNT		20	105	5.3							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET	
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC	
R ALDER	32	96.8	13.6	61	26.4	97.3	10,865	9,737	2,846	2,764	
DOUG FIR	24	23.5	22.7	80	13.9	66.2	11,360	10,677	2,708	2,702	
BL MAPLE	12	18.4	17.7	58	7.5	31.4	3,022	2,163	884	857	
WR CEDAR	6	6.1	21.3	58	3.3	15.1	1,194	1,169	457	457	
WHEMLOCK	5	8.7	13.6	51	2.4	8.8	930	909	260	258	
S SPRUCE	2	2.1	15.9	56	0.7	2.9	230	230	84	84	
GRAND F	1	1.1	16.0	59	0.4	1.5	148	105	44	39	
TOTAL	82	156.9	16.2	63	55.5	223.2	27,749	24,990	7,282	7,161	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER	75.7	12.4		85	97	109					
DOUG FIR	150.2	24.7		18	24	29					
BL MAPLE	168.9	27.8		13	18	24					
WR CEDAR	244.6	40.2		4	6	9					
WHEMLOCK	267.4	44.0		5	9	13					
S SPRUCE	443.3	72.9		1	2	4					
GRAND F	608.3	100.0		0	1	2					
TOTAL	36.5	6.0		147	157	166	53	27	13		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER	70.9	11.7		86	97	109					
DOUG FIR	154.0	25.3		49	66	83					
BL MAPLE	150.8	24.8		24	31	39					
WR CEDAR	227.6	37.4		9	15	21					
WHEMLOCK	272.4	44.8		5	9	13					
S SPRUCE	424.1	69.7		1	3	5					
GRAND F	608.3	100.0		0	1	3					
TOTAL	46.7	7.7		206	223	240	87	44	22		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER	70.4	11.6		8,609	9,737	10,865					
DOUG FIR	159.9	26.3		7,871	10,677	13,484					
BL MAPLE	156.2	25.7		1,608	2,163	2,719					
WR CEDAR	227.2	37.4		732	1,169	1,605					
WHEMLOCK	311.9	51.3		443	909	1,375					
S SPRUCE	424.5	69.8		69	230	390					
GRAND F	608.3	100.0		0	105	211					
TOTAL	68.0	11.2		22,196	24,990	27,784	185	94	46		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
R ALDER				88	100	112					
DOUG FIR				119	161	204					

STATISTICS

PROJECT WINGIT

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
028	002	12	WINGIT	00U4	77.80	37	187	S	W

CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
BL MAPLE		56.1	9.2	51	69	87			
WR CEDAR		113.2	18.6	48	77	106			
WHEMLOCK		294.5	48.4	50	103	156			
S SPRUCE		424.5	69.8	24	78	133			
GRAND F		608.3	100.0	0	72	143			
TOTAL		237.5	39.0	99	112	124	2,256	1,151	564

T027 R001 S07 T00U5										T027 R001 S07 T00U5				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
027	001	07	WINGIT	00U5	32.10	16	56	S	W					

Spp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf		
				Def%	Gross	Net		Net MBF	4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft		Lf
RC	CU	CU		100.0	45												2	6		0.00	23.5
RC	DM	3S	70	17.9	4,331	3,557	114		35	23	42			7	93		38	11	183	2.01	19.5
RC	DM	4S	30	9.0	1,648	1,500	48	11	89				19		12	69	29	7	46	0.90	32.8
RC	Totals		21	16.1	6,024	5,057	162	3	51	16	29		6		9	86	23	8	67	1.35	75.7
DF	CU	CU		100.0	25												2	9		0.00	7.2
DF	DM	2S	58	6.8	5,225	4,870	156			48	52				100		40	15	339	2.24	14.4
DF	DM	3S	27	2.6	2,358	2,295	74		100						14	86	38	8	95	0.82	24.3
DF	DM	4S	13	14.4	1,212	1,038	33	75	25				12	12	53	23	29	5	32	0.37	32.3
DF	DM	UT	2		168	168	5	84	16				100				11	5	11	0.21	15.5
DF	Totals		35	6.9	8,988	8,370	269	11	31	28	30		4	1	10	85	28	8	89	0.93	93.6
RA	DM	2S	17	3.1	1,125	1,090	35			100					100		30	12	145	1.23	7.5
RA	DM	3S	30	7.5	1,981	1,833	59		100				45	31		24	26	10	83	0.85	22.2
RA	DM	4S	41	13.5	2,912	2,520	81	4	96						73		36	7	51	0.51	49.6
RA	DM	UT	12	12.2	782	686	22	100					78		22		15	5	13	0.24	51.7
RA	Totals		26	9.9	6,801	6,129	197	13	69	18			22	38	2	37	26	7	47	0.56	131.0
BM	CU	CU		100.0	27												12	8		0.00	1.4
BM	DM	2S	71	26.1	2,364	1,747	56			17	83		37	38		25	27	19	289	3.29	6.0
BM	DM	3S	12	23.1	398	307	10		100						100		30	11	100	1.21	3.1
BM	DM	4S	6	21.4	191	150	5			100			100				20	14	110	1.63	1.4
BM	DM	UT	11	31.7	376	257	8	12	88				13	50		37	23	7	33	0.95	7.8
BM	Totals		10	26.7	3,356	2,461	79	1	22	18	59		34	44		22	24	12	126	1.80	19.6
WH	CU	CU															5			0.00	5.2
WH	DM	2S	55	10.8	820	731	23			46	54				100		40	18	503	3.41	1.5
WH	DM	3S	29	5.9	415	391	13		100					13		87	37	9	100	1.00	3.9
WH	DM	4S	16	20.2	255	203	7	100					24		76		32	5	27	0.38	7.6
WH	Totals		6	11.0	1,490	1,326	43	15	29	26	30		4	4		93	25	7	73	0.98	18.1
GF	DM	3S	60		389	389	12		100						100		40	10	150	1.26	2.6
GF	DM	4S	4		26	26	1	100					100				14	5	10	0.34	2.6
GF	DM	UT	36		231	231	7	100						100			22	5	20	0.24	11.6
GF	Totals		3		646	646	21	40	60				4	36		60	24	6	39	0.52	16.7
Type Totals				12.1	27,305	23,988	770	10	45	21	24		12	16	6	66	25	8	68	0.90	354.6

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				WINGIT				DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
027	001	07	WINGIT	00U5	32.10	16	100	S	W	
			TREES	ESTIMATED	PERCENT					
			TREES	TOTAL	SAMPLE					
			PER PLOT	TREES	TREES					
TOTAL	16	100	6.3							
CRUISE	10	56	5.6	5,776			1.0			
DBH COUNT										
REFOREST										
COUNT	6	44	7.3							
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
WR CEDAR	21	42.3	18.9	45	19.0	82.5	6,024	5,057	2,379	2,360
DOUG FIR	13	46.2	17.2	62	18.0	74.9	8,988	8,370	2,440	2,433
R ALDER	10	59.2	13.9	63	16.8	62.5	6,801	6,129	1,861	1,861
BL MAPLE	6	9.1	25.6	54	6.4	32.5	3,356	2,461	864	853
WHEMLOCK	4	9.0	16.6	56	3.3	13.6	1,490	1,326	434	434
GRAND F	2	14.1	11.5	33	3.0	10.2	646	646	204	204
TOTAL	56	179.9	16.8	56	67.4	276.2	27,305	23,988	8,182	8,146
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WR CEDAR	136.8	35.3		27	42	57				
DOUG FIR	133.0	34.3		30	46	62				
R ALDER	115.6	29.9		42	59	77				
BL MAPLE	112.5	29.0		6	9	12				
WHEMLOCK	248.1	64.1		3	9	15				
GRAND F	247.9	64.0		5	14	23				
TOTAL	41.9	10.8		160	180	199	75	38	19	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WR CEDAR	115.4	29.8		58	83	107				
DOUG FIR	124.2	32.1		51	75	99				
R ALDER	114.4	29.5		44	63	81				
BL MAPLE	112.1	28.9		23	33	42				
WHEMLOCK	230.9	59.6		5	14	22				
GRAND F	215.0	55.5		5	10	16				
TOTAL	27.7	7.2		256	276	296	33	17	8	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WR CEDAR	115.9	29.9		3,543	5,057	6,571				
DOUG FIR	136.5	35.2		5,420	8,370	11,321				
R ALDER	114.1	29.5		4,323	6,129	7,935				
BL MAPLE	117.5	30.3		1,714	2,461	3,207				
WHEMLOCK	268.8	69.4		406	1,326	2,246				
GRAND F	222.0	57.3		276	646	1,016				
TOTAL	31.2	8.0		22,058	23,988	25,919	41	21	10	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
WR CEDAR	70.6	18.2		43	61	80				
DOUG FIR	79.3	20.5		72	112	151				
R ALDER				69	98	127				
BL MAPLE	51.9	13.4		53	76	99				

STATISTICS

PROJECT WINGIT

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
027	001	07	WINGIT	00U5	32.10	16	100	S	W

CL:	68.1 %	COEFF	V-BAR/ACRE			# OF PLOTS REQ.	INF. POP.
SD:	1.0	VAR.	S.E. %	LOW	AVG	HIGH	5 7 10
WHEMLOCK		268.8	69.4	30	97	165	
GRAND F		174.1	45.0	27	63	100	
TOTAL		<i>166.0</i>	<i>42.9</i>	<i>80</i>	<i>87</i>	<i>94</i>	<i>1,176 600 294</i>

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page	1								
												Date		11/23/2015							
												Time		8:26:22AM							
T027 R001 S07 T00U6										T027 R001 S07 T00U6											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
027	001	07	WINGIT	00U6	20.20	8	36	S	W												
S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
				Def%	Gross	Net		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft			
DF	CU	CU														10			0.00		2.8
DF	HA	SM	27		5,829	5,829	118					100		62	38		26	25	778	5.62	7.5
DF	DM	2S	33	3.0	7,436	7,211	146			18	82				100	40	18	553	2.92		13.0
DF	DM	3S	35	6.2	8,005	7,510	152			100				3	19	78	37	8	93	0.85	81.0
DF	DM	4S	4		792	792	16	68	32				57	43		16	5	15	0.30		51.4
DF	DM	UT	1		200	200	4	100					100			9	5	10	0.20		20.0
DF	Totals		65	3.2	22,263	21,543	435	3	36	6	54	3	19	17	61	27	9	123	1.15		175.8
RC	CU	CU														6			0.00		11.2
RC	DM	3S	68	22.2	3,530	2,746	55			38	62			10	90	37	12	185	2.16		14.8
RC	DM	4S	32		1,284	1,284	26	48	52				12		36	52	31	5	38	0.51	34.1
RC	Totals		12	16.3	4,814	4,031	81	15	43		42	4	7	11	78	27	7	67	1.07		60.2
RA	CU	CU														6			0.00		12.6
RA	DM	2S	6	25.0	322	242	5			100			100			16	12	60	1.09		4.0
RA	DM	4S	65	3.7	2,328	2,243	45			100			5	30	64	34	7	52	0.49		42.9
RA	DM	UT	29	11.3	1,128	1,001	20	100					36	64		19	5	18	0.26		55.8
RA	Totals		10	7.8	3,778	3,485	70	29	64	7		21	38	41		22	6	30	0.41		115.2
BM	CU	CU		100.0	59											13	8		0.00		2.9
BM	DM	2S	80	31.9	3,337	2,271	46			26	74		52	48		23	18	197	2.66		11.5
BM	DM	4S	16	23.7	601	458	9		42	58			70		30	23	10	53	1.20		8.6
BM	DM	UT	4	25.0	117	88	2		100					100		25	7	30	0.83		2.9
BM	Totals		8	31.5	4,113	2,817	57		10	30	60	54	42	5		22	13	109	1.74		26.0
GF	DM	2S	94	6.2	1,467	1,376	28				100				100	40	21	755	4.07		1.8
GF	DM	3S	6		73	73	1		100				100			18	11	80	1.12		.9
GF	Totals		4	5.9	1,540	1,449	29		5	95		5		95		33	18	530	3.53		2.7
Type Totals				8.7	36,508	33,325	673	7	36	7	49	9	21	13	57	25	8	88	1.00		379.8

TC TSTATS		STATISTICS								PAGE	1
		PROJECT				WINGIT				DATE	11/23/2015
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
027	001	07	WINGIT	00U6	20.20	8	54	S	W		
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		8	54	6.8							
CRUISE		6	36	6.0	4,051		.9				
DBH COUNT											
REFOREST											
COUNT		2	18	9.0							
BLANKS											
100 %											
STAND SUMMARY											
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC	
DOUG FIR	18	82.1	19.1	62	37.4	163.3	22,263	21,543	5,467	5,467	
WR CEDAR	5	37.7	17.1	48	14.5	60.0	4,814	4,031	1,718	1,719	
R ALDER	8	68.3	11.0	48	13.6	45.0	3,778	3,485	1,053	1,053	
BL MAPLE	4	11.5	25.2	51	8.0	40.0	4,113	2,817	1,014	986	
GRAND F	1	.9	37.0	101	1.1	6.8	1,540	1,449	315	315	
TOTAL	36	200.5	17.0	54	76.5	315.1	36,508	33,325	9,566	9,540	
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		113.6	42.9	47	82	117					
WR CEDAR		188.6	71.2	11	38	65					
R ALDER		127.7	48.2	35	68	101					
BL MAPLE		92.0	34.7	8	12	16					
GRAND F		282.8	106.7		1	2					
TOTAL		62.1	23.4	154	201	248	176	90	44		
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		69.0	26.0	121	163	206					
WR CEDAR		188.6	71.2	17	60	103					
R ALDER		138.0	52.1	22	45	68					
BL MAPLE		92.6	34.9	26	40	54					
GRAND F		282.8	106.7		7	14					
TOTAL		38.8	14.6	269	315	361	69	35	17		
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		77.3	29.2	15,262	21,543	27,824					
WR CEDAR		188.6	71.2	1,163	4,031	6,899					
R ALDER		157.1	59.3	1,419	3,485	5,551					
BL MAPLE		92.8	35.0	1,831	2,817	3,804					
GRAND F		282.8	106.7		1,449	2,996					
TOTAL		50.4	19.0	26,982	33,325	39,668	116	59	29		
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		52.9	19.9	93	132	170					
WR CEDAR		66.7	25.2	19	67	115					
R ALDER		153.5	57.9	32	77	123					
BL MAPLE				46	70	95					
GRAND F		282.8	106.7		213	440					
TOTAL		127.5	48.1	86	106	126	741	378	185		

T029 R002 S21 TR/W1										T029 R002 S21 TR/W1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
029	002	21	WINGIT	R/W1	.20	1	14	S	W					

S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	DM	2S	85	5.0	31,100	29,550	6		23	77		2	98	39	17	455	2.76	65.0		
DF	DM	3S	6	2.1	2,350	2,300	0		100			22	28	11	39	26	9	77	0.80	30.0
DF	DM	4S	1		300	300	0	17	83			100			12	7	20	0.44	15.0	
DF	RO	2S	8	49.5	5,050	2,550	1			100			100	40	24	510	5.30	5.0		
DF	Totals		89	10.6	38,800	34,700	7	0	7	19	73	2	3	1	94	32	14	302	2.37	115.0
WH	CU	CU														7		0.00	5.0	
WH	DM	2S	75	4.1	2,450	2,350	0		100				100	40	13	235	1.67	10.0		
WH	DM	3S	12		350	350	0		100				100	40	7	70	0.67	5.0		
WH	DM	4S	13		400	400	0	50	50			50	50	31	6	40	0.51	10.0		
WH	Totals		8	3.1	3,200	3,100	1	6	18	76		6	6	87	30	9	103	1.05	30.0	
RA	DM	2S	55	16.7	900	750	0		100			100		30	13	150	1.45	5.0		
RA	DM	4S	15	20.0	250	200	0		100			100		20	9	40	0.68	5.0		
RA	DM	UT	30		400	400	0	75	25			25	75	24	5	27	0.26	15.0		
RA	Totals		3	12.9	1,550	1,350	0	22	22	56		22	78	25	8	54	0.62	25.0		
Type Totals				10.1	43,550	39,150	8	1	9	25	65	3	6	1	90	31	12	230	1.93	170.0

STATISTICS
PROJECT WINGIT

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	002	21	WINGIT	R/W1	0.20	1	14	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	1	14	14.0		
CRUISE	1	14	14.0	14	100.0
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	8	40.0	30.4	95	36.5	201.0	38,800	34,700	8,691	8,690
WHEMLOCK	3	15.0	18.7	64	6.6	28.7	3,200	3,100	960	960
R ALDER	3	15.0	12.8	52	3.7	13.3	1,550	1,350	379	379
TOTAL	<i>14</i>	<i>70.0</i>	<i>25.2</i>	<i>79</i>	<i>48.4</i>	<i>243.0</i>	<i>43,550</i>	<i>39,150</i>	<i>10,030</i>	<i>10,029</i>

CONFIDENCE LIMITS OF THE SAMPLE

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

T029 R002 S16 TR/W2										T029 R002 S16 TR/W2				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
029	002	16	WINGIT	R/W2	1.50	1	26	S	W					

Spp	So	Gr	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log				Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/		
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	DM	2S	69	8.9	3,147	2,867	4			43	57				100	40	16	358	2.64	8.0	
DF	DM	3S	25	4.2	1,100	1,053	2	1	99				4	3	18	74	32	9	99	1.15	10.7
DF	DM	4S	5		200	200	0		100				43	33	23		21	7	30	0.54	6.7
DF	DM	UT	1		13	13	0	100					100				12	5	10	0.34	1.3
DF	Totals		89	7.3	4,460	4,133	6	1	30	30	40		4	2	6	88	31	10	155	1.61	26.7
WH	CU	CU																7		0.00	2.0
WH	DM	3S	94	3.0	220	213	0		100						16	84	38	7	64	0.70	3.3
WH	DM	UT	6		13	13	0	100					100				8	5	10	0.20	1.3
WH	Totals		5	2.9	233	227	0	6	94				6		15	79	21	6	34	0.67	6.7
GF	CU	CU																10		0.00	.7
GF	DM	2S	58		153	153	0		100						100		32	14	230	1.85	.7
GF	DM	3S	34	13.3	100	87	0		100							100	40	10	130	1.72	.7
GF	DM	4S	8		20	20	0		100					100			27	6	30	0.63	.7
GF	Totals		6	4.9	273	260	0		41	59				8	59	33	25	10	98	1.47	2.7
Type Totals				7.0	4,967	4,620	7	1	34	30	35		3	3	9	85	28	9	128	1.47	36.0

TC TSTATS		STATISTICS							PAGE	1
		PROJECT		WINGIT			DATE		11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
029	002	16	WINGIT	R/W2	1.50	1	26	S	W	
				TREES	ESTIMATED	PERCENT				
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	26	26.0						
CRUISE		1	26	26.0	26	100.0				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	19	12.7	24.0	67	8.1	39.7	4,460	4,133	1,321	1,321
WHEMLOCK	5	3.3	14.6	48	1.0	3.9	233	227	92	92
GRAND F	2	1.3	22.5	55	0.8	3.7	273	260	97	97
TOTAL	26	17.3	22.3	62	10.0	47.2	4,967	4,620	1,510	1,510
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										

TC TSTATS		STATISTICS						PAGE	1	
		PROJECT		WINGIT				DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
028	002	12	WINGIT	R/W3	0.50	1	8	S	W	
				TREES	ESTIMATED	PERCENT				
		PLOTS	TREES	PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	8	8.0						
CRUISE		1	8	8.0	114	7.0				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	4	69.8	23.9	83	44.5	217.8	37,959	36,543	9,054	9,054
WHEMLOCK	2	113.7	13.3	51	29.9	108.9	7,209	6,322	2,806	2,806
WR CEDAR	1	6.3	34.0	58	6.9	40.0	3,172	2,601	1,250	1,251
R ALDER	1	37.4	14.0	70	10.7	40.0	5,613	5,238	1,353	1,353
TOTAL	8	227.2	18.1	64	95.5	406.6	53,952	50,704	14,462	14,463
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	WINGIT			DATE	11/23/2015	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
027	001	07	WINGIT	R/W4	0.80	2	9	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				TREES	TREES	TREES				
TOTAL	2		9	4.5						
CRUISE	2		9	4.5	206	4.4				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	9	257.6	13.2	57	67.4	245.0	21,699	21,699	6,607	6,607
TOTAL	9	257.6	13.2	57	67.4	245.0	21,699	21,699	6,607	6,607
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	21.9	20.6		205	258	311				
TOTAL	21.9	20.6		205	258	311	34	17	8	
CL:	68.1 %	COEFF	BASAL AREA/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	15.7	14.7		209	245	281				
TOTAL	15.7	14.7		209	245	281	17	9	4	
CL:	68.1 %	COEFF	NET BF/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	8.4	7.8		20,001	21,699	23,398				
TOTAL	8.4	7.8		20,001	21,699	23,398	5	3	1	
CL:	68.1 %	COEFF	V-BAR/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	8.4	7.8		82	89	96				
TOTAL	8.4	7.8		82	89	96	5	3	1	

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

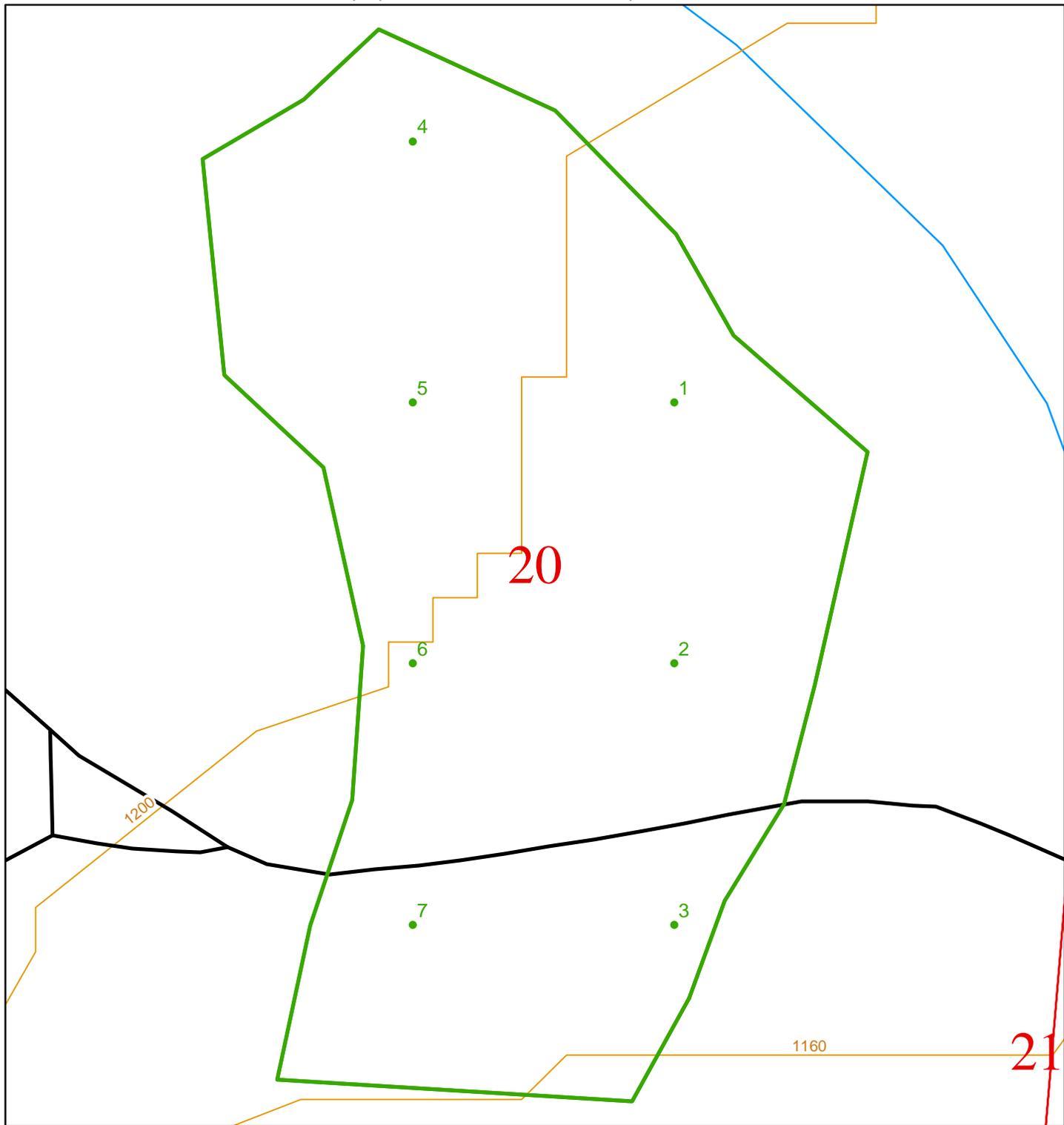
T027 R001 S07 Ty00U5	32.1
T027 R001 S07 Ty00U6	20.2
T029 R002 S21 TyR/W	.2

Project WINGIT
Acres 196.50

Page No 1
Date: 11/23/2015
Time 8:37:01AM

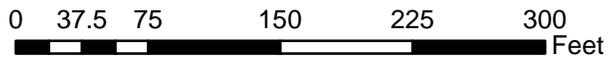
Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	10,438	19,471	20,008	67.16	36.00	1.23	7,020	7,010	2,779	2,646
R ALDER	16,492	31,137	12,070	26.20	13.88	0.54	4,389	4,321	1,657	1,514
WR CEDAR	2,780	3,806	3,482	53.10	38.78	1.27	1,482	1,476	389	340
BL MAPLE	1,958	3,524	3,100	58.21	32.35	1.15	1,170	1,140	426	304
WHEMLOCK	3,449	4,942	2,977	26.93	18.79	0.63	930	929	313	301
GRAND F	556	677	527	28.94	23.77	0.89	165	161	64	59
S SPRUCE	165	330	170	39.63	19.82	0.76	65	65	18	18
Totals	35,837	63,888	42,334	42.14	23.64	0.86	15,221	15,101	5,645	5,182

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	17,388	29,227	27,163	55.44	32.99	1.12	9,662	9,641	3,562	3,363
H	18,449	34,661	15,171	29.60	15.75	0.61	5,559	5,461	2,083	1,819
Totals	35,837	63,888	42,334	42.14	23.64	0.86	15,221	15,101	5,645	5,182



Cruiser Sample Point Locations

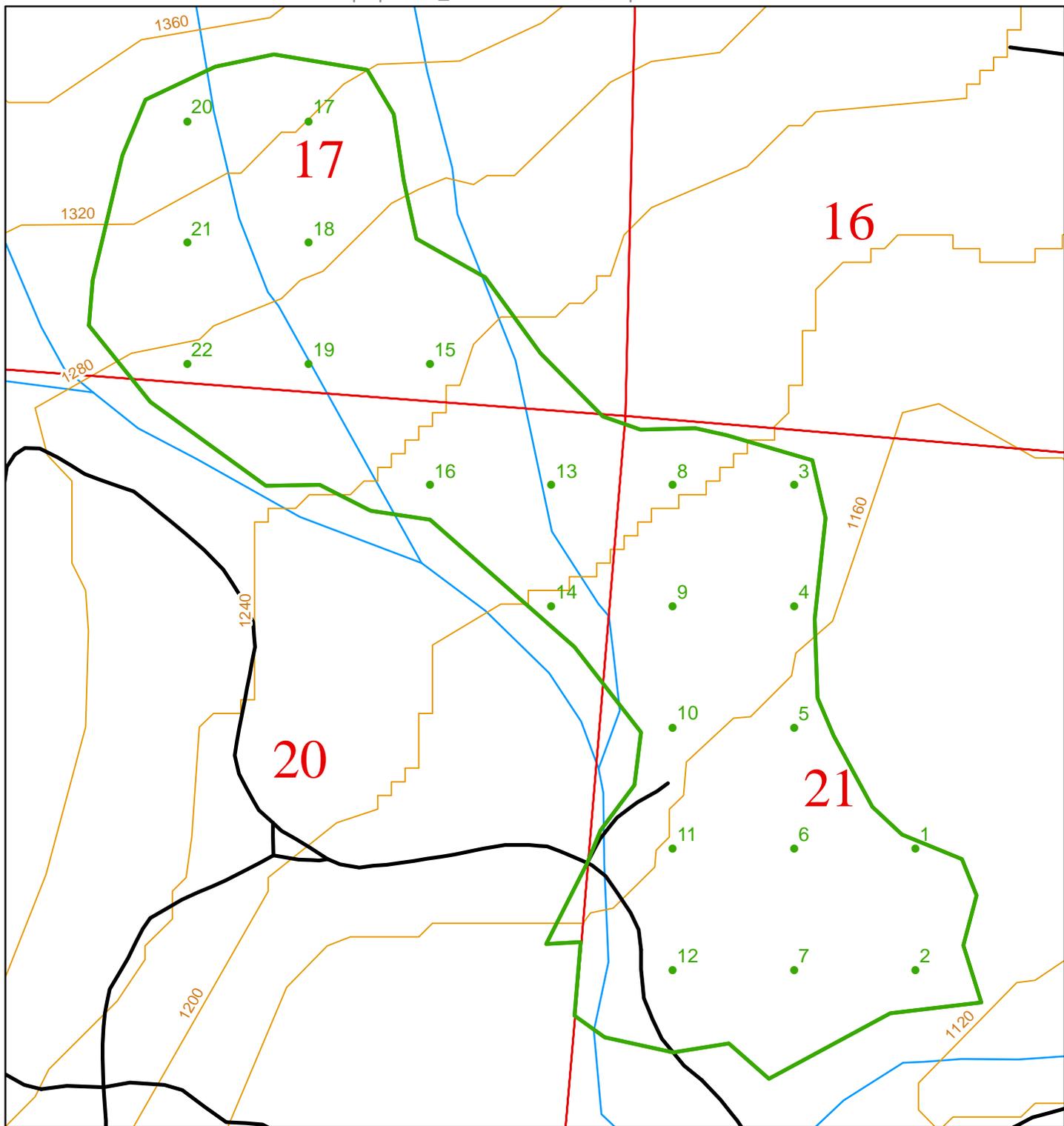
LAYER NAME:	u1_sale_boundary	Township:	T29R02W
POLY ID:	1	Total Sample Points:	7
Acres:	6	Spacing Between Points:	Width: 200 Height: 200
		Point Rotation Degrees:	0



Scale 1:1,300

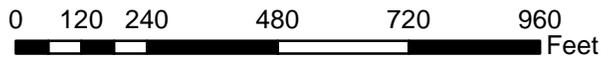
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

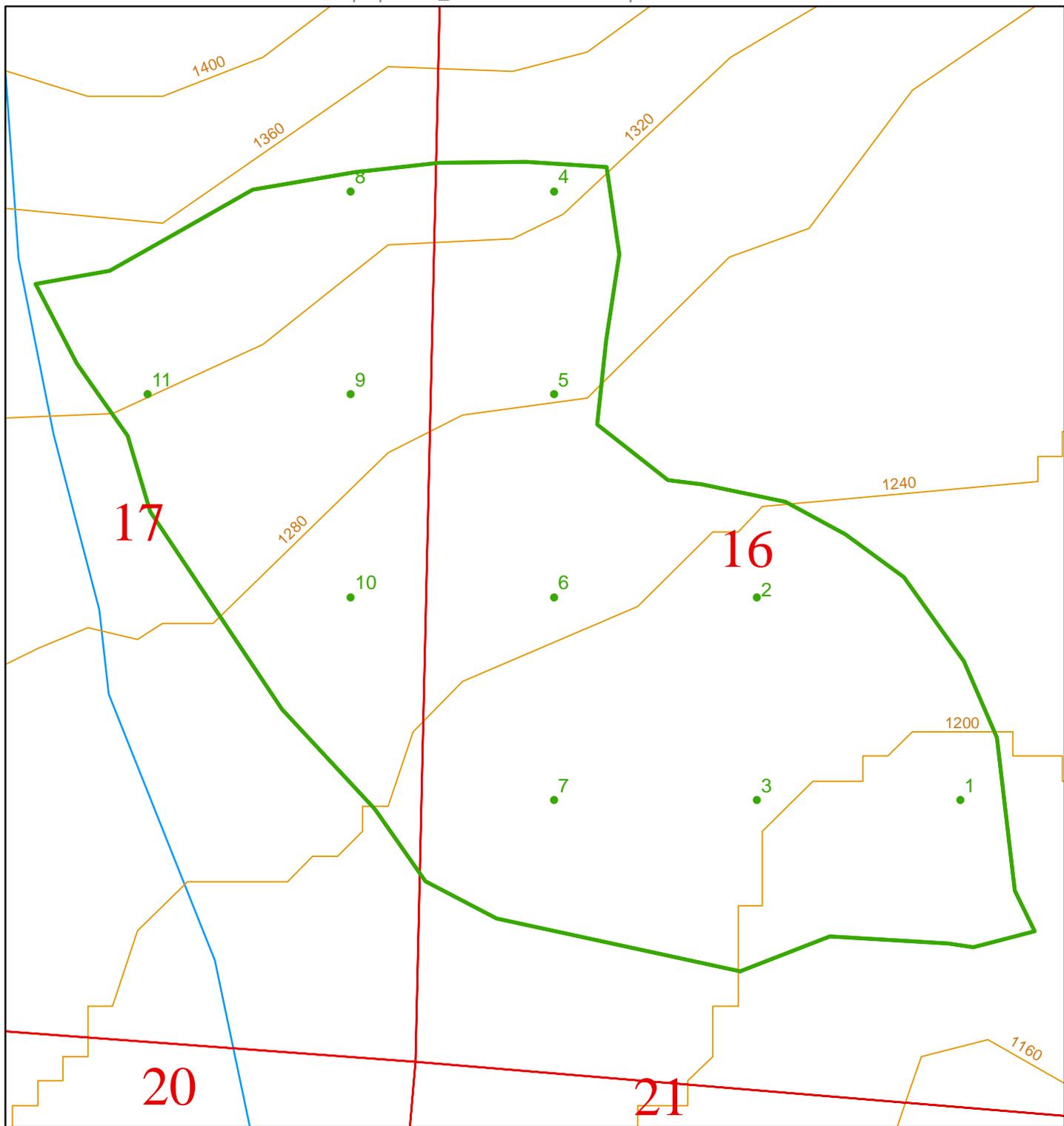
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POLY ID:	1	Total Sample Points:	22
Acres:	47	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



Scale 1:4,200

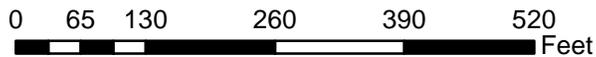
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

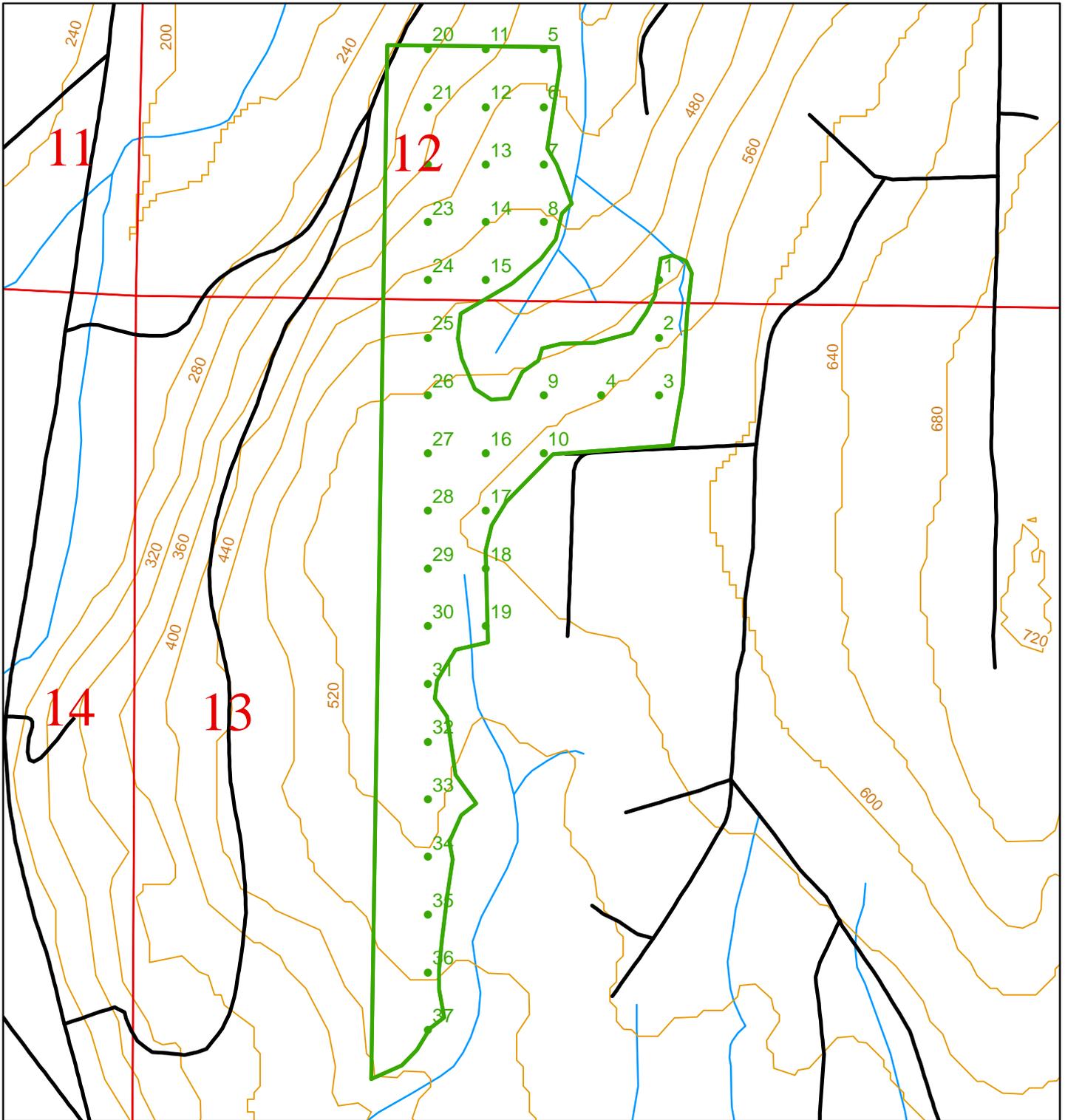
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POLY ID:	1	Total Sample Points:	11
Acres:	19	Spacing Between Points:	Width: 275 Height: 275
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Scale 1:2,300

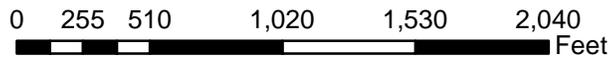
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

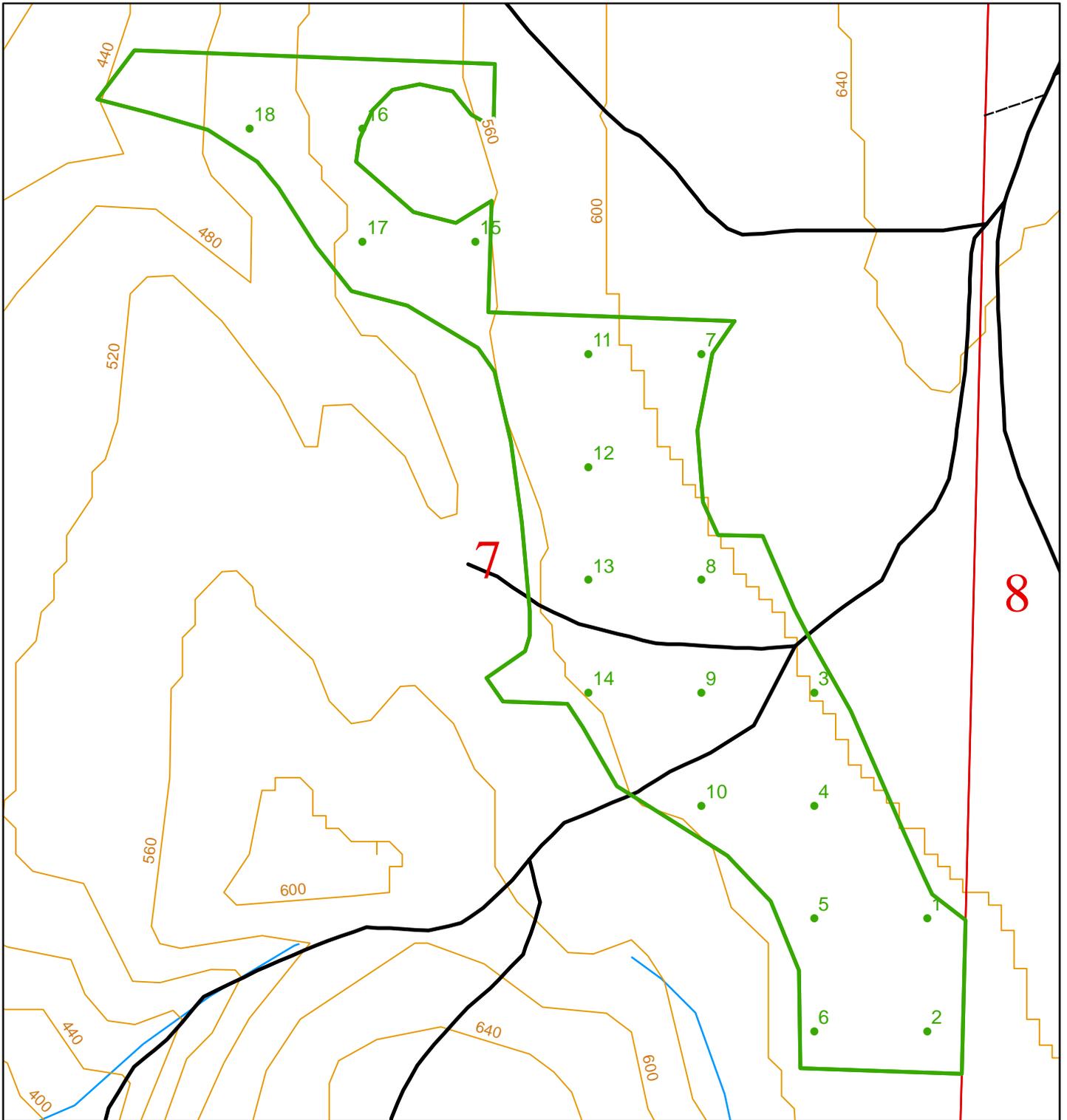
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Acres:	81	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



Scale 1:8,800

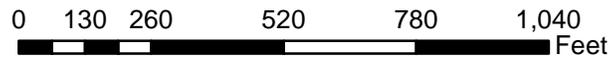
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

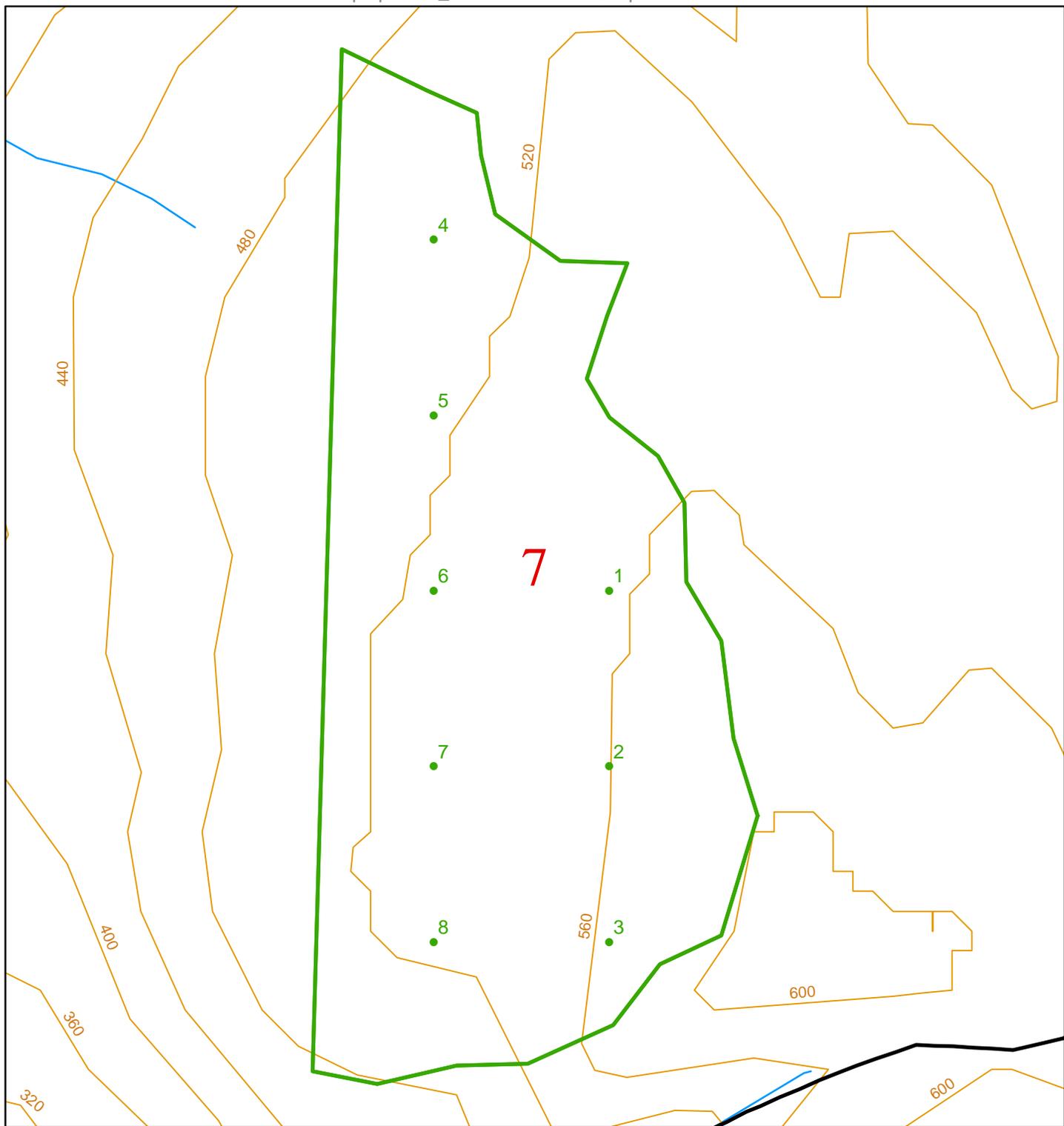
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POLY ID:	1	Total Sample Points:	18
Acres:	35	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



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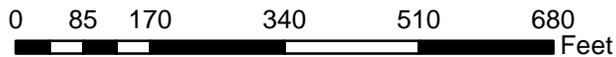
Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



Cruiser Sample Point Locations

LAYER NAME:	planned harvest	Township:	T27R01W
POLY ID:	1	Total Sample Points:	8
Acres:	21	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0



Scale 1:2,900

Legend

- Sample Points
- Unit
- Public Land Survey Sections
- Contours 40-foot



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

FPA/N No: 2614041

Effective Date: 2/26/2016

Expiration Date: 2/26/2019

Shut Down Zone: 652NE, 653S

EARR Tax Credit: Eligible Non-eligible

Reference: DNR - Wing It Hardwood TS

**Forest Practices Application/Notification
 Notice of Decision**

Decision

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

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval / Reasons for Disapproval

Issued By: Ross Goodwin

Region: Olympic

Title: Forest Practice Forester

Date: 2/26/2016

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: _____

Connie L Sallee

Appeal Information

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

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

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

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

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

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

And

Department Of Natural Resources
Olympic Region
411 Tillicum Lane
Forks, WA 98331

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 <u>2-26-2016</u> , I placed in the United States mail at _____, WA,	
(date)	(post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>2614041</u>	
_____	_____
(Printed name)	(Signature)

STATE OF WASHINGTON
 DEPARTMENT OF NATURAL RESOURCES
 WING IT HARDWOOD TIMBER SALE ROAD PLAN
 CLALLAM AND JEFFERSON COUNTY
 STRAITS DISTRICT

AGREEMENT NO.: 30-093092

STAFF ENGINEER: MADISEN WARNSTADT

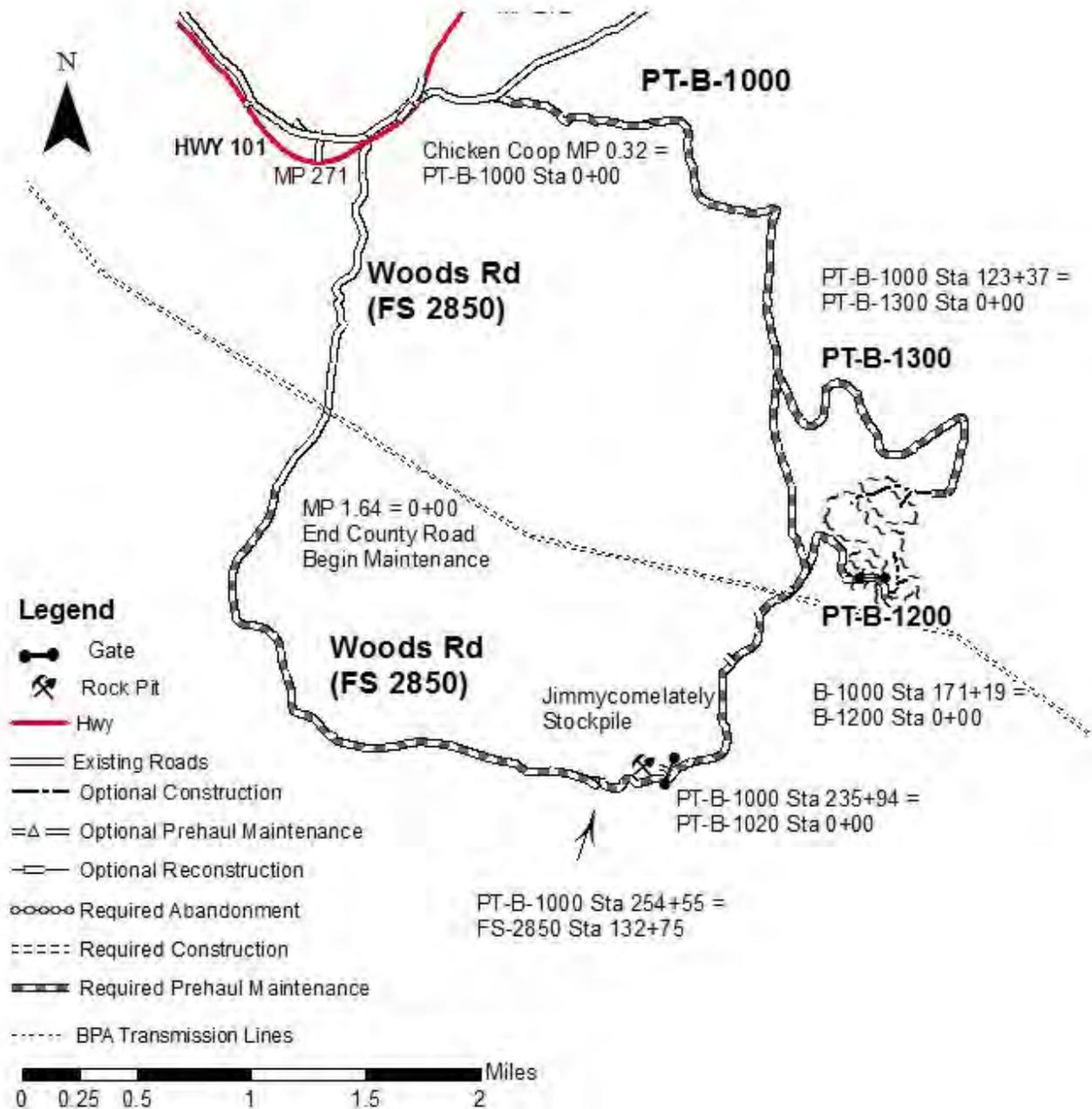
DATE: SEPTEMBER 29, 2015

DRAWN & COMPILED BY: MADISEN WARNSTADT

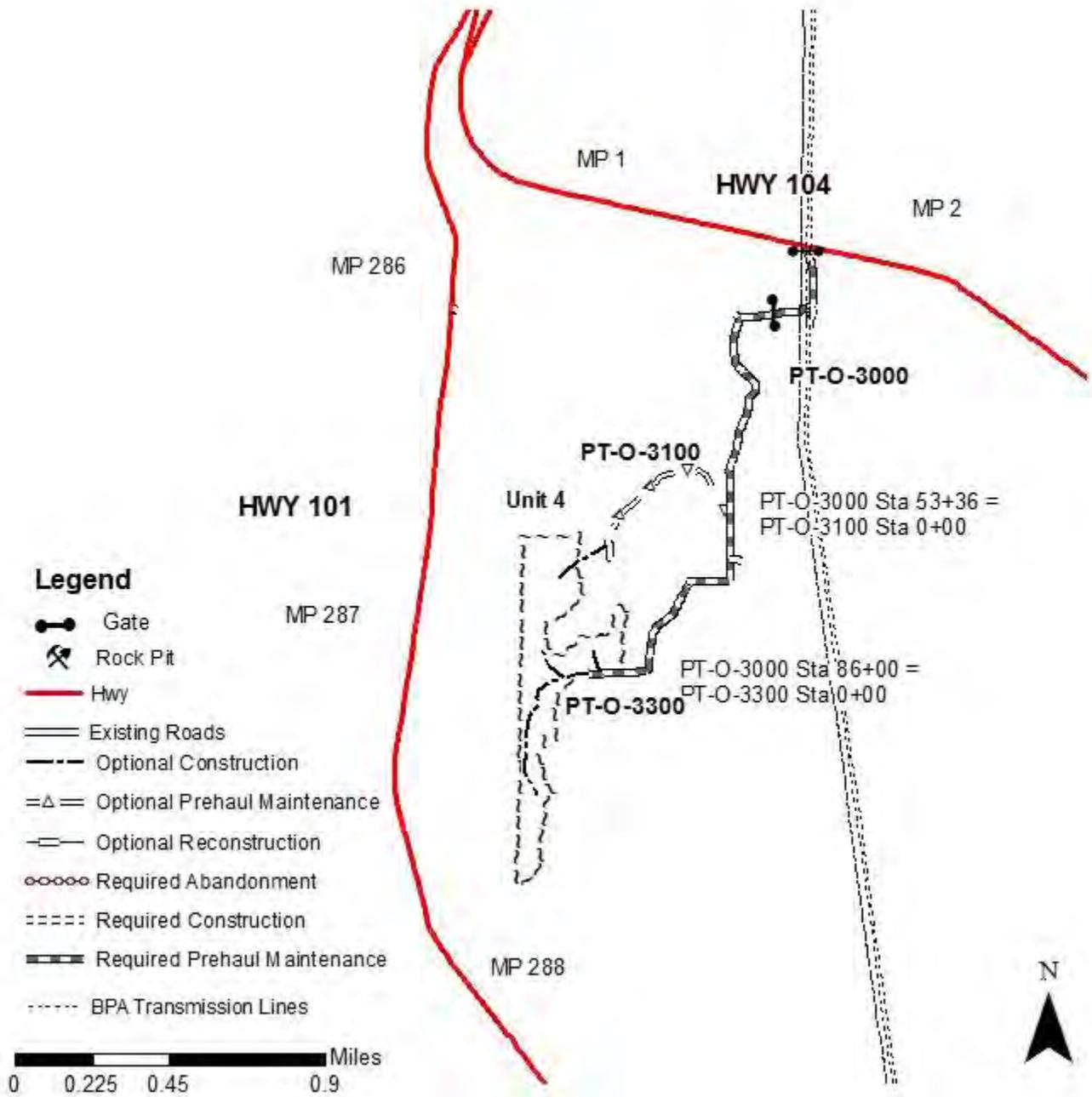
Map 1 of 11

Wing It Hardwood Vicinity Map 1

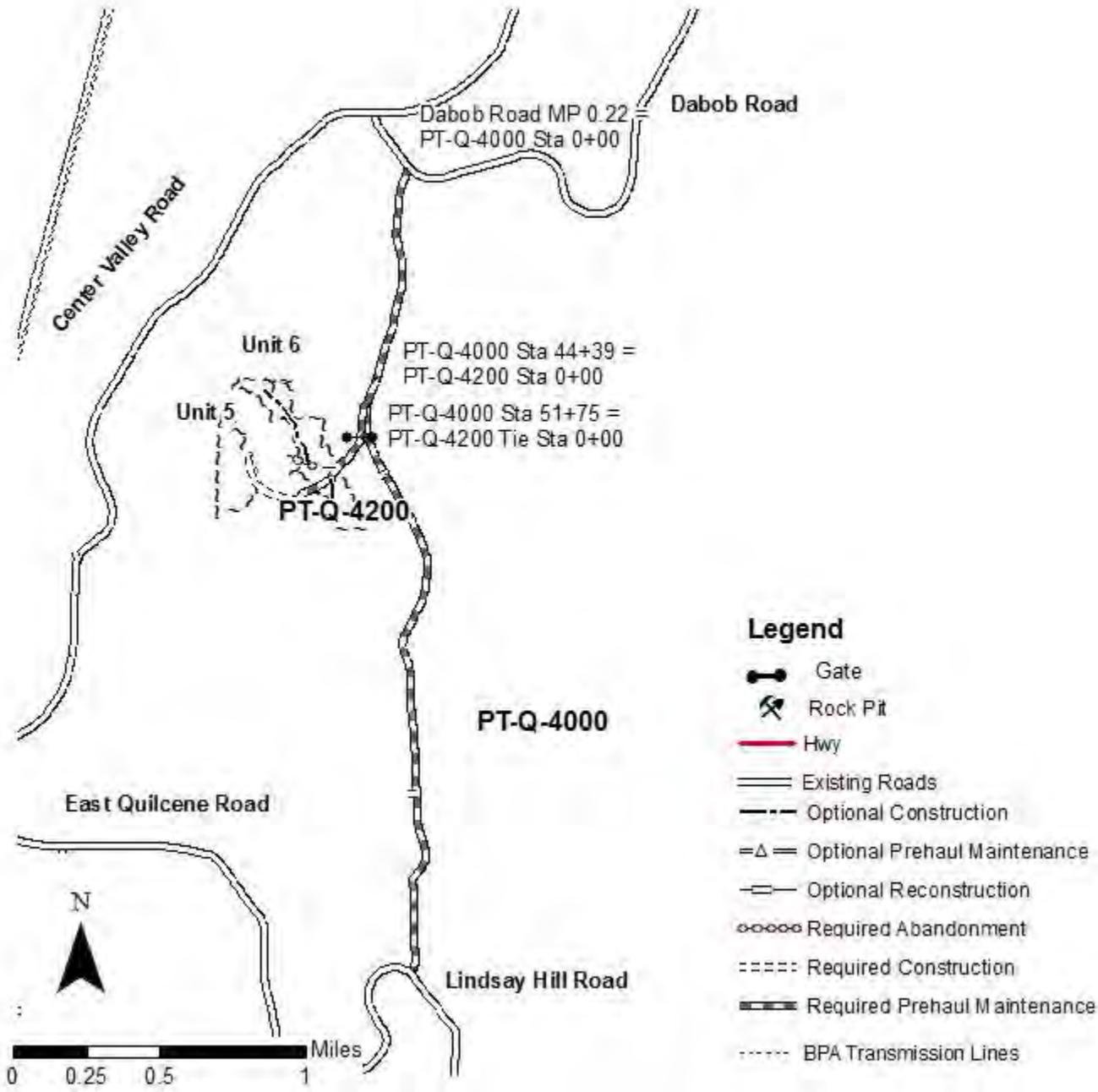
SEC. 7, 8, 12, 13, 16, 17, 20, 24, 25, 29, 30, 38 T.29N R. 03W & R. 02W, W.M.



Map 2 of 11
 Wing It Hardwood Vicinity Map 2
 SEC. 12, 13, T.28N R. 02W, W.M.

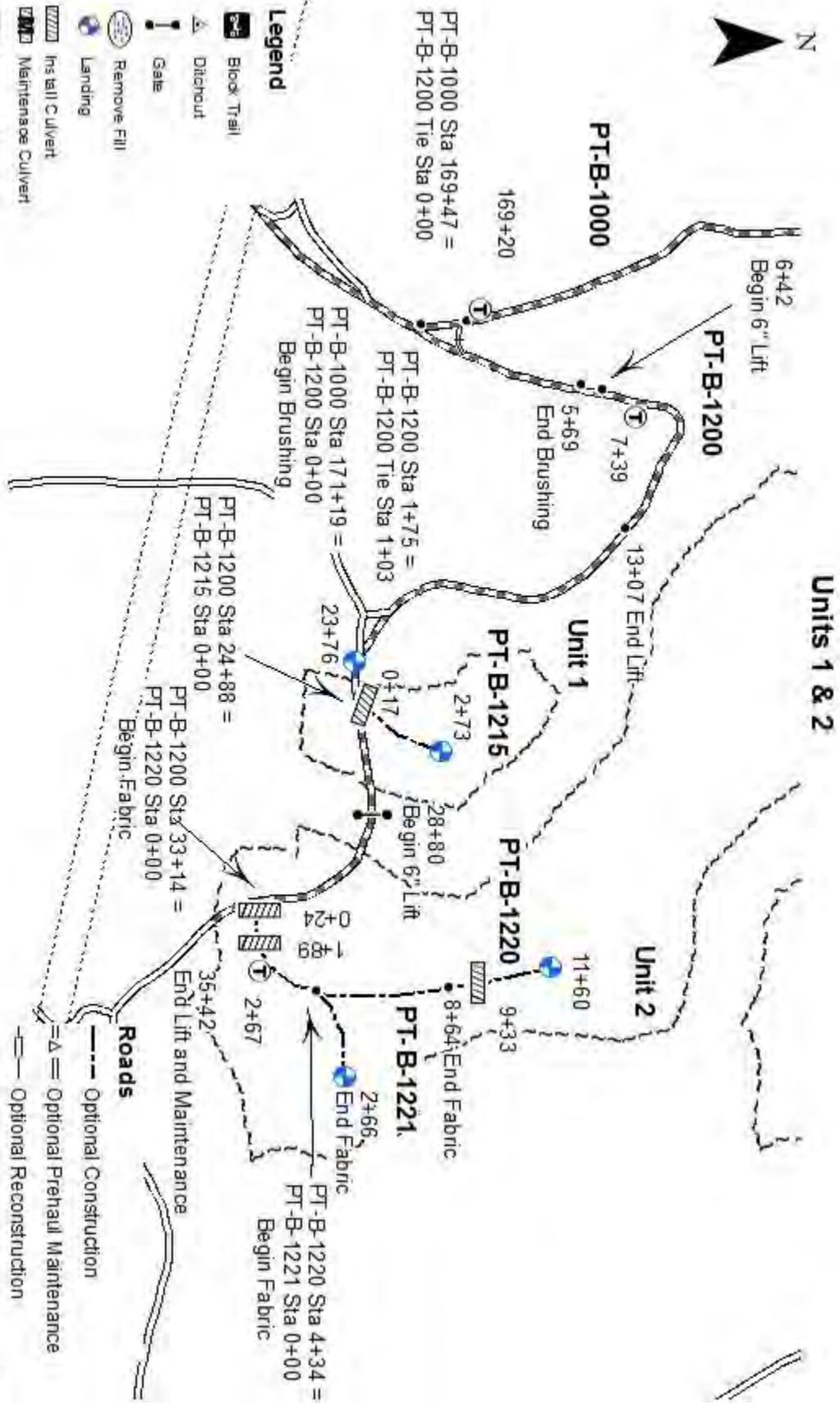


Map 3 of 11
 Wing It Hardwood Vicinity Map 3
 SEC. 7, 8, T.27N R. 01W, W.M.

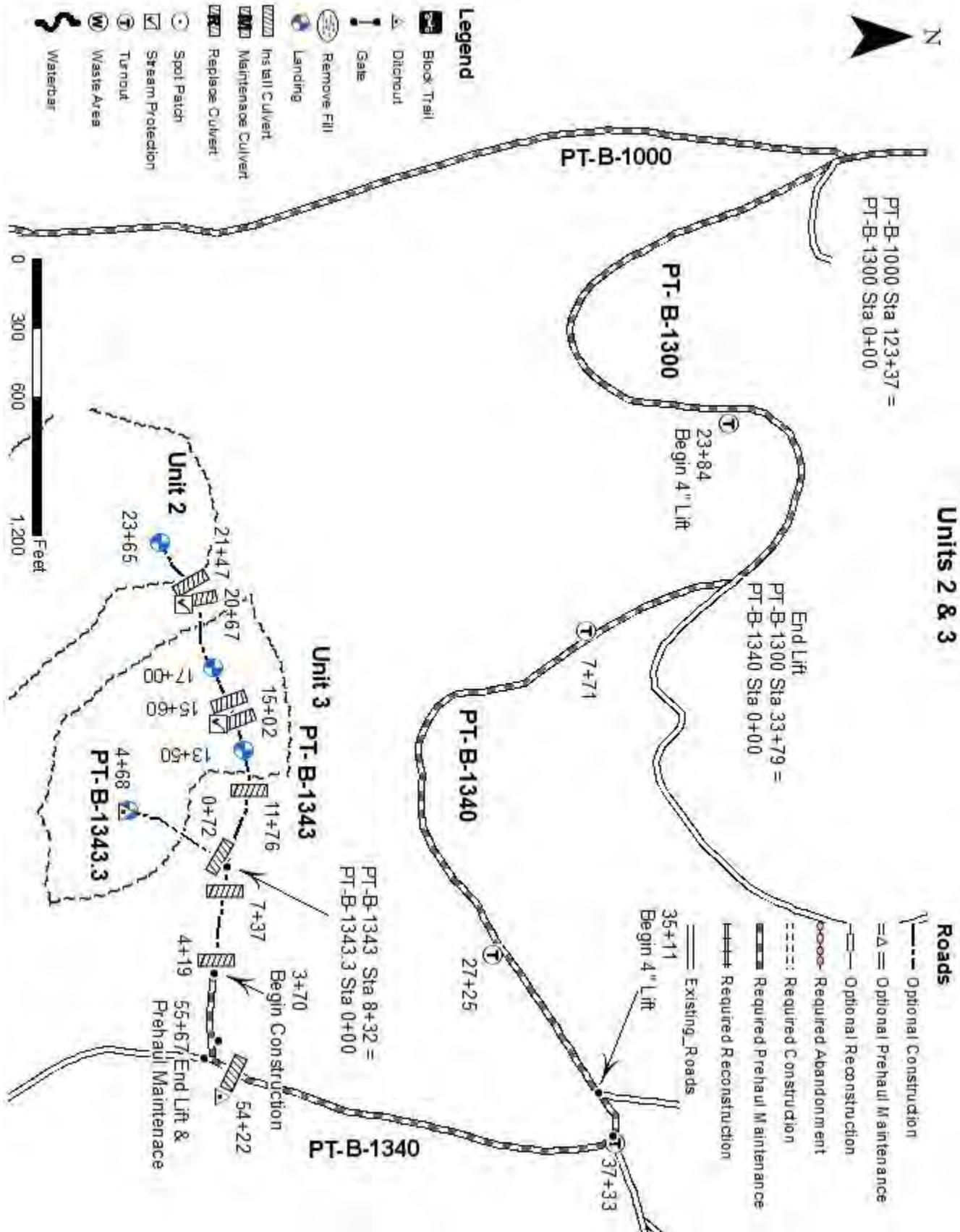


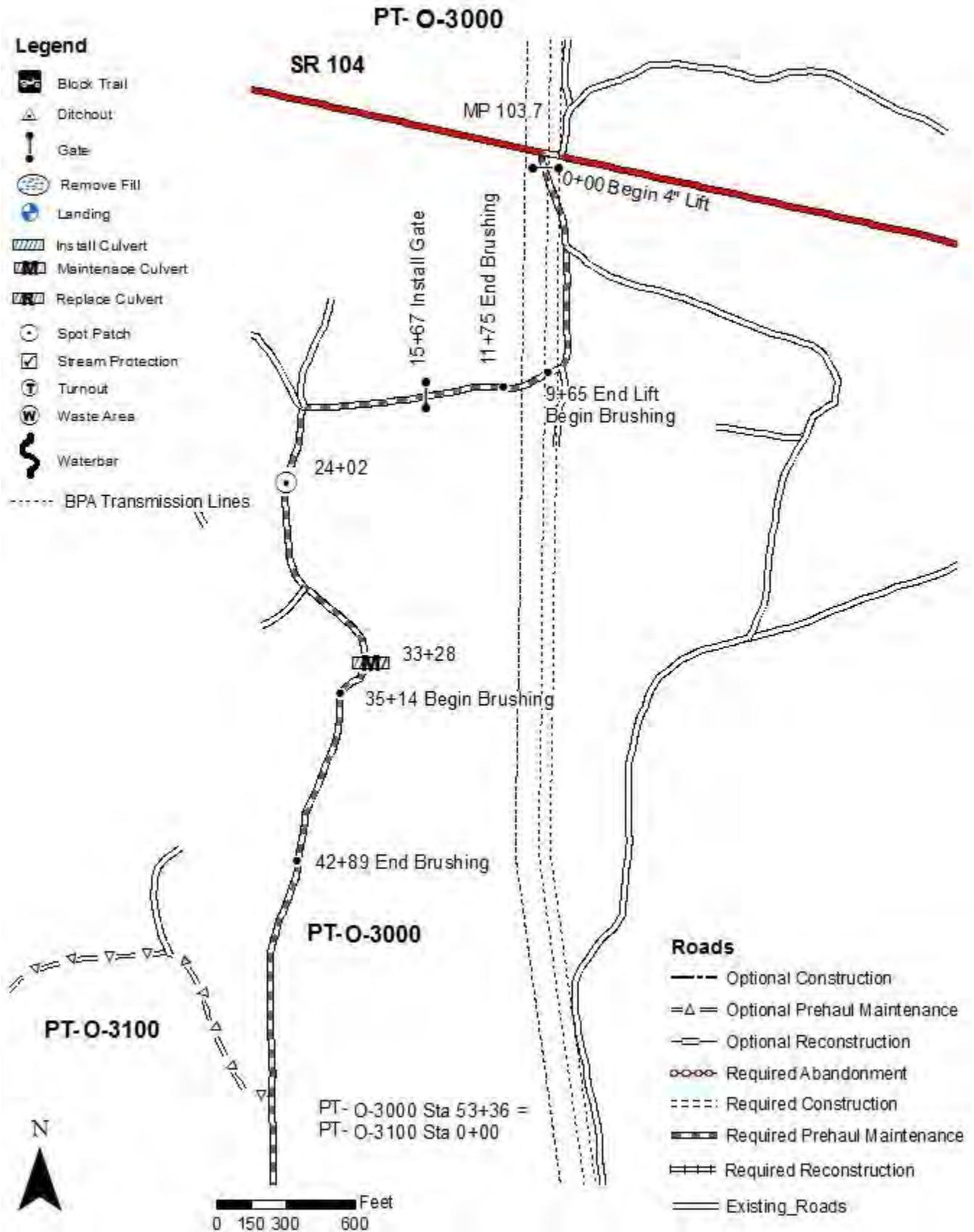


- Legend**
- Block Trail
 - Ditchout
 - Gate
 - Remove Fill
 - Landing
 - Ins Hill Culvert
 - Maintenance Culvert
 - Replace Culvert
 - Spot Patch
 - Stream Protection
 - Turnout
 - Waste Area
 - Waterbar



- Roads**
- Optional Construction
 - Optional Prehaul Maintenance
 - Optional Reconstruction
 - Required Abandonment
 - Required Construction
 - Required Prehaul Maintenance
 - Required Reconstruction
 - Existing Roads
 - BPA Transmission Lines

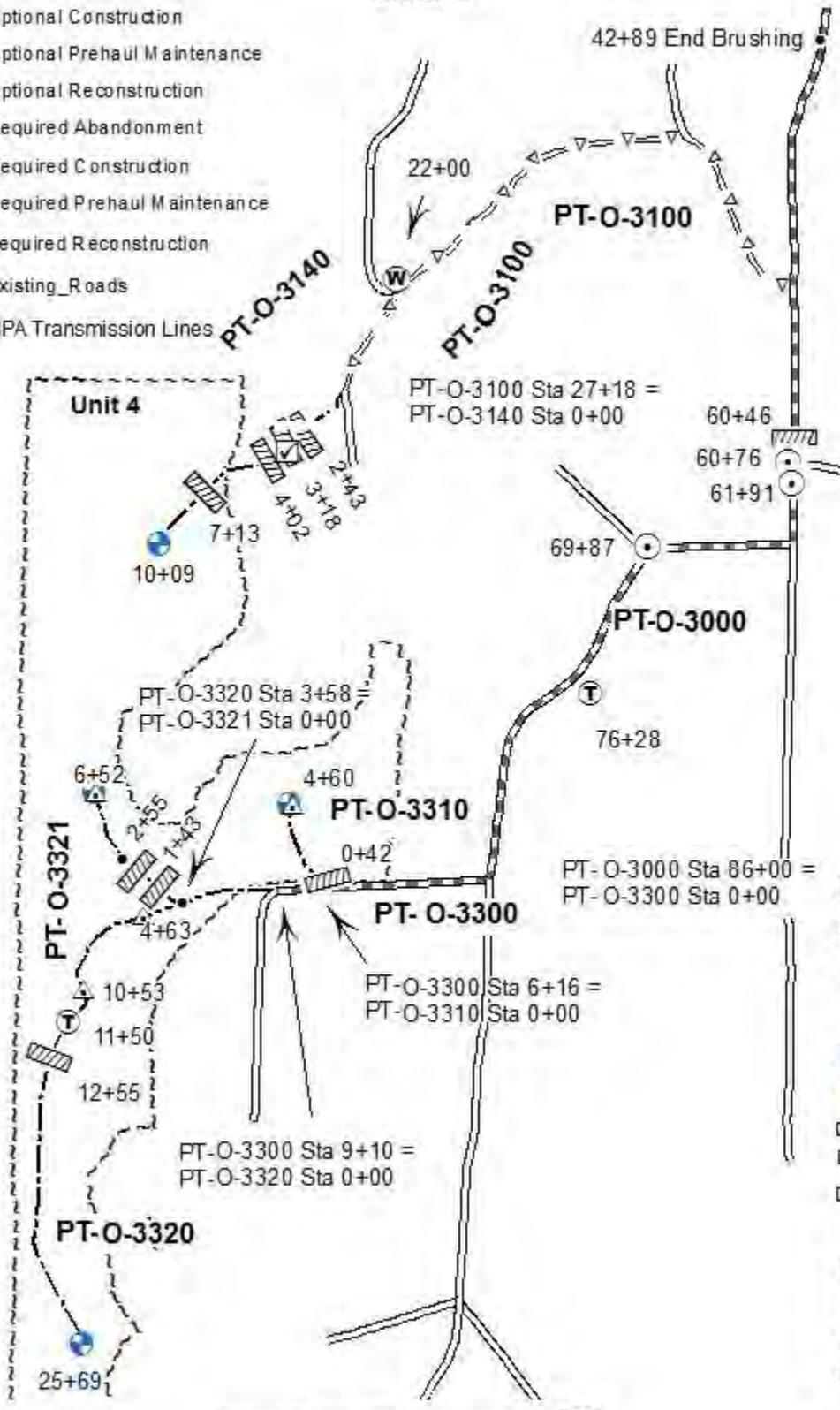




Roads

- Optional Construction
- =Δ= Optional Prehaul Maintenance
- Optional Reconstruction
- Required Abandonment
- ==== Required Construction
- ▨▨▨ Required Prehaul Maintenance
- ▨▨▨ Required Reconstruction
- ══ Existing_Roads
- BPA Transmission Lines

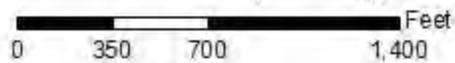
Units 4



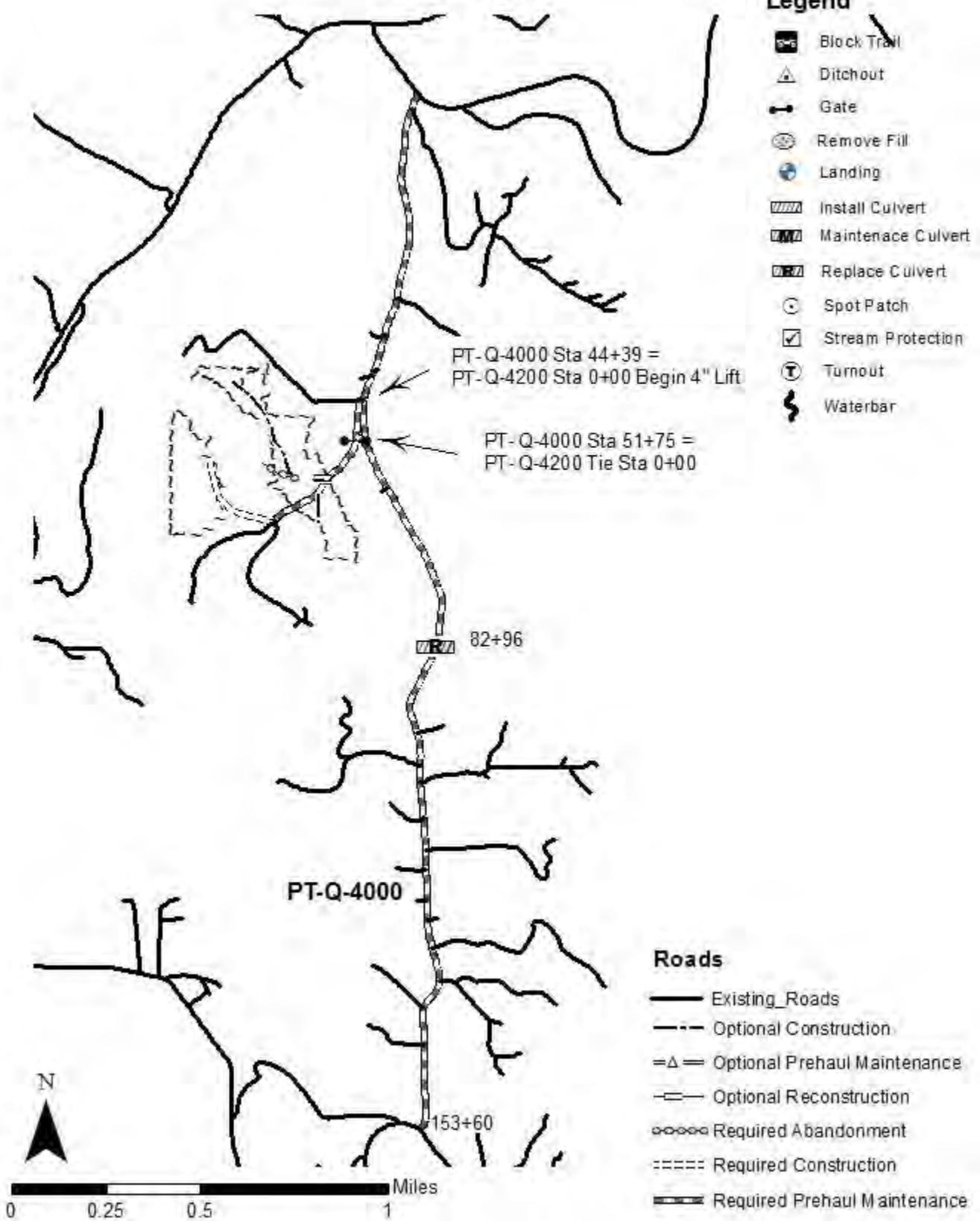
PT-O-3000
 =
 PT-O-3000 Sta 53+36 =
 PT-O-3100 Sta 0+00

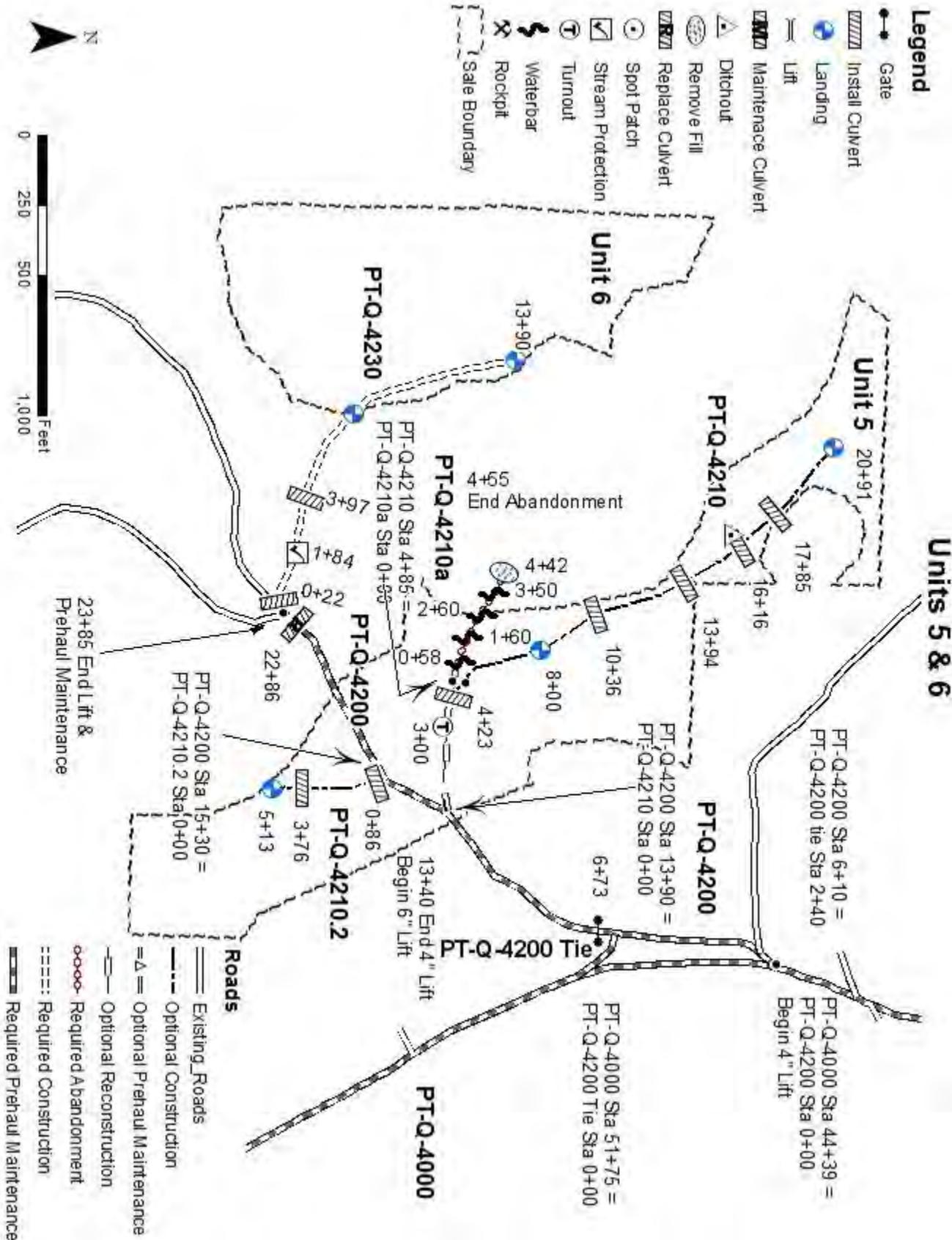
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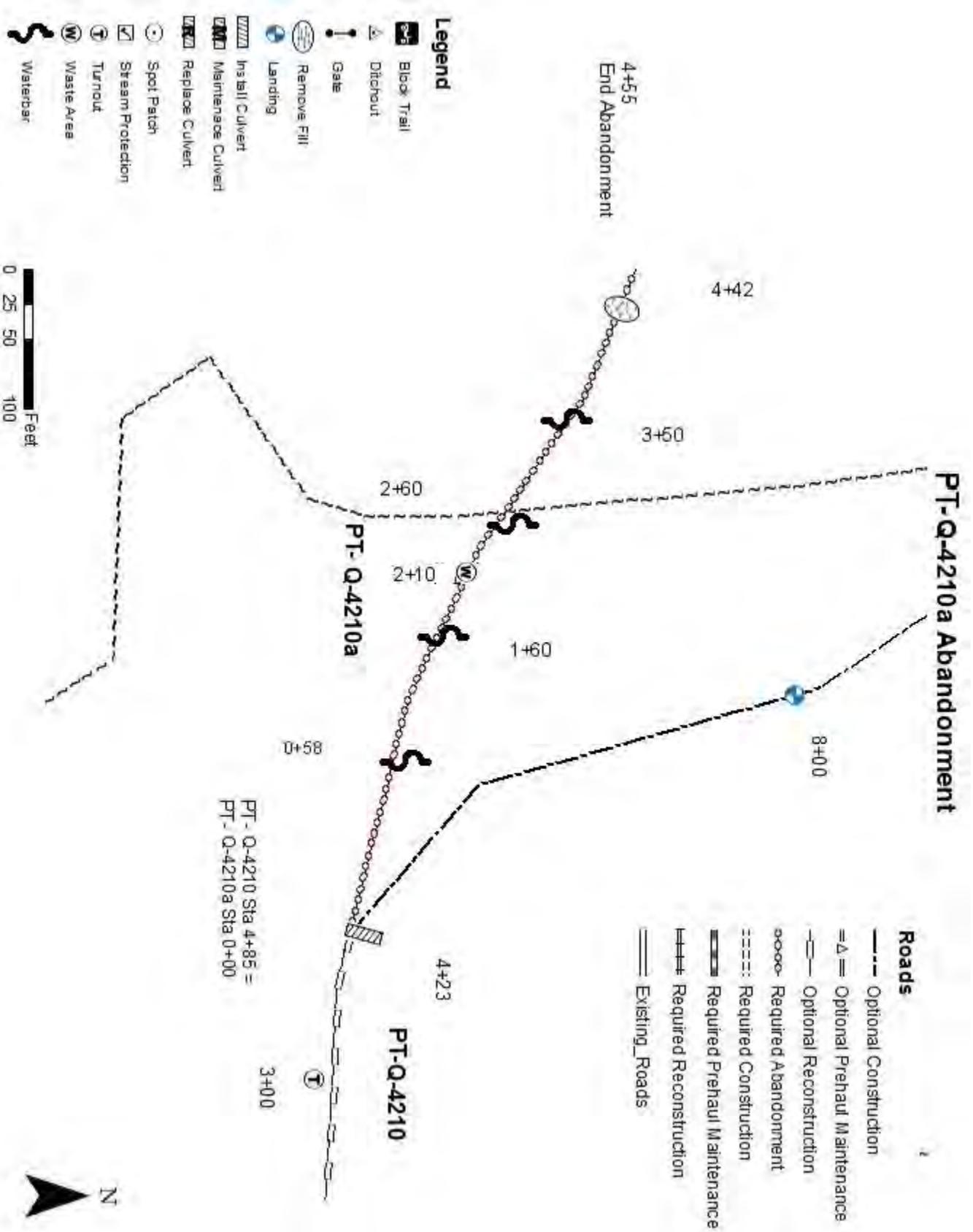
- Block Trail
- Ditchout
- Gate
- Remove Fill
- Landing
- Install Culvert
- Maintenance Culvert
- Replace Culvert
- Spot Patch
- Stream Protection
- Turnout
- Waste Area
- Waterbar

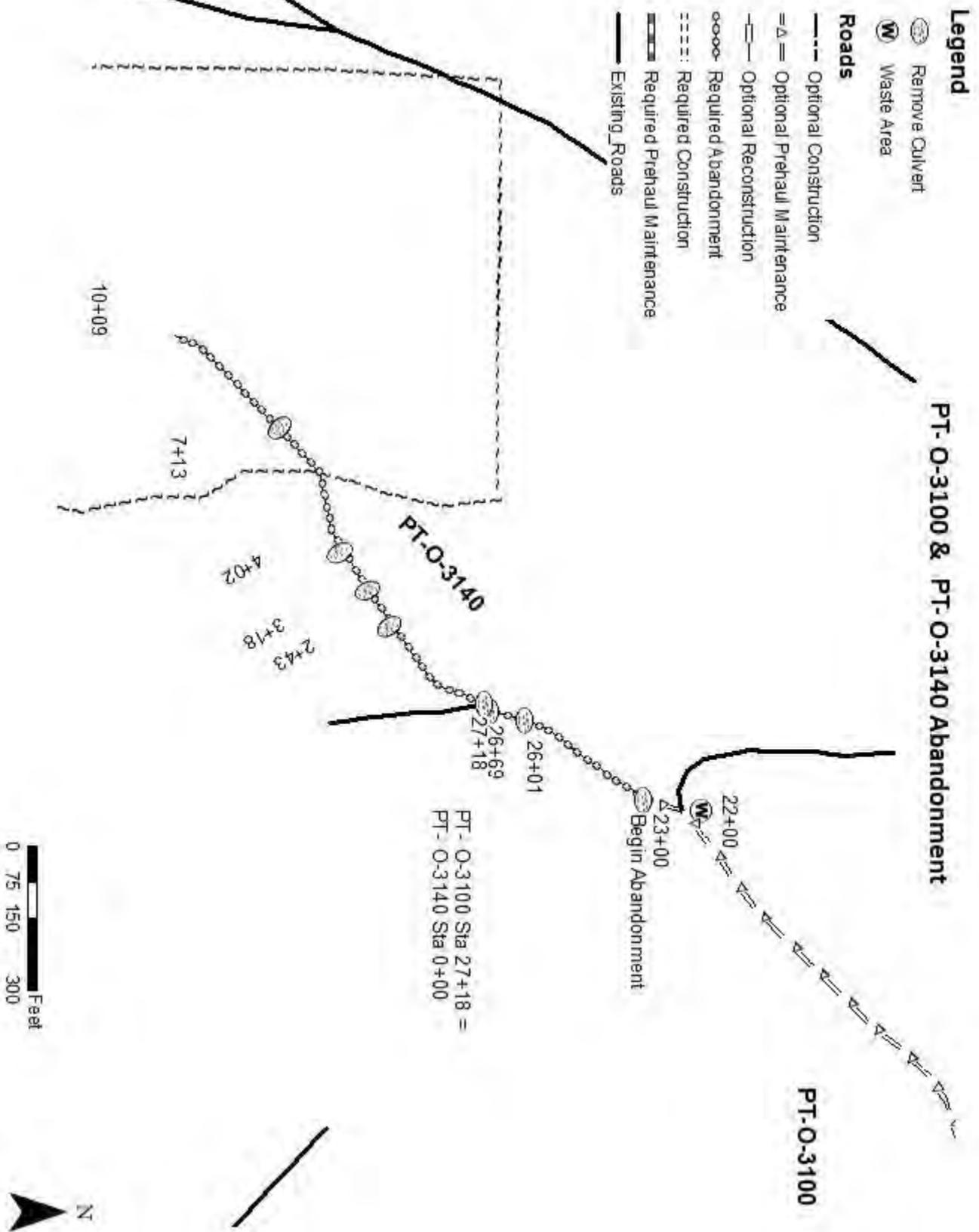


PT-Q-4000









SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
PT-B-1000	0+00 to 254+55	Maintenance
PT-B-1200	0+00 to 35+42	Maintenance
PT-B-1200 Tie	0+00 to 1+03	Reconstruction
PT-B-1300	0+00 to 33+79	Maintenance
PT-B-1340	0+00 to 55+67	Maintenance
PT-B-1343	0+00 to 3+70	Maintenance
FS-2850/Woods Rd	0+00 to 132+75	Maintenance
PT-O-3000	0+00 to 86+00	Maintenance
PT-O-3100	23+00 to 27+18	Abandonment
PT-O-3140	0+00 to 10+09	Abandonment
PT-O-3300	0+00 to 9+10	Maintenance
PT-Q-4000	0+00 to 153+60	Maintenance
PT-Q-4210a	0+00 to 4+55	Abandonment
PT-Q-4230	0+00 to 13+90	Construction

0-3 OPTIONAL ROADS

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
PT-B-1020	0+00 to 4+00	Maintenance
PT-B-1215	0+00 to 2+73	Construction
PT-B-1220	0+00 to 11+60	Construction
PT-B-1221	0+00 to 2+66	Construction
PT-B-1343	3+70 to 23+65	Construction
PT-B-1343.3	0+00 to 4+68	Construction
PT-O-3100	0+00 to 27+18	Maintenance
PT-O-3140	0+00 to 10+09	Construction
PT-O-3310	0+00 to 4+60	Construction
PT-O-3320	0+00 to 25+69	Construction
PT-O-3321	0+00 to 6+52	Construction
PT-Q-4200	0+00 to 23+85	Maintenance
PT-Q-4210	0+00 to 4+85	Reconstruction
PT-Q-4210	4+85 to 20+91	Construction
PT-Q-4210.2	0+00 to 5+13	Construction

0-4 CONSTRUCTION

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PT-B-1215	0+00 to 2+73	Clearing and grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; landing construction; turnout construction; acquisition and installation of drainage structures; compaction of subgrade and embankments; acquisition and/or manufacture and application and compaction of rock; acquisition and application of grass seed, and/or mulch, and/or hydroseeding.
PT-B-1220	0+00 to 11+60	
PT-B-1221	0+00 to 2+66	Clearing and grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; landing construction; turnout construction; acquisition and installation of drainage structures; compaction of subgrade and embankments; acquisition and installation of geotextile fabric; acquisition and/or manufacture and application and compaction of rock; acquisition and application of grass seed, and/or mulch, and/or hydroseeding.
PT-B-1343	3+70 to 23+65	
PT-B-1343.3	0+00 to 4+68	Clearing and grubbing; right-of-way debris disposal; excavation and/or embankment to subgrade; landing construction; turnout construction; acquisition and installation of drainage structures; compaction of subgrade and embankments; acquisition and/or manufacture and application and compaction of rock; acquisition and application of grass seed, and/or mulch, and/or hydroseeding.
PT-O-3140	0+00 to 10+09	
PT-O-3310	0+00 to 4+60	
PT-O-3320	0+00 to 25+69	
PT-O-3321	0+00 to 6+52	
PT-Q-4210	4+85 to 20+91	
PT-Q-4210.2	0+00 to 5+13	
PT-Q-4230	0+00 to 13+90	

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to following requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PT-B-1200 Tie	0+00 to 1+03	Brush road in accordance with CLAUSE 3-1. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Apply curve widening in accordance to CLAUSE 4-8.
PT-Q-4210	0+00 to 4+85	Clear road. Apply rock in accordance with ROCK LIST. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Install culverts in accordance with CULVERT LIST. Construct ditchouts.

0-6 PRE-HAUL MAINTENANCE

Pre-haul maintenance includes, but is not limited to following requirements:

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
PT-B-1000	0+00 to 254+55	Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Clean culverts in accordance to CLAUSE 2-6. Utilities are present near this road take precautions as per Clause 1-43.
PT-B-1020	0+00 to 4+00	Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List.
PT-B-1200	0+00 to 35+42	Remove all vegetative material from road with a minimum loss of rock. Brush road in accordance with CLAUSE 3-1. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Complete gate maintenance in accordance to CLAUSE 7-75. Block Jeep trails with rip rap or root wads.
PT-B-1300	0+00 to 33+79	Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Clean culverts in accordance to CLAUSE 2-6.
PT-B-1340	0+00 to 55+67	Remove all vegetative material from road with a minimum loss of rock. Brush and clear road in accordance with CLAUSE 3-1 and 3-5. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Clean culverts in accordance to CLAUSE 2-6. Install culvert in accordance with Culvert List. Construct ditchouts.
PT-B-1343	0+00 to 3+70	Remove all vegetative material from road with a minimum loss of rock. Brush and clear road in accordance with CLAUSE 3-1 and 3-5. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Clean ditches in accordance with CLAUSE 2-7.
FS-2850/ Woods Rd	0+00 to 132+75	Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Clean culverts in accordance to CLAUSE 2-6.
PT-O-3000	0+00 to 86+00	Remove all vegetative material from road with a minimum loss of rock. Brush road in accordance with CLAUSE 3-1. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Install culvert in accordance with Culvert List. Install gate as per CLAUSE 7-76. Clean culverts in accordance to CLAUSE 2-6.
PT-O-3100	0+00 to 27+18	Remove all vegetative material from road with a minimum loss of rock. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet.

		Compact road in accordance to the Compaction List. Clean culverts in accordance to CLAUSE 2-6.
PT-O-3300	0+00 to 9+10	Remove all vegetative material from road with a minimum loss of rock. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List.
PT-Q-4000	0+00 to 153+60	Brush road in accordance with CLAUSE 3-1. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Install culvert in accordance with Culvert List. Clean culverts in accordance to CLAUSE 2-6.
PT-Q-4200	0+00 to 23+85	Brush road in accordance with CLAUSE 3-1. Apply rock in accordance with Rock List. Grade and shape road in accordance with Typical Section Sheet. Compact road in accordance to the Compaction List. Install culvert in accordance with Culvert List. Clean ditches in accordance with CLAUSE 2-7.

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-5 DESIGN DATA

Road design data is available upon request at the Department of Natural Resources Straits Region Office in Port Angeles, WA.

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. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
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, and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

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

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

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

1-15 ROAD MARKING

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

- Construction, Reconstruction, and Pre-haul Maintenance will be marked with orange ribbon or paint and wooden stakes for road centerline or aluminum RP tags for road centerline.

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 7 days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Subgrade construction
- Drainage installation
- Subgrade compaction
- Rock compaction

1-25 ACTIVITY TIMING RESTRICTION

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

<u>Road</u>	<u>Stations</u>	<u>Activity</u>	<u>Closure Period</u>
All	All	All	Weekends State recognized holidays
All	All	All	Nov 1 st to April 30 th
PT-O-3140	All	All	October 1 st to June 30 th

1-26 OPERATING DURING CLOSURE PERIOD

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

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on pit run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Wheel track rutting exceeds 4 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-32 ASPHALT SURFACE RESTRICTION

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

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

1-33 SNOW PLOWING RESTRICTION

On all roads, snowplowing will be allowed after the execution of a SNOW PLOWING AGREEMENT, which is available from the Contact Administrator upon request. Purchaser shall request a SNOW PLOWING AGREEMENT each time plowing occurs. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-42 UTILITY ACCESS ROAD

The following roads intersects existing utility access roads. Purchaser shall conduct road work on the intersecting roads so that the utility access roads are accessible at all times.

<u>Road</u>	<u>Stations</u>
PT-B-1000	80+00
PT-O-3000	0+00 to 9+65

1-43 ROAD WORK AROUND UTILITIES

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

<u>Road</u>	<u>Stations</u>	<u>Utility</u>	<u>Utility Contact</u>
PT-B-1000	80+00	Elevated Utilities (BPA)	BPA – Lee Webb 360-791-3838
PT-O-3000	0+00 to 9+65	Elevated Utilities (BPA)	BPA – Lee Webb 360-791-3838

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

Purchaser shall maintain the following road(s) in a condition that will allow the passage of light administrative vehicles.

<u>Road</u>	<u>Stations</u>
FS-2850/Woods Rd.	0+00 to 132+75
PT-Q-4000	146+62 to 153+60

2-5 MAINTENANCE GRADING – EXISTING ROAD

On all roads designated for maintenance, Purchaser shall use a grader to shape the existing surface before the application of rock or hauling.

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts before timber haul, and shall obtain written approval of culvert cleanings before timber haul from the Contract Administrator.

<u>Road</u>	<u>Stations</u>
PT-B-1000	0+00 to 254+55
PT-B-1300	0+00 to 33+79
PT-B-1340	0+00 to 55+67
FS-2850	0+00 to 132+75
PT-O-3000	0+00 to 86+00
PT-O-3100	0+00 to 27+18
PT-Q-4000	0+00 to 153+60

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before timber hauling and must be done in accordance with the Typical Section Sheet. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
PT-Q-4200	6+73 to 23+85
PT-B-1343	0+00 to 3+70

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 2 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
PT-B-1200	0+00 to 5+69
PT-B-1200 Tie	0+00 to 1+03
PT-B-1340	0+00 to 55+67
PT-B-1343	0+00 to 3+70
PT-O-3000	9+65 to 11+75 and 35+14 to 42+89
PT-Q-4000	0+00 to 153+60
PT-Q-4200	0+00 to 23+85

3-2 BRUSHING RESTRICTION

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

3-5 CLEARING

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

3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

Purchaser shall place a log, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream in accordance with the Typical Riparian Strategy Detail.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

- Within 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 unless approved by the Contract Administrator.

3-10 GRUBBING

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Purchaser shall remove stumps using a hydraulic mounted excavator unless authorized in writing by the Contract Administrator. Grubbing must be completed before starting excavation and embankment.

3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING

Purchaser shall retain all grubbed stumps (root wads) within the Inner Zone (25 feet either side of the stream) for placement in accordance with the Design. Three root wads must be placed in or adjacent to the stream channel. The remaining stumps grubbed from the Inner Zone must be placed at least 50 feet from the roadway in the Middle (25 feet to 100 feet from the stream) or the Outer Zones (remaining portion of RMZ).

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits and in compliance with all other clauses in this road plan. Stumps must be positioned upright, with root wads in contact with the forest floor on stable locations.

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets. Purchaser shall complete all disposal of organic debris, before 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%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

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

3-30 EXCLUSION OF DOZER BLADES

Purchaser shall not use dozer blades for the piling of organic debris.

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work, unless authorized in writing by the Contract Administrator.

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 1000 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions must be taken as pioneering progresses:

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment except as designed:

- 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.

<u>Road</u>	<u>Stations</u>	<u>Minimum Curve Radius (ft)</u>	<u>Maximum Grade (%)</u>		<u>Maximum Vertical Grade Change per 100 ft (%)</u>
			<u>Favorable</u>	<u>Adverse</u>	
PT-B-1200 Tie	0+00 – 1+03	50	18%	16%	5%

4-4 SWITCHBACK STANDARDS

A switchback is defined as a curved segment of road between a beginning and end of the same curve, where the change of traffic travel direction is greater than 90 degrees. Purchaser shall follow these standards for switchbacks:

- Maximum adverse grades for switchbacks is 10%
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

Purchaser shall construct embankment slopes no steeper than shown on the following table, unless construction staked or designed:

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

<u>Road</u>	<u>Stations</u>	<u>Curve Widening (ft)</u>
PT-B-1200 Tie	0+00 – 1+03	6

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-10 WIDEN THE EXISTING SUBGRADE

Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches. Pulling excavation material across the road or mixing in with the existing road surface is not allowed.

4-12 FULL BENCH CONSTRUCTION

On roads where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed.

4-21 TURNOUTS

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

4-22 TURNAROUNDS

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

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be disposed of as specified in Clause 4-36 **DISPOSAL OF WASTE MATERIAL.**

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

On the following road(s), Purchaser shall construct ditchouts as identified, as needed, and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio. L or R denotes ditchout left or ditchout right.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
PT-B-1340	54+22	L
PT-B-1343.3	4+68	Both
PT-O-3310	4+60	Both
PT-O-3320	4+63 10+53	Both R
PT-O-3321	6+52	Both
PT-Q-4210	16+16	L

4-35 WASTE MATERIAL DEFINITION

Waste material is defined as all dirt, rock, mud, or related material that is extraneous or unsuitable for construction material. Waste material, as used in Section 4 EXCAVATION, is not organic debris.

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 45% if the waste material is compacted and free of organic debris. On side slopes greater than 45%, all waste material must be end hauled or pushed to the designated embankment sites and waste areas identified in Clause 4-37 **WASTE AREA LOCATION.**

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. The amount of material allowed in a waste area is at the discretion of the Contract Administrator

<u>Road</u>	<u>Stations</u>	<u>Waste Area Location</u>	<u>Volume (yd³)</u>
PT-O-3100	23+00 to 27+18	O-3100 22+00	700
PT-O-3140	3+18	O-3100 22+00	250
PT-Q-4210a	4+42	Q-4210a 2+10	200

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- Within a riparian management zone.
- On side slopes steeper than 45%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

4-45 SELECT BORROW

Select borrow consists of granular material, either naturally occurring or processed, and contains no more than 5% clay, organic debris, or trash by volume.

4-46 COMMON BORROW

Common borrow consists of soil, and/or aggregate that is non-plastic and contains no more than 5% clay, organic debris, or trash by volume. The material is considered non-plastic if the fines in the sample cannot be rolled, between the hand and a smooth surface, into a thread at any moisture content.

4-47 NATIVE MATERIAL

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

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

At any time of year, the Contract Administrator may require the application of water to facilitate shaping activities. The method of water application is subject to written approval by the Contract Administrator.

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. A plate compactor must be used for segments too narrow to accommodate equipment. Waste material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before application of rock.

4-62 DRY WEATHER COMPACTION

At any time of year, the Contract Administrator may require the application of water to facilitate compaction activities. The method of water application is subject to written approval by the Contract Administrator.

4-63 EXISTING SURFACE COMPACTION

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

4-70 SUBGRADE REINFORCEMENT

On the following road(s), Purchaser shall provide and install geotextile fabric as specified in CLAUSE 10-3 GEOTEXTILE FOR STABILIZATION. Subgrade reinforcement must be installed to a width that is 2 feet more than the subgrade width, including turnouts. Geotextile fabric must overlap by a minimum of 2 feet at all joints. Purchaser shall apply rock in one-foot lift(s) over the geotextile in accordance with the manufacturer’s specifications. Unused material will remain the property of the state.

<u>Road</u>	<u>Stations</u>
PT-B-1220	0+00 to 8+64
PT-B-1221	0+00 to 2+66

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders The construction of ditchouts is required where ponding could result from the effects of sidecast debris.

5-5 CULVERTS

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

5-7 TEMPORARY STREAM CULVERT INSTALLATION

Purchaser shall install temporary culverts as shown in the attached design and in accordance with Live Stream Culvert Removal Procedure requirements attached. Temporary stream culverts must be located in the natural channel of the stream. Temporary culverts must be removed upon completion of road use. Geotextile fabric must meet the specifications in Clause 10-2 GEOTEXTILE FOR SEPARATION.

<u>Road</u>	<u>Stations</u>
PT-O-3140	3+18

5-11 UNUSED MATERIALS STATE PROPERTY

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

5-15 CULVERT INSTALLATION

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

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover specified in the Engineer's design or to the recommended depth by the culvert manufacturer for the type and size of the pipe; whichever is greater.

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.

Energy dissipaters must extend a minimum of 1 foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 10 feet must be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts, and fastened securely to the posts with No. 10 galvanized smooth wire in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

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

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), Purchaser shall place rip rap immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the attached culvert design drawing. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
PT-B-1343	15+02	Quarry Spalls
PT-B-1343	20+67	Quarry Spalls
PT-Q-4200	22+86	Quarry Spalls
PT-Q-4210	4+23	Quarry Spalls

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following source(s) 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(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 7 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Alpaca Pit	SW ¼, Sec. 20 T.29N., R.2W., W.M.	6" Minus Jaw Run, 2" minus, and Quarry Spalls
Jimmycomelately Pit	NW ¼, NW ¼, Sec. 29 T.29W., R.2W., W.M	6" Minus Jaw Run and 2" Minus

6-3 ROCK SOURCE STATE LAND, EXISTING STOCKPILE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following existing stockpile(s) on state land at no charge to the Purchaser. Purchaser shall not remove more than 1503 cubic yards of 2" minus rock and 3473 cubic yards of 6" jaw run rock . Purchaser shall not remove additional yardage without prior written approval from the Contract Administrator. Other stockpiles may not be used without prior written approval from the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>	<u>Quantity (yd³)</u>
Jimmycomelately Pit	NW ¼, NW ¼, Sec. 29 T.29W., R.2W., W.M	2" Minus, 6" Jaw run	1502 3574

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK 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.

6-20 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-28 1 ¼-INCH MINUS CRUSHED ROCK

% Passing 1 ¼" square sieve	100%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	25 - 45%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	7.5%

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

6-33 3-INCH MINUS CRUSHED ROCK

% Passing 3" square sieve	100%
% Passing 2" square sieve	65 - 95%
% Passing 3/4" square sieve	28 - 70%
% Passing U.S. #4 sieve	10 - 35%
% Passing U.S. #200 sieve	0 - 10%

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

- 6-39 6-INCH JAW RUN ROCK**
- % Passing 6" in one dimension 100%
 - % Passing 3" square sieve 25 - 60%
 - % Passing U.S. #200 sieve 8% maximum

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

- 6-40 8-INCH ROCK**
- % Passing 8" in one dimension 100%
 - % Passing U.S. #40 sieve 16% maximum
 - % Passing U.S. #200 sieve 5% maximum

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

- 6-43 QUARRY SPALLS**
- % Passing 8" square sieve 100%
 - % Passing 3" square sieve 40% maximum
 - % Passing 3/4" square sieve 10% maximum

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

- 6-50 LIGHT LOOSE RIP RAP**
- Rip rap must consist of angular, hard, sound, and durable stone. It must be free from segregation, seams, cracks, and other defects. Light loose rip rap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

<u>At Least/Not More Than</u>	<u>Weight Range</u>
20% / 90%	300 lb. to 1 ton
15% / 80	50 lb. to 1 ton
10% / 30%	50 lb. max

- 6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**
- Measurement of specified rock depths, are defined as the compacted depth(s) using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction.

6-56 ROCK MEASUREMENT BY TRUCK VOLUME

Measurement of spot patch and landing rock is on a cubic yard truck measure basis. The Contract Administrator will measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator on a weekly basis during rocking operations.

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade drainage including culverts before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST. 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 COMPACTION LIST 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 unless otherwise specified in the ROCK LIST.

6-77 ROCK OVER GEOTEXTILE

On the following road(s), rock shall be applied in over geotextiles in accordance with manufacturer's specifications.

<u>Road</u>	<u>Stations</u>
PT-B-1220	0+00 to 8+64
PT-B-1221	0+00 to 2+66
PT-O-3140	2+58 to 4+26

SECTION 7 – STRUCTURES

7-6 STREAM CROSSING INSTALLATION

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements, and Typical Type 4, Type 5 Culvert Install Sheet.

7-55 LARGE CULVERT INSTALLATION

Purchaser shall provide and install large culverts in accordance with the Typical Type 4, Type 5 Culvert Install Sheet. Culvert designs must meet or exceed the following specifications:

<u>Road</u>	PT-B-1343	PT-B-1343	PT-O-3140
<u>Station</u>	15+02	20+67	3+18
<u>Type</u>	5	4	3
<u>Material and Coating Type</u>	Plastic or Steel	Plastic or Steel	Plastic or Steel
<u>Diameter (in)</u>	24	24	30
<u>Length (ft)</u>	40	35	50
<u>Gauge</u>	14	14	14

<u>Road</u>	PT-Q-4200	PT-Q-4210
<u>Station</u>	22+86	4+23
<u>Type</u>	5	5
<u>Material and Coating Type</u>	Plastic or Steel	Plastic or Steel
<u>Diameter (in)</u>	24	24
<u>Length (ft.)</u>	35	35
<u>Gauge</u>	14	14

* See Clause 10-15 CORRUGATED STEEL CULVERT and Clause 10-17 CORRUGATED PLASTIC CULVERT for culvert specifications.

7-57 CULVERT SHAPE CONTROL

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

7-70 GATE CLOSURE

On the following road(s), Purchaser shall keep gates closed and locked except during periods of haul. All gates that remain open during haul must be locked or securely fastened in the open position. All gates must be closed at termination of use.

<u>Road</u>	<u>Station</u>
PT-B-1020	2+00
PT-B-1200	28+80
PT-O-3000	15+67
PT-O-3000	0+00
PT-Q-4200	6+73

7-75 GATE MAINTENANCE

Purchaser shall conduct gate maintenance as listed. Purchaser shall remove all old gate material from state land before the termination of the contract.

<u>Road</u>	<u>Station</u>	<u>Requirements</u>
PT-B-1200	28+80	Lubricate Hinges Sand, primer, and repaint with two coats of Safety Yellow.

7-76 GATE INSTALLATION

Purchaser shall install the listed gate(s). Gate installations must be installed within 30 days of road construction or maintenance operations.

<u>Road</u>	<u>Station</u>	<u>Type*</u>	<u>Provided by</u>
PT-O-3000	15+67	Medium Gate	Purchaser

*Tubular gate installation(s) must be in accordance with the MEDIUM GATE DETAIL.

The gate and lock box must be installed plumb and aligned to ensure all mating components match with precision. Each post must be filled with concrete, capped, and set in a minimum of 3 cubic yards of poured-in-place concrete. The gate must be installed with a post and locking device to allow the gate to be locked in an open position. The Contract Administrator will provide Purchaser with a padlock.

If Purchaser wishes to install an alternate design, detailed plans for the construction of the gate must be submitted to the Contract Administrator. Purchaser shall obtain written approval for the plans from the Contract Administrator or their designee, before gate installation begins.

The gate must be primed and painted in accordance with the MEDIUM GATE DETAIL.

Purchaser shall provide and place 10 cubic yards of rip rap to prevent vehicles driving around the gate.

7-78 GATE SUPPLIED BY PURCHASER

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

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road(s), Purchaser shall install sediment control structures as listed below.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
PT-O-3140	2+80 to 3+55	Silt Fence on Right
PT-O-3140	2+43 to 4+02	Silt Fence on Left
PT-Q-4230	0+00 to 1+84	Silt Fence on Right

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a 4-inch layer of straw to all exposed soils within 100 feet of a stream or wetland. Soils must be covered before the first anticipated storm event. Soils may not sit exposed during any rain event.

8-15 REVEGETATION

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

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>	<u>Type</u>	<u>Comments</u>
PT-B-1200 Tie	0+00 to 1+03	5	Grass seed	Seed all exposed soils
PT-B-1215	0+00 to 2+73	14	Grass seed	Seed all exposed soils
PT-B-1220	0+00 to 11+60	59	Grass seed	Seed all exposed soils
PT-B-1221	0+00 to 2+66	13	Grass seed	Seed all exposed soils
PT-B-1343	0+00 to 23+65	101	Grass seed	Seed all exposed soils
PT-B-1343.3	0+00 to 4+68	24	Grass seed	Seed all exposed soils
PT-O-3140	0+00 to 10+09	51	Grass seed	Seed all exposed soils
PT-O-3310	0+00 to 4+60	23	Grass seed	Seed all exposed soils
PT-O-3320	0+00 to 25+69	130	Grass seed	Seed all exposed soils
PT-O-3321	0+00 to 6+52	33	Grass seed	Seed all exposed soils
PT-Q-4210	0+00 to 16+06	105	Grass seed	Seed all exposed soils
PT-Q-4210a	0+00 to 4+55	25	Grass seed	Seed all exposed soils
PT-Q-4210.2	0+00 to 5+13	26	Grass seed	Seed all exposed soils
PT-Q-4230	0+00 to 13+90	70	Grass seed	Seed all exposed soils

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

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the grass seed and staw.

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 on all exposed soils within 100 feet of streams or wetlands if revegetation occurs between July 1 and March 31. The protective cover may consist of 4 inch think layer of straw as approved by the Contract Adminstrator. Seed must be covered before the first anticipated storm event. Seed may not be allowed to sit exposed during any rain event.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop of grass. Purchaser shall reapply the seed, fertilizer, and mulch 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, fertilizer, and mulch at no addition cost to the state.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all exposed soil at a rate of 40 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

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

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

<u>Road</u>	<u>Stations</u>
PT-Q-4210a	0+00
PT-O-3100	23+00

9-2 CULVERT REMOVAL FROM LIVE STREAM

On the following road(s), Purchaser shall remove existing culverts and puncheons from live streams and leave the resulting channel open with excavation slope and excavated channel width as specified. Place excavated material in a designated in Clause 4-37 WASTE AREA LOCATION. Culvert removal from live streams must be in accordance with the Live Stream Culvert Removal Procedure.

<u>Road</u>	<u>Stations</u>	<u>Excavated Channel Width</u>	<u>Slope Ratio</u>
PT-O-3100	26+69	7 feet	1 ½ :1
PT-O-3140	3+18	5 feet	1 ½ :1
PT-Q-4210a	4+42	5 feet	1 ½ :1

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
All	All	Grade, shape, and compact road, clean ditchlines and culverts, clean landings

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the date shown below. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Type</u>	<u>Date</u>
PT-Q-4210a	0+00 to 4+55	Light Abandonment	Termination of this contract
PT-O-3100	23+00 to 27+18	Light Abandonment	Termination of this contract
PT-O-3140	0+00 to 10+09	Light Abandonment	By October 15 th the same year the road is built

9-22 LIGHT ABANDONMENT

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts
- Remove ditch cross drain culverts and leave the resulting trench open.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with a 6-inch deep layer of straw.
- Provide and evenly spread a 6-inch layer of straw to all exposed soils associated with stream culvert and puncheon removals, as well as all waste material generated by fill removal that is within 30 feet of excavation limits.

SECTION 10 MATERIALS

10-2 GEOTEXTILE FOR SEPARATION

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for separation. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Non-woven
Apparent opening size	D 4751	No. 30 max
Water permittivity	D 4491	1.4 sec ⁻¹
Grab tensile strength	D 4632	160 lb
Grab tensile elongation	D 4632	>= 50%
Puncture strength	D 6241	310 lb
Tear strength	D 4533	50 lb
Ultraviolet stability	D 4355	50% retained after 500 hours of exposure

10-3 GEOTEXTILE FOR STABILIZATION

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for stabilization or reinforcement, and filtration. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Woven
Apparent opening size	D 4751	No. 40 max
Water permittivity	D 4491	0.10 sec ⁻¹
Grab tensile strength	D 4632	315 lb
Grab tensile elongation	D 4632	<15%
Puncture strength	D 6241	700 lb
Tear strength	D 4533	112 lb
Ultraviolet stability	D 4355	60% retained after 500 hours of exposure

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

Geotextiles must meet the following minimum requirements for strength and property qualities, and must be designed by the manufacturer to be used for filtration. Woven slit-film geotextiles are not allowed. Material must be free of defects, cuts, and tears.

	<u>ASTM Test</u>	<u>Requirements</u>
Type	--	Unsupported between posts
Apparent opening size	D 4751	No. 30 max., No. 100 min.
Water permittivity	D 4491	0.02 sec ⁻¹
Grab tensile strength	D 4632	180 lb in machine direction, 100lb in cross-machine direction
Grab tensile elongation	D 4632	30% max. at 180 lb or more
Ultraviolet stability	D 4355	70% retained after 500 hours of exposure

10-15 CORRUGATED STEEL CULVERT

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be galvanized (zinc coated meeting AASHTO M-218) except culverts over 24 inches must be aluminized (aluminum type 2 coated meeting AASHTO M-274 or aluminized (aluminum type 2 coated meeting AASHTO M-274).

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 S – double walled with a corrugated exterior and smooth interior.

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

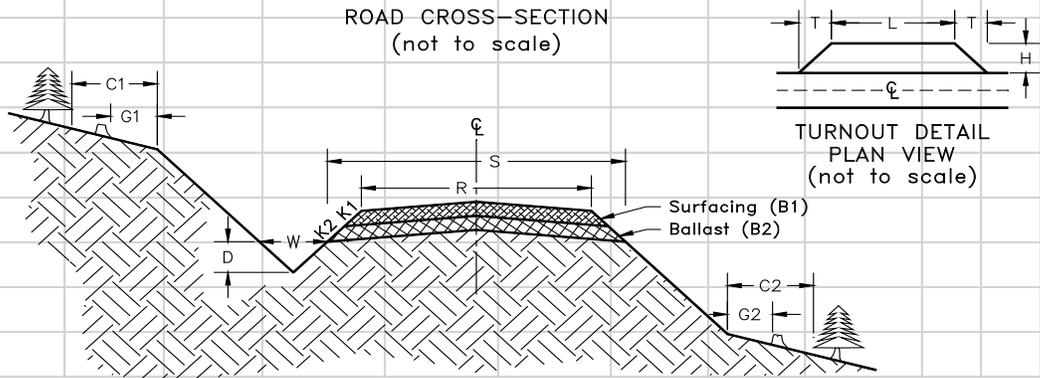
Rubber gaskets must be continuous closed cell, synthetic expanded rubber gaskets conforming to the requirements of ASTM D 1056. Rubber gaskets must be used with all corrugated metal pipe coupling bands.

10-24 GAGE AND CORRUGATION

Unless otherwise stated in the engineer’s design, metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 2/3" X 1/2"
24" to 48"	14 (0.079")	2 2/3" X 1/2"

TYPICAL SECTION SHEET

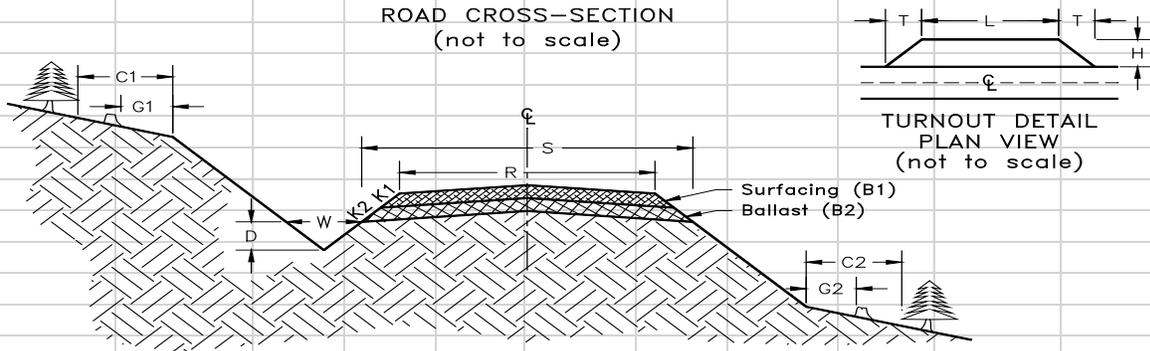


Road Name	Stations		Tolerance Class	Subgrade Width	Road Width	Ditch		Crown @ CL (in)	Grubbing Limits		Clearing Limits	
	From	To				Width	Depth		G1	G2	C1	C2
PT-B-1000	0+00	254+55	A		15	3	1	3				
PT-B-1020	0+00	4+00	B		12	3	1	3				
PT-B-1200	0+00	35+42	B		12	3	1	3				
PT-B-1200 Tie	0+00	1+03	B	17	12	3	1	3	3	3	5	5
PT-B-1215	0+00	2+73	C	17	12	3	1	3	3	3	5	5
PT-B-1220	0+00	11+60	C	17	12	3	1	3	3	3	5	5
PT-B-1221	0+00	2+66	C	17	12	3	1	3	3	3	5	5
PT-B-1300	0+00	33+79	B		12	3	1	3				
PT-B-1340	0+00	55+67	B		12	3	1	3				
PT-B-1343	0+00	3+70	C		12	3	1	3				
PT-B-1343	3+70	23+65	C	17	12	3	1	3	3	3	5	5
PT-B-1343.3	0+00	4+68	C	17	12	3	1	3	3	3	5	5
FS-2850/ Woods Rd	0+00	132+75	A		15	3	1	3				
PT-O-3000	0+00	86+00	A		12	3	1	3				
PT-O-3100	0+00	27+18	B		12	3	1	3				
PT-O-3100	23+00	27+18			12	3	1	3				
PT-O-3140	0+00	10+09	C	17	12	3	1	3	3	3	5	5
PT-O-3300	0+00	9+10	B		12	3	1	3	3	3	5	5
PT-O-3310	0+00	4+60	C	17	12	3	1	3	3	3	5	5
PT-O-3320	0+00	25+69	C	17	12	3	1	3	3	3	5	5
PT-O-3321	0+00	6+52	C	17	12	3	1	3	3	3	5	5
PT-Q-4000	0+00	153+60	A		14	3	1	3				
PT-Q-4200	0+00	23+85	B		12	3	1	3				
PT-Q-4210	0+00	4+85	C		12	3	1	3	3	3	5	5
PT-Q-4210	4+85	20+91	C	17	12	3	1	3	3	3	5	5
PT-Q-4210a	0+00	4+55										
PT-Q-4210.2	0+00	5+13	C	17	12	3	1	3	3	3	5	5
PT-Q-4230	0+00	13+90	B	17	12	3	1	3	3	3	5	5

ROCK LIST

Ballast

Page 1 of 3

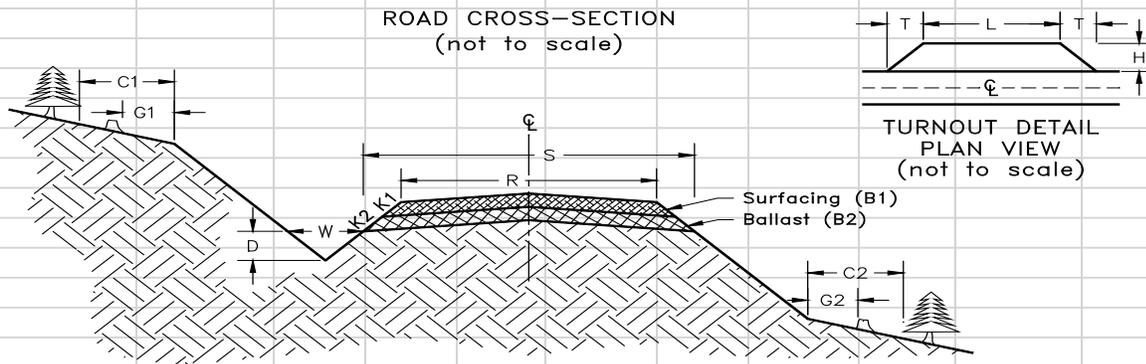


Road Name	Work	Stations		Ballast Slope K1	Compacted Ballast Depth (in)		C. Y./ Sta	Number of Stations	Ballast Yards Total	Rock Type	Rock Source
		From	To		B2						
B-1000	Turnout	169+20							40	6" Jaw	Jimmycomelately Stockpile
PT-B-1200	Landing	23+76							30	6" Jaw	Jimmycomelately Stockpile
PT-B-1200 Tie	Lift	0+00	1+03				1.03		140	6" Jaw	Jimmycomelately Stockpile
PT-B-1215	Lift	0+00	2+73		12	70	2.73		191	6" Jaw	Jimmycomelately Stockpile
	Landing	2+73							50	6" Jaw	Jimmycomelately Stockpile
PT-B-1220	Lift	0+00	11+60		12	70	11.60		812	6" Jaw	Jimmycomelately Stockpile
	Turnout	2+67							40	6" Jaw	Jimmycomelately Stockpile
PT-B-1221	Landing	11+60							50	6" Jaw	Jimmycomelately Stockpile
	Lift	0+00	2+66		12	70	2.66		186	6" Jaw	Jimmycomelately Stockpile
PT-B-1221	Landing	2+66							50	6" Jaw	Jimmycomelately Stockpile
	Turnout	7+71							40	6" Jaw	Jimmycomelately Stockpile
B-1340	Turnout	7+71						40	6" Jaw	Jimmycomelately Stockpile	
PT-B-1343	Spot Patching	0+00	3+70						20	6" Jaw	Jimmycomelately Stockpile
	Landing	13+50							50	6" Jaw	Jimmycomelately Stockpile
	Landing	17+00							50	6" Jaw	Jimmycomelately Stockpile
	Lift	3+70	23+65		12	70	19.95		1397	6" Jaw	Jimmycomelately Stockpile
PT-B-1343.3	Landing	23+65							50	6" Jaw	Jimmycomelately Stockpile
	Lift	0+00	4+68		12	70	4.68		328	6" Jaw	Jimmycomelately Stockpile
PT-B-1343.3	Landing	4+68							50	6" Jaw	Jimmycomelately Stockpile
	Turnout	76+28							40	6" Jaw	Commercial Pit
PT-O-3140	Lift	0+00	10+09		12	70	10.09		706	6" Jaw	Commercial Pit
	Landing	10+09							50	6" Jaw	Commercial Pit
PT-O-3310	Lift	0+00	4+60		12	70	4.60		322	6" Jaw	Commercial Pit
	Landing	4+60							50	6" Jaw	Commercial Pit
PT-O-3320	Lift	0+00	25+69		18	110	25.69		2826	6" Jaw	Commercial Pit
	Turnout	11+50							40	6" Jaw	Commercial Pit
PT-O-3321	Landing	25+69							50	6" Jaw	Commercial Pit
	Lift	0+00	6+52		18	110	6.52		717	6" Jaw	Commercial Pit
PT-O-3321	Landing	6+52							50	6" Jaw	Commercial Pit
	Lift	0+00	4+85		12	70	4.85		340	6" Jaw	Commercial Pit
PT-Q-4210	Lift	4+85	20+91		12	70	16.06		1124	6" Jaw	Commercial Pit
	Turnout	3+00							20	6" Jaw	Commercial Pit
	Landing	8+00							50	6" Jaw	Commercial Pit
	Landing	20+91							50	6" Jaw	Commercial Pit
PT-Q-4210.2	Lift	0+00	5+13		12	70	5.13		359	6" Jaw	Commercial Pit
	Landing	5+13							50	6" Jaw	Commercial Pit
PT-Q-4230	Lift	0+00	13+90		12	70	13.90		973	6" Jaw	Commercial Pit
	Landing	7+19							50	6" Jaw	Commercial Pit
	Landing	13+90							50	6" Jaw	Commercial Pit

ROCK LIST

Surfacing

Page 2 of 3

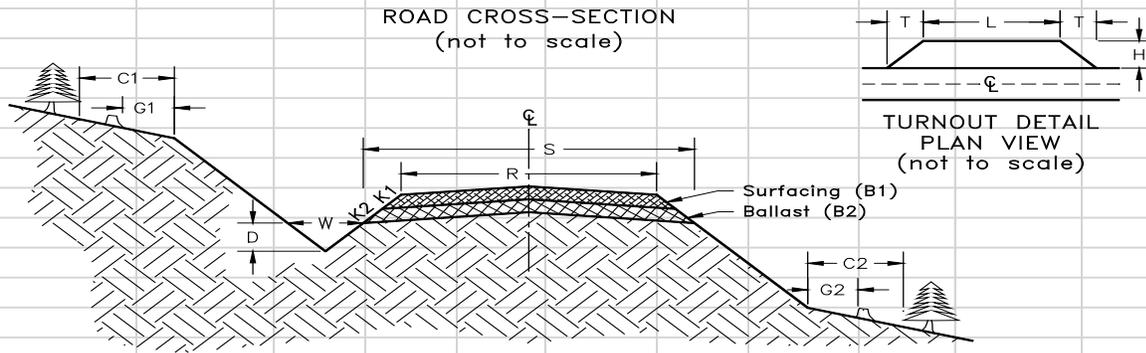


Road Name	Work	Stations		Surface Slope		Compacted Surface Depth (in)	C. Y./ Sta	Number of Stations	Surface Yards Total	Rock Type	Rock Source
		From	To	K1	B1						
PT-B-1000	Spot Patching	0+00	254+55						200	2" minus	Jimmycomelately Stockpile
PT-B-1200	Lift	6+42	13+07			6	33	6.65	219	2" minus	Jimmycomelately Stockpile
	Lift	28+80	35+42			6	33	6.62	218	2" minus	Jimmycomelately Stockpile
PT-B-1200 Tie	Lift	0+00	1+03			6	33	1.03	34	2" minus	Jimmycomelately Stockpile
PT-B-1300	Turnout	23+84							10	2" minus	Jimmycomelately Stockpile
	Lift	23+84	33+79			4	22	9.95	219	2" minus	Jimmycomelately Stockpile
	Spot Patching								50	2" minus	Jimmycomelately Stockpile
PT-B-1340	Lift	35+11	55+67			4	22	20.56	452	2" minus	Jimmycomelately Stockpile
FS-2850/ Woods Rd	Spot Patching	0+00	132+75						100	2" minus	Jimmycomelately Stockpile
PT-O-3000	Lift	0+00	9+65			6	33	9.65	318	3" minus	Commerial Pit
	Spot Patch	24+02							10	3" minus	Commerial Pit
	Spot Patch	60+76							10	3" minus	Commerial Pit
	Spot Patch	61+91							10	3" minus	Commerial Pit
	Spot Patch	69+87							10	3" minus	Commerial Pit
	Spot Patching	9+65	27+18						50	3" minus	Commerial Pit
PT-O-3100	Spot Patching	0+00	27+18						100	3" minus	Commerial Pit
PT-O-3300	Spot Patching	0+00	9+10						30	3" minus	Commerial Pit
PT-Q-4000	Lift	0+00	153+60			4	25	153.60	3840	1 1/4" minus	Commerial Pit
PT-Q-4200	Lift	0+00	23+85			6	33	23.85	787	3" minus	Commerial Pit
Q-4200 Tie	Lift	0+00	2+40			6	33	2.4	80	3" minus	Commerial Pit

ROCK LIST

Rip Rap

Page 3 of 3



Road Name	Work	Stations		Surface Slope	Compacted Surface Depth (in)	C. Y./ Sta	Number of Stations	Rip Rap	Rock Type	Rock Source
		From	To	K1	B1			Yards Total		
PT-O-3000	Gate Install	15+67						10	LLRR	Commercial
				Rock	Surfacing	Ballast	Rip Rap			
				Totals	6,849	11,491	46			

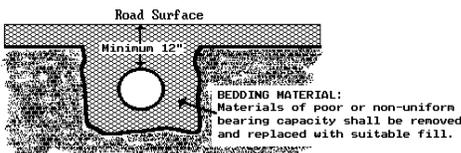
*Includes Rock from Culvert Lists

CULVERT LIST

Road	Location	Culvert		Length (feet)		Energy Dissapater (CY)			Backfill Material			Notes
		Diameter (in.)	Gauge	Culvert	Flume	Inlet	Outlet	Type	Type	Volume (CY)	Source	
PT-B-1215	0+17	18	16	35	-	0.50	0.50	LLRR	NT			
PT-B-1220	0+24	18	16	35	-	0.50	0.50	LLRR	NT			
B-1220	1+89	18	16	30		0.50	0.50	LLRR	NT			
B-1220	9+33	18	16	30		0.50	0.50	LLRR	NT			
B-1340	54+22	18	16	30	-	0.50	0.50	LLRR	2" minus	20	Jimmycomelately Stockpile	Ditchout
B-1343	4+19	18	16	30		0.50	0.50	LLRR	NT			
B-1343	7+37	18	16	30	-	0.50	0.50	LLRR	NT			
B-1343	11+76	18	16	30		0.50	0.50	LLRR	NT			
B-1343	15+02	24	14	40		1.00	1.00	LLRR	NT			
B-1343	15+60	18	16	30	-	0.50	0.50	LLRR	NT			
B-1343	20+67	24	14	35		1.00	1.00	LLRR	NT			
B-1343	21+47	18	16	30		0.50	0.50	LLRR	NT			
B-1343.3	0+72	18	16	30		0.50	0.50	LLRR	NT			
O-3000	33+28	30			5			LLRR				
O-3000	60+46	18	16	30		0.50	0.50	LLRR	3" minus	20	Commercial	
O-3140	2+43	18	16	30		0.50	0.50	LLRR	NT			
O-3140	3+18	30	14	35					NT			Metal Pipe Temporary Type 3
O-3140	4+02	18	16	30		0.50	0.50	LLRR	NT			
O-3140	7+13	18	16	30		0.50	0.50	LLRR	NT			
O-3310	0+42	18	16	40		0.50	0.50	LLRR	NT			
O-3320	12+55	18	16	30		0.50	0.50	LLRR	NT			
O-3321	1+43	18	16	30		0.50	0.50	LLRR	NT			
O-3321	2+55	18	16	30		0.50	0.50	LLRR	NT			
Q-4000	82+96	18	16	35		0.50	0.50	LLRR	3" minus	20	Commercial	
Q-4200	22+86	24	14	35		1.00	1.00	LLRR	3" minus	20	Commercial	
Q-4210	4+23	24	14	35		1.00	1.00	LLRR	3" minus	20	Commercial	
Q-4210	10+36	18	16	30		0.50	0.50	LLRR	NT			
Q-4210	13+94	18	16	30		0.50	0.50	LLRR	NT			
Q-4210	16+16	18	16	30		0.50	0.50	LLRR	NT			Ditchout
Q-4210	17+85	18	16	30		0.50	0.50	LLRR	NT			
Q-4210.2	0+86	18	16	30		0.50	0.50	LLRR	NT			
Q-4210.2	3+76	18	16	45		0.50	0.50	LLRR	NT			
Q-4230	0+22	18	16	30		0.50	0.50	LLRR	NT			Pipe Extension
Q-4230	3+97	18	16	30		0.50	0.50	LLRR	NT			

LLRR	36
3" minus	80
2" minus	20

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



Key:

- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HLRR - Heavy Loose Rip Rap
- LLRR - Light Loose Rip Rap
- Flume - Half round pipe
- Downspout - Full round pipe

Compaction List

ROAD NAME	START STATION	END STATION	TYPE	MAX DEPTH PER LIFT(in)	EQUIPMENT TYPE**	MIN. EQUIPMENT WEIGHT(lbs)	MIN NUMBER OF PASSES	MAX OPERATING SPEED(mph)
PT-B-1000	0+00	254+55	All	6	Vibratory smooth drum roller	20000	1	3
PT-B-1020	0+00	4+00	All	6		20000	3	3
PT-B-1200	0+00	35+42	All	6		20000	1	3
PT-B-1200 Tie	0+00	1+03	All	6		20000	3	3
PT-B-1215	0+00	2+73	All	6		20000	3	3
PT-B-1220	0+00	11+60	All	6		20000	3	3
PT-B-1221	0+00	2+66	All	6		20000	3	3
PT-B-1300	0+00	33+79	All	6		20000	1	3
PT-B-1340	0+00	55+67	All	6		20000	3	3
PT-B-1343	0+00	3+70	All	6		20000	3	3
PT-B-1343	3+70	23+65	All	6		20000	3	3
PT-B-1343.3	0+00	4+68	All	6		20000	3	3
FS-2850/ Woods Rd	0+00	132+75	All	6		20000	1	3
PT-O-3000	0+00	86+00	All	6		20000	1	3
PT-O-3100	0+00	27+18	All	6		20000	3	3
PT-O-3140	0+00	10+09	All	6		20000	3	3
PT-O-3300	0+00	9+10	All	6		20000	1	3
PT-O-3310	0+00	4+60	All	6		20000	3	3
PT-O-3320	0+00	25+69	All	6		20000	3	3
PT-O-3321	0+00	6+52	All	6		20000	3	3
PT-Q-4000	0+00	153+60	All	6	20000	1	3	
PT-Q-4200	0+00	23+85	All	6	20000	3	3	
PT-Q-4210	0+00	4+85	All	6	20000	3	3	
PT-Q-4210	4+85	20+91	All	6	20000	3	3	
PT-Q-4210.2	0+00	5+13	All	6	20000	3	3	
PT-Q-4230	0+00	13+90	All	6	20000	3	3	
Waste Areas			All	24	Excavation Equipment	Varies	2	-

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

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

Surface

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

Drainage

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

Structures

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

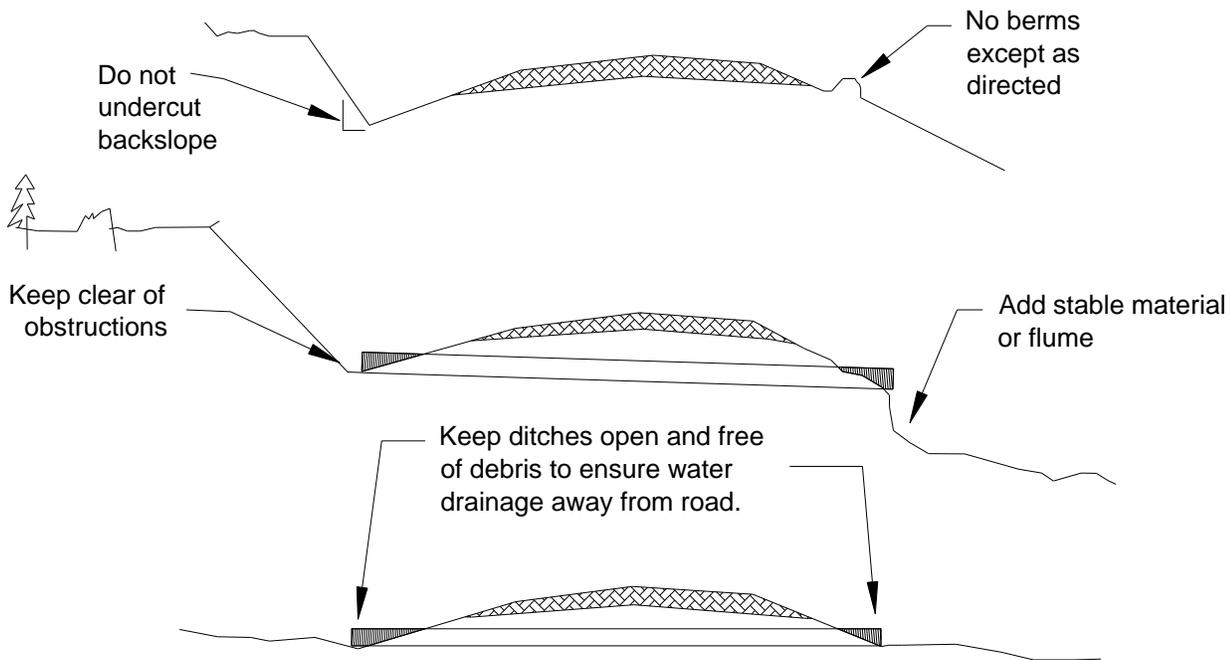
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

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

Debris

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



LIVE STREAM WORK REQUIREMENTS

Page 1 of 3

1. All rules, guidance and/or BMPs stated in RCW's, WAC's or in the Forest Practices Board Manual shall be followed.

Revegetation/Erosion Control

2. All exposed soil on either the embankment slopes (replacements) or on the excavation slopes (removal) shall be covered with organic erosion control fabric.

3. All exposed soil within 100' of the live streams shall be seeded and mulched to ensure proper revegetation.

Dewatering Temporary Bypass/Fish Capture and Exclusion

4. All work shall be conducted in the dry or in isolation from the stream flow by the installation of a bypass flume or diversion pipe, or by pumping the flow around the work area.

5. The temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter.

6. A sandbag revetment or similar device shall be installed at the bypass inlet to divert the entire flow through the bypass. The bypass shall be of sufficient size to pass all flows and debris for the duration of the project.

7. While flow is being diverted around the work area, and prior to the commencement of instream work, the Purchaser shall capture and safely move all fish life from the construction site. The Purchaser shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the project site.

8. If a pump is used for diverting water from the fish-bearing stream, it shall be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 77.57.010 and 77.57.070. The pump intake shall be screened by one of the following:

a. Perforated plate: 0.094 inch (maximum operating diameter)

b. Profile bar: 0.069 inch (maximum width opening)

c. Woven wire: 0.087 inch (maximum opening in the narrow direction)

The minimum open area for all types of fish guards is 27%. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than 0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment of juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.

9. Upon completion of the project, reintroduction of stream flow to channel shall be done gradually, then all material used in the temporary bypass shall be removed from the site and the site returned to pre-project or improved conditions.

LIVE STREAM WORK REQUIREMENTS

Page 2 of 3

Sediment Control Measures

10. All waste material such as excess dirt or spoils resulting from this project shall be deposited in an approved upland disposal site (waste area) so that it will not re-enter the stream, associated wetlands, or any other surface waters.
11. Roadway drainage shall be directed into an area allowing the settlement of fines and silt before entering streams.
12. All crossings shall use the following sediment control measures: sediment traps built according to the sediment trap detail; silt fencing along the side of the road; waddles in ditch lines and other measures approved, in writing, by the contract administrator.

Equipment to be utilized

13. All construction activities shall be completed with tracked excavators. Placement of stream simulation material may be accomplished using small dozers or other methods approved in writing by the Contract Administrator.
14. Equipment used for this project may operate below the ordinary high water line (OWWL), provided the drive mechanisms (wheels, tracks, tires, etc.) shall not enter or operate below the OHWL. Equipment crossings of the live stream channel are not authorized.
15. Equipment shall be free of external petroleum-based products while working around the stream. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities.

Culvert & Fill Removal

16. Channel reconstruction/ restoration shall be restricted to work necessary to remove associated fill, remove the existing culvert(s), and reconfigure disturbed areas. All earth and roadbed material shall be removed prior to removal of the culvert(s) or fill(s).
17. Following removal of the culvert(s) and associated fills, the exposed channel shall be restored to blend with natural conditions both upstream and downstream, similar in width, streambed elevation, and gradient profile.
18. In-channel work such as channel regrading, large woody material placement, and rock placement in plunge pools shall be conducted as necessary to facilitate fish passage through the degraded area, prevent uncontrolled head cutting associated with culvert removal, and allow controlled bedload recruitment from upstream to promote natural streambed stabilization.
19. The disturbed banks shall be contoured and sloped to a natural, stable configuration. Bank sloping shall be accomplished in a manner that avoids the release of overburden material.

LIVE STREAM WORK REQUIREMENTS

Page 3 of 3

Temporary Culverts for Forest Roads

20. Each temporary culvert within any Type 3 stream shall remain in place only within the time period allowed in the FPHP. Each temporary culvert within any Type 4-5 stream may remain in place year-round during unit harvest, provided that such culvert shall be sized and installed to the 100-year peak flow.

21. The culvert (single barrel) shall be installed "on grade" on the surface of the streambed in a way that it will not require any excavation of the streambed.

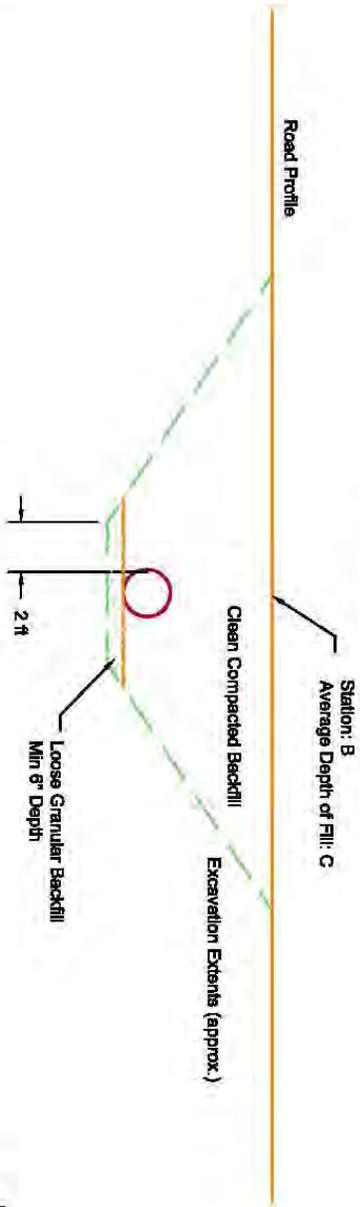
22. The culvert shall be bedded with logs, gravel, and/or geotech material. Selection material used for each culvert shall be determined by the Contract Administrator.

23. All earth and roadbed material shall be removed prior to removal of the temporary culvert. Logs or gravel used to bed the culvert may be left in the stream provided they do not constitute fish passage or hydraulic problem.

TYPICAL TYPE 4, TYPE 5 CULVERT
INSTALL SHEET

A	B	C	D	E	F
Road Name	Station	Avg. Fill Depth (ft)	Size of Pipe (in)	Length of Pipe (ft)	Stream Type
PT-B-1343	15+02	6.9	24	40	5
PT-B-1343	20+67	4.4	24	35	4
PT-Q-4200	22+86	2.0	24	35	5
PT-Q-4210	4+23	3.9	24	30	5

PROFILE - CENTERLINE OF ROAD
LOOKING UPSTREAM



Not to Scale

OLYMPIC REGION
SITE LOCATION
Drawn By: Madisen Warnstadt
Designed By: Madisen Warnstadt



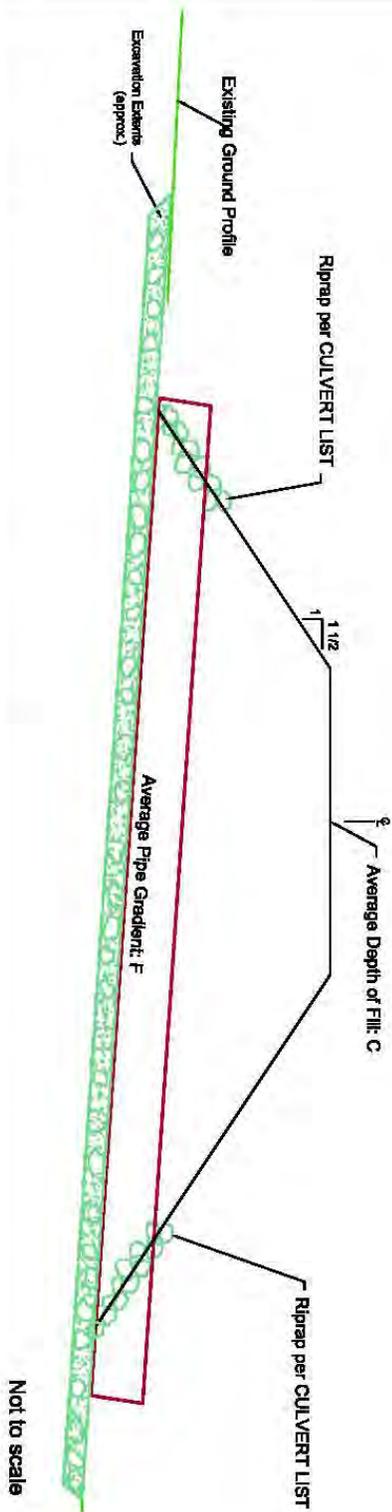
Date: October 2015

TYPICAL TYPE 4, TYPE 5 CULVERT
INSTALL SHEET

A	B	C	D	E	F	G
Road Name	Station	Avg. Fill Depth (ft)	Size of Pipe (in)	Length of Pipe (ft)	Avg. Pipe Gradient (%)	Stream Type
PT-B-1343	15+02	6.9	24	40	13	5
PT-B-1343	20+67	4.4	24	35	11	4
PT-Q-4200	22+86	2.0	24	35	5	5
PT-Q-4210	4+23	3.9	24	30	5	5

Note:
1) Crown at centerline not shown

PROFILE - CENTERLINE OF
CULVERT



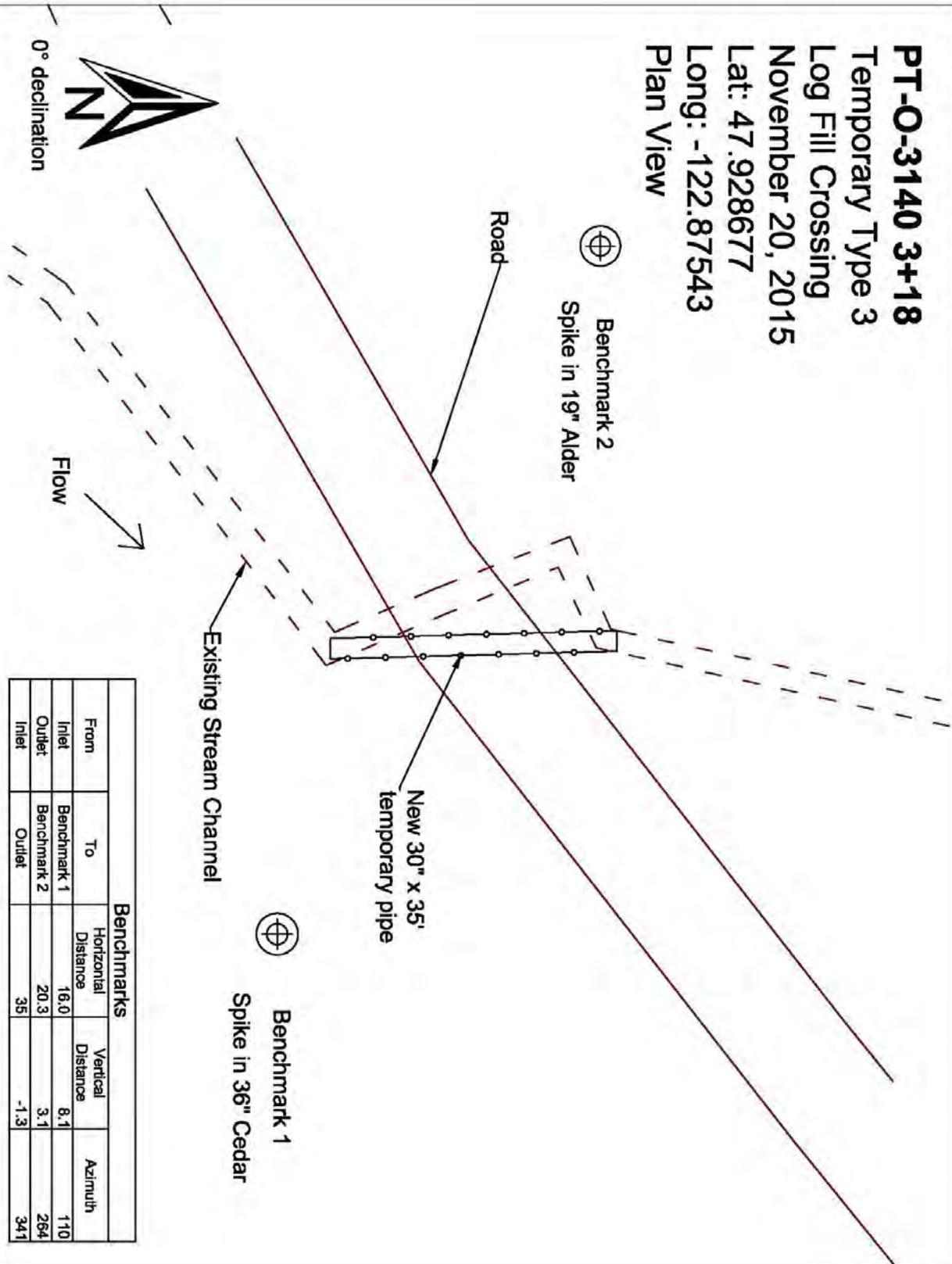
OLYMPIC REGION
SITE LOCATION
Drawn By: Madisen Warnstadt
Designed By: Madisen Warnstadt



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

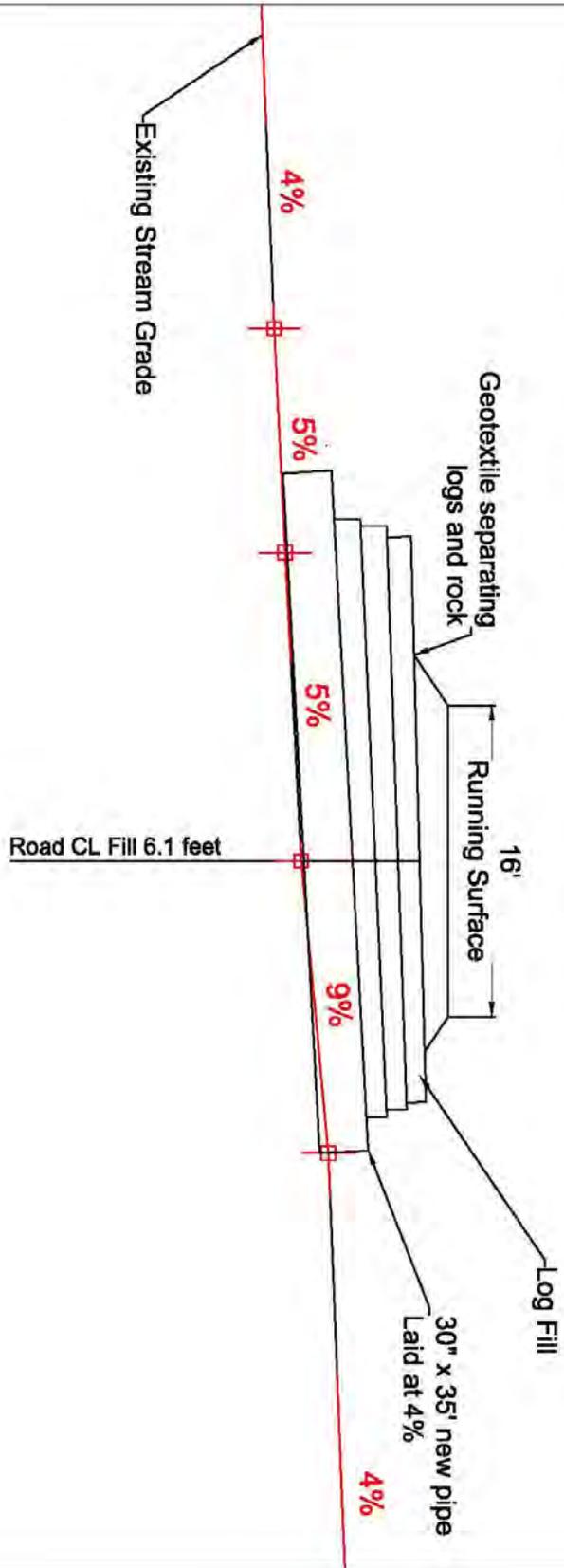
Date: October 2015

PT-O-3140 3+18
 Temporary Type 3
 Log Fill Crossing
 November 20, 2015
 Lat: 47.928677
 Long: -122.87543
 Plan View

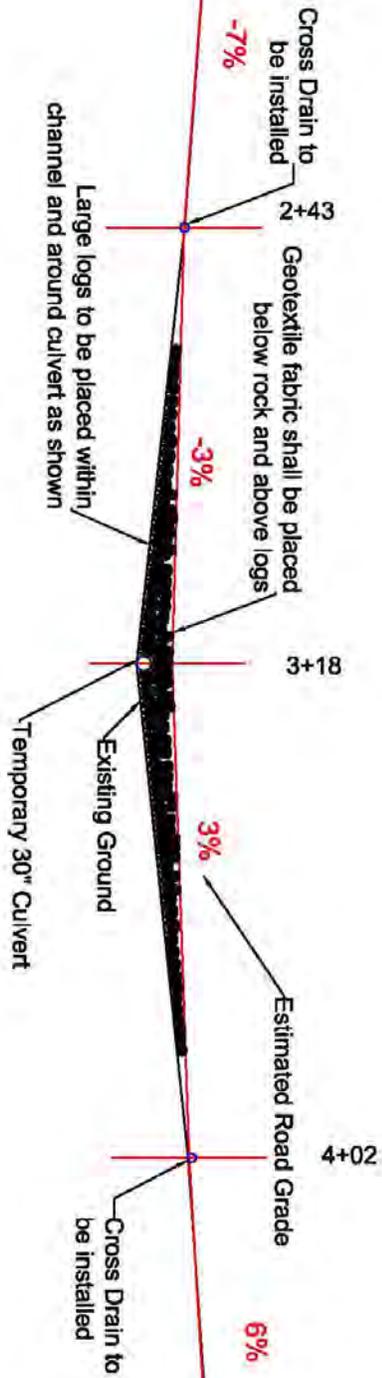


Benchmarks				
From	To	Horizontal Distance	Vertical Distance	Azimuth
Inlet	Benchmark 1	16.0	8.1	110
Outlet	Benchmark 2	20.3	3.1	264
Inlet	Outlet	35	-1.3	341

PT-O-31440 3+18
Temporary Type 3
Log Fill Crossing
November 19, 2015
Lat: 47.928677
Long: -122.87543
Stream Profile View

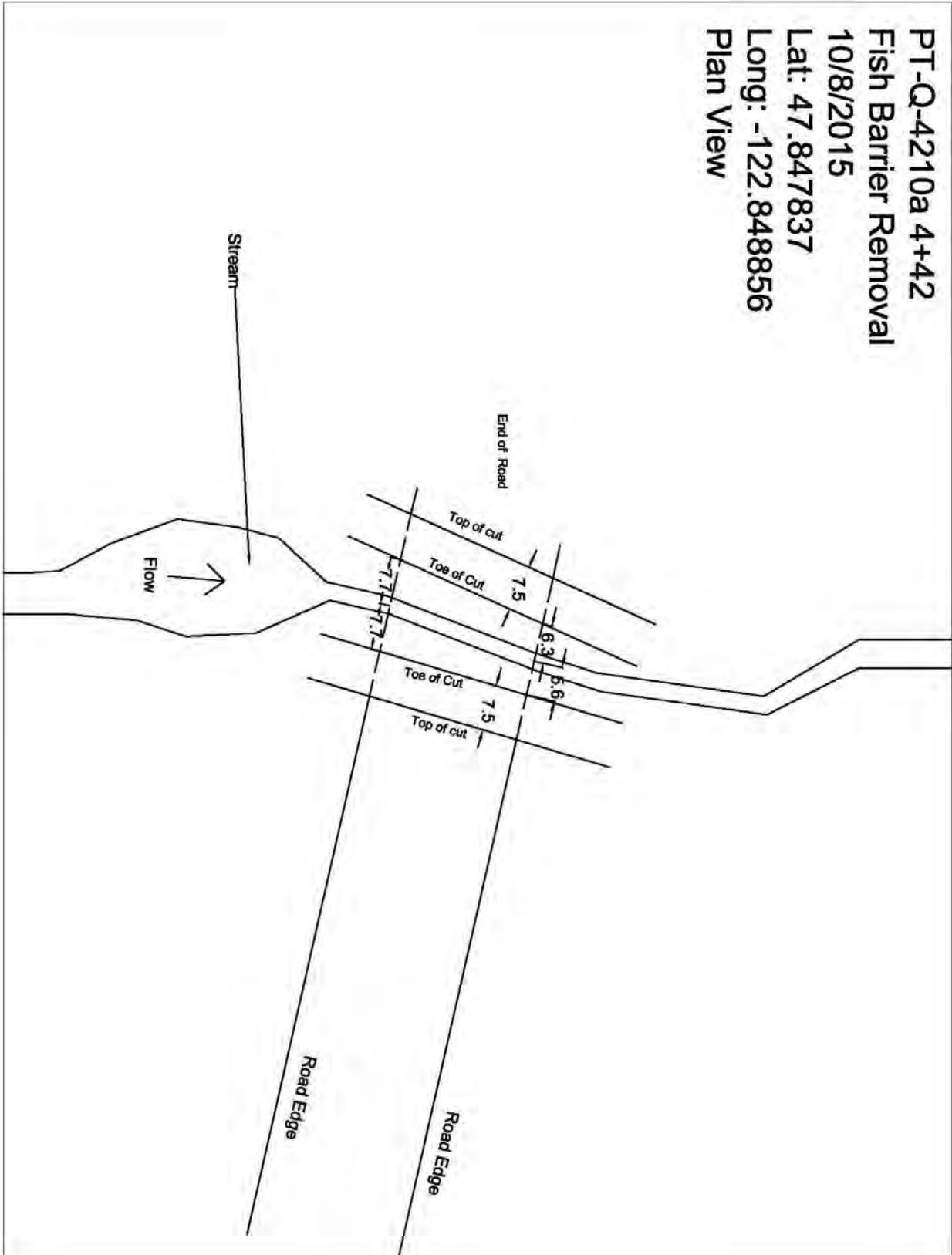


PT-O-3140 3+18
 Temporary Type 3
 Log Fill Crossing
 December 23, 2015
 Lat: 47.928677
 Long: -122.87543

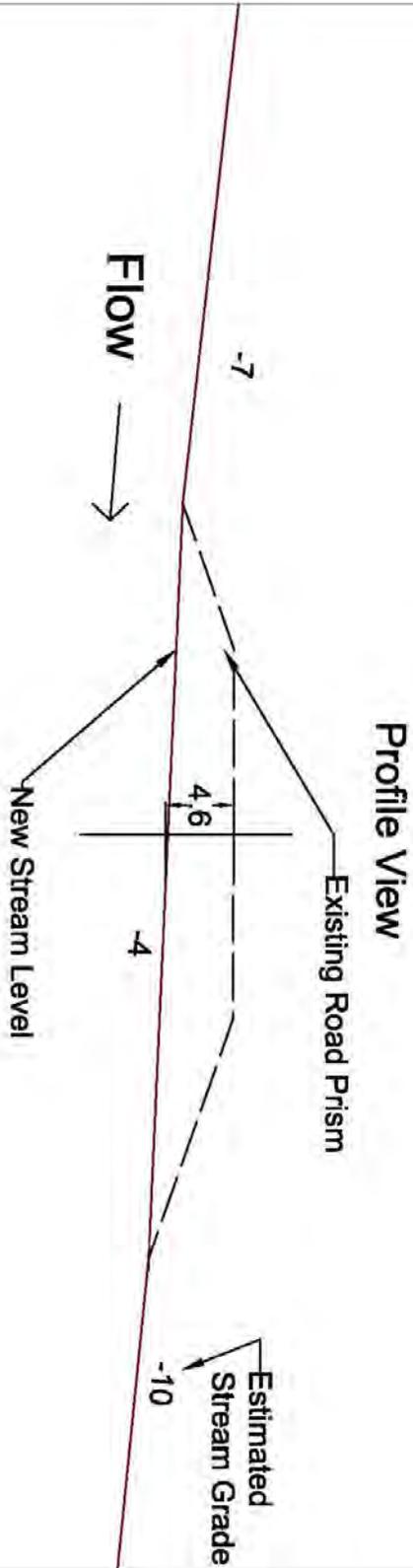
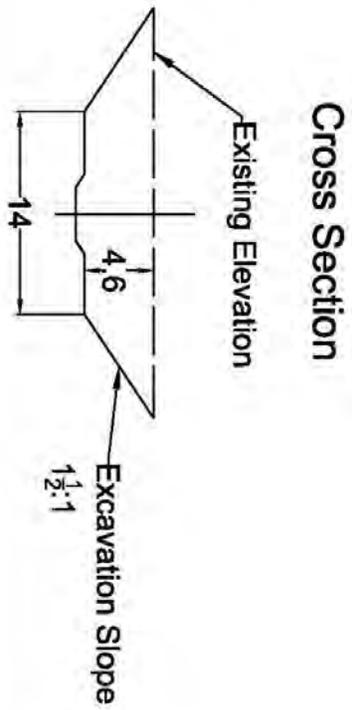


L-Station	Fill Depth
ft.	ft.
2+43	0.0
2+80	2.9
3+18	6.1
3+60	4.0
4+02	0.2

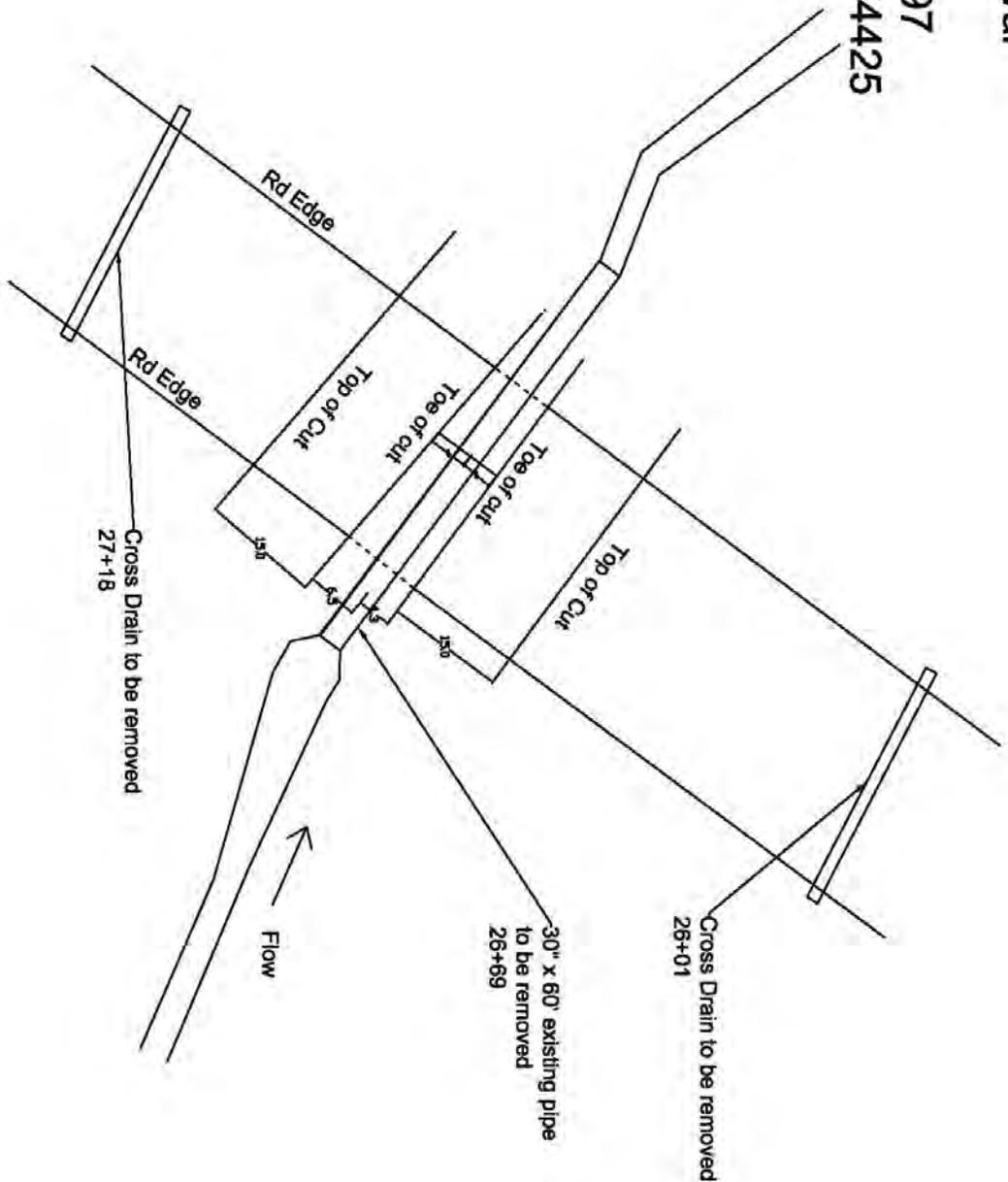
PT-Q-4210a 4+42
Fish Barrier Removal
10/8/2015
Lat: 47.847837
Long: -122.848856
Plan View



PT-Q-4210a 4+42
Fish Barrier Removal
10/8/2015
Lat: 47.847837
Long: -122.848856

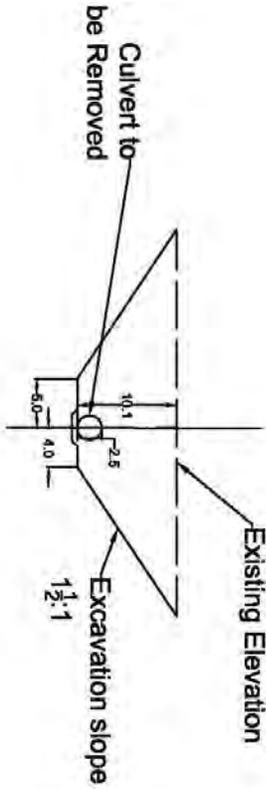


PT-O-3100 26+69
Type 4 removal
10-8-2015
Lat: 47.929397
Long: -122.874425
Plan View

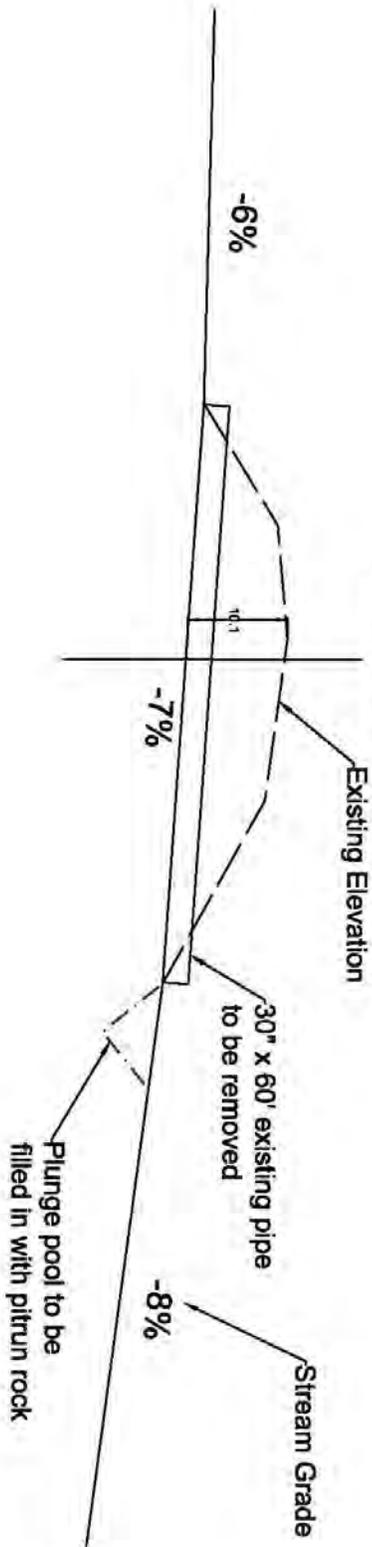


PT-O-3100 26+69
Type 4 removal
10-8-2015
Lat: 47.929397
Long:-122.874425

Cross Section



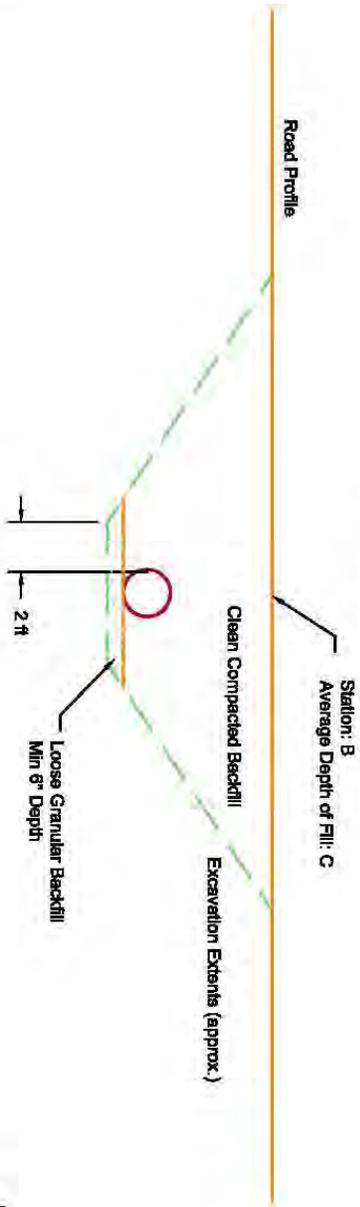
Profile View



TYPICAL TYPE 4, TYPE 5 CULVERT
INSTALL SHEET

A	B	C	D	E	F
Road Name	Station	Avg. Fill Depth (ft)	Size of Pipe (in)	Length of Pipe (ft)	Stream Type
PT-B-1343	15+02	6.9	24	40	5
PT-B-1343	20+67	4.4	24	35	4
PT-Q-4200	22+86	2.0	24	35	5
PT-Q-4210	4+23	3.9	24	30	5

PROFILE - CENTERLINE OF ROAD
LOOKING UPSTREAM



Not to Scale

OLYMPIC REGION
SITE LOCATION
Drawn By: Madisen Warnstadt
Designed By: Madisen Warnstadt



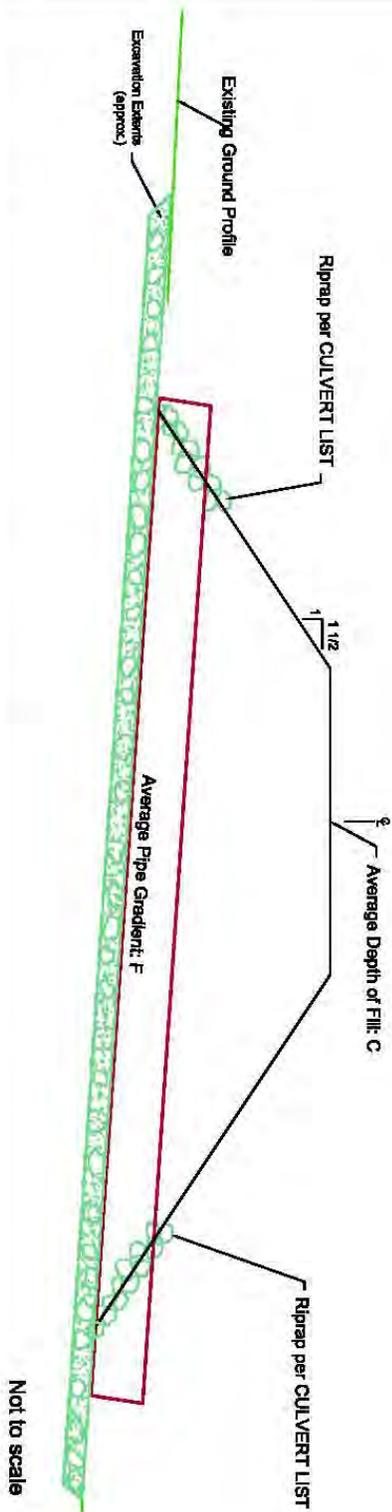
Date: October 2015

TYPICAL TYPE 4, TYPE 5 CULVERT
INSTALL SHEET

A	B	C	D	E	F	G
Road Name	Station	Avg. Fill Depth (ft)	Size of Pipe (in)	Length of Pipe (ft)	Avg. Pipe Gradient (%)	Stream Type
PT-B-1343	15+02	6.9	24	40	13	5
PT-B-1343	20+67	4.4	24	35	11	4
PT-Q-4200	22+86	2.0	24	35	5	5
PT-Q-4210	4+23	3.9	24	30	5	5

Note:
1) Crown at centerline not shown

PROFILE - CENTERLINE OF
CULVERT



OLYMPIC REGION
SITE LOCATION
Drawn By: Madisen Warnstadt
Designed By: Madisen Warnstadt

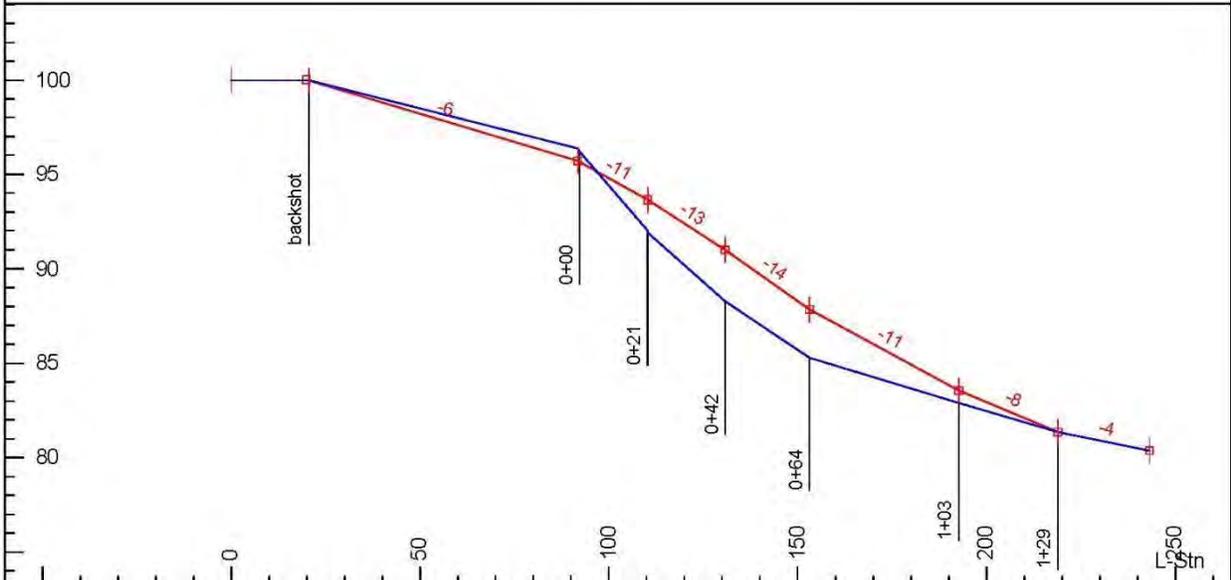
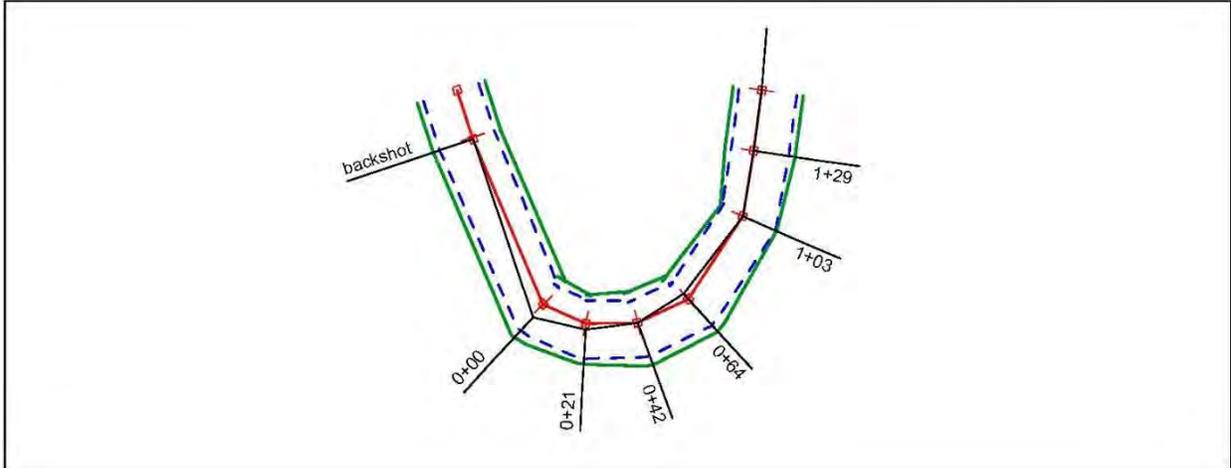


Date: October 2015

PT- B-1200 Design Specifications



Legend	
	Plan L-line Location
	Existing Road Centerline
	Existing Ground Profile
	Road Prism

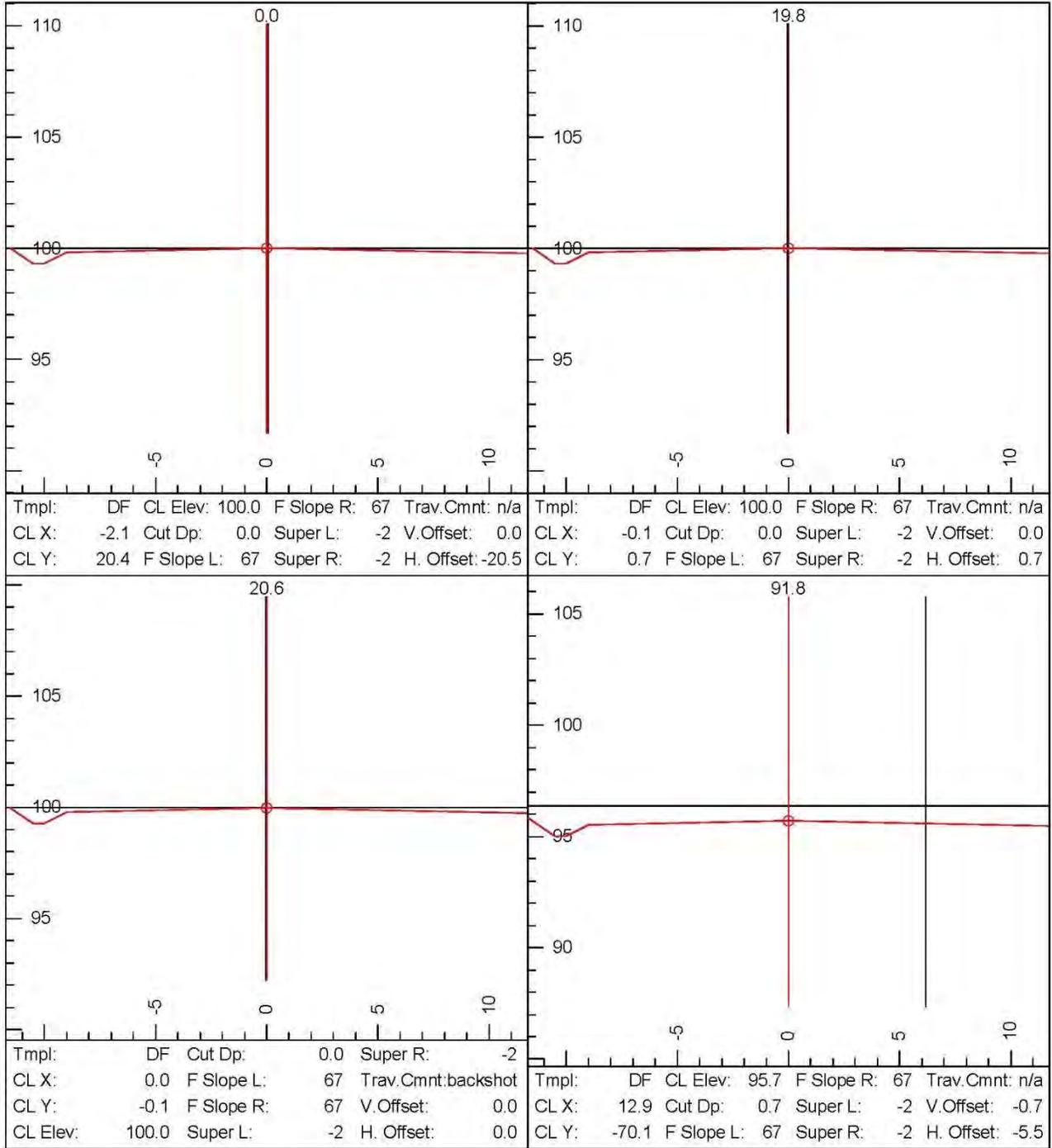


L-Stn ft.	Cut Dp. ft.	Strip V. Cu. Yd.	SG Cut V. Cu. Yd.	SG Fill V. Cu. Yd.	Mass H. Cu. Yd.	Comment
20.5	0.0					backshot
92.2	0.5	0.0	41.3	0.0	3.9	0+00
110.3	-1.7	0.0	7.0	12.9	45.2	0+21
130.9	-2.7	0.0	0.0	41.9	39.4	0+42
153.1	-2.6	0.0	0.0	55.0	-2.5	0+64
192.6	-0.7	0.0	0.0	56.2	-60.7	1+03
218.9	0.0	0.0	2.5	6.3	-122.5	1+29
243.2	0.0	0.0	4.7	0.0	-126.3	1+29
					-121.6	

PT- B-1200 Design Specifications



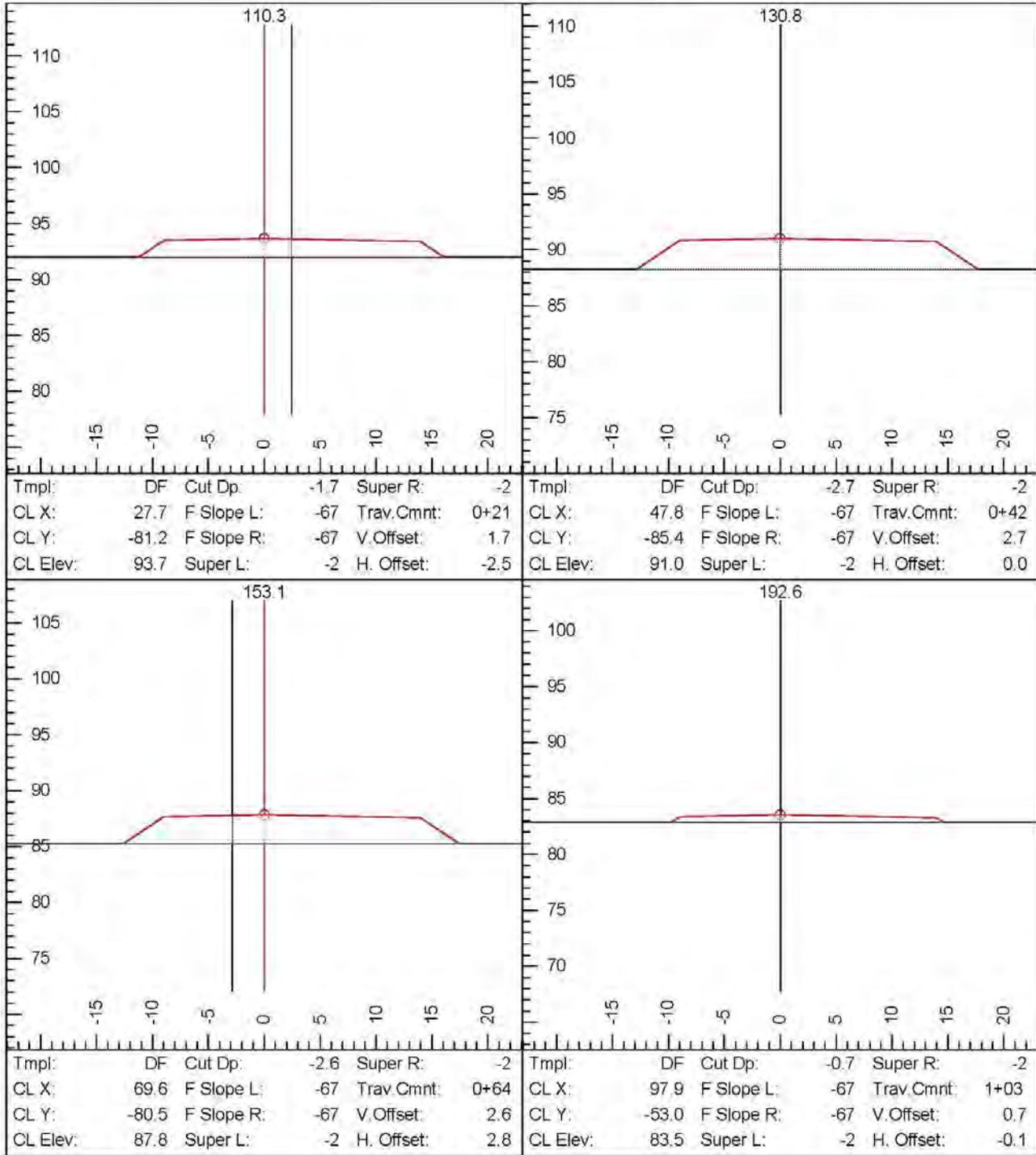
Legend	
	Plan L-line Location
	Existing Road Centerline
	Existing Ground Profile
	Road Prism



PT- B-1200 Design Specifications



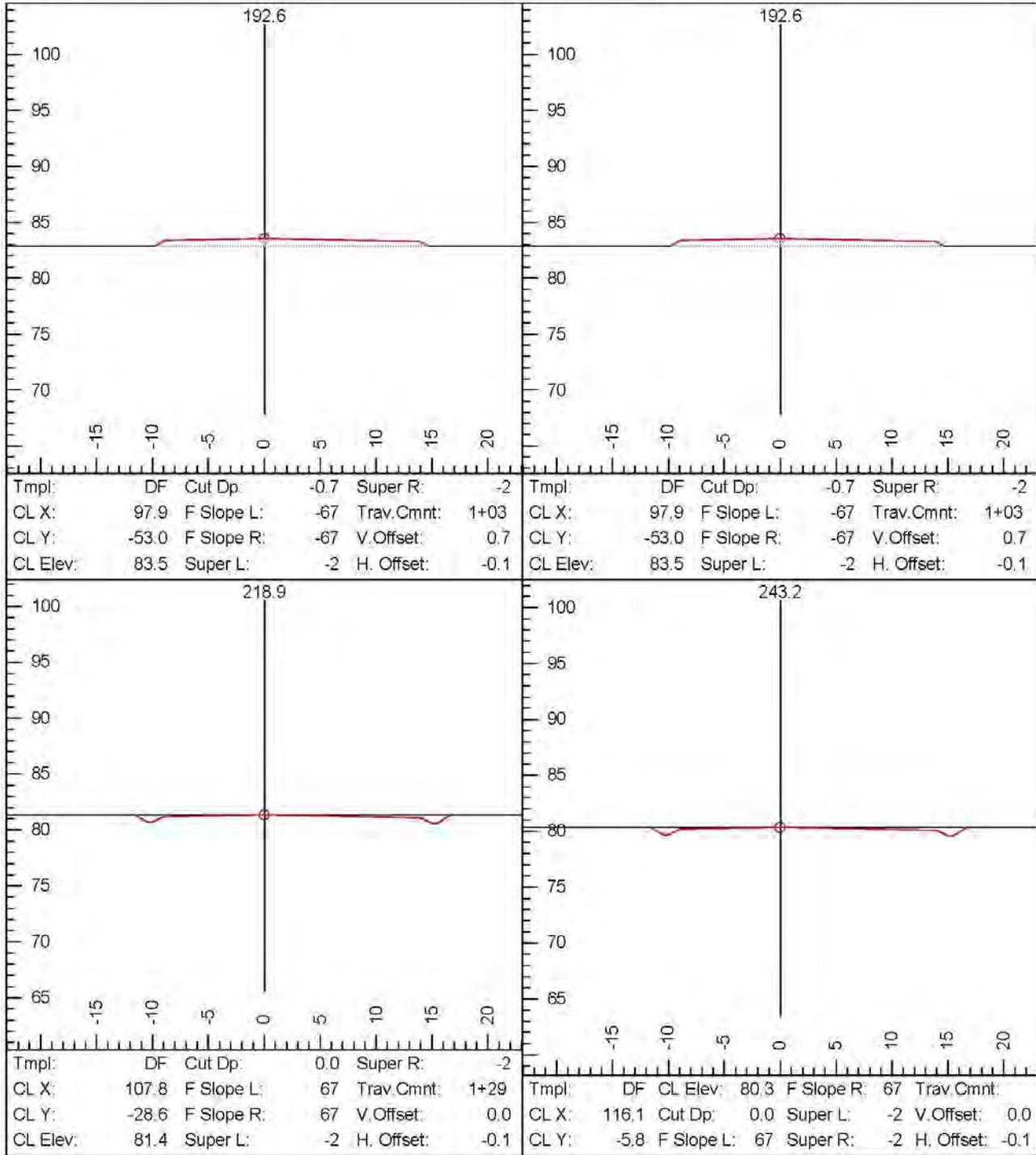
Legend	
	Plan L-line Location
	Existing Road Centerline
	Existing Ground Profile
	Road Prism



PT- B-1200 Design Specifications

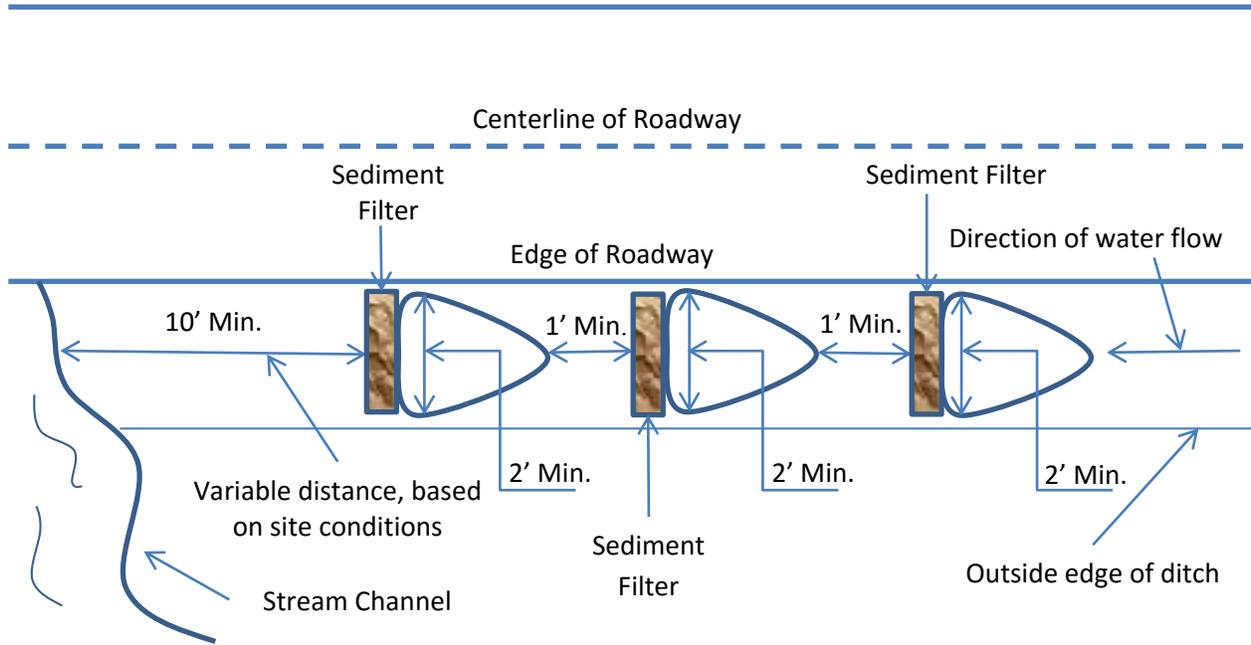


Legend	
	Plan L-line Location
	Existing Road Centerline
	Existing Ground Profile
	Road Prism

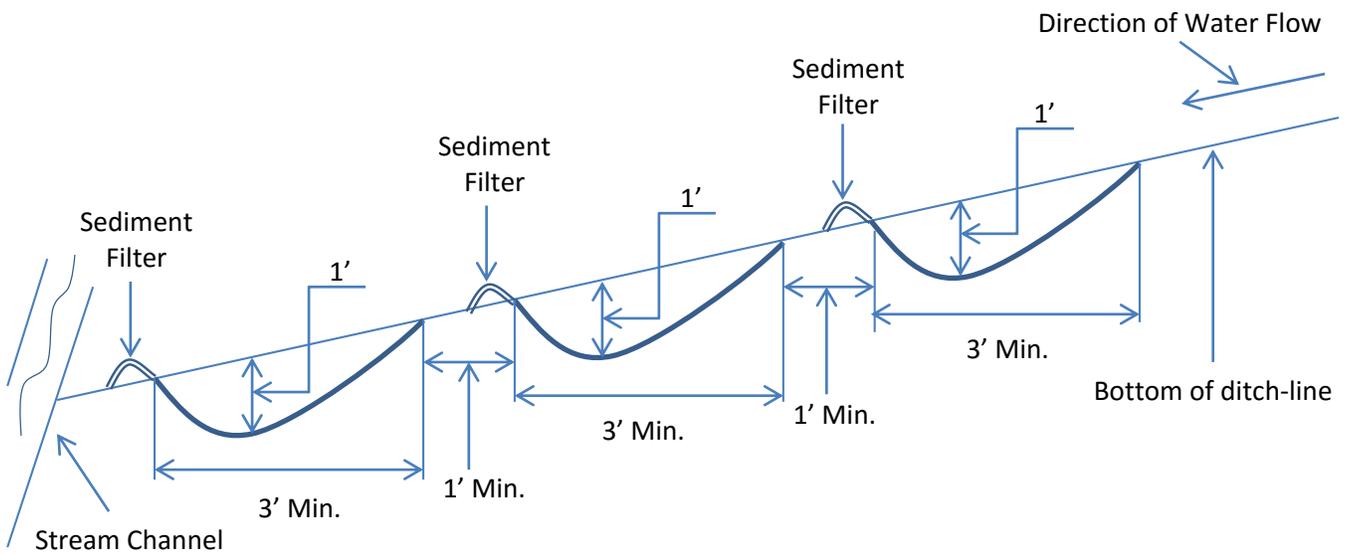


SEDIMENT TRAP DETAIL

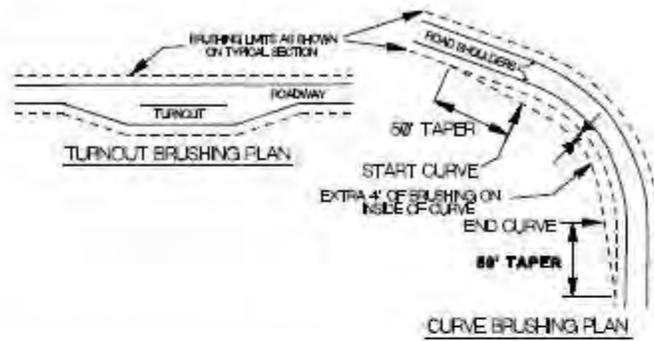
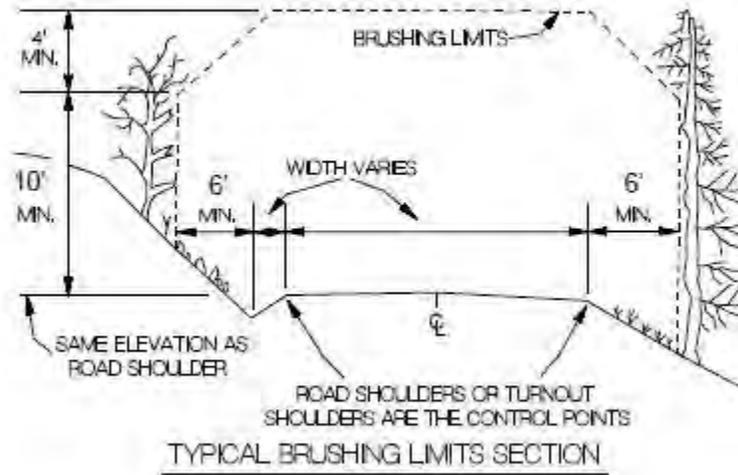
Top View



Profile View



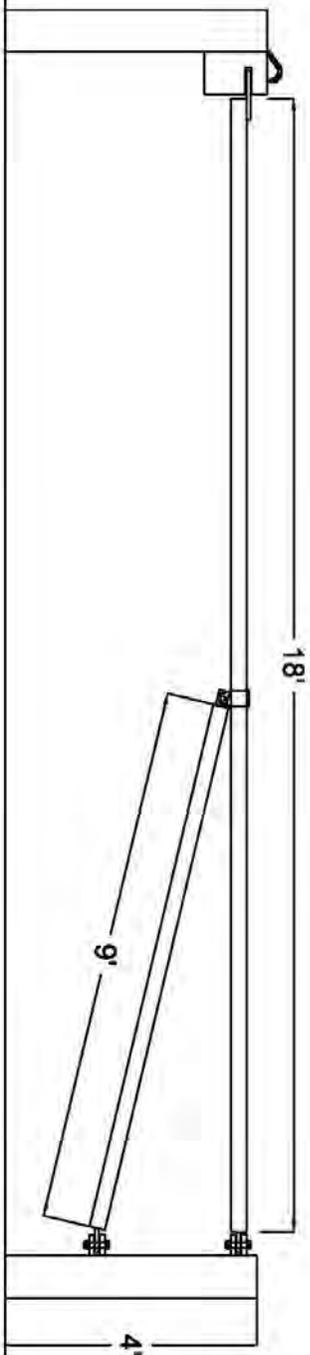
BRUSHING DETAIL



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

Gate Detail

- 1.) Gate beam shall be a minimum of 3" diameter steel pipe with a minimum 1/4" wall thickness.
- 2.) All metal surfaces, including welds, shall be primed and painted with at least two coats of safety yellow paint.
- 3.) Gate post shall be equipped with an enclosed, lock bell.
- 4.) Place 10 cubic yards of rip rap around gate to prevent vehicles from driving around the gate.
- 5.) Grease hinges.



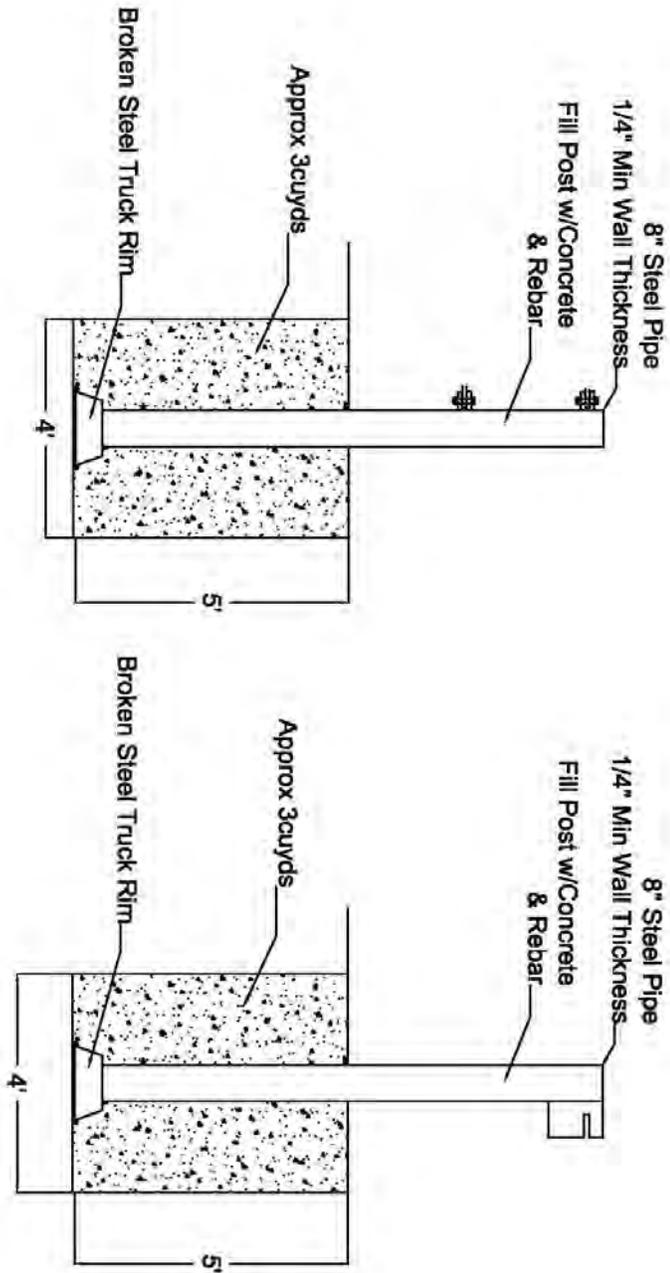
Drawn By
Madisen Warnstadt
1/13/2015

Straits Medium Duty Gate

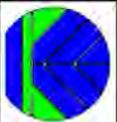


WASHINGTON STATE DEPARTMENT OF
Natural Resources

Lock & Pivot Posts



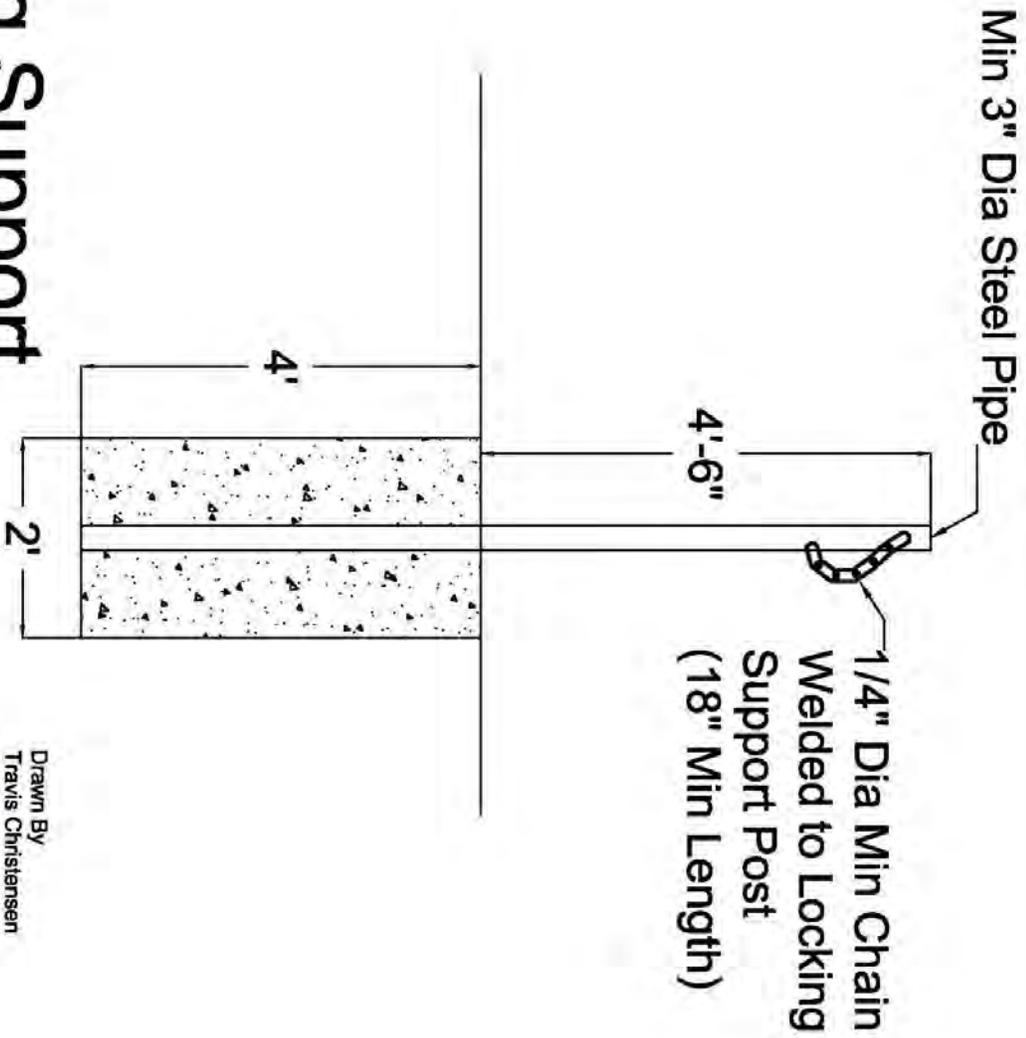
Drawn By
Travis Christensen
8/31/09



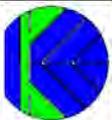
WASHINGTON STATE DEPARTMENT OF
Natural Resources

Graphic: Reptiles

Locking Support Post (Open Position)

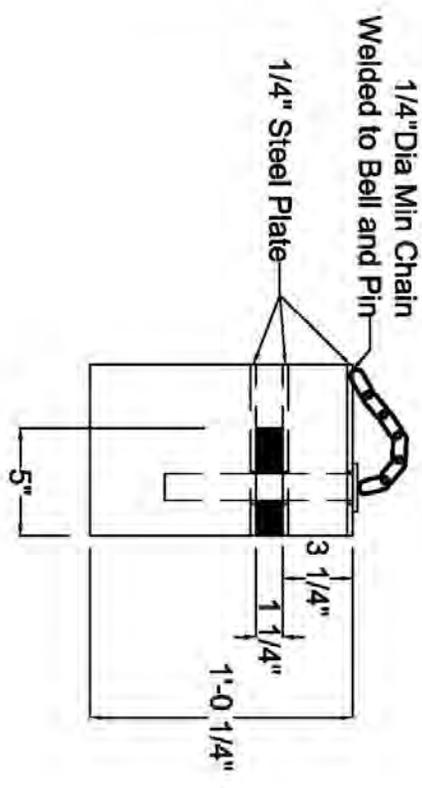
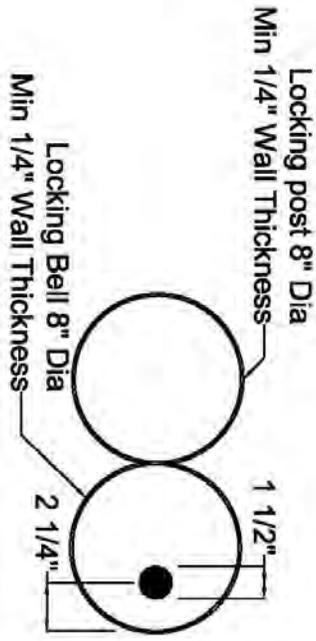


Drawn By
Travis Christensen
8/31/09

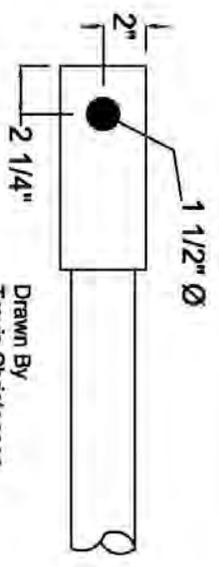
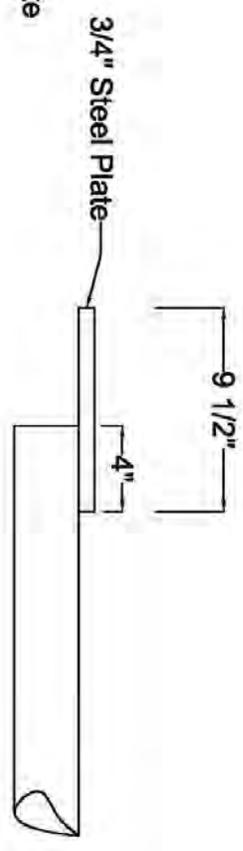
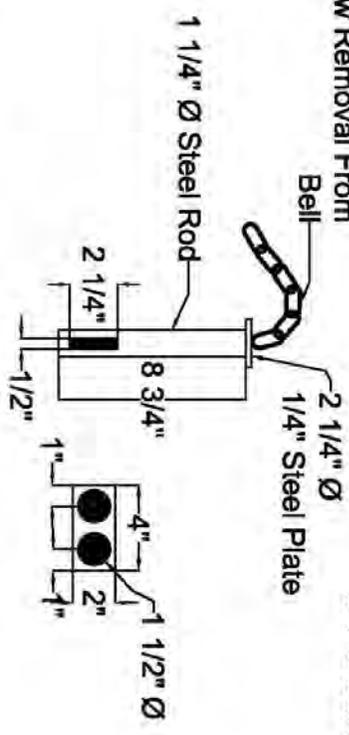


WASHINGTON STATE DEPARTMENT OF
Natural Resources

Graphic: Adapted



Chain Length Shall Allow Clearance of Tongue Not Allow Removal From

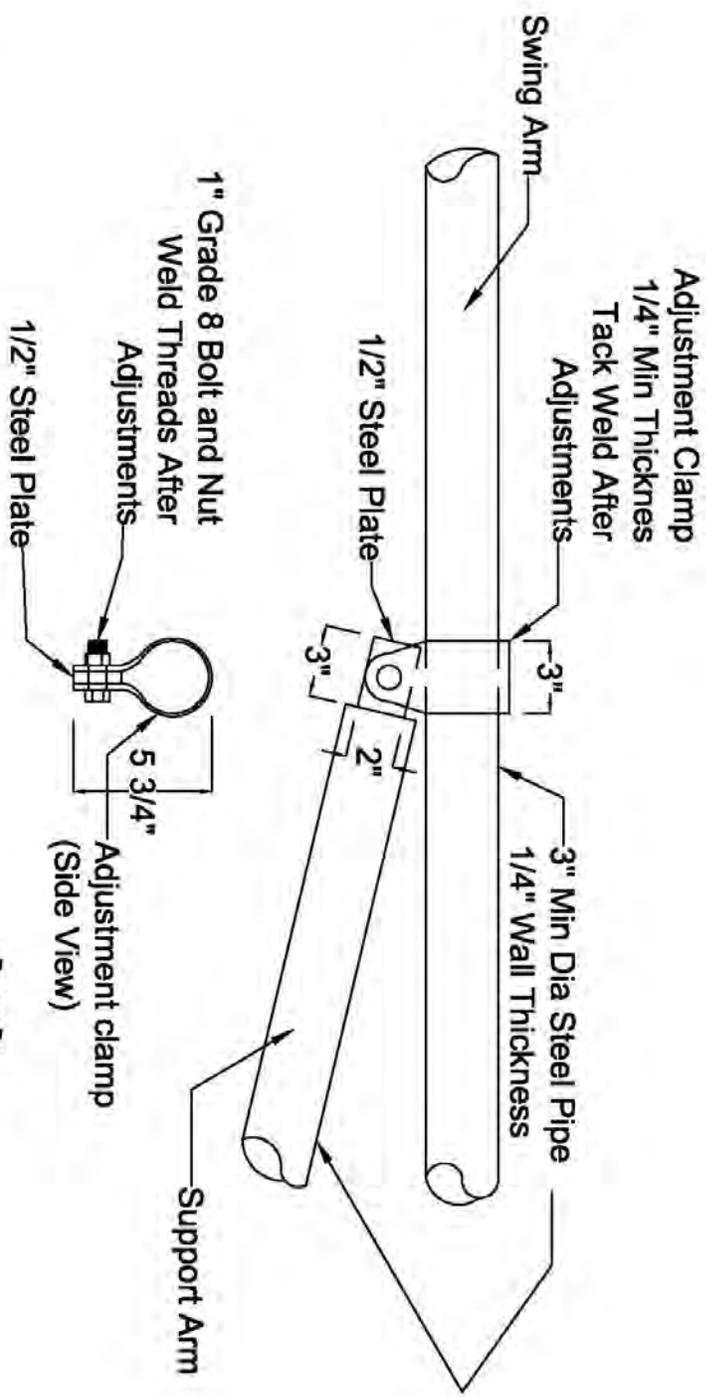


Drawn By
Travis Christensen
8/31/09

Bell, Pin, & Tongue

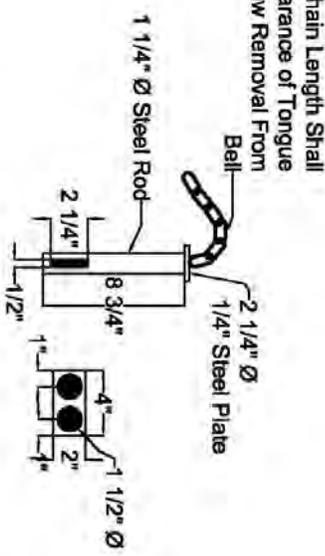
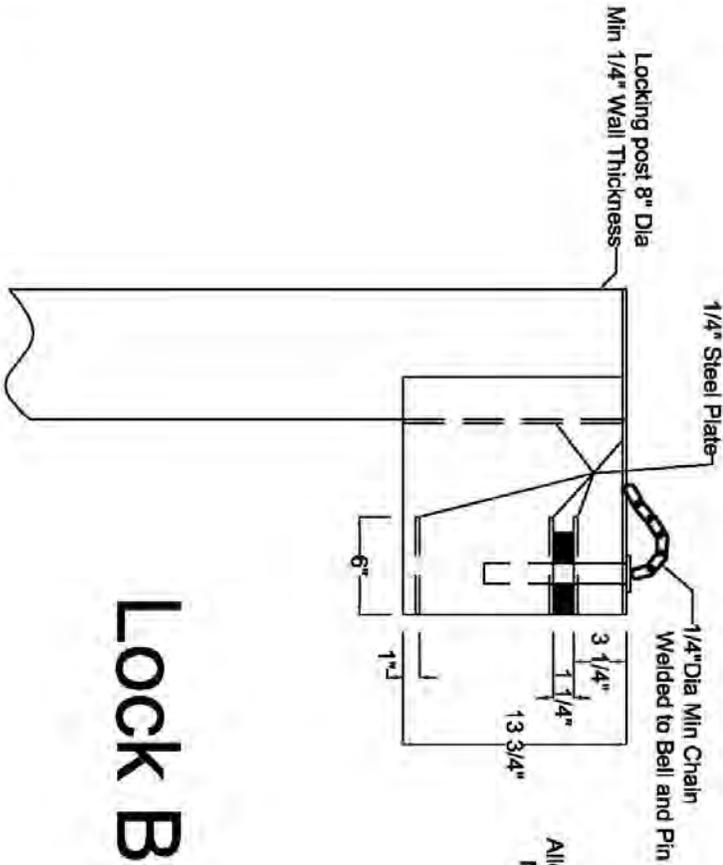
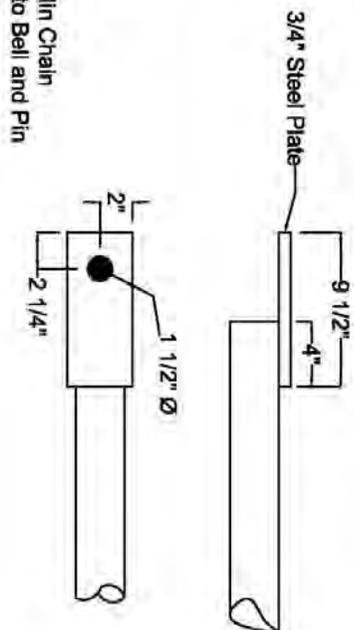
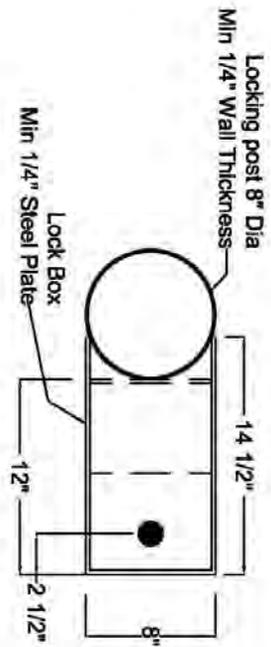


Support Arm



Drawn By
Travis Christensen
8/31/09





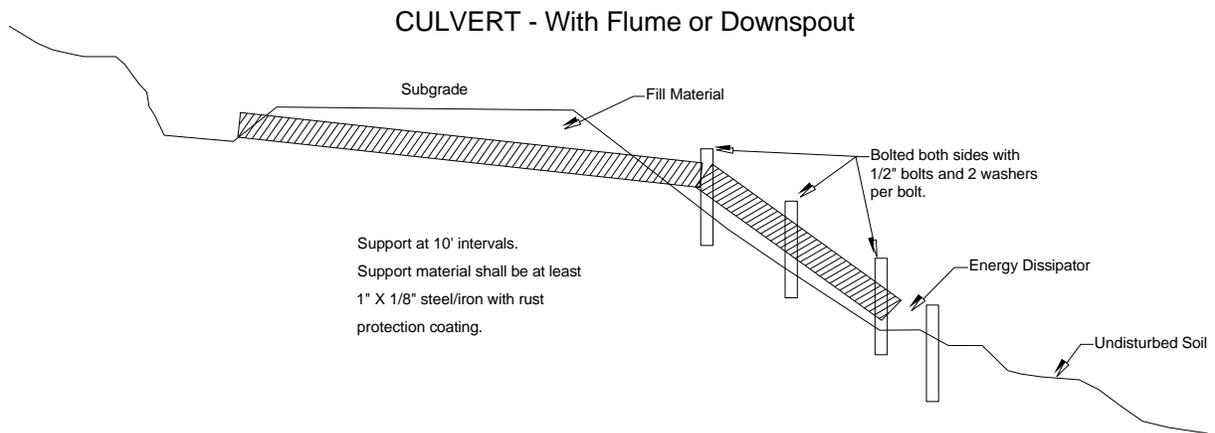
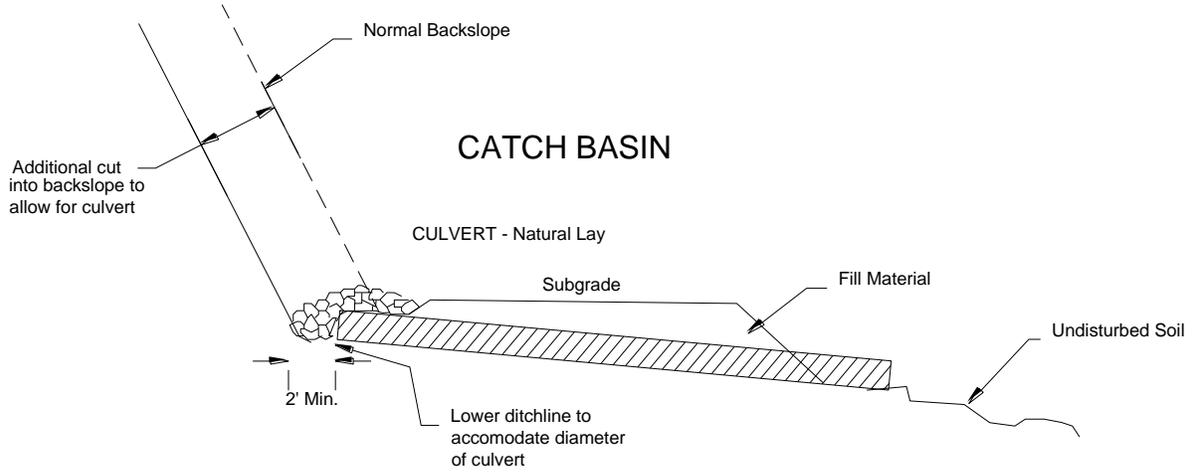
Lock Box, Pin, & Tongue

Drawn By
Travis Christensen
10/31/09



CULVERT AND DRAINAGE SPECIFICATION DETAIL

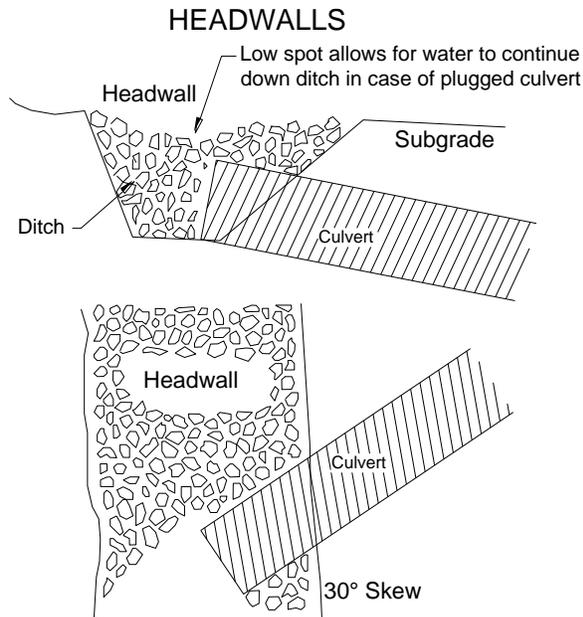
(Page 1 of 3)



CULVERT AND DRAINAGE SPECIFICATION DETAIL

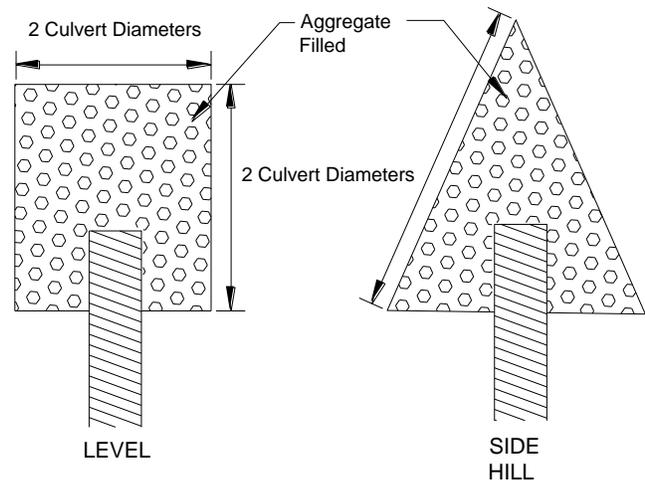
(Page 2 of 3)

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



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



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

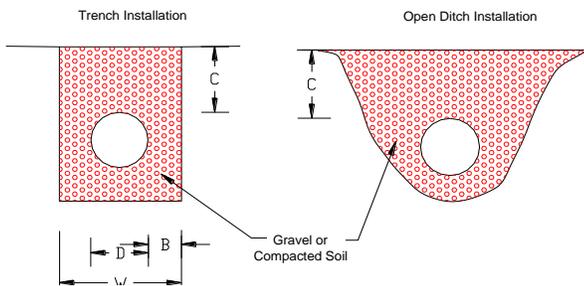
CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

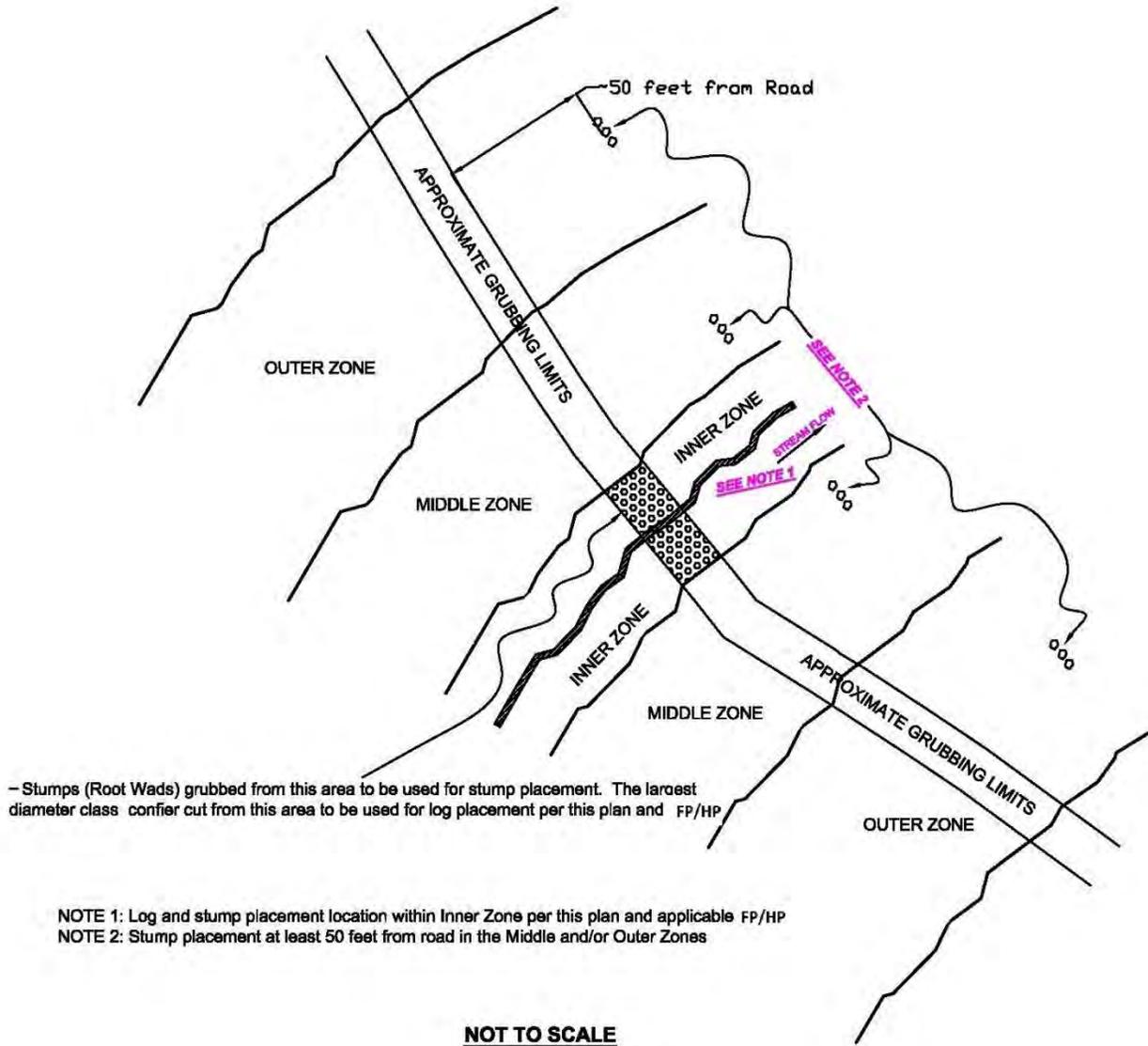
1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Site conditions and availability of bedding materials often dictate the type of installation method used.
4. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.



MINIMUM DIMENSIONS
Trench or Open Ditch Installation

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

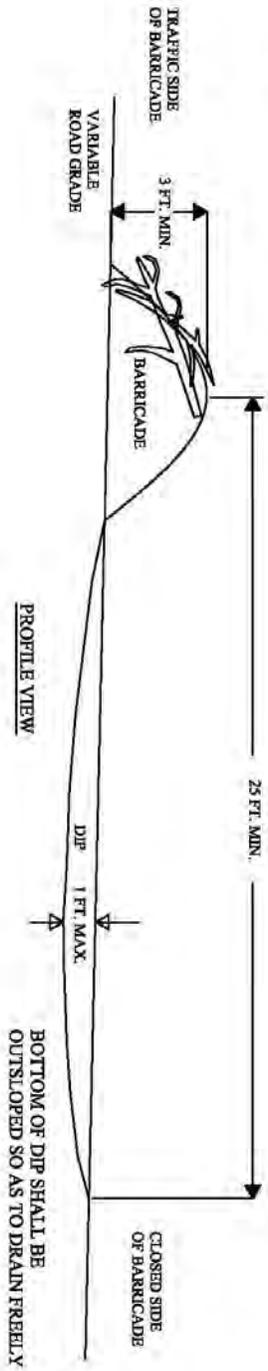
TYPICAL RIPARIAN STRATEGY STREAM CROSSING PLAN



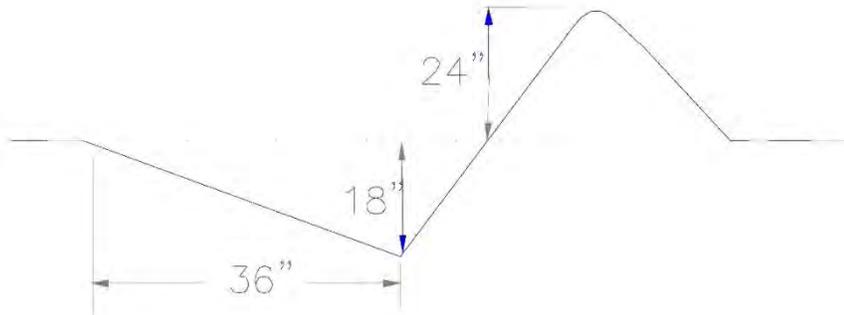
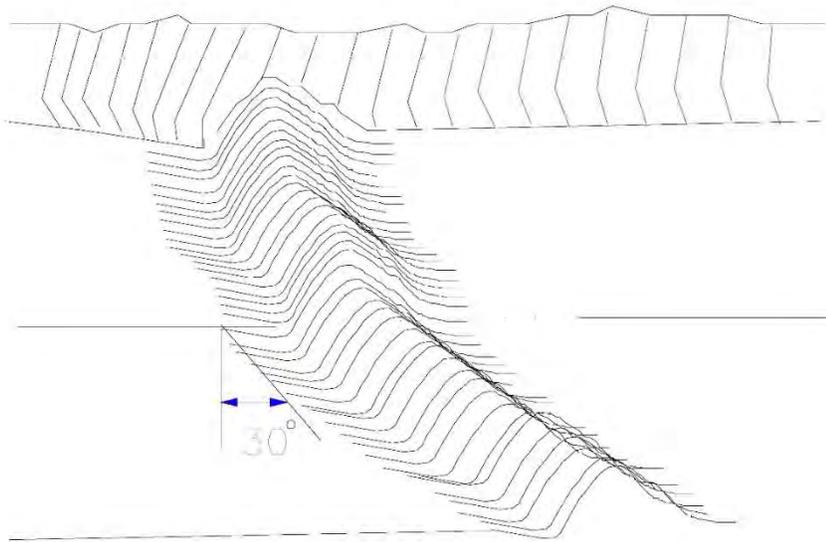
EARTHEN BARRICADE DETAIL



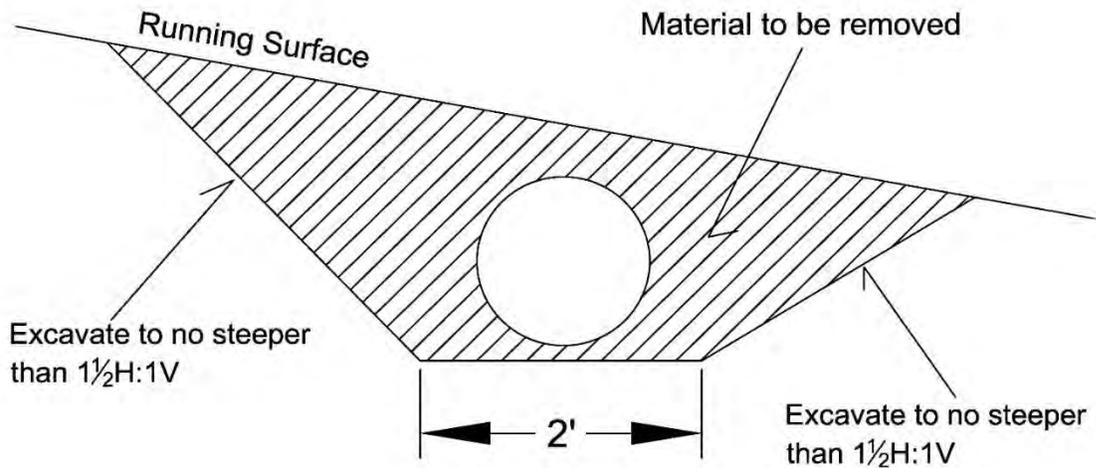
SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.



NON-DRIVABLE WATER BAR DETAIL



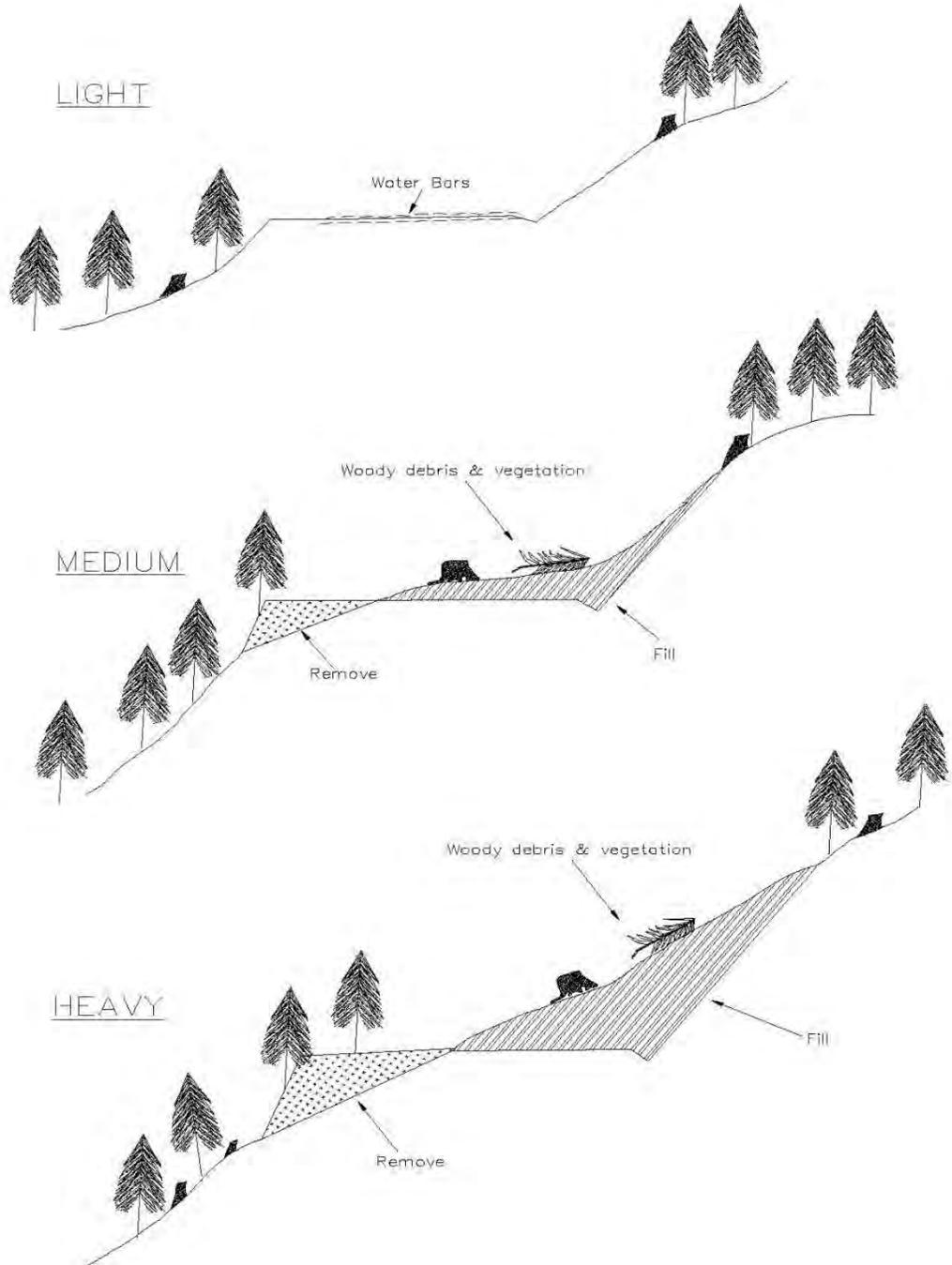
CROSSDRAIN REMOVAL DETAIL



1) Excavated material may be wasted on the road surface on the downhill side of the excavation. Waste material shall be sloped at no steeper than $\frac{1}{2}$ H:1V.

2) Resulting trench shall be keyed into the ditchline and sloped towards the outside edge of the road with a drop of at least 1 foot in 10 feet.

ROAD ABANDONMENT CROSS SECTIONS



SUMMARY - Road Development Costs

REGION: Olympic

DISTRICT: Straits

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

Road Names: B-1215, B-1220, B-1220.5, B-1343, B-1343.3, O-3140, O-3310, O-3320, O-3321, Q-4210, Q-4210.2, Q-4230 B-1200 Tie, Q-4210 B-1000, B-1200, B-1300, B-1340, B-1343, FS-2850, O-3000, O-3100, O-3300, Q-4000, Q-4200

ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	123.61	5.88	819.61
CLEARING & GRUBBING:	\$ 23,177	\$ 1,103	-
EXCAVATION AND FILL:	\$ 55,390	\$ 929	-
MISC. MAINTENANCE:	\$ 1,873	\$ 89	\$ 24,646
ROAD & LANDING ROCK:	\$ 134,302	\$ 7,436	\$ 136,898
CULVERTS AND FLUMES:	\$ 21,651	\$ 1,205	\$ 3,302
STRUCTURES:	-	-	-
ROAD BUILDING & ROCK PIT MOBILIZATION:	\$ 2,333	\$ 2,333	\$ 2,333
TOTAL COSTS:	\$ 238,727	\$ 13,095	\$ 167,179
COST PER STATION:	\$ 1,931	\$ 2,227	\$ 204
POST HAUL MAINTENANCE:	\$ 10,188		
ABANDONMENT COST:	\$ 6,244		
POST HAUL & ABANDONMENT MOBILIZATION:	\$ 4,200		
MANAGEMENT COSTS:	\$ 43,963		
			TOTAL (All Roads): \$483,595
			SALE VOLUME MBF: 5182
			TOTAL \$/MBF: \$93.32

Compiled by: Madisen Warnstadt

Date: 11/24/2015

MOBILIZATION

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD BUILDING EQUIPMENT

Grader	3 @	\$ 500	each	\$	1,500
Dozer (small)	3 @	\$ 300	each	\$	900
Dozer (large)	@	\$ 500	each	\$	-
Excavator (large)	3 @	\$ 500	each	\$	1,500
Roller	3 @	\$ 300	each	\$	900
End Dump	3 @	\$ 100	each	\$	300
Tractor Brusher	3 @	\$ 300	each	\$	900

ROAD BUILDING EQUIPMENT SUBTOTAL: \$ 6,000

ROCK SOURCE EQUIPMENT

Excavator (large)	1 @	\$ 500	each	\$	500
Loader	1 @	\$ 500	each	\$	500

ROCK SOURCE EQUIPMENT SUBTOTAL: \$ 1,000

INITIAL MOBILIZATION TOTAL: \$ 7,000

POST HAUL EQUIPMENT

Grader	3 @	\$ 500	each	\$	1,500
Loader	@	\$ 500	each	\$	-
Dozer (small)	2 @	\$ 300	each	\$	600
Dozer (large)	@	\$ 500	each	\$	-
Excavator (small)	@	\$ 300	each	\$	-
Excavator (large)	2 @	\$ 500	each	\$	1,000
Roller	3 @	\$ 300	each	\$	900
End Dump	2 @	\$ 100	each	\$	200

POST HAUL & ABANDONMENT \$ 4,200

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER:

Total road length (feet): 94910

Distance to Place Pit (feet)

Distance to Place Road (feet)

Average Haul Speed (mph)

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Cleaning Inlets & Outlets	129+49 stations @	\$	3.96 per station	\$	512.78
Pull and clean ditch (two sides, scatter)	129+49 stations @	\$	10.56 per station	\$	1,367.41
Maintenance grading & compacting	949+10 stations @	\$	8.75 per station	\$	8,307.66
			Misc. Maintenance Total	\$	10,187.86

POST HAUL MAINTENANCE TOTAL \$ 10,187.86

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NAMES: O-3100, O-3140, & Q-4210a

ROAD DEACTIVATION & ABANDONMENT

ROAD DEACTIVATION & ABANDONMENT

Light abandonment	18+82 stations @	\$ 92.50 per station	\$	1,740.85
Earthen Barricade	2 each @	\$ 92.50 per each	\$	185.00
Fill Removal	1150 per CY	\$ 3.76 per CY	\$	4,318.25
Grass seed (spread by hand)	95 pounds @	\$ 3.00 per pound	\$	285.15
Straw mulching (spread by hand)	0.10 acres @	\$ 595.00 per acre	\$	59.50
		TOTAL ABANDONMENT COST:	\$	6,244.10

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1000

Total road length (feet): 25455

Distance to Jimmycomelately Pit (feet) 0

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Cleaning Inlets & Outlets	254+55 stations @	\$	3.96 per station	\$	1,008.02
Maintenance grading & compacting	254+55 stations @	\$	8.75 per station	\$	2,228.13
			Misc. Maintenance Total	\$	3,236.15

ROCK

Load dump truck		240 CY @	\$	0.83 per CY	\$	200.00	
Rock haul	Round Trip (feet)	50910	16.37 Hours @	\$	98.00 per hour	\$	1,604.30
Process/Compacting Surfacing		240 CY @	\$	1.86 per CY	\$	445.50	
				Rock Total	\$	2,249.80	

PREHAUL MAINTENANCE TOTAL \$ 5,485.95

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: B-1020

Total road length (feet): 400

Distance to Jimmycomelately Pit (feet) 0

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Maintenance grading & compacting	4+00 stations @	\$	8.75 per station	\$	35.01
			Misc. Maintenance Total	\$	35.01
			PREHAUL MAINTENANCE TOTAL	\$	35.01

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1200

Total road length (feet): 3542

Distance to Jimmycomelately Pit (feet) 6476

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	5+69 stations @	\$	16.20 per station	\$	92.18
Maintenance grading & compacting	35+42 stations @	\$	8.75 per station	\$	310.04
Gate Maintenance	1 each @	\$	50.00 per each	\$	50.00
Gate Painting	1 each @	\$	400.00 per each	\$	400.00
			Misc. Maintenance Total	\$	852.22

ROCK

Load dump truck			468 CY @	\$	0.83 per CY	\$	389.93
Rock haul	Round Trip (feet)	20036	18.24 Hours @	\$	98.00 per hour	\$	1,787.14
Process/Compacting Surfacing			468 CY @	\$	1.86 per CY	\$	868.56
			Rock Total	\$		\$	3,045.62

PREHAUL MAINTENANCE TOTAL \$ 3,897.84

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1300

Total road length (feet): 3379

Distance to Jimmycomelately Pit (feet) 11258

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Cleaning Inlets & Outlets	33+79 stations @	\$	3.96 per station	\$	133.81
Maintenance grading & compacting	33+79 stations @	\$	8.75 per station	\$	295.77
			Misc. Maintenance Total	\$	429.58

ROCK

Load dump truck		279 CY @	\$	0.83 per CY	\$	232.42	
Rock haul	Round Trip (feet)	29274	13.31 Hours @	\$	98.00 per hour	\$	1,304.34
Process/Compacting Surfacing		279 CY @	\$	1.86 per CY	\$	517.71	
				Rock Total	\$	2,054.46	

PREHAUL MAINTENANCE TOTAL \$ 2,484.04

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1340

Total road length (feet): 5567

Distance to Jimmycomelately (feet) 14637

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (medium)		55+67 stations @	\$	40.50 per station	\$	2,254.64
Cleaning Inlets & Outlets		146+37 stations @	\$	3.96 per station	\$	579.63
Maintenance grading & compacting		0+56 stations @	\$	8.75 per station	\$	4.87
				Misc. Maintenance Total	\$	2,839.13

ROCK

Load dump truck		512 CY @	\$	0.83 per CY	\$	426.93	
Rock haul	Round Trip (feet)	40408	29.85 Hours @	\$	98.00 per hour	\$	2,925.34
Process/Compacting Surfacing		512 CY @	\$	1.86 per CY	\$	950.99	
Light Loose Rip Rap		1 CY @	\$	15.00 per CY	\$	15.00	
Rock haul	Round Trip (feet)	40408	0.06 Hours @	\$	98.00 per hour	\$	5.71
				Rock Total	\$	4,323.98	

CULVERTS & FLUMES

18" Polyethylene, double wall		30 feet @	\$	21.93 per foot	\$	657.90
Ditchout		1 each @	\$	13.20 each	\$	13.20
				Culvert & Flume Total	\$	671.10

*pipe bedding rock is accounted for in rock haul and processing

PREHAUL MAINTENANCE TOTAL \$ 7,834.21

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1343

Total road length (feet): 370

Distance to Jimmycomelately (feet) 20204

Average Haul Speed (mph) 19

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (heavy)	3+70 stations @	\$	56.70 per station	\$	209.79
Pull and clean ditch (two sides, scatter)	3+70 stations @	\$	10.56 per station	\$	39.07
Maintenance grading & compacting	3+70 stations @	\$	8.75 per station	\$	32.39
			Misc. Maintenance Total	\$	281.25

ROCK

Load dump truck	1567 CY @	\$	0.83 per CY	\$	1,305.42	
Process/Compacting Surfacing	1567 CY @	\$	1.86 per CY	\$	2,907.82	
Rock haul	Round Trip (feet) 41148	151.34 Hours @	\$	98.00 per hour	\$	14,831.25
			Rock Total	\$	19,044.49	

PREHAUL MAINTENANCE TOTAL \$ 19,325.74

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: FS-2850/ Woods Rd

Total road length (feet): 13275

Distance to Jimmycomelately (feet) 1861

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Cleaning Inlets & Outlets	132+75 stations @	\$	3.96 per station	\$	525.69
Maintenance grading & compacting	132+75 stations @	\$	8.75 per station	\$	1,161.99
			Misc. Maintenance Total	\$	1,687.68

ROCK

Load dump truck		100 CY @	\$	0.83 per CY	\$	83.33	
Rock haul	Round Trip (feet)	30272	4.87 Hours @	\$	98.00 per hour	\$	476.93
Process/Compacting Surfacing		100 CY @	\$	1.86 per CY	\$	185.63	
				Rock Total	\$	745.89	

PREHAUL MAINTENANCE TOTAL \$ 2,433.57

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3000

Total road length (feet): 8600

Distance to Shine Pit (feet) 44880

Average Haul Speed (mph) 45

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (medium)	9+85 stations @	\$ 40.50 per station	\$ 398.93
Cleaning Inlets & Outlets	86+00 stations @	\$ 3.96 per station	\$ 340.56
Maintenance grading & compacting	86+00 stations @	\$ 8.75 per station	\$ 752.78
Medium Gate	1 each @	\$ 7,500.00 per each	\$ 7,500.00
		Misc. Maintenance Total	\$ 8,992.26

ROCK

Purchase Price Crushed	428 CY @	\$ 8.42 per CY	\$ 3,609.26
Purchase Price Ballast	40 CY @	\$ 9.83 per CY	\$ 393.12
Purchase Price Rip Rap	11 CY @	\$ 29.48 per CY	\$ 324.32
Rock haul	Round Trip (feet) 106960	30.46 Hours @	\$ 98.00 per hour \$ 2,984.80
Process/Compacting Surfacing	468 CY @	\$ 1.86 per CY	\$ 869.56
Light Loose Rip Rap	11 CY @	\$ 15.00 per CY	\$ 165.00
Rock haul	Round Trip (feet) 106960	0.72 Hours @	\$ 20.00 per CY \$ 14.30
		Rock Total	\$ 8,360.37

CULVERTS & FLUMES

18" Polyethylene, double wall	30 feet @	\$ 21.93 per foot	\$ 657.90
*pipe bedding rock is accounted for in rock haul and processing		Culvert & Flume Total	\$ 657.90

PREHAUL MAINTENANCE TOTAL \$ 18,010.53

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3100

Total road length (feet): 2718

Distance to Shine Pit (feet) 50216

Average Haul Speed (mph) 42

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Cleaning Inlets & Outlets	27+18 stations @	\$	3.96 per station	\$	107.63
Maintenance grading & compacting	27+18 stations @	\$	8.75 per station	\$	237.91
			Misc. Maintenance Total	\$	345.54

ROCK

Purchase Price Crushed		100 CY @	\$	8.42 per CY	\$	842.40
Rock haul	Round Trip (feet) 105868	6.77 Hours @	\$	98.00 per hour	\$	663.85
Process/Compacting Surfacing		100 CY @	\$	1.86 per CY	\$	185.63
				Rock Total	\$	1,691.88

PREHAUL MAINTENANCE TOTAL \$ 2,037.42

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3300

Total road length (feet): 910

Distance to Shine Pit (feet) 53480

Average Haul Speed (mph) 41

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Maintenance grading & compacting	9+10 stations @	\$	8.75 per station	\$	79.65
			Misc. Maintenance Total	\$	79.65

ROCK

Purchase Price Crushed		30 CY @	\$	8.42 per ton	\$	252.72
Rock haul	Round Trip (feet) 108780	2.11 Hours @	\$	98.00 per hour	\$	206.53
Process/Compacting Surfacing		30 CY @	\$	1.86 per CY	\$	55.69
				Rock Total	\$	514.94

PREHAUL MAINTENANCE TOTAL \$ 594.59

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4000

Total road length (feet): 15360

Distance to Penny Creek Pit (feet) 29040

Average Haul Speed (mph) 34

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (light)	153+60 stations @	\$	16.20 per station	\$	2,488.32
Cleaning Inlets & Outlets	153+60 stations @	\$	3.96 per station	\$	608.26
Maintenance grading & compacting	153+60 stations @	\$	8.75 per station	\$	1,344.49
			Misc. Maintenance Total	\$	4,441.07

ROCK

Purchase Price Crushed 1 1/4"	3840 CY @	\$	12.64 per ton	\$	48,522.24	
Purchase Price Crushed 3"	20 CY @	\$	7.72 per ton	\$	154.44	
Rock haul	Round Trip (feet) 88800	268.14 Hours @	\$	98.00 per hour	\$	26,277.31
Process/Compacting Surfacing	3860 CY @	\$	1.86 per CY	\$	7,165.13	
Light Loose Rip Rap	1 CY @	\$	15.00 per CY	\$	15.00	
Rock haul	Round Trip (feet) 88800	0.07 Hours @	\$	98.00 per hour	\$	6.81
			Rock Total	\$	82,140.92	

CULVERTS & FLUMES

18" Polyethylene, double wall	35 feet @	\$	21.93 per foot	\$	767.55
*pipe bedding rock is accounted for in rock haul and processing			Culvert & Flume Total	\$	767.55

PREHAUL MAINTENANCE TOTAL \$ 87,349.54

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4200

Total road length (feet): 2385

Distance to Penny Creek Pit (feet) 34215

Average Haul Speed (mph) 33

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Brushing (medium)		23+85 stations @	\$	40.50 per station	\$	965.93
Pull and clean ditch (two sides, scatter)		23+85 stations @	\$	10.56 per station	\$	251.86
Maintenance grading & compacting		23+85 stations @	\$	8.75 per station	\$	208.76
				Misc. Maintenance Total	\$	1,426.54

ROCK

Purchase Price Crushed 3"		807 CY @	\$	7.72 per ton	\$	6,232.04	
Rock haul	Round Trip (feet)	73200	50.05 Hours @	\$	98.00 per hour	\$	4,904.51
Process/Compacting Surfacing		807 CY @	\$	1.86 per CY	\$	1,498.09	
Light Loose Rip Rap		2 CY @	\$	15.00 per CY	\$	30.00	
Rock haul	Round Trip (feet)	73200	0.62 Hours @	\$	98.00 per hour	\$	60.77
				Rock Total	\$	12,725.40	

CULVERTS & FLUMES

24" Polyethylene, double wall		35 feet @	\$	34.43 per foot	\$	1,205.05
*pipe bedding rock is accounted for in rock haul and processing				Culvert & Flume Total	\$	1,205.05

PREHAUL MAINTENANCE TOTAL \$ 15,357.00

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1215

Total road length (feet): 273

Distance to Jimmycomelately Pit (feet) 8964

Average Haul Speed (mph) 19

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	2.73 stations @	\$	187.50	per station	\$	511.88
					C & G Total	\$ 511.88

EXCAVATION AND FILL

Construction (balanced, light)	2.73 stations @	\$	318.32	per station	\$	869.01
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Rip, Grade, shape, compact subgrade	2.73 per station	\$	19.32	per station	\$	52.75
					Excavation Total	\$ 1,118.78

ROCK

Load dump truck	241 CY @	\$	0.83	per CY	\$	200.92
Rock haul	Round Trip (feet) 18474	9.26 Hours @	\$	98.00	per Hour	\$ 907.66
Process/Compacting Ballast	241 CY @	\$	1.23	per CY	\$	296.74
Light Loose Rip Rap	1 CY @	\$	15.00	per CY	\$	15.00
Rock haul	Round Trip (feet) 18474	0.38 Hours @	\$	98.00	per hour	\$ 37.65
					Rock Total	\$ 1,457.96

CULVERTS & FLUMES

18" Polyethylene, double wall	35 feet @	\$	21.93	per foot		\$767.55
*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$767.55

MISC. MAINTENANCE

Grass seed (spread by hand)	14 pounds @	\$	3.00	per pound	\$	41.36
					Misc Maintenance Total	\$ 41.36

Construction Total \$ 3,897.53

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1220

Total road length (feet): 1160

Distance to Jimmycomelately Pit (feet) 9790

Average Haul Speed (mph) 18

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	11.60 stations @	\$	187.50	per station	\$	2,175.00
					C & G Total	\$ 2,175.00

EXCAVATION AND FILL

Construction (balanced, light)	11.60 stations @	\$	318.32	per station	\$	3,692.49
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Turnaround	1 each @	\$	138.10	each	\$	138.10
Geotextile (woven)	8.64 stations @	\$	429.36	per station	\$	3,709.68
Rip, Grade, shape, compact subgrade	11.60 per station	\$	19.32	per station	\$	224.15
					Excavation Total	\$ 7,961.44

ROCK

Load dump truck		902 CY @	\$	0.83	per CY	\$	751.67
Rock haul	Round Trip (feet) 21900	39 Hours @	\$	98.00	per Hour	\$	3,804.82
Process/Compacting Ballast		902 CY @	\$	1.23	per CY	\$	1,110.15
Light Loose Rip Rap		1 CY @	\$	15.00	per CY	\$	15.00
Rock haul	Round Trip (feet) 21900	0.43 Hours @	\$	98.00	per hour	\$	42.18
					Rock Total	\$	5,723.82

CULVERTS & FLUMES

18" Polyethylene, double wall		95 feet @	\$	21.93	per foot	\$2,083.35
	*pipe bedding rock is accounted for in rock haul and processing				Culvert & Flume Total	\$2,083.35

MISC. MAINTENANCE

Grass seed (spread by hand)		59 pounds @	\$	3.00	per pound	\$	175.76
					Misc Maintenance Total	\$	175.76

Construction Total \$ 18,119.36

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1221

Total road length (feet): 266

Distance to Jimmycomelately Pit (feet) 10224

Average Haul Speed (mph) 18

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	2.66 stations @	\$	187.50	per station	\$	498.75
					C & G Total	\$ 498.75

EXCAVATION AND FILL

Construction (balanced, light)	2.66 stations @	\$	318.32	per station	\$	846.73
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Geotextile (woven)	2.66 stations @	\$	429.36	per station	\$	1,142.10
Rip, Grade, shape, compact subgrade	2.66 per station	\$	19.32	per station	\$	51.40
					Excavation Total	\$ 2,237.25

ROCK

Load dump truck	236 CY @	\$	0.83	per CY	\$	196.83
Rock haul	Round Trip (feet) 20980	9.94 Hours @	\$	98.00	per Hour	\$ 973.93
Process/Compacting Ballast	236 CY @	\$	1.23	per CY	\$	290.71
					Rock Total	\$ 1,461.47

MISC. MAINTENANCE

Grass seed (spread by hand)	13 pounds @	\$	3.00	per pound	\$	40.30
					Misc Maintenance Total	\$ 40.30

Construction Total \$ 4,237.77

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1343

Total road length (feet): 1995

Distance to Place Pit (feet) 20204

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	19.95 stations @	\$	187.50	per station	\$	3,740.63
					C & G Total	\$ 3,740.63

EXCAVATION AND FILL

Construction (balanced, medium)	19.95 stations @	\$	430.47	per station	\$	8,587.83
Landing (medium)	3 each @	\$	197.02	each	\$	591.06
Turnaround	1 each @	\$	138.10	each	\$	138.10
Rip, Grade, shape, compact subgrade	19.95 stations @	\$	19.32	per station	\$	385.50
					Excavation Total	\$ 9,702.49

ROCK

Load dump truck			0 CY @	\$	0.83	per CY	\$	-
Rock haul	Round Trip (feet)	44398	0.00 Hours @	\$	98.00	per Hour	\$	-
Process/Compacting Ballast			0 CY @	\$	1.23	per CY	\$	-
Light Loose Rip Rap			9 CY @	\$	15.00	per CY	\$	135.00
Rock haul	Round Trip (feet)	44398	0.62 Hours @	\$	98.00	per hour	\$	60.80
							Rock Total	\$ 195.80

CULVERTS & FLUMES

18" Polyethylene, double wall	150 feet @	\$	21.93	per foot		\$3,289.50
24" Polyethylene, double wall	75 feet @	\$	34.43	per foot		\$2,582.25
					Culvert & Flume Total	\$5,871.75

*pipe bedding rock is accounted for in rock haul and processing

MISC. MAINTENANCE

Grass seed (spread by hand)	101 pounds @	\$	3.00	per pound	\$	302.27
					Misc Maintenance Total	\$ 302.27

Construction Total \$ 19,812.94

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1343.3

Total road length (feet): 468

Distance to Place Pit (feet) 21036

Average Haul Speed (mph) 18

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	4.68 stations @	\$	187.50	per station	\$	877.50
					C & G Total	\$ 877.50

EXCAVATION AND FILL

Construction (balanced, light)	4.68 stations @	\$	318.32	per station	\$	1,489.73
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Rip, Grade, shape, compact subgrade	4.68 stations @	\$	19.32	per station	\$	90.43
					Excavation Total	\$ 1,777.18

ROCK

Load dump truck	378 CY @	\$	0.83	per CY	\$	314.67
Rock haul	Round Trip (feet) 43008	25 Hours @	\$	98.00	per Hour	\$ 2,414.66
Process/Compacting Ballast	378 CY @	\$	1.23	per CY	\$	464.74
Light Loose Rip Rap	1 CY @	\$	15.00	per CY	\$	15.00
Rock haul	Round Trip (feet) 43008	0.65 Hours @	\$	98.00	per hour	\$ 63.95
					Rock Total	\$ 3,273.01

CULVERTS & FLUMES

18" Polyethylene, double wall	30 feet @	\$	21.93	per foot		\$657.90
Ditchout	2 each @	\$	13.20	each		\$26.40
*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$684.30

MISC. MAINTENANCE

Grass seed (spread by hand)	24 pounds @	\$	3.00	per pound	\$	70.91
					Misc Maintenance Total	\$ 70.91

Construction Total \$ 6,682.89

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3140

Total road length (feet): 1009

Distance to Shine Pit (feet) 52934

Average Haul Speed (mph) 41

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	10.09 stations @	\$	187.50	per station	\$	1,891.88
					C & G Total	\$ 1,891.88

EXCAVATION AND FILL

Construction (balanced, medium)	10.09 stations @	\$	138.72	per station	\$	1,399.66
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Geotextile (nowoven)	1.68 stations @	\$	470.17	per station	\$	789.88
Log Fill	1 each @	\$	203.50	each	\$	203.50
Rip, Grade, shape, compact subgrade	10 stations @	\$	19.32	per station	\$	194.97
					Excavation Total	\$ 2,785.03

ROCK

Purchase Price Ballast			756 CY @	\$	9.83	per CY	\$	7,432.92
Rock haul	Round Trip (feet)	107886	52.82 Hours @	\$	98.00	per Hour	\$	5,176.10
Process/Compacting Ballast			756 CY @	\$	1.23	per CY	\$	930.83
Light Loose Rip Rap			3.00 CY @	\$	15.00	per CY	\$	45.00
Rock haul	Round Trip (feet)	107886	0.70 Hours @	\$	98.00	per hour	\$	68.44
							Rock Total	\$ 13,653.28

CULVERTS & FLUMES

18" Polyethylene, double wall			90 feet @	\$	21.93	per foot		\$1,973.70
30" Polyethylene, double wall			35 feet @	\$	49.20	per foot		\$1,722.00
							Culvert & Flume Total	\$3,695.70

*pipe bedding rock is accounted for in rock haul and processing

MISC. MAINTENANCE

Grass seed (spread by hand)			51 pounds @	\$	3.00	per pound	\$	152.88
							Misc Maintenance Total	\$ 152.88

Construction Total \$ 22,178.77

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3310

Total road length (feet): 460

Distance to Shine Pit (feet) 54096

Average Haul Speed (mph) 41

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	4.60 stations @	\$	187.50	per station	\$	862.50
					C & G Total	\$ 862.50

EXCAVATION AND FILL

Construction (balanced, light)	4.60 stations @	\$	318.32	per station	\$	1,464.26
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Rip, Grade, shape, compact subgrade	4.60 stations @	\$	19.32	per station	\$	88.89
					Excavation Total	\$ 1,750.17

ROCK

Purchase Price Ballast	372 CY @	\$	9.83	per CY	\$	3,656.02
Rock haul	Round Trip (feet) 109112	26.19 Hours @	\$	98.00	per Hour	\$ 2,566.60
Process/Compacting Ballast	372 CY @	\$	1.23	per CY	\$	457.84
Light Loose Rip Rap	1 CY @	\$	15.00	per CY	\$	15.00
Rock haul	Round Trip (feet) 109112	0.70 Hours @	\$	98.00	per hour	\$ 68.99
					Rock Total	\$ 6,764.46

CULVERTS & FLUMES

18" Polyethylene, double wall	40 feet @	\$	21.93	per foot		\$877.20
Ditchout	2 each @	\$	13.20	each		\$26.40
*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$903.60

MISC. MAINTENANCE

Grass seed (spread by hand)	23 pounds @	\$	3.00	per pound	\$	69.70
					Misc Maintenance Total	\$ 69.70

Construction Total \$ 10,350.42

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3320

Total road length (feet): 2569

Distance to Shine Pit (feet) 5439

Average Haul Speed (mph) 41

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	25.69 stations @	\$	187.50 per station	\$	4,816.88
				C & G Total	\$ 4,816.88

EXCAVATION AND FILL

Construction (balanced, light)	25.69 stations @	\$	318.32 per station	\$	8,177.58
Landing (medium)	1 each @	\$	197.02 each	\$	197.02
Turnaround	1 each @	\$	138.10 each	\$	138.10
Rip, Grade, shape, compact subgrade	25.69 stations @	\$	19.32 per station	\$	496.41
				Excavation Total	\$ 9,009.12

ROCK

Purchase Price Ballast	2916 CY @	\$	9.83 per CY	\$	28,657.47
Rock haul	Round Trip (feet) 16016	80 Hours @	\$ 98.00 per Hour	\$	7,829.31
Process/Compacting Ballast	2916 CY @	\$	1.23 per CY	\$	3,588.78
Light Loose Rip Rap	1 CY @	\$	15.00 per CY	\$	15.00
Rock haul	Round Trip (feet) 16016	0.27 Hours @	\$ 98.00 per hour	\$	26.85
				Rock Total	\$ 40,117.40

CULVERTS & FLUMES

18" Polyethylene, double wall	30 feet @	\$	21.93 per foot	\$657.90
Ditchout	3 each @	\$	13.20 each	\$39.60
*pipe bedding rock is accounted for in rock haul and processing			Culvert & Flume Total	\$697.50

MISC. MAINTENANCE

Grass seed (spread by hand)	130 pounds @	\$	3.00 per pound	\$	389.24
				Misc Maintenance Total	\$ 389.24

Construction Total \$ 55,030.14

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-O-3321

Total road length (feet): 652

Distance to Shine Pit (feet) 54748

Average Haul Speed (mph) 40

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	6.52 stations @	\$	187.50	per station	\$	1,222.50
					C & G Total	\$ 1,222.50

EXCAVATION AND FILL

Construction (balanced, light)	6.52 stations @	\$	318.32	per station	\$	2,075.43
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Rip, Grade, shape, compact subgrade	6.52 stations @	\$	19.32	per station	\$	125.99
					Excavation Total	\$ 2,398.44

ROCK

Purchase Price Ballast	767 CY @	\$	9.83	per CY	\$	7,540.04
Rock haul	Round Trip (feet) 110800	56 Hours @	\$	98.00	per Hour	\$ 5,448.11
Process/Compacting Ballast	767 CY @	\$	1.23	per CY	\$	944.24
Light Loose Rip Rap	2 CY @	\$	15.00	per CY	\$	30.00
Rock haul	Round Trip (feet) 110800	0.72 Hours @	\$	98.00	per hour	\$ 71.01
					Rock Total	\$ 14,033.40

CULVERTS & FLUMES

18" Polyethylene, double wall	60 feet @	\$	21.93	per foot		\$1,315.80
Ditchout	2 each @	\$	13.20	each		\$26.40
*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$1,342.20

MISC. MAINTENANCE

Grass seed (spread by hand)	33 pounds @	\$	3.00	per pound	\$	98.79
					Misc Maintenance Total	\$ 98.79

Construction Total \$ 19,095.33

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4210

Total road length (feet): 1606

Distance to Penny Creek Pit (feet) 35605

Average Haul Speed (mph) 32

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	16.06 stations @	\$	187.50	per station	\$	3,011.25
					C & G Total	\$ 3,011.25

EXCAVATION AND FILL

Construction (balanced, medium)	16.06 stations @	\$	430.47	per station	\$	6,913.31
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Turnaround	1 each @	\$	138.10	each	\$	138.10
Rip, Grade, shape, compact subgrade	16.06 stations @	\$	19.32	per station	\$	310.33
					Excavation Total	\$ 7,558.77

ROCK

Purchase Price Ballast	1244 CY @	\$	9.83	per CY	\$	12,228.00
Rock haul	Round Trip (feet) 74422	79.69 Hours @	\$	98.00	per Hour	\$ 7,809.37
Process/Compacting Ballast	1244 CY @	\$	1.23	per CY	\$	1,531.31
Light Loose Rip Rap	4 CY @	\$	15.00	per CY	\$	60.00
Rock haul	Round Trip (feet) 74422	0.64 Hours @	\$	98.00	per hour	\$ 62.77
					Rock Total	\$ 21,691.44

CULVERTS & FLUMES

18" Polyethylene, double wall	120 feet @	\$	21.93	per foot	\$2,631.60	
Ditchout	1 each @	\$	13.20	each	\$13.20	
					Culvert & Flume Total	\$2,644.80

*pipe bedding rock is accounted for in rock haul and processing

MISC. MAINTENANCE

Grass seed (spread by hand)	81 pounds @	\$	3.00	per pound	\$	243.33
					Misc Maintenance Total	\$ 243.33

Construction Total \$ 35,149.59

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4210.2

Total road length (feet): 513

Distance to Penny Creek Pit (feet) 35745

Average Haul Speed (mph) 32

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	5.13 stations @	\$	187.50	per station	\$	961.88
					C & G Total	\$ 961.88

EXCAVATION AND FILL

Construction (balanced, medium)	5.13 stations @	\$	430.47	per station	\$	2,208.30
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Rip, Grade, shape, compact subgrade	5.13 stations @	\$	19.32	per station	\$	99.13
					Excavation Total	\$ 2,504.45

ROCK

Purchase Price Ballast	409 CY @	\$	9.83	per CY	\$	4,020.63
Rock haul	Round Trip (feet) 72516	25.74 Hours @	\$	98.00	per Hour	\$ 2,522.54
Process/Compacting Ballast	409 CY @	\$	1.23	per CY	\$	503.50
Light Loose Rip Rap	2 CY @	\$	15.00	per CY	\$	30.00
Rock haul	Round Trip (feet) 72516	0.63 Hours @	\$	98.00	per hour	\$ 61.66
					Rock Total	\$ 7,138.34

CULVERTS & FLUMES

18" Polyethylene, double wall	75 feet @	\$	21.93	per foot		\$1,644.75
*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$1,644.75

MISC. MAINTENANCE

Grass seed (spread by hand)	26 pounds @	\$	3.00	per pound	\$	77.73
					Misc Maintenance Total	\$ 77.73

Construction Total \$ 12,327.14

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4230

Total road length (feet): 1390

Distance to Penny Creek Pit (feet) 36600

Average Haul Speed (mph) 32

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING

Scatter	13.90 stations @	\$	187.50	per station	\$	2,606.25
					C & G Total	\$ 2,606.25

EXCAVATION AND FILL

Construction (balanced, medium)	13.90 stations @	\$	430.47	per station	\$	5,983.50
Landing (medium)	1 each @	\$	197.02	each	\$	197.02
Turnaround	1 each @	\$	138.10	each	\$	138.10
Rip, Grade, shape, compact subgrade	13.90 stations @	\$	19.32	per station	\$	268.59
					Excavation Total	\$ 6,587.22

ROCK

Purchase Price Ballast		1073.00 tons @	\$	9.83	per ton	\$	10,545.44	
Rock haul	Round Trip (feet)	75980	69.71 Hours @	\$	98.00	per Hour	\$	6,831.77
Process/Compacting Ballast		1073 CY @	\$	1.23	per CY	\$	1,320.61	
Light Loose Rip Rap		2 CY @	\$	15.00	per CY	\$	30.00	
Rock haul	Round Trip (feet)	75980	0.65 Hours @	\$	98.00	per hour	\$	63.67
					Rock Total	\$	18,791.50	

CULVERTS & FLUMES

18" Polyethylene, double wall		60 feet @	\$	21.93	per foot	\$	1,315.80	
	*pipe bedding rock is accounted for in rock haul and processing					Culvert & Flume Total	\$	1,315.80

MISC. MAINTENANCE

Grass seed (spread by hand)		70 pounds @	\$	3.00	per pound	\$	210.61
					Misc Maintenance Total	\$	210.61

Construction Total \$ 29,511.37

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-B-1200 Tie

Total road length (feet): 103

Distance to Jimmycomelately Pit (feet) 6476

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

RECONSTRUCTION

CLEARING & GRUBBING

Scatter	1.03 stations @	\$	187.50	per station	\$	193.13
					C & G Total	\$ 193.13

EXCAVATION AND FILL

Reconstruction (medium)	1.03 stations @	\$	138.72	per station	\$	142.88
Rip, Grade, shape, compact subgrade	1.03 stations @	\$	19.32	per station	\$	19.90
					Excavation Total	\$ 162.78

ROCK

Load dump truck	174 CY @	\$	0.83	per CY	\$	144.99
Rock haul	Round Trip (feet) 13158	5.65 Hours @	\$	98.00	per Hour	\$ 553.48
Process/Compacting Ballast	140 CY @	\$	1.23	per CY	\$	172.31
Process/Compacting Surfacing	34 CY @	\$	1.86	per CY	\$	63.09
					Rock Total	\$ 933.87

MISC. MAINTENANCE

Brushing (medium)	1.03 stations @	\$	40.50	per station	\$	41.72
Grass seed (spread by hand)	5 pounds @	\$	3.00	per pound	\$	15.61
					Misc Maintenance Total	\$ 15.61

Reconstruction Total \$ 1,305.39

SALE/PROJECT NAME: Wing It Hardwood

CONTRACT #: 30-093092

ROAD NUMBER: PT-Q-4210

Total road length (feet): 485

Distance to Penny Creek Pit (feet) 35605

Average Haul Speed (mph) 32

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

RECONSTRUCTION

CLEARING & GRUBBING

Scatter	4.85 stations @	\$	187.50 per station	\$	909.38
				C & G Total	\$ 909.38

EXCAVATION AND FILL

Reconstruction (medium)	485.00 stations @	\$	138.72 per station	\$	672.78
Rip, Grade, shape, compact subgrade	485.00 stations @	\$	19.32 per station	\$	93.72
				Excavation Total	\$ 766.50

ROCK

Purchase Price Ballast	360 CY @	\$	9.83 per CY	\$	3,533.17
Rock haul	Round Trip (feet) 72180	22.55 Hours @	\$ 98.00 per Hour	\$	2,209.69
Process/Compacting Surfacing	360 CY @	\$	1.86 per CY	\$	667.32
Light Loose Rip Rap	2 CY @	\$	15.00 per CY	\$	30.00
Rock haul	Round Trip (feet) 72180	0.63 Hours @	\$ 98.00 per hour	\$	61.47
				Rock Total	\$ 6,501.65

CULVERTS & FLUMES

24" Polyethylene, double wall	35 feet @	\$	34.43 per foot	\$1,205.05
*pipe bedding rock is accounted for in rock haul and processing			Culvert & Flume Total	\$1,205.05

MISC. MAINTENANCE

Grass seed (spread by hand)	24 pounds @	\$	3.00 per pound	\$	73.48
				Misc Maintenance Total	\$ 73.48

Reconstruction Total \$ 9,456.06