



TIMBER NOTICE OF SALE

SALE NAME: ON TIME VRH & VDT

AGREEMENT NO: 30-088892

AUCTION: October 25, 2016 starting at 10:00 a.m., COUNTY: Thurston
South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 8 miles southwest of Littlerock

PRODUCTS SOLD AND SALE AREA:

All timber, except leave trees bounded out by yellow leave tree area tags and down timber existing more than 5 years from the day of sale bounded by the following: white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags, timber type change and the E-6000 Road in Unit #1; white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags, the E-6500 Road in Unit #2; white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E-6500 Road in Unit #3;

All timber, except leave trees marked with blue paint or bounded out by yellow leave tree area tags and down timber existing more than 5 years from the day of sale bounded by the following: white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E-5200 Road in Unit #4; white "Timber Sale Boundary" tags, the E-6000 and E-6070 roads in Unit #5;

All timber as described in Schedule A bounded by white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E6500 Road in Units #7 and #10; white "Timber Sale Boundary" tags and blue "Special Management Area" tags in Units #6, #8, #9, #11 and #12 - #20;

All right of way timber bounded by orange "Right of Way" tags in Unit #21 on part(s) of Sections 7, 17, 18 and 19 all in Township 16 North, Range 3 West, W.M., containing 174 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:

Table with columns: Species, Avg DBH, Ring Count, Total MBF, and MBF by Grade (1P, 2P, 3P, SM, 1S, 2S, 3S, 4S, UT). Rows include Douglas fir, Red alder, Hemlock, Red cedar, Maple, and Sale Total.

MINIMUM BID: \$639,000.00 BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2018 ALLOCATION: Export Restricted



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- BID DEPOSIT:** \$63,900.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.
- HARVEST METHOD:** Harvesting activities are estimated to be 95% ground-based and 5% cable. Forest products sold under this contract shall be harvested and removed using cable and tracked ground based equipment, with tracked ground based equipment limited to sustained slopes 45% or less. Self-leveling equipment or cable tethered equipment are restricted to sustained slopes of 55% or less. Use of tracked skidders shall be allowed for pole yarding and for Units #6 - #20 only, unless authority to use other equipment is granted in writing by the State. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.
- Cutting, yarding and timber haul within Units #1 - #21, will not be permitted from November 1st to April 30th, unless authority to do so is granted in writing by the Contract Administrator. If permission is granted to operate from November 1st to April 30th the purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventive measures required in the Winter Operating Plan must be put in place prior to commencing any winter operations.
- Cutting, yarding and timber haul within Unit #5, will not be permitted on any weekends, state recognized holidays, or from 7:00 PM to 7:00 AM, unless authority to do so is granted in writing by the State.
- ROADS:** 18.54 stations of required construction. 18.93 stations of required reconstruction. 24.23 stations of optional construction. 265.22 stations of required pre-haul maintenance. 1.45 stations of required abandonment. 23.82 stations of required decommissioning. 10.7 stations of required decommissioning, if constructed. Purchaser maintenance on the E-5000, E-5200, E-5200 Cutoff, E-5220, E-5280, E-6000 (from E-6200 junction to station 113+00), E-6030, E-6050, E-6050 Ext., E-6070, E-6500, E-6510 Reroute, E-6510, and E-6510 Ext. roads. Designated maintenance on all other roads used. Rock used in accordance with the quantities on the rock list may be obtained at no cost from the State owned Vantage Quarry, located in Section 22, Township 16 North, Range 04 West, W.M. or from any commercial source at the Purchaser's expense, as approved in writing by the Contract Administrator.
- Road construction and rock haul will not be permitted from October 1st through April 30th, unless authority to do so is granted in writing by the Contract Administrator. If permission is granted to operate from October 1st through April 30th, the Purchaser shall comply with a Winter Operating Plan to include further protection of water, soil, roads and other forest assets at the Purchaser's expense. Preventive measures required in the Winter Operating Plan must be put in place prior to commencing any winter operations.
- ACREAGE DETERMINATION**
- CRUISE METHOD:** Acreage was determined by traversing boundaries by GPS. Traverse GPS data files are available upon request by emailing rachel.mason@dnr.wa.gov. See cruise narrative for cruise method.
- FEES:** \$53,250.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.
- SPECIAL REMARKS:** This sale is a combination of five variable retention harvest (VRH) units, fifteen variable density thinning (VDT) units, and one Right of Way unit. Units #1 through #5 are VRH,



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Units #6 through #20 are VDT units and will be harvested by prescription, as described in Schedule A of the contract. Cutting cards will be provided to all fallers on site as a reference. Unit #21 is a Right of Way unit.

Purchaser will be required to fell five trees per acre for down woody debris and snag creation within Units #6 - #20. See Schedule A of the contract for details.

Another sale was auctioned in June of 2016 will be operating in Vantage Quarry Pit and harvesting adjacent to it. The sale will also be harvesting off the E-6200 Road and installing a gate at the beginning of the E-6000 Road.

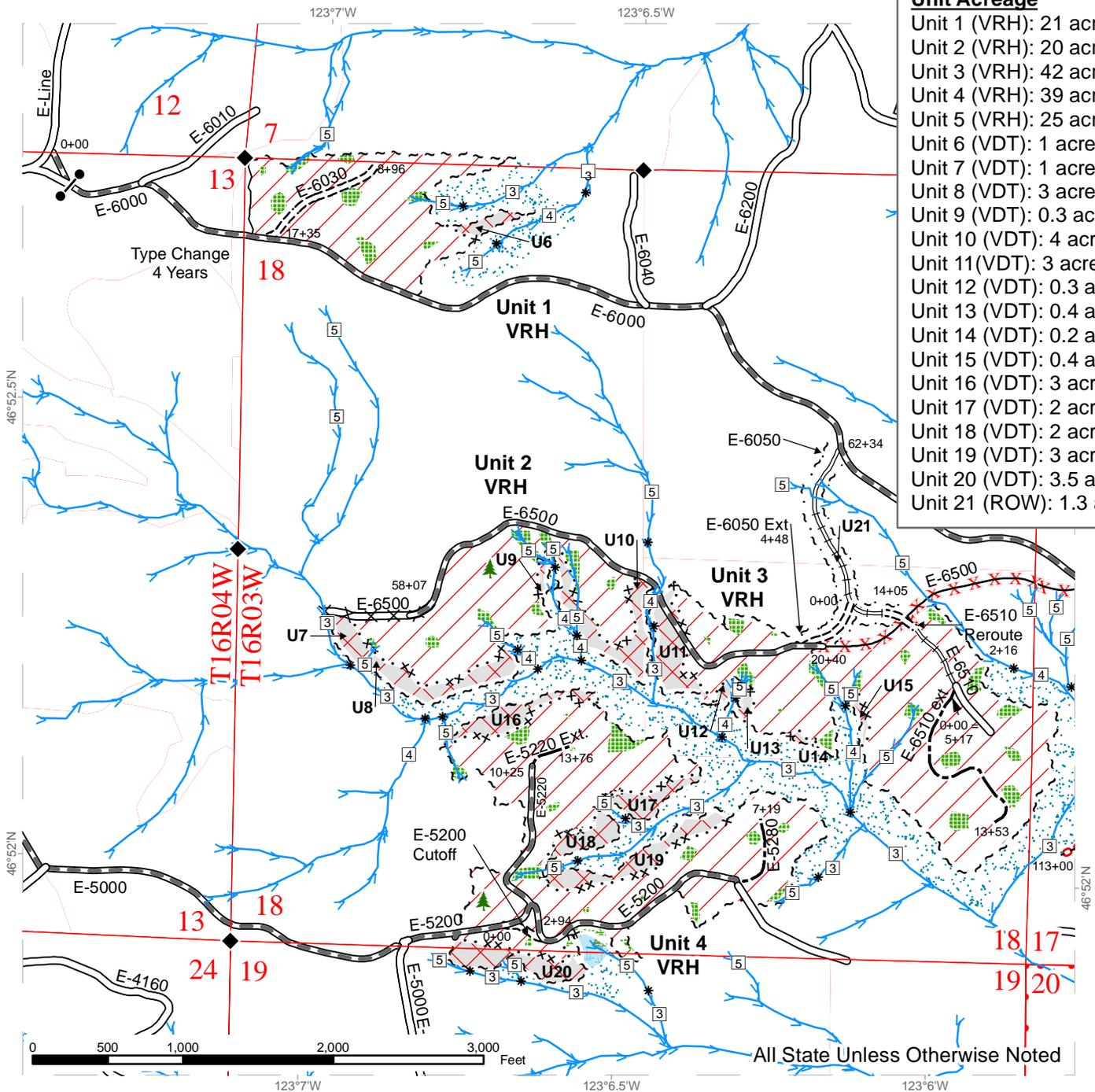
TIMBER SALE MAP

SALE NAME: ON TIME VRH & VDT
AGREEMENT #: 88892
TOWNSHIP(S): T16R03W, T16R04W
TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6), Forest Board Repayment(42)

REGION: South Puget Sound Region
COUNTY(S): THURSTON
ELEVATION RGE: 262-1122

Unit Acreage

- Unit 1 (VRH): 21 acres
- Unit 2 (VRH): 20 acres
- Unit 3 (VRH): 42 acres
- Unit 4 (VRH): 39 acres
- Unit 5 (VRH): 25 acres
- Unit 6 (VDT): 1 acres
- Unit 7 (VDT): 1 acre
- Unit 8 (VDT): 3 acres
- Unit 9 (VDT): 0.3 acres
- Unit 10 (VDT): 4 acres
- Unit 11(VDT): 3 acres
- Unit 12 (VDT): 0.3 acres
- Unit 13 (VDT): 0.4 acres
- Unit 14 (VDT): 0.2 acres
- Unit 15 (VDT): 0.4 acres
- Unit 16 (VDT): 3 acres
- Unit 17 (VDT): 2 acres
- Unit 18 (VDT): 2 acres
- Unit 19 (VDT): 3 acres
- Unit 20 (VDT): 3.5 acres
- Unit 21 (ROW): 1.3 acres



	VRH Units		Right of Way Tags		Required Reconstruction		Stream Type
	VDT Units		Timber Type Change		Required Decommissioning		Leave Trees
	Leave Tree		Existing Roads		Required Abandonment		Gate: H957
	Forested Wetlands		Decommissioned Road		Optional Construction		
	Riparian Mgmt. Zone		Required Pre-Haul Maintenance		Streams		
	Wetland Mgmt. Zone		Required Construction		Stream Break		
	Sale Boundary Tags						
	Special Mgmt Unit Boundary Tags						

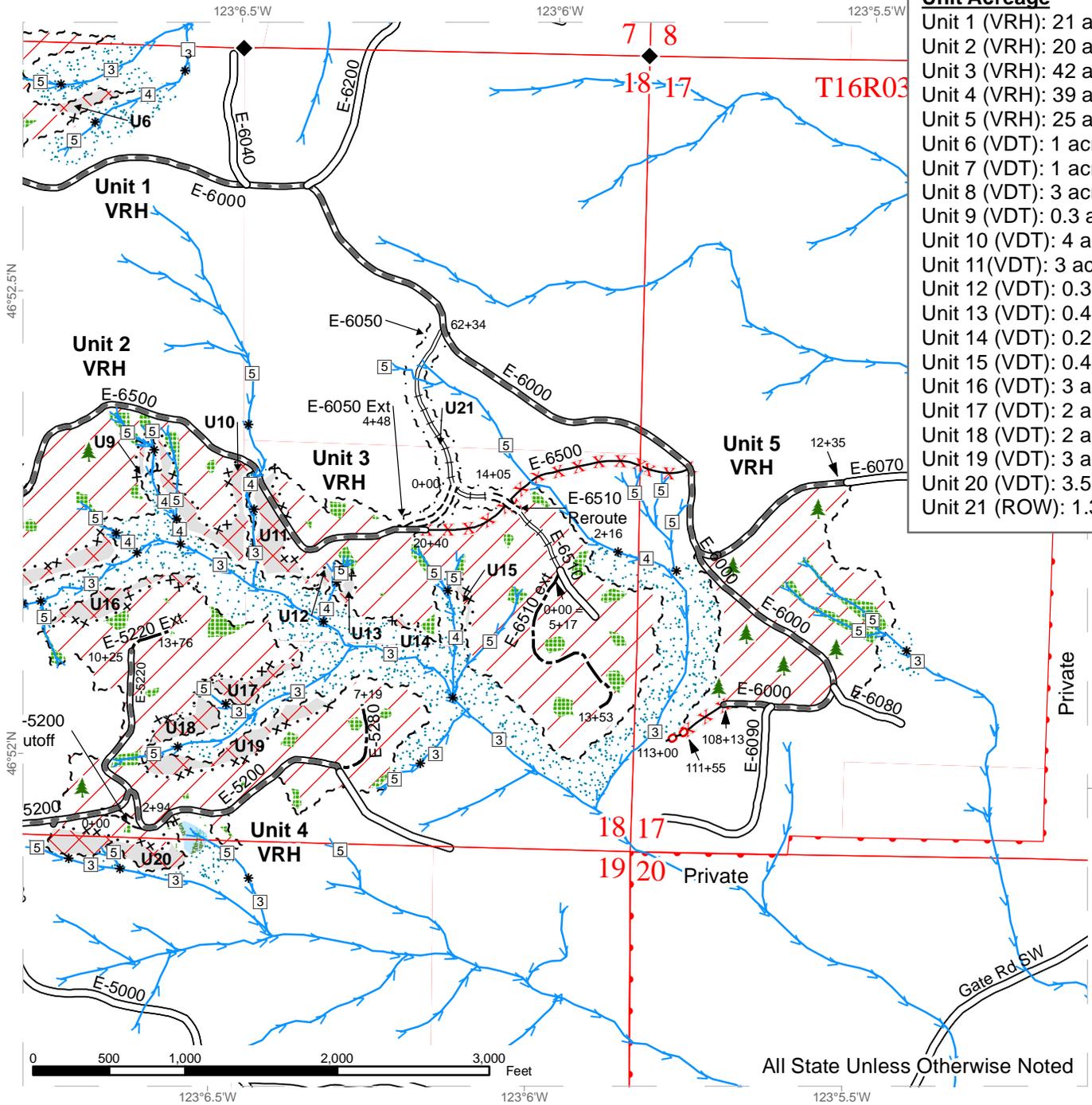
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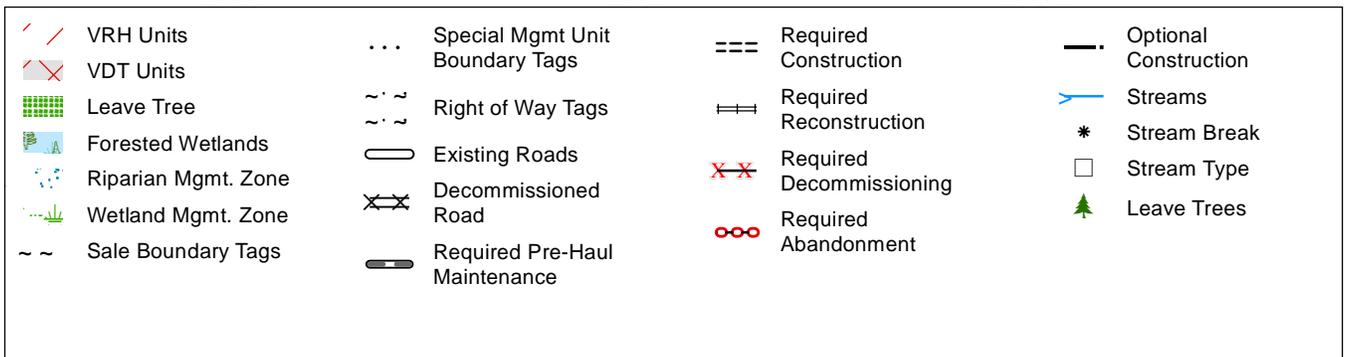
REGION: South Puget Sound Region
 COUNTY(S): THURSTON
 ELEVATION RGE: 262-1122

Unit Acreage

Unit 1 (VRH):	21 acres
Unit 2 (VRH):	20 acres
Unit 3 (VRH):	42 acres
Unit 4 (VRH):	39 acres
Unit 5 (VRH):	25 acres
Unit 6 (VDT):	1 acres
Unit 7 (VDT):	1 acre
Unit 8 (VDT):	3 acres
Unit 9 (VDT):	0.3 acres
Unit 10 (VDT):	4 acres
Unit 11 (VDT):	3 acres
Unit 12 (VDT):	0.3 acres
Unit 13 (VDT):	0.4 acres
Unit 14 (VDT):	0.2 acres
Unit 15 (VDT):	0.4 acres
Unit 16 (VDT):	3 acres
Unit 17 (VDT):	2 acres
Unit 18 (VDT):	2 acres
Unit 19 (VDT):	3 acres
Unit 20 (VDT):	3.5 acres
Unit 21 (ROW):	1.3 acres



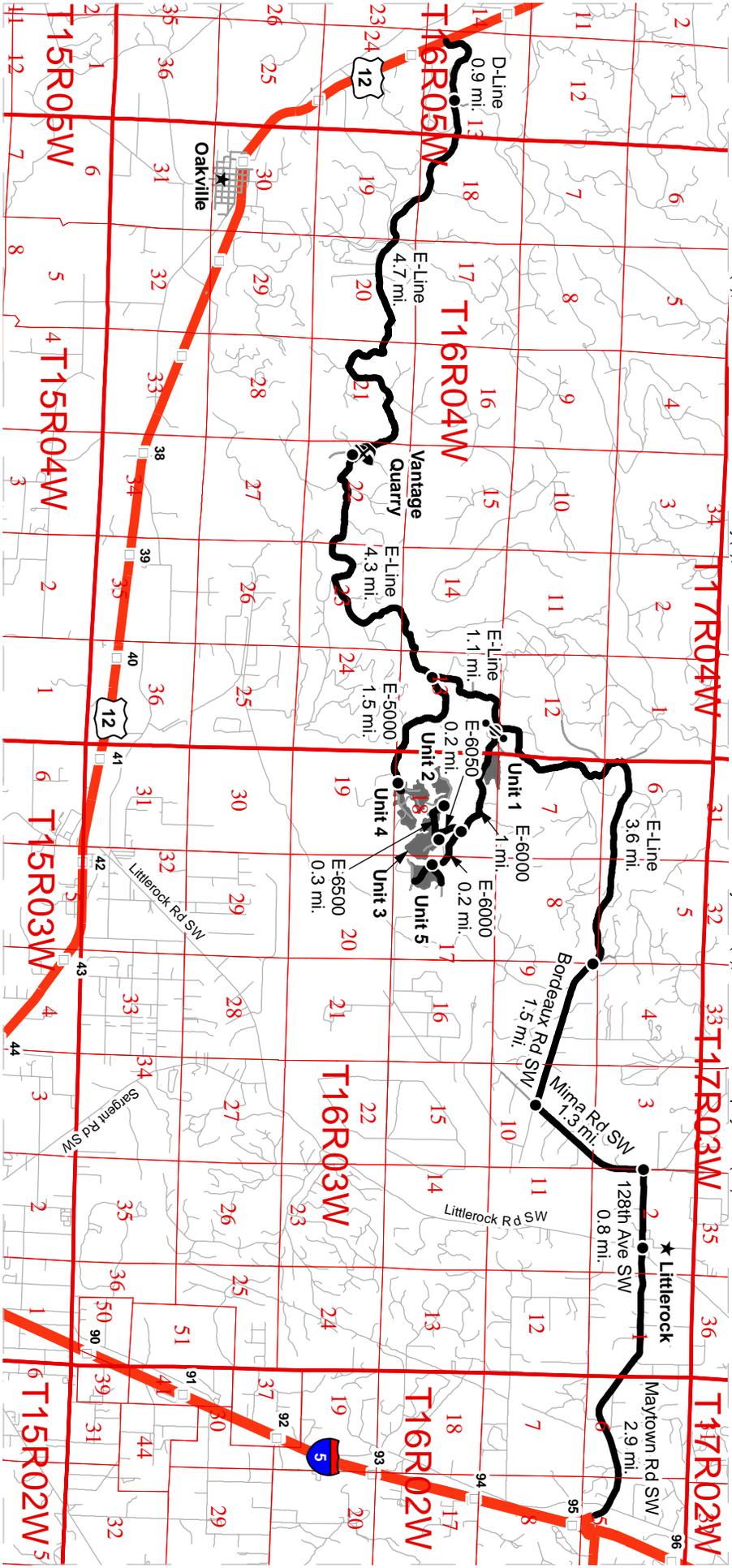
All State Unless Otherwise Noted



DRIVING MAP

SALE NAME: ON TIME
 AGREEMENT#: 88892
 TOWNSHIP(S): T16R03W, T16R04W
 TRUST(S): State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6), Forest Board Repayment(42)

REGION: South Puget Sound Region
 COUNTY(S): THURSTON
 ELEVATION RGE: 262-1122



- Highways
- Haul Route
- Other Route
- Milepost Markers
- Distance Indicator
- ★ Town
- Gate: H957

Driving Directions:

Unit 1 and 5: From Interstate 5, take Maytown exit (milepost 95) onto Maytown Rd SW and follow for 2.9 mi. Continue onto 128th Ave SW for 0.8 mi. Turn left onto Mina Rd SW and follow for 1.3 mi. Turn right onto Bordeaux Rd SW and follow for 1.5 mi. (Bordeaux Rd turns into E-Line). Stay on the E-Line for 3.6 mi. Then turn left onto the E-6000. Unit 1 will be approximately 0.2 mi on your left. Continue on the E-6000 for 1 mi. and arrive at Unit 5.

Unit 2 and 3: From Unit 1, Continue on the E-6000 for 0.8 mi. Turn right onto the E-6050 for 0.2 mi. (this road is a ROW Unit). Turn right onto the E-6500 and arrive at Unit 3. Continue on the E-6500 for 0.3 mi. and arrive at Unit 2.

Unit 4: From the E-Line/E-6000 Junction, Continue on E-line for 1.1 mi. Turn left onto the E-5000 and follow for 1.5 mi. Arrive at Unit 4

Vantage Quarry: From Bordeaux Rd SW, follow and continue onto the E-Line. Follow the E-Line for 7 mi. and turn right onto the E-3020. Arrive at Vantage Quarry.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-088892

SALE NAME: ON TIME VRH & VDT

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on October 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 timber, except leave trees bounded out by yellow leave tree area tags and down timber existing more than 5 years from the day of sale bounded by the following: white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags, timber type change and the E-6000 Road in Unit #1; white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags, the E-6500 Road in Unit #2; white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E-6500 Road in Unit #3;

All timber, except leave trees marked with blue paint or bounded out by yellow leave tree area tags and down timber existing more than 5 years from the day of sale bounded by the following: white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E-5200 Road in Unit #4; white "Timber Sale Boundary" tags, the E-6000 and E-6070 roads in Unit #5;

All timber as described in Schedule A bounded by white "Timber Sale Boundary" tags, blue "Special Management Unit Boundary" tags and the E6500 Road in Units #7 and #10; white "Timber Sale Boundary" tags and blue "Special Management Area" tags in Units #6, #8, #9, #11 and #12 - #20;

All right of way timber bounded by orange "Right of Way" tags in Unit #21, located on approximately 174 acres on part(s) of Sections 7, 17, 18, and 19 all in Township 16 North, Range 3 West W.M. in Thurston County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	Thinning Prescription
B	Structure Creation Requirements

G-031 Contract Term

Purchaser shall complete all work required by this contract prior to October 31, 2018.

G-040 Contract Term Adjustment - No Payment

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

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

G-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 \$877.00 per acre per annum for the acres on which an operating release has not been issued within the VRH units. Payment of \$126.00 per acre per annum for the acres on which an operating release has not been issued within the VDT units.
- 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 Enumclaw, 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; the E-Line, E-3020, E-5000, E-5200, E-5200 Cutoff, E-5220, E-5280, E-6000, E-6030, E-6050, E-6050 Ext., E-6070, E-6500, E-6510 Reroute, E-6510 and E-6510 Ext. roads. 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 E-Line, E-3020 and E-6000 roads, 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 #55-0000753 entered into between the State of Washington Department of Natural Resources and Mason County Logging Company, dated April 13, 1942.

Easement #55-0002582 entered into between the State of Washington Department of Natural Resources and "Busby" Taylor United, Inc., dated August 15, 1995.

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:

To be determined approximately one month prior to day of sale.

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 \$80,250.00. The total contract price consists of a \$0.00 contract bid price plus \$80,250.00 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-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria

or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

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

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

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

H-012 Leave Tree Damage Definition

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

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

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

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

H-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-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 6 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all harvest areas. The plan shall address the felling, yarding and slash operations and thinning prescriptions and structure creation in Units #6-20, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

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

H-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-060 Skid Trail Locations

Locations of skid trails must be marked by Purchaser and approved by the Contract Administrator prior to the felling of timber.

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 and removed using cable and ground based equipment. Ground based equipment shall be limited to tracked ground based equipment on sustained slopes of 45% and less. Self-leveling equipment or cable tethered equipment are restricted to sustained slopes of 55% or less. Use of tracked skidders shall be allowed for pole yarding and within Units #6 - #20 only, 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-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. Cutting, yarding and timber haul will not be permitted from November 1 to April 30, unless authority to do so is granted in writing by the Contract Administrator. If permission is granted to operate from November 1 to April 30, the Purchaser shall comply with a "Winter Operating Plan" to include further protection of water, soil, roads, and other forest assets at the Purchaser's expense. All preventative measures shall be in place prior to commencing any winter operations.
- b. Any downed timber or logs existing more than 5 years from the day of sale that is yarded to the landing shall be returned to their original locations.
- c. Equipment limitation zones are required within 30 feet of Type 5 streams.
- d. Crossings of Type 5 streams may be allowed at locations approved in writing by the Contract Administrator. Purchaser shall place a culvert or log puncheon at crossing locations to protect the stream bank and prevent sedimentation. All materials placed in and/or over the stream at these crossings shall be removed immediately upon completion of yarding on that skid trail.

- e. Any and all operations associated with this sale may be temporarily suspended when, in the opinion of the Contract Administrator, there is the potential for delivery to typed water.
- f. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.
- g. The Purchaser shall notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.
- h. Within shovel logging areas, and when yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing. No more than one round trip per shovel road is allowed.
- i. Within Units #1 - #5, the shovel operator shall break up concentrations of logging debris greater than 10.5 feet by 10.5 feet to allow exposure of natural forest soils to ensure proper reforestation.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- a. All operations within Unit #5, will not be permitted on any weekends, state recognized holidays, or on weekdays from 7:00 PM to 7:00 AM.
- b. Purchaser shall leave 2 down logs per acre. A log is defined as having a minimum diameter of 12 inches on the small end of the log and a minimum length of 20 feet or at least 100 board feet in Units #1 - #5.

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.

H-250 Additional Falling Requirements

Within Units #1 - #5, all live stems greater than 2 inches DBH, shall be felled. Trees shall be severed at a stump height not to exceed 12 inches and cut completely free of the stump. Areas of young or immature timber may be excluded from this requirement 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 4/4/2016 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the E-5000, E-5200, E-5200 Cutoff, E-5220, E-5280, E-6000 (from E-6200 junction to station 113+00), E-6030, E-6050, E-6050 Ext., E-6070, E-6500, E-6510 Reroute, E-6510, and E-6510 Ext. roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads not covered 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 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-030 Landing Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

and waste disposal. Purchaser shall be responsible for restoring the site in the event of a spill.

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-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged trees in Units #6 - #20.

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

DRAFT

DRAFT

DRAFT

the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in Units #1 - #5.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

Purchaser

Art Tasker
South Puget Sound 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
Thinning Prescription for Units #6 - #20

Unit #	Average Residual BA	Acceptable BA range	Minimum Trees per Acre
6-10 & 16-20	130	120-140	75
11-15	150	130-160	75

The thinning activity will be a “thinning from below” retaining the most dominant trees on the site and meeting the average residual basal area (BA) and Minimum Trees per Acre (TPA) stated in the table above. In any given area the residual BA shall not vary above or below the acceptable range listed for each unit. Only trees that are six (6) inches diameter at breast height (DBH) or larger shall count towards the BA and TPA targets.

To accomplish this prescription, fallers shall target for harvest only Douglas-fir trees that are eight (8) to sixteen (16) inches in DBH. Other species and diameters may be cut only for skid trails in locations approved by the Contract Administrator (CA).

Trees selected for down woody debris or snag creation shall not count towards the residual BA or TPA target.

Leave Tree Selection Criteria:

Residual tree spacing shall be varied to meet the leave tree characteristics below.

Leave trees will be selected by comparing their characteristics with other trees in the stand. The best leave trees would have the following characteristics (in descending order of importance):

- 1) Free of disease, major defect and damage,
- 2) Largest diameter,
- 3) Tallest tree
- 3) Fullest and most vigorous crown, and
- 4) Straightest bole

Equipment Requirements:

No equipment shall operate within 25 feet of the white “Timber Sale Boundary” tags.

Certification:

The CA will approve and certify in writing all persons engaged in selection of leave trees or felling of timber prior to any cutting operations, per contract clause H-011.

Harvest operations will not be permitted in Units 6-20 until authorized in writing by the CA

Schedule B
Structure Creation Requirements for Units #6 - #20

Purchaser shall create the number of Down Woody Debris (DWD) and snags in each unit as shown in the table below and as described:

Unit	RMZ Net Thinning Acres	DWD Tree Totals	Snag Tree Totals
Unit 6:	1.1	3	2
Unit 7::	1.1	3	2
Unit 8:	2.9	9	6
Unit 9:	0.3	3	2
Unit 10:	3.6	12	8
Unit 11:	2.5	9	6
Unit 12:	0.3	3	2
Unit 13:	0.4	3	2
Unit 14:	0.2	3	2
Unit 15:	0.4	3	2
Unit 16:	2.5	9	6
Unit 17:	1.8	6	4
Unit 18:	1.9	6	4
Unit 19:	3.4	9	6
Unit 20:	3.5	12	8

Down Woody Debris (DWD) Trees:

- Trees shall be felled in, where possible, or towards the typed water.

Snag Trees

- Trees shall be topped or completely girdled around the bole. If topping trees, the snag left behind should be no less than 20 feet tall.

Trees selected for DWD or snags shall be:

- Douglas-fir 12-18 inches DBH, unless otherwise approved by the Contract Administrator
- Located within the first 25 to 50 feet of the white timber sale boundary tags.
- At least 50 feet between each DWD tree.

Safety

- All existing snags felled for safety reasons must remain onsite and shall be left as close as possible to their original location. Existing snags and down wood shall not count towards the basal area per acre target and shall not be moved from their original location.
- Purchaser is responsible for selecting trees and falling direction to enable safe operations.
- Purchaser is not restricted to any stump height when creating DWD.

FOREST EXCISE TAX -- ROAD SUMMARY SHEET

Region: South Puget Sound

Timber Sale Name: On Time

Application Number: 30-088892

Excise Tax Applicable Activities

Construction: 4277 linear feet

Road to be constructed (optional and required) but not abandoned

Reconstruction: 1893 linear feet

Road to be reconstructed (optional and required) but not abandoned

Abandonment: 145 linear feet

Abandonment of existing roads not reconstructed under the contract

Deactivation: 3452 linear feet

Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 26522 linear feet

Existing road to receive maintenance work (specifically required by the contract) prior to haul

Excise Tax Exempt Activities

Temporary Optional Construction: 0 linear feet

Optional roads to be constructed and then abandoned

Temporary Optional Reconstruction: 0 linear feet

Optional roads to be reconstructed and then abandoned

New Abandonment: 0 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 7/04)

PRE-CRUISE NARRATIVE

Sale Name: On Time	Region: South Puget Sound
Agreement #: 30-088892	District: Black Hills
Contact Wade Jones Forester:	Phone/ Location: (360)-280-3250 Ext: /
Alternate Derwood Duncan Contact:	Phone/ Location: (360)-280-3113 Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): **Lump Sum**
 Required or Optional removal of utility as pulp: **N/A**
 Evaluated for RFRS Implementation?: **Yes, 15 units**
 Percentage cable (specify downhill vs uphill): **Uphill Cable 5%**
 Percentage ground based: **95% Ground**
 Species Onsite: RC, DF, WH, RA, BC, BLM, NF, SF, SS, Other:(Please List)

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #	Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination (List method and error of closure if applicable)
					RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1		Sec 7, 18/ T 16N/ R 3W	3, 42	23.1	0	1.7	0	0	21.4	Garmin 64s
2		Sec 18/ T 16N/ R 3W	3	21.9	0	1.8	0	0	20.1	Garmin 64s
3		Sec 17, 18/ T 16N/ R 3W	3, 6	47.0	0	3.5	1.8	0	41.7	Garmin 64s, TruePulse 200 Laser for road deductions.
4		Sec 18, 19/ T 16N/ R 3W	1, 3, 6	45.7	0	2.7	4.5	0	38.5	Garmin 64s, TruePulse 200 Laser for road deductions.
5		Sec 17/ T 16N/ R 3W	3	28.6	0	1.9	1.9	0	24.8	Garmin 64s, TruePulse 200 Laser for road deductions.
6		Sec 18/ T 16N/ R 3W	3	1.05	0	0	0	0	1.05	Garmin 64s
7		Sec 18/ T 16N/ R 3W	3	1.1	0	0	0	0	1.1	Garmin 64s
8		Sec 18/ T 16N/ R 3W	3	2.9	0	0	0	0	2.9	Garmin 64s
9		Sec 18/ T 16N/ R 3W	3	0.3	0	0	0	0	0.3	Garmin 64s
10		Sec 18/ T 16N/ R 3W	3, 6	3.6	0	0	0	0	3.6	Garmin 64s
11		Sec 18/ T 16N/ R 3W	6	3.0	0	0	0.5	0	2.5	Garmin 64s, TruePulse 200 Laser for road deductions.
12		Sec 18/ T 16N/ R 3W	6	0.3	0	0	0	0	0.3	Garmin 64s
13		Sec 18/ T 16N/ R 3W	6	0.4	0	0	0	0	0.4	Garmin 64s
14		Sec 18/ T 16N/ R 3W	6	0.2	0	0	0	0	0.2	Garmin 64s
15		Sec 18/ T 16N/ R 3W	6	0.4	0	0	0	0	0.4	Garmin 64s
16		Sec 18/ T 16N/ R 3W	3	2.5	0	0	0	0	2.5	Garmin 64s
17		Sec 18/ T 16N/ R 3W	3	1.8	0	0	0	0	1.8	Garmin 64s
18		Sec 18/ T 16N/ R 3W	3	1.9	0	0	0	0	1.9	Garmin 64s
19		Sec 18/ T 16N/ R 3W	3	3.4	0	0	0	0	3.4	Garmin 64s
20		Sec 18, 19/ T 16N/ R 3W	1, 3	3.5	0	0	0	0	3.5	Garmin 64s
21		Sec 18/ T 16N/ R 3W	6, 11	2.32	0	0	1.06	0	1.26	TruePulse 200 Laser for road deductions.
TOTAL ACRES				194.97	0	11.6	9.76	0	173.61	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 (VRH)	Unit 1 is a VRH (Variable Retention Harvest) unit: boundaries are marked with White "Timber Sale Boundary" tags, Blue "Special Management Area" tags, Reprod, and the E-6000 Rd.	Some of the leave tree areas were placed to protect sensitive features.	184 leave trees are within yellow "Leave Tree Area" tags and pink flagging.

	Clumped leave tree areas are tagged with Yellow "Leave Tree Area" tags.		
2 (VRH)	Unit 2 is a VRH (Variable Retention Harvest) unit: boundaries are marked with White "Timber Sale Boundary" tags, Blue "Special Management Area" tags, the E-6500 Rd, and the E-5220 Rd. Clumped leave tree areas are tagged with Yellow "Leave Tree Area" tags.	Some of the leave tree areas were placed to protect sensitive features.	175 leave trees are within yellow "Leave Tree Area" tags and pink flagging.
3 VRH)	Unit 3 is a VRH (Variable Retention Harvest) unit: boundaries are marked with White "Timber Sale Boundary" tags, Blue "Special Management Area" tags, and the E-6500 Rd. Clumped leave tree areas are tagged with Yellow "Leave Tree Area" tags.	Some of the leave tree areas were placed to protect sensitive features.	376 leave trees are within yellow "Leave Tree Area" tags and pink flagging.
4 (VRH)	Unit 4 is a VRH (Variable Retention Harvest) unit: boundaries are marked with White "Timber Sale Boundary" tags, Blue "Special Management Area" tags, and the E-5200 Rd. Clumped leave tree areas are tagged with Yellow "Leave Tree Area" tags. Single leave trees are marked with a band of Blue paint.	Some of the leave tree areas were placed to protect sensitive features.	368 leave trees are within yellow "Leave Tree Area" tags and pink flagging. There is one clump, of six trees, on the western side of the unit that are banded with blue paint at D.B.H.
5 (VRH)	Unit 5 is a VRH (Variable Retention Harvest) unit: boundaries are marked with White "Timber Sale Boundary" tags, and the E-6000 E-6070 Roads. Clumped leave tree areas are tagged with Yellow "Leave Tree Area" tags. Single leave trees are marked with a band of Blue paint.	Some of the leave tree areas were placed to protect sensitive features.	229 leave trees are within yellow "Leave Tree Area" tags and pink flagging. There are several clumps of five trees throughout the sale that are banded with blue paint at D.B.H.
6 (VDT)	Units 6: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
7 (VDT)	Units 7: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
8 (VDT)	Units 8: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
9 (VDT)	Units 9: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
10 (VDT)	Units 10: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A

11 (VDT)	Units 11: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
12 (VDT)	Units 12: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
13 (VDT)	Units 13: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
14 (VDT)	Units 14: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
15 (VDT)	Units 15: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
16 (VDT)	Units 16: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
17 (VDT)	Units 17: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
18 (VDT)	Units 18: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
19 (VDT)	Units 19: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
20 (VDT)	Units 20: Riparian Thinning units (Variable Density Thinning (VDT)): boundaries are marked with White "Timber Sale Boundary" tags (inner-zone) and Blue "Special Management Area" tags.	Need to meet the Schedule A Thinning Prescription.	N/A
21 (ROW)	Unit 21 is a Right-of-Way. All timber within orange "Right-of-Way" tags are take trees.	N/A	N/A

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated	Access information	Photos, traverse
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	Volume	(Gates, locks, etc.)	maps required
1 (VRH)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
2 (VRH)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
3 (VRH)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
4 (VRH)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
5 (VRH)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
6 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
7 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
8 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
9 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
10 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
11 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
12 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
13 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
14 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
15 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
16 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')

17 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
18 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
19 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
20 (VDT)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')
21 (ROW)	See Cruise	N/A	Traverse map with contours, roads and leave trees. Photo (Scale 1" to 400')

REMARKS:

Units 1-5: Units are VRH harvest with 95% ground and 5% cable. The timber consists of Douglas-fir. Other species are western hemlock, western red-cedar, red alder, and big leaf maple.

Units 6-20: The RMZ thinning units are 100% ground. The timber consists of Douglas-fir. Other species are western hemlock, western red-cedar, red alder, and big leaf maple. Add prescription described of the Schedule A. I would like to request a stand table from the cruise to verify the prescription objectives as well as a species, sort, and grade report to estimate the removal volumes.

There will be Structure tree (Snags and DWD) deductions from the cruise. Structure trees will range from 12-18 inches in size for each Unit. DWD trees will be selected from the first 25 to 50 feet outside the "no-harvest" 25-foot zone.

Structure trees for each unit below.

Unit 6 10 trees, Unit 7 5 trees, Unit 8 15 trees, Unit 9 5 trees, Unit 10 20 trees, Unit 11 15 trees, Unit 12 5 trees, Unit 13 5 trees, Unit 14 5 trees, Unit 15 5 trees, Unit 16 15 trees, Unit 17 10 trees, Unit 18 10 trees, Unit 19 15 tree, and Unit 20 20 trees

Unit 21 (ROW): All timber within orange "Right-of-way" tags are take trees. Stand consists of 53year old conifer with a minor hardwood component.

Prepared By: Wade Jones Date: 03/08/2016	Title: State Lands Forester 1	CC:
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Revised 2/23/2007 (PSLD)

Cruise Narrative

Sale Name: On Time	Region: South Puget Sound
App. #: 30-088892	District: Black Hills
Lead Cruiser: Aaron Coleman	Completion Date: 05-11-2016 *Revised: 05-26-2016 & 07-14-206
Other Cruisers: Phil Kirner	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	21.40	Yes	
2	20.10	Yes	
3	41.70	Yes	
4	38.50	Yes	
5	24.80	Yes	
6	1.05	Yes	
7	1.10	Yes	
8	2.90	Yes	
9	0.30	Yes	
10	3.60	Yes	
11	2.50	Yes	
12	0.30	Yes	
13	0.40	Yes	
14	0.20	Yes	
15	0.40	Yes	
16	2.50	Yes	
17	1.80	Yes	
18	1.90	Yes	
19	3.40	Yes	
20	3.50	Yes	
21	1.26	Yes	
Total	173.61	Yes	

Unit cruise specifications:

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (Cru./Tally)	Total number of plots
1	VP	33.61 - ALL	4.5 ft	280' x 280'	1:1	12
2	VP	33.61 - ALL	4.5 ft	280' x 280'	1:1	11
3	VP	33.61 - ALL	4.5 ft	280' x 280'	1:1	22
4	VP	33.61 - ALL	4.5 ft	280' x 280'	1:1	22
5	VP	33.61 - ALL	4.5 ft	280' x 280'	1:1	14
6	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1

7	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
8	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	2
9	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
10	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	3
11	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	2
12	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
13	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
14	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
15	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
16	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	2
17	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
18	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	1
19	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	3
20	VP	33.61 - ALL	4.5 ft	Even within unit	Cruise All	3
21	VP	33.61 - ALL	4.5 ft	300' along CL	Cruise All	7

Sale/Cruise Description:

Minor species cruise intensity:	n/a					
Minimum cruise spec:	40% Of Form- Factor at 16 feet D.O.B or 5 inch Top, and merchantable top.					
Avg. ring count by sp:	DF =	6	WH =			
Leave/take tree description:	VRH units contain leave tree areas bound with yellow "Leave Tree Area" tags and pink flashers/flagging, as well as clumped and scattered leaves trees marked with a single band of blue paint at DBH. RMZ thinning units are marked with blue "Special Management Area" tags.					
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 1/2" 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 1/2" 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. (High Quality sort. Grades SM, 2S, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27")</p> <p>HB - Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 1 1/2" in diameter. May include logs with not more than two larger knots up to 2 1/2" 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. (Intermediate sort. Grades 2S, 3S. Lengths 16ft-40ft, 2ft multiples min TDIB 8". Max butt 27").</p> <p>D - Domestic quality logs that do not meet high quality or intermediate definitions. (Domestic sort. Grades 2S, 3S, 4S and utility. Lengths 16ft-40ft, min TDIB 5".)</p> <p>O - Logs exceeding 27" on the large end. (Oversize sort. Grade 2S. Lengths 16ft-40ft, 2ft multiples butt diameter min dia. 27 in. +)</p> <p>R - Logs meeting the following criteria: Surface characteristics for a rough log sort will not meet the requirements for a domestic 2S, but still be in limitations for a domestic 3S. Meaning logs will contain excessive knots in excess of 2 1/2" and not exceeding 3" with a recovery of less than 65% of the net scale and greater than 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)</p>					

Field observations:

This sale consists of 5 variable retention harvest (VRH) units, 15 variable density thinning (VDT) units, and 1 right-of-way unit (ROW) off of the E-6000, E-6500, and the E-5000 roads in the Capitol State Forest.

The primary species for this sale is Douglas-fir (DF). The DF throughout this sale averages about 15" diameter with 70' bole height. There are some hardwoods intermittently scattered throughout most of the VRH units. Mature maple clumps were observed but were not picked up in the cruise. These are very uniform stands of third growth Douglas-fir with minimal defect. Unit 3 has a larger second-growth component in the southeast corner.

Trees to be left within the VDT units are represented by an 'L (regular leave trees)' and 'S (snag and dwd)' in the status column of the cruise, while the VDT take trees are represented by a 'T.'

Defect present throughout the sale consists primarily of spike knots and broken/forked tops.

The recommended harvest system for the sale is 95% ground-based yarding, and 5% uphill cable.

All roads to this sale are in good condition and there are plenty of good access points into both units. No keys are needed to access any of the units.

Grant(s): 01, 03, 06, 42

Prepared by: Aaron Coleman

Title: Timber Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																	
T16N R03W S17 Ty00U1 THRU T16N R03W S17 Ty0U21				Project: ONTIME										Page 1							
				Acres 173.31										Date 7/14/2016			Time 10:12:05AM				
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	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99					
RA	CU	CU			100.0	10											4	6		0.00	5.2
RA	D	UT		1		8	8	1	100					100			16	6	20	0.60	.4
RA	D	2S		13	5.0	94	89	15			100					40	12	190	1.38	.5	
RA	D	3S		11	6.0	75	70	12		100						40	11	156	1.11	.5	
RA	D	4S		18	12.0	129	114	20		100				21	24	56	35	8	70	0.70	1.6
RA	D	4S		57	5.9	394	371	64	100				7	10	15	68	34	5	37	0.33	10.1
RA Totals				3	8.2	711	652	113	58	28	14		5	9	13	73	25	6	36	0.44	18.2
DF	CU	CU			100.0	83											7	6		0.00	50.6
DF	D	2S		20	4.2	3,236	3,102	538			77	23		10	2	87	37	14	244	1.64	12.7
DF	D	3S		54	3.0	8,600	8,344	1,446	22	78				1	2	97	39	8	98	0.72	85.1
DF	D	4S		19	1.3	2,984	2,947	511	94	6			7	31	10	51	30	5	35	0.36	83.3
DF	D	UT		2		230	230	40	60	40			20	34		46	25	6	34	0.34	6.8
DF	OS	2S		5	6.5	753	704	122			100					100	40	20	643	3.71	1.1
DF Totals				78	3.5	15,887	15,326	2,656	31	44	16	9	2	9	4	85	29	7	64	0.63	239.6
DF	L	CU	CU														9	6		0.00	1.8
DF	L	D	2S		6	3.8	127	122	21		100			4		96	39	12	201	1.41	.6
DF	L	D	3S		71	2.0	1,410	1,383	240	16	84				1	99	40	8	106	0.78	13.0
DF	L	D	4S		21	1.0	394	390	68	91	9		13	43	14	30	27	5	30	0.32	12.9
DF	L	D	UT		2		36	36	6	61	39		46		14	39	23	5	31	0.38	1.2
DF Totals				10	1.8	1,968	1,932	335	31	63	6		3	9	4	84	32	7	66	0.60	29.5
DF	T	CU	CU			100.0	14										7	5		0.00	7.8
DF	T	D	3S		73	2.4	798	780	135	43	57					100	40	7	77	0.58	10.1
DF	T	D	4S		23	.5	252	251	43	100			9	35	18	39	29	5	30	0.29	8.3
DF	T	D	UT		4		35	35	6	100						100	38	5	40	0.31	.9
DF Totals				5	3.1	1,099	1,065	185	59	41			2	8	4	86	27	6	39	0.43	27.1
DF	S	D	3S		82	1.7	280	275	48	21	79				2	98	42	8	113	0.78	2.4
DF	S	D	4S		18	.7	59	59	10	91	9		22	70	2	5	23	5	25	0.29	2.3
DF Totals				2	1.5	340	334	58	33	67			4	12	2	82	33	7	70	0.61	4.8
DF	D	CU	CU														6			0.00	.4
DF	D	D	UT		100		26	26	4	100						100	40	6	60	0.43	.4
DF Totals				0		26	26	4	100							100	20	6	30	0.43	.9
BM	CU	CU			100.0	40											12	20		0.00	.1
BM	OS	1S		100	35.0	48	31	5			100					100	40	19	390	3.45	.1
BM Totals				0	64.4	88	31	5			100					100	23	20	153	2.33	.2
WH	CU	CU															3	13		0.00	.6
WH	D	2S		58	18.8	102	83	14			100					100	40	13	208	1.75	.4
WH	D	3S		36	3.6	52	50	9	23	77						100	40	8	101	0.79	.5
WH	D	4S		6	10.0	9	8	1	100						100		24	6	30	0.42	.3
WH Totals				1	13.5	163	141	24	14	27	59			6	94		25	10	80	1.05	1.8
RC	CU	CU															5	11		0.00	.0
RC	D	3S		39	4.4	30	29	5			22	78		18		82	30	15	315	2.26	.1

T16N R03W S17 Ty00U1 THRU T16N R03W S17 Ty0U21	Project: ONTIME Acres 173.31	Page 2 Date 7/14/2016 Time 10:12:05AM
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S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre		
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf			
								5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99							
RC	OS	3S	61	33.3	67	44	8		1	2	97			2	98	36	25	689	6.46	.1		
RC Totals			0	24.3	97	73	13		0	10	89			7	1	91	31	19	452	4.13	.2	
Totals				3.9	20,378	19,581	3,394		33	45	14	8		2	9	4	85	29	7	61	0.60	322.1

Volume to be removed as follows:

- Douglas-fir: 2845 mbf**
- Red Alder: 113 mbf**
- Western Hemlock: 24 mbf**
- Western redcedar: 13 mbf**
- Bigleaf Maple: 5 mbf**

Total removal: 3,000 mbf

PROJECT STATISTICS											
TC PSTATS		PROJECT ONTIME							PAGE	1	
									DATE	7/14/2016	
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03	17	ONTIME	00U1	THR	173.31	112	614	S	W	
16N	03W	17	ONTIME	00U1	THR	173.31	112	614	S	W	
				TREES		ESTIMATED	PERCENT				
				PER PLOT		TOTAL	SAMPLE				
		PLOTS	TREES	PER PLOT		TREES	TREES				
TOTAL		112	614	5.5							
CRUISE		77	389	5.1		27,910	1.4				
DBH COUNT											
REFOREST											
COUNT		34	194	5.7							
BLANKS		1									
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		209	116.6	14.9	69	36.6	141.3	15,887	15,326	4,367	4,349
DOUG FIR-D		1	.4	12.0	63	0.1	.3	26	26	7	7
DOUG FIR-L		73	15.0	14.9	69	4.7	18.1	1,968	1,932	562	562
DOUG FIR-S		15	2.3	15.1	75	0.7	2.9	340	334	95	95
DOUG FIR-T		56	14.4	12.2	66	3.4	11.7	1,099	1,065	317	315
R ALDER		24	11.6	11.2	60	2.4	7.9	711	652	203	202
WR CEDAR		5	.1	40.7	94	0.1	.5	97	73	21	21
WHEMLOCK		4	.6	21.3	79	0.3	1.4	163	141	46	46
BL MAPLE		2	.1	36.3	48	0.1	.7	88	31	25	11
TOTAL		389	161.0	14.5	68	48.6	185.1	20,378	19,581	5,644	5,608
CONFIDENCE LIMITS OF THE SAMPLE											
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR											
CL	68.1	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		109.3	7.6	192	208	224					
DOUG FIR-D											
DOUG FIR-L		41.5	4.9	147	154	162					
DOUG FIR-S		25.9	6.9	142	153	163					
DOUG FIR-T		38.9	5.2	80	84	89					
R ALDER		69.4	15.1	77	91	105					
WR CEDAR				1,448	1,448	1,448					
WHEMLOCK		45.4	25.9	193	260	327					
BL MAPLE		141.4	132.4	195		453					
TOTAL		114.6	5.9	173	184	195	524	267	131		
CL	68.1	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR		92.2	6.4	53	56	60					
DOUG FIR-D											
DOUG FIR-L		37.4	4.4	42	44	46					
DOUG FIR-S		26.8	7.1	40	44	47					
DOUG FIR-T		37.1	5.0	24	25	26					
R ALDER		64.8	14.1	25	29	33					
WR CEDAR				518	518	518					
WHEMLOCK		36.4	20.8	66	84	101					
BL MAPLE		141.4	132.4	69		160					
TOTAL		113.2	5.8	49	52	55	511	261	128		
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		89.6	8.5	107	117	126					
DOUG FIR-D		1058.3	99.9	0	0	1					
DOUG FIR-L		217.5	20.5	12	15	18					
DOUG FIR-S		299.7	28.3	2	2	3					

PROJECT STATISTICS
PROJECT ONTIME

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
16N	03	17	ONTIME	00U1	THR	173.31	112	614	S	W
16N	03W	17	ONTIME	00U1	THR	173.31	112	614	S	W
CL	68.1	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-T		232.6	22.0	11	14	18				
R ALDER		398.8	37.6	7	12	16				
WR CEDAR		844.0	79.7	0	0	0				
WHEMLOCK		663.2	62.6	0	1	1				
BL MAPLE		857.5	81.0	0	0	0				
TOTAL		<i>53.1</i>	<i>5.0</i>	<i>153</i>	<i>161</i>	<i>169</i>	<i>113</i>	<i>57</i>	<i>28</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		78.3	7.4	131	141	152				
DOUG FIR-D		1058.3	99.9	0	0	1				
DOUG FIR-L		214.5	20.2	14	18	22				
DOUG FIR-S		294.5	27.8	2	3	4				
DOUG FIR-T		242.9	22.9	9	12	14				
R ALDER		395.2	37.3	5	8	11				
WR CEDAR		784.6	74.1	0	1	1				
WHEMLOCK		646.7	61.1	1	1	2				
BL MAPLE		745.0	70.3	0	1	1				
TOTAL		<i>42.5</i>	<i>4.0</i>	<i>178</i>	<i>185</i>	<i>192</i>	<i>72</i>	<i>37</i>	<i>18</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		82.5	7.8	14,132	15,326	16,520				
DOUG FIR-D		1058.3	99.9	0	26	52				
DOUG FIR-L		215.3	20.3	1,539	1,932	2,324				
DOUG FIR-S		294.5	27.8	241	334	427				
DOUG FIR-T		255.8	24.1	808	1,065	1,322				
R ALDER		434.9	41.1	384	652	920				
WR CEDAR		874.3	82.5	13	73	134				
WHEMLOCK		697.0	65.8	48	141	234				
BL MAPLE		1058.3	99.9	0	31	62				
TOTAL		<i>49.8</i>	<i>4.7</i>	<i>18,660</i>	<i>19,581</i>	<i>20,503</i>	<i>99</i>	<i>51</i>	<i>25</i>	
CL	68.1	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		79.7	7.5	4,022	4,349	4,676				
DOUG FIR-D		1058.3	99.9	0	7	15				
DOUG FIR-L		214.4	20.2	449	562	676				
DOUG FIR-S		295.0	27.8	69	95	121				
DOUG FIR-T		254.7	24.1	239	315	390				
R ALDER		438.8	41.4	118	202	285				
WR CEDAR		823.1	77.7	5	21	38				
WHEMLOCK		660.2	62.3	17	46	75				
BL MAPLE		1058.3	99.9	0	11	22				
TOTAL		<i>46.1</i>	<i>4.3</i>	<i>5,364</i>	<i>5,608</i>	<i>5,852</i>	<i>85</i>	<i>43</i>	<i>21</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				100	108	117				
DOUG FIR-D		1058.3	99.9	0	76	153				
DOUG FIR-L		177.9	16.8	85	107	128				
DOUG FIR-S		294.5	27.8	84	116	148				
DOUG FIR-T		255.8	24.1	69	91	113				
R ALDER		431.6	40.7	48	82	116				
WR CEDAR		874.3	82.5	25	145	264				
WHEMLOCK		697.0	65.8	33	97	161				
BL MAPLE		1058.3	99.9	0	43	85				
TOTAL		<i>49.8</i>	<i>4.7</i>	<i>101</i>	<i>106</i>	<i>111</i>	<i>99</i>	<i>51</i>	<i>25</i>	

T16N R03W S17 T00U1										T16N R03W S17 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	00U1	21.40	12	36	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		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99						
DF		CU	CU		100.0	361												6	10		0.00	28.3
DF		DM	2S	38	5.3	6,400	6,062	130			100			29	8	63		34	13	201	1.58	30.2
DF		DM	3S	50	2.1	8,078	7,913	169	18	82					3	97		39	8	100	0.75	79.3
DF		DM	4S	12		1,753	1,753	38	100					22	42	19	18	26	5	29	0.33	60.4
DF	Totals			88	5.2	16,592	15,728	337	20	41	39			2	16	7	75	30	8	79	0.76	198.3
RA		CU	CU		100.0	85												3	6		0.00	29.2
RA		DM	3S	10	6.7	238	222	5		100						100		40	10	140	0.97	1.6
RA		DM	4S	90	7.4	1,953	1,809	39	100						13	87		38	5	39	0.31	46.7
RA	Totals			11	10.7	2,275	2,031	43	89	11				12	88		25	5	26	0.32	77.4	
WH		CU	CU															7	22		0.00	.8
WH		DM	2S	88	8.3	182	167	4		100						100		40	13	220	1.78	.8
WH		DM	4S	12	25.0	30	23	0	100					100				23	7	30	0.59	.8
WH	Totals			1	10.7	213	190	4	12	88				12	88		23	14	83	1.21	2.3	
Type Totals					5.9	19,079	17,948	384	28	38	35			2	14	7	77	28	8	65	0.66	278.0

T16N R03W S17 T00U4										T16N R03W S17 T00U4				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	00U4	38.50	22	65	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
								Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
								5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	CU	CU		100.0	77											8	5		0.00	79.3
DF	DM	3S	64	2.8	11,414	11,097	427	30	70					2	98	40	8	94	0.73	118.0
DF	DM	4S	34	1.0	5,981	5,920	228	96	4	6	26	7	61			31	5	37	0.39	159.6
DF	DM	UT	2		285	285	11	100		20	80					22	5	20	0.24	14.2
DF	Totals		100	2.6	17,756	17,302	666	53	47	2	10	3	84			29	6	47	0.51	371.1
Type	Totals			2.6	17,756	17,302	666	53	47	2	10	3	84			29	6	47	0.51	371.1

T16N R03W S17 T00U6										T16N R03W S17 T00U6				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	00U6	1.05	1	6	S	W					

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre						
									Net	BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/Lf	
															5-7	8-11	12-15	16+	12-20	21-30		31-35					36-99
DF	L	DM	2S	48	2.4	7,111	6,941	7	100				100				40	12	214	1.36	32.5						
DF	L	DM	3S	6		854	854	1	100					100				35	6	50	0.49	17.1					
DF	L	DM	4S	38	9.4	5,854	5,306	6	17	83					100				39	8	76	0.74	70.2				
DF	L	DM	UT	8		1,096	1,096	1	100					100				20	5	20	0.24	54.8					
DF L Totals				66	4.8	14,915	14,196	15	20	31	49	8	6	86	33	8	81	0.76	174.5								
DF	S	DM	3S	100		4,184	4,184	4	18	82					18 82				37	8	110	0.84	38.0				
DF S Totals				20		4,184	4,184	4	18	82					18 82				37	8	110	0.84	38.0				
DF	T	DM	3S	81		2,465	2,465	3	100				100				40	8	90	0.79	27.4						
DF	T	DM	4S	19		548	548	1	100					100				23	5	20	0.24	27.4					
DF T Totals				14		3,013	3,013	3	18	82					18 82				32	7	55	0.59	54.8				
Type Totals					3.2	22,111	21,393	22	20	48	32	5	3	8	85	33	7	80	0.74	267.3							

T16N R03W S17 T00U7	T16N R03W S17 T00U7
Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt	BdFt
16N 03W 17 ONTIME 00U7 1.10 1 8 S	W

S Spp	So T	Gr 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/ Lf	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	T	DM	3S	75	2.8	11,207	10,893	12	51	49				100	40	7	77	0.62	142.1		
DF	T	DM	4S	25		3,472	3,472	4	100				46	54	21	5	24	0.22	142.1		
DF T Totals				47	2.1	14,679	14,364	16	63	37			11	13	76	31	6	51	0.49	284.3	
DF	L	DM	3S	78	2.9	9,569	9,295	10	32	68				100	40	8	95	0.70	97.6		
DF	L	DM	4S	22		2,499	2,499	3	100				34	66	24	5	26	0.26	97.6		
DF L Totals				39	2.3	12,068	11,794	13	47	53			7	14	79	32	7	60	0.54	195.1	
DF	S	DM	3S	100	7.1	4,402	4,087	4	100					100	67	5	130	0.53	31.4		
DF	S	DM	4S												4			0.00	31.4		
DF S Totals				14	7.1	4,402	4,087	4	100					100	34	5	65	0.53	62.9		
Type Totals					2.9	31,148	30,246	33	62	38			8	12	80	31	6	56	0.51	542.3	

T16N R03W S17 T00U9										T16N R03W S17 T00U9				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	00U9	.30	1	6	S	W					

Spp	S	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs						
									Net	BdFt	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
															5-7	8-11	12-15	16+	12-20	21-30		31-35					36-99
DF	L	DM	3S	82	8,512	8,512	3	100									40	8	104	0.76	81.9						
DF	L	DM	4S	18	1,828	1,828	1	100					69	31			24	5	22	0.27	81.9						
DF L Totals				51	10,340	10,340	3	18	82				12	6	82		32	7	63	0.58	163.8						
DF	T	CU	CU														8	5		0.00	61.6						
DF	T	DM	3S	44	2,552	2,552	1	100							100		40	7	70	0.59	36.5						
DF	T	DM	4S	56	3,194	3,194	1	100					23		77		34	5	33	0.31	98.1						
DF T Totals				28	5,747	5,747	2	100					13		87		27	5	29	0.36	196.2						
DF	S	DM	3S	83	3,611	3,611	1	100							100		40	10	150	0.89	24.1						
DF	S	DM	4S	17	25.0	963	722	0	100					100			33	5	30	0.34	24.1						
DF S Totals				21	5.3	4,574	4,333	1	17	83					17	83	37	8	90	0.64	48.1						
Type Totals					1.2	20,661	20,420	6	41	59				10	6	84		30	6	50	0.49	408.1					

T16N R03W S17 T0U10										T16N R03W S17 T0U10				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U10	3.60	3	10	S	W					

Spp	S	So	Gr	T	rt	ad	%	Bd. Ft. per Acre				Total	Percent Net Board Foot Volume								Average Log				Logs	
													Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln
								5-7	8-11	12-15	16+							12-20	21-30	31-35	36-99	Ft	In	Ft		
DF	L	DM	3S				80	3.2	11,504	11,139	40	31	69				100	40	8	95	0.73	117.2				
DF	L	DM	4S				20		2,666	2,666	10	100				27	73	24	5	23	0.26	117.2				
DF	L	Totals					66	2.6	14,170	13,804	50	44	56			5	14	81	32	7	59	0.56	234.5			
DF	T	CU	CU															8	5		0.00	60.4				
DF	T	DM	3S				67		4,109	4,109	15	73	27				100	40	7	71	0.46	57.7				
DF	T	DM	4S				21		1,300	1,300	5	100			22		78	29	5	33	0.27	39.6				
DF	T	DM	UT				12		679	679	2	100					100	40	5	40	0.34	17.0				
DF	T	Totals					29		6,088	6,088	22	82	18			5		95	27	6	35	0.34	174.6			
DF	S	DM	3S				81	.0	943	943	3		100				100	40	8	90	0.71	10.5				
DF	S	DM	4S				19		210	210	1	100					100	23	5	20	0.24	10.5				
DF	S	Totals					5		1,153	1,153	4	18	82			18		82	32	7	55	0.54	21.0			
Type	Totals							1.7	21,411	21,045	76	54	46			5	10	85	30	6	49	0.48	430.1			

T16N R03W S17 T0U11										T16N R03W S17 T0U11				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U11	2.50	2	14	S	W					

Spp	S	So	Gr	T	rt	ad	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs			
												Net	Def%	Gross	Net	Net MBF	Log Scale Dia.				Log Length				Ln	Dia	Bd
								5-7	8-11	12-15							16+	12-20	21-30	31-35	36-99	Ft	In				
DF	L	DM	2S				19	5.0	3,248	3,085	8	100				100				40	12	190	1.37	16.2			
DF	L	DM	3S				55	2.8	8,813	8,569	21	4	96					100				40	9	134	0.90	63.9	
DF	L	DM	4S				20		3,267	3,267	8	88	12					12	13	76	35	6	45	0.40	72.5		
DF	L	DM	UT				6		789	789	2	100					54	46			23	5	24	0.27	33.4		
DF L Totals							61	2.5	16,116	15,710	39	26	55	20	3	2	5	90	35	7	84	0.68	186.1				
DF	T	CU	CU																	5	0.00			61.6			
DF	T	DM	3S				55	6.5	4,927	4,608	12	100				100				40	9	101	0.70	45.6			
DF	T	DM	4S				45		3,651	3,651	9	100				32	68			34	5	34	0.30	107.2			
DF T Totals							32	3.7	8,579	8,259	21	44	56					14	86			25	6	39	0.44	214.5	
DF	S	DM	3S				75		1,415	1,415	4	100				100				40	8	90	0.64	15.7			
DF	S	DM	4S				25		472	472	1	100				100				25	5	30	0.24	15.7			
DF S Totals							7		1,886	1,886	5	25	75					25	75			33	7	60	0.48	31.4	
Type Totals								2.7	26,581	25,856	65	31	57	12	2	8	3	87	30	7	60	0.56	432.0				

T16N R03W S17 T0U15										T16N R03W S17 T0U15				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U15	.40	1	10	S	W					

Spp	S	So	Gr	T	rt	ad	%	Bd. Ft. per Acre				Total	Percent Net Board Foot Volume								Average Log				Logs
								Def%	Gross	Net	Net MBF		Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/	
													5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99					
DF	L	DM	3S				63	.0	9,083	9,083	4	100				100				40	9	111	0.83	81.9	
DF	L	DM	4S				37		5,112	5,112	2	100				37 63				33	5	36	0.32	143.5	
DF L Totals							45		14,195	14,195	6	36	64	13 87				36	6	63	0.52	225.4			
DF	T	CU	CU													12 5 0.00				42.8					
DF	T	DM	3S				73		10,327	10,327	4	25	75					40 7 80 0.67				129.0			
DF	T	DM	4S				27	13.1	4,189	3,641	1	100		45	17	38	24 5 26 0.42				141.0				
DF T Totals							44	3.8	14,516	13,969	6	44	56	12	5	84	29 6 45 0.54				312.8				
DF	S	DM	3S				78	8.3	2,889	2,648	1	100				40 9 110 0.92				24.1					
DF	S	DM	4S				22		722	722	0	100				24 5 30 0.29				24.1					
DF S Totals							11	6.7	3,611	3,370	1	21	79	21 79				32	7	70	0.68	48.1			
Type Totals								2.4	32,322	31,533	13	38	62	5	10	85	32 6 54 0.54				586.4				

T16N R03W S17 T0U17										T16N R03W S17 T0U17				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U17	1.80	1	9	S	W					

Spp	Sp	T	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	
										5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99					
DF	T	CU	CU			100.0	729											15	5		0.00	79.3
DF	T	DM	3S		85		14,390	14,390	26	36	64					100		40	8	87	0.65	166.2
DF	T	DM	4S		15		2,535	2,535	5	100			62	38				27	5	29	0.28	87.0
DF T Totals					56	4.1	17,654	16,925	30	45	55			9	6	85		31	6	51	0.49	332.4
DF	L	CU	CU															14	6		0.00	70.2
DF	L	DM	3S		93		8,684	8,684	16	30	70				100			40	7	85	0.65	101.6
DF	L	DM	4S		7		629	629	1	100			100					23	5	20	0.24	31.4
DF L Totals					31		9,313	9,313	17	34	66			7		93		28	7	46	0.49	203.2
DF	S	DM	3S		80		3,287	3,287	6		100				100			40	9	120	0.83	27.4
DF	S	DM	4S		20		822	822	1	100			100					29	5	30	0.29	27.4
DF S Totals					14		4,108	4,108	7	20	80			20		80		35	7	75	0.61	54.8
Type Totals						2.3	31,075	30,346	55	38	62			10	3	87		30	6	51	0.50	590.4

T16N R03W S17 T0U18										T16N R03W S17 T0U18				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U18	1.90	1	6	S	W					

S Spp	So T	Gr 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/ Lf		
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf		
DF	L	DM	3S	81	3.0	9,262	8,989	17	28	72					100	40	9	108	0.76	82.9		
DF	L	DM	4S	19		2,038	2,038	4	100					36	27	37	22	5	25	0.30	82.9	
DF L Totals				54	2.4	11,300	11,026	21	42	58				7	5	7	82	31	7	67	0.59	165.7
DF	T	CU	CU													14	5		0.00	42.8		
DF	T	DM	3S	89	5.8	5,397	5,083	10	51	49					100	40	7	68	0.55	74.2		
DF	T	DM	4S	11		629	629	1	100					100		22	5	20	0.24	31.4		
DF T Totals				28	5.2	6,026	5,712	11	56	44				11		89	29	6	38	0.42	148.5	
DF	S	DM	3S	83		3,198	3,198	6		100					100	40	10	150	1.06	21.3		
DF	S	DM	4S	17		640	640	1	100					100		30	5	30	0.34	21.3		
DF S Totals				19		3,838	3,838	7	17	83				17		83	35	8	90	0.75	42.6	
Type Totals					2.8	21,164	20,576	39	41	59				4	9	4	84	31	7	58	0.55	356.9

T16N R03W S17 T0U20										T16N R03W S17 T0U20				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U20	3.50	3	19	S	W					

Spp	Sp	So	Gr	%	Bd. Ft. per Acre			Total	Percent Net Board Foot Volume								Average Log				Logs Per /Acre			
									Net	Gross	Net	Log Scale Dia.				Log Length				Ln		Dia	Bd	CF/Lf
					Def%	5-7	8-11					12-15	16+	12-20	21-30	31-35	36-99	Ft	In					
DF	L	CU	CU																					
DF	L	DM	3S	75	3.3	8,544	8,259	29	29	71							100	40	8	92	0.77			90.0
DF	L	DM	4S	25		2,618	2,618	9	100					20	41	7	31	27	5	27	0.28			95.8
DF L Totals				58	2.6	11,162	10,877	38	46	54				5	10	2	83	29	6	50	0.57			215.5
DF	T	CU	CU		100.0	243												8	6		0.00			74.4
DF	T	DM	3S	81	5.7	5,798	5,467	19	34	66							100	40	7	73	0.58			74.8
DF	T	DM	4S	19		1,241	1,241	4	100					34			66	31	5	30	0.31			41.5
DF T Totals				36	7.9	7,282	6,708	23	46	54				6			94	26	6	35	0.44			190.8
DF	S	DM	3S	83		1,066	1,066	4		100							100	40	10	150	1.06			7.1
DF	S	DM	4S	17		213	213	1	100					100				29	5	30	0.34			7.1
DF S Totals				7		1,279	1,279	4	17	83				17			83	35	8	90	0.76			14.2
Type Totals					4.4	19,723	18,864	66	44	56				3	9	1	87	27	6	45	0.52			420.4

T16N R03W S17 T0U21										T16N R03W S17 T0U21				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
16N	03W	17	ONTIME	0U21	1.26	7	23	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
									Log Scale Dia.				Log Length				Ln	Dia	Bd	CF/ Lf	
									5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF		CU	CU														7	8		0.00	7.7
DF		DM	2S	46	2.9	4,941	4,799	6			64	36		6		94	39	14	276	1.75	17.4
DF		DM	3S	28	1.6	2,970	2,922	4	4	96				15		85	37	9	114	0.84	25.6
DF		DM	4S	14	9.2	1,559	1,416	2	67	33			3	41	23	33	29	6	39	0.34	36.6
DF		DM	UT	1		88	88	0	48	52			100				17	8	41	0.59	2.2
DF		OS	2S	11	6.1	1,195	1,122	1			100					100	40	19	570	3.50	2.0
DF	Totals			77	3.8	10,753	10,347	13	11	32	30	28	1	13	3	83	31	9	113	0.92	91.4
RC		CU	CU														5	11		0.00	.8
RC		DM	3S	8		160	160	0		100					100		36	15	320	2.46	.5
RC		OS	3S	92	29.0	2,332	1,655	2	2	9	89			9	91		35	21	598	6.57	2.8
RC	Totals			13	27.2	2,492	1,815	2	2	17	81			8	92		29	19	446	5.73	4.1
RA		CU	CU														14	6		0.00	3.4
RA		DM	UT	6		90	90	0	100				100				19	5	20	0.24	4.5
RA		DM	3S	32	6.7	457	426	1		100					100		40	10	140	1.16	3.0
RA		DM	4S	55	9.7	817	738	1		100					100		40	8	93	0.88	7.9
RA		DM	4S	7	25.0	122	91	0	100					100			34	5	30	0.34	3.0
RA	Totals			10	9.4	1,485	1,345	2	13	87			7		7	87	31	7	61	0.71	22.0
Type Totals					8.3	14,731	13,507	17	10	33	25	32	2	10	4	85	31	9	115	1.04	117.5

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U1	21.40	12	63	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		12	63	5.3						
CRUISE		7	36	5.1	2,913		1.2			
DBH COUNT										
REFOREST										
COUNT		5	27	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	26	87.1	17.7	71	35.3	148.4	16,592	15,728	4,590	4,501
R ALDER	9	48.3	9.8	71	8.1	25.2	2,275	2,031	632	621
WHEMLOCK	1	.8	26.0	72	0.5	2.8	213	190	64	64
TOTAL	36	136.1	15.4	71	44.9	176.5	19,079	17,948	5,287	5,187
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	26.0	5.4		206	218	230				
R ALDER	53.2	20.1		46	58	69				
WHEMLOCK										
TOTAL	48.1	8.4		165	180	195	93	47	23	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	28.7	6.0		60	64	67				
R ALDER	43.9	16.6		14	17	20				
WHEMLOCK										
TOTAL	49.4	8.6		48	53	58	97	50	24	
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	52.8	15.9		73	87	101				
R ALDER	189.5	57.1		21	48	76				
WHEMLOCK	346.4	104.3			1	2				
TOTAL	59.8	18.0		112	136	161	156	79	39	
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	48.7	14.7		127	148	170				
R ALDER	162.1	48.8		13	25	38				
WHEMLOCK	346.4	104.3			3	6				
TOTAL	30.5	9.2		160	176	193	41	21	10	
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	47.0	14.2		13,501	15,728	17,954				
R ALDER	167.5	50.4		1,006	2,031	3,055				
WHEMLOCK	346.4	104.3			190	388				
TOTAL	30.7	9.2		16,289	17,948	19,608	41	21	10	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	47.0	14.1		3,864	4,501	5,138				
R ALDER	164.5	49.5		313	621	929				
WHEMLOCK	346.4	104.3			64	132				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
16N	03W	17	ONTIME	00U1	21.40		12	63	S	W
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
TOTAL		29.9	9.0	4,720	5,187	5,653	39	20	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	
DOUG FIR				91	106	121				
R ALDER		167.5	50.4	40	81	121				
WHEMLOCK		346.4	104.3		68	139				
TOTAL		166.6	50.2	92	102	111	1,208	617	302	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U2	20.10	11	63	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		11	63	5.7						
CRUISE		6	29	4.8	3,975		.7			
DBH COUNT										
REFOREST										
COUNT		5	34	6.8						
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	25	174.5	13.8	73	48.6	180.3	18,934	18,254	5,049	5,049
R ALDER	4	23.3	9.8	38	3.9	12.2	921	809	222	222
TOTAL	29	197.7	13.4	69	52.7	192.5	19,856	19,063	5,271	5,271
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	113.9	23.2		126	164	203				
R ALDER	52.2	29.8		30	43	55				
TOTAL	121.1	22.9		114	148	181	606	309	152	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	104.6	21.3		35	44	54				
R ALDER	60.5	34.6		8	13	17				
TOTAL	111.1	21.0		32	40	48	511	261	128	
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	61.7	19.5		140	174	208				
R ALDER	222.5	70.3		7	23	40				
TOTAL	44.8	14.2		170	198	226	88	45	22	
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	54.2	17.1		149	180	211				
R ALDER	254.2	80.3		2	12	22				
TOTAL	42.8	13.5		166	192	219	81	41	20	
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	59.8	18.9		14,803	18,254	21,705				
R ALDER	246.8	78.0		178	809	1,440				
TOTAL	51.0	16.1		15,993	19,063	22,132	114	58	29	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	56.6	17.9		4,147	5,049	5,951				
R ALDER	273.5	86.4		30	222	414				
TOTAL	48.1	15.2		4,471	5,271	6,071	101	52	25	
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				82	101	120				
R ALDER	246.8	78.0		15	66	118				
TOTAL	238.1	75.2		83	99	115	2,489	1,270	622	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U3	41.70	22	114	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		22	114	5.2						
CRUISE		15	61	4.1	4,838		1.3			
DBH COUNT										
REFOREST										
COUNT		6	36	6.0						
BLANKS		1								
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	47	101.5	16.5	79	37.2	151.2	21,438	20,683	5,480	5,460
R ALDER	8	11.9	14.5	58	3.6	13.7	1,297	1,238	399	399
WHEMLOCK	3	2.0	20.3	81	1.0	4.6	568	488	159	159
BL MAPLE	2	.4	36.3	48	0.5	3.1	365	130	102	46
WR CEDAR	1	.2	39.0	99	0.2	1.5	328	250	67	67
TOTAL	<i>61</i>	<i>116.0</i>	<i>16.6</i>	<i>77</i>	<i>42.8</i>	<i>174.2</i>	<i>23,995</i>	<i>22,790</i>	<i>6,207</i>	<i>6,131</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	105.6	15.4		290	342	395				
R ALDER	52.2	21.2		111	141	171				
WHEMLOCK	54.8	37.9		163	263	363				
BL MAPLE	141.4	132.4			195	453				
WR CEDAR										
TOTAL	<i>109.3</i>	<i>14.1</i>		<i>281</i>	<i>327</i>	<i>373</i>	<i>477</i>	<i>243</i>	<i>119</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	92.7	13.5		74	86	97				
R ALDER	40.1	16.3		37	44	52				
WHEMLOCK	44.7	30.9		58	84	109				
BL MAPLE	141.4	132.4			69	160				
WR CEDAR										
TOTAL	<i>96.4</i>	<i>12.4</i>		<i>74</i>	<i>85</i>	<i>95</i>	<i>371</i>	<i>189</i>	<i>93</i>	
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	64.0	14.0		87	101	116				
R ALDER	309.9	67.6		4	12	20				
WHEMLOCK	333.6	72.7		1	2	4				
BL MAPLE	376.2	82.0		0	0	1				
WR CEDAR	469.0	102.2			0	0				
TOTAL	<i>45.8</i>	<i>10.0</i>		<i>104</i>	<i>116</i>	<i>128</i>	<i>88</i>	<i>45</i>	<i>22</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	50.7	11.1		135	151	168				
R ALDER	317.0	69.1		4	14	23				
WHEMLOCK	342.9	74.7		1	5	8				
BL MAPLE	323.7	70.6		1	3	5				
WR CEDAR	469.0	102.2			2	3				
TOTAL	<i>26.4</i>	<i>5.8</i>		<i>164</i>	<i>174</i>	<i>184</i>	<i>29</i>	<i>15</i>	<i>7</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	53.0	11.5		18,295	20,683	23,071				
R ALDER	349.3	76.1		295	1,238	2,180				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
16N	03W	17	ONTIME	00U3	41.70		22	114	S	W
CL:	68.1 %	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10	
WHEMLOCK		354.8	77.3	111	488	866				
BL MAPLE		469.0	102.2		130	263				
WR CEDAR		469.0	102.2		250	507				
TOTAL		<i>38.1</i>	<i>8.3</i>	<i>20,898</i>	<i>22,790</i>	<i>24,681</i>	<i>61</i>	<i>31</i>	<i>15</i>	
CL:	68.1 %	COEFF		NET CUFT FT/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR		51.4	11.2	4,849	5,460	6,072				
R ALDER		343.2	74.8	100	399	697				
WHEMLOCK		335.2	73.1	43	159	275				
BL MAPLE		469.0	102.2		46	93				
WR CEDAR		469.0	102.2		67	136				
TOTAL		<i>33.8</i>	<i>7.4</i>	<i>5,679</i>	<i>6,131</i>	<i>6,583</i>	<i>48</i>	<i>24</i>	<i>12</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				121	137	153				
R ALDER		345.2	75.2	21	90	159				
WHEMLOCK		354.8	77.3	24	107	189				
BL MAPLE		469.0	102.2		43	86				
WR CEDAR		469.0	102.2		164	332				
TOTAL		<i>184.7</i>	<i>40.3</i>	<i>120</i>	<i>131</i>	<i>142</i>	<i>1,426</i>	<i>727</i>	<i>356</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U4	38.50	22	128	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		22	128	5.8						
CRUISE		11	65	5.9	7,836		.8			
DBH COUNT										
REFOREST										
COUNT		11	63	5.7						
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	65	203.5	13.3	61	53.7	195.5	17,756	17,302	5,444	5,432
TOTAL	65	203.5	13.3	61	53.7	195.5	17,756	17,302	5,444	5,432
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	51.4	6.4		94	100	106				
TOTAL	51.4	6.4		94	100	106	105	54	26	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	43.5	5.4		29	31	33				
TOTAL	43.5	5.4		29	31	33	75	38	19	
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	26.5	5.8		192	204	215				
TOTAL	26.5	5.8		192	204	215	29	15	7	
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	25.2	5.5		185	196	206				
TOTAL	25.2	5.5		185	196	206	27	14	7	
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	27.8	6.1		16,255	17,302	18,349				
TOTAL	27.8	6.1		16,255	17,302	18,349	32	16	8	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	26.6	5.8		5,117	5,432	5,747				
TOTAL	26.6	5.8		5,117	5,432	5,747	30	15	7	
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				83	88	94				
TOTAL	182.0	39.7		83	88	94	1,386	707	346	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U5	24.50	14	65	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		14	65	4.6						
CRUISE		7	31	4.4	2,776		1.1			
DBH COUNT										
REFOREST										
COUNT		7	34	4.9						
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	30	110.2	16.0	72	38.4	153.6	17,413	16,778	4,724	4,722
DOUG FIR-D	1	3.1	12.0	63	0.7	2.4	183	183	52	52
TOTAL	31	113.3	15.9	72	39.1	156.0	17,597	16,961	4,776	4,774
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	48.4	9.0		161	176	192				
DOUG FIR-D										
TOTAL	50.1	9.0		157	173	188	100	51	25	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	44.9	8.3		45	50	54				
DOUG FIR-D										
TOTAL	46.6	8.4		44	48	53	87	44	22	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	30.0	8.3		101	110	119				
DOUG FIR-D	374.2	103.6			3	6				
TOTAL	32.7	9.1		103	113	124	46	23	11	
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	29.4	8.1		141	154	166				
DOUG FIR-D	374.2	103.6			2	5				
TOTAL	30.0	8.3		143	156	169	39	20	10	
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	33.9	9.4		15,203	16,778	18,353				
DOUG FIR-D	374.2	103.6			183	373				
TOTAL	34.3	9.5		15,349	16,961	18,573	51	26	13	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	32.1	8.9		4,303	4,722	5,141				
DOUG FIR-D	374.2	103.6			52	107				
TOTAL	32.3	9.0		4,347	4,774	5,202	45	23	11	
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				99	109	119				
DOUG FIR-D	374.2	103.6			76	156				
TOTAL	205.7	57.0		98	109	119	1,817	927	454	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U6	1.05	1	6	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	6	6.0						
CRUISE		1	6	6.0	140		4.3			
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-L	4	87.3	16.8	70	32.8	134.4	14,915	14,196	4,358	4,358
DOUG FIR-S	1	19.0	18.0	76	7.9	33.6	4,184	4,184	1,181	1,181
DOUG FIR-T	1	27.4	15.0	68	8.7	33.6	3,013	3,013	1,016	1,016
TOTAL	6	133.7	16.6	70	49.4	201.7	22,111	21,393	6,555	6,555
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L				247	247	247				
DOUG FIR-S										
DOUG FIR-T										
TOTAL				214	214	214				
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L				73	73	73				
DOUG FIR-S										
DOUG FIR-T										
TOTAL				64	64	64				

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U7	1.10	1	8	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	8	8.0						
CRUISE		1	8	8.0	298		2.7			
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-L	3	97.6	13.8	71	27.2	100.8	12,068	11,794	3,328	3,328
DOUG FIR-S	1	31.4	14.0	72	9.0	33.6	4,402	4,087	1,114	1,114
DOUG FIR-T	4	142.1	13.2	70	37.0	134.4	14,679	14,364	4,227	4,227
TOTAL	8	271.1	13.5	70	73.2	268.9	31,148	30,246	8,670	8,670
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		25.4	17.6	104	127	149				
DOUG FIR-S										
DOUG FIR-T		14.6	8.4	94	103	111				
TOTAL		20.8	7.8	106	115	124	20	10	5	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		27.1	18.7	29	36	43				
DOUG FIR-S										
DOUG FIR-T		16.8	9.6	27	30	33				
TOTAL		20.7	7.8	30	33	36	19	10	5	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U8	2.90	2	12	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		2	12	6.0						
CRUISE		2	7	3.5	616	1.1				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	3	112.3	14.8	71	34.9	134.4	15,178	15,178	4,373	4,373
DOUG FIR-S	1	18.2	13.0	68	4.7	16.8	1,641	1,641	507	507
DOUG FIR-T	3	81.7	10.6	65	15.5	50.4	3,270	3,270	1,132	1,132
TOTAL	7	212.2	13.2	69	55.5	201.7	20,089	20,089	6,012	6,012
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L	24.7	17.1		116	140	164				
DOUG FIR-S										
DOUG FIR-T				40	40	40				
TOTAL	59.8	24.3		68	90	112	166	85	41	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L	26.8	18.6		33	40	48				
DOUG FIR-S										
DOUG FIR-T	22.6	15.7		12	14	16				
TOTAL	53.8	21.9		21	27	33	134	69	34	
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-L	35.4	33.1		75	112	149				
DOUG FIR-S	141.4	132.4			18	42				
DOUG FIR-T	53.3	49.9		41	82	123				
TOTAL				212	212	212				
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-L	35.4	33.1		90	134	179				
DOUG FIR-S	141.4	132.4			17	39				
DOUG FIR-T	47.1	44.1		28	50	73				
TOTAL				202	202	202				
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-L	35.4	33.1		10,153	15,178	20,203				
DOUG FIR-S	141.4	132.4			1,641	3,814				
DOUG FIR-T	53.3	49.9		1,637	3,270	4,902				
TOTAL				20,089	20,089	20,089				
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L	35.4	33.1		2,925	4,373	5,821				
DOUG FIR-S	141.4	132.4			507	1,179				
DOUG FIR-T	40.1	37.5		707	1,132	1,556				
TOTAL				6,012	6,012	6,012				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U8	2.90	2	12	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	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L				76	113	150				
DOUG FIR-S					98	227				
DOUG FIR-T				32	65	97				
TOTAL				100	100	100	2,711	1,383	678	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	00U9	0.30	1	6	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		1	6	6.0						
CRUISE		1	6	6.0	61	9.8				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	3	81.9	15.0	69	26.0	100.8	10,340	10,340	3,007	3,007
DOUG FIR-S	1	24.1	16.0	75	8.4	33.6	4,574	4,333	1,124	1,124
DOUG FIR-T	2	98.1	11.2	68	20.1	67.2	5,747	5,747	1,877	1,877
TOTAL	6	204.1	13.5	69	55.0	201.7	20,661	20,420	6,008	6,008
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		30.3	21.0	105	133	161				
DOUG FIR-S										
DOUG FIR-T		54.4	50.9	32	65	98				
TOTAL		45.8	20.4	94	118	142	100	51	25	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		38.4	26.6	29	39	50				
DOUG FIR-S										
DOUG FIR-T		49.7	46.6	11	21	31				
TOTAL		44.0	19.6	28	34	41	92	47	23	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U10	3.60	3	19	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES	PER PLOT	TREES	TREES				
TOTAL		3	19	6.3						
CRUISE		3	10	3.3	820	1.2				
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-L		3	117.2	14.5	69	35.3	134.4	14,170	13,804	4,167
DOUG FIR-S		1	10.5	14.0	69	3.0	11.2	1,153	1,153	356
DOUG FIR-T		6	100.0	11.1	59	20.2	67.2	6,088	6,088	1,605
TOTAL		10	227.7	13.1	65	58.8	212.9	21,411	21,045	6,128
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		40.0	27.7	89	123	157				
DOUG FIR-S										
DOUG FIR-T		34.7	15.5	55	65	75				
TOTAL		46.6	15.5	74	87	100	96	49	24	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		23.8	16.4	31	37	43				
DOUG FIR-S										
DOUG FIR-T		28.0	12.4	15	17	19				
TOTAL		45.7	15.2	21	25	28	92	47	23	
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-L		25.0	17.3	97	117	138				
DOUG FIR-S		173.2	119.8	10	23					
DOUG FIR-T		10.9	7.5	92	100	108				
TOTAL				228	228	228				
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-L		25.0	17.3	111	134	158				
DOUG FIR-S		173.2	119.8	11	25					
DOUG FIR-T				67	67	67				
TOTAL				213	213	213				
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-L		25.0	17.3	11,417	13,804	16,192				
DOUG FIR-S		173.2	119.8	1,153	2,534					
DOUG FIR-T		15.8	10.9	5,424	6,088	6,752				
TOTAL				21,045	21,045	21,045				
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		25.0	17.3	3,446	4,167	4,887				
DOUG FIR-S		173.2	119.8	356	782					
DOUG FIR-T		6.5	4.5	1,533	1,605	1,678				
TOTAL				6,128	6,128	6,128				

TC TSTATS				STATISTICS				PAGE	2		
				PROJECT	ONTIME			DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
16N	03W	17	ONTIME	0U10	3.60	3	19	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		
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR-L				85	103	120					
DOUG FIR-S					173.2	119.8	103	226			
DOUG FIR-T				81	15.8	10.9	91	100			
TOTAL				99	165.2	114.3	99	99	1,567	800	392

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U11	2.50	2	14	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		2	14	7.0						
CRUISE		2	14	7.0	540	2.6				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	8	93.0	16.3	85	33.3	134.4	16,116	15,710	4,411	4,411
DOUG FIR-S	1	15.7	14.0	89	4.5	16.8	1,886	1,886	495	495
DOUG FIR-T	5	107.2	12.0	79	24.3	84.0	8,579	8,259	2,380	2,380
TOTAL	14	216.0	14.1	82	62.6	235.3	26,581	25,856	7,285	7,285
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		29.1	11.0	166	186	207				
DOUG FIR-S										
DOUG FIR-T		56.1	27.9	68	94	120				
TOTAL		45.3	12.5	130	149	167	88	45	22	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		32.7	12.3	46	53	59				
DOUG FIR-S										
DOUG FIR-T		51.6	25.6	20	27	33				
TOTAL		47.2	13.1	36	42	47	96	49	24	
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-L		43.5	40.7	55	93	131				
DOUG FIR-S		141.4	132.4	16	16	37				
DOUG FIR-T		21.1	19.8	86	107	128				
TOTAL		18.6	17.4	178	216	254	24	12	6	
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-L		35.4	33.1	90	134	179				
DOUG FIR-S		141.4	132.4	17	17	39				
DOUG FIR-T		28.3	26.5	62	84	106				
TOTAL		40.4	37.8	146	235	324	115	58	29	
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-L		30.2	28.3	11,267	15,710	20,153				
DOUG FIR-S		141.4	132.4	3,850	1,886	4,384				
DOUG FIR-T		57.0	53.4	8,259	12,668					
TOTAL		46.9	43.9	14,506	25,856	37,206	154	79	39	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		31.3	29.3	3,119	4,411	5,702				
DOUG FIR-S		141.4	132.4	1,285	495	1,150				
DOUG FIR-T		49.1	46.0	2,380	3,475					
TOTAL		44.6	41.8	4,244	7,285	10,327	139	71	35	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U11	2.50	2	14	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	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		30.2	28.3	84	117	150				
DOUG FIR-S		141.4	132.4		112	261				
DOUG FIR-T		57.0	53.4	46	98	151				
TOTAL		46.9	43.9	62	110	158	154	79	39	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U12	0.30	1	6	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		1	6	6.0						
CRUISE		1	6	6.0	47	12.7				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	4	72.4	18.5	101	31.3	134.4	18,048	17,495	4,725	4,725
DOUG FIR-S	1	42.8	12.0	85	9.7	33.6	3,851	3,851	949	949
DOUG FIR-T	1	42.8	12.0	82	9.7	33.6	3,851	2,996	932	794
TOTAL	6	158.0	15.3	91	51.6	201.7	25,751	24,342	6,606	6,467
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		35.1	20.0	212	265	318				
DOUG FIR-S										
DOUG FIR-T										
TOTAL		58.9	26.2	150	203	257	165	84	41	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		32.8	18.7	58	71	85				
DOUG FIR-S										
DOUG FIR-T										
TOTAL		58.8	26.2	40	54	69	165	84	41	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U13	0.40	1	8	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		1	8	8.0						
CRUISE		1	8	8.0	95	8.4				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	4	90.8	16.5	86	33.1	134.4	17,326	17,085	4,662	4,662
DOUG FIR-S	1	24.1	16.0	100	8.4	33.6	4,574	4,574	1,238	1,238
DOUG FIR-T	3	122.1	12.3	91	28.7	100.8	12,078	12,078	3,097	3,097
TOTAL	8	236.9	14.4	90	70.8	268.9	33,978	33,737	8,998	8,998
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		18.7	10.7	170	190	210				
DOUG FIR-S										
DOUG FIR-T		17.3	12.0	88	100	112				
TOTAL		33.9	12.8	136	156	176	52	27	13	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		19.6	11.2	46	52	58				
DOUG FIR-S										
DOUG FIR-T		11.6	8.0	23	26	28				
TOTAL		36.3	13.7	36	42	48	60	31	15	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U14	0.20	1	6	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	6	6.0						
CRUISE		1	6	6.0	48		12.6			
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-L	3	94.0	14.0	75	26.9	100.8	10,622	10,622	2,884	2,884
DOUG FIR-S	1	21.3	17.0	82	8.2	33.6	4,051	3,412	1,181	1,181
DOUG FIR-T	2	123.7	10.0	63	21.3	67.2	5,353	5,353	1,360	1,360
TOTAL	6	239.0	12.4	69	57.2	201.7	20,027	19,387	5,425	5,425
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		48.7	33.7	91	137	183				
DOUG FIR-S										
DOUG FIR-T		70.7	66.2	20	60	100				
TOTAL		55.2	24.6	87	115	143	145	74	36	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		54.1	37.4	24	38	53				
DOUG FIR-S										
DOUG FIR-T		91.7	85.8	2	17	32				
TOTAL		61.3	27.3	25	34	43	179	91	45	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U15	0.40	1	10	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	10	10.0						
CRUISE		1	10	10.0	130		7.7			
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-L	4	143.5	13.1	66	37.1	134.4	14,195	14,195	4,216	4,216
DOUG FIR-S	1	24.1	16.0	68	8.4	33.6	3,611	3,370	1,052	1,052
DOUG FIR-T	5	156.4	14.0	69	44.9	168.1	14,516	13,969	4,916	4,914
TOTAL	<i>10</i>	<i>324.0</i>	<i>13.8</i>	<i>68</i>	<i>90.5</i>	<i>336.1</i>	<i>32,322</i>	<i>31,533</i>	<i>10,185</i>	<i>10,182</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		59.0	33.7	83	125	167				
DOUG FIR-S										
DOUG FIR-T				115	115	115				
TOTAL		<i>27.1</i>	<i>9.6</i>	<i>111</i>	<i>122</i>	<i>134</i>	<i>33</i>	<i>17</i>	<i>8</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		55.4	31.7	25	36	48				
DOUG FIR-S										
DOUG FIR-T				41	41	41				
TOTAL		<i>11.8</i>	<i>4.2</i>	<i>38</i>	<i>39</i>	<i>41</i>	<i>6</i>	<i>3</i>	<i>2</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U16	2.50	2	12	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		2	12	6.0						
CRUISE		2	12	6.0	480	2.5				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	7	89.0	15.6	65	29.8	117.6	12,903	12,646	3,481	3,481
DOUG FIR-S	1	13.7	15.0	68	4.3	16.8	2,054	2,054	552	552
DOUG FIR-T	4	89.3	11.7	59	19.6	67.2	5,743	5,743	1,558	1,558
TOTAL	<i>12</i>	<i>192.0</i>	<i>13.9</i>	<i>62</i>	<i>54.1</i>	<i>201.7</i>	<i>20,700</i>	<i>20,443</i>	<i>5,592</i>	<i>5,592</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		27.1	11.0	131	147	163				
DOUG FIR-S										
DOUG FIR-T		42.1	24.0	53	70	87				
TOTAL		<i>41.6</i>	<i>12.5</i>	<i>106</i>	<i>122</i>	<i>137</i>	<i>75</i>	<i>38</i>	<i>19</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		27.3	11.1	36	41	45				
DOUG FIR-S										
DOUG FIR-T		44.8	25.6	14	19	24				
TOTAL		<i>42.1</i>	<i>12.7</i>	<i>29</i>	<i>33</i>	<i>38</i>	<i>77</i>	<i>39</i>	<i>19</i>	
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-L		29.4	27.6	64	89	114				
DOUG FIR-S		141.4	132.4	14	14	32				
DOUG FIR-T		23.9	22.4	69	89	109				
TOTAL		<i>12.6</i>	<i>11.8</i>	<i>169</i>	<i>192</i>	<i>215</i>	<i>11</i>	<i>6</i>	<i>3</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-L		20.2	18.9	95	118	140				
DOUG FIR-S		141.4	132.4	17	17	39				
DOUG FIR-T				67	67	67				
TOTAL		<i>23.6</i>	<i>22.1</i>	<i>157</i>	<i>202</i>	<i>246</i>	<i>39</i>	<i>20</i>	<i>10</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-L		25.9	24.3	9,574	12,646	15,717				
DOUG FIR-S		141.4	132.4	2,054	2,054	4,774				
DOUG FIR-T		17.5	16.4	4,802	5,743	6,684				
TOTAL		<i>35.2</i>	<i>32.9</i>	<i>13,710</i>	<i>20,443</i>	<i>27,176</i>	<i>87</i>	<i>44</i>	<i>22</i>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		18.7	17.5	2,873	3,481	4,090				
DOUG FIR-S		141.4	132.4	552	552	1,283				
DOUG FIR-T		18.3	17.2	1,291	1,558	1,826				
TOTAL		<i>30.7</i>	<i>28.7</i>	<i>3,985</i>	<i>5,592</i>	<i>7,199</i>	<i>66</i>	<i>34</i>	<i>17</i>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U16	2.50	2	12	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	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		25.9	24.3	81	107	134				
DOUG FIR-S		141.4	132.4		122	284				
DOUG FIR-T		17.5	16.4	71	85	99				
TOTAL		35.2	32.9	68	101	135	87	44	22	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U17	1.80	1	9	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		1	9	9.0						
CRUISE		1	9	9.0	531		1.7			
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-L	3	101.6	13.5	63	27.5	100.8	9,313	9,313	2,822	2,822
DOUG FIR-S	1	27.4	15.0	73	8.7	33.6	4,108	4,108	1,144	1,144
DOUG FIR-T	5	166.2	13.6	68	45.5	168.1	17,654	16,925	5,104	4,979
TOTAL	9	295.2	13.7	67	81.7	302.5	31,075	30,346	9,069	8,944
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		33.3	23.0	74	97	119				
DOUG FIR-S										
DOUG FIR-T		46.8	23.3	84	110	136				
TOTAL		39.1	13.8	95	110	125	69	35	17	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		28.0	19.3	23	29	35				
DOUG FIR-S										
DOUG FIR-T		37.6	18.7	26	32	38				
TOTAL		31.8	11.2	28	32	36	45	23	11	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U18	1.90	1	6	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		1	6	6.0						
CRUISE		1	6	6.0	339	1.8				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	3	82.9	14.9	67	26.1	100.8	11,300	11,026	3,076	3,076
DOUG FIR-S	1	21.3	17.0	72	8.2	33.6	3,838	3,838	1,123	1,123
DOUG FIR-T	2	74.2	12.9	65	18.7	67.2	6,026	5,712	1,792	1,792
TOTAL	6	178.4	14.4	67	53.2	201.7	21,164	20,576	5,991	5,991
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		45.4	31.4	101	147	193				
DOUG FIR-S										
DOUG FIR-T		35.4	33.1	54	80	106				
TOTAL		46.2	20.6	103	130	157	101	52	25	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		46.9	32.4	28	41	54				
DOUG FIR-S										
DOUG FIR-T		46.1	43.2	14	25	36				
TOTAL		44.9	20.0	30	38	45	96	49	24	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U19	3.40	3	17	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		3	17	5.7						
CRUISE		3	17	5.7	599	2.8				
DBH COUNT										
REFOREST COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR-L	10	92.1	14.9	68	29.0	112.0	12,948	12,806	3,571	3,571
DOUG FIR-S	1	7.1	17.0	84	2.7	11.2	1,493	1,422	401	401
DOUG FIR-T	6	77.0	12.7	60	18.9	67.2	6,083	5,978	1,704	1,704
TOTAL	17	176.2	14.1	65	50.8	190.5	20,524	20,205	5,676	5,676
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		36.0	12.0	139	158	177				
DOUG FIR-S										
DOUG FIR-T		45.0	20.0	71	88	106				
TOTAL		44.9	11.2	121	136	151	86	44	21	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		36.8	12.2	39	44	50				
DOUG FIR-S										
DOUG FIR-T		41.3	18.4	21	25	30				
TOTAL		44.5	11.1	34	38	42	84	43	21	
CL:	68.1 %	COEFF	TREES/ACRE				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		29.0	20.0	74	92	111				
DOUG FIR-S		173.2	119.8	7	16					
DOUG FIR-T		40.3	27.9	56	77	98				
TOTAL		19.5	13.5	152	176	200	22	11	5	
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-L		17.3	12.0	99	112	125				
DOUG FIR-S		173.2	119.8	11	25					
DOUG FIR-T				67	67	67				
TOTAL		10.2	7.0	177	190	204	6	3	1	
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-L		19.6	13.5	11,072	12,806	14,539				
DOUG FIR-S		173.2	119.8	1,422	3,125					
DOUG FIR-T		15.9	11.0	5,322	5,978	6,635				
TOTAL		20.5	14.2	17,341	20,205	23,070	24	12	6	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		19.3	13.3	3,095	3,571	4,047				
DOUG FIR-S		173.2	119.8	401	882					
DOUG FIR-T		11.9	8.3	1,563	1,704	1,845				
TOTAL		18.5	12.8	4,950	5,676	6,402	20	10	5	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U19	3.40	3	17	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	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		19.6	13.5	99	114	130				
DOUG FIR-S		173.2	119.8		127	279				
DOUG FIR-T		15.9	11.0	79	89	99				
TOTAL		20.5	14.2	91	106	121	24	12	6	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U20	3.50	3	19	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
		PLOTS	TREES	PER PLOT	TREES	TREES				
TOTAL		3	19	6.3						
CRUISE		3	19	6.3	746	2.5				
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-L		11	110.6	14.3	63	32.6	123.2	11,162	10,877	3,516
DOUG FIR-S		1	7.1	17.0	71	2.7	11.2	1,279	1,279	372
DOUG FIR-T		7	95.4	12.3	62	22.4	78.4	7,282	6,708	2,183
TOTAL		<i>19</i>	<i>213.1</i>	<i>13.5</i>	<i>63</i>	<i>57.9</i>	<i>212.9</i>	<i>19,723</i>	<i>18,864</i>	<i>6,071</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		54.3	17.2	92	111	130				
DOUG FIR-S										
DOUG FIR-T		34.8	14.2	65	76	86				
TOTAL		<i>53.0</i>	<i>12.5</i>	<i>89</i>	<i>102</i>	<i>114</i>	<i>119</i>	<i>61</i>	<i>30</i>	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		43.1	13.6	32	37	42				
DOUG FIR-S										
DOUG FIR-T		32.3	13.1	21	24	27				
TOTAL		<i>45.2</i>	<i>10.6</i>	<i>29</i>	<i>33</i>	<i>36</i>	<i>86</i>	<i>44</i>	<i>22</i>	
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-L		19.3	13.4	96	111	125				
DOUG FIR-S		173.2	119.8	7	7	16				
DOUG FIR-T		58.1	40.2	57	95	134				
TOTAL		<i>18.1</i>	<i>12.5</i>	<i>186</i>	<i>213</i>	<i>240</i>	<i>19</i>	<i>10</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-L		15.7	10.9	110	123	137				
DOUG FIR-S		173.2	119.8	11	11	25				
DOUG FIR-T		49.5	34.2	52	78	105				
TOTAL		<i>9.1</i>	<i>6.3</i>	<i>199</i>	<i>213</i>	<i>226</i>	<i>5</i>	<i>2</i>	<i>1</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-L		29.1	20.1	8,686	10,877	13,068				
DOUG FIR-S		173.2	119.8	4,756	6,708	8,660				
DOUG FIR-T		42.1	29.1	16,236	18,864	21,491				
TOTAL		<i>20.1</i>	<i>13.9</i>	<i>16,236</i>	<i>18,864</i>	<i>21,491</i>	<i>23</i>	<i>12</i>	<i>6</i>	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		15.8	11.0	3,129	3,514	3,899				
DOUG FIR-S		173.2	119.8	1,488	2,130	2,772				
DOUG FIR-T		43.5	30.1	5,498	6,016	6,534				
TOTAL		<i>12.4</i>	<i>8.6</i>	<i>5,498</i>	<i>6,016</i>	<i>6,534</i>	<i>9</i>	<i>5</i>	<i>2</i>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U20	3.50	3	19	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	
CL:	68.1 %	COEFF		V-BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR-L		29.1	20.1	70	88	106				
DOUG FIR-S		173.2	119.8		114	251				
DOUG FIR-T		42.1	29.1	61	86	110				
TOTAL		<i>20.1</i>	<i>13.9</i>	<i>76</i>	<i>89</i>	<i>101</i>	<i>23</i>	<i>12</i>	<i>6</i>	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	ONTIME		DATE	7/14/2016		
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U21	1.26	7	23	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
					TREES	TREES				
TOTAL		7	23	3.3						
CRUISE		7	23	3.3	82		28.1			
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	16	52.3	16.4	62	19.0	76.8	10,753	10,347	2,638	2,637
WR CEDAR	4	1.6	46.4	74	2.8	19.2	2,492	1,815	677	677
R ALDER	3	11.0	15.5	71	3.7	14.4	1,485	1,345	477	477
TOTAL	23	64.9	17.7	64	26.3	110.4	14,731	13,507	3,792	3,792
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL:	68.1 %	COEFF	SAMPLE TREES - BF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	79.6	20.5		289	363	438				
WR CEDAR				1,477	1,477	1,477				
R ALDER	29.9	20.7		100	127	153				
TOTAL	80.8	17.6		398	483	568	273	139	68	
CL:	68.1 %	COEFF	SAMPLE TREES - CF				# OF TREES REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	75.0	19.4		74	91	109				
WR CEDAR				569	569	569				
R ALDER	25.7	17.8		37	45	53				
TOTAL	99.0	21.6		118	150	183	410	209	103	
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	116.2	47.3		28	52	77				
WR CEDAR	141.3	57.5		1	2	3				
R ALDER	174.7	71.1		3	11	19				
TOTAL	96.8	39.4		39	65	90	434	221	109	
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	90.1	36.7		49	77	105				
WR CEDAR	137.7	56.0		8	19	30				
R ALDER	183.6	74.7		4	14	25				
TOTAL	48.8	19.9		89	110	132	110	56	28	
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	91.9	37.4		6,476	10,347	14,217				
WR CEDAR	140.4	57.1		778	1,815	2,852				
R ALDER	183.5	74.7		341	1,345	2,350				
TOTAL	58.1	23.6		10,316	13,507	16,698	156	80	39	
CL:	68.1 %	COEFF	NET CUFT FT/ACRE				# OF PLOTS REQ.	INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10	
DOUG FIR	89.6	36.5		1,675	2,637	3,599				
WR CEDAR	135.8	55.3		303	677	1,051				
R ALDER	182.6	74.3		123	477	832				
TOTAL	48.1	19.6		3,050	3,792	4,534	107	55	27	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	ONTIME			DATE	7/14/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
16N	03W	17	ONTIME	0U21	1.26	7	23	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	
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		91.9	37.4	84	135	185				
WR CEDAR		140.4	57.1	40	94	149				
R ALDER		183.5	74.7	24	93	163				
TOTAL		<i>58.1</i>	<i>23.6</i>	<i>93</i>	<i>122</i>	<i>151</i>	<i>156</i>	<i>80</i>	<i>39</i>	

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

T16N R03W S17 Ty00U	21.4
T16N R03W S17 Ty00U	20.1
T16N R03W S17 Ty0U2	1.2

Project ONTIME
Acres 173.31

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Species	s T	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
		Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
DOUG FIR		20,205	33,265	21,571	37.30	22.66	0.67	7,569	7,537	2,753	2,656
DOUG FIR	L	2,601	4,797	2,778	37.47	20.32	0.61	975	975	341	335
DOUG FIR	T	2,488	3,344	1,567	21.91	16.31	0.47	550	545	190	185
R ALDER		2,011	2,260	969	17.39	15.48	0.46	352	350	123	113
DOUG FIR	S	401	826	469	41.05	19.93	0.61	165	165	59	58
WHEMLOCK		101	202	256	78.98	39.49	1.09	80	80	28	24
WR CEDAR		10	27	86	376.16	134.89	4.16	37	37	17	13
BL MAPLE		18	14	113	107.98	138.00	3.45	43	19	15	5
DOUG FIR	D	75	75	37	17.13	17.13	0.43	13	13	4	4
Totals		27,910	44,811	27,845	34.82	21.69	0.64	9,782	9,719	3,532	3,394

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF		
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net	
C	25,881	42,537	26,763	36.13	21.98	0.65	9,387	9,350	3,393	3,275	
H	2,029	2,274	1,082	18.19	16.23	0.48	395	369	138	118	
Totals		27,910	44,811	27,845	34.82	21.69	0.64	9,782	9,719	3,532	3,394

TC		PSTNDSUMRdVBar											Stand Table Summary with RD, V-bar - Project				Page	1
															Date:	7/14/2016		
T16N R03W S17 Ty00U1 THRU T16N R03W S17 Ty0U21				Project		ONTIME					Time:		10:12:07AM					
				Acres		173.31					Grown Year:							
Sp	S T	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/ Acre	BA/ Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF		8	1	8.0	40	47	57	76		0.2	57	85.5	1.915	.67	38		38	7
DF		9	3	9.0	40	47	58	79		0.2	68	76.8	1.671	.74	51	2	50	9
DF		10	4	10.0	40	58	67	81		0.9	73	80.0	5.209	2.84	208		208	36
DF		11	5	11.0	40	57	63	82		1.1	68	68.4	5.572	3.68	248		248	43
DF		12	21	12.0	40	62	75	83		4.5	81	74.9	19.890	15.62	1,308	4	1,262	219
DF		13	20	13.0	40	66	77	82		4.0	82	70.8	15.581	14.36	1,202	2	1,177	204
DF		14	33	14.0	40	70	85	85		6.4	99	72.7	22.286	23.82	2,448	3	2,364	410
DF		15	19	15.0	40	72	89	85		3.3	111	71.0	10.571	12.97	1,490	3	1,442	250
DF		16	22	16.0	40	74	92	84		3.6	114	68.9	10.249	14.31	1,681	3	1,629	282
DF		17	11	17.0	40	75	98	84		2.0	123	69.2	5.205	8.20	1,041	3	1,008	175
DF		18	12	18.0	40	78	96	84		1.7	122	63.9	4.137	7.31	902	1	894	155
DF		19	16	19.0	40	82	96	83		2.7	109	60.9	5.938	11.69	1,322	4	1,270	220
DF		20	8	20.0	40	78	99	83		1.1	119	59.1	2.345	5.12	632	4	609	105
DF		21	7	21.0	40	95	115	85		0.8	148	65.8	1.610	3.87	594	3	574	100
DF		22	4	22.0	40	68	85	84		0.5	98	46.3	.822	2.17	231	8	212	37
DF		23	2	23.0	40	79	99	83		0.3	122	51.4	.495	1.43	176	1	174	30
DF		24	4	24.0	40	86	109	84		0.5	141	54.5	.706	2.22	334	6	313	54
DF		25	4	25.0	40	98	123	85		0.3	171	59.1	.493	1.68	299	4	287	50
DF		26	2	26.0	40	106	136	85		0.3	202	62.5	.420	1.55	317	1	313	54
DF		27	2	27.0	40	93	117	85		0.2	170	52.0	.219	.87	155	4	148	26
DF		28	2	28.0	40	95	120	77		0.3	122	51.6	.346	1.48	230	22	181	31
DF		29	3	29.0	40	110	141	84		0.4	212	58.2	.520	2.38	530	5	506	88
DF		31	1	31.0	40	98	125	76		0.1	141	48.4	.148	.77	118	8	109	19
DF		32	1	32.0	40	100	127	81		0.1	168	47.6	.139	.77	136	4	130	23
DF		34	1	34.0	40	101	129	81		0.0	184	45.5	.006	.03	7	8	6	1
DF		39	1	39.0	40	116	149	81		0.1	222	45.8	.093	.77	188	8	172	30
DF		Totals	209	14.9	40	69	84	83		36.6	108	67.0	116.584	141.35	15,887	4	15,326	2,656
DFL		10	3	10.0	40	53	66	82		0.2	73	78.7	.960	.52	38		38	7
DFL		11	1	11.0	40	72	72	84		0.0	91	78.5	.059	.04	4		4	1
DFL		12	4	12.0	40	67	82	83		0.3	99	81.8	1.313	1.03	102		102	18
DFL		13	3	13.0	40	68	85	84		0.4	98	78.0	1.655	1.53	149		149	26
DFL		14	9	14.0	40	70	87	83		0.7	109	74.3	2.422	2.59	282		282	49
DFL		15	17	15.0	40	67	84	83		1.2	97	67.5	3.772	4.63	473	5	449	78
DFL		16	13	16.0	40	72	88	84		0.8	120	66.3	2.259	3.15	382	1	378	66
DFL		17	5	17.0	40	77	96	84		0.3	117	68.0	.882	1.39	164	1	163	28
DFL		18	8	18.0	40	83	95	84		0.4	122	63.7	.847	1.50	183		183	32
DFL		19	5	19.0	40	73	84	84		0.2	94	53.1	.486	.96	94	5	90	16
DFL		20	3	20.0	40	74	98	85		0.1	118	58.6	.305	.67	81	3	79	14
DFL		21	2	21.0	40	108	108	84		0.0	137	61.4	.048	.12	16	3	16	3
DFL		Totals	73	14.9	40	69	86	83		4.7	107	69.0	15.007	18.12	1,968	2	1,932	335
DF T		8	1	8.0	40	65	65	83		0.0	86	97.5	.111	.04	3		3	1
DF T		9	1	9.0	40	69	69	81		0.1	91	92.0	.527	.23	21		21	4
DF T		10	7	10.0	40	65	65	83		0.5	73	78.5	2.773	1.51	111		111	19
DF T		11	6	11.0	40	60	74	83		0.4	75	80.9	2.233	1.47	110		110	19
DF T		12	12	12.0	40	65	79	84		0.7	89	78.5	3.054	2.40	214	1	213	37
DF T		13	7	13.0	40	68	89	83		0.4	94	82.3	1.518	1.40	149	12	132	23
DF T		14	13	14.0	40	66	84	84		0.8	98	72.1	2.948	3.15	319	4	307	53

TC		PSTNDSUMRdVBar											Stand Table Summary with RD, V-bar - Project				Page	2	
													Date:	7/14/2016					
T16N R03W S17 Ty00U1 THRU T16N R03W S17 Ty0U21				Project		ONTIME <th>Time:</th> <td colspan="2">10:12:07AM</td>											Time:	10:12:07AM	
				Acres		173.31											Grown Year:		
Sp	S T	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/ Acre	BA/ Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF	
DF	T	15	7	15.0	40	72	88	83		0.2	101	70.5	.782	.96	100	3	97	17	
DF	T	16	2	16.0	40	68	100	84		0.1	125	75.4	.407	.57	71		71	12	
DF	T	Totals	56	12.2	40	66	78	83		3.4	91	77.0	14.354	11.74	1,099	3	1,065	185	
RA		7	1	7.0	40	44	44	78		0.1	75	75.4	1.326	.35	27		27	5	
RA		8	1	8.0	40	67	67	83		0.1	86	100.5	.991	.35	40	25	30	5	
RA		9	3	9.0	40	69	69	81		0.3	83	91.6	2.348	1.04	94	8	86	15	
RA		10	3	10.0	40	73	73	79		0.3	73	87.6	1.902	1.04	76		76	13	
RA		11	2	11.0	40	59	75	82		0.2	83	82.2	1.061	.70	74	21	58	10	
RA		12	3	12.0	40	50	65	80		0.3	69	64.7	1.504	1.18	82		82	14	
RA		13	1	13.0	40	33	66	81		0.1	76	60.9	.384	.35	35	22	27	5	
RA		14	3	14.0	40	56	56	81		0.2	62	48.0	.806	.86	58	7	54	9	
RA		15	1	15.0	40	56	68	84		0.1	65	54.4	.337	.41	30	11	27	5	
RA		16	1	16.0	40	55	76	79		0.0	79	57.0	.025	.03	3	8	3	0	
RA		17	1	17.0	40	77	92	81		0.0	108	64.9	.022	.03	4	11	4	1	
RA		18	4	18.0	40	63	100	81		0.4	113	66.9	.898	1.59	188	5	180	31	
RA		Totals	24	11.2	40	60	68	81		2.4	82	73.0	11.605	7.94	711	8	652	113	
DF	S	12	1	12.0	40	85	85	84		0.0	115	85.0	.074	.06	7		7	1	
DF	S	13	1	13.0	40	68	85	84		0.1	98	78.5	.305	.28	27		27	5	
DF	S	14	3	14.0	40	77	88	84		0.2	112	75.7	.644	.69	79	3	77	13	
DF	S	15	2	15.0	40	71	89	84		0.2	122	70.8	.482	.59	72		72	13	
DF	S	16	3	16.0	40	82	93	83		0.1	121	69.7	.153	.21	27	4	26	4	
DF	S	17	4	17.0	40	75	94	82		0.2	117	66.5	.541	.85	102	2	100	17	
DF	S	18	1	18.0	40	76	95	84		0.0	124	63.3	.115	.20	25		25	4	
DF	S	Totals	15	15.1	40	75	90	84		0.7	116	71.0	2.314	2.89	340	2	334	58	
WH		19	2	19.0	40	80	99	82		0.2	91	62.5	.373	.74	84	20	67	12	
WH		24	1	24.0	40	84	105	83		0.1	137	52.5	.117	.37	53	4	50	9	
WH		26	1	26.0	40	72	89	74		0.1	68	41.1	.094	.35	26	11	23	4	
WH		Totals	4	21.3	40	79	99	81		0.3	97	55.0	.584	1.45	163	13	141	24	
RC		39	1	39.0	40	99	127	80		0.1	164	39.1	.044	.37	79	24	60	10	
RC		42	1	42.0	40	83	105	76		0.0	121	30.0	.004	.03	5	19	4	1	
RC		46	2	46.0	40	70	88	78		0.0	94	23.0	.006	.07	9	27	7	1	
RC		54	1	54.0	40	68	85	73		0.0	69	18.9	.002	.03	4	37	2	0	
RC		Totals	5	40.7	40	94	120	79		0.1	145	35.0	.056	.51	97	24	73	13	
BM		29	1	29.0	40	42	84	82		0.1	85	34.8	.080	.37	48	35	31	5	
BM		55	1	55.0	40	70	88	69		0.0		19.2	.022	.37	40	100			
BM		Totals	2	36.3	40	48	85	79		0.1	43	28.0	.102	.74	88	64	31	5	
DF	D	12	1	12.0	40	63	63	84		0.1	76	63.0	.432	.34	26		26	4	
DF	D	Totals	1	12.0	40	63	63	84		0.1	76	63.0	.432	.34	26		26	4	
Totals			389	14.5	40	68	82	83		48.6	106	68.0	161.040	185.06	20,378	4	19,581	3,394	

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U1											T16N R03W S17 T00U1							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	00U1	21.40	12	36				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH	Sample	QMD	Total	Bole	Total	Avg	Avg	RD	V	Ht/D	Trees/	BA/	Gross Bd.	Def	Net	MBF
	T	Class	Trees	DBH	Age	Ht.	Ht.	FF	CR		Bar		Acre	Acre	Ft. Acre	%	Bd. Ft. Acre	
DF		14	5	14.0	40	66	82	86		7.6	105	70.1	26.704	28.55	3,044	2	2,991	64
DF		15	1	15.0	40	73	91	87		1.5	122	72.8	4.652	5.71	698		698	15
DF		16	3	16.0	40	74	92	85		4.3	122	69.0	12.267	17.13	2,126	2	2,085	45
DF		17	1	17.0	40	64	79	85		1.4	89	55.8	3.622	5.71	543	7	507	11
DF		18	2	18.0	40	79	99	86		2.7	127	65.7	6.462	11.42	1,454		1,454	31
DF		19	5	19.0	40	72	86	83		6.5	94	54.6	14.499	28.55	2,813	4	2,697	58
DF		20	2	20.0	40	77	97	83		2.6	124	57.9	5.234	11.42	1,439	2	1,413	30
DF		21	1	21.0	40	82	103	85		1.2	121	58.9	2.374	5.71	712	3	688	15
DF		22	2	22.0	40	69	86	84		2.4	100	46.9	4.326	11.42	1,211	5	1,146	25
DF		23	1	23.0	40	73	91	82		1.2	94	47.5	1.979	5.71	554	4	534	11
DF		24	2	24.0	40	78	98	83		2.3	116	48.8	3.635	11.42	1,436	8	1,327	28
DF		28	1	28.0	40	70	87	73		1.1	33	37.3	1.335	5.71	561	67	187	4
DF		Totals	26	17.7	40	71	88	85		35.3	106	59.9	87.088	148.44	16,592	5	15,728	337
RA		8	1	8.0	40	67	67	83		1.0	86	100.5	8.024	2.80	321	25	241	5
RA		9	3	9.0	40	69	69	81		2.8	83	91.6	19.019	8.40	761	8	697	15
RA		10	3	10.0	40	73	73	79		2.7	73	87.6	15.406	8.40	616		616	13
RA		11	1	11.0	40	85	85	82		0.8	91	92.7	4.244	2.80	340	25	255	5
RA		18	1	18.0	40	60	93	79		0.7	79	62.0	1.585	2.80	238	7	222	5
RA		Totals	9	9.8	40	71	72	81		8.1	81	88.3	48.278	25.21	2,275	11	2,031	43
WH		26	1	26.0	40	72	89	74		0.5	68	41.1	.760	2.80	213	11	190	4
WH		Totals	1	26.0	40	72	89	74		0.5	68	41.1	.760	2.80	213	11	190	4
Totals			36	15.4	40	71	82	83		44.9	102	64.2	136.126	176.45	19,079	6	17,948	384

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U2											T16N R03W S17 T00U2							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	00U2	20.10	11	29				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF		10	1	10.0	40	66	66	84		2.3	73	79.2	13.221	7.21	529		529	11
DF		11	2	11.0	40	64	64	85		4.3	76	69.3	21.853	14.42	1,093		1,093	22
DF		12	5	12.0	40	64	70	86		10.4	79	70.4	45.906	36.05	2,938	3	2,846	57
DF		13	4	13.0	40	83	83	86		8.0	103	76.8	31.292	28.84	3,129	5	2,973	60
DF		14	4	14.0	40	79	79	86		7.7	94	67.5	26.981	28.84	2,766	2	2,698	54
DF		15	2	15.0	40	68	91	85		3.7	102	72.4	11.752	14.42	1,528	4	1,469	30
DF		16	1	16.0	40	72	72	83		1.8	57	54.0	5.164	7.21	465	11	413	8
DF		17	2	17.0	40	84	106	86		3.5	146	74.8	9.149	14.42	2,104		2,104	42
DF		19	1	19.0	40	85	85	82		1.7	102	53.7	3.662	7.21	769	5	732	15
DF		25	1	25.0	40	89	110	85		1.4	141	52.8	2.115	7.21	1,100	8	1,015	20
DF		27	1	27.0	40	93	117	85		1.4	171	52.0	1.814	7.21	1,288	4	1,233	25
DF		29	1	29.0	40	92	117	84		1.3	159	48.4	1.572	7.21	1,226	6	1,148	23
DF		Totals	25	13.8	40	73	78	85		48.6	101	67.8	174.482	180.27	18,934	4	18,254	367
RA		7	1	7.0	40	44	44	78		1.2	75	75.4	11.433	3.06	229		229	5
RA		11	1	11.0	40	33	66	82		0.9	76	72.0	4.630	3.06	278	17	231	5
RA		12	1	12.0	40	32	44	78		0.9	38	44.0	3.890	3.06	117		117	2
RA		13	1	13.0	40	33	66	81		0.8	76	60.9	3.315	3.06	298	22	232	5
RA		Totals	4	9.8	40	38	52	79		3.9	66	63.0	23.268	12.22	921	12	809	16
Totals			29	13.4	40	69	75	85		52.7	99	67.1	197.750	192.49	19,856	4	19,063	383

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project														ONTIME				
T16N R03W S17 T00U3											T16N R03W S17 T00U3							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	Page:	1									
16N	03W	17	ONTIME	00U3	41.70	22	61	Date:	7/14/2016									
								Time:	10:12:08AM									
Spc	S	DBH	Sample	QMD	Total	Bole	Total	Avg	Avg	RD	V	Ht/D	Trees/	BA/	Gross Bd.	Def	Net	MBF
	T	Class	Trees	DBH	Age	Ht.	Ht.	FF	CR		Bar		Acre	Acre	Ft. Acre	%	Bd. Ft. Acre	
DF		12	6	12.0	40	66	86	82		5.6	91	85.5	24.584	19.31	1,803	2	1,762	73
DF		13	2	13.0	40	64	80	81		1.8	76	73.4	6.982	6.44	489		489	20
DF		14	6	14.0	40	70	94	84		5.2	112	80.9	18.061	19.31	2,348	8	2,167	90
DF		15	4	15.0	40	82	96	86		3.3	122	76.4	10.489	12.87	1,626	3	1,573	66
DF		16	3	16.0	40	92	100	85		2.4	127	75.0	6.914	9.65	1,245	2	1,221	51
DF		17	4	17.0	40	76	105	83		3.1	127	73.8	8.166	12.87	1,715	5	1,633	68
DF		18	3	18.0	40	84	97	84		2.3	123	64.9	5.463	9.65	1,184		1,184	49
DF		19	4	19.0	40	102	115	85		3.0	142	72.6	6.537	12.87	1,863	2	1,830	76
DF		20	1	20.0	40	84	106	82		0.7	115	63.6	1.475	3.22	384	4	369	15
DF		21	4	21.0	40	98	118	85		2.8	155	67.4	5.352	12.87	2,060	3	1,993	83
DF		24	1	24.0	40	101	129	85		0.7	185	64.5	1.024	3.22	625	5	594	25
DF		25	1	25.0	40	107	137	85		0.6	202	65.8	.944	3.22	661	1	651	27
DF		26	2	26.0	40	106	136	85		1.3	202	62.5	1.746	6.44	1,318	1	1,300	54
DF		28	1	28.0	40	118	151	81		0.6	203	64.7	.753	3.22	670	2	655	27
DF		29	2	29.0	40	120	154	84		1.2	241	63.5	1.403	6.44	1,614	4	1,550	65
DF		31	1	31.0	40	98	125	76		0.6	141	48.4	.614	3.22	491	8	454	19
DF		32	1	32.0	40	100	127	81		0.6	168	47.6	.576	3.22	565	4	542	23
DF		39	1	39.0	40	116	149	81		0.5	222	45.8	.388	3.22	780	8	714	30
DF		Totals	47	16.5	40	79	99	84		37.2	137	71.6	101.471	151.25	21,438	4	20,683	862
RA		12	2	12.0	40	57	74	81		1.0	83	73.5	4.377	3.44	284		284	12
RA		14	2	14.0	40	55	55	81		0.9	61	47.1	3.215	3.44	225	7	209	9
RA		15	1	15.0	40	56	68	84		0.4	65	54.4	1.401	1.72	126	11	112	5
RA		18	3	18.0	40	63	102	82		1.2	123	68.2	2.918	5.16	661	4	632	26
RA		Totals	8	14.5	40	58	75	82		3.6	90	61.8	11.910	13.75	1,297	5	1,238	52
WH		19	2	19.0	40	80	99	82		0.7	91	62.5	1.552	3.06	349	20	279	12
WH		24	1	24.0	40	84	105	83		0.3	137	52.5	.486	1.53	219	4	209	9
WH		Totals	3	20.3	40	81	100	82		1.0	107	59.4	2.038	4.58	568	14	488	20
RC		39	1	39.0	40	99	127	80		0.2	164	39.1	.184	1.53	328	24	250	10
RC		Totals	1	39.0	40	99	127	80		0.2	164	39.1	.184	1.53	328	24	250	10
BM		29	1	29.0	40	42	84	82		0.3	85	34.8	.333	1.53	200	35	130	5
BM		55	1	55.0	40	70	88	69		0.2		19.2	.093	1.53	165	100		
BM		Totals	2	36.3	40	48	85	79		0.5	43	28.1	.426	3.06	365	64	130	5
Totals			61	16.6	40	77	96	83		42.8	131	69.6	116.029	174.16	23,995	5	22,790	950

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U4										T16N R03W S17 T00U4								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1							
16N	03W	17	ONTIME	00U4	38.50	22	65			Date:	7/14/2016							
										Time:	10:12:08AM							
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF		8	1	8.0	40	47	57	76		1.1	57	85.5	8.619	3.01	172		172	7
DF		9	1	9.0	40	48	58	79		1.0	68	77.3	6.810	3.01	204		204	8
DF		10	3	10.0	40	55	67	80		2.9	73	80.4	16.548	9.03	662		662	25
DF		11	3	11.0	40	51	62	79		2.7	61	67.6	13.676	9.03	547		547	21
DF		12	8	12.0	40	57	73	82		6.9	81	73.3	30.644	24.07	2,068	6	1,954	75
DF		13	12	13.0	40	59	73	81		10.0	71	67.3	39.166	36.10	2,611	1	2,578	99
DF		14	13	14.0	40	67	83	83		10.5	91	71.1	36.585	39.11	3,602	2	3,546	137
DF		15	9	15.0	40	67	83	83		7.0	105	66.2	22.064	27.08	2,917	3	2,844	109
DF		16	8	16.0	40	69	86	83		6.0	104	64.7	17.237	24.07	2,607	4	2,499	96
DF		17	3	17.0	40	71	88	82		2.2	104	62.1	5.726	9.03	973	4	935	36
DF		18	2	18.0	40	75	94	84		1.4	124	62.7	3.405	6.02	749		749	29
DF		19	2	19.0	40	72	90	81		1.4	102	56.8	3.056	6.02	642	5	611	24
DF		Totals	65	13.3	40	61	76	81		53.7	88	68.4	203.534	195.55	17,756	3	17,302	666
Totals			65	13.3	40	61	76	81		53.7	88	68.4	203.534	195.55	17,756	3	17,302	666

TC		TSTNDSUMRdVBar												Stand Table Summary with RD, V-bar - Type				
Project														ONTIME				
T16N R03W S17 T00U5										T16N R03W S17 T00U5								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1							
16N	03W	17	ONTIME	00U5	24.50	14	31			Date:	7/14/2016							
										Time:	10:12:08AM							
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF		12	2	12.0	40	61	61	85		3.0	51	60.5	13.042	10.24	522		522	13
DF		13	2	13.0	40	70	80	84		2.8	98	73.4	11.113	10.24	1,000		1,000	25
DF		14	5	14.0	40	72	86	86		6.8	103	73.5	23.954	25.61	2,731	4	2,635	65
DF		15	2	15.0	40	77	96	87		2.6	118	76.8	8.347	10.24	1,294	6	1,210	30
DF		16	5	16.0	40	70	99	85		6.4	129	74.3	18.340	25.61	3,375	2	3,301	81
DF		17	1	17.0	40	78	98	85		1.2	140	69.2	3.249	5.12	715		715	18
DF		18	3	18.0	40	74	93	84		3.6	117	62.0	8.695	15.36	1,855	3	1,797	44
DF		19	4	19.0	40	76	95	82		4.7	95	60.2	10.405	20.49	2,081	6	1,951	48
DF		20	4	20.0	40	78	98	84		4.6	118	58.7	9.390	20.49	2,535	5	2,418	59
DF		22	1	22.0	40	65	81	83		1.1	91	44.2	1.940	5.12	543	14	466	11
DF		23	1	23.0	40	84	106	84		1.1	149	55.3	1.775	5.12	763		763	19
DF		Totals	30	16.0	40	72	88	85		38.4	109	66.2	110.250	153.65	17,413	4	16,778	411
DF	D	12	1	12.0	40	63	63	84		0.7	76	63.0	3.057	2.40	183		183	4
DF		Totals	1	12.0	40	63	63	84		0.7	76	63.0	3.057	2.40	183		183	4
Totals			31	15.9	40	72	88	85		39.1	109	66.1	113.306	156.05	17,597	4	16,961	416

TC		TSTNDSUMRdVBar		Stand Table Summary with RD, V-bar - Type														
Project												ONTIME						
T16N R03W S17 T00U6												T16N R03W S17 T00U6						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees					Page:	1					
16N	03W	17	ONTIME	00U6	1.05	1	6					Date:	7/14/2016					
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	15	2	15.0	40	65	81	80		17.4	81	64.8	54.776	67.22	6,025	9	5,478	6
DF	L	19	1	19.0	40	77	97	86		7.7	122	61.3	17.070	33.61	4,268	4	4,097	4
DF	L	20	1	20.0	40	78	98	86		7.5	138	58.8	15.406	33.61	4,622		4,622	5
DF		Totals	4	16.8	40	70	87	82		32.8	106	62.2	87.252	134.44	14,915	5	14,196	15
DF	S	18	1	18.0	40	76	95	84		7.9	124	63.3	19.019	33.61	4,184		4,184	4
DF		Totals	1	18.0	40	76	95	84		7.9	124	63.3	19.019	33.61	4,184		4,184	4
DF	T	15	1	15.0	40	68	85	83		8.7	90	68.0	27.388	33.61	3,013		3,013	3
DF		Totals	1	15.0	40	68	85	83		8.7	90	68.0	27.388	33.61	3,013		3,013	3
Totals			6	16.6	40	70	88	83		49.4	106	63.4	133.659	201.66	22,111	3	21,393	22

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U7											T16N R03W S17 T00U7							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	00U7	1.10	1	8				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	T	12	1	12.0	40	68	85	82		9.7	115	85.0	42.794	33.61	3,851		3,851	4
DF	T	13	1	13.0	40	67	83	84		9.3	98	76.6	36.463	33.61	3,282		3,282	4
DF	T	14	2	14.0	40	72	90	83		18.0	108	77.1	62.880	67.22	7,546	4	7,231	8
DF		Totals	4	13.2	40	70	87	83		37.0	107	79.0	142.137	134.44	14,679	2	14,364	16
DF	L	12	1	12.0	40	69	86	84		9.7	115	86.0	42.794	33.61	3,851		3,851	4
DF	L	15	2	15.0	40	73	91	83		17.4	118	72.8	54.776	67.22	8,216	3	7,942	9
DF		Totals	3	13.8	40	71	89	83		27.2	117	77.4	97.569	100.83	12,068	2	11,794	13
DF	S	14	1	14.0	40	72	90	85		9.0	122	77.1	31.440	33.61	4,402	7	4,087	4
DF		Totals	1	14.0	40	72	90	85		9.0	122	77.1	31.440	33.61	4,402	7	4,087	4
Totals			8	13.5	40	70	88	83		73.2	112	78.2	271.147	268.88	31,148	3	30,246	33

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U8													T16N R03W S17 T00U8					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees							Page:	1			
16N	03W	17	ONTIME	00U8	2.90	2	7							Date:	7/14/2016			
													Time:	10:12:08AM				
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	14	2	14.0	40	71	88	83		24.0	112	75.4	83.841	89.63	10,061		10,061	29
DF	L	17	1	17.0	40	73	91	84		10.9	114	64.2	28.430	44.81	5,117		5,117	15
DF		Totals	3	14.8	40	71	89	83		34.9	113	71.9	112.271	134.44	15,178		15,178	44
DF	T	10	1	10.0	40	58	58	82		5.3	73	69.6	30.811	16.81	1,232		1,232	4
DF	T	11	2	11.0	40	70	70	82		10.1	61	76.4	50.928	33.61	2,037		2,037	6
DF		Totals	3	10.6	40	65	65	82		15.5	65	73.9	81.739	50.42	3,270		3,270	9
DF	S	13	1	13.0	40	68	85	84		4.7	98	78.5	18.232	16.81	1,641		1,641	5
DF		Totals	1	13.0	40	68	85	84		4.7	98	78.5	18.232	16.81	1,641		1,641	5
Totals			7	13.2	40	69	79	83		55.5	100	72.3	212.242	201.66	20,089		20,089	58

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T00U9													T16N R03W S17 T00U9					
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees							Page:	1			
16N	03W	17	ONTIME	00U9	0.30	1	6							Date:	7/14/2016			
													Time:	10:12:08AM				
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	14	2	14.0	40	68	84	85		18.0	103	72.0	62.880	67.22	6,917		6,917	2
DF	L	18	1	18.0	40	73	91	80		7.9	102	60.7	19.019	33.61	3,423		3,423	1
DF		Totals	3	15.0	40	69	86	84		26.0	103	68.4	81.900	100.83	10,340		10,340	3
DF	T	10	1	10.0	40	65	81	82		10.6	73	97.2	61.623	33.61	2,465		2,465	1
DF	T	13	1	13.0	40	72	90	83		9.3	98	83.1	36.463	33.61	3,282		3,282	1
DF		Totals	2	11.2	40	68	84	82		20.1	85	90.3	98.086	67.22	5,747		5,747	2
DF	S	16	1	16.0	40	75	94	86		8.4	129	70.5	24.071	33.61	4,574	5	4,333	1
DF		Totals	1	16.0	40	75	94	86		8.4	129	70.5	24.071	33.61	4,574	5	4,333	1
Totals			6	13.5	40	69	86	83		55.0	101	76.7	204.057	201.66	20,661	1	20,420	6

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T0U10											T16N R03W S17 T0U10							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U10	3.60	3	10				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	13	1	13.0	40	70	87	83		12.4	98	80.3	48.618	44.81	4,376		4,376	16
DF	L	15	1	15.0	40	65	81	79		11.6	81	64.8	36.517	44.81	4,017	9	3,652	13
DF	L	16	1	16.0	40	72	90	84		11.2	129	67.5	32.095	44.81	5,777		5,777	21
DF		Totals	3	14.5	40	69	86	82		35.3	103	71.1	117.230	134.44	14,170	3	13,804	50
DF	T	9	1	9.0	40	69	69	81		3.7	91	92.0	25.359	11.20	1,014		1,014	4
DF	T	11	2	11.0	40	49	73	84		6.8	76	79.1	33.952	22.41	1,698		1,698	6
DF	T	12	2	12.0	40	65	81	85		6.5	102	80.5	28.529	22.41	2,282		2,282	8
DF	T	13	1	13.0	40	53	99	86		3.1	98	91.4	12.154	11.20	1,094		1,094	4
DF		Totals	6	11.1	40	59	77	84		20.2	91	83.4	99.995	67.22	6,088		6,088	22
DF	S	14	1	14.0	40	69	86	83		3.0	103	73.7	10.480	11.20	1,153		1,153	4
DF		Totals	1	14.0	40	69	86	83		3.0	103	73.7	10.480	11.20	1,153		1,153	4
Totals			10	13.1	40	65	82	83		58.8	99	75.2	227.705	212.86	21,411	2	21,045	76

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project														ONTIME				
T16N R03W S17 T0U11											T16N R03W S17 T0U11							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U11	2.50	2	14				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	12	1	12.0	40	69	79	84		4.9	102	79.0	21.397	16.81	1,712		1,712	4
DF	L	15	1	15.0	40	94	94	86		4.3	114	75.2	13.694	16.81	2,054	7	1,917	5
DF	L	16	1	16.0	40	74	96	86		4.2	129	72.0	12.036	16.81	2,166		2,166	5
DF	L	17	1	17.0	40	98	98	85		4.1	114	69.2	10.661	16.81	2,026	5	1,919	5
DF	L	18	2	18.0	40	98	98	85		7.9	124	65.0	19.019	33.61	4,184		4,184	10
DF	L	19	1	19.0	40	95	95	86		3.9	117	60.0	8.535	16.81	2,048	4	1,963	5
DF	L	20	1	20.0	40	69	98	85		3.8	110	58.8	7.703	16.81	1,926	4	1,849	5
DF		Totals	8	16.3	40	85	92	85		33.3	117	68.1	93.045	134.44	16,116	3	15,710	39
DF	T	10	2	10.0	40	77	77	84		10.6	73	91.8	61.623	33.61	2,465		2,465	6
DF	T	13	1	13.0	40	89	89	84		4.7	108	82.2	18.232	16.81	2,005	9	1,823	5
DF	T	15	2	15.0	40	78	94	85		8.7	118	74.8	27.388	33.61	4,108	3	3,971	10
DF		Totals	5	12.0	40	79	83	84		24.3	98	83.1	107.242	84.03	8,579	4	8,259	21
DF	S	14	1	14.0	40	89	89	85		4.5	112	76.3	15.720	16.81	1,886		1,886	5
DF		Totals	1	14.0	40	89	89	85		4.5	112	76.3	15.720	16.81	1,886		1,886	5
Totals			14	14.1	40	82	87	85		62.6	110	74.3	216.008	235.27	26,581	3	25,856	65

TC		TSTNDSUMRdVBar		Stand Table Summary with RD, V-bar - Type														
Project												ONTIME						
T16N R03W S17 T0U12												T16N R03W S17 T0U12						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees					Page:	1					
16N	03W	17	ONTIME	0U12	0.30	1	6					Date:	7/14/2016					
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	15	1	15.0	40	91	91	86		8.7	114	72.8	27.388	33.61	4,108	7	3,834	1
DF	L	19	1	19.0	40	106	106	86		7.7	132	66.9	17.070	33.61	4,438		4,438	1
DF	L	21	2	21.0	40	108	108	84		14.7	137	61.4	27.947	67.22	9,502	3	9,222	3
DF		Totals	4	18.5	40	101	101	85		31.3	130	65.6	72.405	134.44	18,048	3	17,495	5
DF	S	12	1	12.0	40	85	85	84		9.7	115	85.0	42.794	33.61	3,851		3,851	1
DF		Totals	1	12.0	40	85	85	84		9.7	115	85.0	42.794	33.61	3,851		3,851	1
DF	T	12	1	12.0	40	82	82	84		9.7	89	82.0	42.794	33.61	3,851	22	2,996	1
DF		Totals	1	12.0	40	82	82	84		9.7	89	82.0	42.794	33.61	3,851	22	2,996	1
Totals			6	15.3	40	91	91	85		51.6	121	71.8	157.992	201.66	25,751	5	24,342	7

TC		TSTNDSUMRdVBar		Stand Table Summary with RD, V-bar - Type														
Project												ONTIME						
T16N R03W S17 T0U13												T16N R03W S17 T0U13						
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees					Page:	1					
16N	03W	17	ONTIME	0U13	0.40	1	8					Date:	7/14/2016					
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	16	2	16.0	40	72	93	84		16.8	115	69.4	48.143	67.22	7,944	3	7,703	3
DF	L	17	2	17.0	40	101	101	85		16.3	140	71.6	42.646	67.22	9,382		9,382	4
DF		Totals	4	16.5	40	86	97	84		33.1	127	70.4	90.788	134.44	17,326	1	17,085	7
DF	T	12	2	12.0	40	91	91	84		19.4	115	91.0	85.587	67.22	7,703		7,703	3
DF	T	13	1	13.0	40	91	91	84		9.3	130	84.0	36.463	33.61	4,376		4,376	2
DF		Totals	3	12.3	40	91	91	84		28.7	120	88.7	122.050	100.83	12,078		12,078	5
DF	S	16	1	16.0	40	100	100	84		8.4	136	75.0	24.071	33.61	4,574		4,574	2
DF		Totals	1	16.0	40	100	100	84		8.4	136	75.0	24.071	33.61	4,574		4,574	2
Totals			8	14.4	40	90	94	84		70.8	125	78.3	236.910	268.88	33,978	1	33,737	13

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T0U14											T16N R03W S17 T0U14							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U14	0.20	1	6				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	11	1	11.0	40	72	72	84		10.1	91	78.5	50.928	33.61	3,056		3,056	1
DF	L	16	1	16.0	40	90	90	86		8.4	129	67.5	24.071	33.61	4,333		4,333	1
DF	L	18	1	18.0	40	65	81	81		7.9	96	54.0	19.019	33.61	3,233		3,233	1
DF		Totals	3	14.0	40	75	78	84		26.9	105	67.1	94.019	100.83	10,622		10,622	2
DF	T	8	1	8.0	40	65	65	83		11.9	86	97.5	96.286	33.61	2,889		2,889	1
DF	T	15	1	15.0	40	55	77	86		8.7	73	61.6	27.388	33.61	2,465		2,465	0
DF		Totals	2	10.0	40	63	68	84		21.3	80	81.3	123.674	67.22	5,353		5,353	1
DF	S	17	1	17.0	40	82	99	83		8.2	102	69.9	21.323	33.61	4,051	16	3,412	1
DF		Totals	1	17.0	40	82	99	83		8.2	102	69.9	21.323	33.61	4,051	16	3,412	1
Totals			6	12.4	40	69	75	84		57.2	96	72.1	239.015	201.66	20,027	3	19,387	4

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T0U15											T16N R03W S17 T0U15							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U15	0.40	1	10				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	10	1	10.0	40	56	69	80		10.6	73	82.8	61.623	33.61	2,465		2,465	1
DF	L	14	2	14.0	40	72	90	84		18.0	112	77.1	62.880	67.22	7,546		7,546	3
DF	L	18	1	18.0	40	78	98	84		7.9	124	65.3	19.019	33.61	4,184		4,184	2
DF		Totals	4	13.1	40	66	82	82		37.1	106	75.1	143.523	134.44	14,195		14,195	6
DF	T	12	1	12.0	40	76	76	82		9.7	76	76.0	42.794	33.61	2,568		2,568	1
DF	T	14	1	14.0	40	71	89	78		9.0	103	76.3	31.440	33.61	3,458		3,458	1
DF	T	15	3	15.0	40	65	81	78		26.0	79	65.1	82.164	100.83	8,490	6	7,942	3
DF		Totals	5	14.0	40	69	81	79		44.9	83	69.6	156.398	168.05	14,516	4	13,969	6
DF	S	16	1	16.0	40	68	85	80		8.4	100	63.8	24.071	33.61	3,611	7	3,370	1
DF		Totals	1	16.0	40	68	85	80		8.4	100	63.8	24.071	33.61	3,611	7	3,370	1
Totals			10	13.8	40	68	82	81		90.5	94	71.3	323.992	336.10	32,322	2	31,533	13

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T0U16										T16N R03W S17 T0U16								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees			Page:	1							
16N	03W	17	ONTIME	0U16	2.50	2	12			Date:	7/14/2016							
										Time:	10:12:08AM							
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	14	1	14.0	40	64	79	85		4.5	103	67.7	15.720	16.81	1,729		1,729	4
DF	L	15	3	15.0	40	66	81	85		13.0	106	65.1	41.082	50.42	5,478	3	5,341	13
DF	L	16	1	16.0	40	60	74	86		4.2	93	55.5	12.036	16.81	1,685	7	1,565	4
DF	L	17	1	17.0	40	54	108	83		4.1	114	76.2	10.661	16.81	1,919		1,919	5
DF	L	18	1	18.0	40	79	99	84		4.0	124	66.0	9.510	16.81	2,092		2,092	5
DF		Totals	7	15.6	40	65	85	85		29.8	107	65.5	89.009	117.64	12,903	2	12,646	32
DF	T	10	1	10.0	40	55	55	84		5.3	73	66.0	30.811	16.81	1,232		1,232	3
DF	T	12	2	12.0	40	58	72	84		9.7	83	71.5	42.794	33.61	2,782		2,782	7
DF	T	14	1	14.0	40	68	85	85		4.5	103	72.9	15.720	16.81	1,729		1,729	4
DF		Totals	4	11.7	40	59	68	84		19.6	85	69.7	89.325	67.22	5,743		5,743	14
DF	S	15	1	15.0	40	68	85	84		4.3	122	68.0	13.694	16.81	2,054		2,054	5
DF		Totals	1	15.0	40	68	85	84		4.3	122	68.0	13.694	16.81	2,054		2,054	5
Totals			12	13.9	40	62	77	84		54.1	101	66.7	192.028	201.66	20,700	1	20,443	51

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project													ONTIME					
T16N R03W S17 T0U17											T16N R03W S17 T0U17							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U17	1.80	1	9				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	T	12	1	12.0	40	63	78	84		9.7	76	78.0	42.794	33.61	2,568		2,568	5
DF	T	13	1	13.0	40	65	81	81		9.3	76	74.8	36.463	33.61	3,282	22	2,552	5
DF	T	14	2	14.0	40	69	86	85		18.0	108	73.7	62.880	67.22	7,231		7,231	13
DF	T	16	1	16.0	40	77	97	84		8.4	136	72.8	24.071	33.61	4,574		4,574	8
DF		Totals	5	13.6	40	68	84	84		45.5	101	74.4	166.209	168.05	17,654	4	16,925	30
DF	L	12	1	12.0	40	64	79	82		9.7	76	79.0	42.794	33.61	2,568		2,568	5
DF	L	14	1	14.0	40	69	86	82		9.0	103	73.7	31.440	33.61	3,458		3,458	6
DF	L	15	1	15.0	40	55	101	85		8.7	98	80.8	27.388	33.61	3,287		3,287	6
DF		Totals	3	13.5	40	63	87	83		27.5	92	77.5	101.622	100.83	9,313		9,313	17
DF	S	15	1	15.0	40	73	91	84		8.7	122	72.8	27.388	33.61	4,108		4,108	7
DF		Totals	1	15.0	40	73	91	84		8.7	122	72.8	27.388	33.61	4,108		4,108	7
Totals			9	13.7	40	67	86	83		81.7	100	75.3	295.218	302.49	31,075	2	30,346	55

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project														ONTIME				
T16N R03W S17 T0U18											T16N R03W S17 T0U18							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U18	1.90	1	6				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	13	1	13.0	40	63	78	86		9.3	98	72.0	36.463	33.61	3,282		3,282	6
DF	L	15	1	15.0	40	67	83	85		8.7	106	66.4	27.388	33.61	3,834	7	3,560	7
DF	L	18	1	18.0	40	76	95	83		7.9	124	63.3	19.019	33.61	4,184		4,184	8
DF		Totals	3	14.9	40	67	84	85		26.1	109	67.1	82.870	100.83	11,300	2	11,026	21
DF	T	12	1	12.0	40	62	77	84		9.7	76	77.0	42.794	33.61	2,568		2,568	5
DF	T	14	1	14.0	40	69	86	81		9.0	94	73.7	31.440	33.61	3,458	9	3,144	6
DF		Totals	2	12.9	40	65	81	83		18.7	85	75.3	74.234	67.22	6,026	5	5,712	11
DF	S	17	1	17.0	40	72	90	83		8.2	114	63.5	21.323	33.61	3,838		3,838	7
DF		Totals	1	17.0	40	72	90	83		8.2	114	63.5	21.323	33.61	3,838		3,838	7
Totals			6	14.4	40	67	83	84		53.2	102	69.3	178.427	201.66	21,164	3	20,576	39

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project															ONTIME			
T16N R03W S17 T0U19											T16N R03W S17 T0U19							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees								Page:	1		
16N	03W	17	ONTIME	0U19	3.40	3	17								Date:	7/14/2016		
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	10	1	10.0	40	53	65	81		3.5	73	78.0	20.541	11.20	822		822	3
DF	L	15	2	15.0	40	70	87	85		5.8	118	69.2	18.259	22.41	2,739	3	2,647	9
DF	L	16	6	16.0	40	73	88	84		16.8	121	66.4	48.143	67.22	8,104		8,104	28
DF	L	20	1	20.0	40	77	97	84		2.5	110	58.2	5.135	11.20	1,284	4	1,232	4
DF		Totals	10	14.9	40	68	83	84		29.0	114	67.0	92.078	112.03	12,948	1	12,806	44
DF	T	10	1	10.0	40	55	55	84		3.5	73	66.0	20.541	11.20	822		822	3
DF	T	11	1	11.0	40	64	79	83		3.4	91	86.2	16.976	11.20	1,019		1,019	3
DF	T	14	3	14.0	40	63	78	85		9.0	87	67.1	31.440	33.61	3,039	3	2,934	10
DF	T	16	1	16.0	40	53	106	84		2.8	107	79.5	8.024	11.20	1,204		1,204	4
DF		Totals	6	12.7	40	60	75	84		18.9	89	71.3	76.981	67.22	6,083	2	5,978	20
DF	S	17	1	17.0	40	84	106	82		2.7	127	74.8	7.108	11.20	1,493	5	1,422	5
DF		Totals	1	17.0	40	84	106	82		2.7	127	74.8	7.108	11.20	1,493	5	1,422	5
Totals			17	14.1	40	65	81	84		50.8	106	68.8	176.166	190.46	20,524	2	20,205	69

TC		TSTNDSUMRdVBar													Stand Table Summary with RD, V-bar - Type			
Project														ONTIME				
T16N R03W S17 T0U20											T16N R03W S17 T0U20							
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1						
16N	03W	17	ONTIME	0U20	3.50	3	19				Date:	7/14/2016						
											Time:	10:12:08AM						
Spc	S	DBH Class	Sample Trees	QMD DBH	Total Age	Bole Ht.	Total Ht.	Avg FF	Avg CR	RD	V Bar	Ht/D	Trees/Acre	BA/Acre	Gross Bd. Ft. Acre	Def %	Net Bd. Ft. Acre	MBF
DF	L	10	1	10.0	40	53	65	84		3.5	73	78.0	20.541	11.20	822		822	3
DF	L	12	1	12.0	40	68	85	84		3.2	115	85.0	14.265	11.20	1,284		1,284	4
DF	L	13	1	13.0	40	68	85	84		3.1	98	78.5	12.154	11.20	1,094		1,094	4
DF	L	14	1	14.0	40	69	86	83		3.0	103	73.7	10.480	11.20	1,153		1,153	4
DF	L	15	3	15.0	40	61	77	83		8.7	79	61.9	27.388	33.61	2,739	3	2,647	9
DF	L	16	1	16.0	40	69	86	84		2.8	100	64.5	8.024	11.20	1,204	7	1,123	4
DF	L	18	1	18.0	40	73	91	83		2.6	119	60.7	6.340	11.20	1,331		1,331	5
DF	L	19	2	19.0	40	56	70	81		5.1	63	43.9	11.380	22.41	1,536	7	1,423	5
DF		Totals	11	14.3	40	63	78	83		32.6	88	65.7	110.571	123.24	11,162	3	10,877	38
DF	T	10	1	10.0	40	68	68	83		3.5	73	81.6	20.541	11.20	822		822	3
DF	T	11	1	11.0	40	58	83	82		3.4	91	90.5	16.976	11.20	1,019		1,019	4
DF	T	12	1	12.0	40	63	78	81		3.2	76	78.0	14.265	11.20	856		856	3
DF	T	13	1	13.0	40	58	97	81		3.1	87	89.5	12.154	11.20	1,337	27	972	3
DF	T	14	3	14.0	40	61	82	84		9.0	90	70.3	31.440	33.61	3,249	6	3,039	11
DF		Totals	7	12.3	40	62	80	83		22.4	86	78.7	95.376	78.42	7,282	8	6,708	23
DF	S	17	1	17.0	40	71	89	82		2.7	114	62.8	7.108	11.20	1,279		1,279	4
DF		Totals	1	17.0	40	71	89	82		2.7	114	62.8	7.108	11.20	1,279		1,279	4
Totals			19	13.5	40	63	80	83		57.9	89	70.6	213.055	212.86	19,723	4	18,864	66

TC		TSTNDSUMRdVBar														Stand Table Summary with RD, V-bar - Type			
Project														ONTIME					
T16N R03W S17 T0U21											T16N R03W S17 T0U21								
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees				Page:	1							
16N	03W	17	ONTIME	0U21	1.26	7	23				Date:	7/14/2016							
											Time:	10:12:08AM							
Spc	S	DBH	Sample	QMD	Total	Bole	Total	Avg	Avg	RD	V	Ht/D	Trees/	BA/	Gross Bd.	Def	Net	MBF	
	T	Class	Trees	DBH	Age	Ht.	Ht.	FF	CR		Bar		Acre	Acre	Ft. Acre	%	Bd. Ft. Acre		
DF		9	2	9.0	40	43	54	82		3.2	68	72.0	21.736	9.60	761	14	652	1	
DF		15	1	15.0	40	68	85	84		1.2	122	68.0	3.913	4.80	587		587	1	
DF		16	2	16.0	40	69	102	85		2.4	118	76.5	6.878	9.60	1,204	6	1,135	1	
DF		18	2	18.0	40	60	115	84		2.3	136	76.7	5.434	9.60	1,304		1,304	2	
DF		20	1	20.0	40	68	85	84		1.1	105	51.0	2.201	4.80	506		506	1	
DF		21	2	21.0	40	88	111	85		2.1	137	63.4	3.992	9.60	1,357	3	1,317	2	
DF		22	1	22.0	40	93	118	83		1.0	144	64.4	1.819	4.80	691		691	1	
DF		24	1	24.0	40	67	134	82		1.0	178	67.0	1.528	4.80	886	3	856	1	
DF		25	2	25.0	40	99	126	83		1.9	176	60.5	2.817	9.60	1,761	4	1,690	2	
DF		27	1	27.0	40	93	118	83		0.9	151	52.4	1.208	4.80	737	2	725	1	
DF		34	1	34.0	40	101	129	81		0.8	184	45.5	.762	4.80	960	8	883	1	
DF		Totals	16	16.4	40	62	86	83		19.0	135	62.6	52.287	76.82	10,753	4	10,347	13	
RC		42	1	42.0	40	83	105	76		0.7	121	30.0	.499	4.80	719	19	579	1	
RC		46	2	46.0	40	70	88	78		1.4	94	23.0	.832	9.60	1,248	27	907	1	
RC		54	1	54.0	40	68	85	73		0.7	69	18.9	.302	4.80	525	37	329	0	
RC		Totals	4	46.4	40	74	93	76		2.8	94	23.9	1.633	19.21	2,492	27	1,815	2	
RA		14	1	14.0	40	80	80	78		1.3	94	68.6	4.491	4.80	494	9	449	1	
RA		16	1	16.0	40	55	76	79		1.2	79	57.0	3.439	4.80	413	8	378	0	
RA		17	1	17.0	40	77	92	81		1.2	108	64.9	3.046	4.80	579	11	518	1	
RA		Totals	3	15.5	40	71	82	79		3.7	93	63.5	10.976	14.40	1,485	9	1,345	2	
Totals			23	17.7	40	64	85	82		26.3	122	57.9	64.897	110.43	14,731	8	13,507	17	



FPA/N No: 2418685

Effective Date: 7/20/2016

Expiration Date: 7/20/2019

Shut Down Zone: 651N

EARR Tax Credit: Eligible Non-eligible

Reference: On Time VRH & VDT

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 approved FPA/N

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 yrs 5 yrs

Conditions on Approval / Reasons for Disapproval

Issued By: Kris Knutzen

Region: South Puget Sound

Title: Resource Protection Forester

Date: 7/20/2016

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: Charlotte Bass - Charlotte Bass

AEM
7-20-16

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
South Puget Sound Region
950 Farman Ave. N
Enumclaw, WA 98022

Other Applicable Laws

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

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

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

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

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

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: : http://file.dnr.wa.gov/publications/fp_form_fpantransfer.pdf. 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.

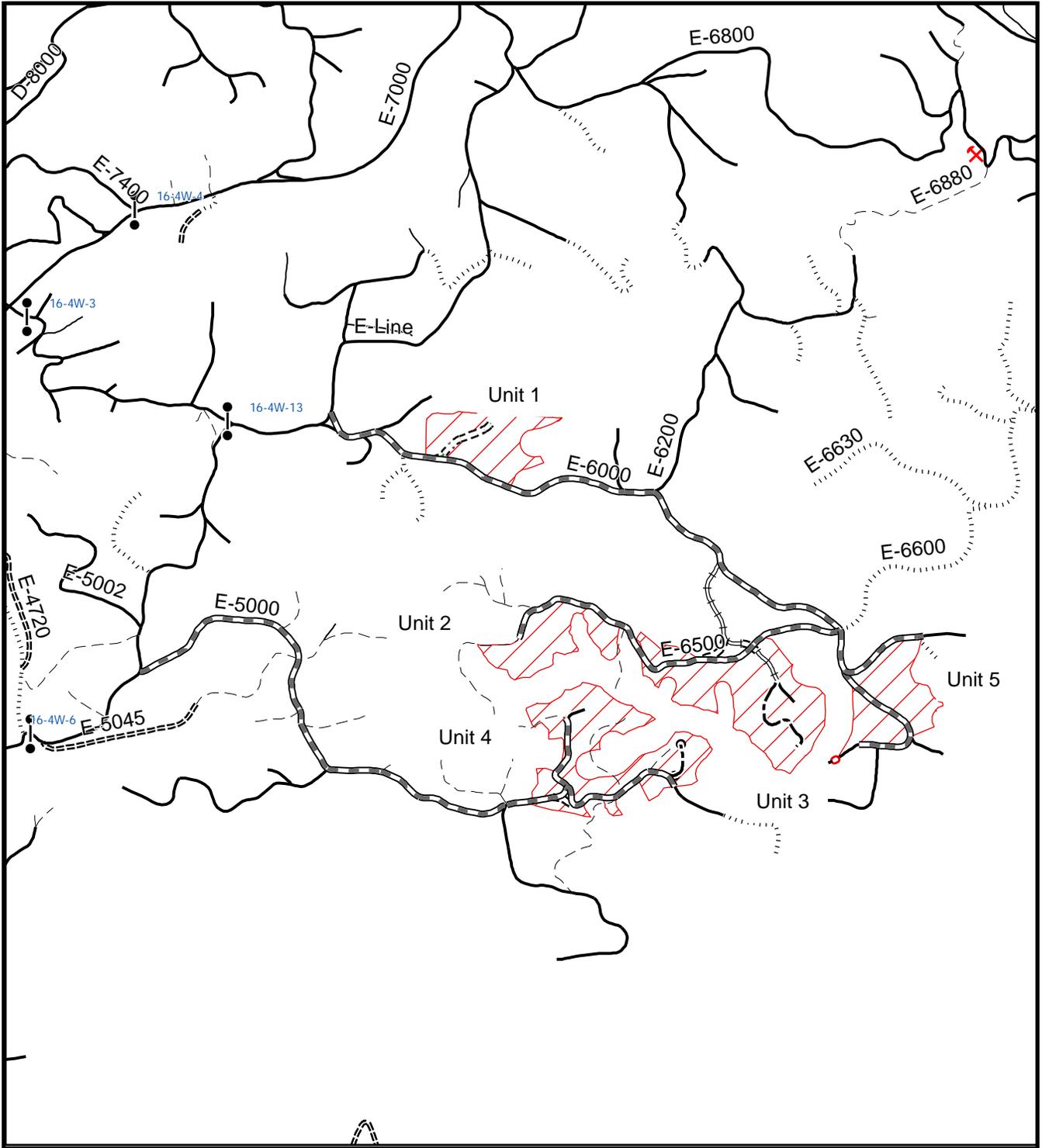
If the seller fails to notify the buyer about the continuing forest land obligation, the seller must pay the buyer's costs related to continuing forest land obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forest land obligation against 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 Click here to enter a date., I placed in the United States mail at , WA, (date mm/dd/yyyy)	
(post office location)	
postage paid, a true and accurate copy of this document. Notice of Decision FPA #	
<u>Charlotte Bass</u>	_____
(Printed name)	(Signature)

ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 1 OF 7



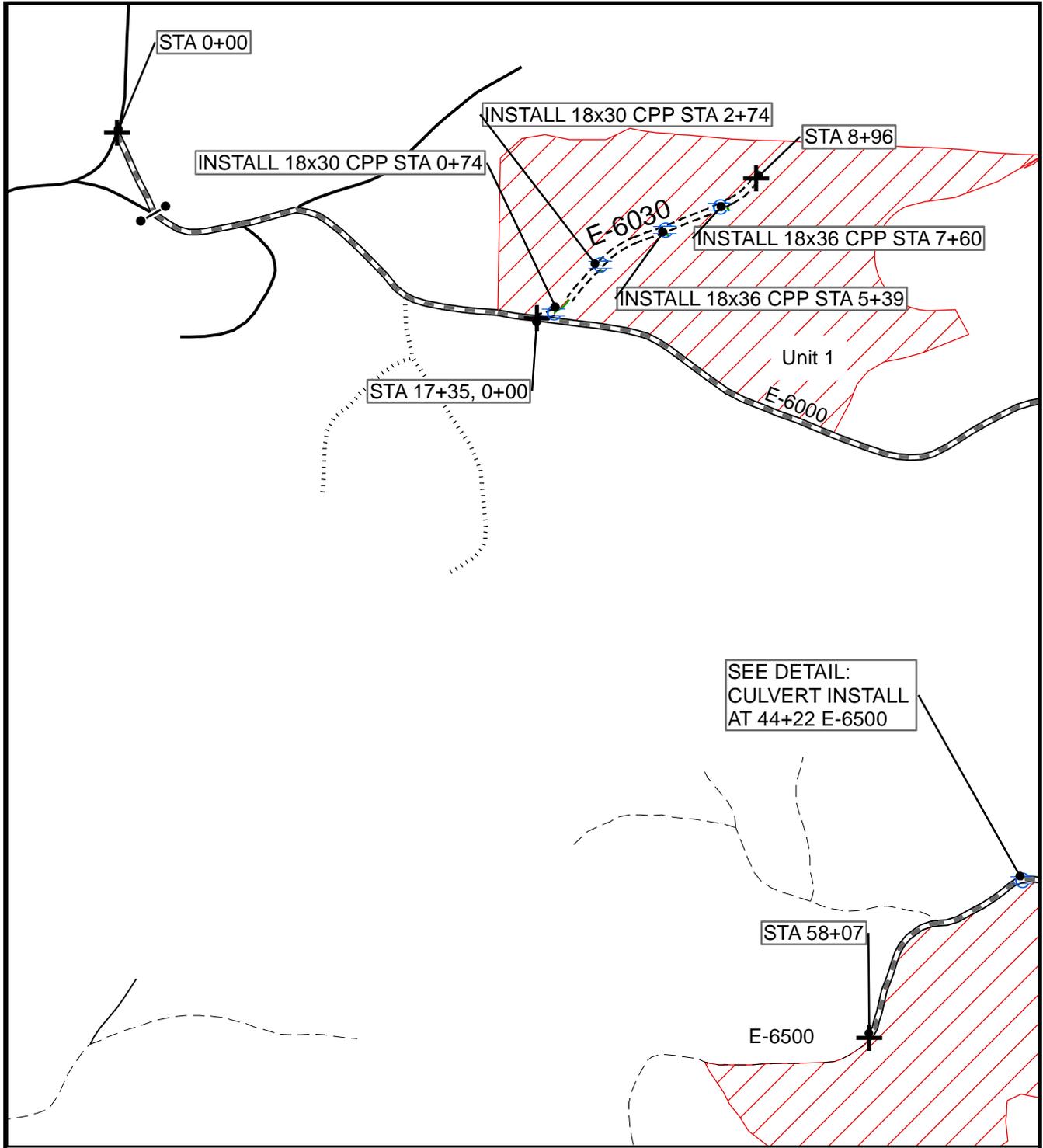
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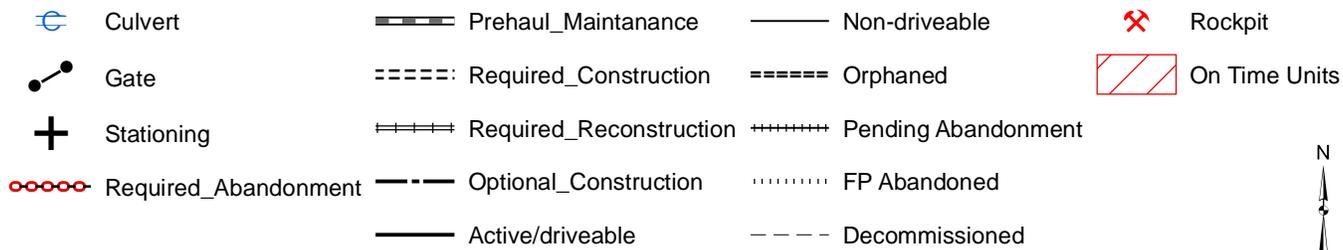
- | | | | |
|-------------------------|-----------------------|---------------------|---------------|
| Required_Abandonment | Optional_Construction | Non-driveable | Rockpit |
| Prehaul_Maintanance | Gates | Orphaned | On Time Units |
| Required_Construction | Other Road Barriers | Pending Abandonment | |
| E_5200_cutoff | Active/driveable | FP Abandoned | |
| Required_Reconstruction | Decommissioned | | |



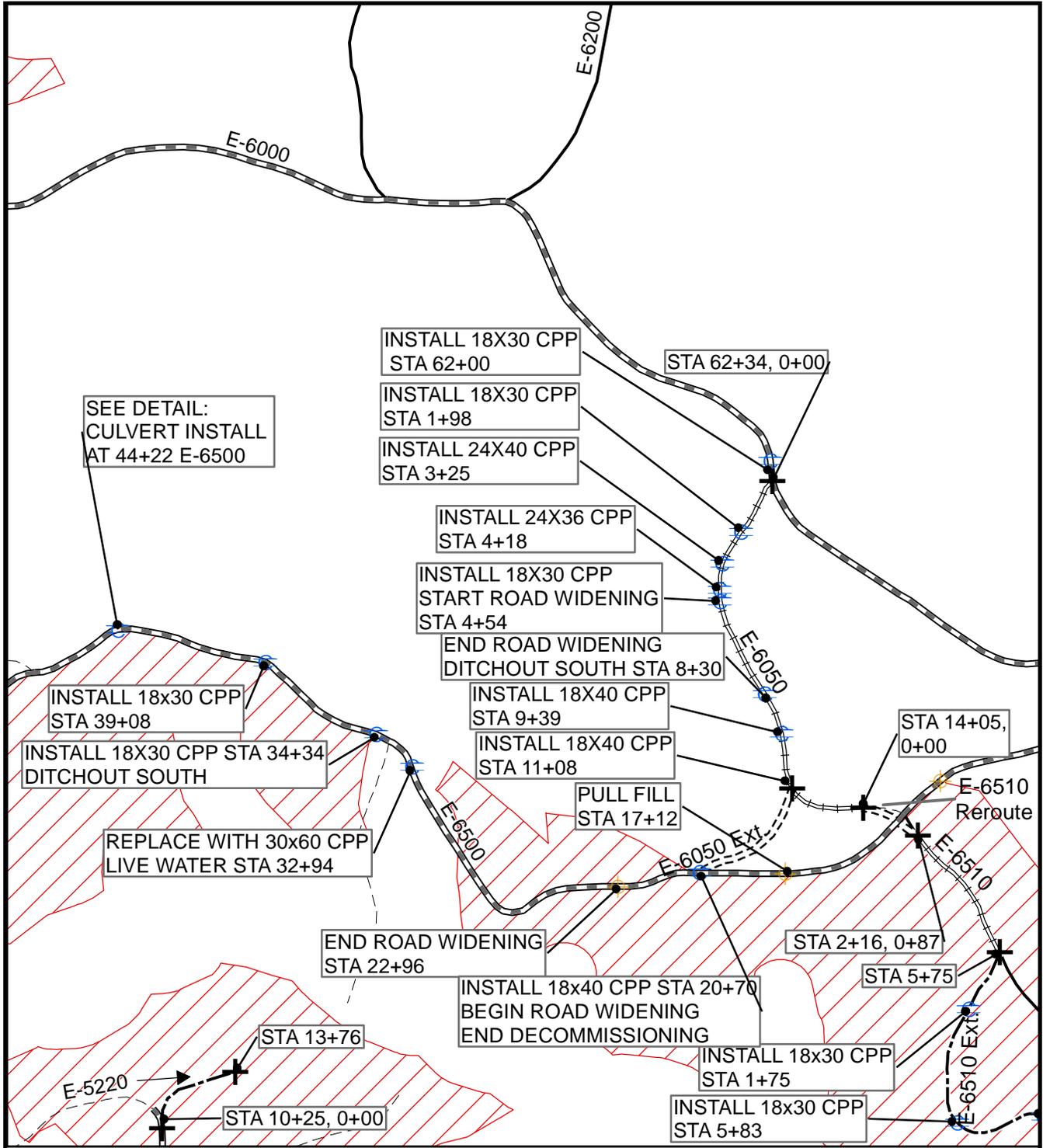
ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 2 OF 7



Legend

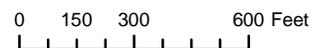


ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 3 OF 7

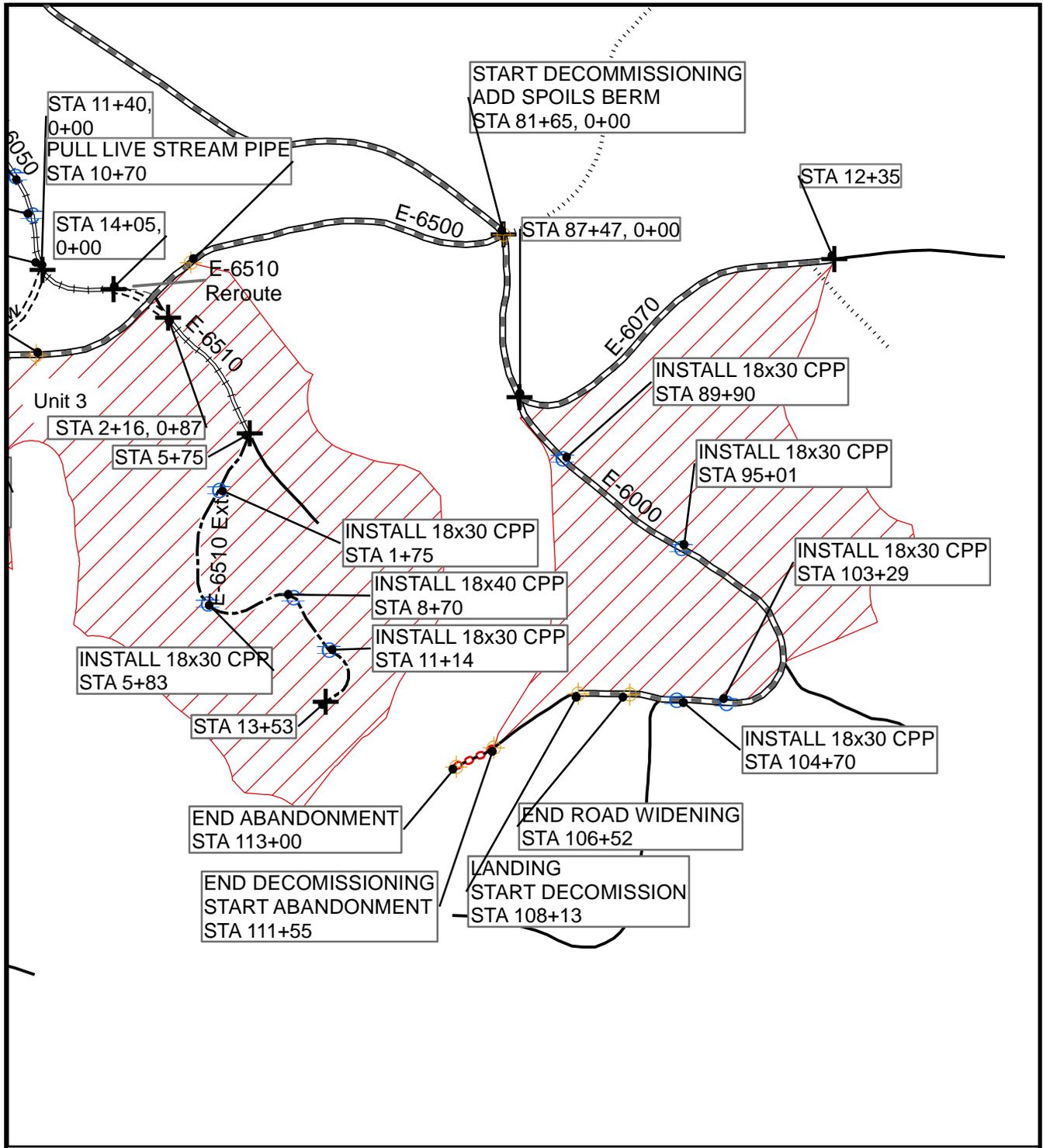


Legend

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|--|-----------------------|--|-------------------------|--|----------------|
| | Culvert | | Required_Reconstruction | | FP Abandoned |
| | Road Work | | Optional_Construction | | Decommissioned |
| | Stationing | | Active/driveable | | Rockpit |
| | Required_Abandonment | | Non-driveable | | On Time Units |
| | Prehaul_Maintanance | | Orphaned | | |
| | Required_Construction | | Pending Abandonment | | |

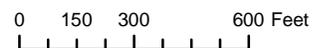


ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 4 OF 7

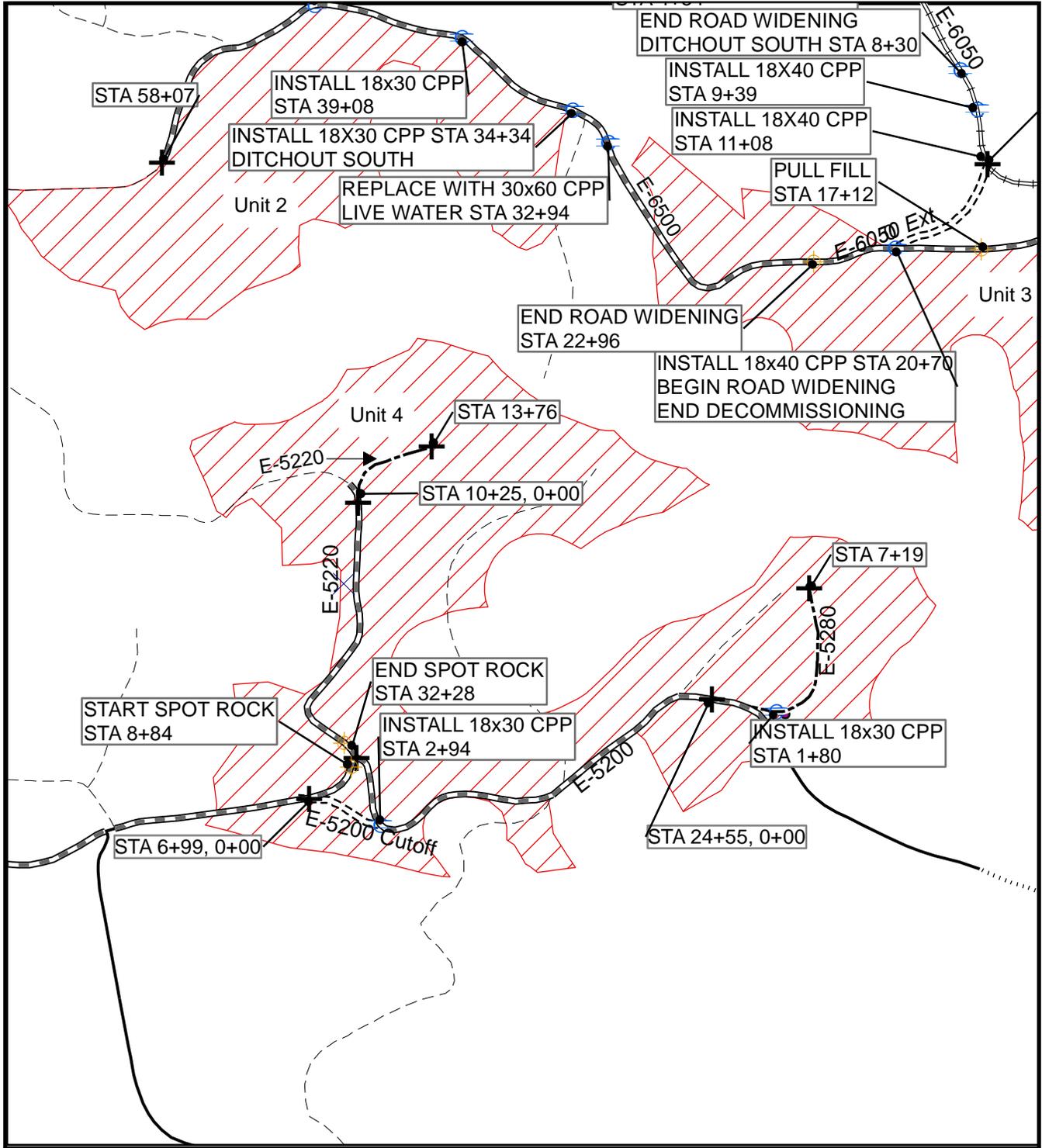


Legend

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|--|-----------------------|--|-------------------------|--|----------------|
| | Culvert | | Required_Reconstruction | | FP Abandoned |
| | Road Work | | Optional_Construction | | Decommissioned |
| | Stationing | | Active/driveable | | Rockpit |
| | Required_Abandonment | | Non-driveable | | On Time Units |
| | Prehaul_Maintenance | | Orphaned | | |
| | Required_Construction | | Pending Abandonment | | |

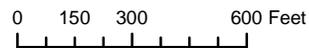


ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 5 OF 7

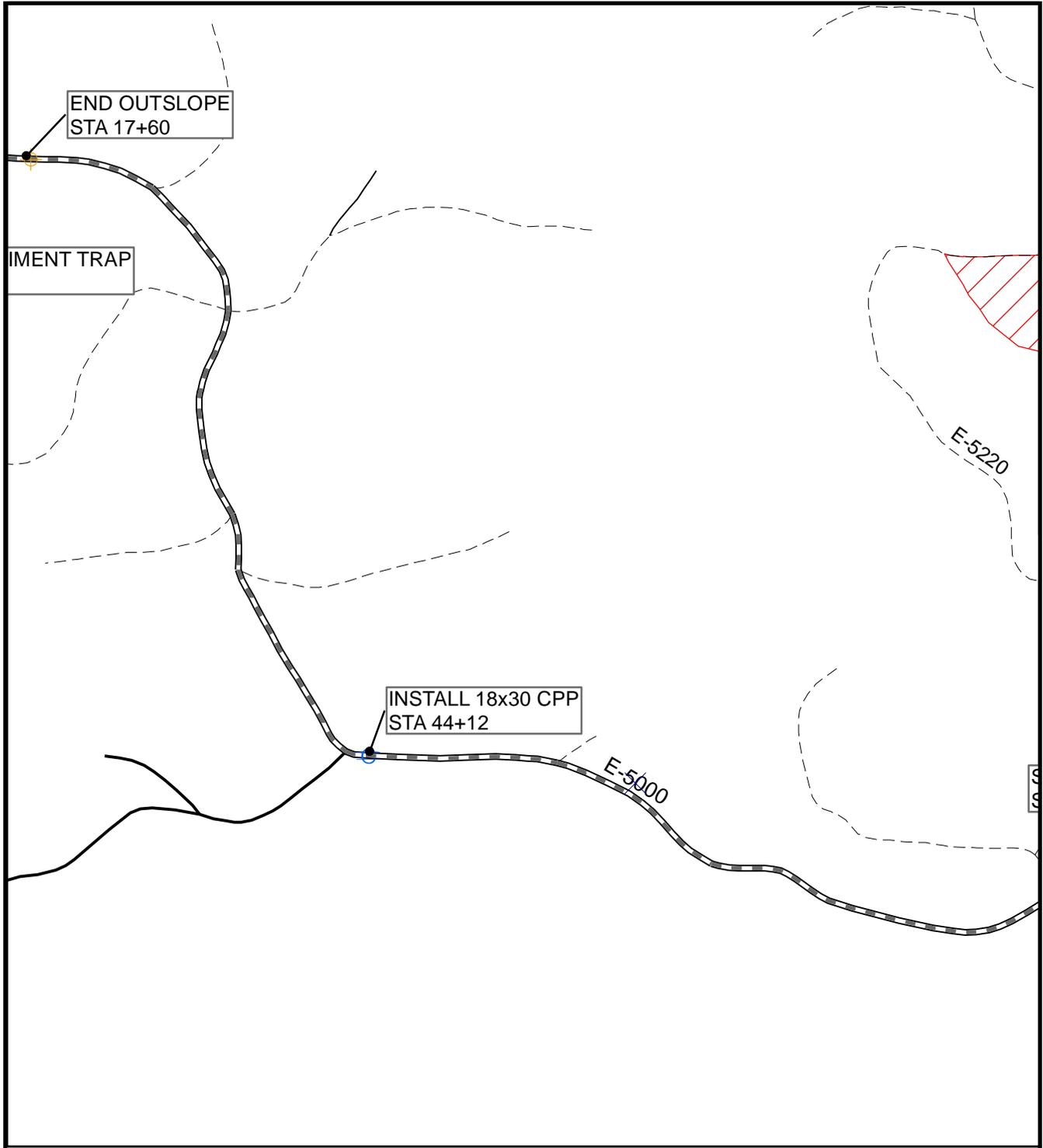


Legend

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|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Culvert Road Work Stationing Required_Abandonment Prehaul_Maintenance | <ul style="list-style-type: none"> Required_Construction E_5200_cutoff Required_Reconstruction Optional_Construction Active/Driveable | <ul style="list-style-type: none"> Non-driveable Orphaned Pending Abandonment FP Abandoned Decommissioned | <ul style="list-style-type: none"> Rockpit On Time Units |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|



ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 6 OF 7



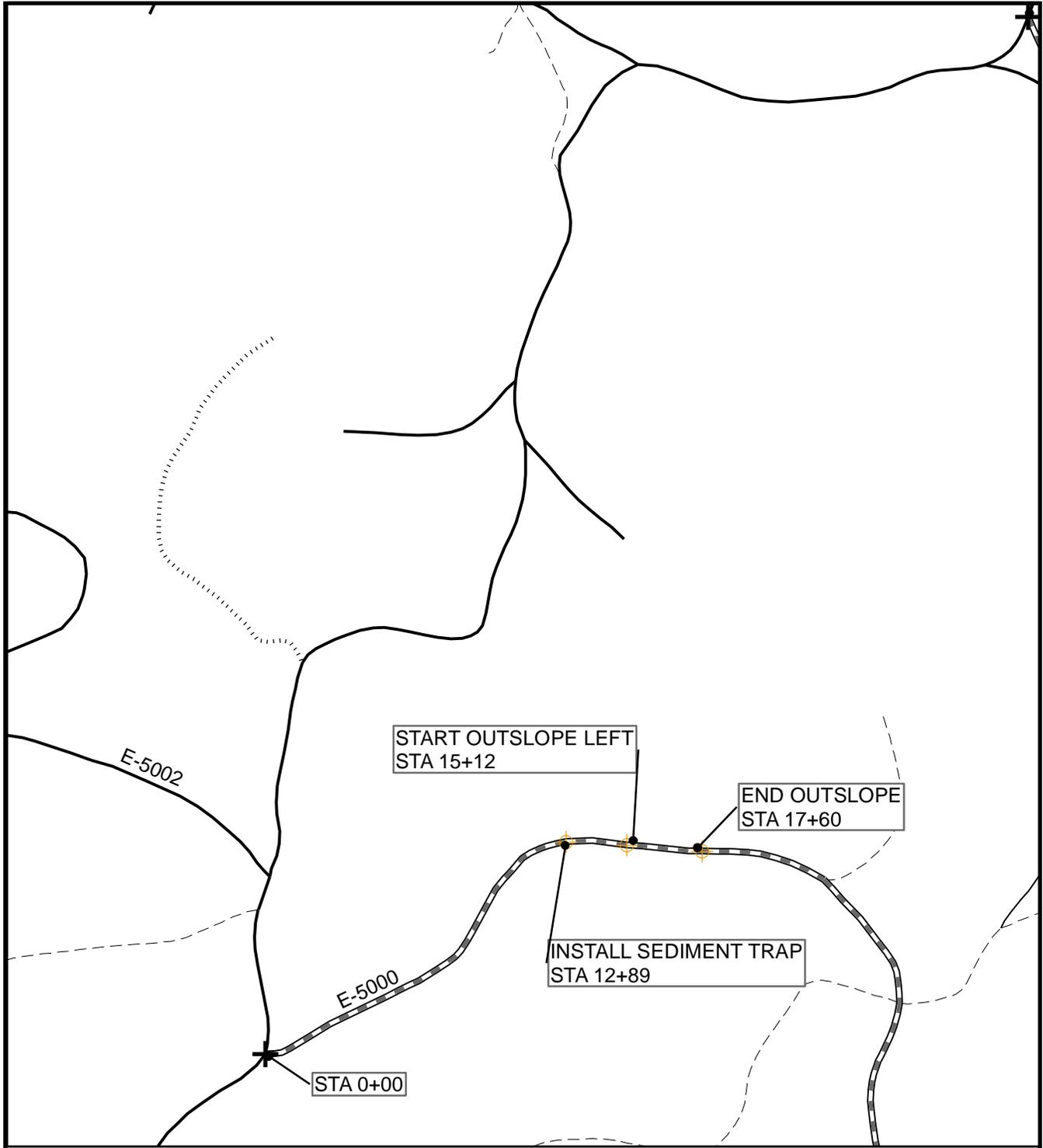
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|-----------------------|-------------------------|---------------------|
| Culvert | Required_Reconstruction | Pending Abandonment |
| Road Work | Optional_Construction | FP Abandoned |
| Required_Abandonment | Active/driveable | Decommissioned |
| Prehaul_Maintenance | Non-driveable | Rockpit |
| Required_Construction | Orphaned | On Time Units |

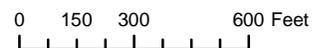


ROAD PLAN DETAIL MAP ON TIME TIMBER SALE PAGE 7 OF 7



Legend

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> Road Work Stationing Required_Abandonment Prehaul_Maintenance Required_Construction | <ul style="list-style-type: none"> Required_Reconstruction Optional_Construction Active/driveable Non-driveable Orphaned | <ul style="list-style-type: none"> Pending Abandonment FP Abandoned Decommissioned Rockpit On Time Units |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|



STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

ON TIME TIMBER SALE ROAD PLAN
THURSTON COUNTY
LITTLEROCK UNIT
BLACK HILLS DISTRICT

AGREEMENT NO.: 30-088892

STAFF ENGINEER: CHAD VANDEHEY

DATE: 04 APRIL 2016

DRAWN & COMPILED BY: TIFFANY NETZ, CHAD VANDEHEY

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>
E-5000	0+00 to 68+80	Prehaul Maintenance
E-5200	0+00 to 28+02	Prehaul Maintenance
E-5200 Cutoff	0+00 to 2+94	Construction
E-5220	0+00 to 10+25	Prehaul Maintenance
E-6000	0+00 to 108+13 108+13 to 111+55 111+55 to 113+00	Prehaul Maintenance Decommission Abandonment
E-6030	0+00 to 8+96	Construction
E-6050	0+00 to 14+05	Reconstruction
E-6050 Ext.	0+00 to 4+48	Construction
E-6070	0+00 to 12+35	Prehaul Maintenance
E-6500	0+00 to 20+40 20+40 to 58+07	Decommission Prehaul Maintenance
E-6510 Reroute	0+00 to 2+16	Construction
E-6510	0+87 to 5+75	Reconstruction
E-5220	10+25 to 13+76	Decommission, If Built
E-5280	0+00 to 7+19	Decommission, If Built

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>
E-5220	10+25 to 13+76	Construction
E-5280	0+00 to 7+19	Construction
E-6510 ext	0+00 to 13+53	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to:

- Clearing;
- Grubbing;
- Right-of-way debris disposal;
- Excavation and/or embankment to subgrade;
- Turnout and turnaround construction;
- Landing construction;
- Acquisition and installation of drainage structures;
- Acquisition, manufacture, and application of rock.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to:

- Clearing;
- Grubbing;
- Right-of-way debris disposal;
- Excavation and/or embankment to subgrade;
- Ditch construction;
- Acquisition and installation of drainage structures;
- Acquisition, manufacture, and application of rock.

0-6 PRE-HAUL MAINTENANCE

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E-5000	0+00 to 68+80	Desod, grade and crown road surface. Outslope section of road surface. Brush roadsides. Ditch reconstruction. Acquisition and installation of culvert.
E-5200	0+00 to 28+02	Clean ditches, clean culvert inlets/outlets. Desod, grade and

		crown road surface. At station 19+15, lay back slopes on thru-cut.
E-5220	0+00 to 10+25	Clean ditches, clean culvert inlets/outlets. Desod, grade and crown road surface. Improve Spoils Berm as per SPOILS BERM DETAIL. Spot rocking.
E-6000	0+00 to 108+13	Clean culvert inlets/outlets. Desod, grade and crown road surface. Brush roadsides. Road widening. Spot rocking. Acquisition and installation of culverts. Install spoils berm.
E-6070	0+00 to 12+35	Clean ditches, clean culvert inlets/outlets. Desod, grade and crown road surface. Brush roadsides
E-6500	20+40 to 58+07	Acquisition and installation of culverts. Road widening. Desond, grade and crown road surface.

0-7 POST-HAUL MAINTENANCE

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

0-9 DECOMMISSIONING

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

0-10 ABANDONMENT

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

0-11 ABANDONMENT AND DECOMMISSIONING BEFORE TIMBER REMOVAL

Purchaser shall abandon or decommission the following road(s) at the start of the timber sale contract, before the removal of timber.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E-6000	111+55 to 113+00	Abandonment
E-6500	0+00 to 20+40	Decommission

0-12 DEVELOP ROCK SOURCE

Purchaser shall develop an existing rock source. Rock source development will involve reducing oversize material, Clearing, Stripping, Drilling, Blasting, and Crushing. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

If the Purchaser desires a change from this road plan including, but not limited to, relocation, extension, change in design, or adding roads; a revised road plan must be submitted in writing to the Contract Administrator for consideration. Before work begins, Purchaser shall obtain approval from the State for 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, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.

3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before the closure of any road. Construction may not close the following roads for more than the specified number of days.

<u>Road</u>	<u>Number of Allowable Closed Days</u>
E-6000	No closure without written permission from Contract Administrator.
E-Line	Daily full closure of the E-Line is not allowed.
All Other Roads in Roadplan	3 days, with written permission from Contract Administrator.

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.

SUBSECTION ROAD MARKING

1-15 ROAD MARKING

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

- Pre-haul activities: 2 in. x 48 in. wooden lath with station and activity
- Construction: Orange ribbon tied eye-height along centerline, w/orange pin flags or wooden lath marking centerline

1-16 CONSTRUCTION STAKES SET BY STATE

Purchaser shall perform work in accordance with the construction stakes and/or reference points set in the field for grade and alignment. Reconstruction of existing road grades must conform to the original location except where construction staked or designed.

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.

SUBSECTION TIMING

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 3 calendar 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:

- Drainage installation
- Subgrade compaction
- Rock compaction

SUBSECTION RESTRICTIONS

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	The construction and/or reconstruction of any roads	October 1 to April 30

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 comply with a maintenance plan developed between Purchaser and state 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. Purchaser shall accomplish sediment removal through silt traps, silt fences, settling ponds, or other methods as approved, in writing by the Contract Administrator.

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 jaw run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.

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

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

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

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or 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

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.

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-43 ROAD WORK AROUND UTILITIES

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

<u>Road</u>	<u>Stations</u>	<u>Utility</u>	<u>Utility Contact</u>
E-Line	All	Buried Phone	411
	All	Overhead Power	411

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>
E-Line	0+00 to 676+05

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before rock application, if rock application is required. Purchaser shall accomplish all grading using a motor grader.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
E-5000	0+00 to 15+13 15+13 to 16+13 16+13 to 68+80	Desod, grade and crown road surface. Desod, grade and outslope surface. Desod, grade and crown road surface.
E-5200	0+00 to 28+02	Desod, grade and crown road surface
E-5220	0+00 to 10+25	Desod, grade and crown road surface.
E-6000	0+00 to 108+13	Desod, grade and crown road surface.
E-6070	0+00 to 12+35	Desod, grade and crown road surface.
E-6500	20+40 to 58+07	Desod, grade and crown road surface.

2-6 CLEANING CULVERTS

On the following road(s), Purchaser shall clean the inlets and outlets of all culverts :

<u>Road</u>	<u>Stations</u>
E-5200	0+00 to 28+02
E-5220	0+00 to 10+25
E-6000	48+60 to 108+13
E-6070	0+00 to 12+35

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

On the following road(s), Purchaser shall clean ditches, headwalls, catchbasins, and outlets. Work must be completed before the application of rock and/or timber haul and must be done in

accordance with the TYPICAL SECTION SHEET and CULVERT AND DRAINAGE SPECIFICATION DETAIL. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>	<u>Comment</u>
E-5000	0+00 to 68+02	Reconstruct ditches.
E-5200	0+00 to 28+02	
E-5220	0+00 to 10+25	
E-6000	48+60 to 108+13	
E-6070	0+00 to 12+35	

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or 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>
E-5000	17+35 to 68+90
E-6000	44+60 to 86+70
E-6070	0+00 to 12+35

SUBSECTION CLEARING

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.

- In locations that impede drainage.
- Against standing trees unless approved by the Contract Administrator.

SUBSECTION GRUBBING

3-10 GRUBBING

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

SUBSECTION ORGANIC DEBRIS

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 limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 55%.
- 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 State owned standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

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

SECTION 4 – EXCAVATION

4-2 PIONEERING

Pioneering may not extend past construction that will be completed during the current construction season. In addition, the following actions must be taken as pioneering progresses:

- Drainage must be provided on all uncompleted construction as approved, in writing, by the Contract Administrator.
- Road pioneering operations may not undercut the final cut slope, deposit excavated material outside the grubbing limits, or restrict drainage.
- Culverts at live stream crossings must be installed during pioneering operations

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.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

- 6 extra feet for curves of 60 to 79 feet radius.
- 4 extra feet for curves of 80 to 100 feet radius.

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-10 WIDEN THE EXISTING SUBGRADE

On the following roads, 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.

<u>Road</u>	<u>Stations</u>
E-5200	18+90 to 21+50
E-6050	0+00 to 1+89 4+54 to 8+22
E-6500	20+22 to 23+98

4-12 FULL BENCH CONSTRUCTION

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 TURNOUT LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Minimum dimensions are shown on the TURNOUT LIST.

4-22 TURNAROUNDS

Turnarounds must be no larger than 30 feet long and 30 feet wide.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

On the following road(s), Purchaser shall construct ditches and reconstruct excavation slopes to provide sufficient width for ditches and road surface. Excavation slopes shall be consistent with Clause 4-5. Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits or end hauled to designated waste areas.

<u>Road</u>	<u>Stations</u>
E-5000	0+00 to 15+13 15+13 to 16+13 16+13 to 68+80
E-5200	0+00 to 28+02
E-5220	0+00 to 10+25
E-6000	0+00 to 108+13
E-6070	0+00 to 12+35
E-6500	20+40 to 58+07

4-28 DITCH DRAINAGE

Ditches shall be constructed concurrently with construction of the subgrade. Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified in maps, in field, 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.

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

Purchaser may sidecast waste material on side slopes up to 55% if the waste material is compacted and free of organic debris.

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.
- On side slopes steeper than 55%.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Within the operational area for cable landings.
- Against State owned standing timber.

SUBSECTION BORROW

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.

SUBSECTION SHAPING

4-55 ROAD SHAPING

Purchaser shall shape each lift of 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.

SUBSECTION COMPACTION

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. 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 subgrades in accordance with the COMPACTION LIST by routing equipment over the entire width except ditch. On fills deeper than 5 feet at the road shoulder Purchaser shall compact fill material in lifts no greater than 18 inches. Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction before rock application.

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.

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders to permit escape of runoff.

SUBSECTION CULVERTS

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 meet the specifications in Clauses 10-15 through 10-23.

5-9 CULVERT MARKER INSTALLATION

Purchaser shall install culvert markers in accordance with the CULVERT MARKER DETAIL at all newly installed culverts.

5-10 CONTINGENCY CULVERTS

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

<u>Road</u>	<u>Size</u>
On any portion of road used for timber or rock haul	<ul style="list-style-type: none"> • 18"x30' culvert • 18" culvert band • 18" culvert band

5-11 UNUSED MATERIALS STATE PROPERTY

On required roads or listed in Clause 5-10, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials at Mima Mound Pit (SW ¼ NW ¼ Section 10, T16R03W).

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert, downspout, flume and energy dissipator installation must be in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL and the Corrugated Polyethylene Pipe Association's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings".

5-17 CROSS DRAIN SKEW AND SLOPE

Cross drains, on road grades in excess of 3%, must be skewed at least 30 degrees from perpendicular to the road centerline, except where the cross drain is at the low point in the road culverts will not be skewed. Cross drain culverts must be installed at a slope steeper than the incoming ditch grade, but not less than 3% or more than 12%.

5-18 CULVERT DEPTH OF COVER

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

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the

placement of rock. Energy dissipater installation is subject to approval by the Contract Administrator.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the CULVERT AND DRAINAGE LIST. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. LIGHT, LOOSE RIP RAP shall meet the specifications in Clause 6-50.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

Purchaser shall construct catch basins to resist erosion 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 CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT AND DRAINAGE LIST that specify the placement of rock.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), Purchaser shall place Light Loose RIP RAP in conjunction with or immediately following construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the ROCK LIST. Rock may not restrict the flow of water into culvert inlets or catch basins. LIGHT, LOOSE RIP RAP must meet the specifications in Clause 6-50.

<u>Road</u>	<u>Stations</u>
E-6500	32+83
E-6000	3+25 4+18

5-33 NATIVE SURFACE ROADS

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

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

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 3 calendar days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>
Vantage Quarry	SW ¼ NW ¼ Sect. 22 T16R04W

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK LIST may shall 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.

SUBSECTION ROCK SOURCE DEVELOPMENT

6-10 ROCK SOURCE DEVELOPMENT PLAN BY STATE

Purchaser shall conduct rock source development and use at the following sources, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator. Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before starting any operations in the rock source.

<u>Source</u>	<u>Rock Type</u>
Vantage Quarry	3 Inch Minus, Quarry Spalls, Light Loose Riprap

6-12 ROCK SOURCE SPECIFICATIONS

Rock sources must be in accordance with the following specifications , unless otherwise specified in the ROCK SOURCE DEVELOPMENT PLAN:

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

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

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

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 600 cubic yards.
- Oversize material is defined as rock fragments larger than two feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be reduced to a smaller size within the rock source.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling. The drilling and shooting plan must include, at a minimum, the mapped location and spacing of all holes to be loaded, the type of blasting agent used, the powder factor calculated and the units of same, stem amount held per hole. After drilling, the type of rock encountered while drilling e.g. hard black, soft brown, etc shall be amended to submitted plan.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the

Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.

- Purchaser shall block access roads before blasting operations.

SUBSECTION ROCK MANUFACTURE

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. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-22 FRACTURE REQUIREMENT FOR ROCK

A minimum of 50% by visual inspection of coarse aggregate must have at least one fractured face. Coarse aggregate is the material greater than 1/4-inch in size.

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- The crushing operation must be concluded within 30 working days from the time it begins.

SUBSECTION ROCK GRADATIONS

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.

6-43 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>Size Range</u>
20% / 90%	20" - 36"
80% / --	12" - 30"
10% / 20%	3" - 8"

SUBSECTION ROCK MEASUREMENT

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 compacted 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.

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade including: ditches, headwalls, catch basins, culverts, energy dissipaters, ditch-outs, subgrade shaping and compacting 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.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Purchaser shall install sediment traps in accordance with the SEDIMENT TRAP DETAIL.

<u>Road</u>	<u>Stations</u>
E-5000	12+88

8-2 PROTECTION FOR EXPOSED SOIL

Purchaser shall provide and evenly spread a layer of straw to all exposed soils. Soils may not sit exposed during any rain event.

SUBSECTION REVEGETATION

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 hand method. Other methods of covering must be approved in writing by the Contract Administrator.

<u>Road</u>	<u>Location</u>
E-5200	19+15 to 19+65
E-5200 Cutoff	0+00 to 2+94
E-5220	10+25 to 13+76
E-5280	0+00 to 7+19
E-6000	88+00 to 113+00
E-6030	0+00 to 8+96
E-6050	0+00 to 14+05
E-6050 Ext.	0+00 to 4+48
E-6500	0+00 to 23+00
E-6510 Reroute	0+00 to 2+16
E-6510	0+87 to 5+75
E-6510 Ext.	0+00 to 13+53

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed mixture.

8-17 REVEGETATION TIMING

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

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed if revegetation occurs between July 1 and March 31. The protective cover may consist of an even layer of straw or Contract Administrator approved alternative. 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 (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no addition cost to the state.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all soil specified in CLAUSE 8-15 REVEGETATION at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
 - a. Common name of seed.
 - b. Net weight.
 - c. Percent of purity.
 - d. Percentage of germination.
 - e. Percentage of weed seed and inert material.
5. Seed must conform to the following mixture 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	35-45
Highland Bent	5-15
White Clover	5-15
Inert and Other Crop	0.5

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the SPOILS BERM DETAIL.

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
E-5220	10+25	Improve Spoils Berm
E-5280	0+25	Install
E-6000	105+48	Install Barricade On Old Road To Left.
E-6000	108+13	Install
E-6500	0+25	Install
E-6500	20+20	Install

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.

SUBSECTION POST-HAUL MAINTENANCE

9-5 POST-HAUL MAINTENANCE

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

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

SUBSECTION DECOMMISSIONING AND ABANDONMENT

9-20 ROAD DECOMMISSIONING

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

<u>Road</u>	<u>Stations</u>
E-5220	10+25 to 13+76
E-5280	0+00 to 7+19
E-6000	108+13 to 111+55
E-6500	0+00 to 20+40

9-21 ROAD ABANDONMENT

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

<u>Road</u>	<u>Location</u>	<u>Type</u>
E-6000	111+55 to 113+00	Abandonment

9-22 DECOMMISSIONING AND ABANDONMENT

- 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 per cent 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.
- Remove culverts from State Land.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment at a rate of 50 lbs/acre.
- Remove stream culverts and leave the resulting trench open with excavated channel width of 3 feet minimum.
- Construct Spoils Berm per clause 9-1 SPOILS BERM DETAIL.

SECTION 10 MATERIALS

SUBSECTION CULVERTS

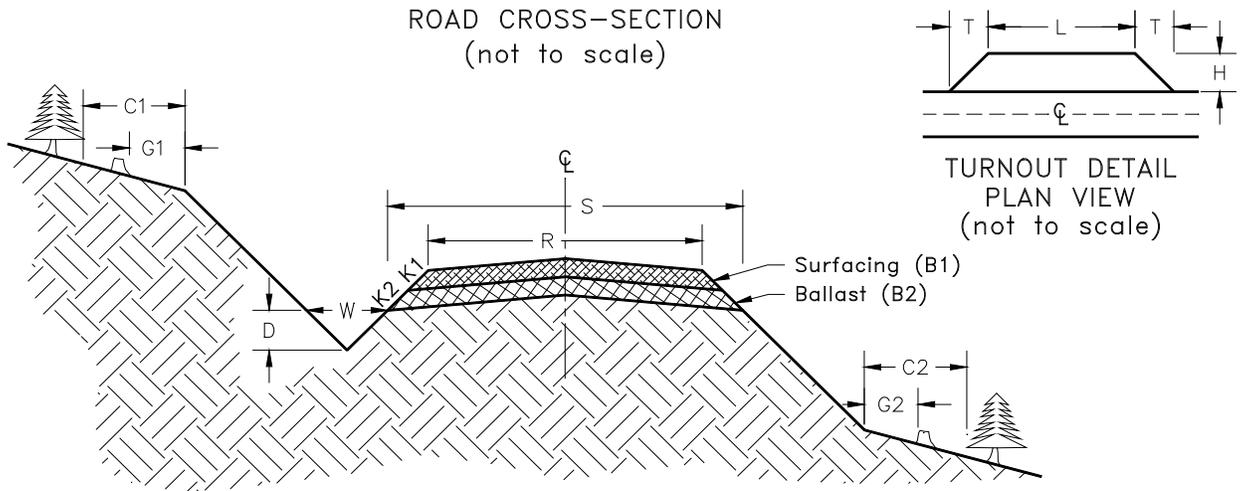
10-17 CORRUGATED PLASTIC CULVERT

Polyethylene culverts must meet AASHTO M-294 specifications, or ASTM F-2648 specifications for recycled polyethylene. Culvert segments not specifically labeled as downspouts must be Type S – double walled with a corrugated exterior and smooth interior.

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.

TYPICAL SECTION SHEET (pg 1 of 2)

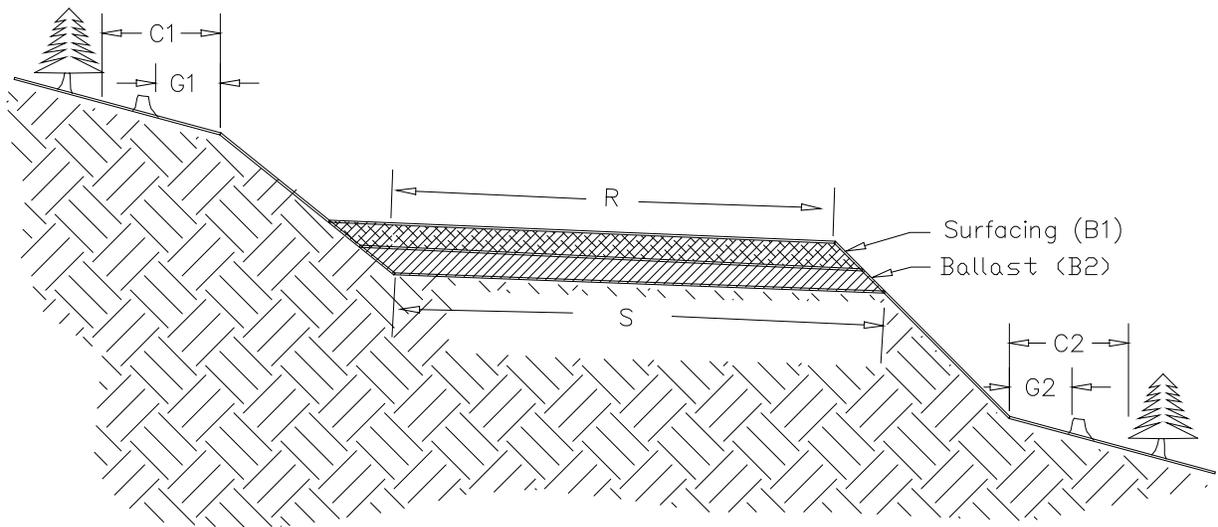


Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
				S	R	W	D		G1	G2	C1	C2	Clause	Clause
E-Line	0+00	260+00	A	18	14	3	1	4					4-5	4-6
E-5000	0+00	15+12	B	16	12	3	1	4					4-5	4-6
	17+60	68+80	B	16	12	3	1	4					4-5	4-6
E-5200	0+00	28+02	B	16	12	3	1	4			5	5	4-5	4-6
E-5200 Cutoff	0+00	2+94	B	16	12	3	1	4	2	2	5	5	4-5	4-6
E-5220	0+00	13+76	B	16	12	3	1	4	2	2	5	5	4-5	4-6
E-5280	0+00	7+19	C	16	12	3	1	4	2	2	5	5	4-5	4-6
E-6000	0+00	113+00	B	16	12	3	1	4					4-5	4-6
E-6030	0+00	8+96	C	16	12	3	1	4	2	2	5	5	4-5	4-6
E-6050	0+00	14+05	C	16	12	3	1	4	2	2	tags	tags	4-5	4-6
E-6050 Ext.	0+00	4+48	C	16	12	3	1	4	2	2	tags	tags	4-5	4-6
E-6070	0+00	12+38	C	16	12	3	1	4					4-5	4-5
E-6500	20+40	58+07	C	16	12	3	1	4					4-5	4-6
E-6510 Reroute	0+00	2+16	C	16	12	3	1	4	2	2	tags	tags	4-5	4-6
E-6510	0+87	5+75	C	16	12	3	1	4	2	2	5	5	4-5	4-6

Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)							
E-6510 ext.	0+00	13+53	C	16	12	3	1	4	2	2	5	5	4-5	4-6

TYPICAL SECTION SHEET (pg 2 of 2)

OUTSLOPED
ROAD CROSS-SECTION
(not to scale)



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
						Width (feet)	Depth (feet)		G1	G2	C1	C2		
				S	R	W	D						Clause	Clause
E-5000	15+12	17+60	B	16	12	3	1	Outslope Left 3-5%					4-5	4-6

*Tags are orange Right of Way tags

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length	Width	Taper
			K2	B2	3 Inch Minus				L	H	T
E-5200 Cutoff	0+00	2+94	1½ : 1	16"	69	2.94	204	Vantage Quarry			
E-5220	10+25	13+76	1½ : 1	12"	52	3.51	182	Vantage Quarry			
E-5280	0+00	7+19	1½ : 1	12"	52	7.19	373	Vantage Quarry			
E-6030	0+00	8+96	1½ : 1	16"	69	8.96	620	Vantage Quarry			
E-6050	0+00	14+05	1½ : 1	12"	52	14.05	729	Vantage Quarry			
E-6050 Ext.	0+00	4+48	1½ : 1	16"	69	4.48	310	Vantage Quarry			
E-6510 Reroute	0+00	2+16	1½ : 1	16"	69	2.16	150	Vantage Quarry			
E-6510	0+87	5+75	1½ : 1	16"	69	5.75	398	Vantage Quarry			
E-6510 Ext.	0+00	13+53	1½ : 1	16"	69	15.53	1074	Vantage Quarry	50	12	25
Existing Road Culvert Installation					10 Per Culvert	1 Culvert	10	Vantage Quarry			
Live Stream Replacements					20 Per Culvert	3 Culverts	60	Vantage Quarry			
Turnouts and Turnarounds							45	Vantage Quarry			
Spot Rock (3 Inch Minus)											
E-5200							120	Vantage Quarry			
E-5220							60	Vantage Quarry			
E-6000							120	Vantage Quarry			
E-6070							120	Vantage Quarry			
E-6500							120	Vantage Quarry			
Light loose Riprap											
Live Stream Culverts: E-6050 and E-6500					10 Per Culvert	3 Culverts	30	Vantage Quarry			
Quarry Spalls											
All Culverts Except Live Stream					2.5 per culvert	32 culverts	82	Vantage Quarry			

3 Inch Minus Total 4,145 Cubic Yards
 Spot Rock Total 540 Cubic Yards
 Light Loose Riprap Total 30 Cubic Yards
 Quarry Spalls Total 82 Cubic Yards
 Ballast Total 4,797 Cubic Yards

*Optional Rock: If Purchaser elects to haul on optional rock roads in wet weather, the depth listed above is recommended but not required.

NOTE: Yardages are estimated on a compacted (In-Place) basis. Compliance of required rock will be based on compacted depth measurement. **Apply appropriate factors to determine loose amounts for estimating purposes.** Roads and rock quantities are designed for dry weather use. If Purchaser elects to haul in wet weather additional rock may be obtained from the rock pits listed in Section 6 at the Purchaser's expense and with prior written approval from the Contract Administrator.

TURNOUT LIST

Road Number	Begin L- Station	End L- Station	Turnout Width (H)	Full Width Length (L)	Taper Length (T)	Comments
E-6510 Ext	3+90	4+40	12'	50'	25'	Turnout Left

CULVERT AND DRAINAGE LIST, pg 1 of 2

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked*	Remarks
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
E-5000	12+88												Install sediment trap
	44+12	18	PD	30			1	1.5	QS	NT			Install
E-5200 Cutoff	2+94	18	PD	30			1	1.5	QS	NT			Install in E-5200 ditch, No skew
E-5280	1+80	18	PD	30			1	1.5	QS	NT			Install
E-6000	62+00	18	PD	30			1	1.5	QS	NT			Install
	89+90	18	PD	30			1	1.5	QS	NT			Install
	95+01	18	PD	30			1	1.5	QS	NT			Install
	103+29	18	PD	30			1	3	QS	NT			Install Quarry Spalls on outlet
	104+70	18	PD	30			1	1.5	QS	NT			Replace existing
	105+36												Ditchout South
E-6030	0+74	18	PD	30			1	1.5	QS	NT			Install
	2+74	18	PD	30			1	1.5	QS	NT			Install
	5+39	18	PD	36			1	1.5	QS	NT			Install
	7+60	18	PD	36			1	1.5	QS	NT			Install
E-6050	1+98	18	PD	30			1	1.5	QS	NT			Install, Ditchout East
	3+25	24	PD	46			5	5	LL	SL			Install, Live underground water
	4+18	24	PD	36			5	5	LL	SL			Install, Live seasonal
	4+54	18	PD	30			1	1.5	QS	NT			Install
	8+30												Ditchout East
	9+39	18	PD	40			1	1.5	QS	NT			Install, Change pipe orientation to West to East
	11+08	18	PD	40			1	1.5	QS	NT			Install
	13+36												Ditchout Left and Right
E-6500	10-70												Pull live stream pipe
	13+00	18	PD	40			1	1.5	QS	NT			Install to pass water across E-6510 ext.
	20+70	18	PD	40			1	1.5	QS	NT			Install to pass water across E-6050 Ext.
	32+94	30	PD	60			5	5	LL	SL			Live water replace
	34+34	18	PD	30			1	1.5	QS	NT			Install, Ditchout
	39+08	18	PD	30			1	1.5	QS	NT			Install
*	44+22	24	PD	40			1	1.5	QS	NT			Install Live underground water, See Detail: Culvert Install at 44+22 E-6500

Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material*	Placement Method*	Const. Staked*	Remarks	
		Dia. (in)	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type					
E-6510 Reroute	0+81	18	PD	30			1	1.5	QS	NT			Install	
E-6510 ext.	1+75	18	PD	30			1	1.5	QS	NT			Install	
	5+83	18	PD	30			1	1.5	QS	NT			Install	
	8+70	18	PD	40			1	1.5	QS	NT			Install	
	11+14	18	PD	30			1	1.5	QS	NT			Install	
			18	PD	30			1	1.5	QS	NT			Contingency
As Directed By C.A.		18	PD	30			1	1.5	QS	NT			Contingency	
		18	PD	30			1	1.5	QS	NT			Contingency	
		18	PD	30			1	1.5	QS	NT			Contingency	
		18	PD	30			1	1.5	QS	NT			Contingency	
		18	PD	30			1	1.5	QS	NT			Contingency	
		18	Poly	Band										Contingency
		18	Poly	Band										Contingency

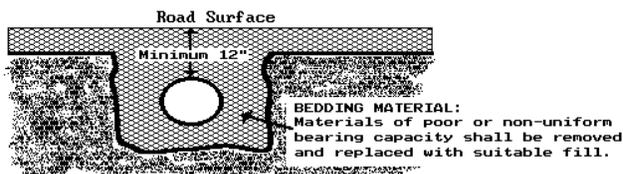
* SEE CULVERT AND DRAINAGE SPECIFICATION DETAIL

PD = Polyethylene Pipe Dual Wall AASHTO No. M294 Type S or ASTM F2648
TEMP = Temporary Culvert

Key:

- QS - Quarry Spalls
- LL - Light Loose Riprap
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- Flume - Half round pipe
- Downsput - Full round pipe

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

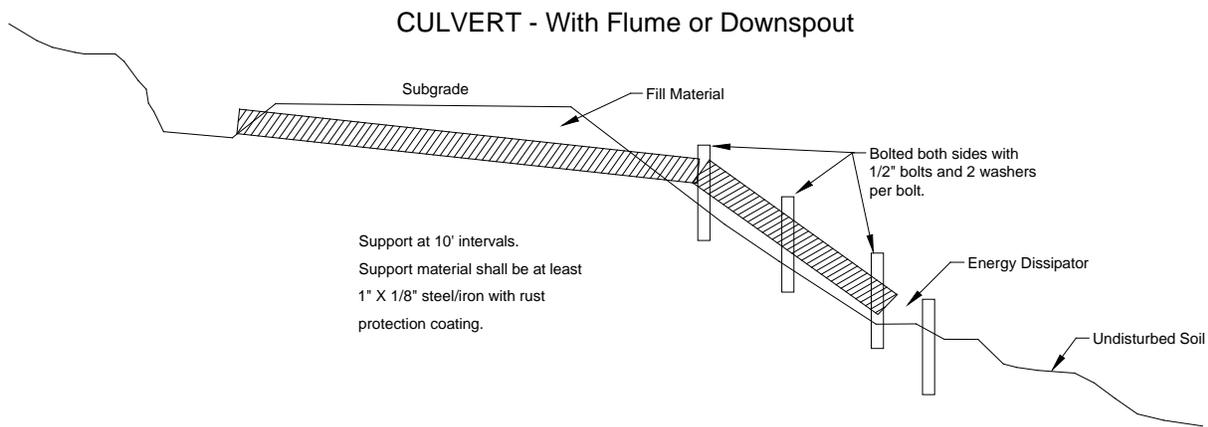
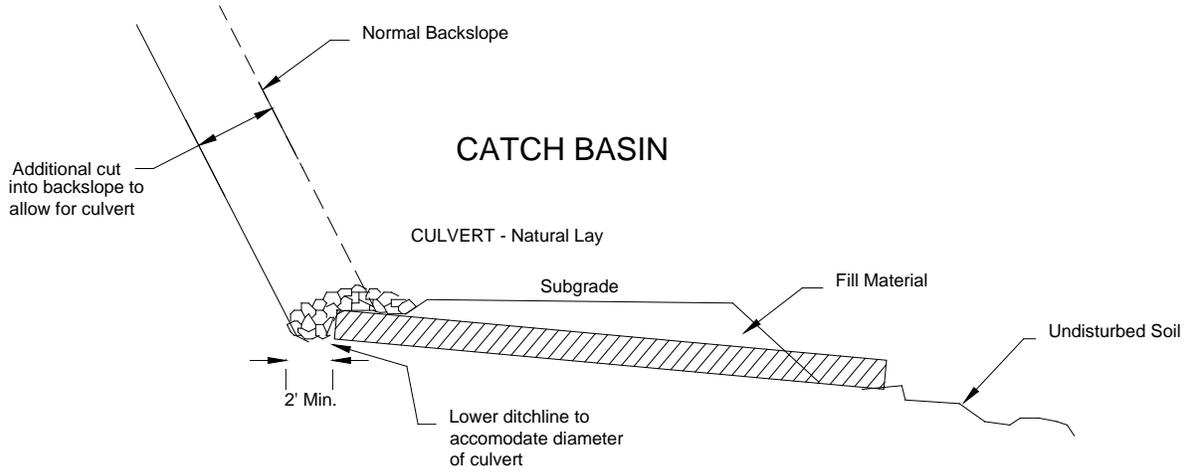


COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
E-5000	44+12		Culvert Install	4"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-5200 Cutoff	0+00	2+94	New Construction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-5280	0+00	1+80	New Construction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6000	61+94	108+15	Culvert Install, Prehaul Maintanance, Surfacing	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6030	0+00	8+96	New Construction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6050	0+00	14+05	Reconstruction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
			Live Water Culvert Install	4"				
E-6050 Ext.	0+00	4+48	New Construction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6500	20+40	58+07	Prehaul Maintanance, Surfacing, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
			Live Water Culvert Install	4"				
E-6510 Reroute	0+00	2+16	New Construction, Culvert Install	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6510	0+87	5+75	Reconstruction	8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
E-6510 Ext.	0+00	13+53	New Construction, Culvert Install	8" 8"	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5

CULVERT AND DRAINAGE SPECIFICATION DETAIL

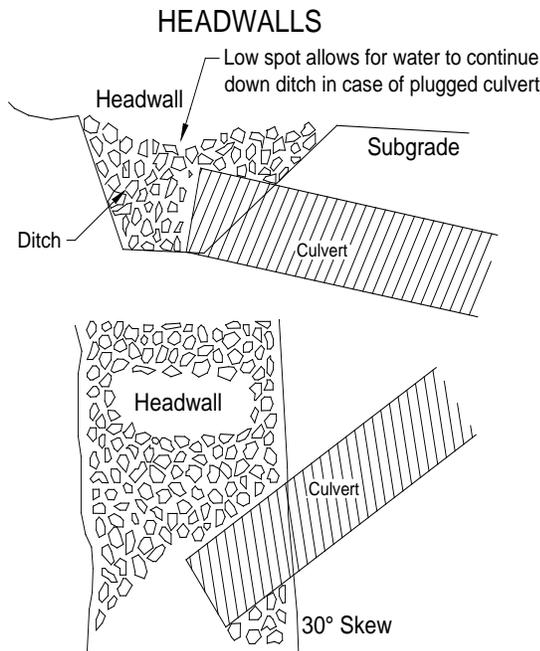
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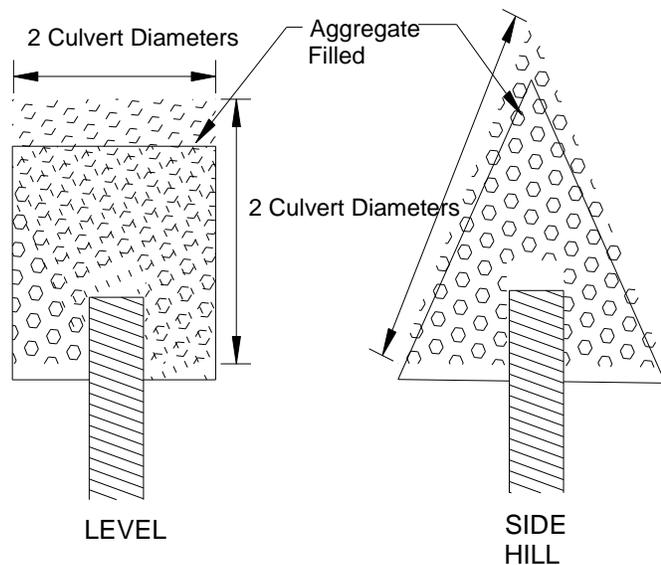
CULVERT AND DRAINAGE SPECIFICATION DETAIL

(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.



ENERGY DISSIPATORS



Headwalls to be constructed of material that will resist erosion.

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

CULVERT AND DRAINAGE SPECIFICATION DETAIL

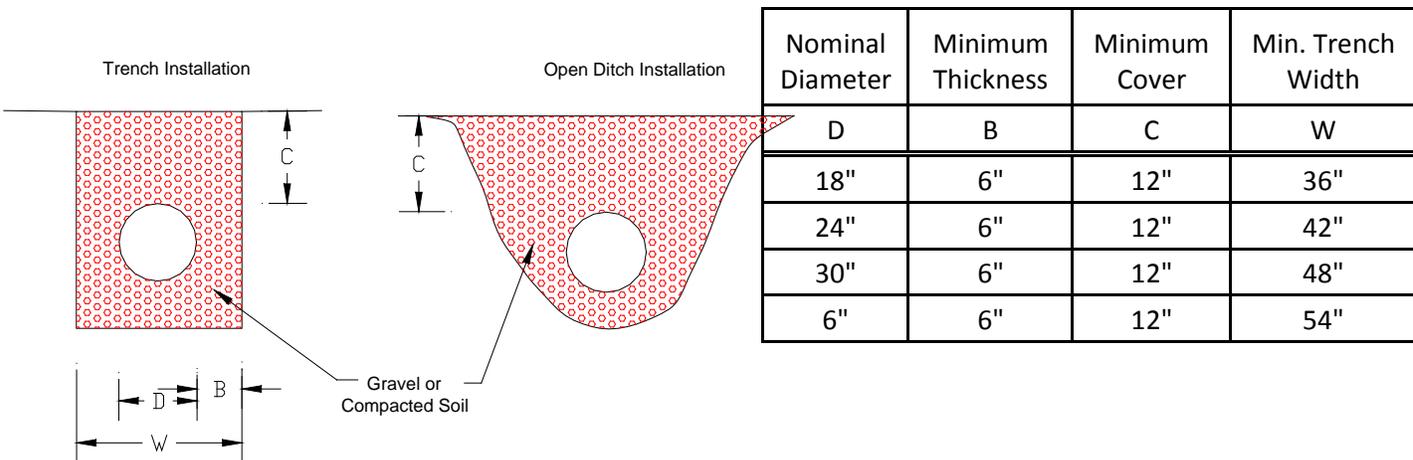
(Page 3 of 3)

POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.
3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.
4. Site conditions and availability of bedding materials often dictate the type of installation method used.
5. 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



FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

Cuts and Fills

- Maintain slope lines to a stable gradient compatible with the construction materials. Remove slides up to 100 cubic yards in volume from ditches and the roadway. Repair fill-failures with selected material or material approved by the Contract Administrator. Remove overhanging material from the top of cut slopes.
- Waste material from slides or other sources shall be placed and compacted in stable locations identified in the road plan or approved by the Contract Administrator, so that sediment will not deliver to any streams or wetlands.
- Slide material and debris shall not be mixed into the road surface materials, unless approved by the Contract Administrator.

Surface

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

Drainage

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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

Preventative Maintenance

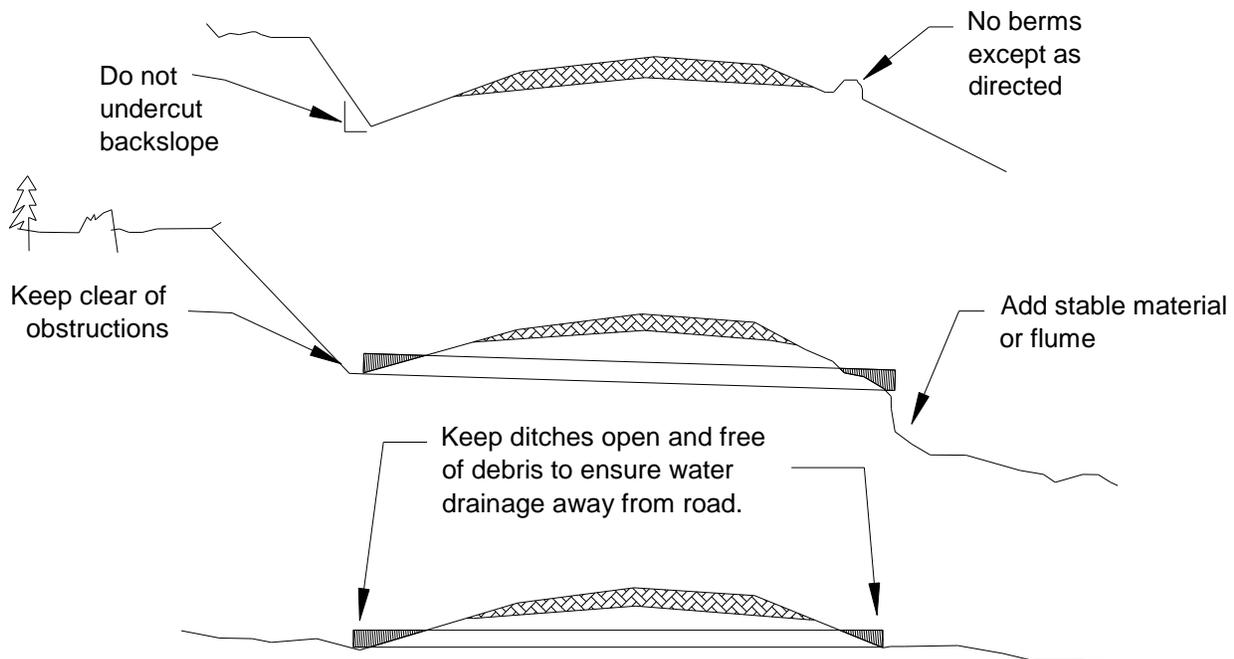
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

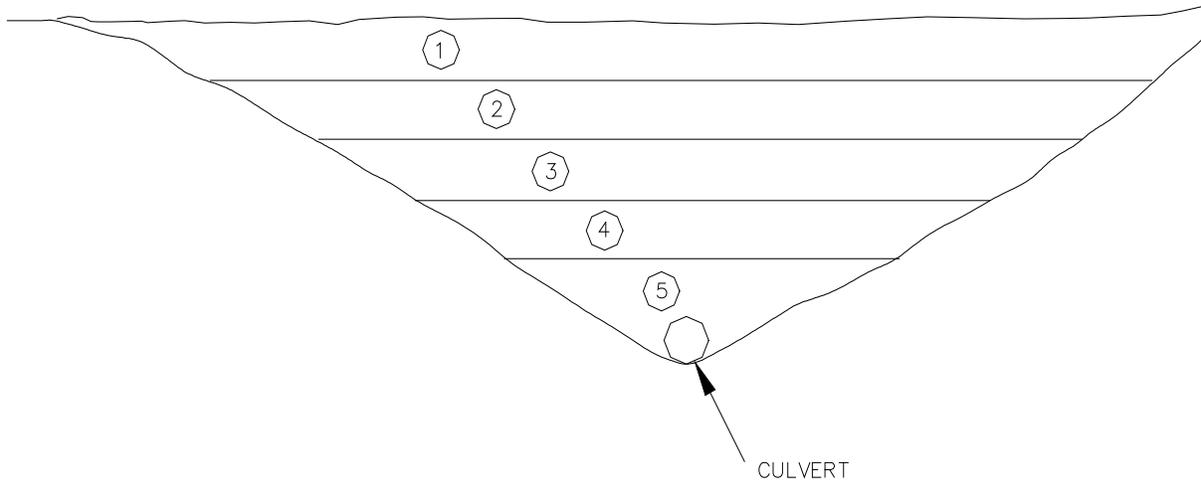
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

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



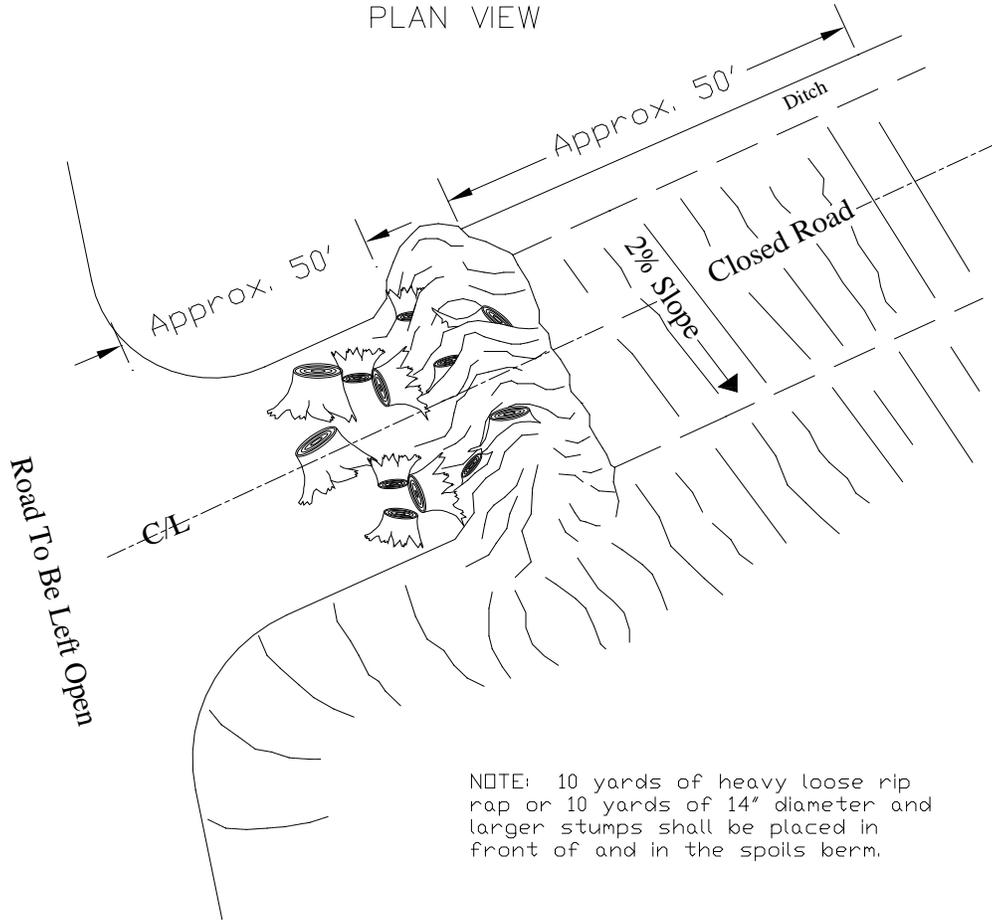
FILL REMOVAL DETAIL



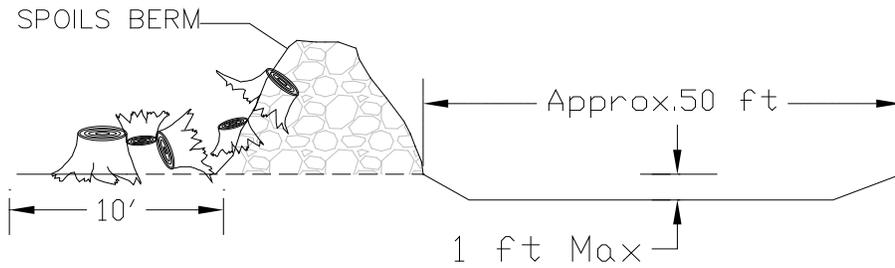
- Remove fill in layers not to exceed 3 feet.
- Channel slopes shall match existing ground and the **SETTLING POND AND PUMP DETAIL**.
- Stream bed width shall match existing channel.

SPOILS BERM DETAIL

PLAN VIEW

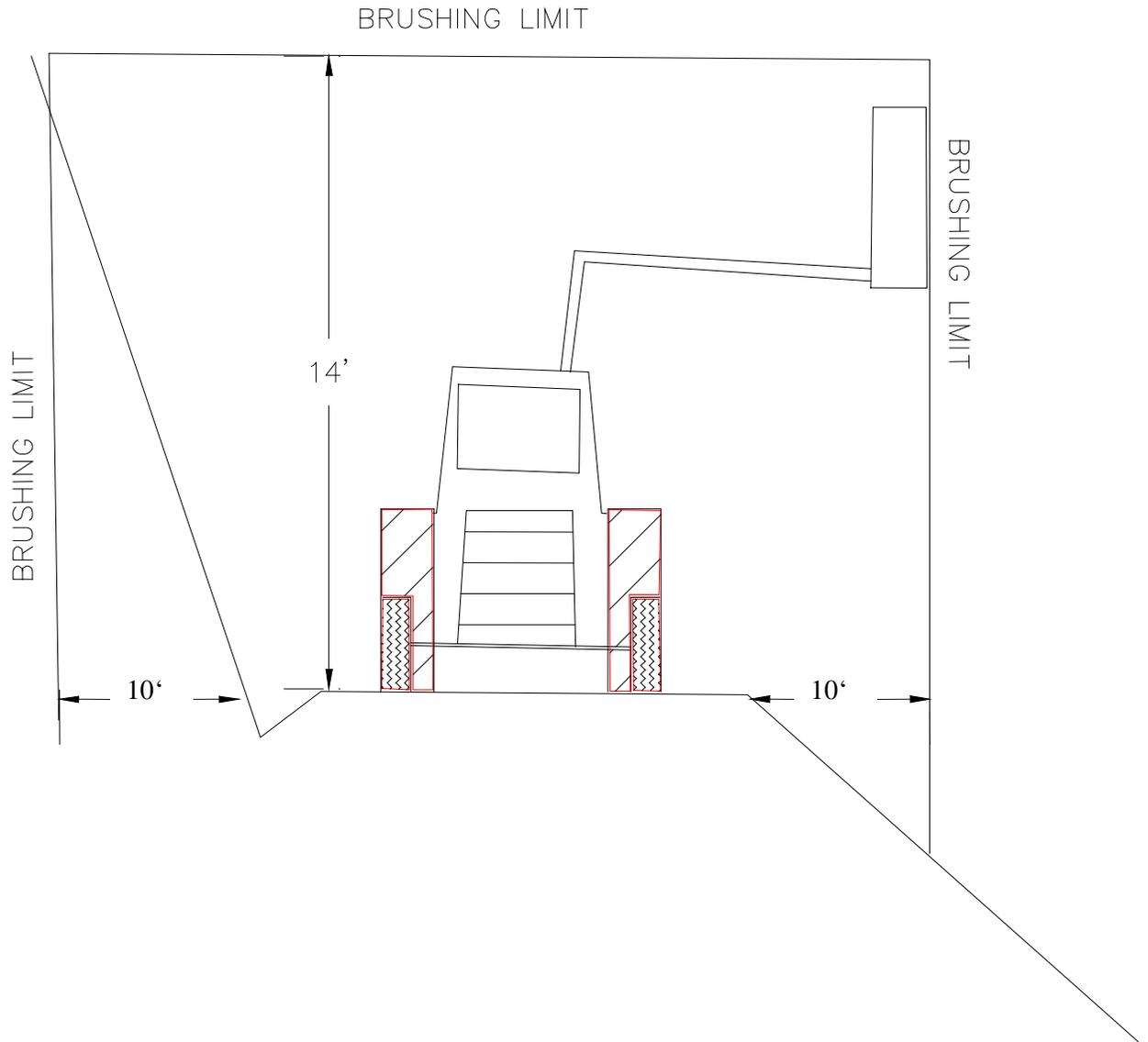


CROSS SECTION AT CENTERLINE

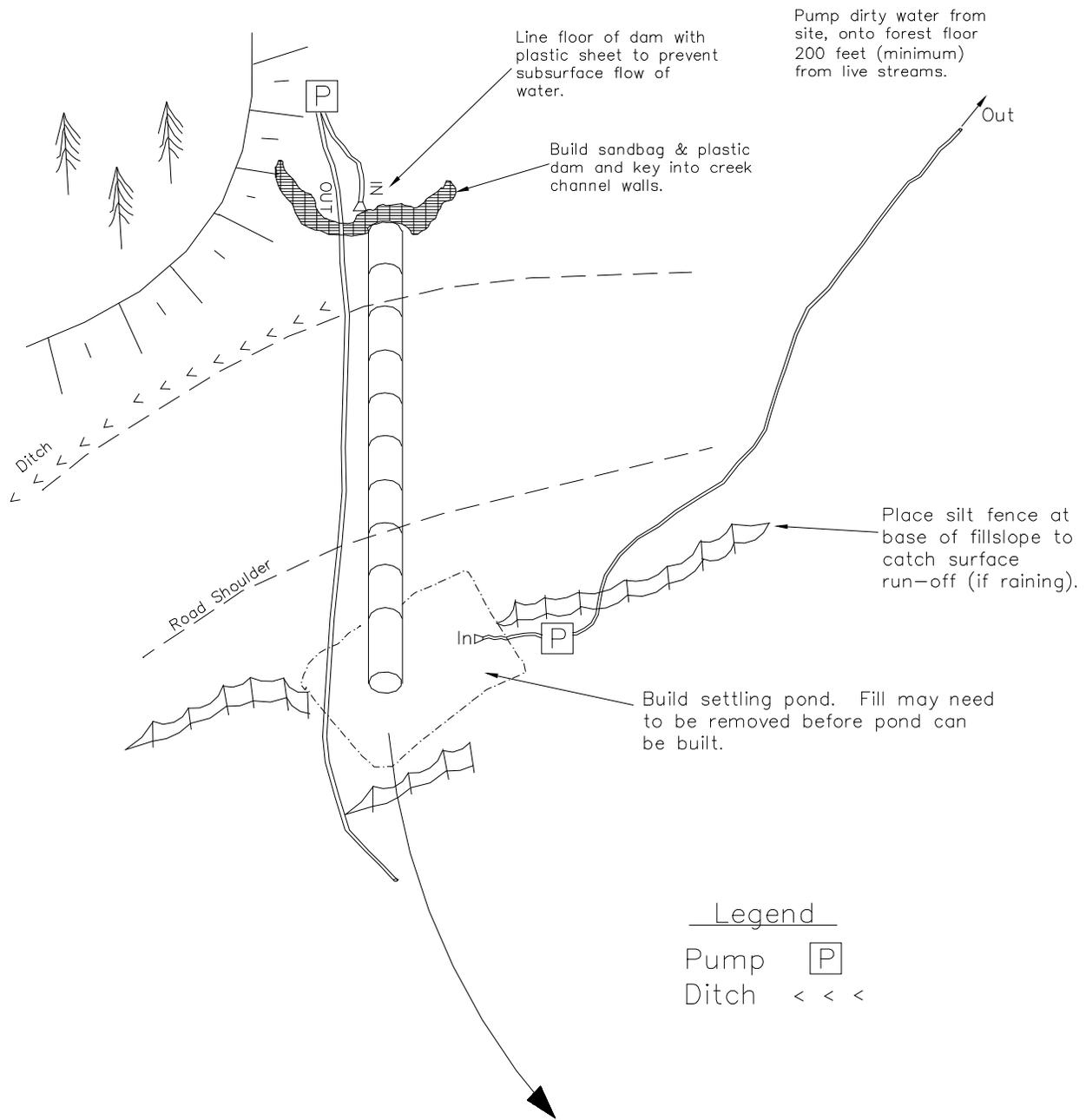


Note: $\frac{1}{3}$ of stumps or rip rap shall be partially buried in the spoils berm and/or road surface.

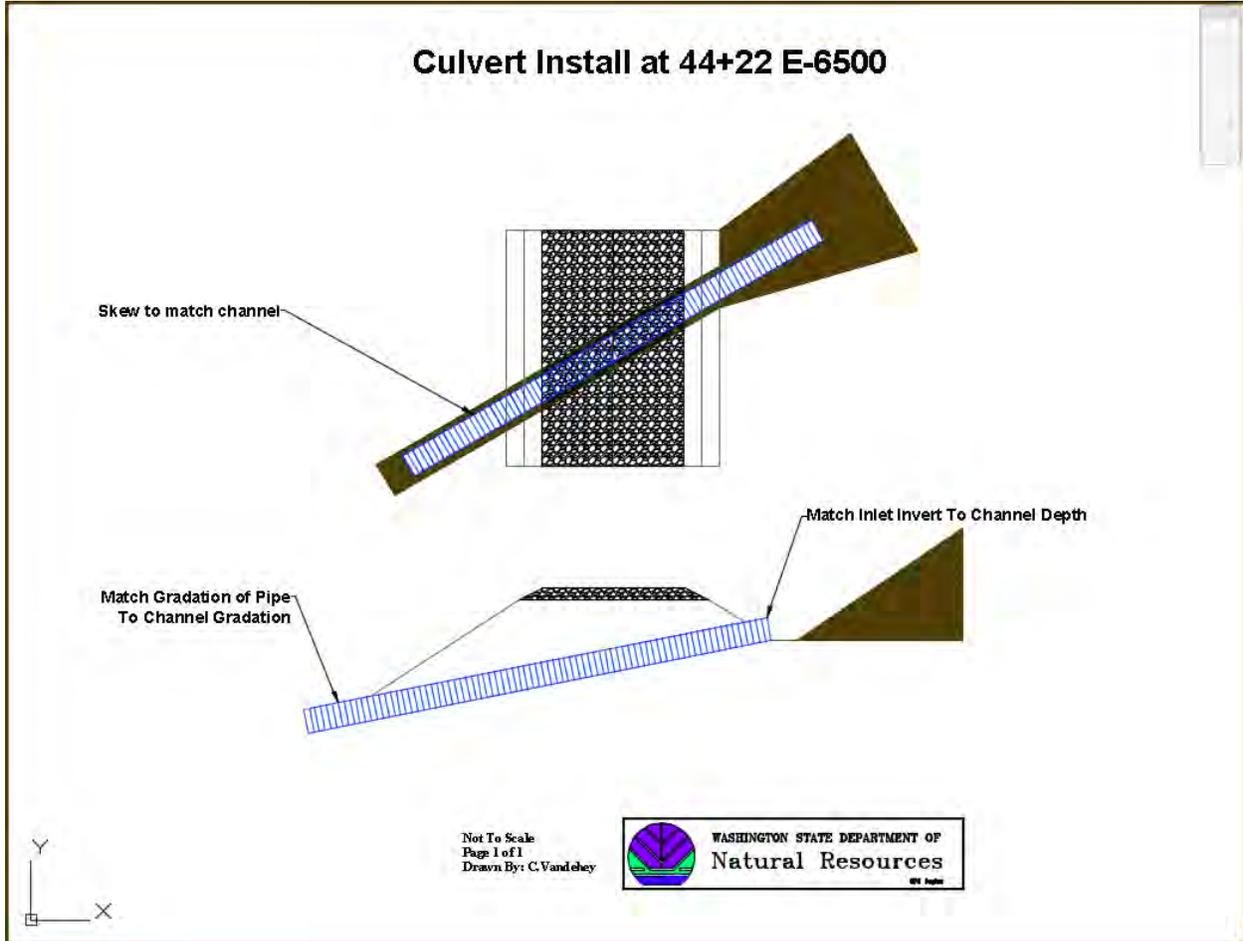
BRUSHING DETAIL



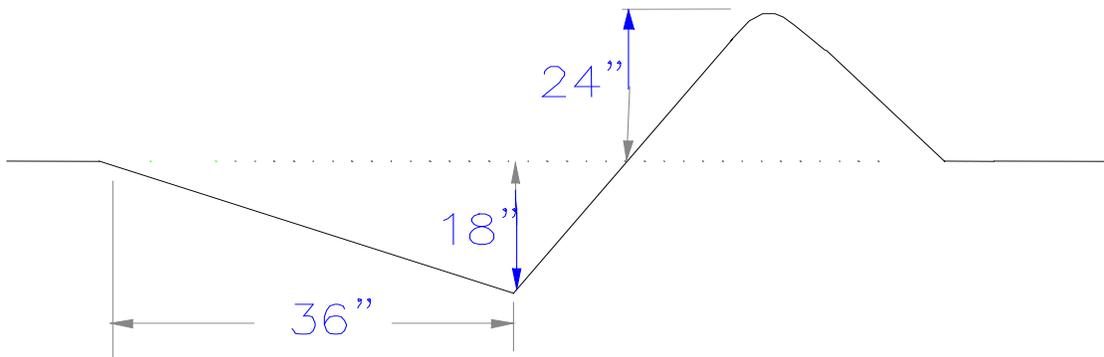
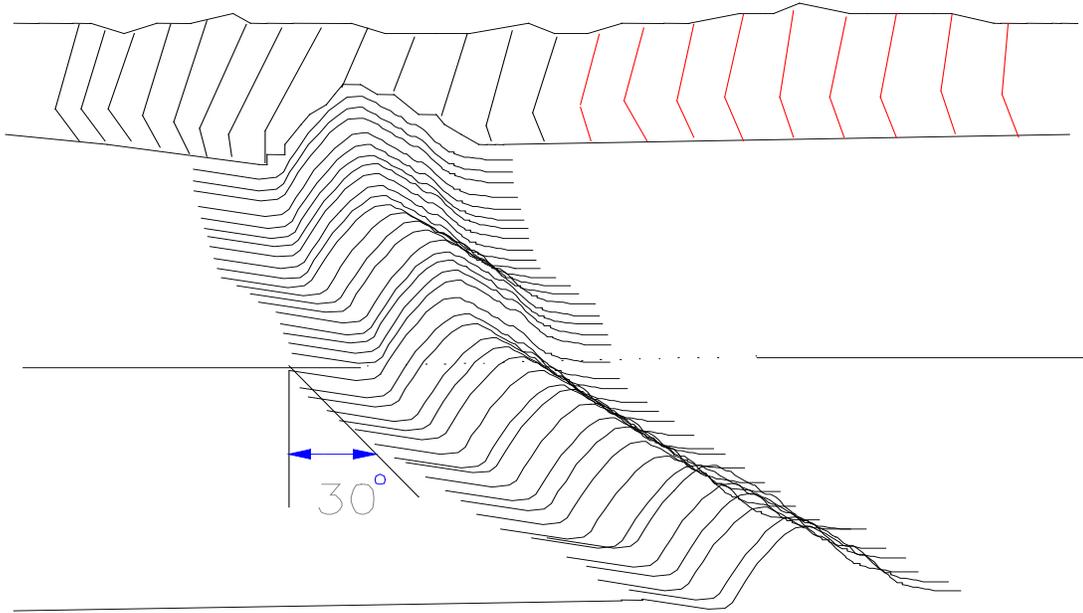
SETTLING POND AND PUMP DETAIL



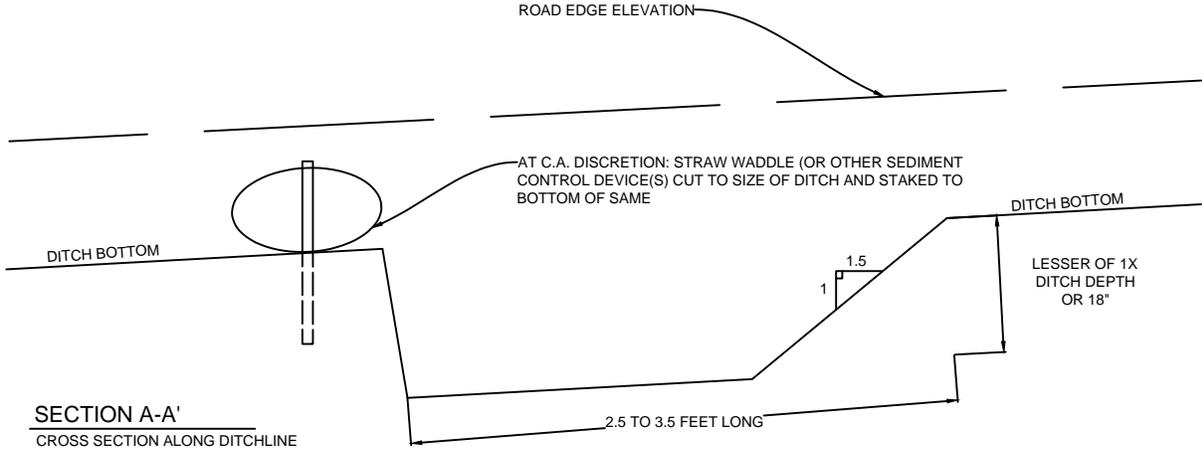
CULVERT INSTALL AT STATION 44+22 E-6500



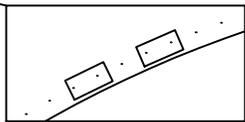
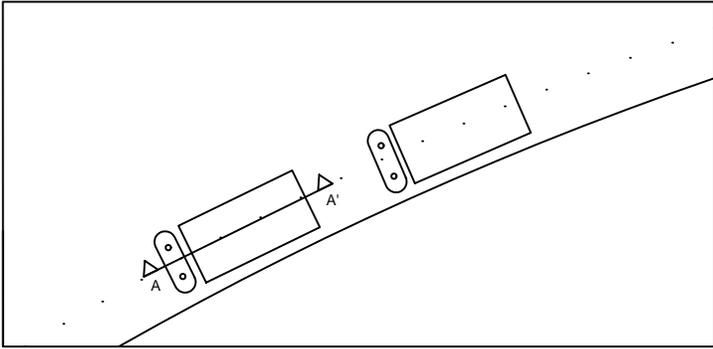
NON-DRIVABLE WATER BAR DETAIL



SEDIMENT TRAP DETAIL



SECTION A-A'
CROSS SECTION ALONG DITCHLINE



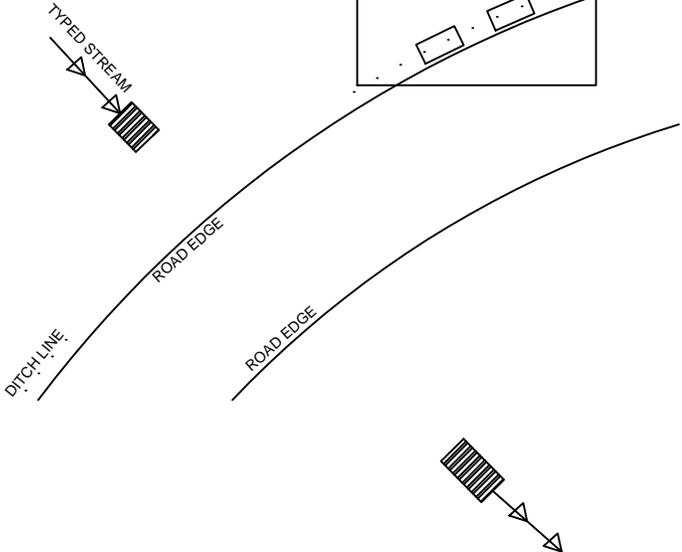
NOTES:

CONSTRUCT SEDIMENT TRAPS IN SETS GREATER THAN ONE, WHENEVER POSSIBLE.

SEDIMENT TRAPS SHOULD BE PLACED AS CLOSE AS PRACTICABLE TO STREAM CROSSING.

IF SEDIMENT TRAPS FILL WITH SEDIMENT DURING HAUL OPERATIONS, REMOVING SEDIMENT FROM TRAPS IS CONSIDERED ROUTINE MAINTENANCE.

ADDITIONAL SEDIMENT CONTROL DEVICES, SUCH AS HAY BALES, STRAW WADDLES OR OTHERS MAY BE REQUIRED AS SHOWN IF IN THE OPINION OF THE CONTRACT ADMINISTRATOR, SEDIMENT TRAP ALONE DOES NOT APPEAR TO BE EFFECTIVE.



SEDIMENT TRAP DETAIL	
	WASHINGTON STATE DEPARTMENT OF
	Natural Resources
SPS Region	

Date: 09/16/2014
 Scale : NTS
 App#
 Drawn by: WPH
 Sheet 1 of 1

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

VANTAGE QUARRY DEVELOPMENT PLAN

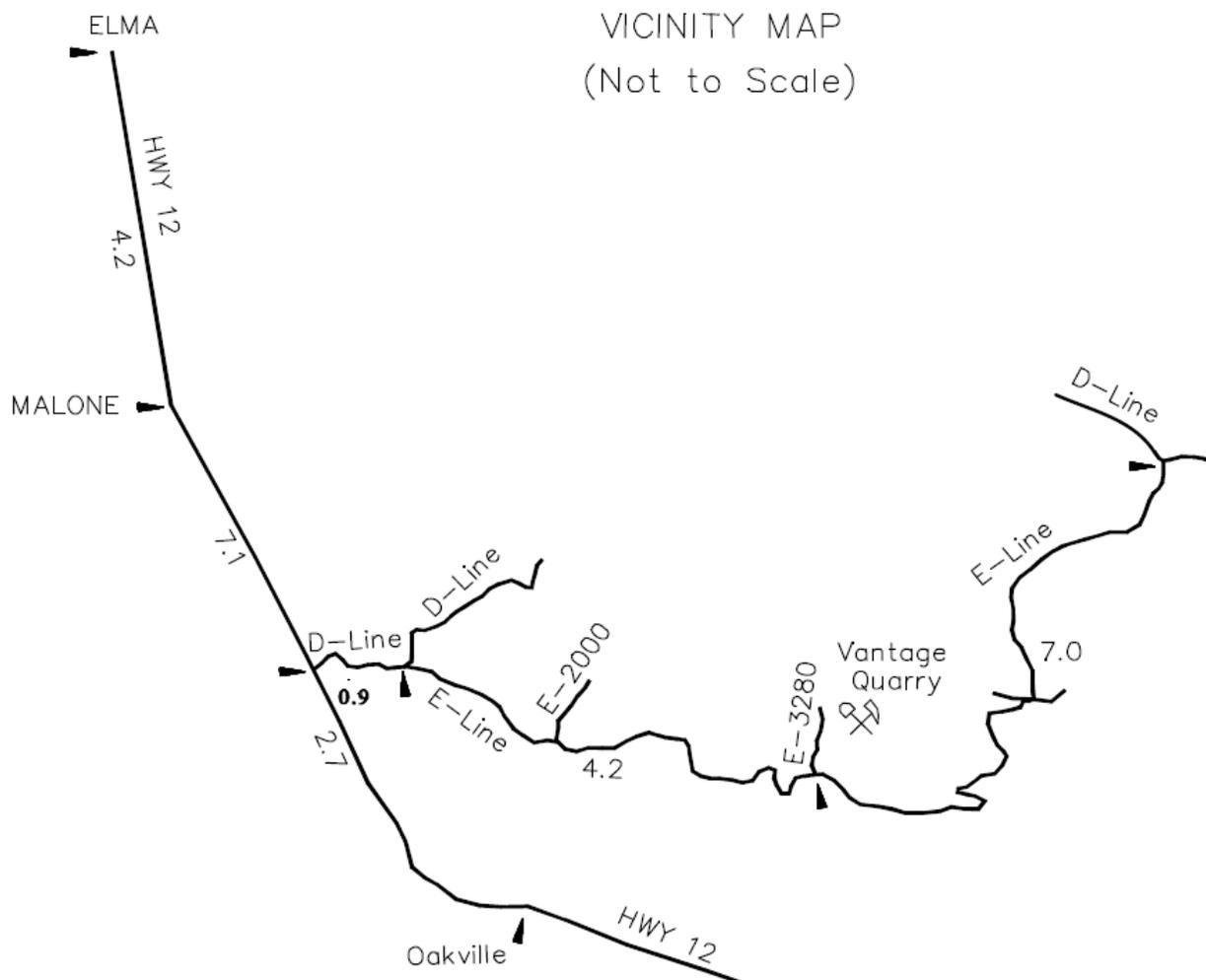
SW ¼, NW ¼, Section 22, Township 16 North, Range 4 West, W.M.

(Page 1 of 3)

1. Oversize, shot rock material, and stockpiles are not available for use without approval from the Contract Administrator. Most of the stockpile material will be utilized by Board O Foot Timber Sale and Tribute Timber Sale stockpiles. Oversize, shot rock material, and stockpiles may be moved to facilitate pit operations with written approval from the Contract Administrator.
2. Stockpiles created through this timber sale will be located within the Vantage Quarry. Exact location will be determined by the Contract Administrator.
3. Development for ballast rock shall begin in area B and continue into area A if necessary. However, area A is designated for Tribute Timber Sale.
4. All vegetation including stumps shall be cleared a minimum of 35 feet beyond the top of all working faces. Trees shall be cleared to a minimum of ¾ of the height of the tallest tree adjacent to the pit. Surface shall be scalped of all overburden within 20 feet of working face at all times.
5. Overburden shall be end hauled or pushed to the designated waste area as directed by the contract administrator. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts.
6. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the vegetative waste area as shown in the Plan View.
7. Quarry faces shall not exceed 30 feet in height and shall be sloped no steeper than 1/4:1.
8. Working bench width shall be a minimum of 20 feet.
9. The quarry floor shall have continuity of slope be left in a smooth and neat condition, providing drainage to the northwest at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques.
10. Reclamation will not be required following use.
11. All operations shall be carried out in compliance with all regulations of:
 - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
 - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.
12. The Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days prior to any drilling (Form #M-126PAC). Access roads and recreational trails in the area shall be blocked prior to blasting operations.

13. The Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
14. At the completion of rock source operations, Purchaser shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.
15. At the end of operations, quarry faces and walls shall be scaled and cleared of loose and overhanging material, and benches shall have safety berms constructed or access blocked to highway vehicles.
16. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to animal or human life.
17. The site shall be cleared of all temporary structures, equipment and rubbish, and shall be left in a neat and presentable condition so that future operations may proceed in an orderly manner.

Date of update 4/2016

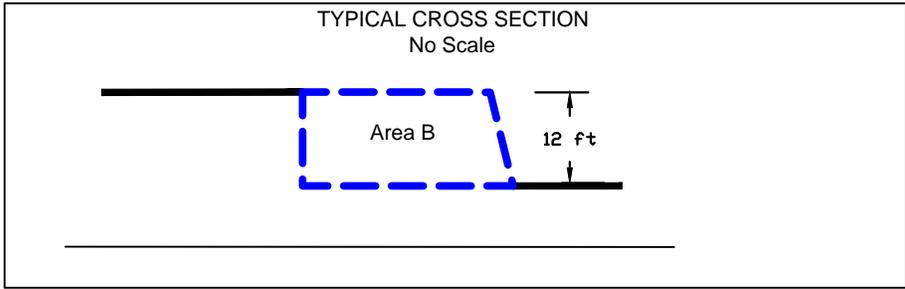


VANTAGE QUARRY PLAN VIEW

SEC. 22, T16N, R04W, W.M.



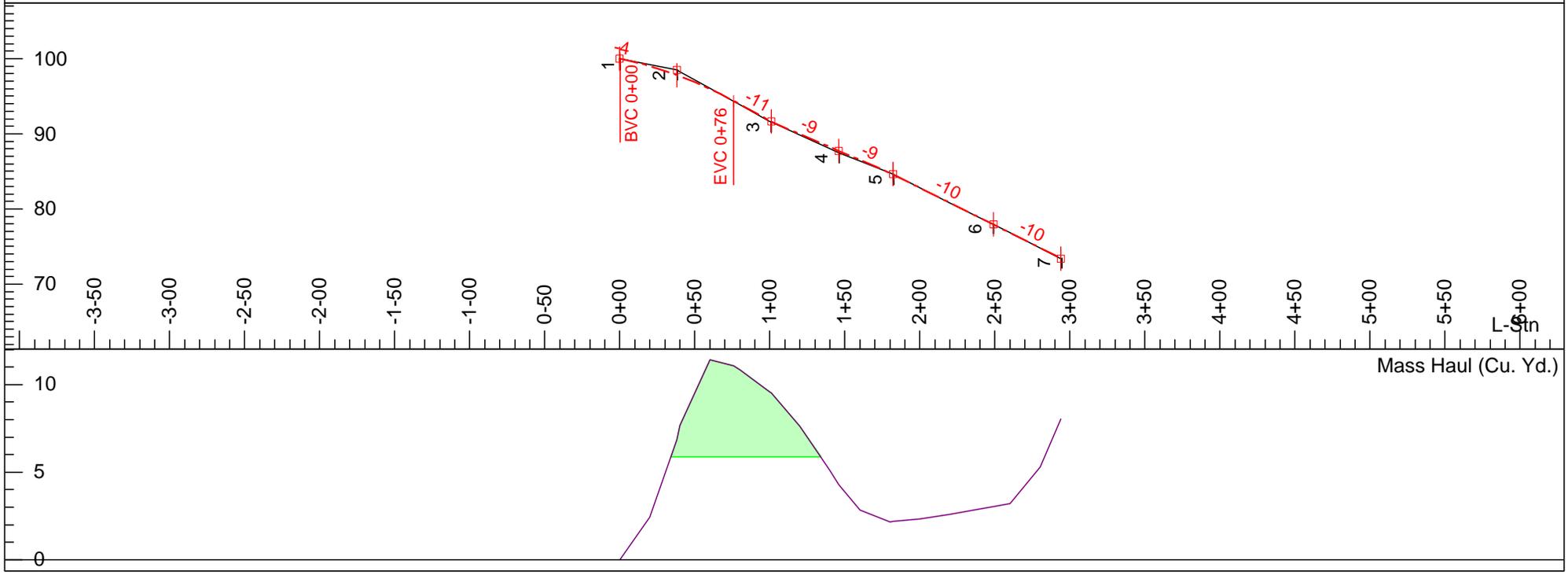
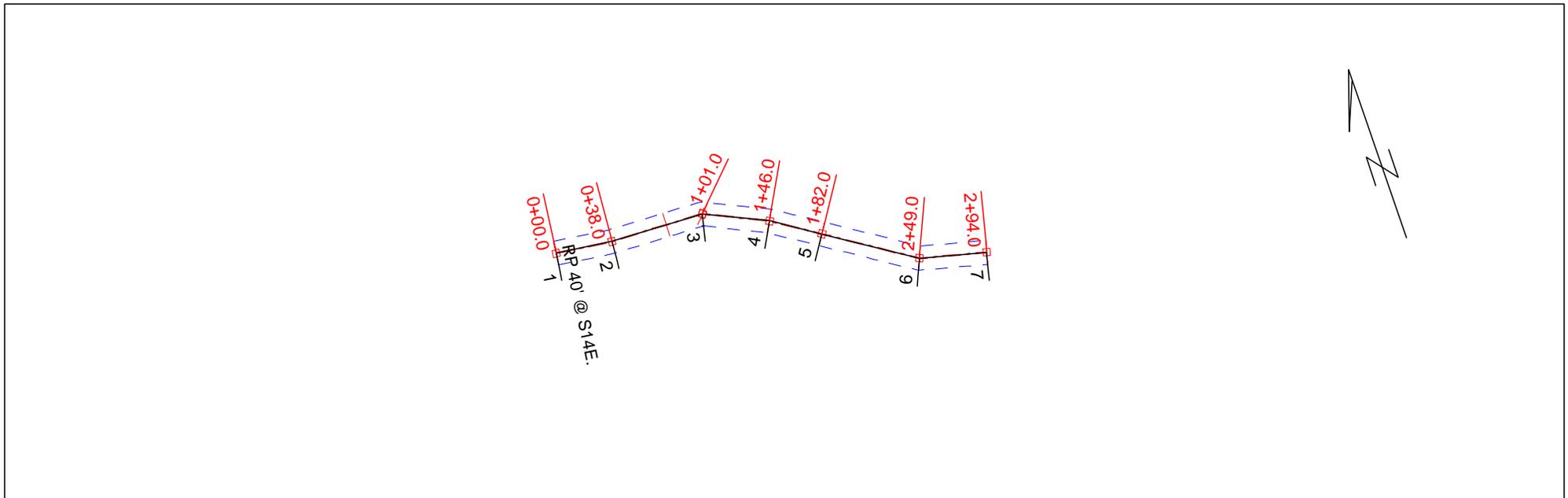
Board O Feet Timber Sale Unit
Surrounds Entire Pit



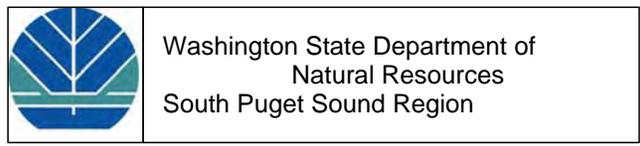
LEGEND

- Existing Pit Boundary
- Existing Road
- Oversize Shot Rock
- Shot Rock
- Existing Stockpiles to be used by Board Of Feet TBS
- Quarry Face

NOT TO SCALE

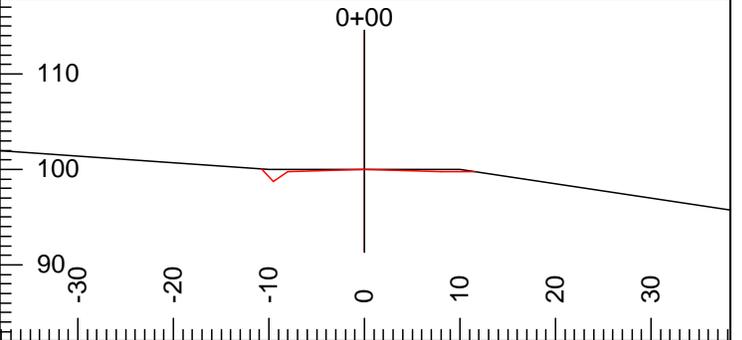
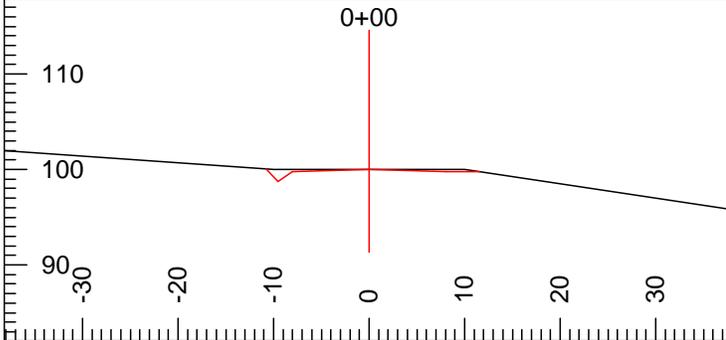


On Time Timber Sale
 E-5200 Cutoff road April 25, 2016
 Contract #: 30-088982



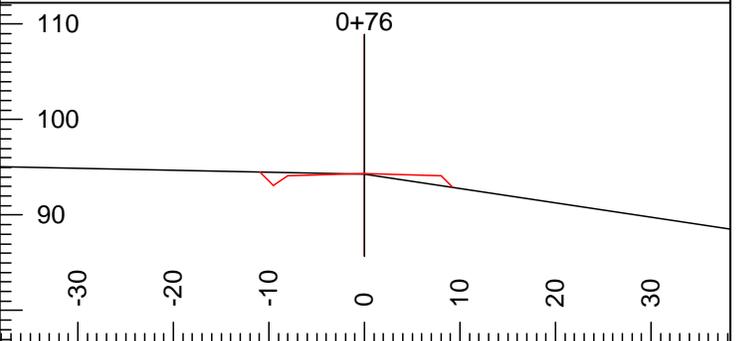
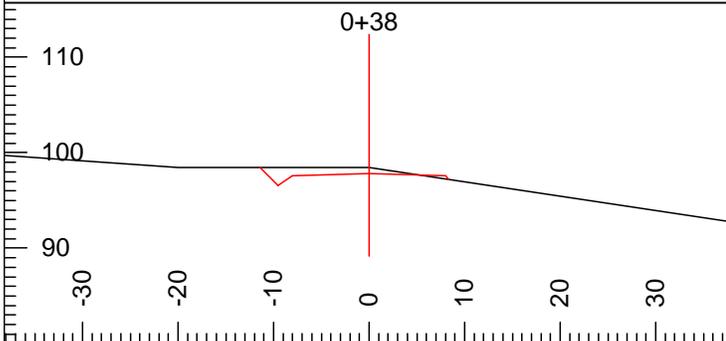
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 Profile Horz Scale 1:1200

Engineer: C. Vandehey
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 16/04/25



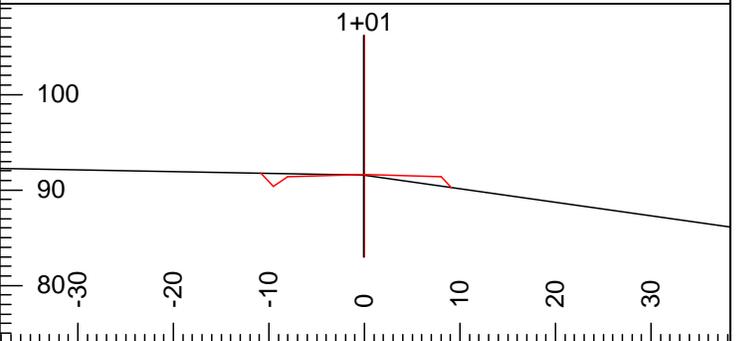
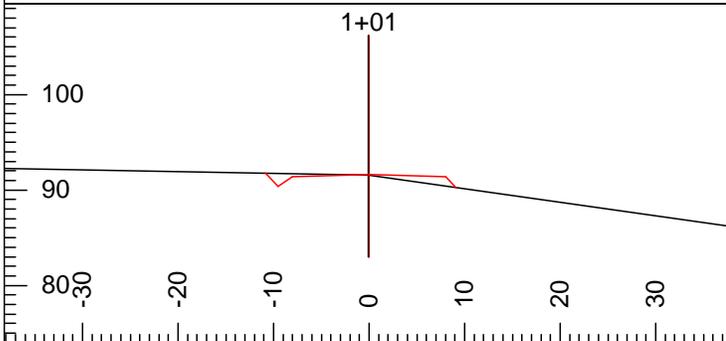
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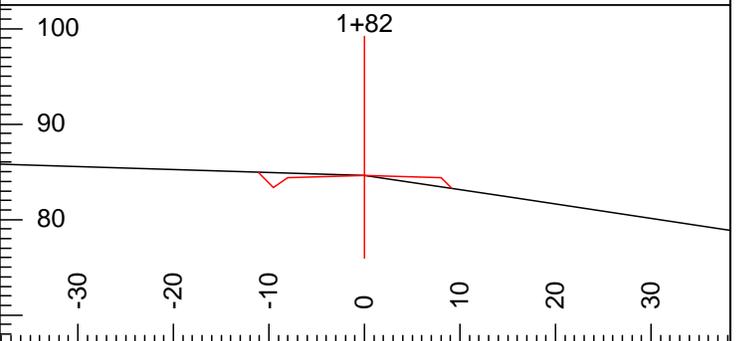
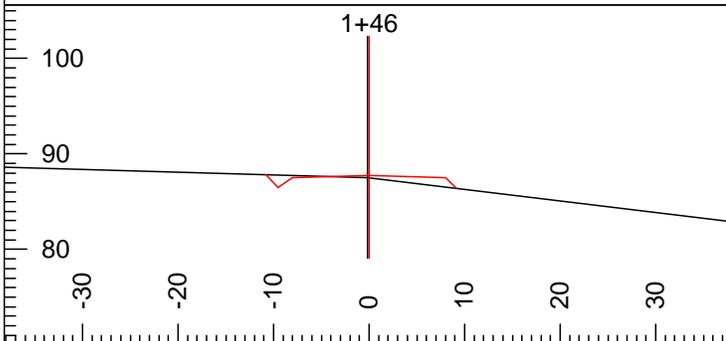
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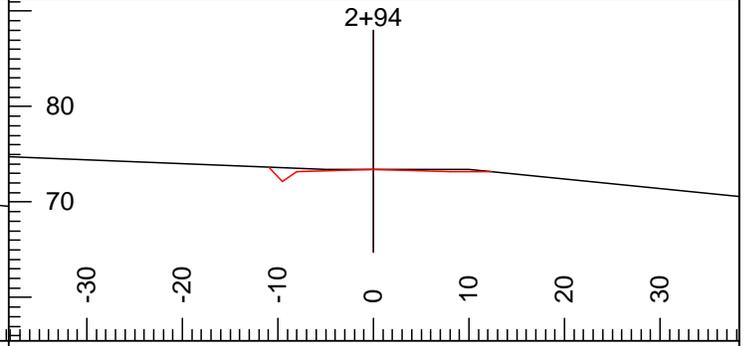
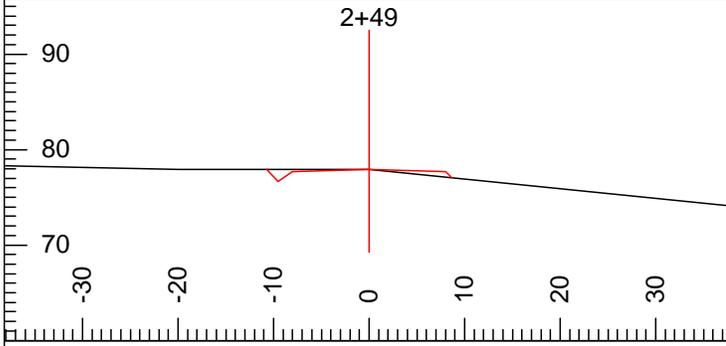
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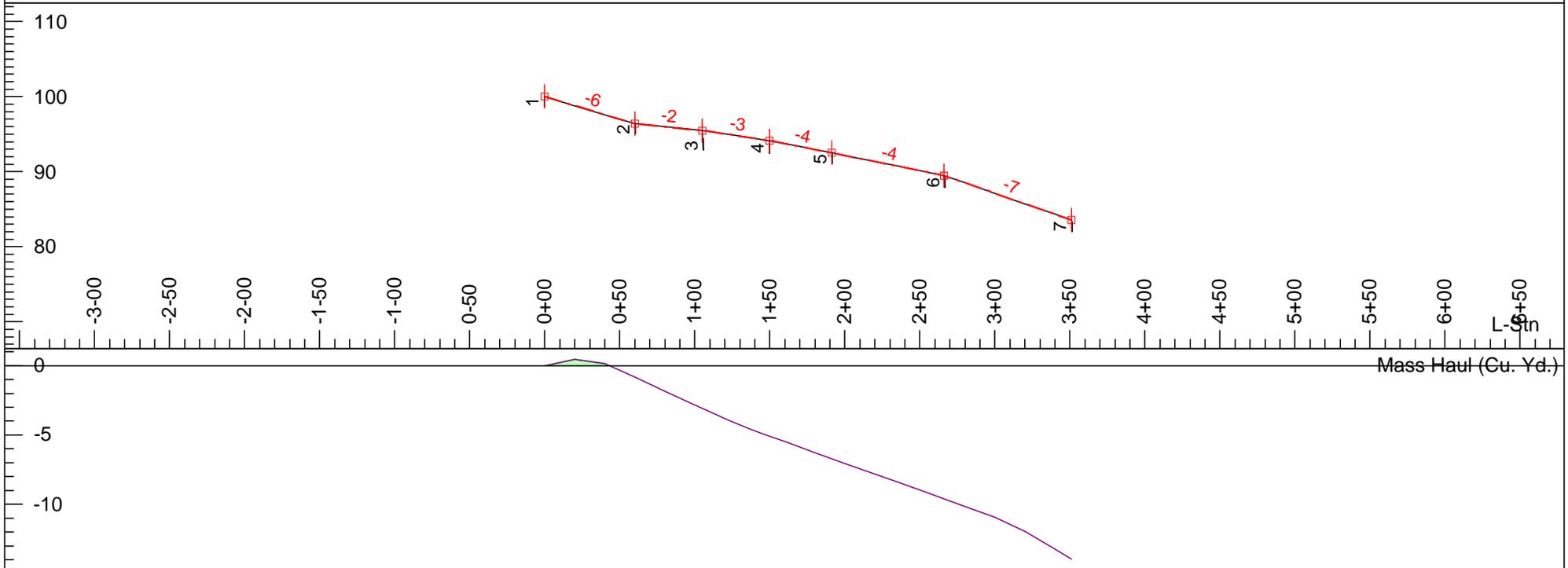
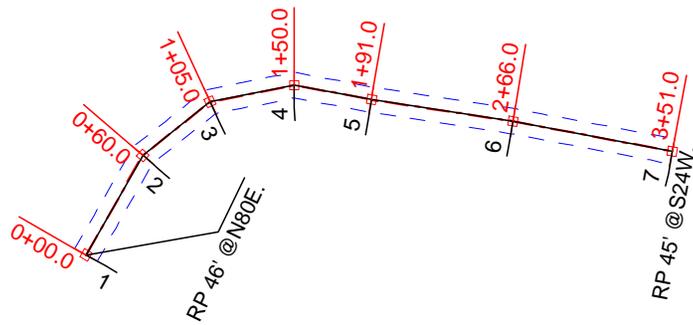
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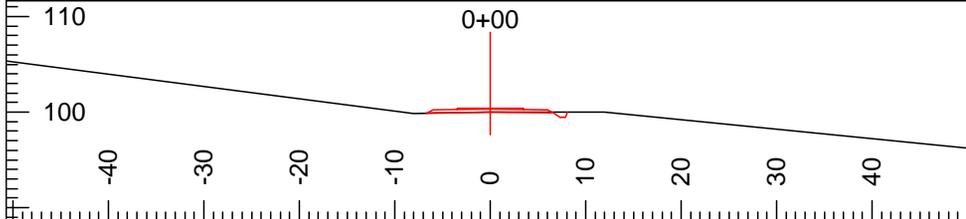
On Time Timber Sale
 E-5220 Ext. road April 25, 2016
 Contract #: 30-088982



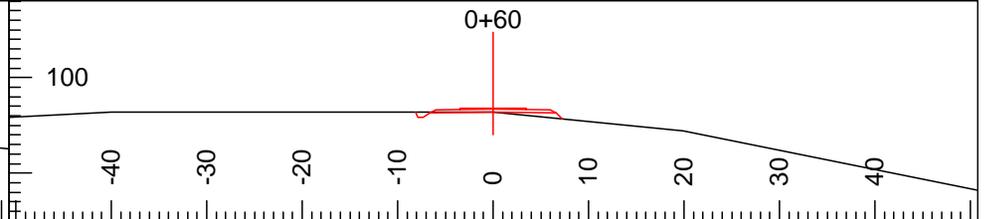
Washington State Department of
 Natural Resources
 South Puget Sound Region

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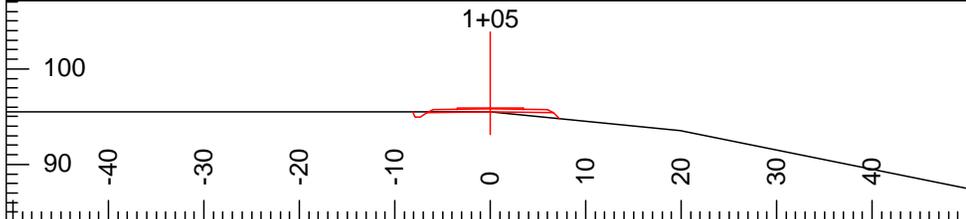
Engineer: C. Vandehey
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 16/04/25



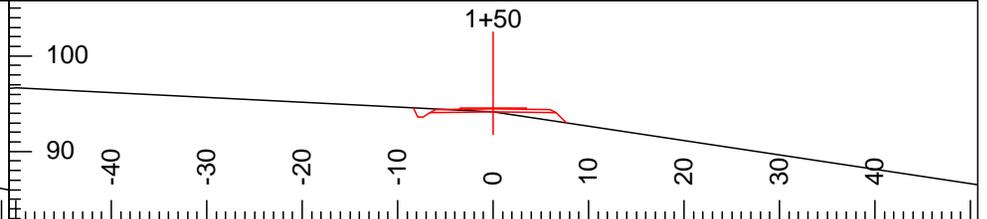
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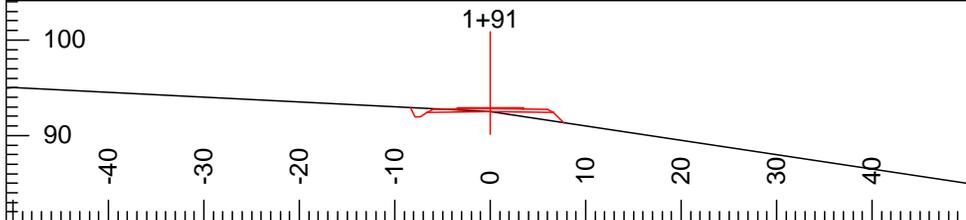
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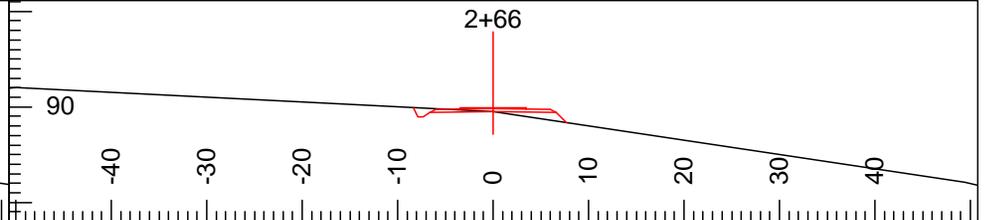
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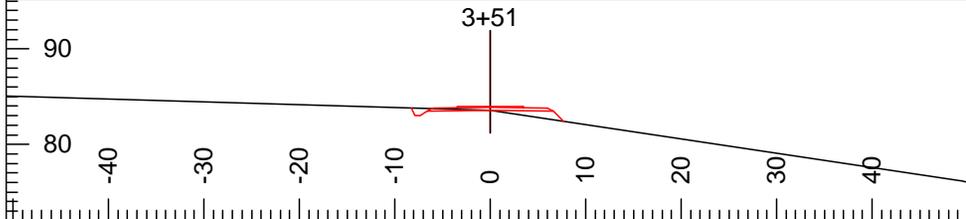
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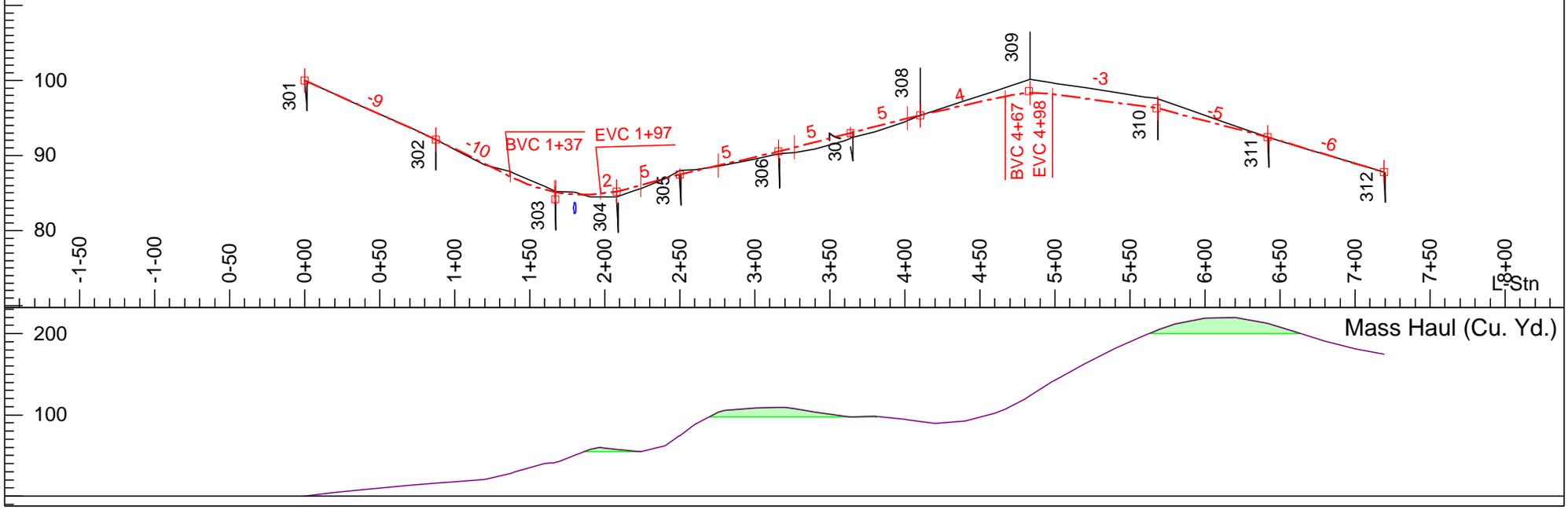
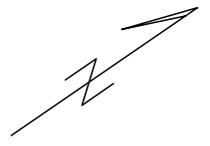
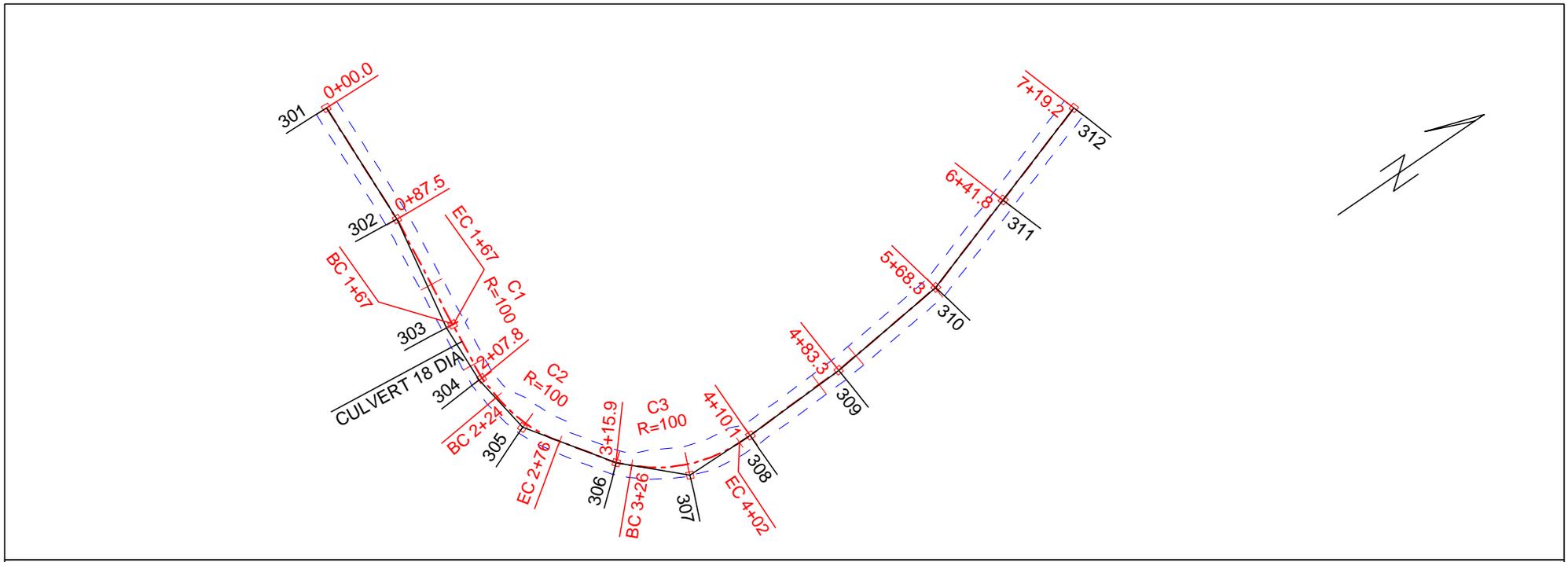
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On Time Timber Sale
 E-5280 road April 25, 2016
 Contract #: 30-088982



Washington State Department of
 Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
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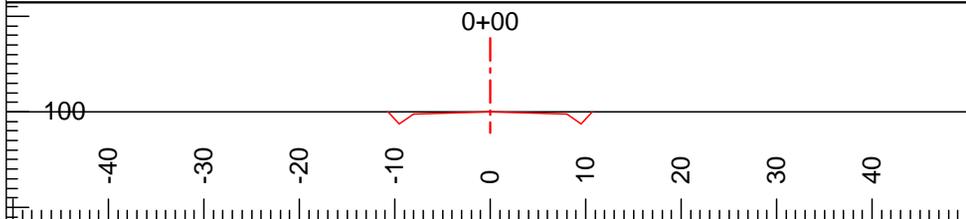
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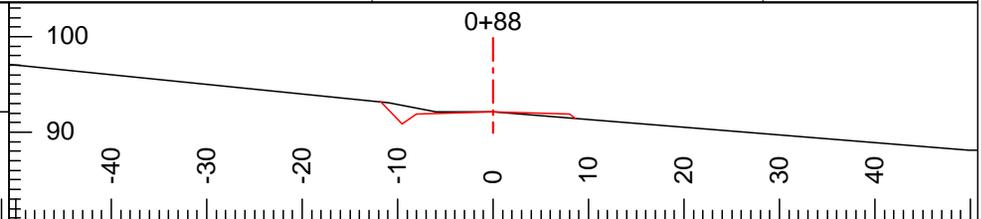
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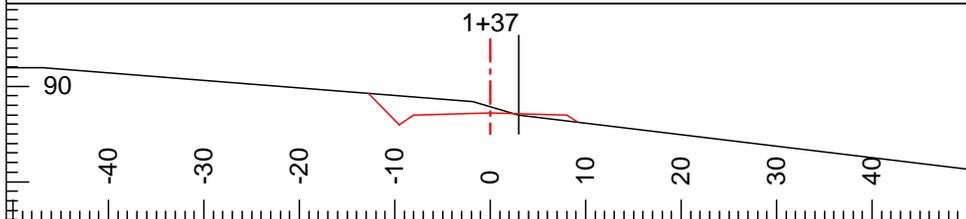
16/04/25



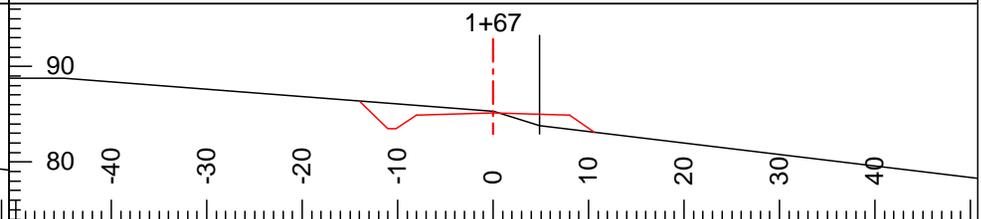
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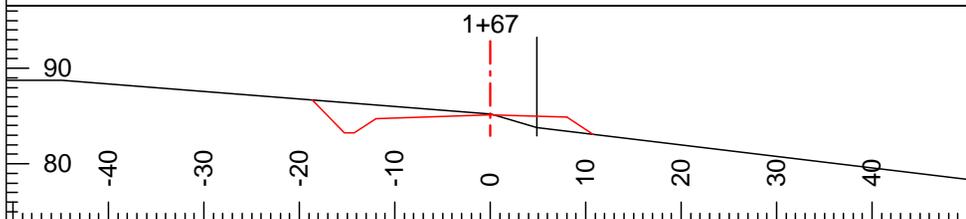
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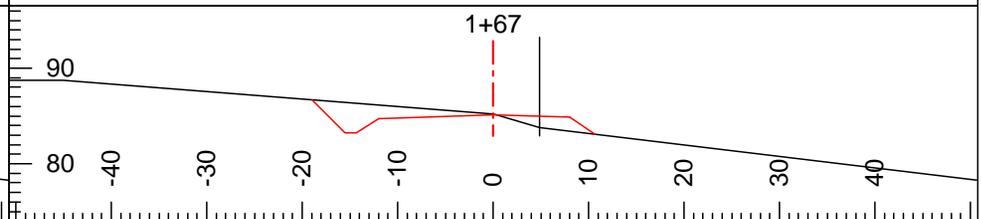
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 Grd.Nxt.: -10 Ssr: (Av) -12 CL Elev: 87 Rd. Wd. R: 8



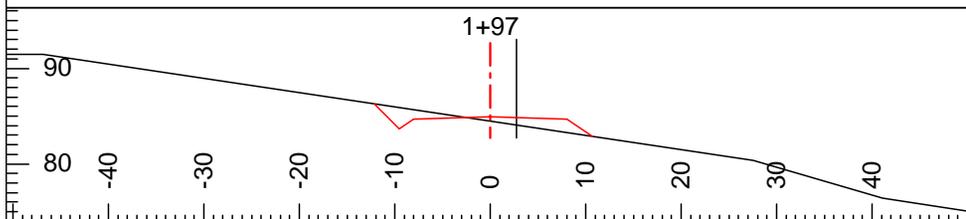
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 Grd.Nxt.: -4 Ssr: (Av) -12 CL Elev: 85 Rd. Wd. R: 8



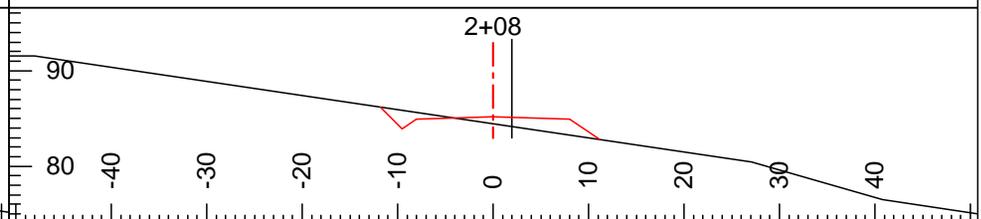
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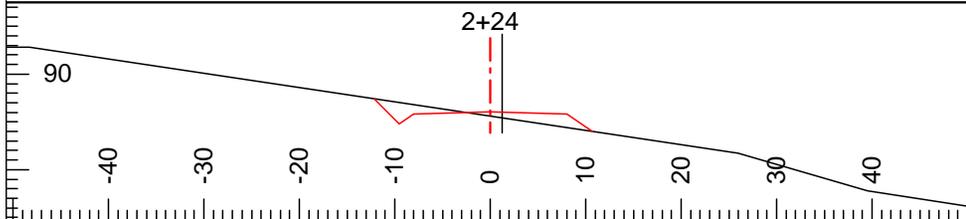
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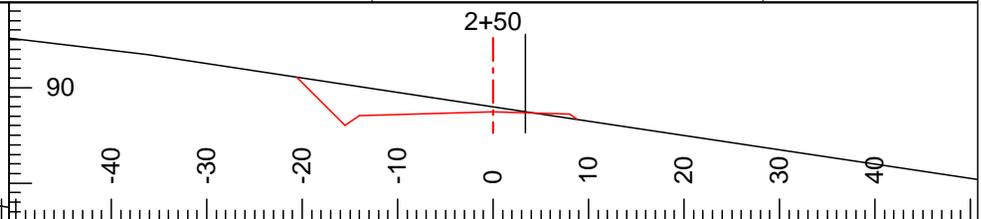
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 Grd.Nxt.: 2 Ssr: (Av) -15 CL Elev: 85 Rd. Wd. R: 8



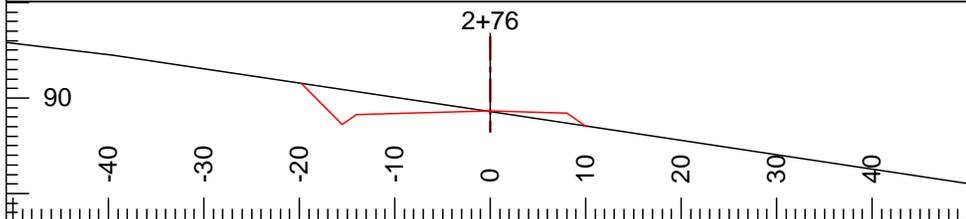
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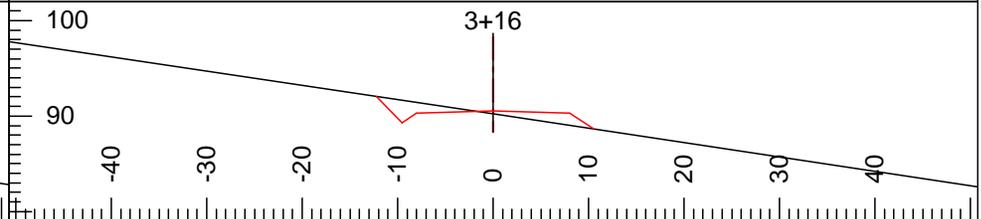
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 Grd.Nxt.: 5 Ssr: (Av) -15 CL Elev: 86 Rd. Wd. R: 8



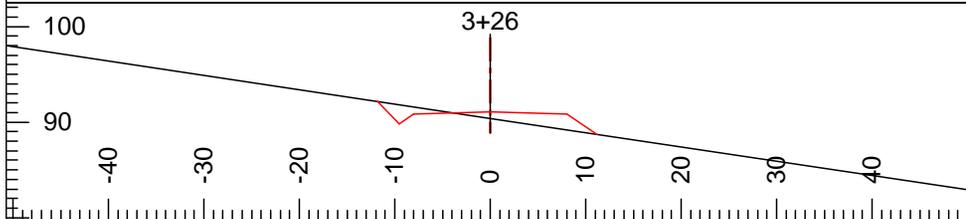
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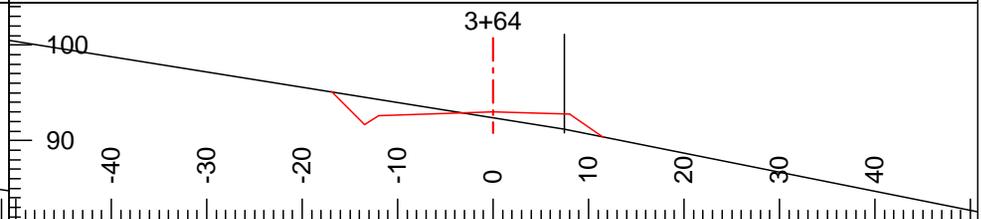
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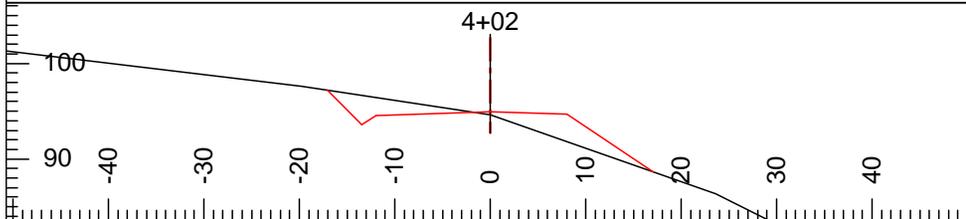
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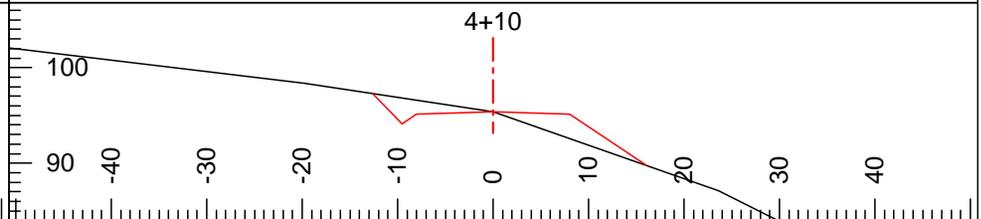
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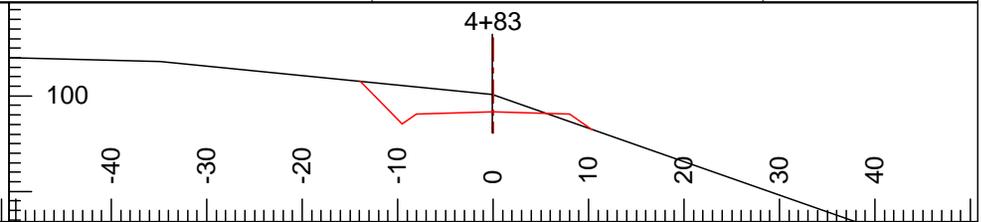
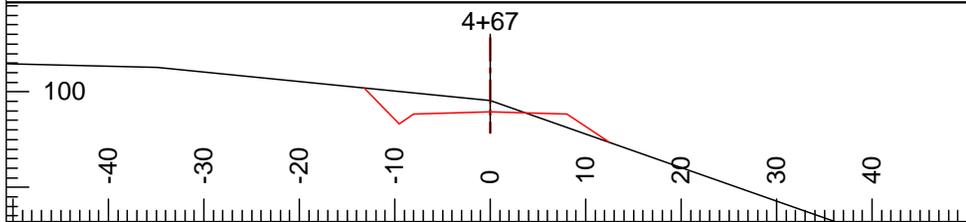
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 Grd.Nxt.: 5 Ssr: (Av) -20 CL Elev: 93 Rd. Wd. R: 8



L-Stn: 4+02 Grd.Lst: 5 H. Offset: 0 Rd. Wd.: 20
 Index: Ssl: (Av) 15 Cut Dp: 0 Rd. Wd. L: 12
 Grd.Nxt.: 5 Ssr: (Av) -35 CL Elev: 95 Rd. Wd. R: 8

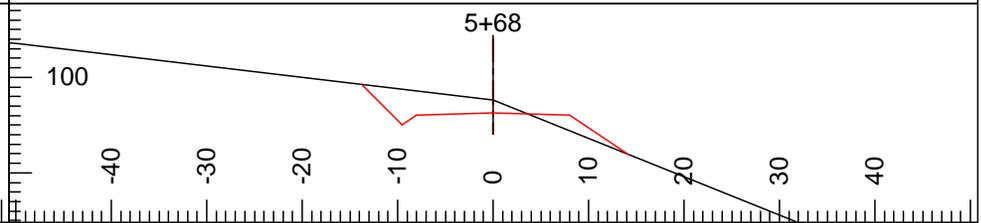
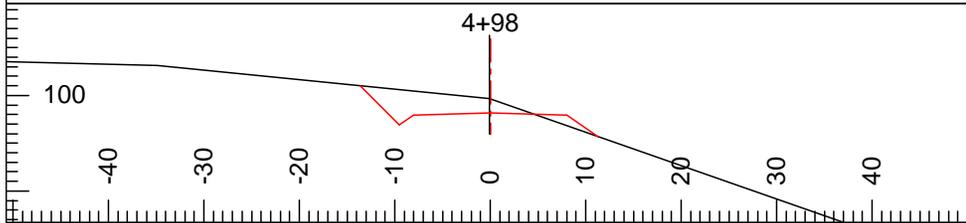


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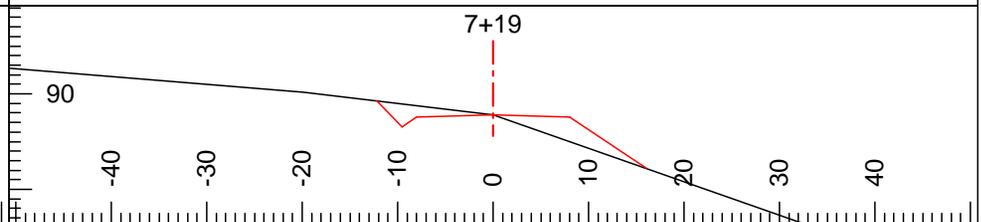
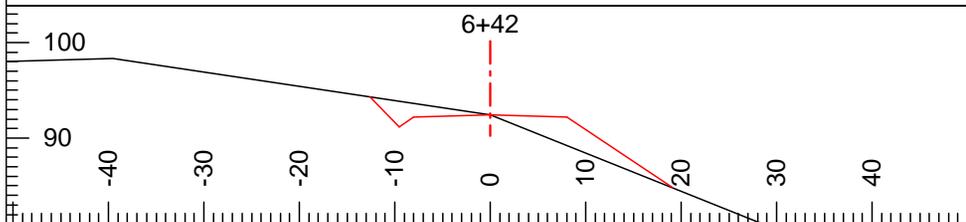
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 Grd.Nxt.: 4 Ssr: (Av) -35 CL Elev: 98 Rd. Wd. R: 8

L-Stn: 4+83 Grd.Lst: 1 H. Offset: 0 Rd. Wd.: 16
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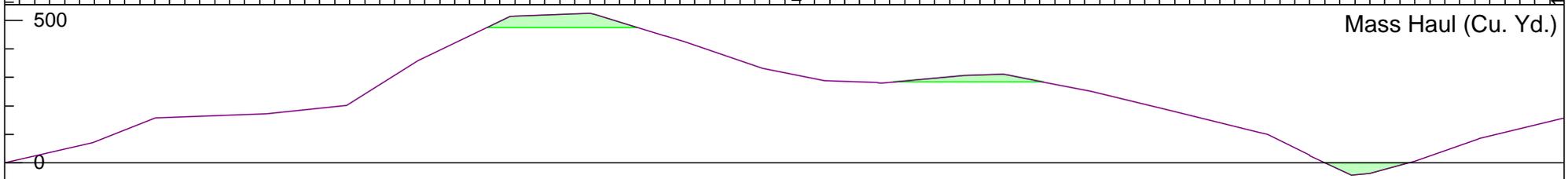
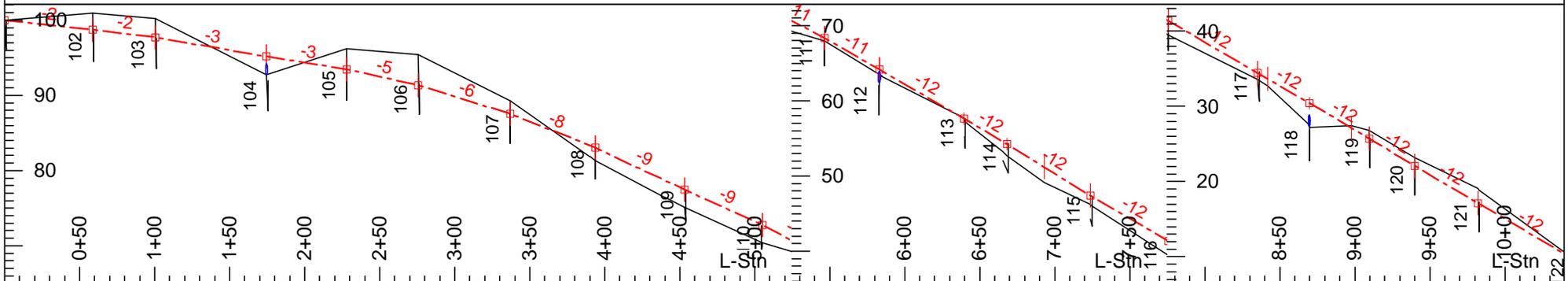
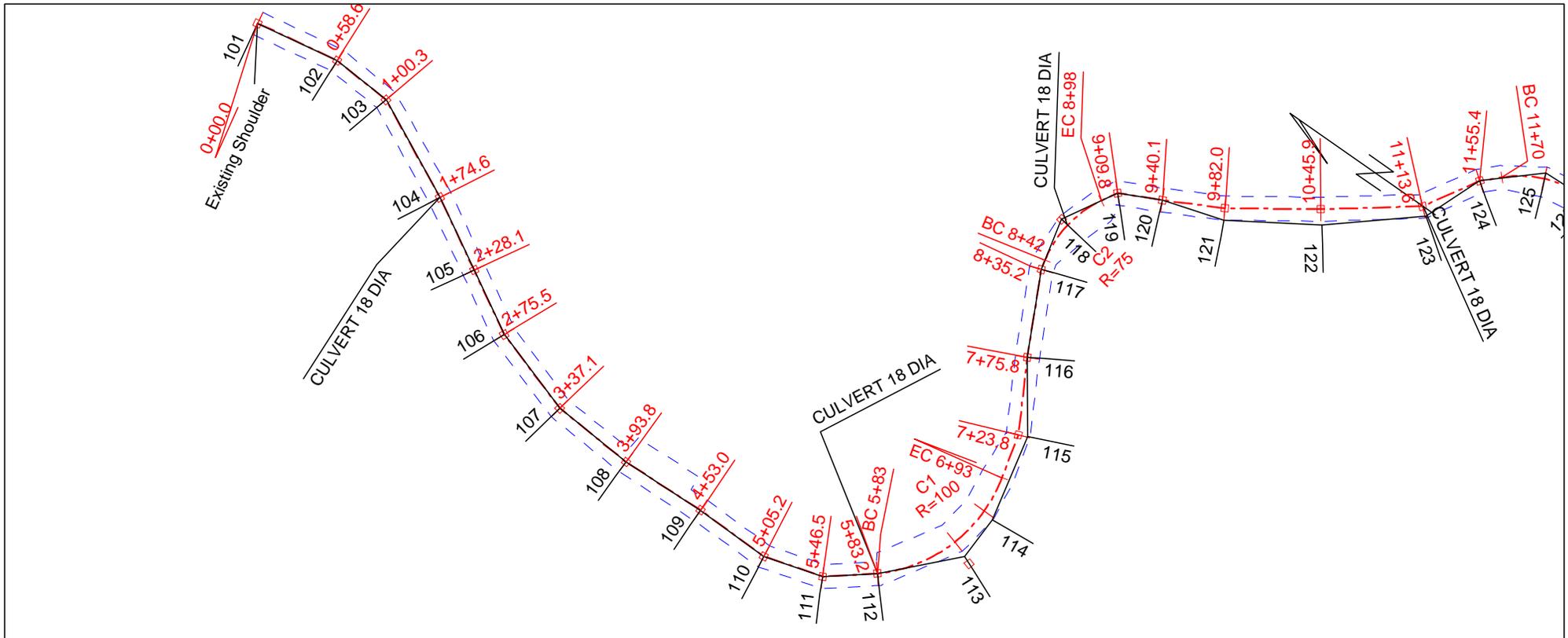
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 Grd.Nxt.: -3 Ssr: (Av) -35 CL Elev: 98 Rd. Wd. R: 8

L-Stn: 5+68 Grd.Lst: -5 H. Offset: 0 Rd. Wd.: 16
 Index: 310 Ssl: (Av) 12 Cut Dp: 1 Rd. Wd. L: 8
 Grd.Nxt.: -5 Ssr: (Av) -40 CL Elev: 96 Rd. Wd. R: 8



L-Stn: 6+42 Grd.Lst: -5 H. Offset: 0 Rd. Wd.: 16
 Index: 311 Ssl: (Av) 15 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -6 Ssr: (Av) -40 CL Elev: 92 Rd. Wd. R: 8

L-Stn: 7+19 Grd.Lst: -6 H. Offset: 0 Rd. Wd.: 16
 Index: 312 Ssl: (Av) 12 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: n/a Ssr: (Av) -35 CL Elev: 88 Rd. Wd. R: 8



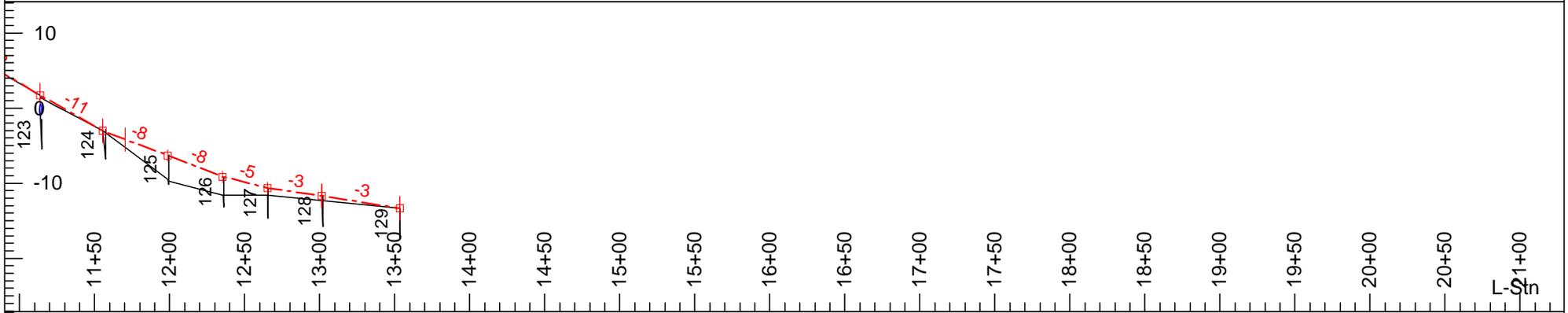
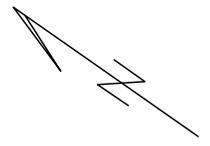
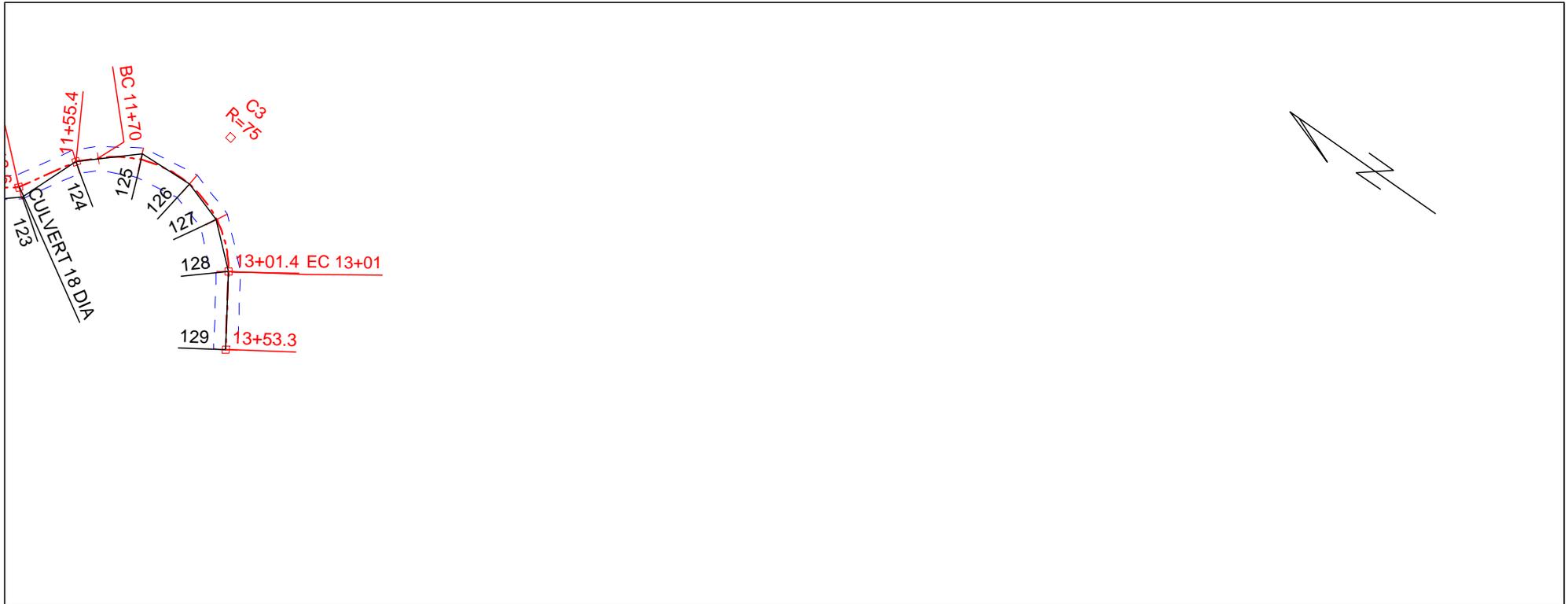
On Time Timber Sale
 E-6510 Ext. road April 25, 2016
 Contract #: 30-088982



Washington State Department of
 Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:240
 Profile Horz Scale 1:1200

Engineer: C. Vandehey
 16/04/25 Page 1 of 2



On Time Timber Sale
 E-6510 Ext. road April 25, 2016
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Washington State Department of
 Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:240
 Profile Horz Scale 1:1200

Engineer: C. Vandehey
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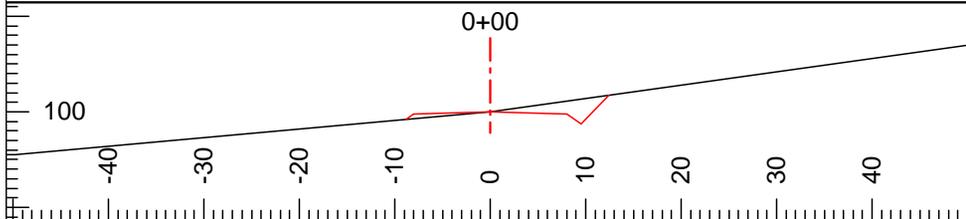
ROADENG Section

Scale 1:240

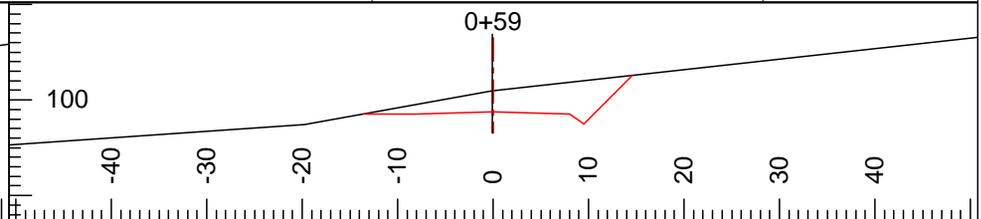
P. 1

J:\SHARED\BlackHillsDistrict\ENGINEERING\Little Rock\On Time\Roadeng\6050reroutenc

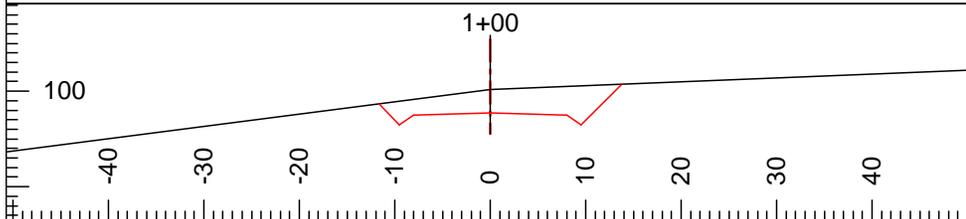
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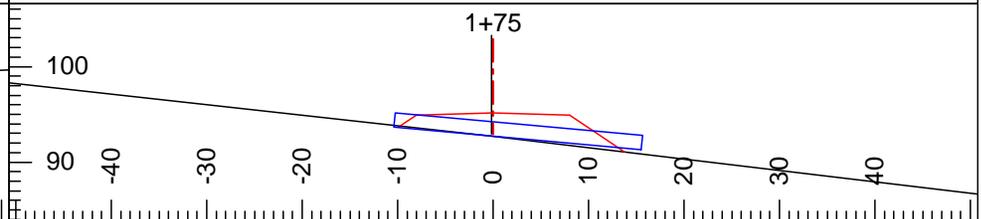
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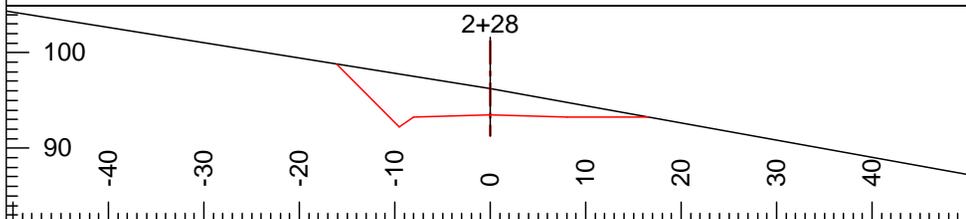
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 Grd.Nxt.: -2 Ssr: (Av) 11 CL Elev: 99 Rd. Wd. R: 8



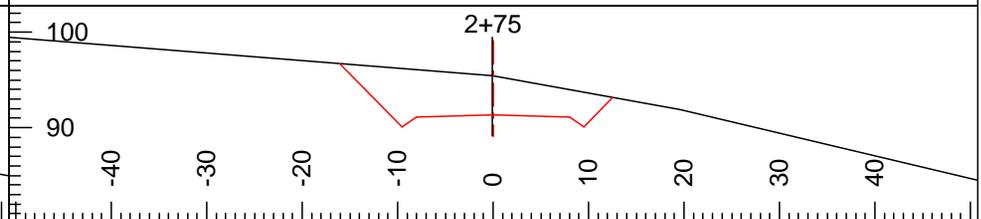
L-Stn: 1+00 Grd.Lst: -2 H. Offset: 0 Rd. Wd.: 16
 Index: 103 Ssl: (Av) -13 Cut Dp: 2 Rd. Wd. L: 8
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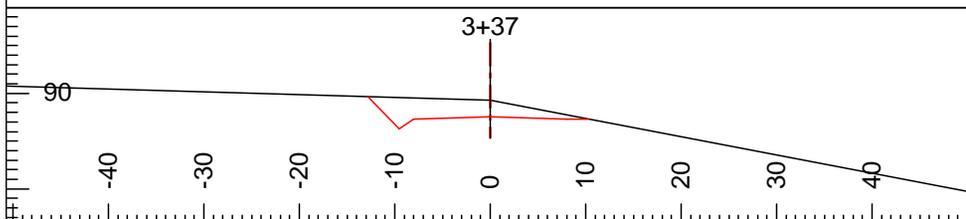
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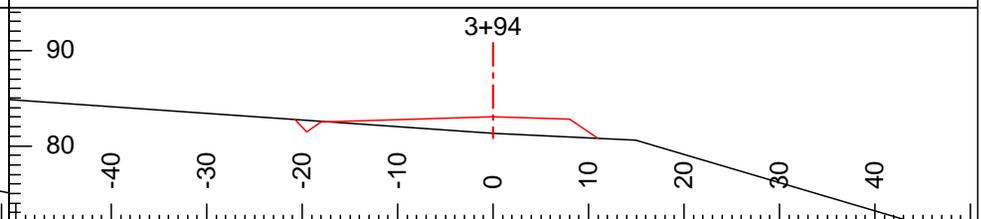
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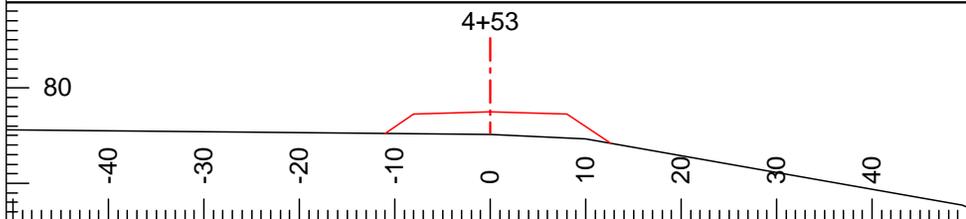
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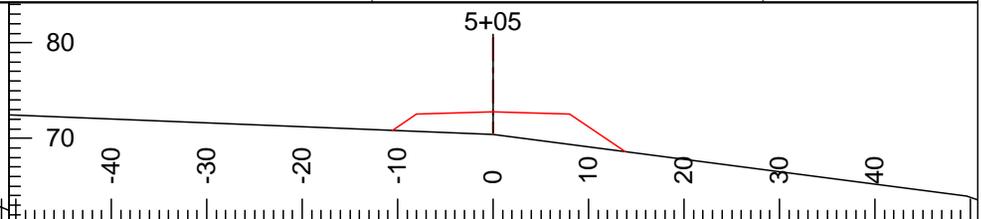
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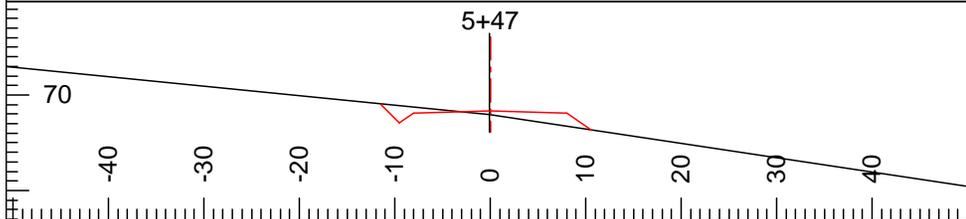
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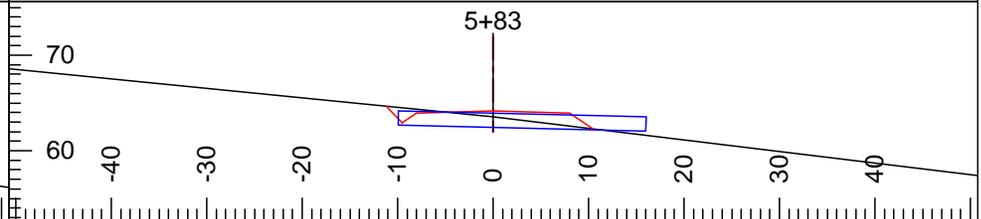
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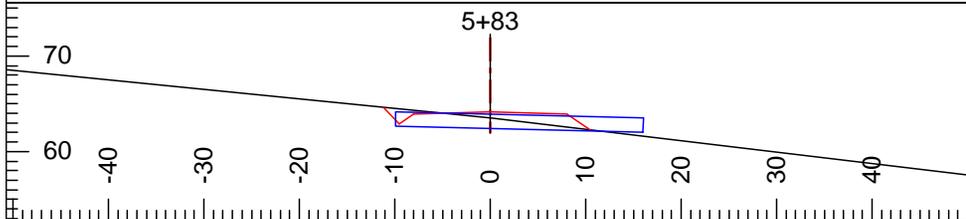
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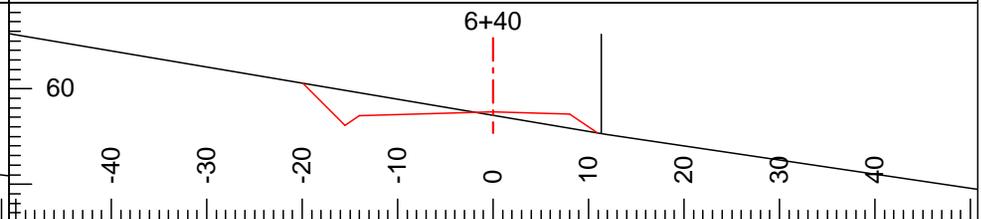
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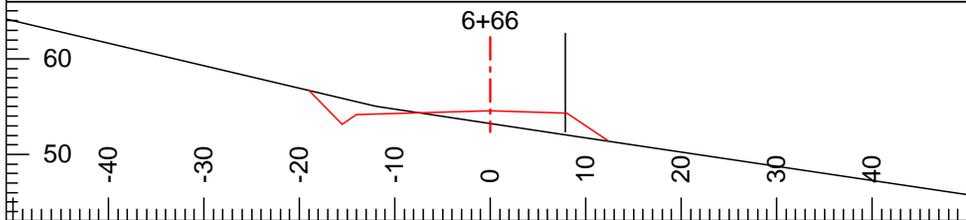
L-Stn: 5+83 Grd.Lst: -11 H. Offset: 0 Rd. Wd.: 16
 Index: 112 Ssl: (Av) 10 Cut Dp: -1 Rd. Wd. L: 8
 Grd.Nxt.: -12 Ssr: (Av) -12 CL Elev: 64 Rd. Wd. R: 8



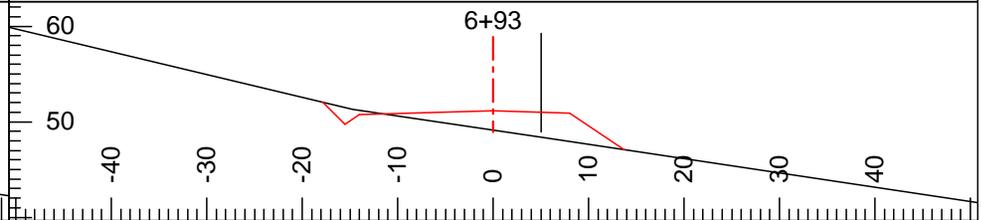
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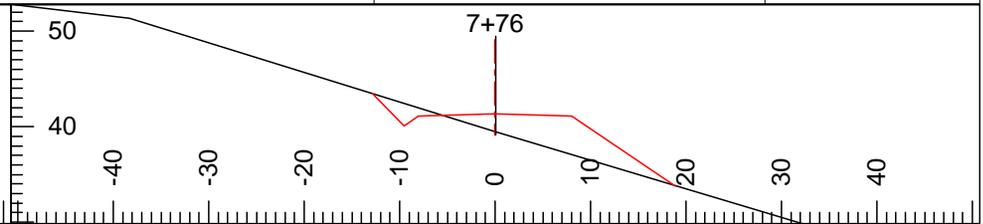
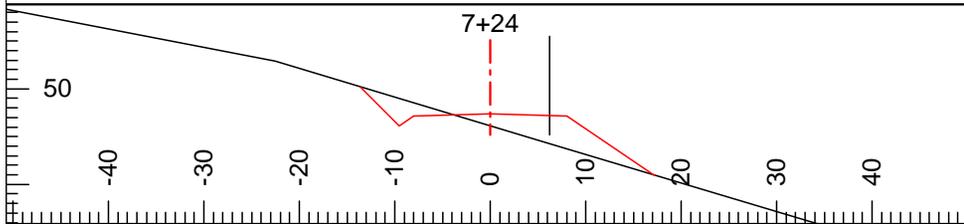
L-Stn: 6+40 Grd.Lst: -12 H. Offset: -12 Rd. Wd.: 22
 Index: 113 Ssl: (Av) 17 Cut Dp: 0 Rd. Wd. L: 14
 Grd.Nxt.: -12 Ssr: (Av) -15 CL Elev: 58 Rd. Wd. R: 8



L-Stn: 6+66 Grd.Lst: -12 H. Offset: -8 Rd. Wd.: 22
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 Grd.Nxt.: -12 Ssr: (Av) -15 CL Elev: 55 Rd. Wd. R: 8

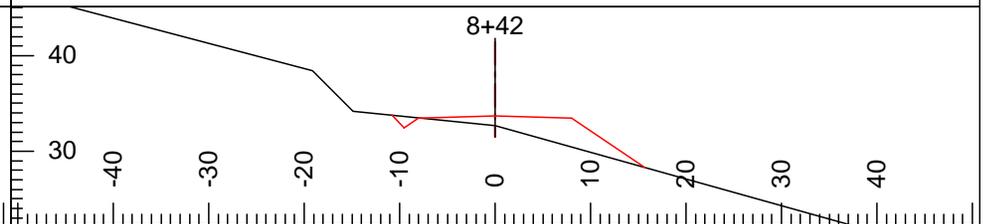
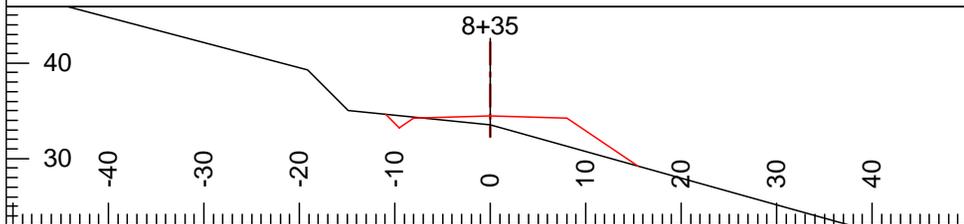


L-Stn: 6+93 Grd.Lst: -12 H. Offset: -5 Rd. Wd.: 22
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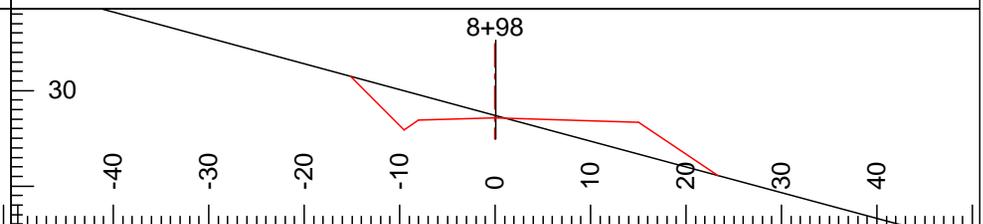
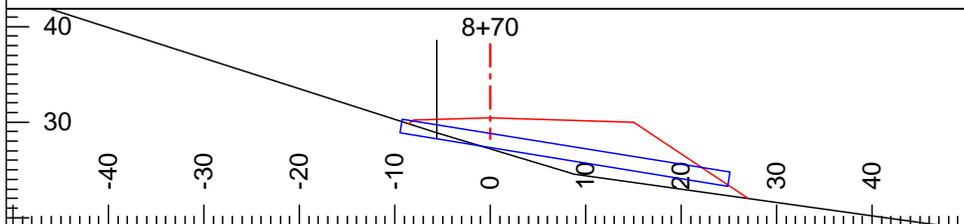
L-Stn: 7+24 Grd.Lst: -12 H. Offset: -6 Rd. Wd.: 16
 Index: 115 Ssl: (Av) 30 Cut Dp: -1 Rd. Wd. L: 8
 Grd.Nxt.: -12 Ssr: (Av) -30 CL Elev: 47 Rd. Wd. R: 8

L-Stn: 7+76 Grd.Lst: -12 H. Offset: 0 Rd. Wd.: 16
 Index: 116 Ssl: (Av) 31 Cut Dp: -2 Rd. Wd. L: 8
 Grd.Nxt.: -12 Ssr: (Av) -30 CL Elev: 41 Rd. Wd. R: 8



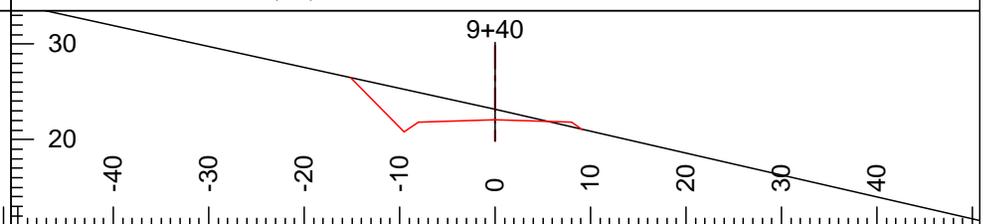
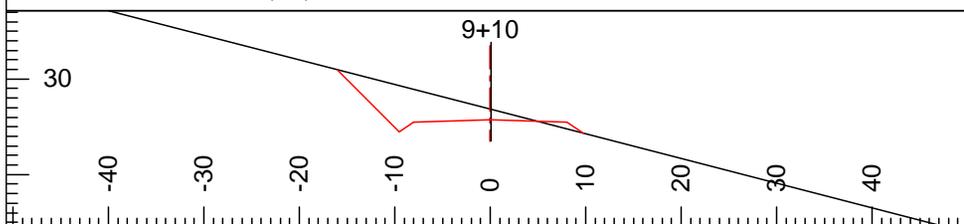
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 Grd.Nxt.: -12 Ssr: (Av) -28 CL Elev: 34 Rd. Wd. R: 8

L-Stn: 8+42 Grd.Lst: -12 H. Offset: 0 Rd. Wd.: 16
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 Grd.Nxt.: -12 Ssr: (Av) -28 CL Elev: 34 Rd. Wd. R: 8



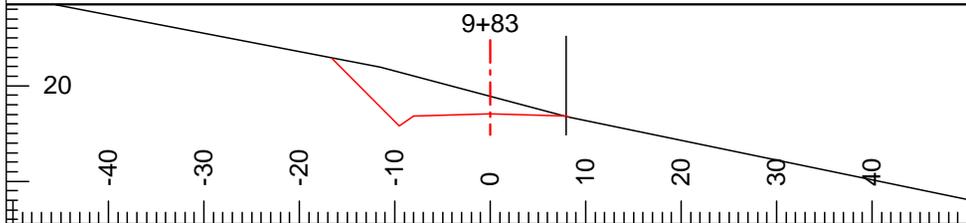
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 Index: 118 Ssl: (Av) 32 Cut Dp: -3 Rd. Wd. L: 8
 Grd.Nxt.: -12 Ssr: (Av) -30 CL Elev: 30 Rd. Wd. R: 15

L-Stn: 8+98 Grd.Lst: -12 H. Offset: 0 Rd. Wd.: 23
 Index: Ssl: (Av) 27 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -12 Ssr: (Av) -27 CL Elev: 27 Rd. Wd. R: 15

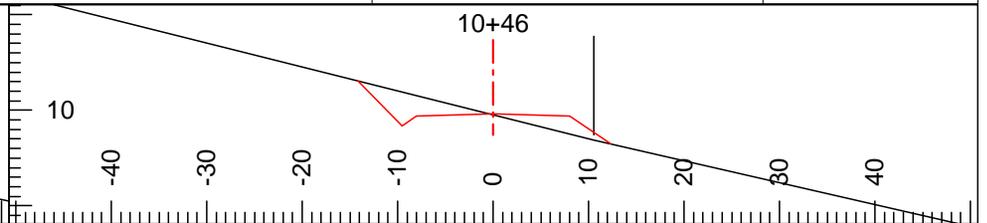


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 Grd.Nxt.: -12 Ssr: (Av) -27 CL Elev: 26 Rd. Wd. R: 8

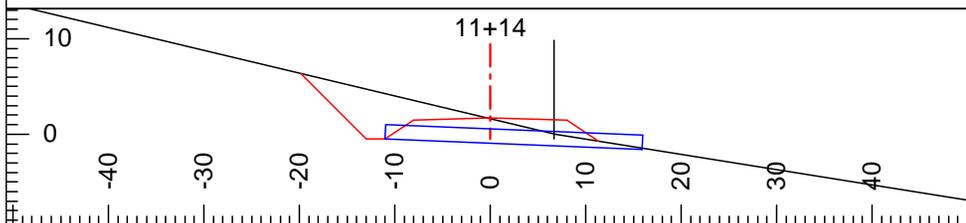
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 Grd.Nxt.: -12 Ssr: (Av) -23 CL Elev: 22 Rd. Wd. R: 8



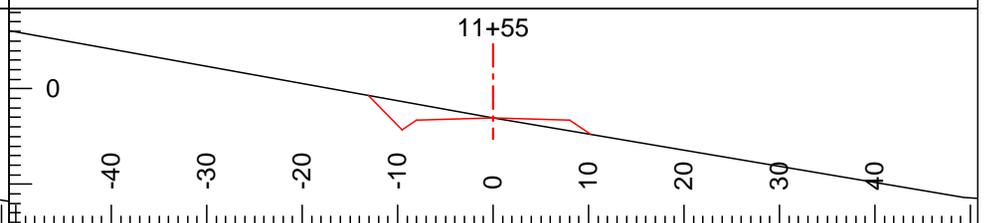
L-Stn: 9+83 Grd.Lst: -12 H. Offset: -8 Rd. Wd.: 16
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 Grd.Nxt.: -12 Ssr: (Av) -21 CL Elev: 17 Rd. Wd. R: 8



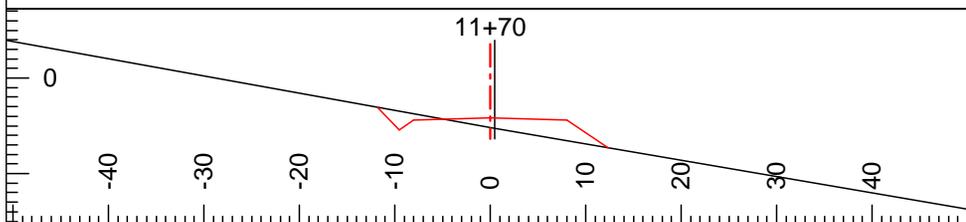
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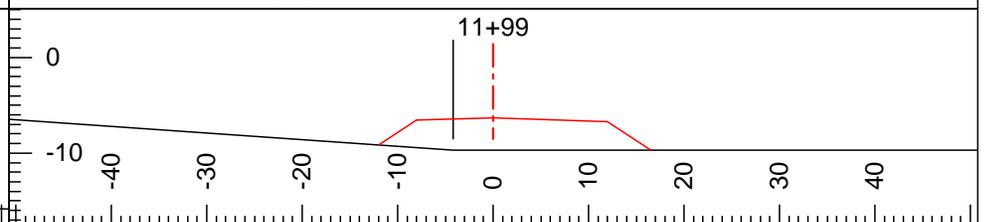
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 Grd.Nxt.: -11 Ssr: (Av) -16 CL Elev: 2 Rd. Wd. R: 8



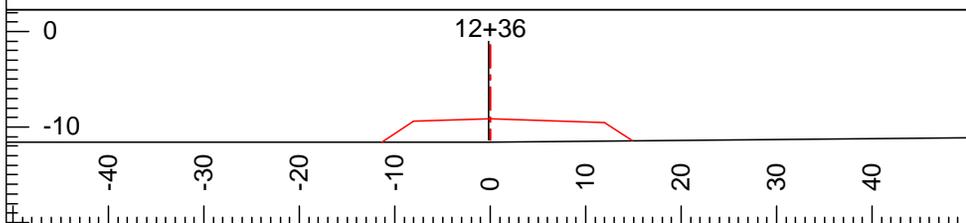
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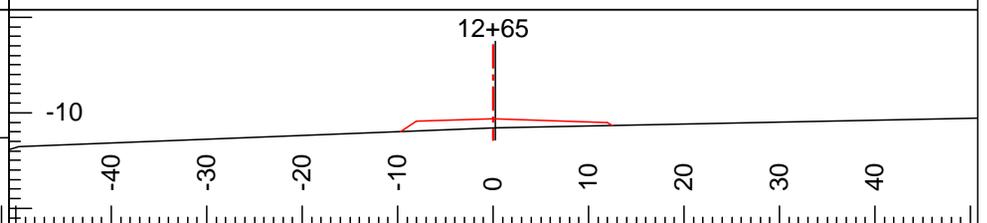
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 Index: Ssl: (Av) 18 Cut Dp: -1 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) -17 CL Elev: -4 Rd. Wd. R: 8



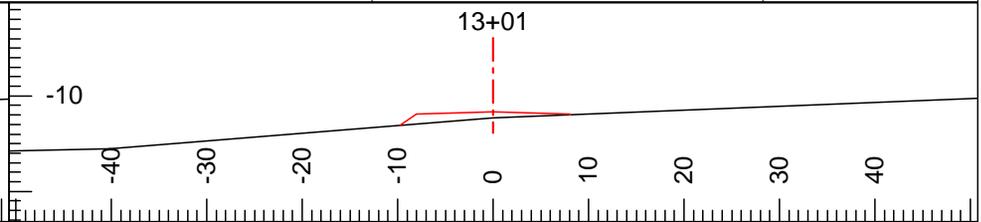
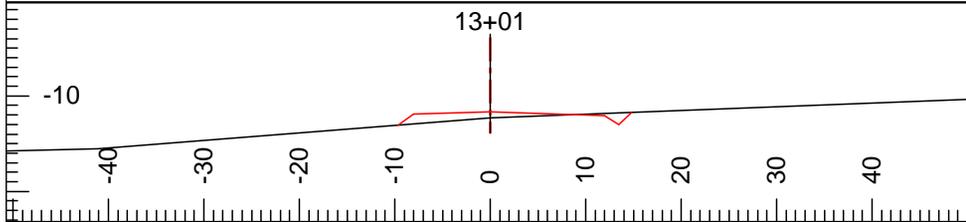
L-Stn: 11+99 Grd.Lst: -8 H. Offset: 4 Rd. Wd.: 20
 Index: 125 Ssl: (Av) 7 Cut Dp: -3 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 0 CL Elev: -6 Rd. Wd. R: 12



L-Stn: 12+36 Grd.Lst: -5 H. Offset: 0 Rd. Wd.: 20
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 Grd.Nxt.: -5 Ssr: (Av) 1 CL Elev: -9 Rd. Wd. R: 12

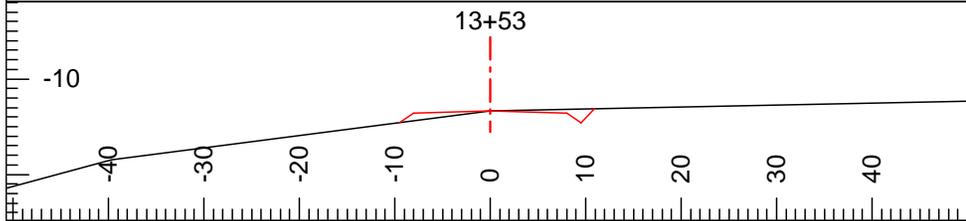


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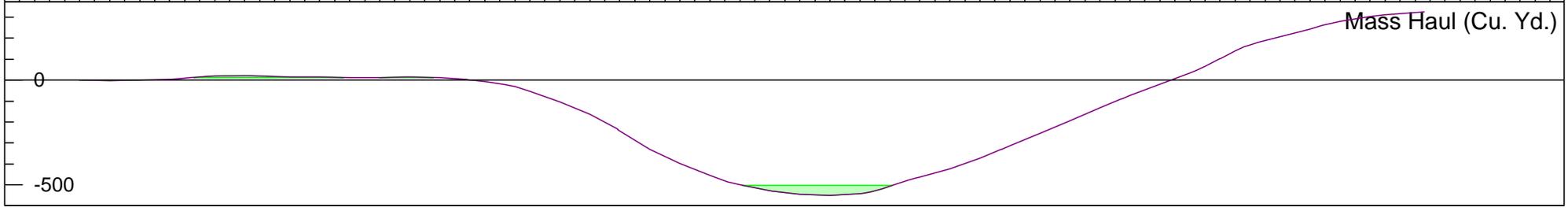
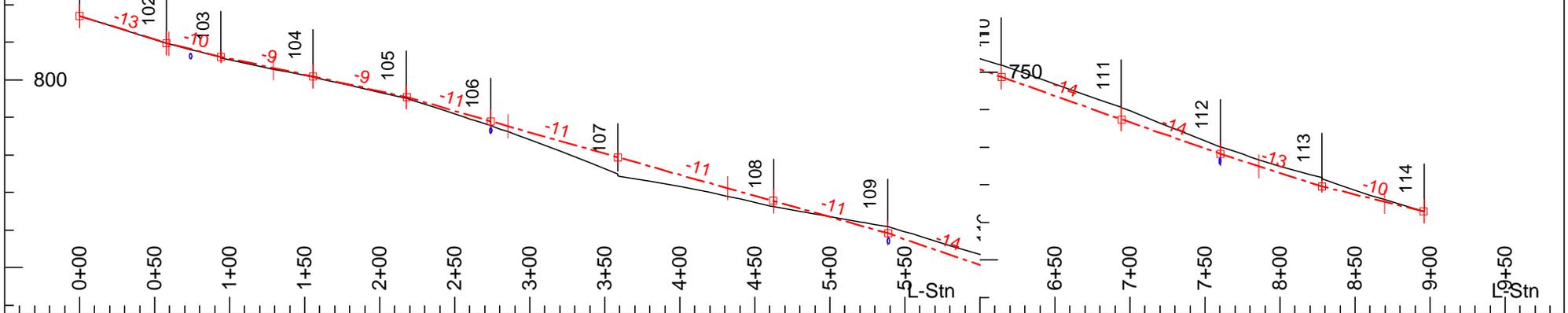
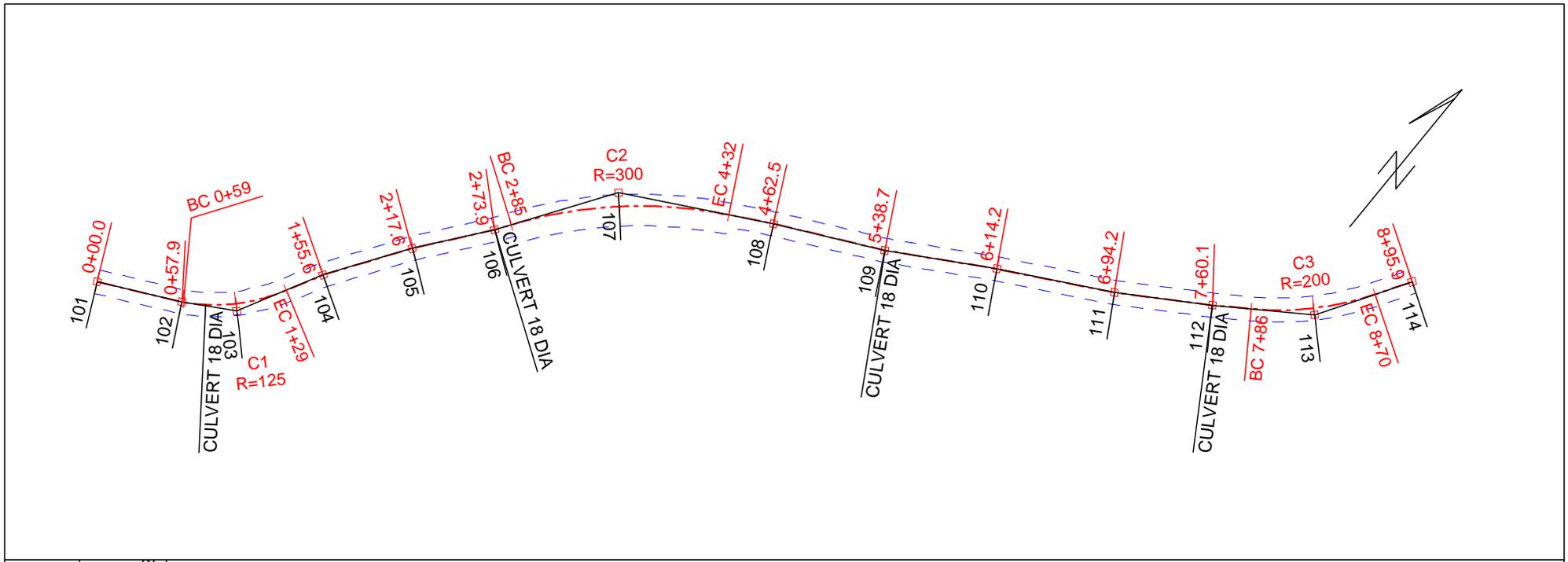


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 Grd.Nxt.: -3 Ssr: (Av) 4 CL Elev: -12 Rd. Wd. R: 12

L-Stn: 13+01 Grd.Lst: -3 H. Offset: 0 Rd. Wd.: 16
 Index: 128 Ssl: (Av) -8 Cut Dp: -1 Rd. Wd. L: 8
 Grd.Nxt.: -3 Ssr: (Av) 4 CL Elev: -12 Rd. Wd. R: 8



L-Stn: 13+53 Grd.Lst: -3 H. Offset: 0 Rd. Wd.: 16
 Index: 129 Ssl: (Av) -13 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: n/a Ssr: (Av) 2 CL Elev: -13 Rd. Wd. R: 8



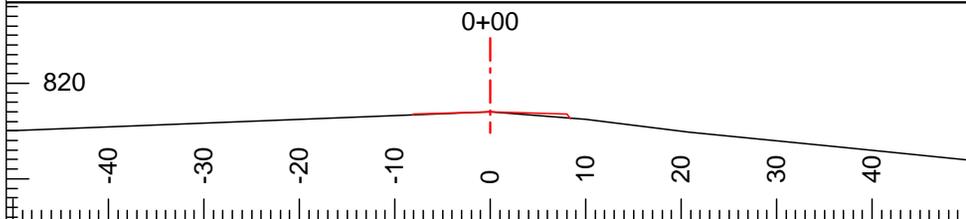
On Time Timber Sale
 E-6030 road April 25, 2016
 Contract #: 30-088982



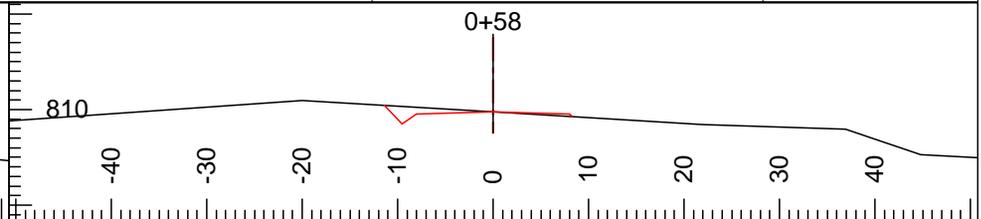
Washington State Department of
 Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:480
 Profile Horz Scale 1:1200

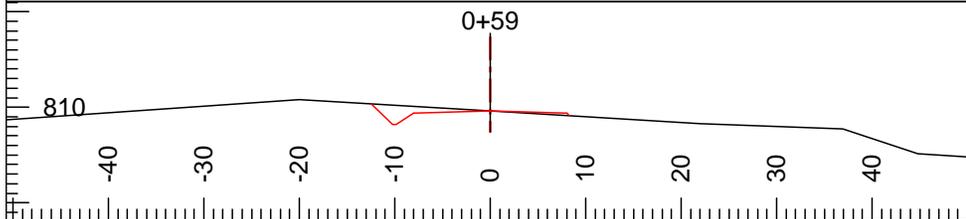
Engineer: C. Vandehey
 16/04/25 Page 1 of 1



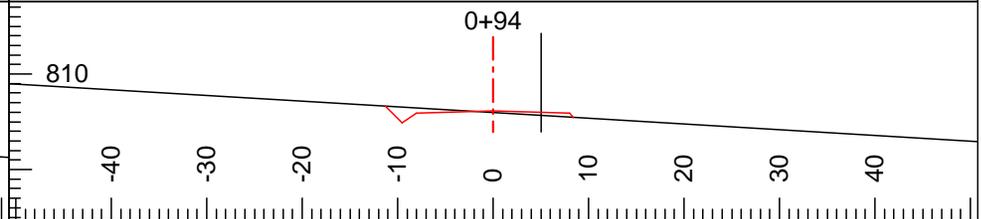
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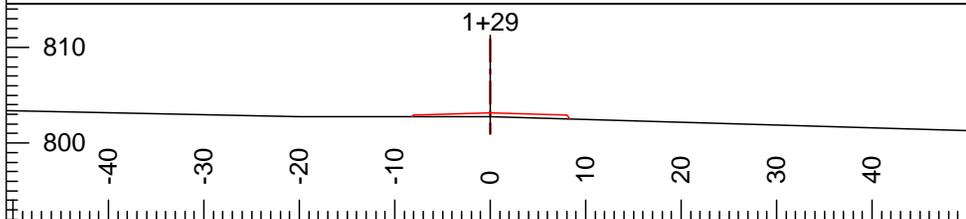
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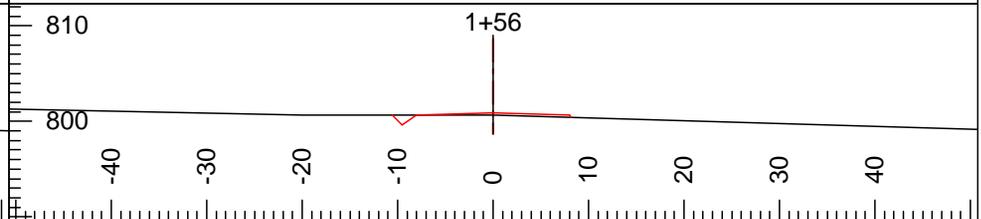
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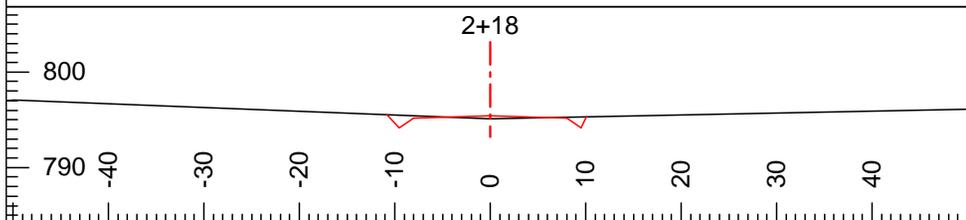
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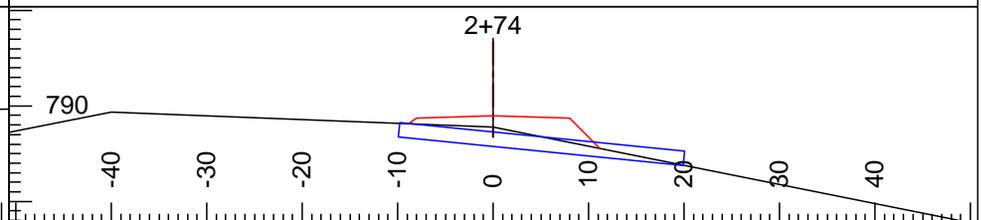
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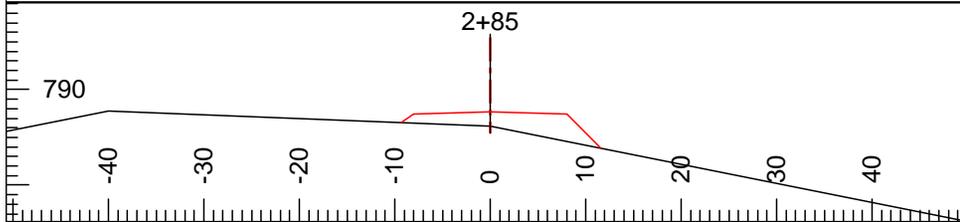
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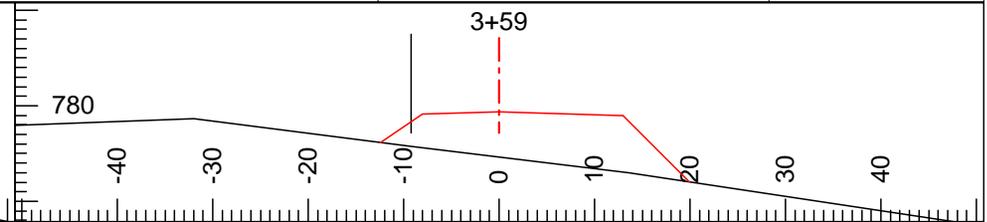
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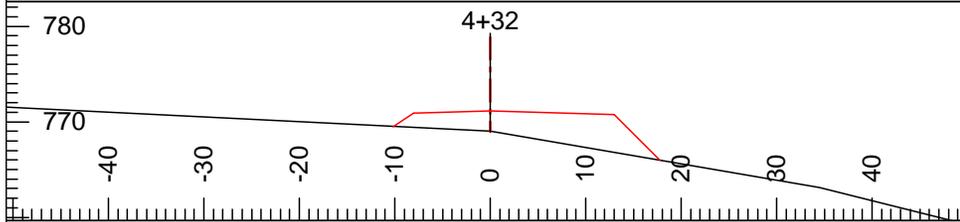
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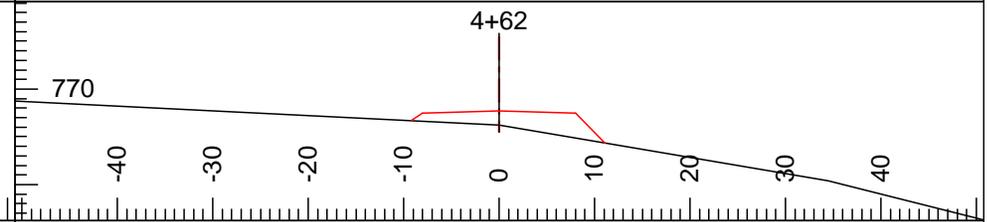
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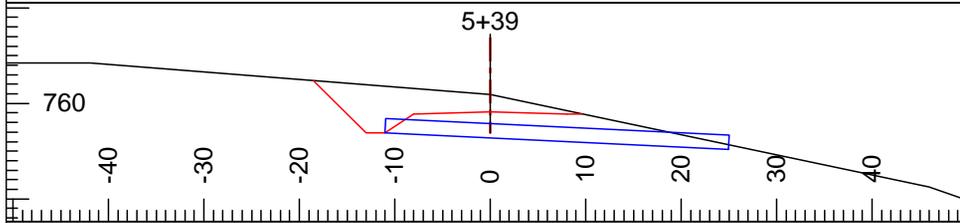
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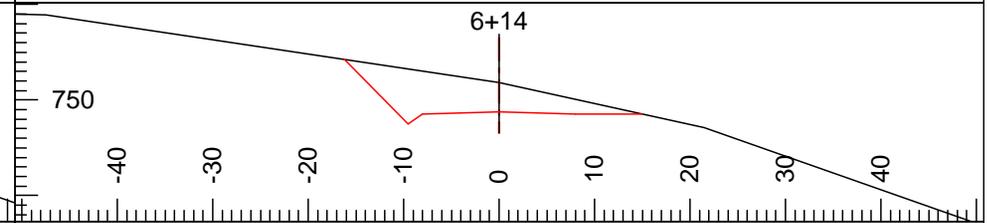
L-Stn: 4+32 Grd.Lst: -11 H. Offset: 0 Rd. Wd.: 21
 Index: Ssl: (Av) 5 Cut Dp: -2 Rd. Wd. L: 8
 Grd.Nxt.: -11 Ssr: (Av) -17 CL Elev: 771 Rd. Wd. R: 13



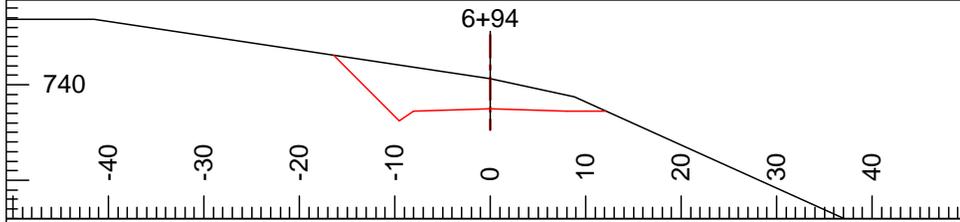
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 Grd.Nxt.: -11 Ssr: (Av) -17 CL Elev: 768 Rd. Wd. R: 8



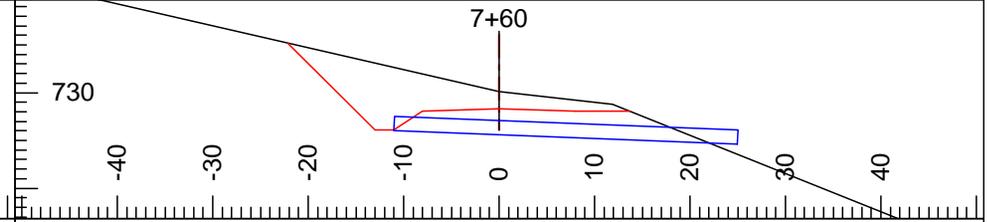
L-Stn: 5+39 Grd.Lst: -11 H. Offset: 0 Rd. Wd.: 16
 Index: 109 Ssl: (Av) 8 Cut Dp: 2 Rd. Wd. L: 8
 Grd.Nxt.: -11 Ssr: (Av) -21 CL Elev: 759 Rd. Wd. R: 8



L-Stn: 6+14 Grd.Lst: -14 H. Offset: 0 Rd. Wd.: 16
 Index: 110 Ssl: (Av) 15 Cut Dp: 3 Rd. Wd. L: 8
 Grd.Nxt.: -14 Ssr: (Av) -22 CL Elev: 749 Rd. Wd. R: 8



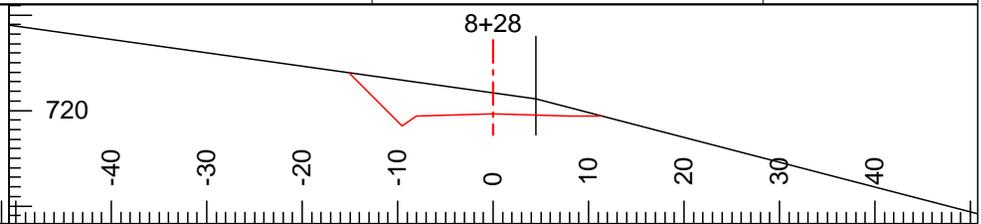
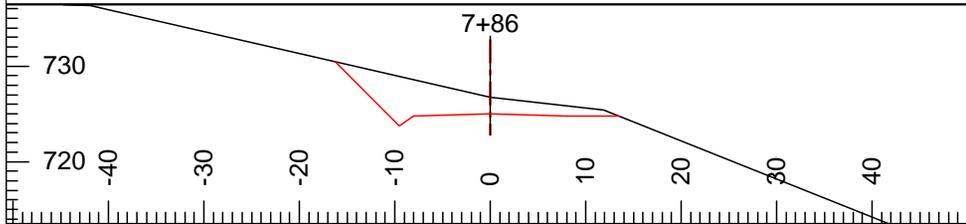
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L-Stn: 7+60 Grd.Lst: -13 H. Offset: 0 Rd. Wd.: 16
 Index: 112 Ssl: (Av) 23 Cut Dp: 2 Rd. Wd. L: 8
 Grd.Nxt.: -13 Ssr: (Av) -11 CL Elev: 728 Rd. Wd. R: 8

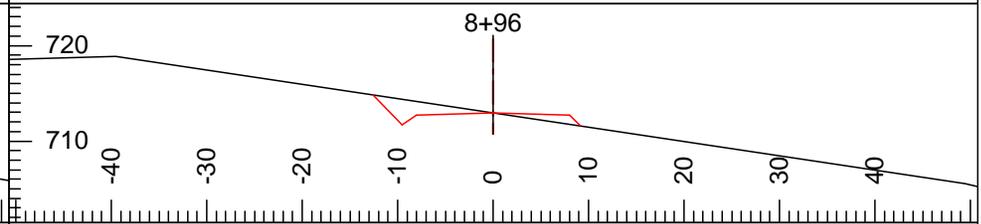
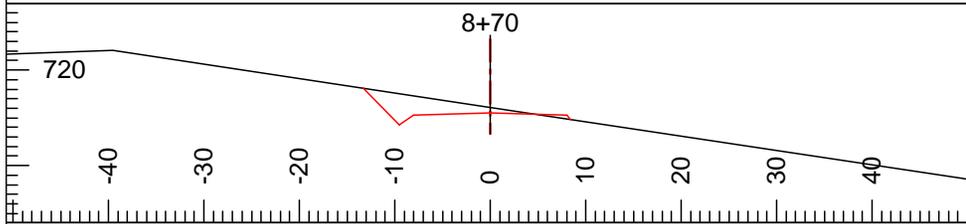
J:\SHARED\BlackHillsDistrict\ENGINEERING\Little Rock\On Time\Roadeng\E6030

16/04/25



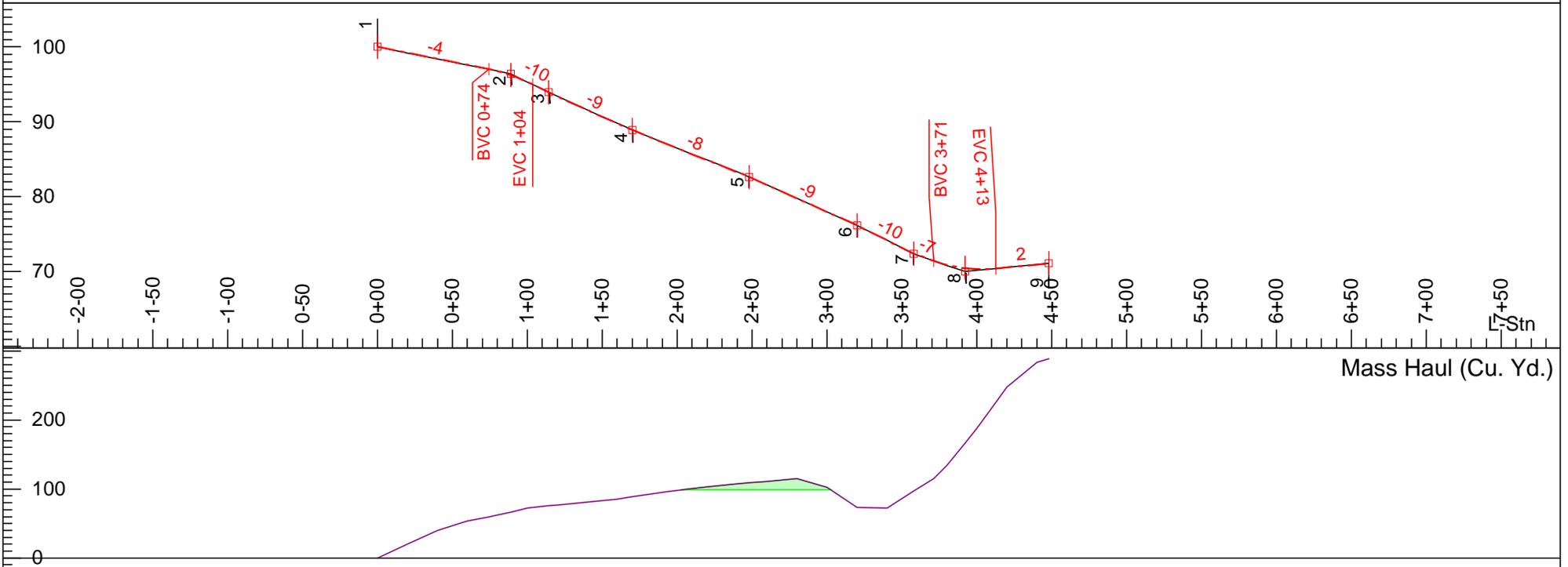
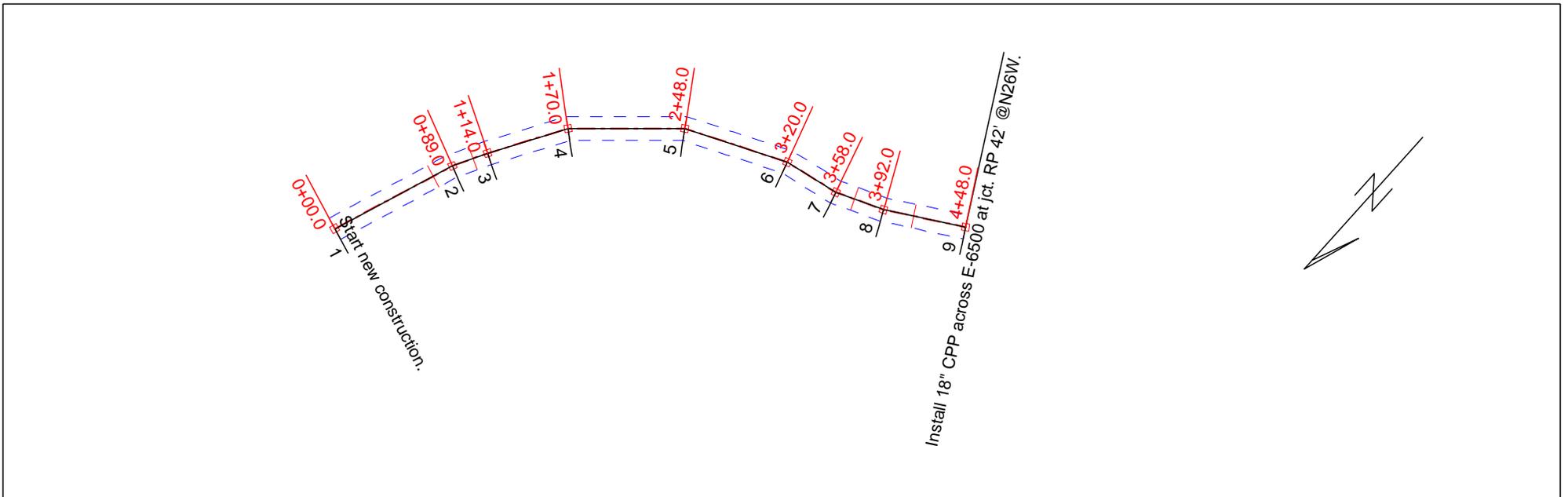
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 Grd.Nxt.: -13 Ssr: (Av) -11 CL Elev: 725 Rd. Wd. R: 8

L-Stn: 8+28 Grd.Lst: -10 H. Offset: -4 Rd. Wd.: 16
 Index: 113 Ssl: (Av) 14 Cut Dp: 2 Rd. Wd. L: 8
 Grd.Nxt.: -10 Ssr: (Av) -26 CL Elev: 720 Rd. Wd. R: 8



L-Stn: 8+70 Grd.Lst: -10 H. Offset: 0 Rd. Wd.: 16
 Index: Ssl: (Av) 15 Cut Dp: 1 Rd. Wd. L: 8
 Grd.Nxt.: -10 Ssr: (Av) -15 CL Elev: 716 Rd. Wd. R: 8

L-Stn: 8+96 Grd.Lst: 27 H. Offset: 0 Rd. Wd.: 16
 Index: 114 Ssl: (Av) 15 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: n/a Ssr: (Av) -15 CL Elev: 713 Rd. Wd. R: 8



On Time Timber Sale
 E-6050 Ext. road April 25,
 2016 Contract #: 30-088982



Washington State Department of
 Natural Resources
 South Puget Sound Region

Plan Scale 1:1200
 Profile Vert Scale 1:240
 Profile Horz Scale 1:1200

Engineer: C. Vandehey
 16/04/25 Page 1 of 1

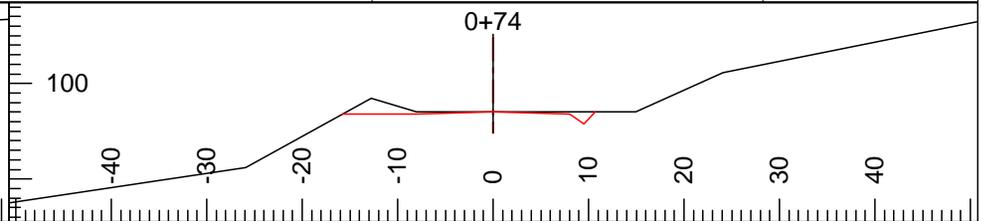
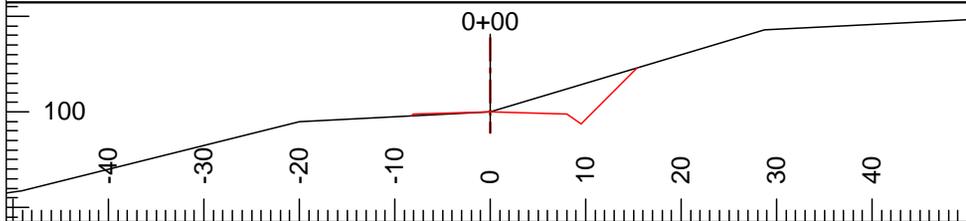
ROADENG Section

Scale 1:240

P. 1

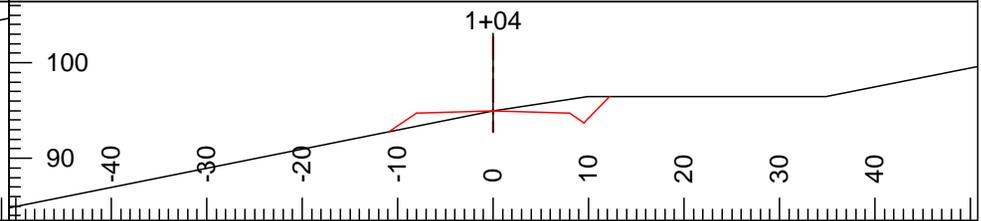
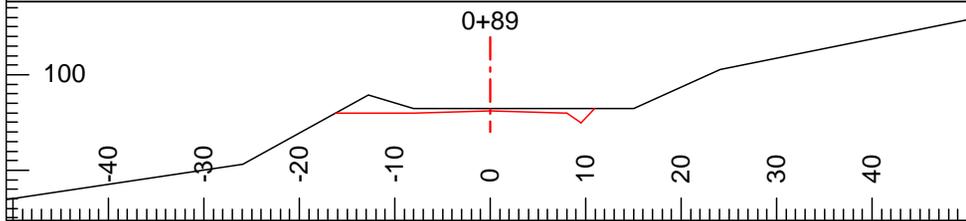
J:\SHARED\BlackHillsDistrict\ENGINEERING\Little Rock\On Time\Roadengle_6050_new_const

16/04/25



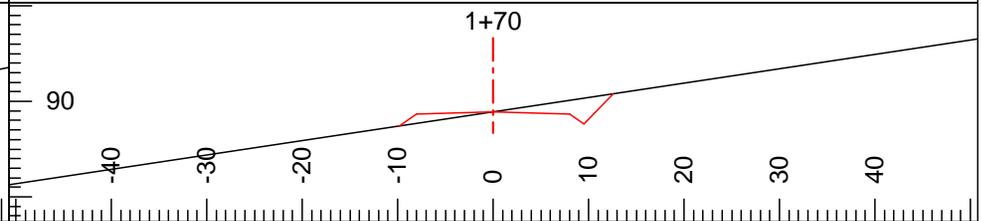
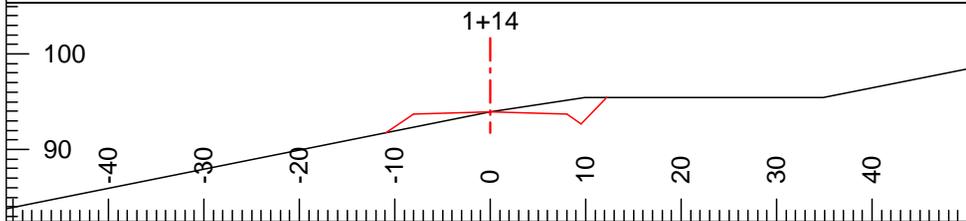
L-Stn: 0+00 Grd.Lst: n/a H. Offset: 0 Rd. Wd.: 16
 Index: 1 Ssl: (Av) -5 Cut Dp: 0 Rd. Wd. L: 8
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L-Stn: 0+74 Grd.Lst: -4 H. Offset: 0 Rd. Wd.: 16
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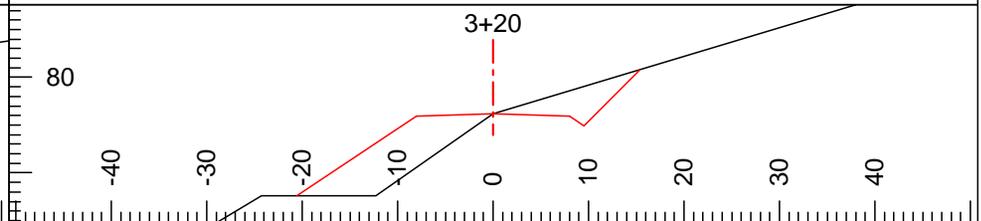
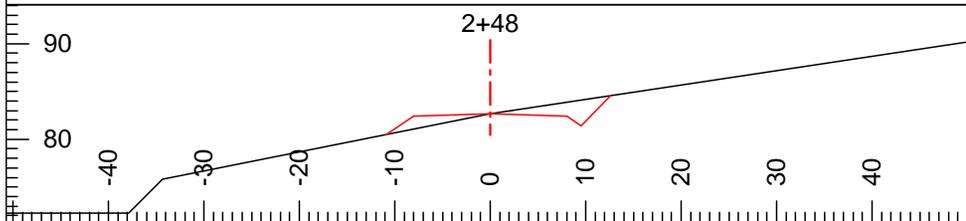
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L-Stn: 1+04 Grd.Lst: -10 H. Offset: 0 Rd. Wd.: 16
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 Grd.Nxt.: -10 Ssr: (Av) 15 CL Elev: 95 Rd. Wd. R: 8



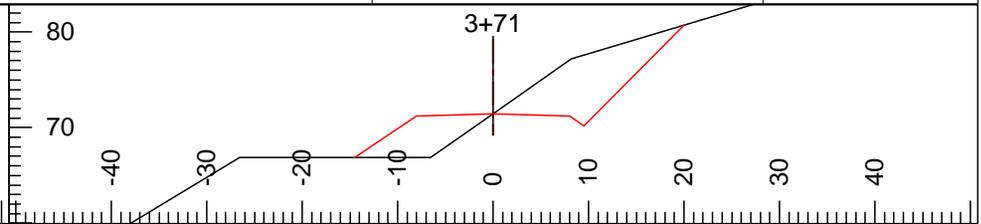
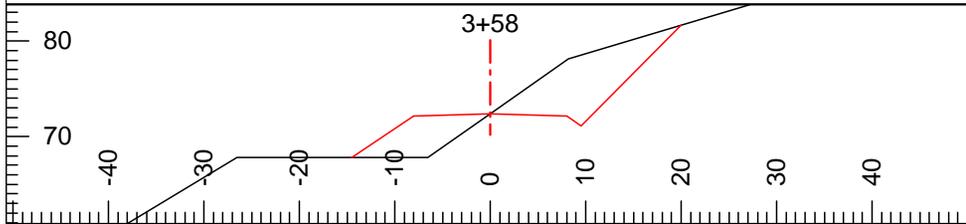
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 Index: 3 Ssl: (Av) -20 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -9 Ssr: (Av) 15 CL Elev: 94 Rd. Wd. R: 8

L-Stn: 1+70 Grd.Lst: -9 H. Offset: 0 Rd. Wd.: 16
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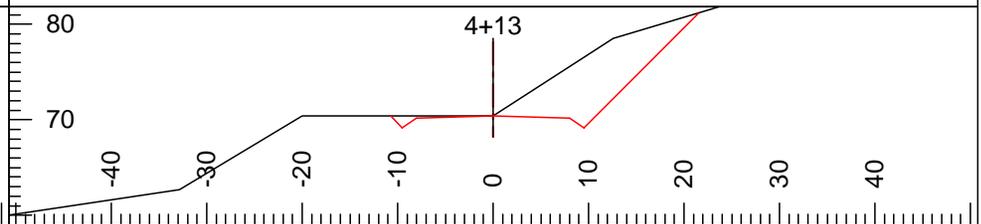
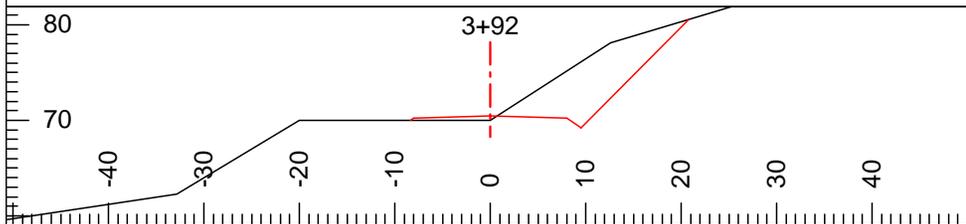
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L-Stn: 3+20 Grd.Lst: -9 H. Offset: 0 Rd. Wd.: 16
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 Grd.Nxt.: -10 Ssr: (Av) 30 CL Elev: 76 Rd. Wd. R: 8



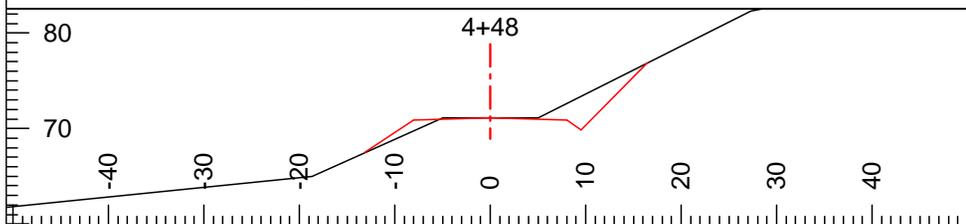
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L-Stn: 3+71 Grd.Lst: -7 H. Offset: 0 Rd. Wd.: 16
 Index: Ssl: (Av) -46 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -7 Ssr: (Av) 63 CL Elev: 71 Rd. Wd. R: 8



L-Stn: 3+92 Grd.Lst: -3 H. Offset: 0 Rd. Wd.: 16
 Index: 8 Ssl: (Av) 0 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -3 Ssr: (Av) 64 CL Elev: 70 Rd. Wd. R: 8

L-Stn: 4+13 Grd.Lst: 2 H. Offset: 0 Rd. Wd.: 16
 Index: Ssl: (Av) 0 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: 2 Ssr: (Av) 64 CL Elev: 70 Rd. Wd. R: 8



L-Stn: 4+48 Grd.Lst: 2 H. Offset: 0 Rd. Wd.: 16
 Index: 9 Ssl: (Av) -23 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: n/a Ssr: (Av) 25 CL Elev: 71 Rd. Wd. R: 8

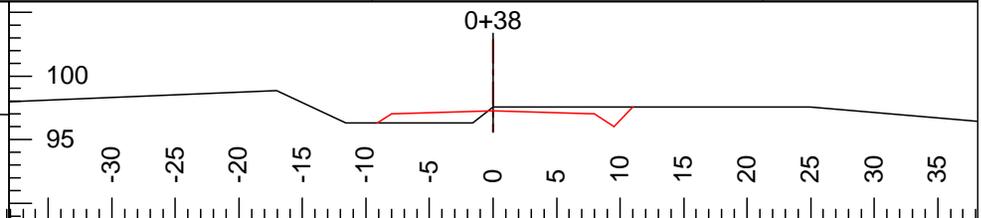
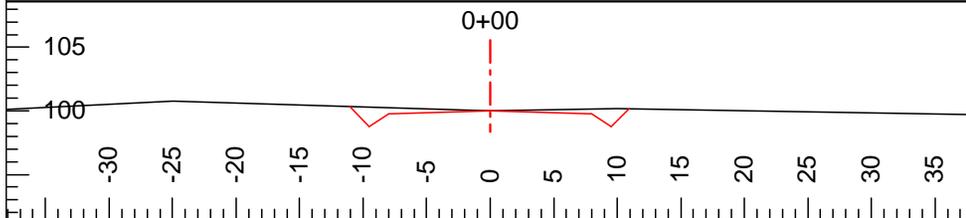
ROADENG Section

Scale 1:180

P. 1

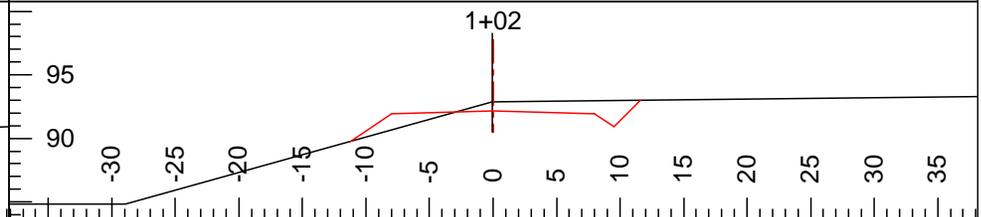
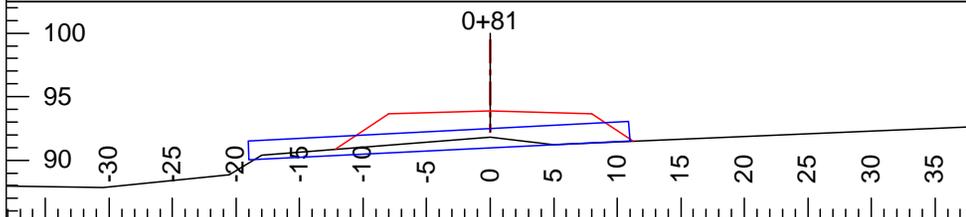
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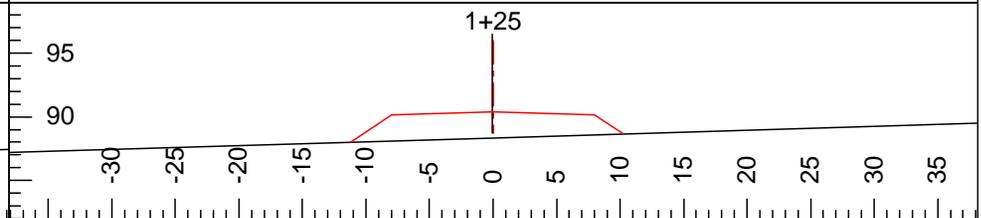
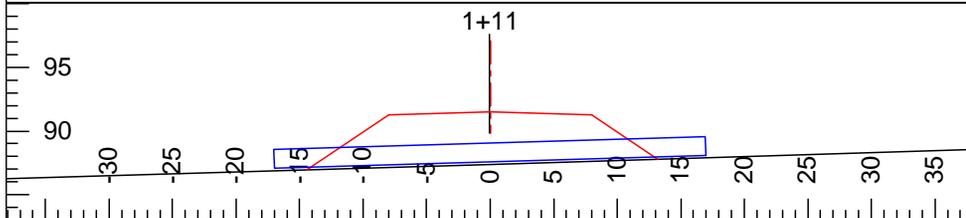
L-Stn: 0+00 Grd.Lst: n/a H. Offset: 0 Rd. Wd.: 16
 Index: 201 Ssl: (Av) 3 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -7 Ssr: (Av) 2 CL Elev: 100 Rd. Wd. R: 8

L-Stn: 0+38 Grd.Lst: -7 H. Offset: 0 Rd. Wd.: 16
 Index: 202 Ssl: (Av) -12 Cut Dp: 0 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 0 CL Elev: 97 Rd. Wd. R: 8



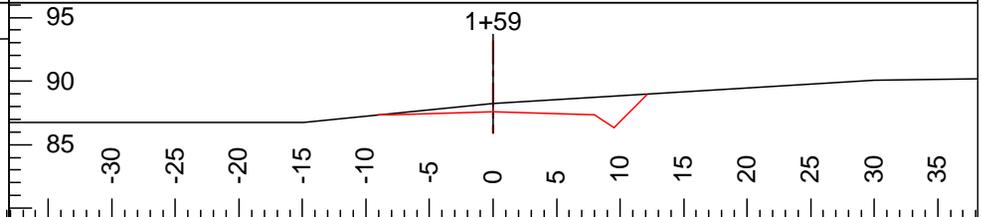
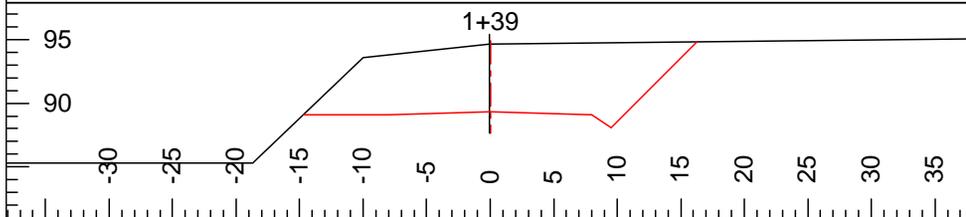
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 Index: 203 Ssl: (Av) -8 Cut Dp: -2 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) -4 CL Elev: 94 Rd. Wd. R: 8

L-Stn: 1+02 Grd.Lst: -8 H. Offset: 0 Rd. Wd.: 16
 Index: 204 Ssl: (Av) -28 Cut Dp: 1 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 1 CL Elev: 92 Rd. Wd. R: 8



L-Stn: 1+11 Grd.Lst: -8 H. Offset: 0 Rd. Wd.: 16
 Index: 205 Ssl: (Av) -3 Cut Dp: -4 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 3 CL Elev: 92 Rd. Wd. R: 8

L-Stn: 1+25 Grd.Lst: -8 H. Offset: 0 Rd. Wd.: 16
 Index: 206 Ssl: (Av) -3 Cut Dp: -2 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 3 CL Elev: 90 Rd. Wd. R: 8

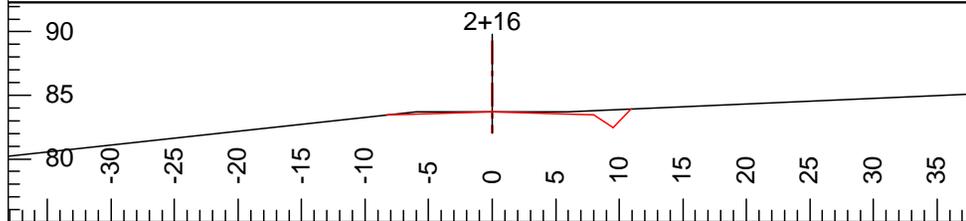


L-Stn: 1+39 Grd.Lst: -8 H. Offset: 0 Rd. Wd.: 16
 Index: 207 Ssl: (Av) -12 Cut Dp: 5 Rd. Wd. L: 8
 Grd.Nxt.: -8 Ssr: (Av) 1 CL Elev: 89 Rd. Wd. R: 8

L-Stn: 1+59 Grd.Lst: -8 H. Offset: 0 Rd. Wd.: 16
 Index: 208 Ssl: (Av) -10 Cut Dp: 1 Rd. Wd. L: 8
 Grd.Nxt.: -7 Ssr: (Av) 6 CL Elev: 88 Rd. Wd. R: 8

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L-Stn:	2+16	Grd.Lst:	-7	H. Offset:	0	Rd. Wd.:	16
Index:	209	Ssl: (Av)	-4	Cut Dp:	0	Rd. Wd. L:	8
Grd.Nxt.:	n/a	Ssr: (Av)	2	CL Elev:	84	Rd. Wd. R:	8

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

(For internal DNR use only. Costs are estimates only & are not guaranteed by the State or part of the Road Plan.)

REGION: SPS

UNIT: Littlerock

SALE/PROJECT NAME: On Time

CONTRACT NUMBER: 30-088892

LEGAL DESCRIPTION: 0

ROAD NUMBER:	E-5200 Cutoff, E-5220, E-6030, E-6050 Ext., E-6510 Reroute	E-6050, E-6510	E-5000, E-5200, E-5220, E-6000, E- 6070, E-6500
ROAD STANDARD:	Construction	Reconstruction	Pre-haul maintenance
NUMBER OF STATIONS:	42.77	18.93	265.22
SIDESLOPE:	10-28%	0-25%	0
CLEARING AND GRUBBING:	\$2,710	\$1,514	
EXCAVATION AND FILL:	\$4,736	\$2,499	
MISC. MAINTENANCE:			\$12,607
ROCK TOTALS (Cu. Yds.):			
3" Minus: 7517	\$105,424	\$28,873	\$13,834
Light Loose 39	\$484	\$0	\$0
Quarry Spalls 82	\$2,944	\$0	\$0
CULVERTS AND FLUMES:	\$7,026	\$3,649	\$28,874
STRUCTURES:	\$0	\$0	\$0
GENERAL EXPENSES:	\$9,630	\$3,288	\$4,978
MOBILIZATION:	\$5,667	\$5,667	\$5,667
TOTAL COSTS:	\$138,621	\$45,490	\$65,960
COST PER STATION:	\$3,241	\$2,403	\$249

ROAD DEACTIVATION AND ABANDONMENT COSTS: \$7,359

NOTE¹: This appraisal has no allowance for profit and risk.

NOTE²: This appraisal does not account for all optional rock.

TOTAL (All Roads) = \$257,430

SALE VOLUME MBF = 3,002

TOTAL COST PER MBF = \$85.75

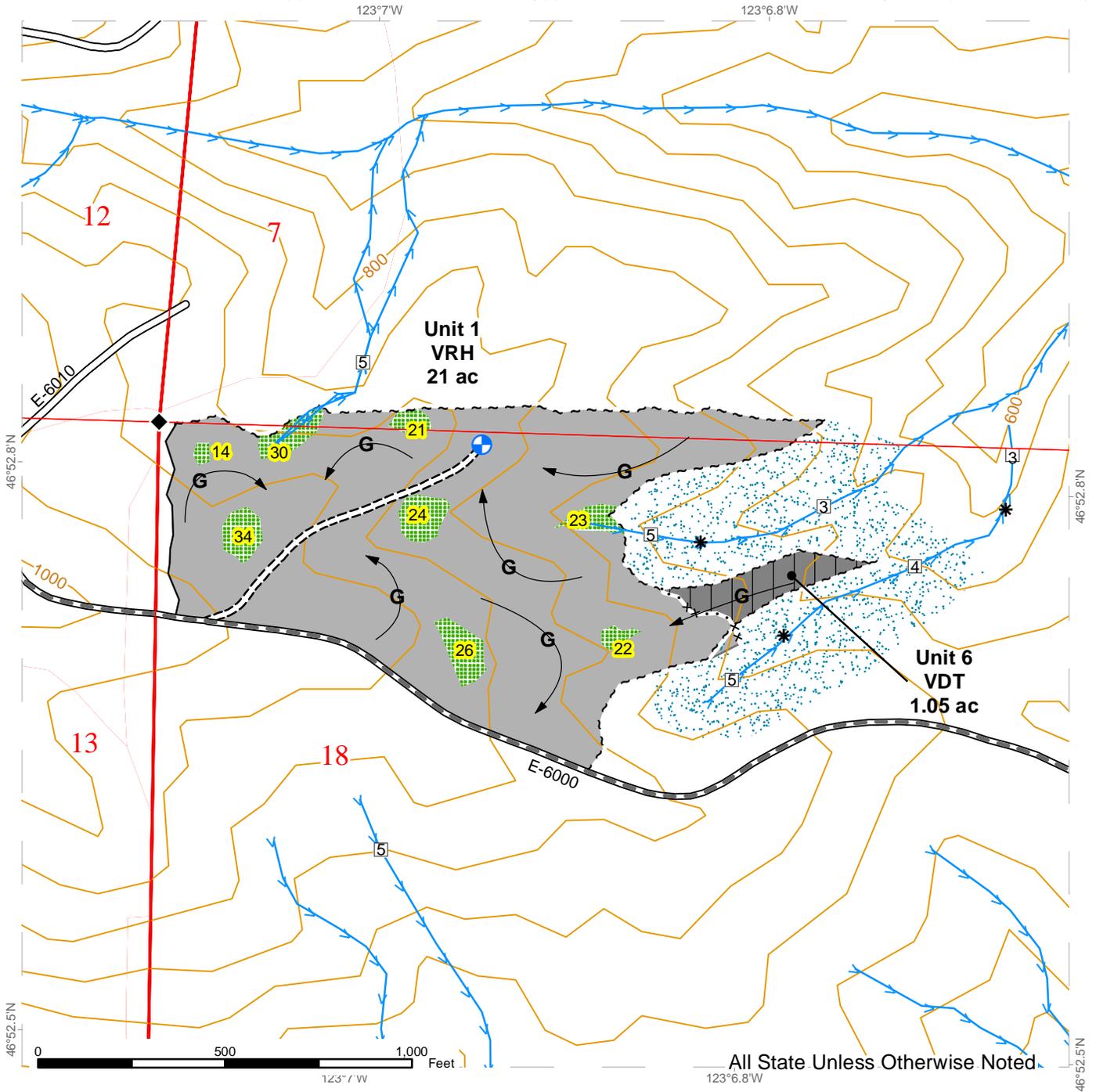
Date: 05/26/16

LOGGING PLAN MAP

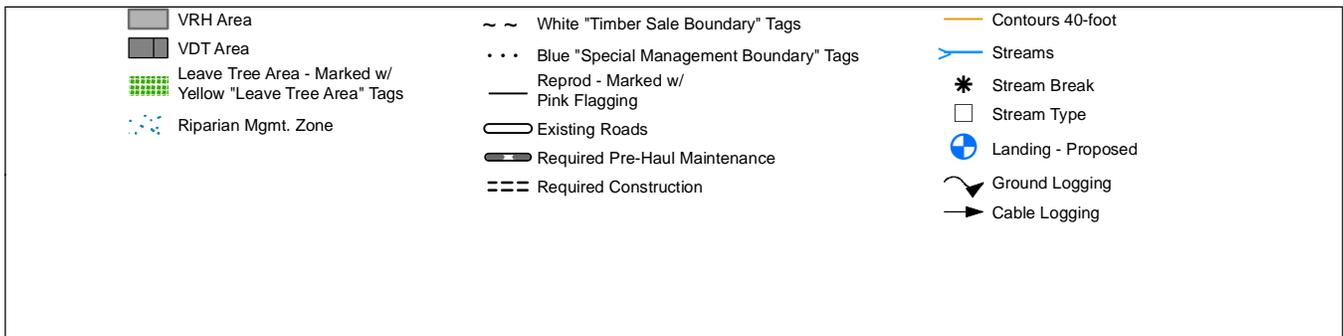
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 AGREEMENT#: 88892
 TOWNSHIP(S): T16R03W, T16R04W
 TRUST(S):

REGION: South Puget Sound Region
 COUNTY(S): THURSTON
 ELEVATION RGE: 262-1122

State Forest Transfer(1), Common School and Indemnity(3), Charitable/Educational/Penal & Reformatory Instit.(6), Forest Board Repayment(42)



All State Unless Otherwise Noted

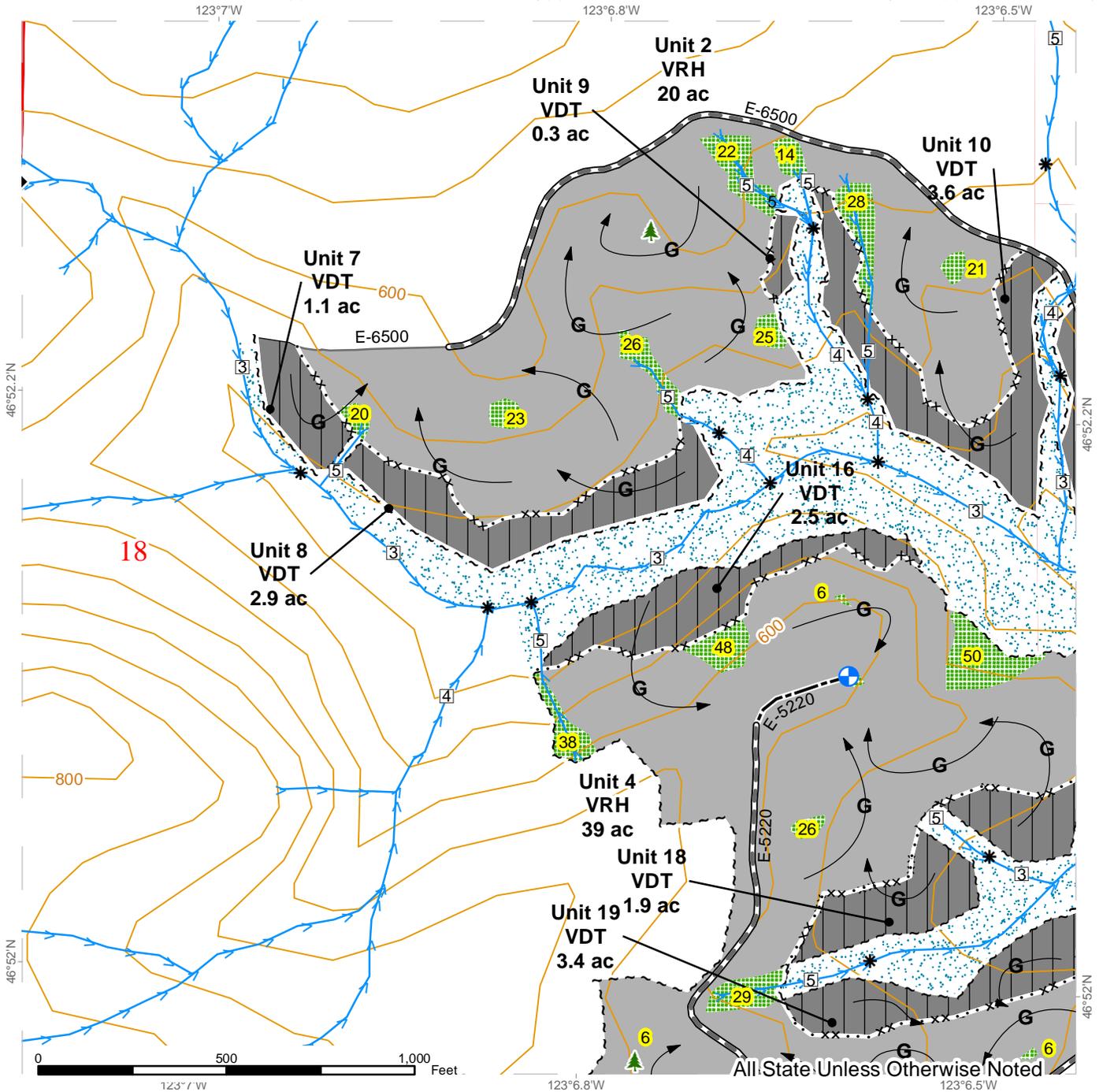


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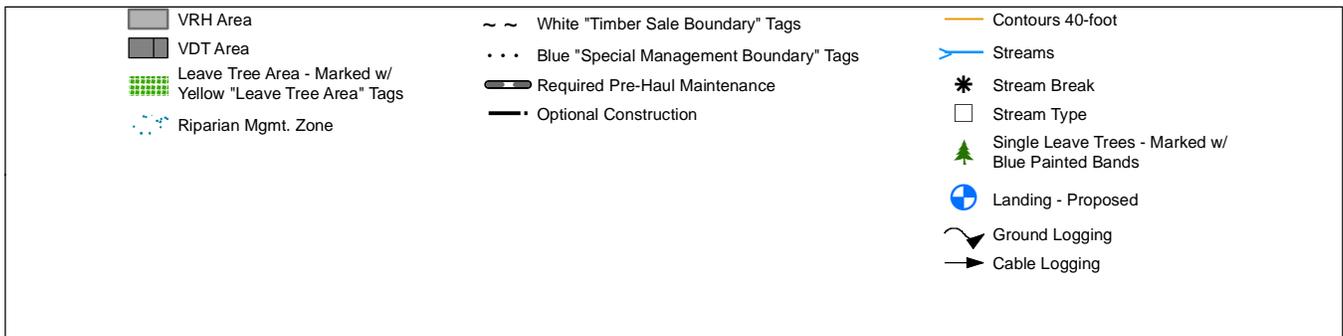
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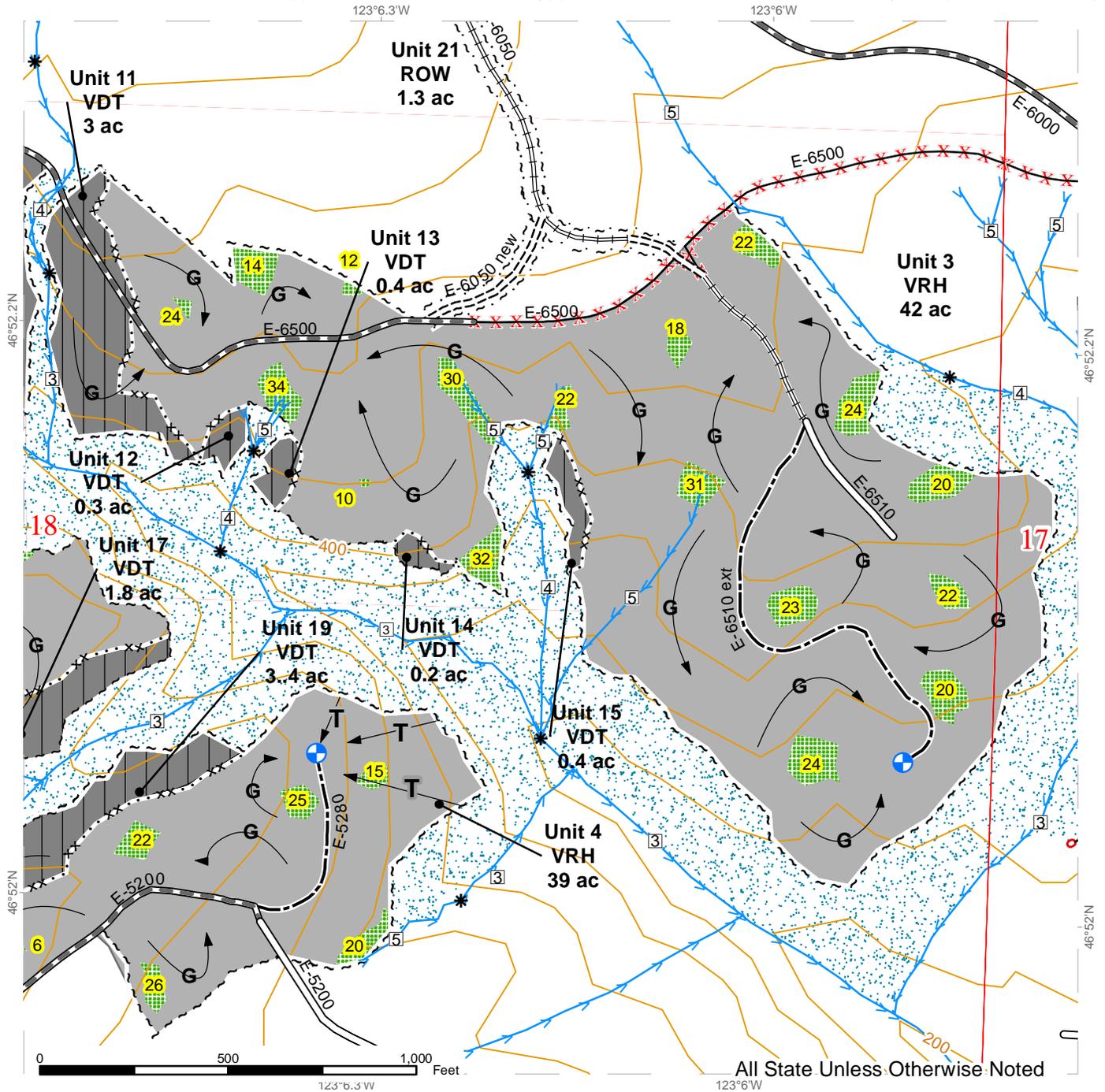


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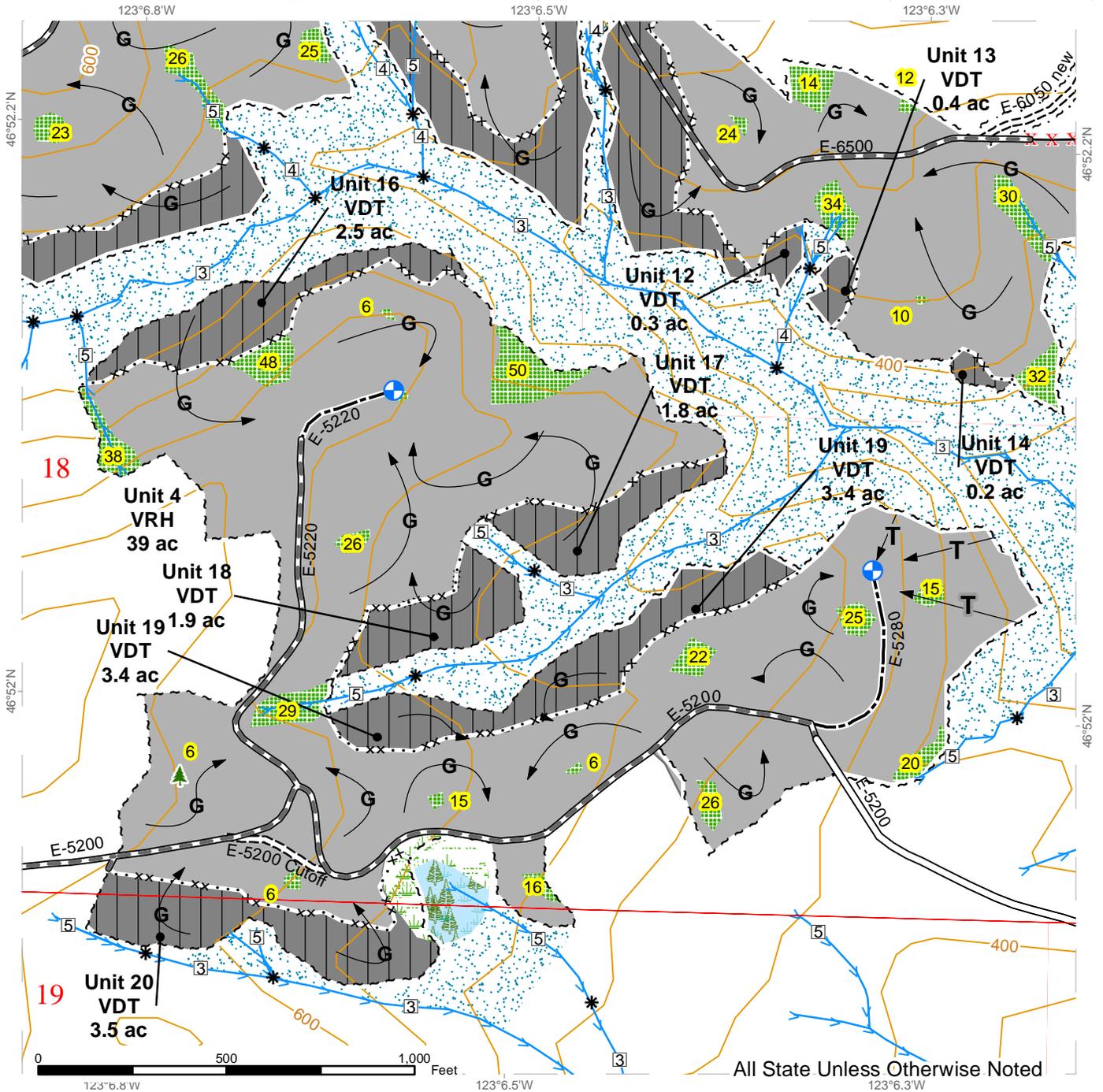


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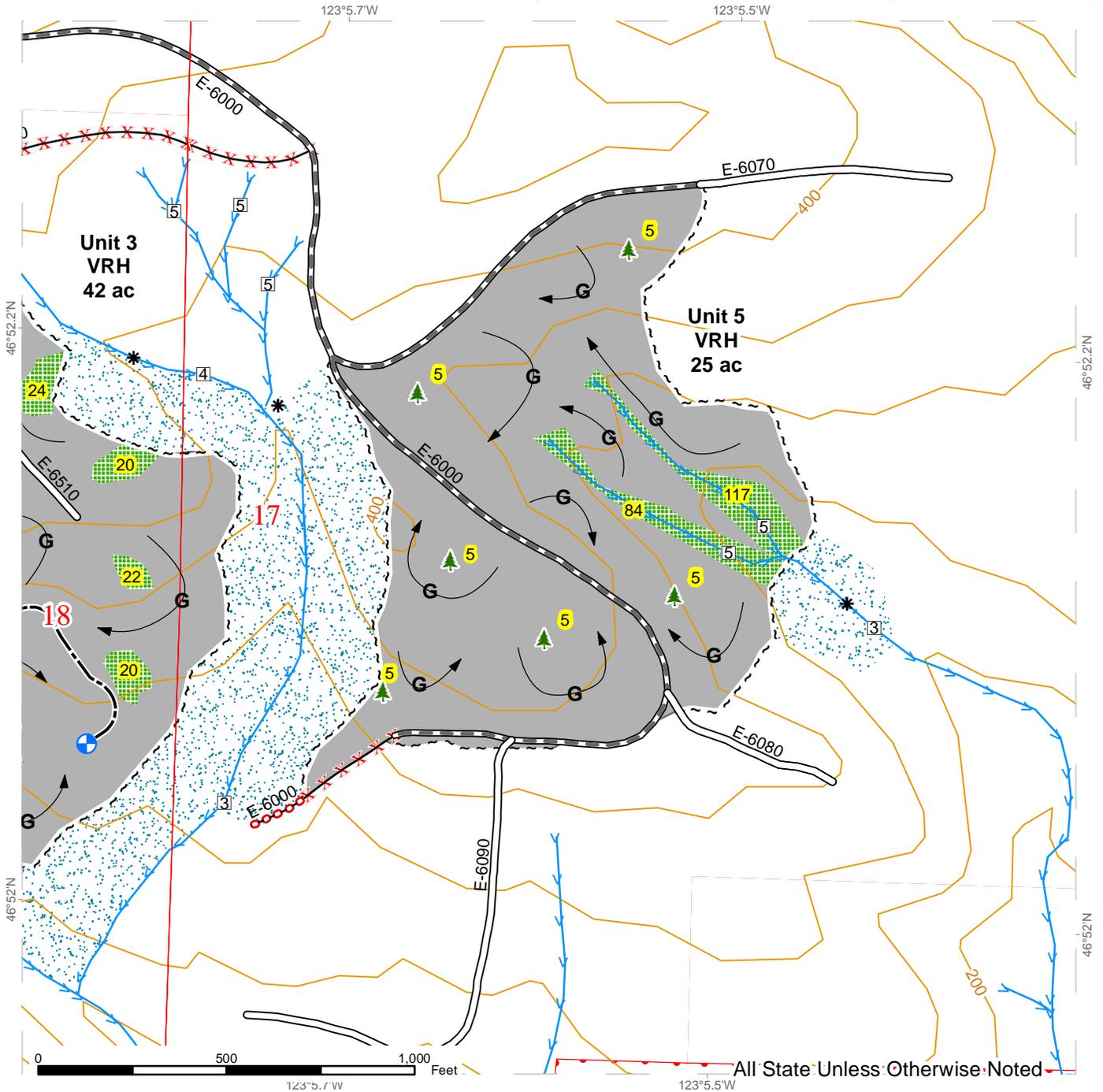


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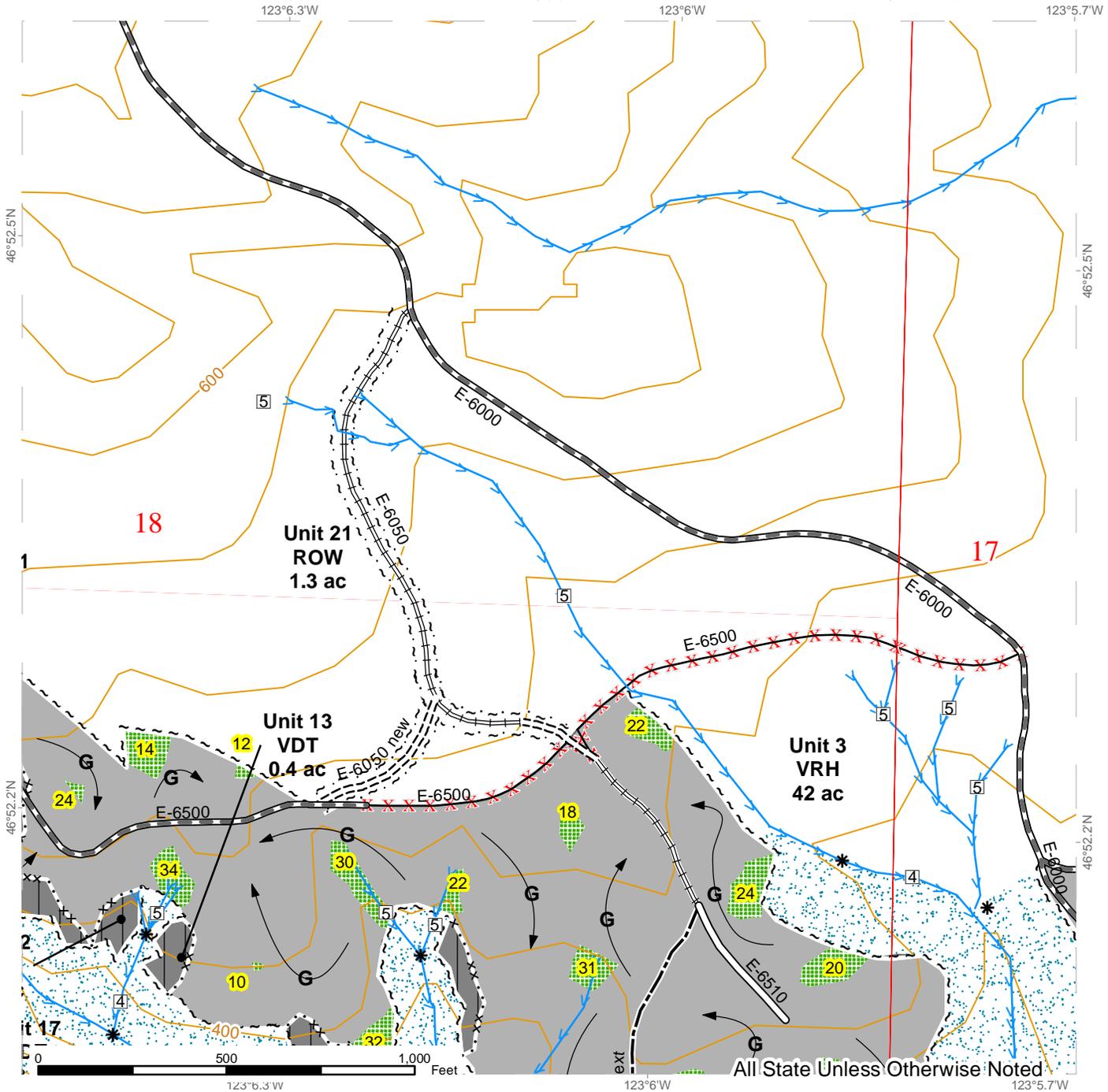


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