

Washington DNR Timber Sales Program

Updated information is being provided for **the Karistan** Timber Sale #30-093165 documents as follows:

Documents amended:

Brief Description	DATE	Initials
<p>Notice of Sale – the following items have been updated:</p> <ul style="list-style-type: none"> • Estimated Sale Volumes and Quality – total mbf and grades updated for Douglas fir, Hemlock and Red alder. • Fees – total amount due on the day of sale has been changed to \$40,523.00. 	07/07/2016	KF
<p>Timber Sale Map – changes to the northern portion of the boundary for Unit #1.</p>	07/07/2016	KF
<p>Logging Plan Map - changes to the northern portion of the boundary for Unit #1.</p>	07/07/2016	KF
<p>Draft Timber Sale Contract – Clause P-020 – total amount due in fees has been updated.</p>	07/07/2016	KF
<p>Pre-cruise – Unit #1 net harvest acres has been updated.</p>	07/07/2016	KF
<p>Cruise – the following items have been updated:</p> <ul style="list-style-type: none"> • Unit #1 net harvest acres. • Total mbf for Douglas fir, Hemlock, and Red alder. 	07/07/2016	KF



TIMBER NOTICE OF SALE

SALE NAME: KARISTAN

AGREEMENT NO: 30-093165

AUCTION: August 23, 2016 starting at 10:00 a.m., **COUNTY:** King
South Puget Sound Region Office, Enumclaw, WA

SALE LOCATION: Sale located approximately 8 miles southwest of North Bend.

PRODUCTS SOLD AND SALE AREA: All timber, except trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale bounded by the following: white timber sale boundary tags and pink flagging, and the 3300 and 3100 roads in Unit #1; white timber sale boundary tags and pink flagging, and the Powerline Road, 3000 and 3300 roads in Unit #2 on part(s) of Sections 14, 15 and 23 all in Township 23 North, Range 7 East, W.M., containing 147 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	11.6	6	1,459						19	898	534	8
Hemlock	9.4	7	485						12	189	284	
Red alder	9.9		308							6	302	
Cottonwood	14		24								1	23
Red cedar	18		5							4	1	
Maple	11		2									2
Sale Total			2,283									

MINIMUM BID: \$267,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2018 **ALLOCATION:** Export Restricted

BID DEPOSIT: \$26,700.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Tracked ground based equipment only, rubber tired skidders will not be allowed. Yarding may be restricted if rutting becomes excessive, per clause H-017.

Falling, yarding and timber haul will not be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, 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. Preventative measures must be in place prior to commencing any winter operations.



TIMBER NOTICE OF SALE

ROADS: 85.74 stations of required reconstruction. 21.87 stations of optional construction. 30.20 stations of optional reconstruction. 30.40 stations of required abandonment. 59.12 stations of required pre-haul maintenance. 34.30 stations of optional pre-haul maintenance. 26.99 stations of decommissioning, if built or reconstructed. Purchaser maintenance on all roads used. Rock for this proposal can be obtained from the state owned Wide Left or Chip Shot Rock Pits or from any commercial source at the Purchaser's expense, as approved in writing by the Contract Administrator.

No road work will be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, 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. Preventative measures must be 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: \$40,523.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

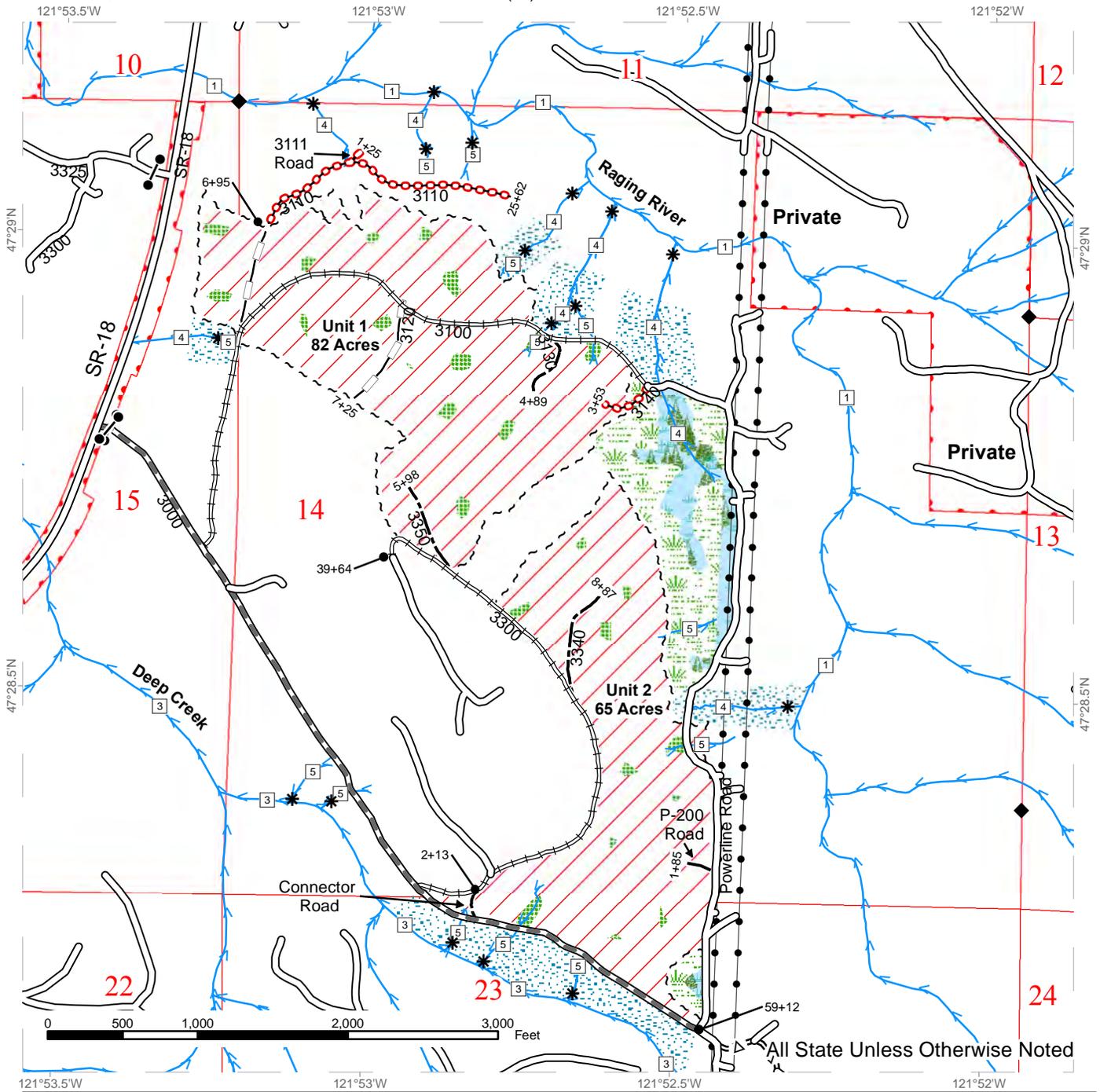
SPECIAL REMARKS: Purchaser shall cut vine maple and leave roots exposed and detached from the soil in the ground based harvest area.

See map for gate locations. Gate keys may be obtained by contacting the South Puget Sound Region Office at (360) 825-1631 or by contacting Paul Footen at (425) 736-1708.

TIMBER SALE MAP

SALE NAME: KARISTAN
AGREEMENT #: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land(77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300

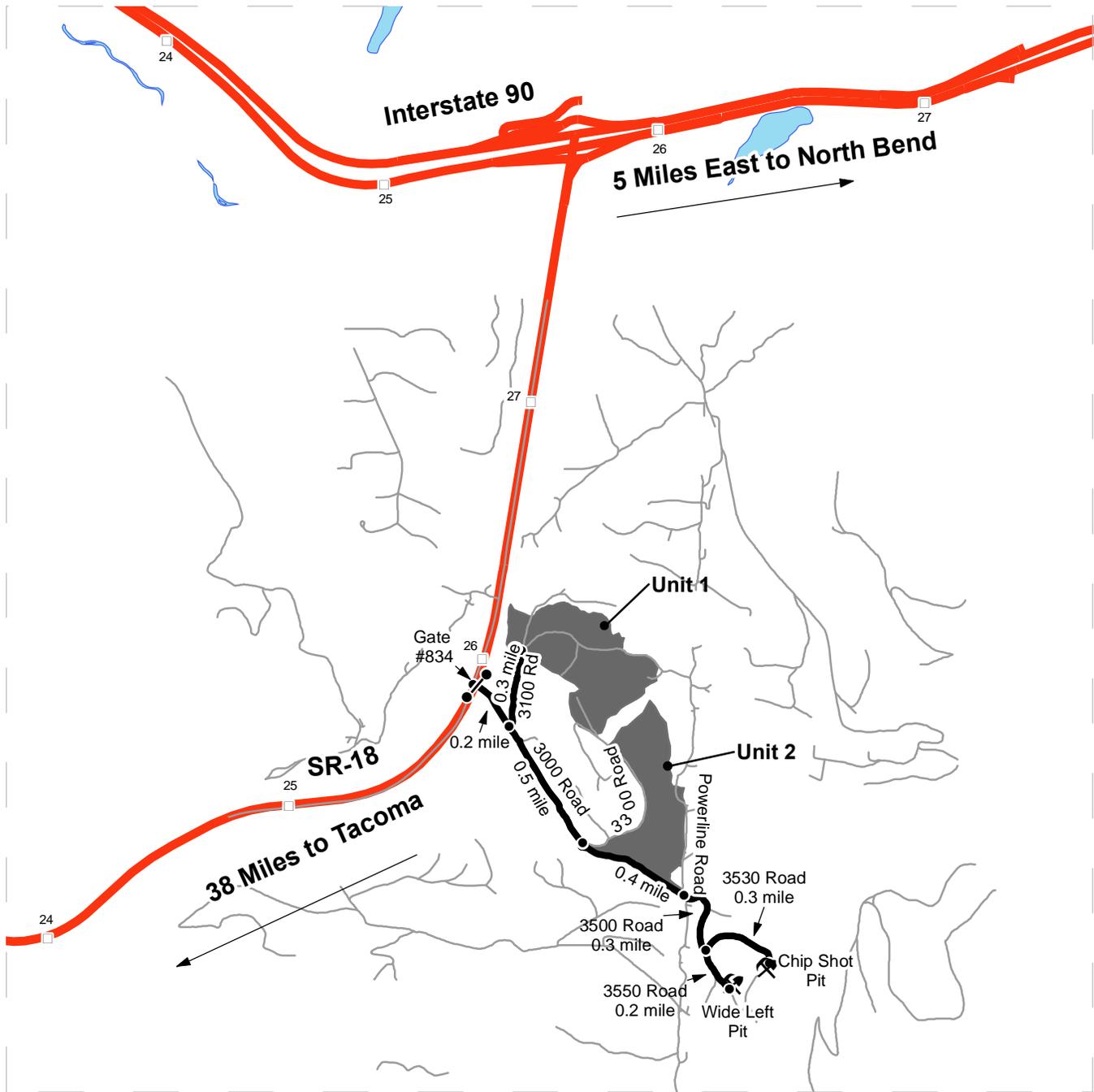


Public Land Survey Sections	Existing Roads	Streams
Variable Retention Harvest	Required Pre-Haul Maintenance	Stream Type
Leave Tree Area - marked with "Yellow Leave Tree Area" tags	Required Reconstruction	Stream Type Break
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Monumented Corners
Forested Wetland	Optional Construction	Gate (Master 786)
Wetland Mgt Zone	Optional Reconstruction	DNR Managed Lands
White "Timber Sale Boundary" tags	Required Abandonment	Power Lines

DRIVING MAP

SALE NAME: KARISTAN
AGREEMENT#: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land(77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300



	Timber Sale Unit
	Highways
	Haul Route
	Other Route
	Distance Indicator
	Existing Rock Pit
	Gate (786)

DRIVING DIRECTIONS:

To get to DNR Gate #834 go to the 25.9 mile point on Highway 18. From Gate # 834 follow the 3000 Road 0.2 miles to the 3000/3100 junction. For Unit #1 follow the 3100 road 0.3miles. For Unit #2 continue from the 3000/3100 junction along the 3000 road for approximately 0.5 miles to the 3000/3300 junction. To reach rock pit locations, continue along the 3000 road for approximately 0.4 miles to the Powerline Road Junction. Continue straight across the powerline road to the 3500 road and procede for 0.3 miles to a the 3530/3550 road junction. To reach the Chip Shot Pit follow the 3530 to the left for 0.3 miles. To reach the Wide Left Pit follow the 3550 to the right for 0.2 miles.



**STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES**

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

Export Restricted Lump Sum AGREEMENT NO. 30-093165

SALE NAME: KARISTAN

**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 August 23, 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 trees marked with blue paint or bounded out by yellow leave tree area tags, snags, and down timber existing more than 5 years from the day of sale bounded by the following: white timber sale boundary tags and pink flagging, and the 3300 and 3100 roads in Unit #1; white timber sale boundary tags and pink flagging, and the Powerline Road, 3000 and 3300 roads in Unit #2, located on approximately 147 acres on part(s) of Sections 14, 15, and 23 all in Township 23 North, Range 7 East W.M. in King 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-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 \$856.00 per acre per annum for the acres on which an operating release has not been issued within the harvest area.
- 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 Purchaser's 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; on the 3000, 3100, 3100, 3120, 3130, 3300, 3340, 3350, P-200, Powerline, and Connector 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 3000 or the Powerline roads, unless authority is granted in writing by the Contract Administrator.

G-430 Open Fires

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

G-450 Encumbrances

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

Easement, including the terms and provisions thereof,

For: County Road

In Favor of: King County

Disclosed by Application No.: 50-CR2861

Granted: 3/18/1968

Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power & Road
In Favor of: United States of America
Disclosed by Application No.: 50-046334
Granted: 7/11/1977
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power
In Favor of: United States of America
Disclosed by Application No.: 50-055731
Granted: 5/1/1967
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power
In Favor of: United States of America
Disclosed by Application No.: 50-072302
Granted: 10/9/1959
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power & Communication Line
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-074412
Granted: 4/9/2004
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power
In Favor of: United States of America
Disclosed by Application No.: 50-084935
Granted: 1/5/1968
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Talmo, Inc.
Disclosed by Application No.: 50-084936
Granted: 2/4/1982
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Weyerhaeuser Real Estate Company
Disclosed by Application No.: 50-084940

Granted: 7/2/2001
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Overhead Power and Road
In Favor of: Bonneville Power Administration
Disclosed by Application No.: 50-084944
Granted: 11/14/2002
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Weyerhaeuser Company Foundation
Disclosed by Application No.: 50-084947
Granted: 10/20/1999
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Fruit Growers Supply Company
Disclosed by Application No.: 50-084950
Granted: 6/23/2000
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Boise Cascade Corporation
Disclosed by Application No.: 50-084955
Granted: 10/7/1977
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: Weyerhaeuser Real Estate Company
Disclosed by Application No.: 50-084965
Granted: 1/5/2000
Expires: Indefinite

Covenant, including the terms and provisions thereof,
For: Inter Agency Agreement
In Favor of: Washington State Department of Transportation
Disclosed by Application No.: 54-084956
Granted: 6/1/1960
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Conservation
In Favor of: King County
Disclosed by Application No.: 58-090375
Granted: 6/25/2001
Expires: Indefinite

Inter Agency Agreement, including the terms and provisions thereof,
For: Agreement
In Favor of: King County & Mountain to Sound Greenway Trust
Disclosed by Application No.: 92-092160
Granted: 6/26/1995
Expires: 6/30/2046

Lease, including the terms and provisions thereof,
For: Special Use
In Favor of: WA State Dept. of Fish & Wildlife
Disclosed by Application No.: 60-WS0622
Granted: 12/10/2012
Expires: 12/31/2016

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 \$61,070.00. The total contract price consists of a \$0.00 contract bid price plus \$61,070.00 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-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 144 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 12 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be yarded by tracked ground based equipment only, rubber tired skidders will not be allowed, unless authority to use other equipment is granted in writing by the State.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A) Falling, yarding and timber haul will not be permitted from November 1st to April 30th, nor at all on weekends or state recognized holidays, 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. Preventative measures must be in place prior to commencing any winter operations.
- B) Equipment limitation zones are required within 30 feet of Type 5 streams. 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, when water is present, 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.
- C) 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.
- D) Purchaser shall, in concurrence with yarding, clear plantable spots at a 10.5 foot by 10.5 foot spacing.
- E) Purchaser shall cut vine maple and leave roots exposed and detached from the soil in the ground based harvest area.
- F) 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.
- G) 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.

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) 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.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 1/21/2016 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all roads used. All work shall be completed to the specifications detailed in the Road Plan.

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-035 Logging Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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-041 Reserve Tree Excessive Damage

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

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 _____



WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region:

Timber Sale Name:

Application Number:

EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

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

(Revised 6/13)

PRE-CRUISE NARRATIVE

Sale Name: Karistan	Region: South Puget Sound
Agreement #: 30-093165	District: Rainier
Contact Forester: Paul Footen	Phone/ 425-736-1708 Location: ()- - Ext: /
Alternate Contact: Zach Beebe	Phone/ 425-736-4830 Location: ()- - Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): Lump Sum
Required or Optional removal of utility as pulp: optional
Evaluated for RFRS Implementation?: Yes
Percentage cable (specify downhill vs uphill):N/A
Percentage ground based: 100%
Species Onsite: <input checked="" type="checkbox"/> RC, <input checked="" type="checkbox"/> DF, <input checked="" type="checkbox"/> WH, <input checked="" type="checkbox"/> RA, <input checked="" type="checkbox"/> BC, <input checked="" type="checkbox"/> BLM, <input type="checkbox"/> NF, <input type="checkbox"/> SF, <input checked="" type="checkbox"/> SS, <input type="checkbox"/> 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		
1		Sec 14,15 / T 23N/ R 07 E	77	85.6		2.86	1.07	81.67	Garmin 64, Existing Rd acres determined using length x width with a fixed width of 16'
2		Sec 14,23/ T 23 N/ R 07 E	77	67.2		1.66	0.14	65.37	Garmin 64, Existing Rd acres determined using length x width with a fixed width of 16'
TOTAL ACRES				152.		4.52	1.21	147.04	

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	Marked with white timber sale boundary tags and pink flashers, and the 3100 and 3300 roads. Leave trees are marked with yellow leave tree area tags and pink flashers, and blue paint.	VRH	688 Leave trees
2	Marked with white timber sale boundary tags and pink flashers, and the 3000 road, 3300	VRH	536 Leave trees

	road, and the Powerline Road. Leave trees are marked with yellow leave tree area tags and pink flashers, and blue paint.		
--	--	--	--

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	See Cruise	Karistan Gate, 786	
2	See Cruise	Karistan Gate, 786	

REMARKS:

Unit 1 is uniformly smaller timber than Unit 2. Both have areas of hardwood primarily alder

Prepared By: Eric Oien Date:	Title: NRS-1	CC:
---------------------------------	--------------	-----

Revised 2/23/2007 (PSLD)

Cruise Narrative

Sale Name: Karistan	Region: South Puget Sound
App. #: 30-093165	District: Rainier
Lead Cruiser: Aaron Coleman	Completion Date: 02-01-2016 *Revised: 6/13/16 & 7/7/16
Other Cruisers: n/a	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	81.67	Yes	
2	65.37	Yes	
Total	147.04	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	250' x 250'	1:1	58
2	VP	40.00 - ALL	4.5 ft	250' x 250'	1:1	46

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 = 7
Leave/take tree description:	Unit contains 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 and a butt mark.
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 2 variable retention harvest (VRH) units off of the Karistan mainline in the Raging River block.

The primary species for this sale is as follows:

Douglas-fir (DF): **64%**
Western Hemlock (WH): **21%**
Red Alder (RA): **14%**

The DF throughout this sale averages 11.6" diameter with 61' bole height, the WH averages 9.5" diameter with 67' bole height, and the RA averages 9.9" diameter with 58' bole height. Unit 2 is more uniform in stand structure than Unit 1, which has many holes and more dense RA pockets than unit 2. Both units have Ice/wind damage to the tops, but it is more pronounced in Unit 1.

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

The recommended harvest system for the sale is 100% ground-based yarding.

All roads to this sale are in good condition and there are plenty of good access points into both units. A 786 key is needed to access the gate off of Highway 18.

Grant(s): 77

Prepared by: Aaron Coleman

Title: Timber Cruiser

TC		PSPCSTGR		Species, Sort Grade - Board Foot Volumes (Project)																		
T23N R07E S14 Ty00U1 81.67 T23N R07E S14 Ty00U2 65.37				Project: KARISTAN Acres 147.04										Page 1 Date 7/7/2016 Time 8:43:14AM								
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																4	7		0.00	28.5
RA	D	3S		1		40	40	6			100							40	9	120	1.10	.3
RA	D	4S		8	4.8	177	169	25		100			35		38	27		24	8	49	0.63	3.4
RA	D	4S		91	2.5	1,935	1,886	277	100				5	28	11	56		31	5	34	0.33	55.0
RA Totals				13	2.6	2,152	2,095	308	90	10			7	26	13	55		22	6	24	0.33	87.3
WH	CU	CU																6	5		0.00	9.9
WH	D	2S		2	8.3	87	80	12			100							40	15	330	2.18	.2
WH	D	3S		39	4.6	1,348	1,286	189	51	49								40	8	81	0.60	15.9
WH	D	4S		59	.8	1,948	1,932	284	100				5	45	24	26		28	5	30	0.25	64.0
WH Totals				21	2.5	3,382	3,298	485	78	19	2		3	26	14	57		28	6	37	0.34	90.1
DF	CU	CU			100.0	15												5	6		0.00	52.8
DF	D	2S		1	6.8	141	132	19			100		26	38		36		24	13	127	1.43	1.0
DF	D	3S		61	2.7	6,274	6,104	898	44	56				1	7	91		39	7	80	0.58	76.3
DF	D	4S		37	1.7	3,693	3,629	534	98	2			14	25	14	48		30	5	32	0.28	112.6
DF	D	UT		1		57	57	8	100							100		40	5	40	0.34	1.4
DF Totals				64	2.5	10,180	9,921	1,459	64	35	1		5	10	9	75		27	6	41	0.41	244.2
RC	D	3S		81	7.1	31	28	4		100						100		36	10	130	1.36	.2
RC	D	4S		19		7	7	1	100					100				26	5	30	0.34	.2
RC Totals				0	5.9	37	35	5	19	81				19		81		31	8	80	0.93	.4
CW	CU	CU																8	6		0.00	.9
CW	D	4S		4		7	7	1	100				100					16	5	20	0.20	.4
CW	D	UT		96	3.9	162	156	23	32	68					13	87		38	7	76	0.61	2.0
CW Totals				1	3.8	169	163	24	35	65			4		13	83		28	7	50	0.54	3.3
BM	D	UT		100		15	15	2	100					100				25	6	30	0.43	.5
BM Totals				0		15	15	2	100					100				25	6	30	0.43	.5
Totals					2.6	15,935	15,527	2,283	70	29	1		5	16	11	68		26	6	36	0.38	425.8

TC PSTATS		PROJECT STATISTICS							PAGE	1	
		PROJECT KARISTAN							DATE	7/7/2016	
TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt		
23N	07E	14	KARISTAN	00U1	147.04	104	475	S	W		
23N	07E	14	KARISTAN	00U2							
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL		104	475	4.6							
CRUISE		56	258	4.6	38,538	.7					
DBH COUNT											
REFOREST											
COUNT		47	217	4.6							
BLANKS		1									
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	155	141.4	11.6	61	30.6	104.2	10,180	9,921	2,709	2,705	
WHEMLOCK	49	66.0	9.4	67	10.4	31.9	3,382	3,298	850	850	
R ALDER	48	52.5	9.9	58	9.0	28.3	2,152	2,095	626	626	
COTWOOD	4	1.4	14.0	72	0.4	1.5	169	163	48	48	
WR CEDAR	1	.2	18.0	65	0.1	.4	37	35	13	13	
BL MAPLE	1	.5	11.0	26	0.1	.3	15	15	5	5	
TOTAL	258	262.1	10.8	62	50.7	166.7	15,935	15,527	4,251	4,247	
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		55.6	4.5	82	86	90					
WHEMLOCK		89.6	12.8	62	71	80					
R ALDER		43.7	6.4	47	50	53					
COTWOOD		43.4	24.8	92	123	153					
WR CEDAR											
BL MAPLE											
TOTAL		64.8	4.0	74	77	81	168	86	42		
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		59.4	4.8	23	24	25					
WHEMLOCK		98.2	14.0	17	19	22					
R ALDER		50.1	7.4	15	16	17					
COTWOOD		37.2	21.2	28	36	44					
WR CEDAR											
BL MAPLE											
TOTAL		68.2	4.3	21	22	23	186	95	46		
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		79.5	7.8	130	141	152					
WHEMLOCK		184.2	18.0	54	66	78					
R ALDER		188.9	18.5	43	52	62					
COTWOOD		753.9	73.9	0	1	3					
WR CEDAR		1019.8	99.9	0	0	0					
BL MAPLE		1019.8	99.9	0	0	1					
TOTAL		48.2	4.7	250	262	274	93	47	23		
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		75.5	7.4	96	104	112					
WHEMLOCK		179.5	17.6	26	32	38					
R ALDER		189.6	18.6	23	28	34					
COTWOOD		803.9	78.8	0	2	3					

TC PSTATS		PROJECT STATISTICS							PAGE	2	
		PROJECT KARISTAN							DATE	7/7/2016	
TWP	RGE	SC	TRACT	TYPE	ACRES			PLOTS	TREES	CuFt	BdFt
23N	07E	14	KARISTAN	00U1	147.04			104	475	S	W
23N	07E	14	KARISTAN	00U2							
CL	68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.		
SD:	1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10		
WR CEDAR		1019.8	99.9	0	0	1					
BL MAPLE		1019.8	99.9	0	0	1					
TOTAL		40.4	4.0	160	167	173	65	33	16		
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		78.7	7.7	9,156	9,921	10,687					
WHEMLOCK		187.0	18.3	2,694	3,298	3,902					
R ALDER		187.5	18.4	1,710	2,095	2,480					
COTWOOD		853.3	83.6	27	163	299					
WR CEDAR		1019.8	99.9	0	35	70					
BL MAPLE		1019.8	99.9	0	15	29					
TOTAL		44.9	4.4	14,845	15,527	16,209	80	41	20		
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		79.2	7.8	2,495	2,705	2,915					
WHEMLOCK		189.3	18.5	692	850	1,008					
R ALDER		191.9	18.8	508	626	744					
COTWOOD		839.5	82.2	9	48	88					
WR CEDAR		1019.8	99.9	0	13	25					
BL MAPLE		1019.8	99.9	0	5	10					
TOTAL		44.7	4.4	4,061	4,247	4,433	80	41	20		
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				88	95	103					
WHEMLOCK		137.9	13.5	84	103	122					
R ALDER		110.7	10.8	60	74	88					
COTWOOD		853.3	83.6	17	105	193					
WR CEDAR		1019.8	99.9	0	91	181					
BL MAPLE		1019.8	99.9	0	45	91					
TOTAL		42.6	4.2	89	93	97	72	37	18		

T23N R07E S14 T00U1										T23N R07E S14 T00U1				
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt					
23N	07E	14	KARISTAN	00U1	81.67	58	141	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	26												6	6		0.00	55.9
DF		DM	2S	1	3.0	152	148	12		100				42				25	12	120	1.39	1.2
DF		DM	3S	66	1.7	6,192	6,085	497	58	42					3	7	91	39	7	73	0.52	83.8
DF		DM	4S	33	3.2	3,057	2,959	242	99	1				19	28	11	42	28	5	30	0.26	98.5
DF	Totals			68	2.5	9,427	9,191	751	71	28	2			7	11	8	74	27	6	38	0.38	239.4
RA		CU	CU															4	6		0.00	29.9
RA		DM	4S	4		105	105	9		100				100				16	8	30	0.50	3.5
RA		DM	4S	96	4.0	2,155	2,067	169	100					4	26	10	60	31	5	33	0.33	61.8
RA	Totals			16	3.9	2,260	2,173	177	95	5				9	25	10	57	22	6	23	0.32	95.2
WH		CU	CU															10	5		0.00	11.6
WH		DM	3S	23	2.0	515	504	41	81	19							100	40	7	69	0.52	7.3
WH		DM	4S	77	1.7	1,644	1,617	132	100						40	26	35	30	5	34	0.25	48.1
WH	Totals			16	1.8	2,159	2,121	173	96	4				30	20	50		28	5	32	0.27	67.1
BM		DM	UT	100		26	26	2	100								100	25	6	30	0.43	.9
BM	Totals			0		26	26	2	100					100				25	6	30	0.43	.9
Type Totals					2.6	13,872	13,512	1,103	78	20	1			6	16	10	68	26	6	34	0.35	402.5

T	TSPCSTGR	Species, Sort Grade - Board Foot Volumes (Type)										Page	1								
Project: KARISTAN												Date	7/7/2016								
												Time	8:43:14AM								
T23N R07E S14 T00U2										T23N R07E S14 T00U2											
Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt												
23N	07E	14	KARISTAN	00U2	65.37	46	117	S	W												
Spp	S	So	Gr	% Net BdFt	Bd. Ft. per Acre		Total Net MBF	Percent Net Board Foot Volume							Average Log				Logs Per /Acre		
					Def%	Gross		Net	Log Scale Dia.				Log Length			Ln	Dia	Bd		CF/Lf	
								5-7	8-11	12-15	16+	12-20	21-30	31-35	36-99	Ft	In	Ft			
DF	CU	CU														2	6		0.00	48.9	
DF	DM	2S		1	12.5	128	112	7		100			100			22	14	140	1.52	.8	
DF	DM	3S		56	3.9	6,377	6,129	401	26	74				8	92	39	8	91	0.68	67.1	
DF	DM	4S		41	.5	4,488	4,466	292	98	2			9	22	15	54	31	5	34	0.29	130.2
DF	DM	UT		2		128	128	8	100						100	40	5	40	0.34	3.2	
DF	Totals			60	2.6	11,121	10,834	708	56	43	1		4	10	11	75	28	6	43	0.44	250.2
WH	CU	CU														5			0.00	7.7	
WH	DM	2S		3	8.3	195	179	12		100					100	40	15	330	2.18	.5	
WH	DM	3S		48	5.3	2,388	2,262	148	42	58					100	40	8	85	0.63	26.7	
WH	DM	4S		49		2,327	2,327	152	100				10	50	22	19	27	5	28	0.25	83.9
WH	Totals			26	2.9	4,910	4,768	312	69	27	4		5	24	11	60	28	6	40	0.38	118.8
RA	CU	CU														3	7		0.00	26.8	
RA	DM	3S		4		90	90	6		100					100	40	9	120	1.10	.8	
RA	DM	4S		12	7.2	268	248	16		100					59	41	34	8	74	0.71	3.4
RA	DM	4S		84		1,660	1,660	108	100				6	33	11	50	31	5	36	0.33	46.6
RA	Totals			11	1.0	2,018	1,998	131	83	17			5	27	17	51	22	6	26	0.35	77.5
CW	CU	CU														8	6		0.00	1.9	
CW	DM	4S		4		16	16	1	100				100			16	5	20	0.20	.8	
CW	DM	UT		96	3.9	364	350	23	32	68					13	87	38	7	76	0.61	4.6
CW	Totals			2	3.8	381	366	24	35	65			4		13	83	28	7	50	0.54	7.3
RC	DM	3S		81	7.1	69	64	4		100					100	36	10	130	1.36	.5	
RC	DM	4S		19		15	15	1	100						100	26	5	30	0.34	.5	
RC	Totals			0	5.9	84	79	5	19	81					19	81	31	8	80	0.93	1.0
Type Totals					2.5	18,513	18,045	1,180	62	36	2		4	16	11	69	27	6	40	0.41	454.8

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				KARISTAN				DATE	7/7/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	07E	14	KARISTAN	00U1	81.67	58	261	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		58	261	4.5						
CRUISE		31	141	4.5	20,597		.7			
DBH COUNT										
REFOREST										
COUNT		26	120	4.6						
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	91	137.7	11.5	60	29.1	98.5	9,427	9,191	2,465	2,458
R ALDER	26	59.2	9.7	59	9.7	30.1	2,260	2,173	657	657
WHEMLOCK	23	54.4	8.6	65	7.5	22.0	2,159	2,121	514	514
BL MAPLE	1	.9	11.0	26	0.2	.6	26	26	9	9
TOTAL	<i>141</i>	<i>252.2</i>	<i>10.5</i>	<i>61</i>	<i>46.7</i>	<i>151.2</i>	<i>13,872</i>	<i>13,512</i>	<i>3,645</i>	<i>3,639</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		52.5	5.5	76	80	84				
R ALDER		33.4	7.0	44	47	50				
WHEMLOCK		48.5	10.3	41	46	50				
BL MAPLE										
TOTAL		<i>57.4</i>	<i>4.9</i>	<i>65</i>	<i>68</i>	<i>72</i>	<i>131</i>	<i>67</i>	<i>33</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		58.0	6.1	21	22	24				
R ALDER		38.7	8.1	14	15	16				
WHEMLOCK		63.0	13.4	10	12	14				
BL MAPLE										
TOTAL		<i>61.8</i>	<i>5.2</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>153</i>	<i>78</i>	<i>38</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		68.5	9.0	125	138	150				
R ALDER		183.4	24.1	45	59	73				
WHEMLOCK		198.5	26.0	40	54	69				
BL MAPLE		761.6	99.9	0	1	2				
TOTAL		<i>49.5</i>	<i>6.5</i>	<i>236</i>	<i>252</i>	<i>269</i>	<i>98</i>	<i>50</i>	<i>24</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		67.3	8.8	90	99	107				
R ALDER		188.8	24.8	23	30	38				
WHEMLOCK		179.8	23.6	17	22	27				
BL MAPLE		761.6	99.9	0	1	1				
TOTAL		<i>41.7</i>	<i>5.5</i>	<i>143</i>	<i>151</i>	<i>160</i>	<i>69</i>	<i>35</i>	<i>17</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		68.6	9.0	8,364	9,191	10,019				
R ALDER		188.8	24.8	1,635	2,173	2,711				
WHEMLOCK		185.2	24.3	1,606	2,121	2,636				
BL MAPLE		761.6	99.9	0	26	53				
TOTAL		<i>43.5</i>	<i>5.7</i>	<i>12,741</i>	<i>13,512</i>	<i>14,282</i>	<i>75</i>	<i>39</i>	<i>19</i>	

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT	KARISTAN			DATE	7/7/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES		PLOTS	TREES	CuFt	BdFt
23N	07E	14	KARISTAN	00U1	81.67		58	261	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	
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		69.4	9.1	2,234	2,458	2,682				
R ALDER		192.0	25.2	491	657	822				
WHEMLOCK		177.5	23.3	394	514	634				
BL MAPLE		761.6	99.9	0	9	19				
TOTAL		43.6	5.7	3,431	3,639	3,847	76	39	19	
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				85	93	102				
R ALDER		77.2	10.1	54	72	90				
WHEMLOCK		152.5	20.0	73	96	120				
BL MAPLE		761.6	99.9	0	45	91				
TOTAL		176.0	23.1	84	89	94	1,237	631	309	

TC TSTATS				STATISTICS				PAGE	1	
				PROJECT	KARISTAN			DATE	7/7/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	07E	14	KARISTAN	00U2	65.37	46	214	S	W	
		PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES				
TOTAL		46	214	4.7						
CRUISE		25	117	4.7	17,941	.7				
DBH COUNT REFOREST COUNT		21	97	4.6						
BLANKS 100 %										
STAND SUMMARY										
	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	64	146.1	11.8	61	32.4	111.3	11,121	10,834	3,014	3,014
WHEMLOCK	26	80.5	10.0	68	14.0	44.3	4,910	4,768	1,269	1,269
R ALDER	22	44.1	10.4	56	8.1	26.1	2,018	1,998	587	587
COTWOOD	4	3.3	14.0	72	0.9	3.5	381	366	109	109
WR CEDAR	1	.5	18.0	65	0.2	.9	84	79	29	28
TOTAL	117	274.4	11.1	63	55.7	186.1	18,513	18,045	5,008	5,008
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	57.2	7.1		88	95	102				
WHEMLOCK	84.8	17.0		77	93	108				
R ALDER	50.7	11.0		48	54	60				
COTWOOD	43.4	24.8		92	123	153				
WR CEDAR										
TOTAL	66.9	6.2		83	88	94	179	91	45	
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	58.9	7.4		25	27	29				
WHEMLOCK	90.7	18.1		21	26	31				
R ALDER	59.1	12.9		14	17	19				
COTWOOD	37.2	21.2		28	36	44				
WR CEDAR										
TOTAL	69.2	6.4		24	25	27	191	97	48	
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	90.6	13.4		127	146	166				
WHEMLOCK	169.4	25.0		60	81	101				
R ALDER	196.1	28.9		31	44	57				
COTWOOD	498.8	73.5		1	3	6				
WR CEDAR	678.2	99.9		0	0	1				
TOTAL	46.8	6.9		256	274	293	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	82.6	12.2		98	111	125				
WHEMLOCK	162.7	24.0		34	44	55				
R ALDER	191.8	28.3		19	26	33				
COTWOOD	532.6	78.5		1	3	6				
WR CEDAR	678.2	99.9		0	1	2				
TOTAL	36.3	5.3		176	186	196	53	27	13	
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	86.1	12.7		9,459	10,834	12,208				
WHEMLOCK	166.4	24.5		3,600	4,768	5,937				

TC TSTATS				STATISTICS				PAGE	2	
				PROJECT		KARISTAN		DATE	7/7/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
23N	07E	14	KARISTAN	00U2	65.37	46	214	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	
R ALDER		187.5	27.6	1,446	1,998	2,550				
COTWOOD		566.0	83.4	61	366	671				
WR CEDAR		678.2	99.9	0	79	157				
TOTAL		<i>41.0</i>	<i>6.0</i>	<i>16,956</i>	<i>18,045</i>	<i>19,134</i>	<i>67</i>	<i>34</i>	<i>17</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		85.1	12.5	2,636	3,014	3,392				
WHEMLOCK		167.1	24.6	957	1,269	1,582				
R ALDER		193.4	28.5	420	587	754				
COTWOOD		556.7	82.0	20	109	198				
WR CEDAR		678.2	99.9	0	28	57				
TOTAL		<i>39.6</i>	<i>5.8</i>	<i>4,716</i>	<i>5,008</i>	<i>5,299</i>	<i>62</i>	<i>32</i>	<i>16</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				85	97	110				
WHEMLOCK		118.8	17.5	81	108	134				
R ALDER		157.2	23.2	55	77	98				
COTWOOD		566.0	83.4	17	105	193				
WR CEDAR		678.2	99.9	0	91	181				
TOTAL		<i>174.6</i>	<i>25.7</i>	<i>91</i>	<i>97</i>	<i>103</i>	<i>1,217</i>	<i>621</i>	<i>304</i>	

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

T23N R07E S14 Ty00U1	81.6
T23N R07E S14 Ty00U2	65.3

Project KARISTAN
Acres 147.04

Page No 1
Date: 7/7/2016
Time 8:43:14AM

Species	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
DOUG FIR	20,796	28,143	11,351	19.13	14.13	0.42	3,983	3,978	1,497	1,459
WHEMLOCK	9,707	11,788	3,999	12.87	10.60	0.35	1,250	1,250	497	485
R ALDER	7,718	8,646	2,531	11.92	10.64	0.35	920	920	316	308
COTWOOD	213	353	175	33.53	20.21	0.59	71	71	25	24
WR CEDAR	32	64	44	57.86	28.93	0.93	19	19	5	5
BL MAPLE	72	72	20	10.70	10.70	0.43	8	8	2	2
Totals	38,538	49,065	18,119	16.21	12.73	0.40	6,250	6,245	2,343	2,283

Wood Type	Total	Total	Total	Net Cubic Ft/		CF/	Total CCF		Total MBF	
Species	Trees	Logs	Tons	Tree	Log	LF	Gross	Net	Gross	Net
C	30,535	39,995	15,393	17.18	13.12	0.40	5,251	5,246	2,000	1,949
H	8,002	9,071	2,726	12.49	11.02	0.36	999	999	343	334
Totals	38,538	49,065	18,119	16.21	12.73	0.40	6,250	6,245	2,343	2,283



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

FPA/N No: 2418533

Effective Date: 5/5/2016

Expiration Date: 5/5/2019

Shut Down Zone: 659 N

EARR Tax Credit: Eligible Non-eligible

Reference: Karistan #30-093165

**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

Number of Years Granted on Multi-Year Request

- Class II
- Class III
- Class IVG
- Class IVS
- 4 yrs
- 5 yrs

Conditions on Approval / Reasons for Disapproval

Notify DNR at southpugetforestpractices@dnr.wa.gov prior to starting road abandonment.

Issued By: Eric Dasso

Region: South Puget Sound

Title: Resource Protection Forester

Date: 5/5/2016

Copies to: Landowner, Timber Owner and Operator.

Issued in person: Landowner Timber Owner Operator By: _____

AEM 2-5-16

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://www.dnr.wa.gov/businesspermits/forestpractices>. Notify DNR of new Operators within 48 hours.

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

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

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

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

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

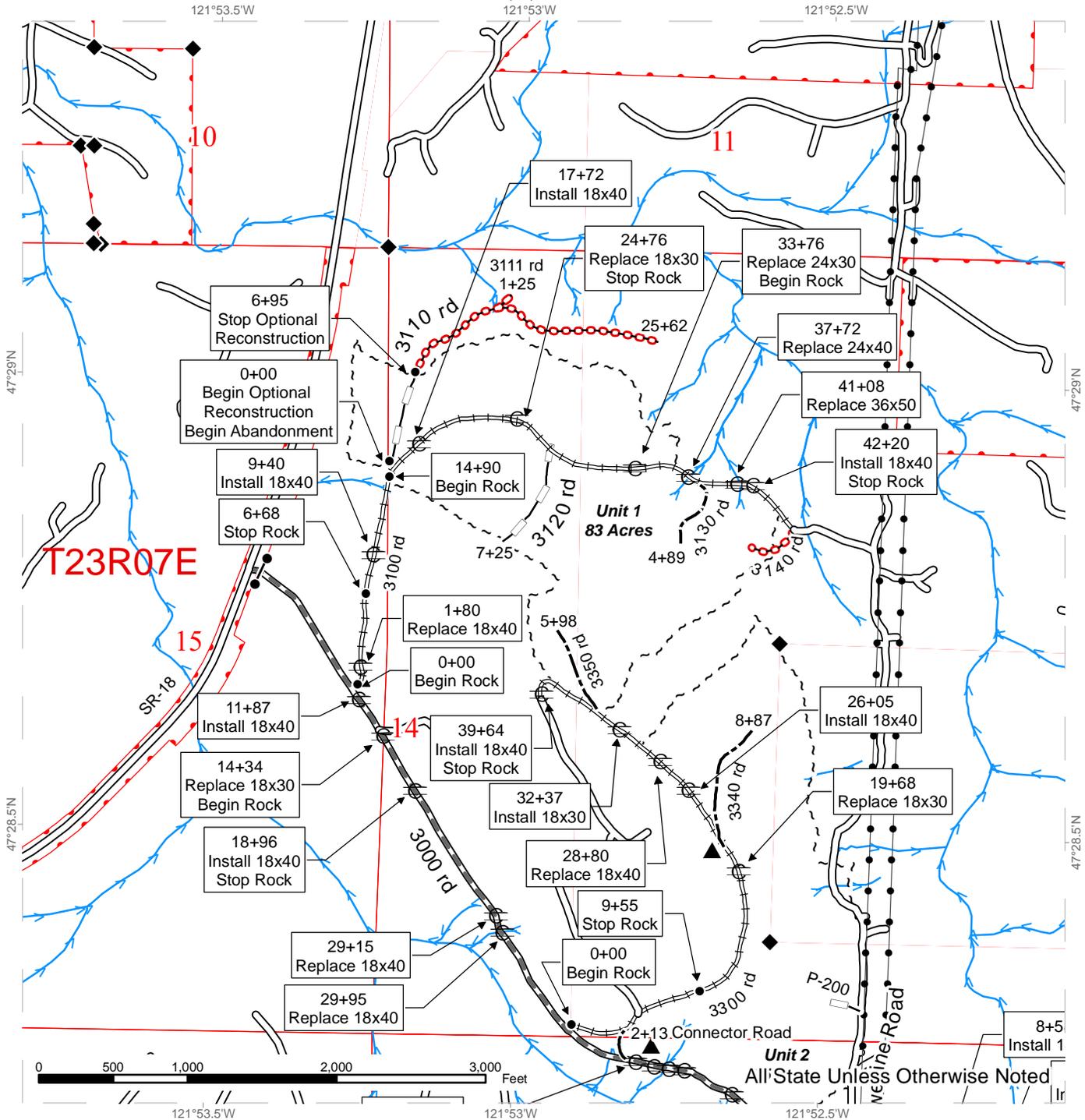
DNR affidavit of mailing:

On this day <u>5/5/2016</u>	, I placed in the United States mail at <u>Enumclaw</u>	, WA,
(date mm/dd/yyyy)	(post office location)	
postage paid, a true and accurate copy of this document. Notice of Decision FPA # <u>2418533</u>		
<u>Meredith Dessens</u>	<u>M Dessens</u>	
(Printed name)	(Signature)	

ROAD VIEW MAP

SALE NAME: KARISTAN
AGREEMENT #: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land (77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300



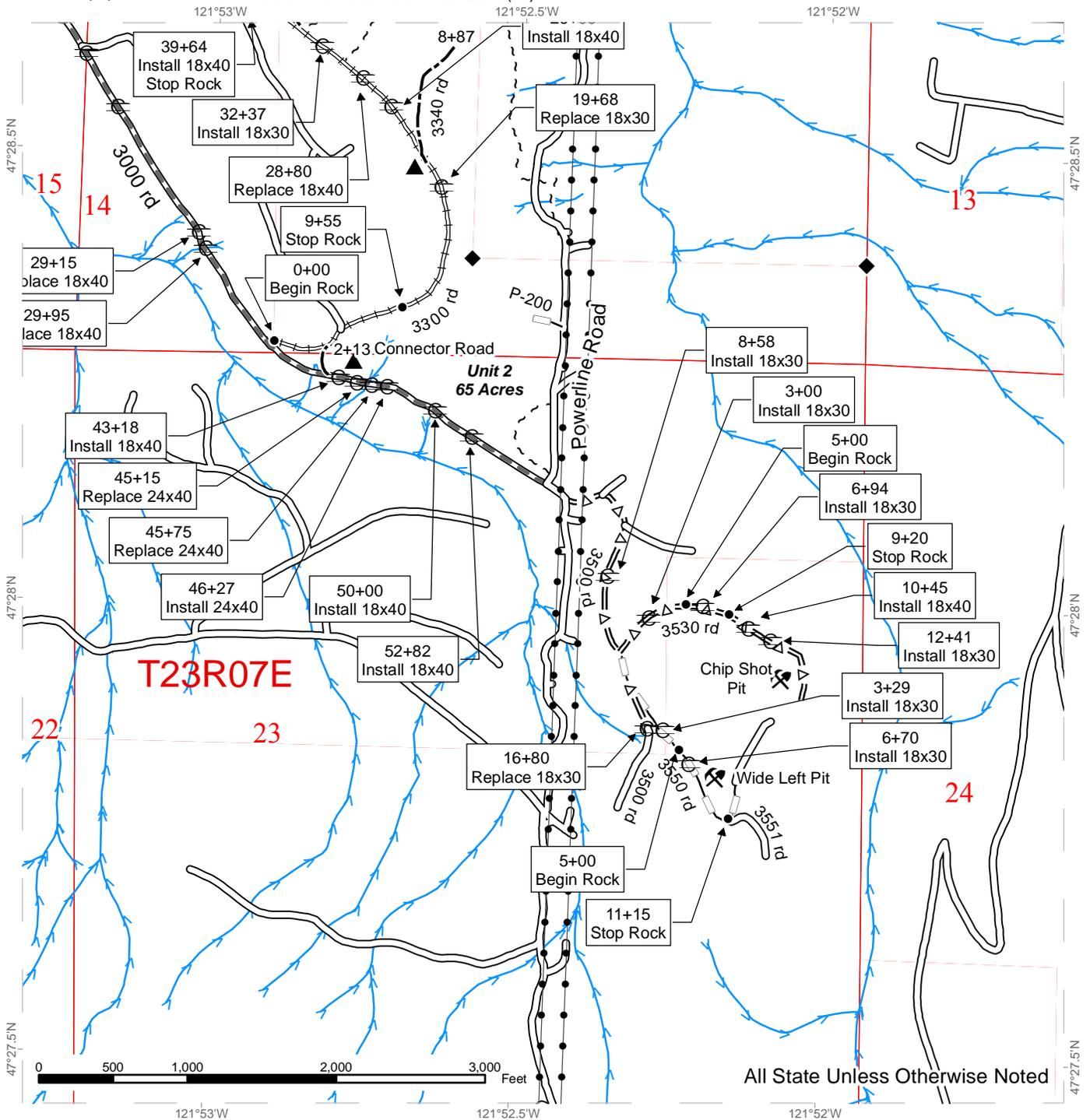
Legend

--- Optional Construction	Existing Roads	▲ Borrow Area
--- Required Abandonment	● Station Marker	● Existing Pit
--- Required Pre-Haul Maintenance	● BPA Powerline	◆ Monumented Corners
=Δ= Optional Pre-Haul Maintenance	⊕ Culvert Installation	→ Streams
--- Required Reconstruction	--- Sale Boundary Tags	□ DNR Managed Lands
--- Optional Reconstruction	● Gates	

ROAD VIEW MAP

SALE NAME: KARISTAN
AGREEMENT #: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land (77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300



All State Unless Otherwise Noted

Legend			
	Optional Construction		Borrow Area
	Required Abandonment		Station Marker
	Required Pre-Haul Maintenance		Existing Pit
	Optional Pre-Haul Maintenance		Monumented Corners
	Required Reconstruction		Streams
	Optional Reconstruction		DNR Managed Lands
	Existing Roads		
	BPA Powerline		
	Culvert Installation		
	Sale Boundary Tags		
	Gates		

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

KARISTAN TIMBER SALE ROAD PLAN
KING COUNTY
SNOQUALMIE UNIT, RAINIER DISTRICT

AGREEMENT NO.: 30-093165

STAFF ENGINEER: VACANT

DATE: 1/21/16

DRAWN & COMPILED BY: B. BALLARD

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>
3000	0+00 to 59+12	Pre/Post-Haul Maintenance
3100	0+00 to 46+10	Reconstruction Post-Haul Maintenance
3300	0+00 to 39+64	Reconstruction Post-Haul Maintenance
3110	0+00 to 25+62	Abandonment
3111	0+00 to 1+25	Abandonment
3120	0+00 to 7+25	Decommission – if reconstructed
3130	0+00 to 4+89	Decommission – if constructed
3140	0+00 to 3+53	Abandonment
3340	0+00 to 8+87	Decommission – if constructed
3350	0+00 to 5+98	Decommission – if constructed

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>
3110	0+00 to 6+95	Reconstruction
3120	0+00 to 7+25	Reconstruction
3130	0+00 to 4+89	Construction
3340	0+00 to 8+87	Construction

3350	0+00 to 5+98	Construction
Connector Rd	0+00 to 2+13	Construction
P-200	0+00 to 1+85	Reconstruction
3500	0+00 to 16+80	Pre-Haul Maintenance
3530	0+00 to 17+50	Pre-Haul Maintenance
3550	0+00 to 14+15	Reconstruction

0-4 CONSTRUCTION

Construction includes, but is not limited to:

- clearing;
- grubbing;
- right-of-way debris disposal;
- excavation and/or embankment to subgrade;
- landing construction;
- acquisition and installation of drainage structures;
- acquisition, manufacture, and application of rock;
- road decommissioning.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to:

- clearing existing excavation and embankment slopes;
- grubbing existing excavation and embankment slopes;
- right-of-way debris disposal;
- landing construction;
- pulling ditches;
- cleaning ditches;
- constructing ditches;
- acquisition and installation of additional drainage structures;
- widening road segments;
- grading and shaping existing road surface and turnouts;
- compaction of road surface;
- acquisition, manufacture, and application of rock; including existing turnouts;
- road decommissioning;
- road abandonment.

0-6 PRE-HAUL MAINTENANCE

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

- removing fallen right-of-way debris;
- pulling ditches;
- cleaning ditches;
- constructing catch basin and headwall;

cleaning culvert inlets and outlets;
cross drain culvert replacement;
acquisition and placement of riprap;
grading and shaping existing road surface and turnouts;
compaction of road surface;
removing berms from road shoulders;
spot rocking;

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.

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve Stripping, blasting/ripping 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 the submitted plan.

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-5 DESIGN DATA

Plan, Profile, and cross-section design data is available upon request at the Department of Natural Resources South Puget Sound Region Office in Enumclaw, WA.

1-6 ORDER OF PRECEDENCE

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

1. 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.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation, and may not begin without written approval from the Contract Administrator.

1-9 DAMAGED METALLIC COATING

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

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

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

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:

- Orange ribbon and pin flags for road centerline locations.

SUBSECTION TIMING

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 7 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:

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

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

The operation of road construction equipment is not allowed on weekends or state recognized holidays, unless authorized in writing by the Contract Administrator.

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 Roads	All Stations	All roadwork	November 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 provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative

measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense. If other operators are using, or desire to use these roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

1-32 ASPHALT SURFACE RESTRICTION

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

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.

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.

1-42 UTILITY ACCESS ROAD

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

<u>Road</u>	<u>Stations</u>
Powerline Rd	0+00 to 23+23

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>
Powerline Rd	0+00 to 23+23	BPA Powerline

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.

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road, Purchaser shall use a grader to shape the existing surface before timber haul. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

<u>Road</u>	<u>Stations</u>
3000	0+00 to 59+12

2-6 CLEANING CULVERTS AND DITCHOUTS

On the following roads, Purchaser shall clean the inlets and outlets of all culverts and clean ditchouts. Purchaser shall obtain written approval from the Contract Administrator before timber haul.

<u>Road</u>	<u>Stations</u>
3000	0+00 to 59+12

2-7 PULLING DITCHES

On the following road, Purchaser shall pull ditches. Work must be completed before timber haul and must be done in accordance with the TYPICAL SECTION SHEET. Mixing material in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
3000	0+00 to 59+12

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

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 and within waste and debris areas, or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

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

SUBSECTION GRUBBING

3-10 GRUBBING

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

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 clearing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

Purchaser shall remove organic debris from the road surface, ditchlines, and culvert inlets and outlets.

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

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

3-25 SCATTERING ORGANIC DEBRIS

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

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

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

4-2 PIONEERING

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

- Drainage must be provided on all uncompleted construction.
- Road pioneering operations may not undercut the final cut slope or restrict drainage.

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 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.

4-5 CUT SLOPE RATIO

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

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

4-10 WIDEN THE EXISTING SUBGRADE

On reconstructed 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.

SUBSECTION INTERSECTIONS, TURNOUTS AND TURNAROUNDS

4-21 TURNOUTS

Purchaser shall construct turnouts intervisible with a maximum distance of 1,000 feet between turnouts. Minimum dimensions are shown on the TYPICAL SECTION SHEET.

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

Purchaser shall not pull ditch material across the road or mix in with the road surface. Excavated material must be scattered outside the grubbing limits.

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

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

4-37 WASTE AREA LOCATION

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

SUBSECTION BORROW

4-45 SELECT BORROW

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

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL

Borrow material may not contain more than 5% clay, organic debris, or trash by volume.

4-49 BORROW SOURCE

Purchaser shall obtain borrow material from the listed borrow sources. Development of the borrow source must be in accordance with a written BORROW SOURCE DEVELOPMENT PLAN to be submitted by the Purchaser and approved in writing by the Contract Administrator.

<u>Source</u>	<u>Location</u>	<u>Type</u>
3000 Rd	Sta 43+68	Select Borrow
3300 Rd	Sta 21+95	Select Borrow

SUBSECTION SHAPING

4-55 ROAD SHAPING

Purchaser shall shape the subgrade and surface as shown on the TYPICAL SECTION SHEET. The subgrade and surface shape must ensure runoff in an even, un-concentrated manner, and must be uniform, firm, and rut-free. Purchaser shall accomplish all shaping using a motor grader with a minimum of 175 horsepower.

4-56 DRY WEATHER SHAPING

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

4-57 EXISTING ROAD RIPPING AND BLADING

On the following roads, Purchaser shall rip the surface to a depth of 6 inches and reshape. During the reshaping process, rocks over 8 inches in diameter must be sidecast.

<u>Road</u>	<u>Stations</u>
3100	0+00 to 4+90

3100	14+90 to 24+76
------	----------------

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.

4-61 SUBGRADE COMPACTION

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

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.

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 be new material and meet the specifications in Clauses 10-15 through 10-23.

5-6 USED CULVERT MATERIAL

Purchaser may install used culverts on the following roads. All other roads must have new culverts installed.

<u>Road</u>	<u>Station</u>
3130	0+00
3340	3+62
3350	3+09

5-11 UNUSED MATERIALS STATE PROPERTY

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

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert 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”. Corrugated Polyethylene pipe must be installed in a manner consistent with the manufacturer’s recommendations.

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

Cross drain culverts must be installed with a depth of cover of not less than 1 foot of compacted subgrade over the top of the culvert at the shallowest point. Stream crossing culverts must be installed with a depth of cover 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 cross drain culverts, except for temporary culverts. 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 ROCK LIST.

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts, except for temporary culverts. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culverts, Purchaser shall place Quarry Spalls 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.

<u>Road</u>	<u>Stations</u>	<u>Rock Type</u>
3100	37+72	Quarry Spalls
3100	41+08	Quarry Spalls

SUBSECTION SURFACE DRAINAGE

5-33 NATIVE SURFACE ROADS

If overwintered, native surface roads must be waterbarred by October 15. Purchaser shall construct waterbars according to the attached NON-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 200 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 sources on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock sources, a joint operating plan must be developed. All parties shall follow this plan.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Chip Shot Pit	SE ¼, NE ¼, S23T23NR07E W.M.	4 Inch in Place
Wide Left Pit	NE ¼, SE ¼, S23T23NR07E W.M.	Quarry Spalls

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense. Rock sources are subject to written approval by the Contract Administrator before their use.

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.

<u>Source</u>	<u>Rock Type</u>
Chip Shot Pit	4 Inch in Place
Wide Left Pit	Quarry Spalls

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 5% of the total volume mined in that source.
- 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 by hydraulic hammer or other means and incorporated into the crushing operations.
- Purchaser shall notify the Contract Administrator a minimum of 7 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 7 working days before any drilling (Form #M-126PAC).
- 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 provide rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

6-21 IN-PLACE PROCESSING

Purchaser may use in-place processing, such as a grid roller or other method, if suitable crushing can be demonstrated to meet the surfacing size-specified in Clause 6-38 4-INCH IN-PLACE ROCK. Purchaser shall remove any existing organic debris before the start of in-place crushing operations. The use of in-place processing methods is subject to written approval by 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

6-38 4-INCH IN-PLACE ROCK

4-inch in-place rock must have a minimum of 90 percent of the top 4 inches of the running surface pass a 4-inch square opening.

In-place rock may not contain more than 5 percent by weight of organic debris and trash. No more than 50 percent of rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension.

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.

SECTION 7 – STRUCTURES

SUBSECTION SIGNS

7-1 SIGN INSTALLATION

Purchaser shall purchase, install, and maintain the following road signs. Signs must be installed a minimum of 2 days before timber haul. Signs must comply with the Federal Highway Administration’s Manual on Uniform Traffic Control Devices.

<u>Road</u>	<u>Station</u>	<u>Sign</u>
3000	0+00	Road Closed

SUBSECTION STREAM CROSSING STRUCTURES GENERAL

7-5 STRUCTURE DEBRIS

Purchaser shall not allow debris from the installation or removal of structures to enter any stream. Components removed from existing structures must be removed from state land. Purchaser shall maintain a clean jobsite, with all materials stored away from the high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream must be removed immediately, and placed in the site designated for stockpiling or disposal. Purchaser shall retrieve all material carried downstream from the jobsite.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

Bank protection must be designed and constructed to prevent the undermining of the structure.

SUBSECTION GATE CLOSURE

7-70 GATE CLOSURE

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

<u>Road</u>	<u>Station</u>	<u>Gate No.</u>
3000	0+00	834

SECTION 8 – EROSION CONTROL

8-2 PROTECTION FOR EXPOSED SOIL

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

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-1 EARTHEN BARRICADES

Purchaser shall construct barricades in accordance with the BARRICADE DETAIL.

<u>Road</u>	<u>Stations</u>
3110	0+00
3140	0+50 (Construct turnaround at 0+00)

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 and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
3000	0+00 to 59+12	Grading
3100	0+00 to 46+10	Grading
3300	0+00 to 39+64	Grading

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

If built or reconstructed, purchaser shall decommission the following roads before the termination of this contract.

<u>Road</u>	<u>Stations</u>
3120	0+00 to 7+25
3130	0+00 to 4+89
3340	0+00 to 8+87
3350	0+00 to 5+98

9-21 ROAD ABANDONMENT

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

<u>Road</u>	<u>Stations</u>
3110	0+00 to 25+62
3111	0+00 to 1+25
3140	0+00 to 3+53

9-22 DECOMMISSIONING

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.

9-23 ABANDONMENT

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars in accordance with the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Cover, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with a layer of straw.
- Provide and evenly spread a layer of straw to all exposed soils associated with stream culvert and puncheon removals, as well as all waste material generated by fill removal that is within 30 feet of excavation limits.

SECTION 10 MATERIALS

SUBSECTION CULVERTS

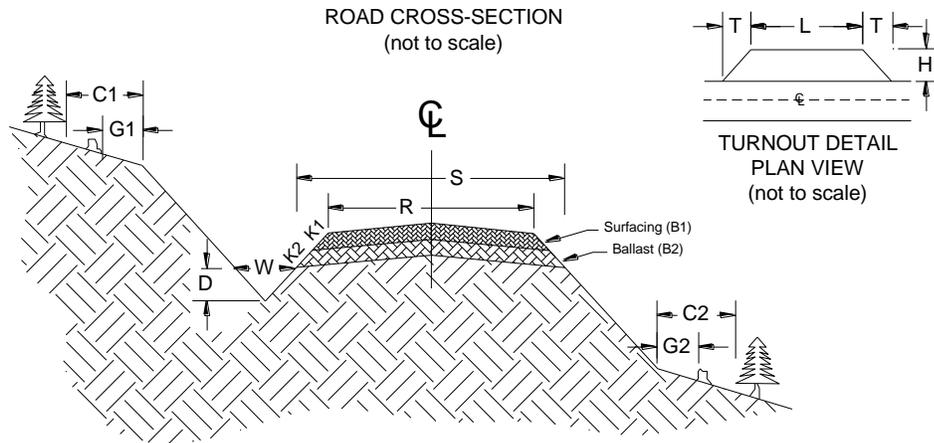
10-17 CORRUGATED PLASTIC CULVERT

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

10-22 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. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe joint.

TYPICAL SECTION SHEET



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							
3000	0+00	59+12	C	17	14	3	1	4	2	2	5	5	100	67
3100	0+00	46+10	C	15	12	3	2	4	2	2	5	5	100	67
3110	0+00	6+95	C	15	12	3	1	N/A	N/A	N/A	N/A	N/A	100	67
3120	0+00	7+25	C	15	12	3	1	4	2	2	5	5	100	67
3140	0+00	3+53	C	15	12	3	1	N/A	N/A	N/A	N/A	N/A	100	67
3300	0+00	39+64	C	15	12	3	1	4	2	2	5	5	100	67
3340	0+00	8+87	C	15	12	3	1	4	2	2	5	5	100	67
3350	0+00	5+98	C	15	12	3	1	4	2	2	5	5	100	67
Powerline Rd	0+00	24+23	C	15	12	3	1	4	2	2	5	5	100	67
3500	0+00	16+80	C	15	12	3	1	4	2	2	5	5	100	67
3530	0+00	17+50	C	15	12	3	1	4	2	2	5	5	100	67
3550	0+00	14+15	C	15	12	3	1	4	2	2	5	5	100	67
Connector Rd	0+00	2+13	C	15	12	3	1	4	2	2	5	5	100	67

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)
3000 3100 3300 Connector Rd	0+00	59+12	Subgrade	12	Vibratory Smooth Drum	14,000	4	3
			Fill	12				
		46+10	Waste Area	--				
			Pre-haul surface	--				
		2+13	Rock	6				
			Embankment	12				

ROCK LIST

BALLAST

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth Inches	C.Y. Station	# of Stations	C.Y. Subtotal	Rock Source	
			K2	B2	4 Inch in Place				
3000	14+34	18+96	67%	8	37	4.62	171	Chip Shot Pit Or Wide Left Pit Or Commercial	
3000	45+15	49+82	67%	8	32	4.67	150		
3100	0+00	6+68	67%	8	32	6.68	214		
3100	14+90	24+76	67%	8	32	9.86	316		
3100	33+76	42+20	67%	8	32	8.44	270		
3120	0+00	7+25	67%	8	32	7.25	232		
3130	0+00	4+89	67%	8	32	4.89	157		
3300	0+00	9+55	67%	8	32	9.55	306		
3300	18+65	21+95	67%	8	32	3.30	106		
3300	31+87	35+00	67%	8	32	3.13	100		
3300	37+16	39+64	67%	8	32	2.48	79		
3340	0+00	8+87	67%	8	32	8.87	284		
3350	0+00	5+98	67%	8	32	5.98	191		
3530	5+95	9+20	67%	8	32	3.25	104		
3550	5+00	11+15	67%	8	32	6.15	197		
Connector Rd	0+00	2+13	67%	12	50	2.13	107		
					4 Inch in Place				
Culvert installations	10 yds ³ per culvert installation not rocked with road				10	16	160		
					Quarry Spalls				
Culvert Installations	Headwalls and Energy Dissapators				1	42	42		

BALLAST TOTAL: 3,186 Compacted Cubic Yards

CULVERT LIST

Page 1 of 2

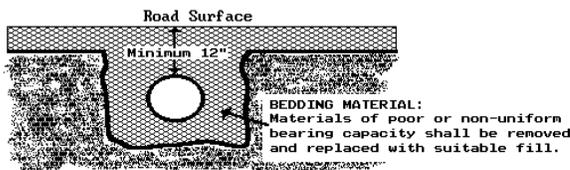
Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia.	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
3000	11+87	18	PD	40			0.5	0.5	QS	NT			
	14+34	18	PD	30			0.5	0.5	QS	NT		Replace	
	18+96	18	PD	40			0.5	0.5	QS	NT			
	29+15	18	PD	40			0.5	0.5	QS	NT			
	29+95	18	PD	40			0.5	0.5	QS	NT			
	43+18	18	PD	40			0.5	0.5	QS	NT			
	45+15	24	PD	40			0.5	1.0	QS	NT		Replace T-5	
	45+75	24	PD	40			0.5	1.0	QS	NT		Replace T-5	
	46+27	24	PD	40			0.5	1.0	QS	NT		Replace T-5	
	50+00	18	PD	40			0.5	0.5	QS	NT			
	52+82	18	PD	40			0.5	0.5	QS	NT			
	3100	1+80	18	PD	40			0.5	0.5	QS	NT		Replace
9+40		18	PD	30			0.5	0.5	QS	NT			
17+72		18	PD	40			0.5	0.5	QS	NT			
24+76		18	PD	30			0.5	0.5	QS	NT		Replace	
33+76		24	PD	30			0.5	1.0	QS	NT		Replace T-5	
37+72		24	PD	40			0.5	1.0	QS	NT		Replace T-4	
41+08		36	PD	50			0.5	1.0	QS	NT		Replace T-4	
42+20		18	PD	40			0.5	0.5	QS	NT			
3130	0+00	18	TEMP	60			0.5	0.5	QS	NT		In Ditch	
3300	19+68	18	PD	30			0.5	0.5	QS	NT		Replace	
	26+05	18	PD	40			0.5	0.5	QS	NT			
	28+80	18	PD	30			0.5	0.5	QS	NT		Replace	
	32+37	18	PD	30			0.5	0.5	QS	NT			
	39+64	18	PD	40			0.5	0.5	QS	NT			

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

AS10 = Aluminized Steel AASHTO No. M274, 10 Gauge

TEMP = Temporary Culvert

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



Key:

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

CULVERT LIST

Page 2 of 2

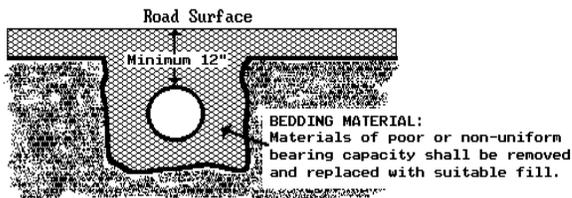
Road Number	Location	Culvert		Length (ft)			Riprap (C.Y.)			Backfill Material	Placement Method	Const. Staked	Remarks
		Dia.	Type	Culvert	Downspt	Flume	Inlet	Outlet	Type				
3340	3+62	18	TEMP	30			0.5	0.5	QS	NT			
3350	3+09	18	TEMP	30			0.5	0.5	QS	NT			
3500	8+58	18	PD	30			0.5	0.5	QS	NT		Replace	
	16+80	18	PD	30			0.5	0.5	QS	NT			
3530	3+00	18	PD	30			0.5	0.5	QS	NT			
	6+94	18	PD	30			0.5	0.5	QS	NT			
	10+45	18	PD	40			0.5	2	QS	NT			
	12+41	18	PD	30			0.5	2	QS	NT			
3550	3+29	18	PD	30			0.5	0.5	QS	NT			
	6+70	18	PD	30			0.5	0.5	QS	NT			
Connector Rd.	1+10	18	PD	30			0.5	0.5	QS	NT			

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

AS10 = Aluminized Steel AASHTO No. M274, 10 Gauge

TEMP = Temporary Culvert

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



Key:

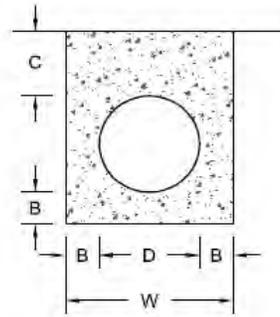
- QS - Quarry Spalls
- SR - Shot Rock
- NT - Native (bank run)
- SL - Select Fill
- HL - Heavy Loose Riprap
- LL - Light Loose Riprap
- Flume - Half round pipe
- Downsput - Full round pipe

CROSS DRAIN CULVERT INSTALLATION DETAIL INSTALLATION REQUIREMENTS

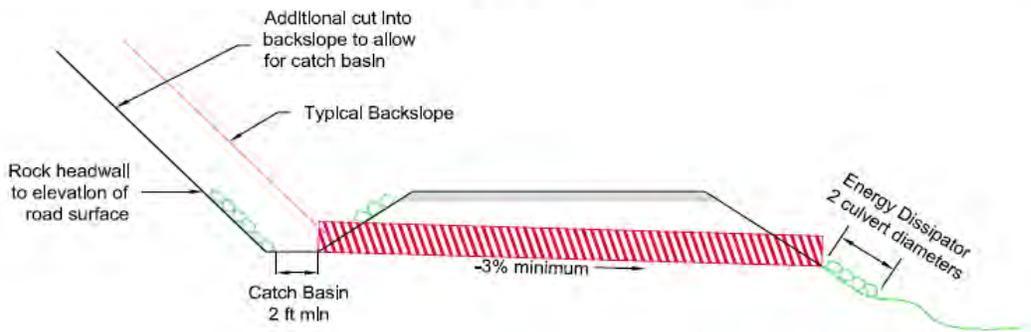
(Page 1 of 2)

1. Preparation of foundation and placement of bedding material shall precede the installation of all culvert pipes. 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.
2. A 3 Inch minus Crushed Rock may be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed $\frac{1}{6}$ the pipe diameter or 4", whichever is smaller.
3. The corrugated pipe shall be installed at a minimum grade of 3%, on a layer of bedding material as shown. Backfill material 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. Acceptable compaction methods include mechanical hand tamping, vibratory plate compactor, and vibratory roller.
4. A catch basin, headwall, and energy dissipater shall be constructed at each cross drain culvert as shown below. Catch basin, headwall, and energy dissipater shall be constructed of rock ranging from 6 inches to 10 inches.

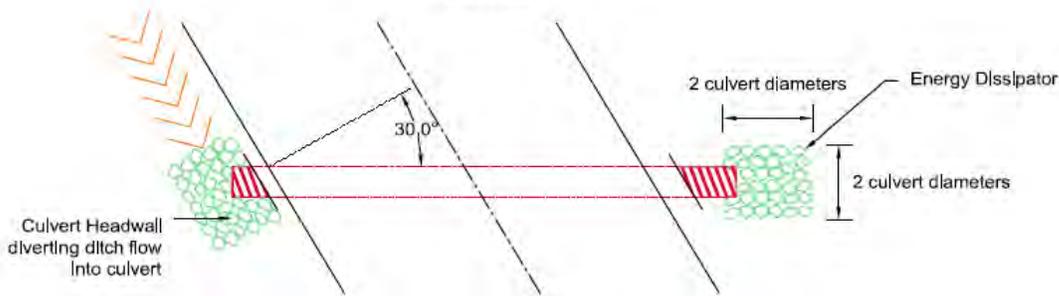
MINIMUM TRENCH DIMENSIONS			
Nominal Diameter	Minimum Thickness	Minimum Cover	Min. Trench Width
D	B	C	W
18"	6"	12"	36"
24"	6"	12"	42"
30"	6"	12"	48"
36"	6"	12"	54"



PROFILE VIEW

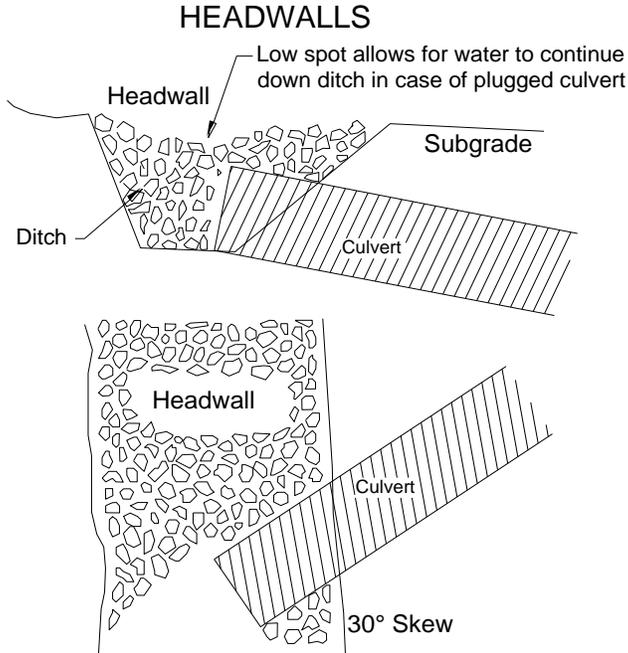


PLAN VIEW



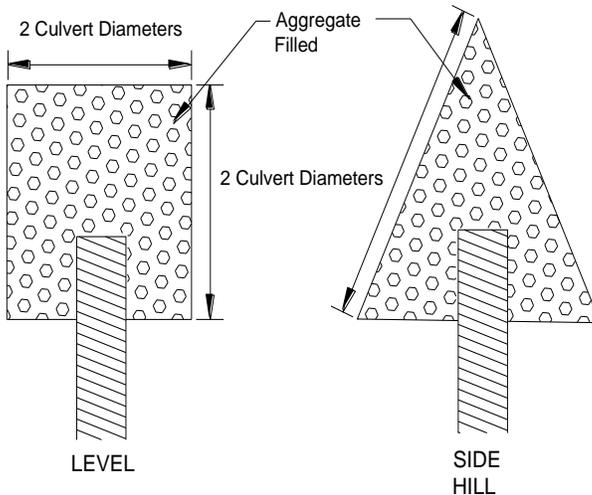
CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 2 of 2)



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



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

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, Page 1 of 2

Cuts and Fills

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

Surface

- Grade and shape the road surface, turnouts, and shoulders to the original shape on the TYPICAL SECTION SHEET 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

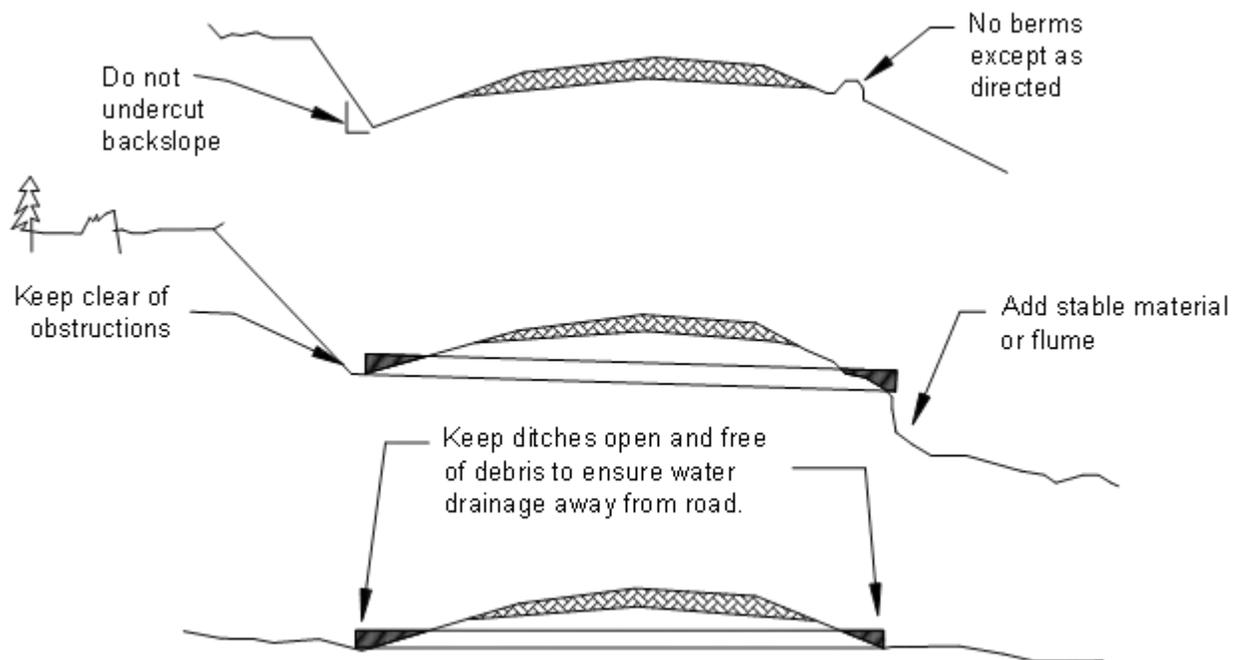
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

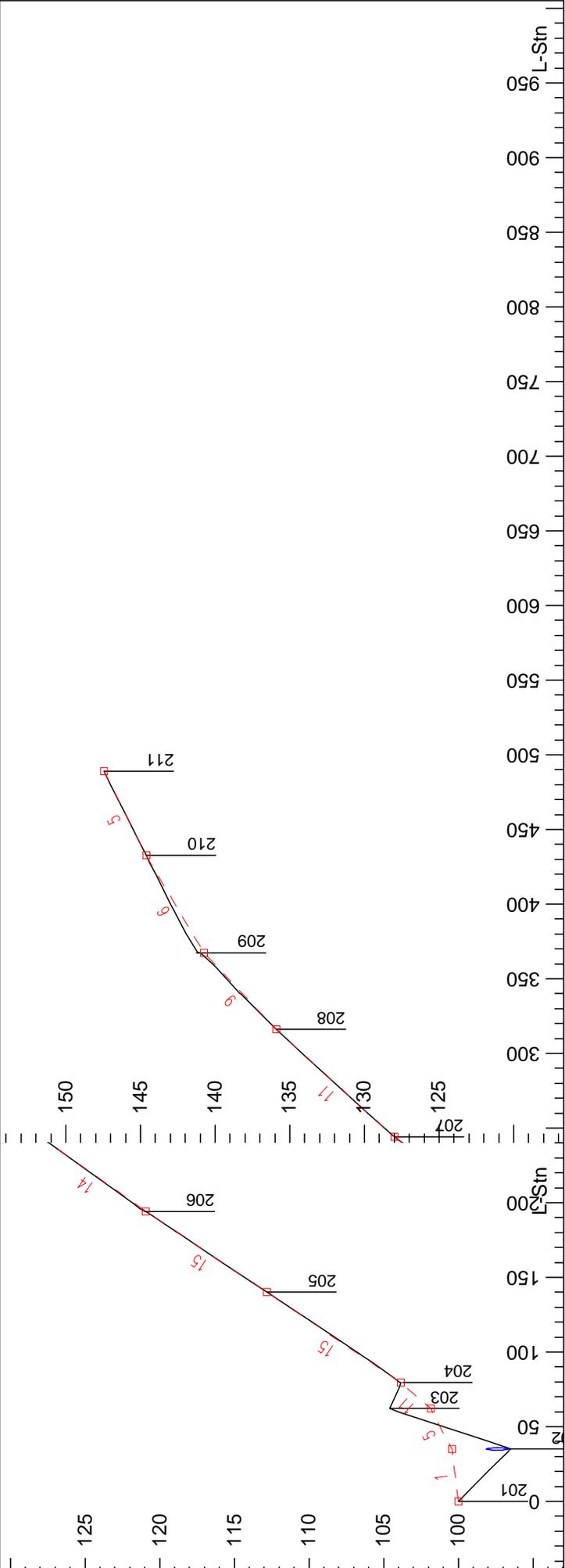
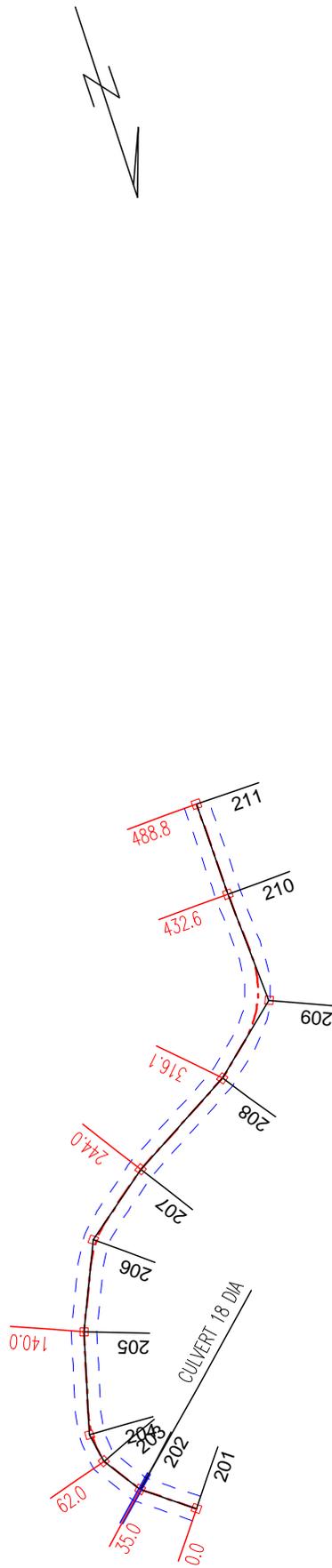
Termination of Use or End of Season

- 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.



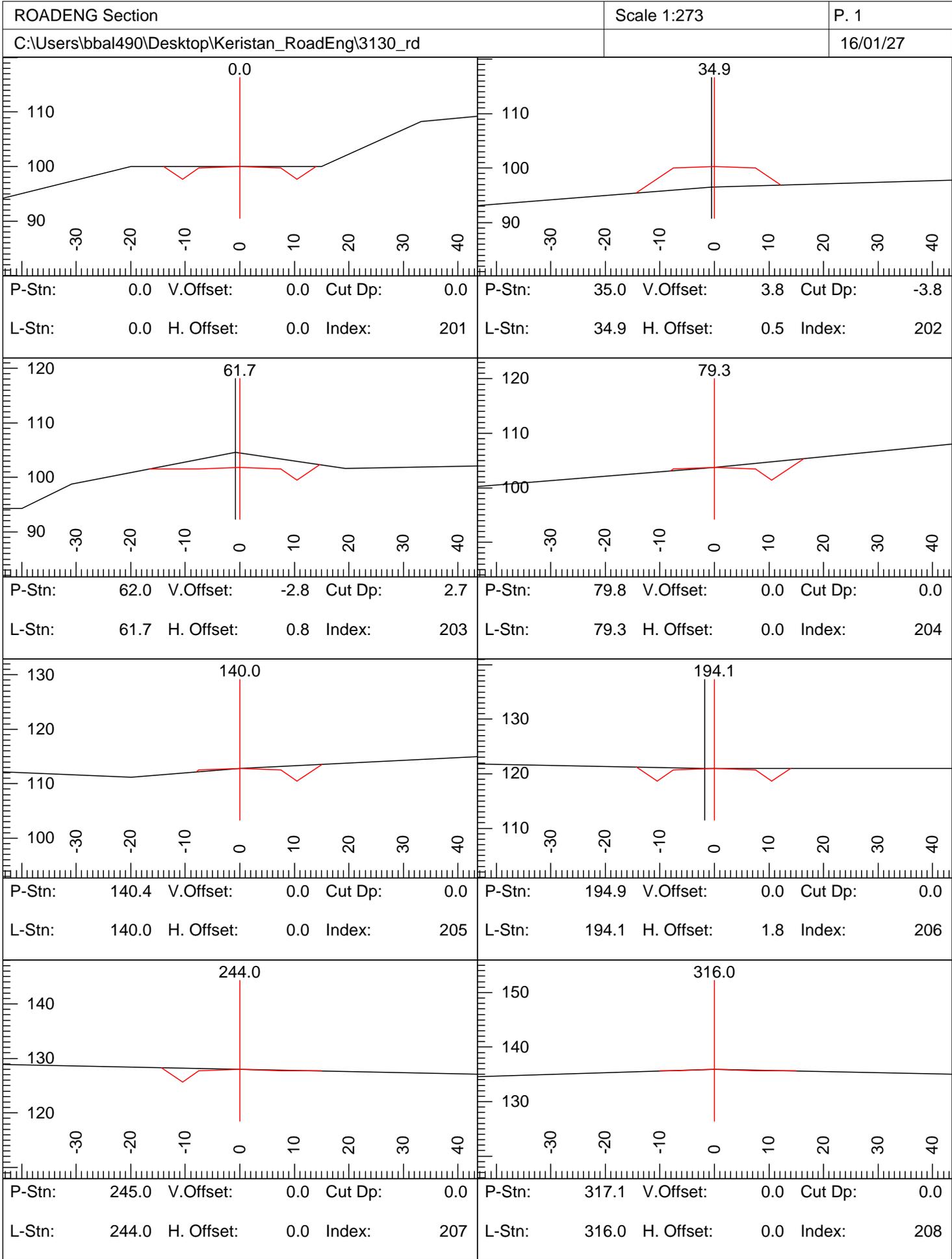


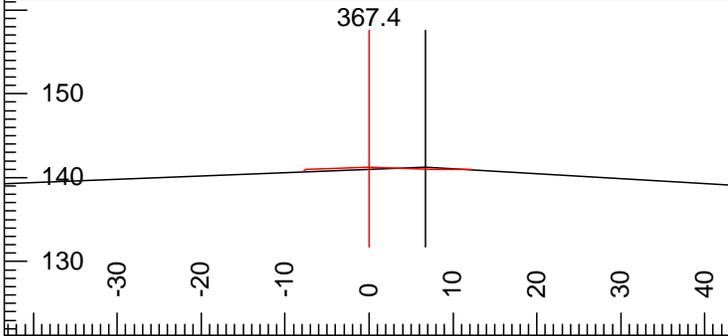
Karistan Timber Sale
 3130 Rd
 Contract #: 30-093165

Washington State Department of Natural Resources
 South Puget Sound Region

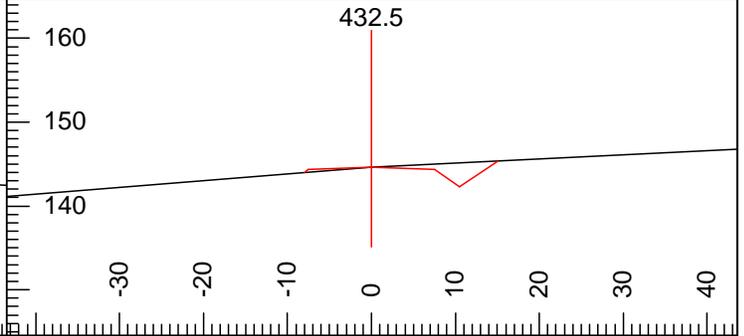
Plan Scale 1:1200
 Profile Vert Scale 1:120
 Profile Horz Scale 1:1200

Engineer: B. Ballard
 16/03/01

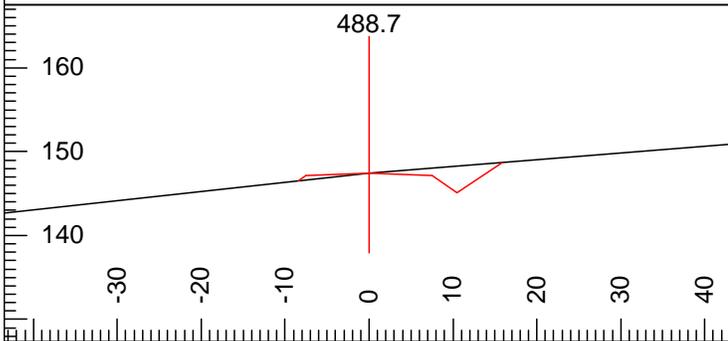




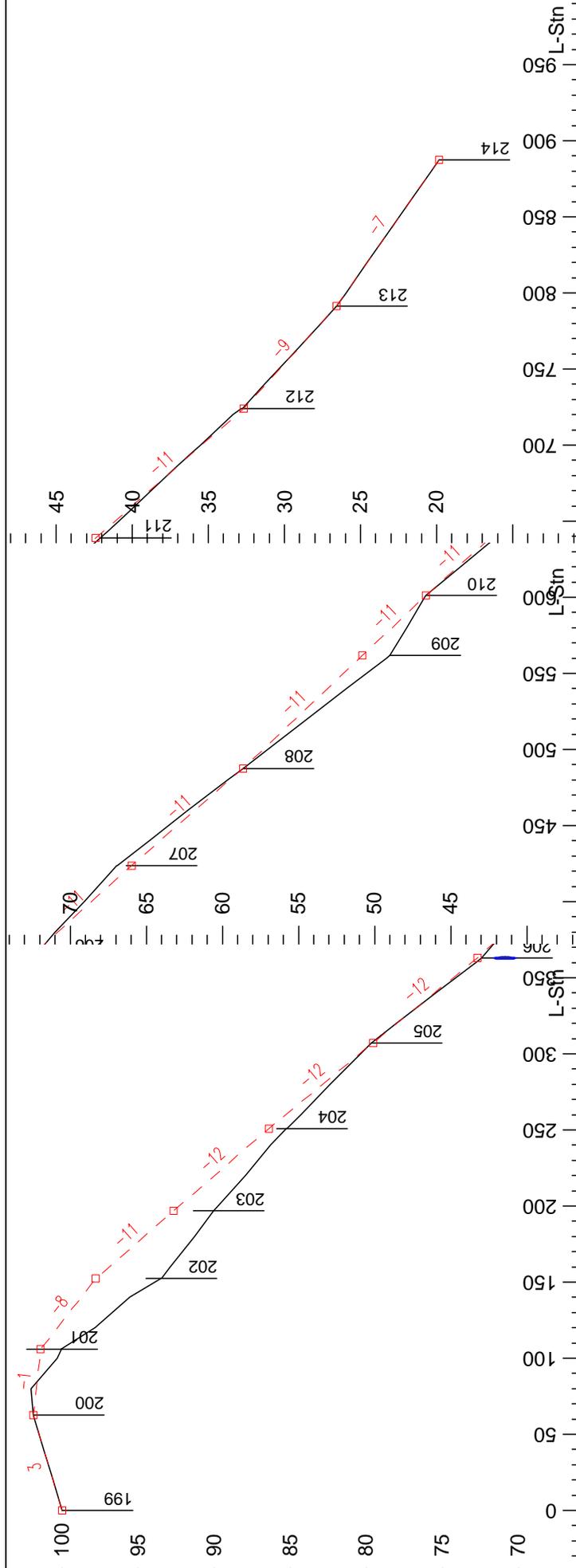
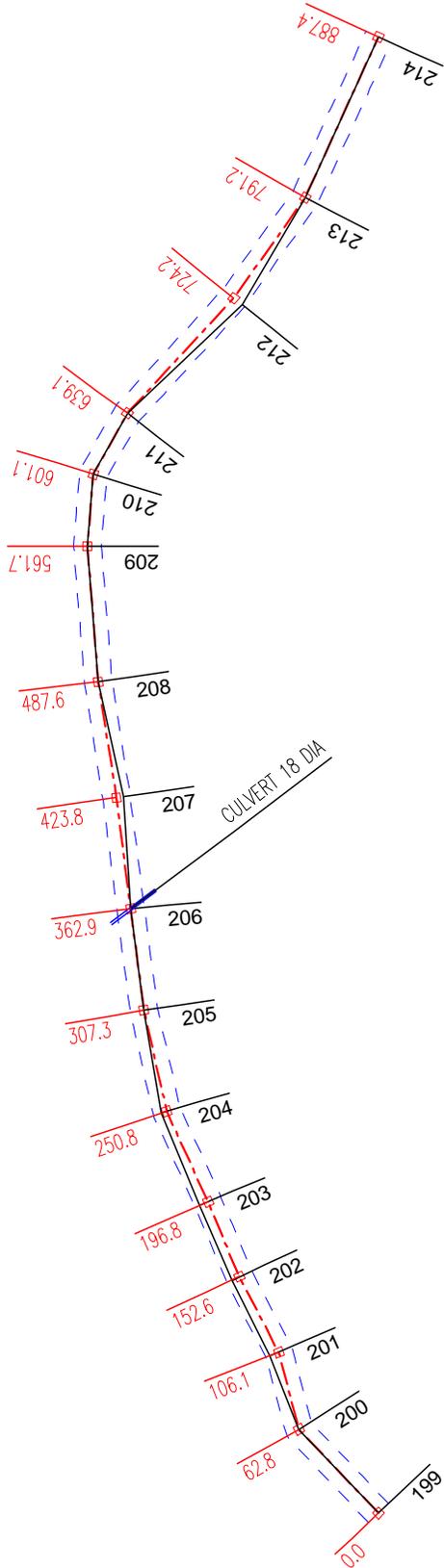
P-Stn: 370.5 V.Offset: 0.0 Cut Dp: -0.2
 L-Stn: 367.4 H. Offset: -6.8 Index: 209

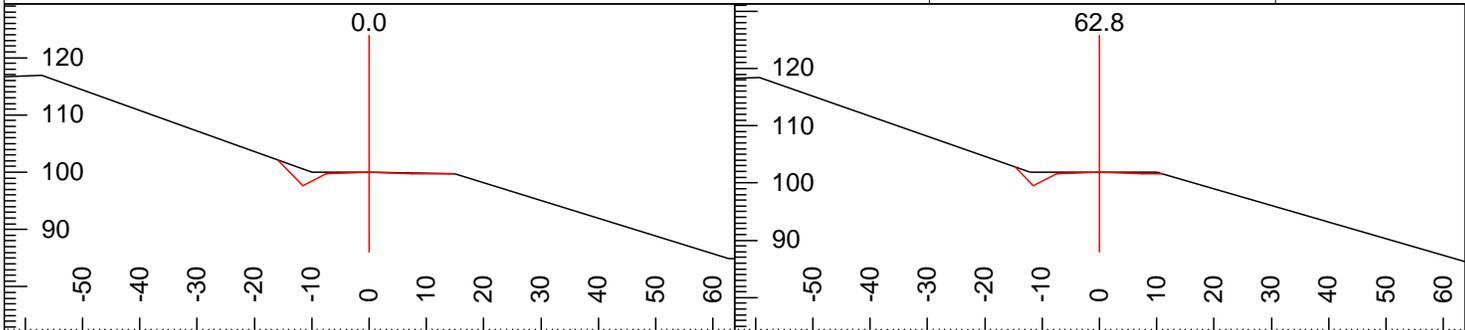


P-Stn: 437.7 V.Offset: 0.0 Cut Dp: 0.0
 L-Stn: 432.5 H. Offset: 0.0 Index: 210

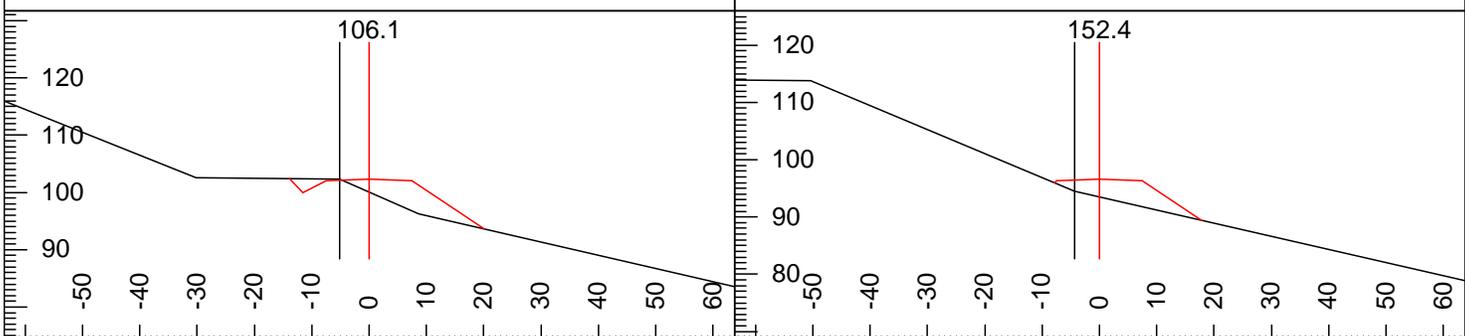


P-Stn: 493.9 V.Offset: 0.0 Cut Dp: 0.0
 L-Stn: 488.7 H. Offset: 0.0 Index: 211

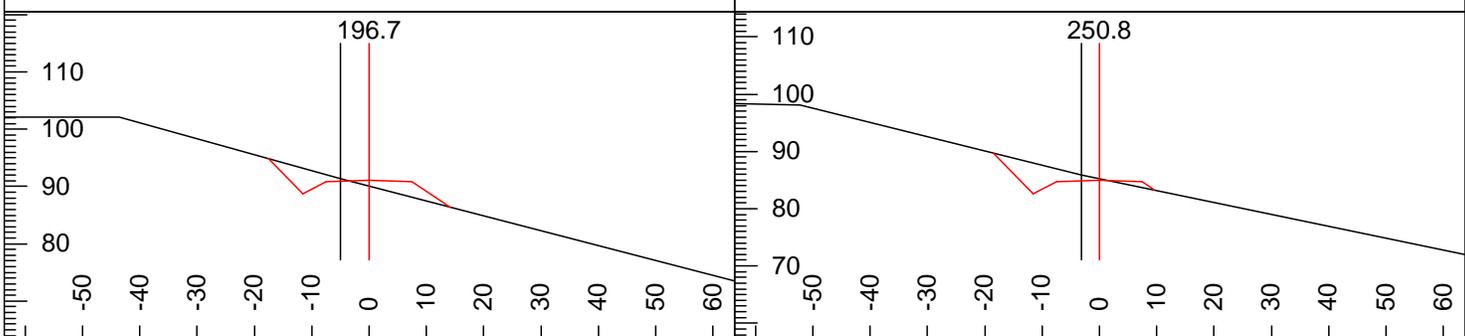




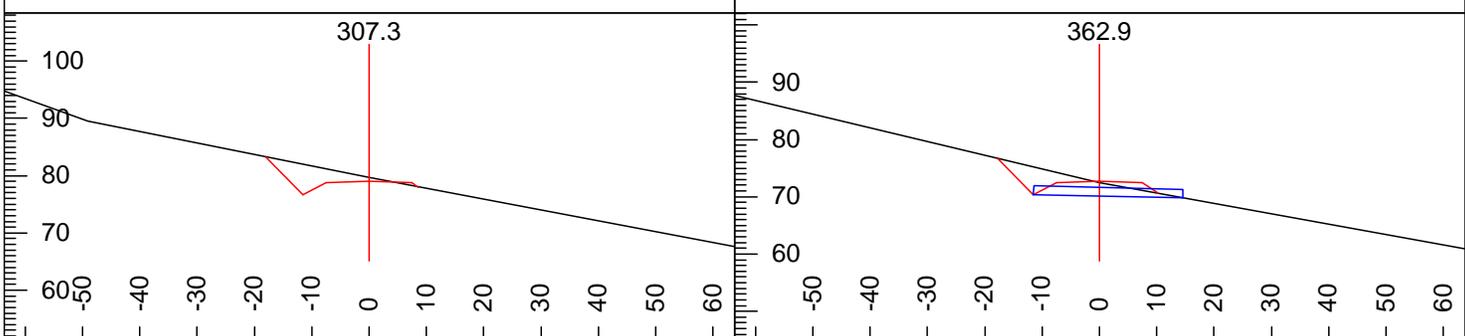
P-Stn:	0.0	V.Offset:	0.0	Cut Dp:	0.0	P-Stn:	62.8	V.Offset:	0.0	Cut Dp:	0.0
L-Stn:	0.0	H. Offset:	0.0	Index:	199	L-Stn:	62.8	H. Offset:	0.0	Index:	200



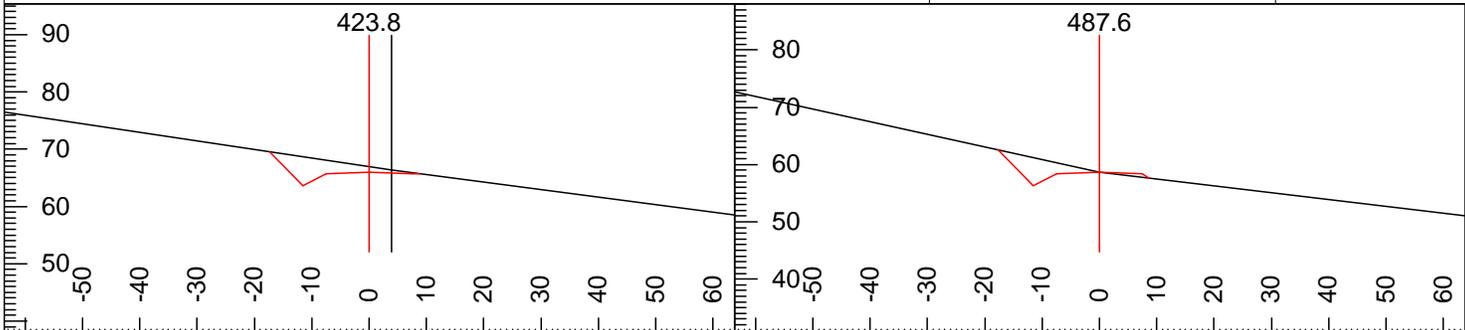
P-Stn:	105.6	V.Offset:	0.0	Cut Dp:	-2.3	P-Stn:	151.7	V.Offset:	2.1	Cut Dp:	-3.1
L-Stn:	106.1	H. Offset:	5.1	Index:	201	L-Stn:	152.4	H. Offset:	4.3	Index:	202



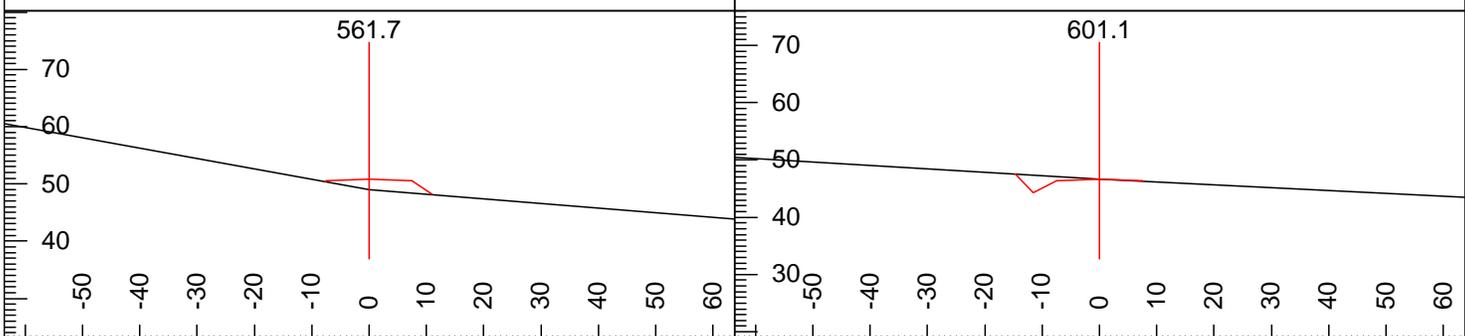
P-Stn:	196.2	V.Offset:	-0.2	Cut Dp:	-1.1	P-Stn:	250.6	V.Offset:	-0.9	Cut Dp:	0.3
L-Stn:	196.7	H. Offset:	5.0	Index:	203	L-Stn:	250.8	H. Offset:	3.1	Index:	204



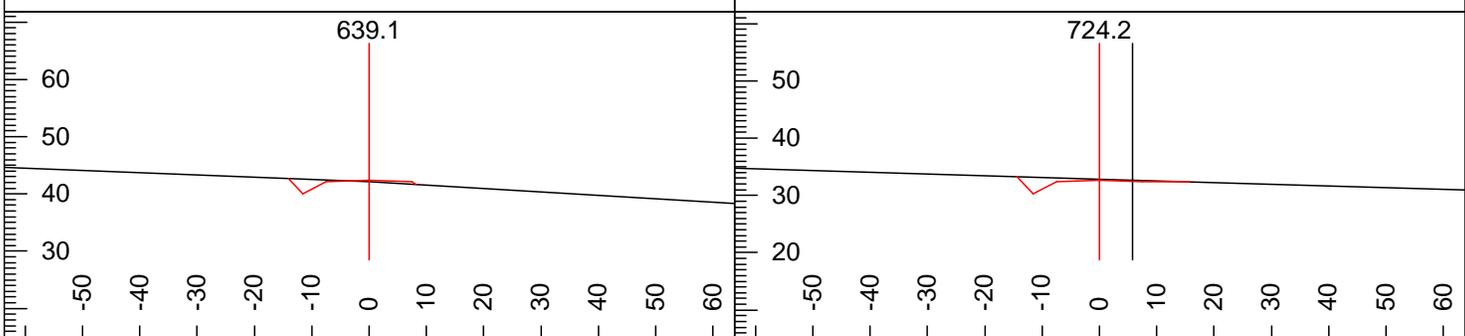
P-Stn:	307.4	V.Offset:	-0.6	Cut Dp:	0.6	P-Stn:	363.0	V.Offset:	0.3	Cut Dp:	-0.3
L-Stn:	307.3	H. Offset:	0.0	Index:	205	L-Stn:	362.9	H. Offset:	0.0	Index:	206



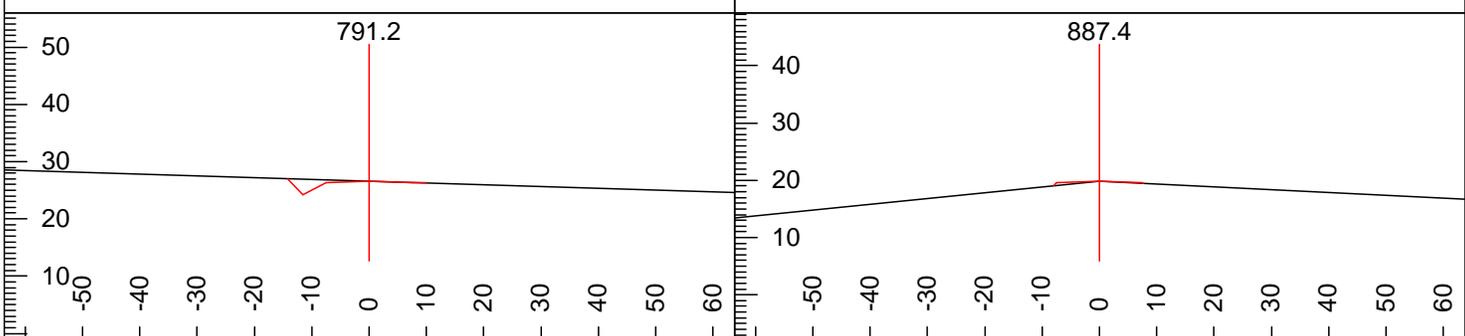
P-Stn: 424.1	V.Offset: -0.3	Cut Dp: 0.9	P-Stn: 488.1	V.Offset: 0.0	Cut Dp: 0.0
L-Stn: 423.8	H. Offset: -3.9	Index: 207	L-Stn: 487.6	H. Offset: 0.0	Index: 208



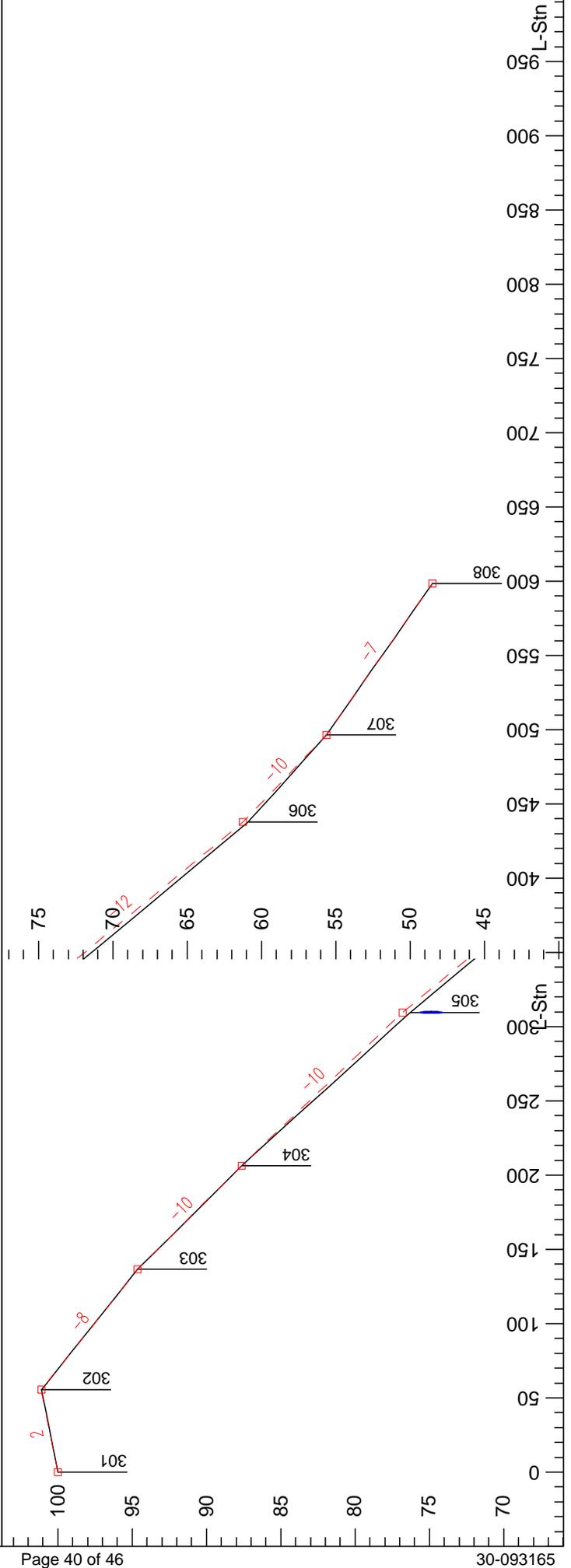
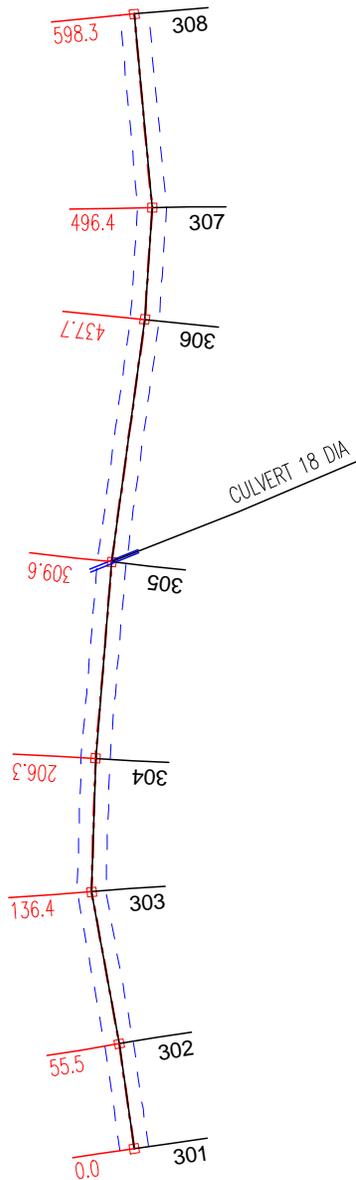
P-Stn: 562.2	V.Offset: 1.8	Cut Dp: -1.8	P-Stn: 601.6	V.Offset: 0.0	Cut Dp: 0.0
L-Stn: 561.7	H. Offset: 0.0	Index: 209	L-Stn: 601.1	H. Offset: 0.0	Index: 210

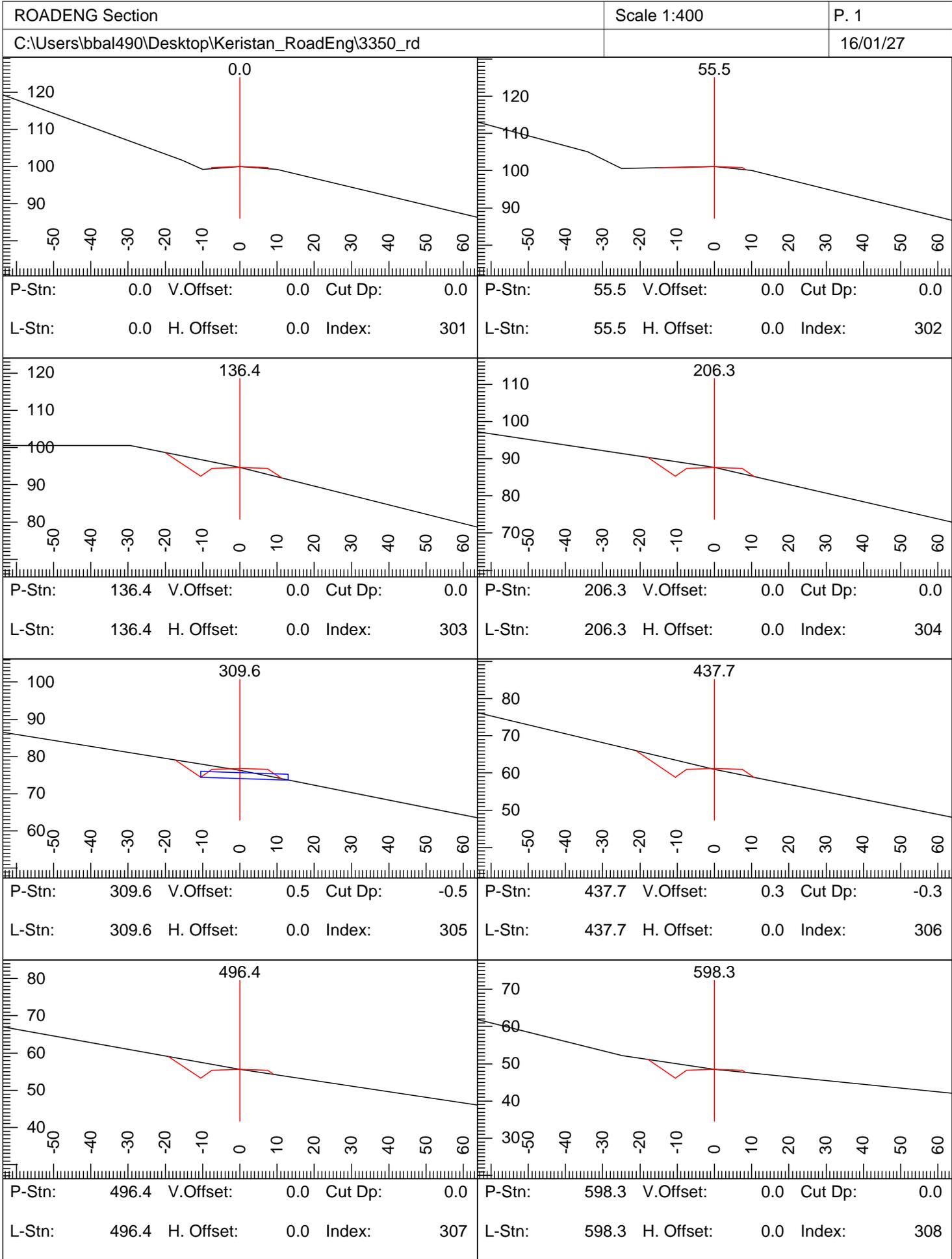


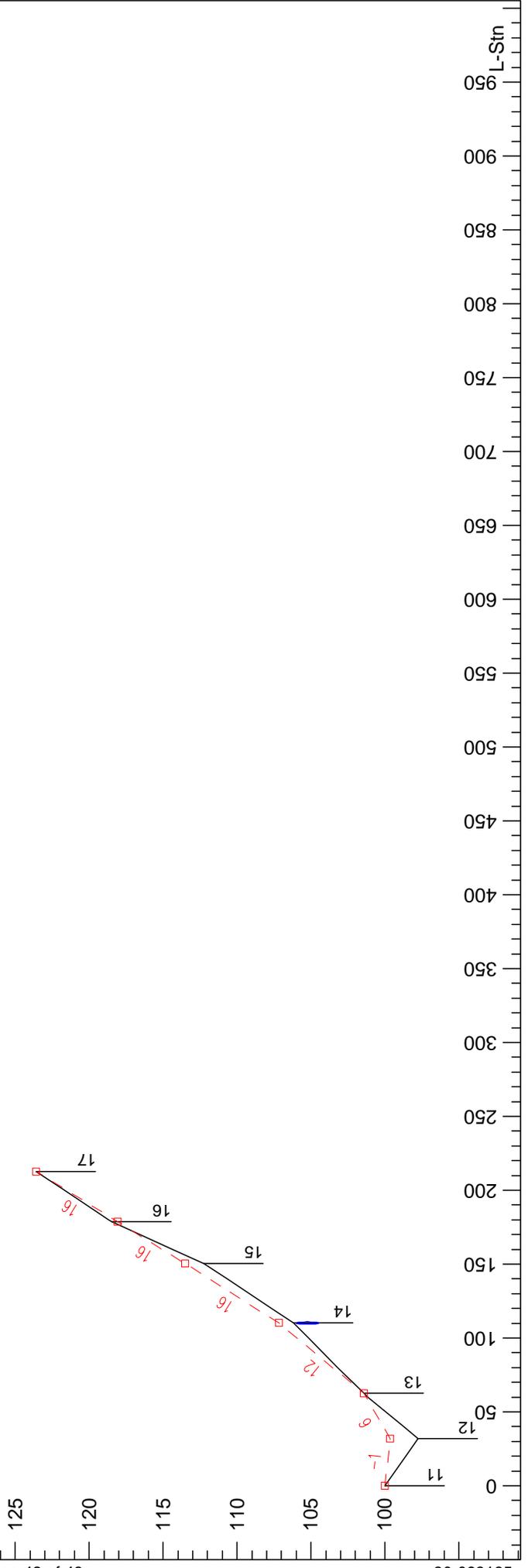
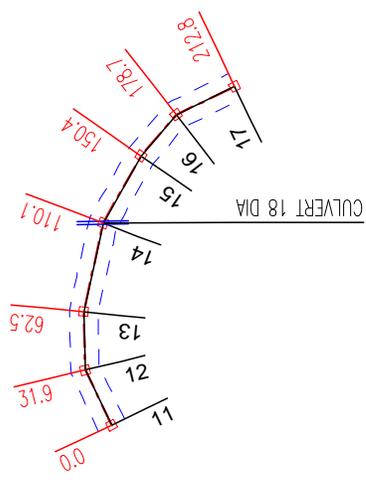
P-Stn: 639.6	V.Offset: 0.3	Cut Dp: -0.3	P-Stn: 725.3	V.Offset: 0.0	Cut Dp: 0.2
L-Stn: 639.1	H. Offset: 0.0	Index: 211	L-Stn: 724.2	H. Offset: -5.8	Index: 212

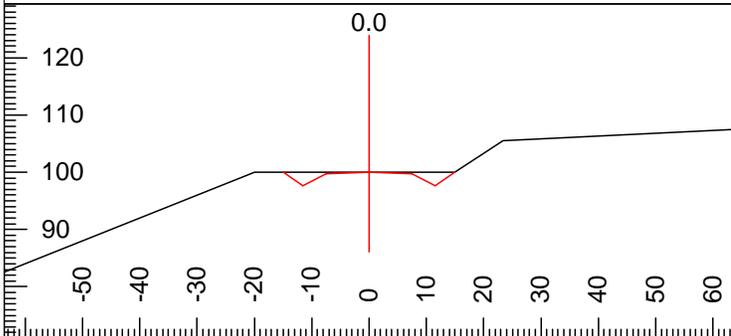


P-Stn: 792.9	V.Offset: 0.0	Cut Dp: 0.0	P-Stn: 889.1	V.Offset: 0.0	Cut Dp: 0.0
L-Stn: 791.2	H. Offset: 0.0	Index: 213	L-Stn: 887.4	H. Offset: 0.0	Index: 214

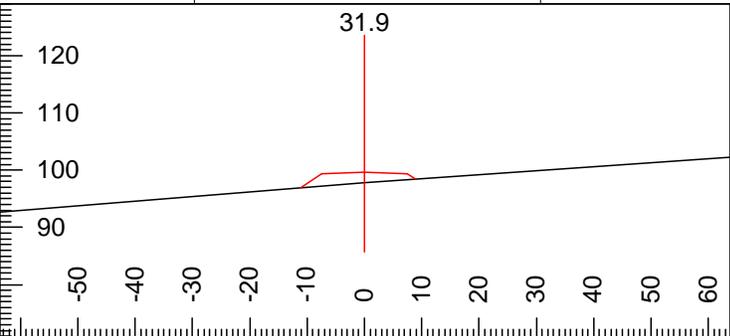




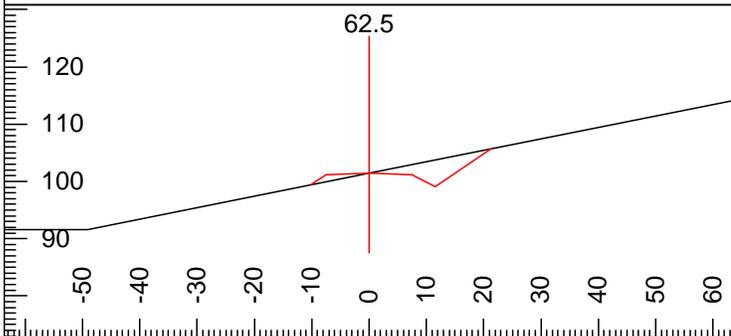




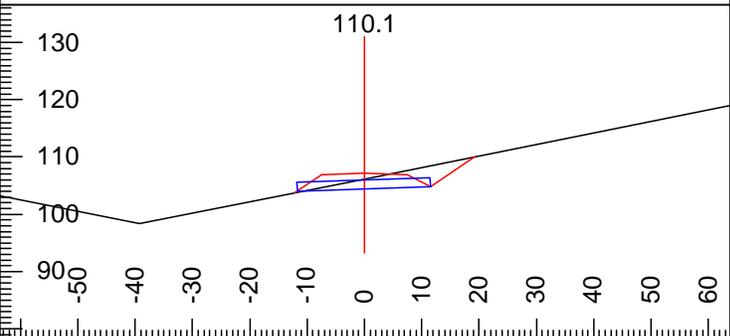
P-Stn: 0.0 V.Offset: 0.0 Cut Dp: 0.0
 L-Stn: 0.0 H. Offset: 0.0 Index: 11



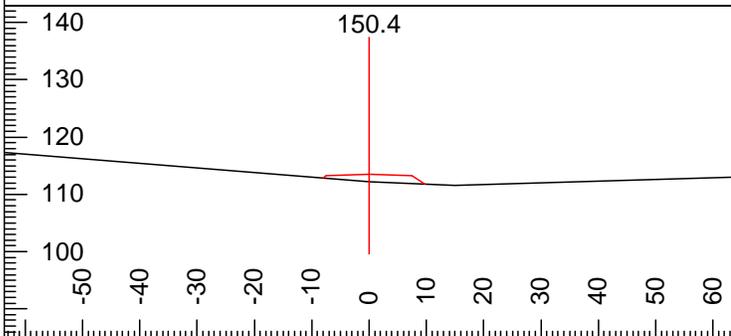
P-Stn: 31.9 V.Offset: 1.9 Cut Dp: -1.9
 L-Stn: 31.9 H. Offset: 0.0 Index: 12



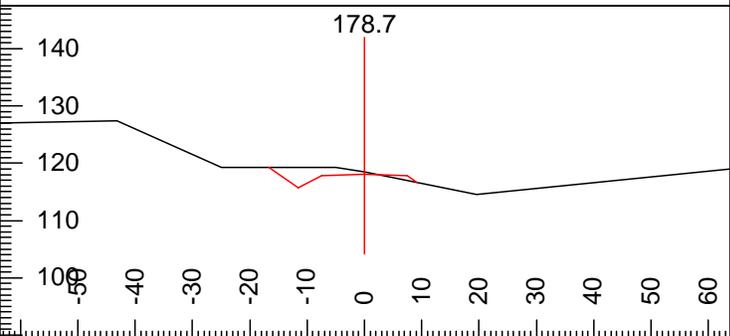
P-Stn: 62.5 V.Offset: 0.0 Cut Dp: 0.0
 L-Stn: 62.5 H. Offset: 0.0 Index: 13



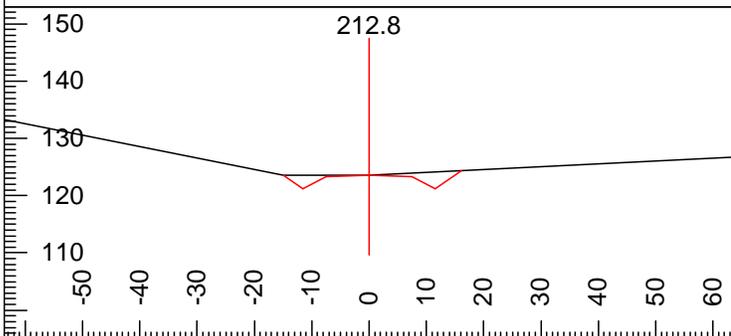
P-Stn: 110.1 V.Offset: 1.0 Cut Dp: -1.0
 L-Stn: 110.1 H. Offset: 0.0 Index: 14



P-Stn: 150.4 V.Offset: 1.3 Cut Dp: -1.3
 L-Stn: 150.4 H. Offset: 0.0 Index: 15



P-Stn: 178.7 V.Offset: -0.4 Cut Dp: 0.4
 L-Stn: 178.7 H. Offset: 0.0 Index: 16



P-Stn: 212.8 V.Offset: 0.0 Cut Dp: 0.0
 L-Stn: 212.8 H. Offset: 0.0 Index: 17

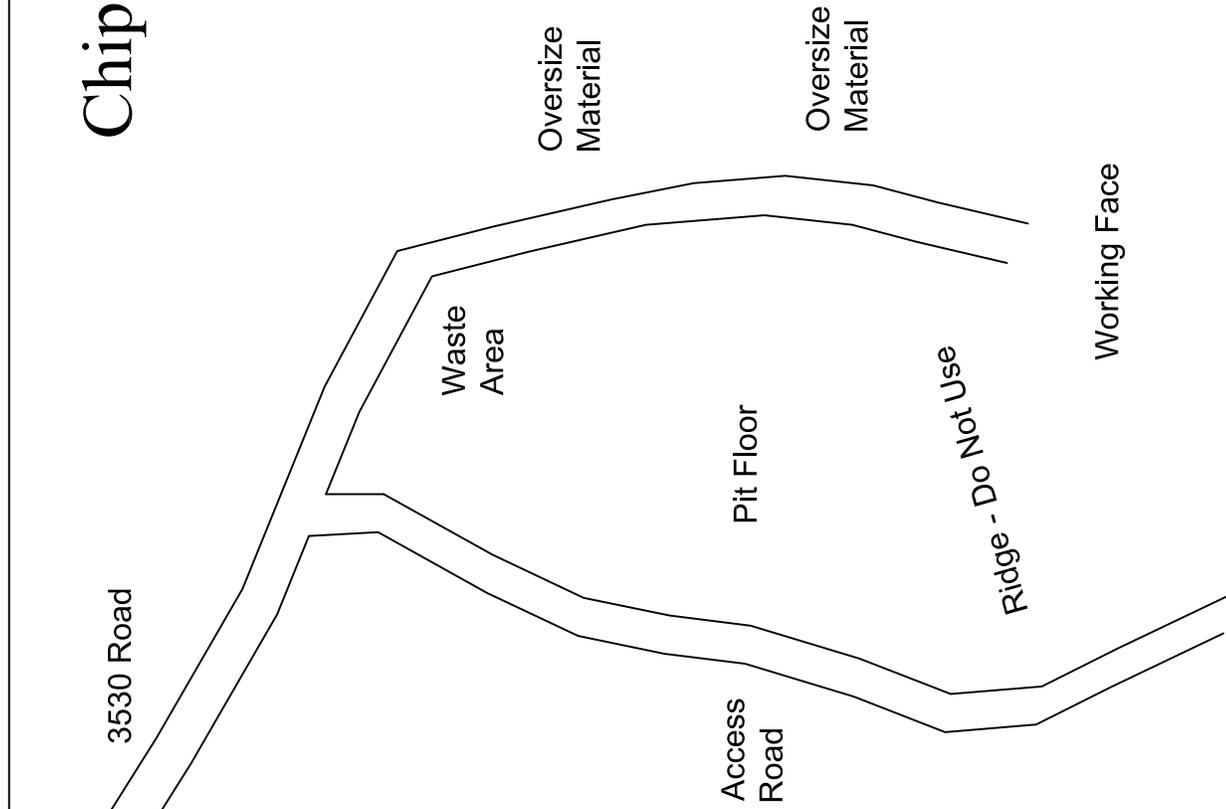
PIT DEVELOPMENT PLAN

Legal Description: SE ¼, NE ¼, S23T23NR07E W.M.

Rock Pit Name: Chip Shot Pit

1. Development shall begin at working face, as marked on the map. Development shall proceed south.
2. All vegetation including stumps shall be cleared a minimum of 20 feet beyond the top of all working faces.
3. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden and piled in the designated waste area.
4. Overburden shall be pushed or end hauled to the designated disposal site and compacted. Minimal acceptable compaction is achieved by placing material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts. A minimum stripping width of 10 feet must be maintained from all pit faces.
5. Pit faces and walls shall be sloped no steeper than 1 1/2H: 1V.
6. No work will be allowed in pit floor.
7. The pit floor shall have smooth continuity of slope, providing drainage. No ponding will be allowed.
8. At the end of operations, faces shall be scaled and cleared of loose and overhanging material, including overburden pushed over the face.
9. Oversize material remaining in the pit at the conclusion of operations shall not exceed 5 percent of the total volume mined during the operation. Oversize material is defined as rock or rock fragments larger than two feet in any direction. Oversize shall be piled in designated waste area.
10. Quantity and Quality of ballast pit is not guaranteed by the State.

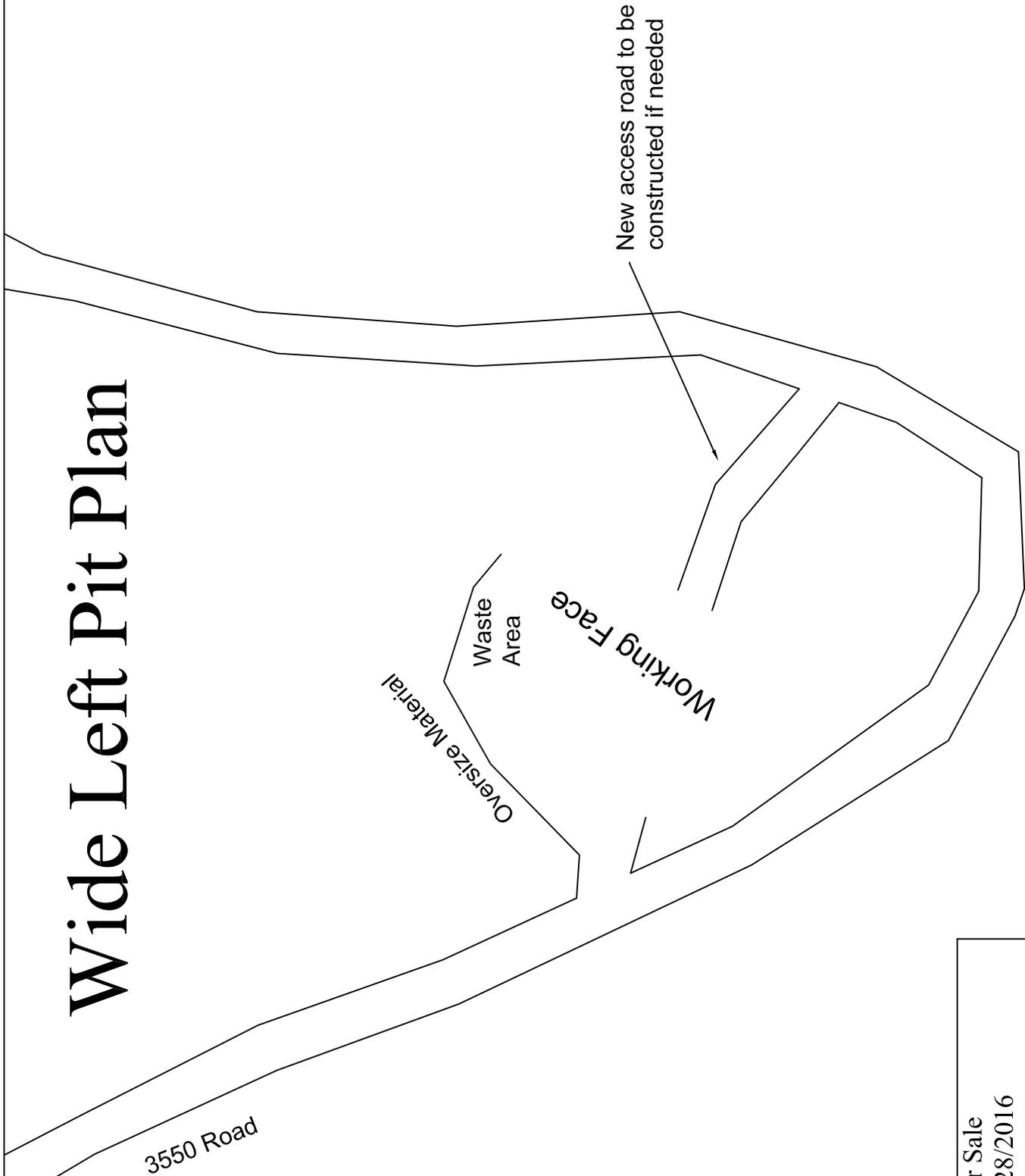
Chip Shot Pit Plan

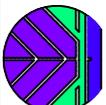


Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing. Slopes on working face shall be left at 1/2 : 1. The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used. Existing oversize material may be broken down and used in crushing operations.

Karistan Timber Sale 30-093165 1/28/2016 Scale 1:100	 WASHINGTON STATE DEPARTMENT OF Natural Resources <small>SPR Region</small>
--	---

Wide Left Pit Plan



<p>Karistan Timber Sale 30-093165 1/28/2016 Scale 1:50</p>	 <p>WASHINGTON STATE DEPARTMENT OF Natural Resources SPR Region</p>
--	---

DEPARTMENT OF NATURAL RESOURCES

FORM 9-87(Rev. 01-08)

SUMMARY - Road Development Costs
 REGION: SOUTH PUGET SOUND
 DISTRICT: Snoqualmie

SALE/PROJECT NAME: Karistan

CONTRACT NUMBER: 30-093165

LEGAL DESCRIPTION: 14, 15, 23, 24-23N-07E

ROAD NUMBER:	3130, 3340, 3350, Connector rd.	3100, 3300, 3110, 3120, P-200	3000, 3500, 3530, 3550
ROAD STANDARD:	Construction	Reconstruction	Pre-haul Maintenance
NUMBER OF STATIONS:	21.87	115.94	91.12
SIDESLOPE:	30%	10%	10%
CLEARING AND GRUBBING:	\$2,341	\$5,134	
EXCAVATION AND FILL:	\$4,432	\$15,402	
MISC. MAINTENANCE:			\$5,108
ROCK TOTALS (Cu. Yds.):			
Ballast: 3840	\$12,996	\$32,200	\$6,596
Culvert: 208	\$0	\$211	\$632
QS 57	\$48	\$331	\$113
CULVERTS AND FLUMES:	\$1,575	\$12,400	\$12,350
STRUCTURES:	\$0	\$0	\$0
GENERAL EXPENSES:	\$1,925	\$5,911	\$2,232
MOBILIZATION:	\$2,344	\$2,344	\$2,344
TOTAL COSTS:	\$25,661	\$73,933	\$29,376
COST PER STATION:	\$ 1,173	\$638	\$322
ROAD DEACTIVATION AND ABANDONMENT COSTS:		\$5,983	

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

TOTAL (All Roads) = \$134,954

SALE VOLUME MBF = 2,296

TOTAL COST PER MBF = \$58.78

Plans to be furnished by:

Compiled by: Washington St. DNR

Date: 01/26/16

DEPARTMENT OF NATURAL RESOURCES

FORM 9-87(Rev. 01-08)

SUMMARY - Road Development Costs
 REGION: SOUTH PUGET SOUND
 DISTRICT: Snoqualmie

SALE/PROJECT NAME: Karistan

CONTRACT NUMBER: 30-093165

LEGAL DESCRIPTION: 14, 15, 23, 24-23N-07E

ROAD NUMBER:	3130, 3340, 3350, Connector rd.	3100, 3300, 3110, 3120, P-200	3000, 3500, 3530, 3550
ROAD STANDARD:	Construction	Reconstruction	Pre-haul Maintenance
NUMBER OF STATIONS:	21.87	115.94	91.12
SIDESLOPE:	30%	10%	10%
CLEARING AND GRUBBING:	\$2,341	\$5,134	
EXCAVATION AND FILL:	\$4,432	\$15,402	
MISC. MAINTENANCE:			\$5,108
ROCK TOTALS (Cu. Yds.):			
Ballast: 3840	\$12,996	\$32,200	\$6,596
Culvert: 208	\$0	\$211	\$632
QS 57	\$48	\$331	\$113
CULVERTS AND FLUMES:	\$1,575	\$12,400	\$12,350
STRUCTURES:	\$0	\$0	\$0
GENERAL EXPENSES:	\$1,925	\$5,911	\$2,232
MOBILIZATION:	\$2,344	\$2,344	\$2,344
TOTAL COSTS:	\$25,661	\$73,933	\$29,376
COST PER STATION:	\$ 1,173	\$638	\$322
ROAD DEACTIVATION AND ABANDONMENT COSTS:		\$5,983	

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

TOTAL (All Roads) = \$134,954

SALE VOLUME MBF = 2,296

TOTAL COST PER MBF = \$58.78

Plans to be furnished by:

Compiled by: Washington St. DNR

Date: 01/26/16

SOUTH PUGET SOUND REGION - ROAD COST ESTIMATE - CONSTRUCTION

SALE NAME: Karistan

CONTRACT NUMBER: 30-093165

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/Station	Width Factor	Total Stations	Sub Total
3130	20	18	1.00	1.75	\$45	1.00	4.89	\$385
3340	30	18	1.00	3.00	\$45	1.00	8.87	\$1,197
3350	20	18	1.00	1.75	\$45	1.00	5.98	\$471
Connector Rd.	30	18	1.00	3.00	\$45	1.00	2.13	\$288
			1.00	1.00	\$45	1.00		\$0
21.87								
Clear and Grub TOTAL =								\$2,341

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/Station	Width Factor	Total Stations	Sub Total
3130	20	1.0	2.00	\$90	1.00	4.89	\$880
3340	30	1.0	2.50	\$90	1.00	8.87	\$1,996
3350	20	1.0	2.00	\$90	1.00	5.98	\$1,076
Connector Rd.	30	1.0	2.50	\$90	1.00	2.13	\$479
		1.0	1.00	\$90	1.00		\$0

*End Haul, Over Haul, Large Fills/Cuts	Estimated Vol. (cy)	No. of Equip. Days	Cost/day	Sub Total
End Haul/ Over Haul Large Fills/ Cuts				\$0
				\$0

Excavation TOTAL = \$4,432

III. BALLAST AND SURFACING :

Ballast source: Chip Shot Pit
 Surface source:
 Quarry Spalls: Chip shot Pit

Description	cu.yds/sta x stations =	cubic yards
Ballast (4"-)	42	22.94
Quarry Spalls	3	1.30

UNIT COSTS	Ballast	Surfacing	Quarry Spalls
Drill & Shoot	\$2.75		\$2.75
Dig and load	\$0.90		\$0.90
Crushing	\$3.50		\$3.50
Purchase			
Haul *	\$3.75	\$3.75	\$3.75
Spread	\$1.00		\$1.00
Compact	\$0.52		\$0.52
Strip			
Reclamation			
Use tax	\$0.09	\$0.00	\$0.00
TOTAL (\$/cy)	\$13.49	\$3.75	\$12.42

* Haul Formula: (R.T.Miles/MPH+Delay)/(\$/hr / Cy/load)

R.T. Miles =	3.5
Ave. Speed =	20
Delay (Hrs.)=	0.2
Cost / Hour =	\$100.00
CY / Load =	10

Ballast (4"-)	963	Cu. yds @	\$13.49	/cu. yd =	\$12,996
	0	Cu. yds @	\$3.75	/cu. yd =	\$0
Quarry Spalls	4	Cu. yds @	\$12.42	/cu. yd =	\$48

Rock total = \$13,044

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter	No/Length	Installed Cost/ft	Sub-total
CPP	1		18	90	\$17.50	\$1,575
			24		\$30.00	\$0
			36		\$52.00	\$0
			48		\$94.00	\$0
Bands & Gaskets						\$0

Culvert total = \$1,575

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
geotextile				\$1.5	\$0
					\$0
					\$0

Structure total = \$0

Sub-TOTAL = \$21,392

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$1,925

VII. MOBILIZATION:

Total Mobilization = \$7,033 Mobilization sub-total = \$2,344

Road No. 3130, 3340, 3350, Connector rd.
 Standard: Construction
 Stations: 21.87
 By: Washington St. DNR

SHEET TOTAL = \$25,661

Sheet 2 of 5

Date: 01/26/16

Note: Used a factor of 1.3 x final CY needed after compaction. Example: 12" of rock on 12 ft wide road need 50 CY/sta. 50CY x 1.3 = 65CY before compaction.
 Note: Used 3.20 stations on the Connector Rd. to compensate for addition yards per station.

SOUTH PUGET SOUND REGION - ROAD COST ESTIMATE - RECONSTRUCTION

SALE NAME: Karistan

CONTRACT NUMBER: 30-093165

I. CLEARING AND GRUBBING:

Flat Rate -	% Side Slope	MBF/ac	Disposal Factor	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
3100	10	0	1.00	1.00	\$45	1.0	46.10	\$2,075
3300	10	0	1.00	1.00	\$45	1.0	39.64	\$1,784
3110	10	0	1.00	1.00	\$45	1.0	6.95	\$313
3120	10	0	1.00	1.00	\$45	1.0	7.25	\$326
3550	10	0	1.00	1.00	\$45	1.0	14.15	\$637
P-200	10	0	1.00	1.00	\$45	1.0	1.85	\$83

Clear and Grub TOTAL = \$5,134

II. EXCAVATION:

Flat Rate -	% Side Slope	Exc. Type Fact.	Production Factor	Cost/ Station	Width Factor	Total Stations	Sub Total
3100	10	1.0	1.50	\$90	1.00	46.10	\$6,224
3300	10	1.0	1.50	\$90	1.00	39.64	\$5,351
3110	10	1.0	1.50	\$90	1.00	6.95	\$938
3120	10	1.0	1.50	\$90	1.00	7.25	\$979
3550	10	1.0	1.50	\$90	1.00	14.15	\$1,910

*End Haul, Over Haul, Large Fills/Cuts

End Haul/ Over Haul Large Fills/ Cuts	Estimated Vol. (cy)	No. of Equip. Days	Cost/day	Sub Total
				\$0
				\$0

Excavation TOTAL = \$15,402

III. BALLAST AND SURFACING :

Ballast source: Chip Shot Pit

Commercial source :

Description	cu.yds/sta x stations =	cubic yards
Ballast (4")	42	56.84
Culverts (4")	4	13.00
Quarry Spalls	19	1.30

* Haul Formula: (R.T.Miles/MPH+Delay)/(\$/hr / Cy/load)

R.T. Miles =	3.5
Ave. Speed =	20
Delay (Hrs.)=	0.2
Cost / Hour =	\$100.00
CY / Load =	10

Ballast (4")	2387	Cu. yds @	\$13.49 /cu. yd =	\$32,200
Culverts (4")	52	Cu. yds @	\$4.05 /cu. yd =	\$211
Quarry Spalls	25	Cu. yds @	\$13.41 /cu. yd =	\$331

UNIT COSTS	Ballast	Surfacing	Quarry Spalls
Drill & Shoot	\$2.75		\$2.75
Dig and load	\$0.90		\$0.90
Crushing	\$3.50		\$3.50
Purchase			
Haul *	\$3.75	\$3.75	\$3.75
Spread	\$1.00		\$1.00
Compact	\$0.52		\$0.52
Strip			
Reclamation			
Use tax	\$0.09	\$0.08	\$0.08
TOTAL (\$/cy)	\$13.49	\$4.05	\$13.41

Rock total = \$32,742

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter (in.)	No/Length (ft)	Installed Cost/ft	Sub-total
Temp Culverts	1		18	440	\$17.50	\$7,700
	1		24	70	\$30.00	\$2,100
	1		36	50	\$52.00	\$2,600
			48		\$94.00	\$0
Bands & Gaskets						\$0

Culvert total = \$12,400

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0

Structure total = \$0

Sub-TOTAL = \$65,678

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$5,911

VII. MOBILIZATION:

Total Mobilization = \$7,033 Mobilization sub-total = \$2,344

Road No. 3100, 3300, 3110, 3120, P-200

Standard: Reconstruction

Stations: 115.94

By: Washington St. DNR

Sheet 3 of 5

SHEET TOTAL = \$73,933

Date: 01/26/16

SOUTH PUGET SOUND REGION - ROAD COST ESTIMATE - PRE-HAUL MAINTENANCE

SALE NAME: Karistan

CONTRACT NUMBER: 30-093165

Total stations Pre-Haul Maintenance = 91.12

I. MISC. MAINTENANCE ITEMS:

	Cost/ Station	Total Stations	Sub Total
mechanical brushing =			\$0
hand brushing =			\$0
ditch cleaning =	31.00	91.12	\$2,825
pre-haul grading =	6.50	59.12	\$384
culvert cleanout =	2.00		\$0
compacting=	12.50	144.86	\$1,811
ripping surface=	6.00	14.76	\$89
			\$0
			\$0
			\$0

Misc TOTAL = \$5,108

III. BALLAST AND SURFACING :

Ballast source: Chip Shot Pit
Surface source:
Quarry Spalls : Chip Shot Pit

Description	cu.yds/sta	x stations	= cubic yards
Ballast (4")	39	12.54	489
Culverts (4")	12	13.00	156
Quarry Spalls	22	1.30	28

UNIT COSTS	Ballast	Surfacing	Quarry Spalls
Drill & Shoot	\$2.75		\$2.75
Dig and load	\$0.90		\$0.90
Crushing	\$3.50		\$3.50
Purchase			
Haul *	\$3.75	\$3.75	\$3.75
Spread	\$1.00		\$1.00
Compact	\$0.52		\$0.52
Strip			
Reclamation			
Use tax	\$0.09	\$0.08	\$0.09
TOTAL (\$/cy)	\$13.49	\$4.05	\$13.49

* Haul Formula: (R.T.Miles/MPH+Delay)/(\$/hr / Cy/load)

R.T. Miles = 3.5
Ave. Speed = 20
Delay (Hrs.)= 0.2
Cost / Hour = \$100.00
CY / Load = 10

Ballast (4") 489 Cu. yds @ \$13.49 /cu. yd = \$6,596
Culverts (4") 156 Cu. yds @ \$4.05 /cu. yd = \$632
Quarry Spalls 28 Cu. yds @ \$4.05 /cu. yd = \$113

Rock total = \$7,341

IV. CULVERTS AND FLUMES:

Description	Qty.	Gauge	Diameter (in.)	No/Length (ft)	Installed Cost/ft	Sub-total
	1		18	500	\$17.50	\$8,750
	1		24	120	\$30.00	\$3,600
			36		\$52.00	\$0
			48		\$94.00	\$0
Bands & Gaskets						\$0

Culvert total = \$12,350

V. STRUCTURES

Description	Type	Width	Length	Cost/ft.	Sub-total
					\$0
					\$0
					\$0

Structure total = \$0

Sub-TOTAL = \$24,800

VI. GENERAL EXPENSES:

Overhead & General Exp. Add 9% \$2,232

VII. MOBILIZATION:

Total Mobilization = \$7,033 Mobilization sub-total = \$2,344

Road No. 3100, 3300, 3110, 3120, P-200
Standard: Pre-haul Maintenance
Stations: 91.12
By: Washington St. DNR

Sheet 4 of 5

SHEET TOTAL = \$29,376

Date: 01/26/16

SOUTH PUGET SOUN REGION - ROAD COST ESTIMATE - MOBILIZATION

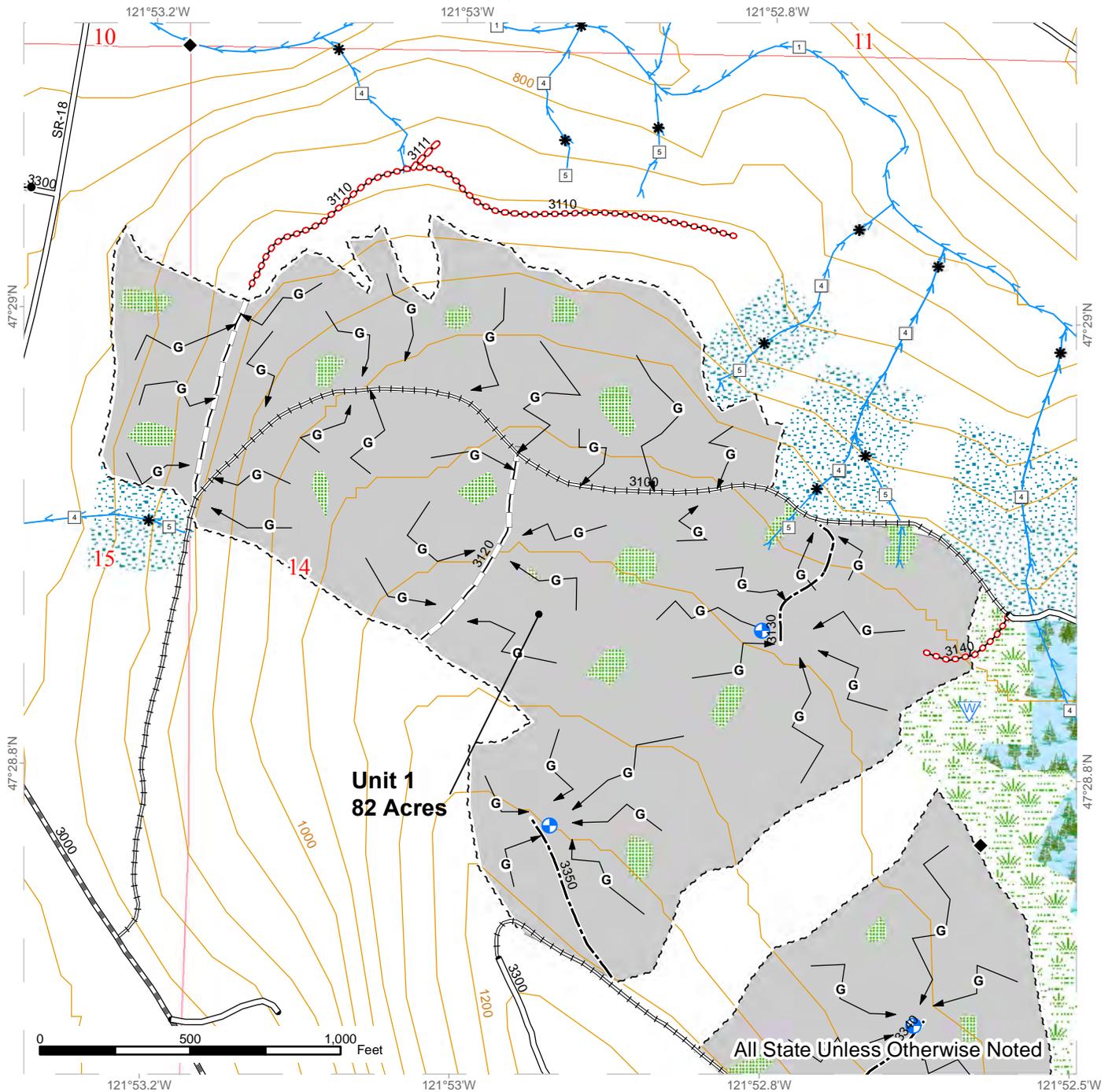
VII. MOBILIZATION	Description	\$ per Move	# of Moves	Sub-total
	Dump Trucks	\$309	2	\$618
* Move in costs are averaged over all three sheets.	Grader	\$340	1	\$340
	Compactor	\$450	1	\$450
	Excavator	\$450	1	\$450
	Dozer (D8)	\$450	0	\$0
	Front end loader	\$450	1	\$450
	Rock crusher	\$4,000	1	\$4,000
	Drill	\$450	1	\$450
	Dozer (D5)	\$275	1	\$275

Construction Mobilization sub-total = \$2,344
 Reconstruction Mobilization sub-total = \$2,344
 Pre-haul Mobilization sub-total = \$2,344
 Total Mobilization = \$7,033

LOGGING PLAN MAP

SALE NAME: KARISTAN
AGREEMENT#: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land(77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300



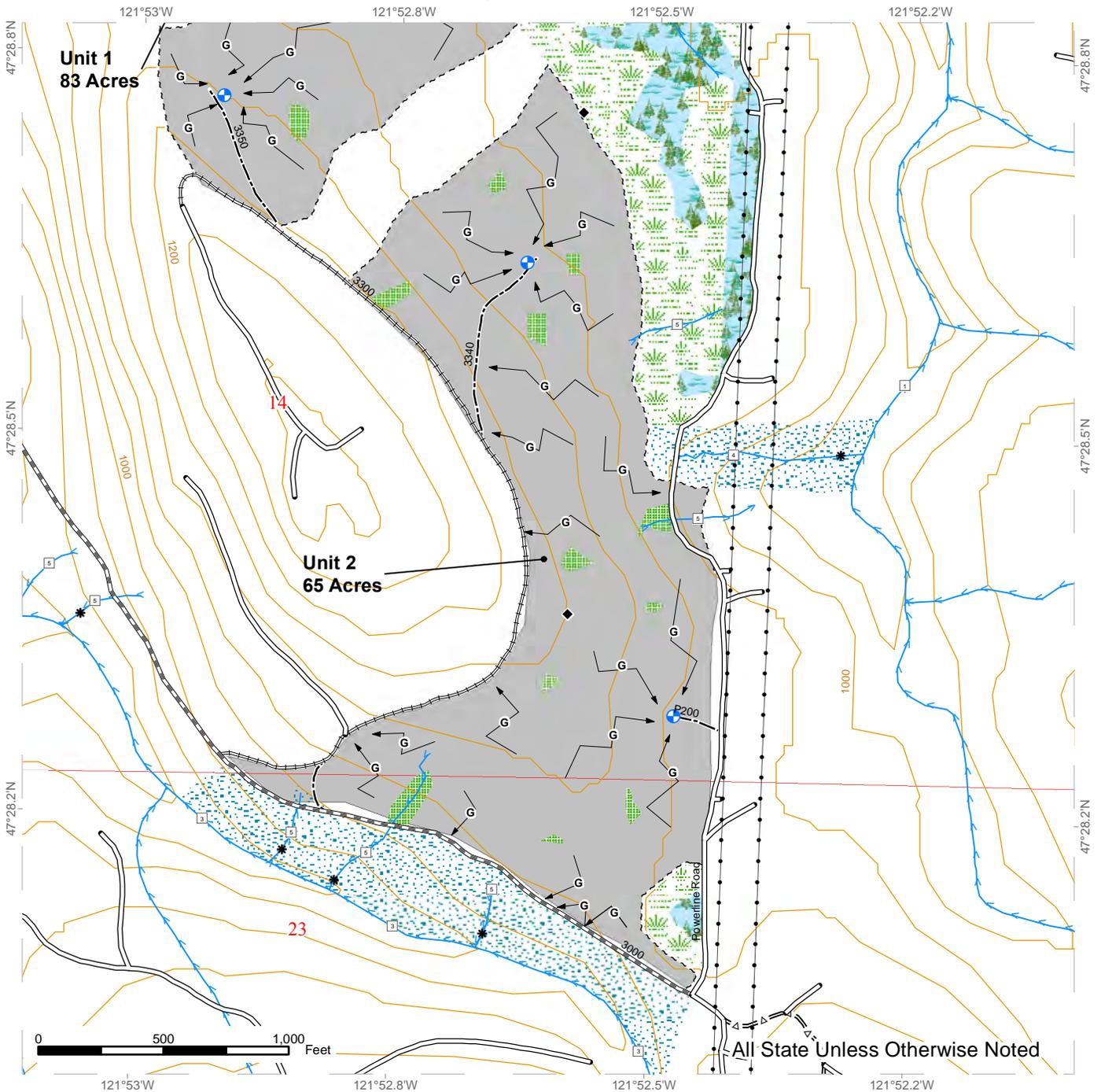
All State Unless Otherwise Noted

Ground Harvest	Existing Roads	Streams
Timber Sale Unit	Required Pre-Haul Maintenance	Stream Type Break
Forested Wetland	Required Reconstruction	Stream Type
Leave Tree Area - marked with yellow "Leave tree Area" tags	Optional Construction	Monumented Corners
Riparian Mgt Zone	Optional Reconstruction	Waste Area
Wetland Mgt Zone	Required Abandonment	Landing - Proposed
White "Timber Sale Boundary" Tags		Contours 40-foot

LOGGING PLAN MAP

SALE NAME: KARISTAN
AGREEMENT#: 30-093165
TOWNSHIP(S): T23R07E
TRUST(S): Water Pollution Control Division Trust Land(77)

REGION: South Puget Sound Region
COUNTY(S): KING
ELEVATION RGE: 722-1300



Ground Harvest	Existing Roads	Streams
Forested Wetland	Required Pre-Haul Maintenance	Stream Type Break
Leave Tree Area - marked with yellow "Leave tree Area" tags	Required Reconstruction	Stream Type
Riparian Mgt Zone	Optional Pre-Haul Maintenance	Monumented Corners
Wetland Mgt Zone	Optional Construction	Landing - Proposed
Timber Sale Unit		Contours 40-foot
White "Timber Sale Boundary" Tags		