WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

TIMBER NOTICE OF SALE

***SALE NAME**: GLINDA THE GOOD* ***AGREEMENT NO**: 30-099052*

AUCTION: July 28, 2020 starting at 10:00 a.m., South Puget Sound Region Office, Enumclaw, WA **COUNTY:** Grays Harbor

SALE LOCATION: Sale located approximately 10 miles Northeast of Oakville.

PRODUCTS SOLD AND SALE AREA: All timber, except leave trees bounded out by yellow leave tree area tags, trees marked with blue paint, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, timber type change marked with pink flagging, and the D-2000, D-2000A, D-2050, and D-3000 roads in Unit #1;

All timber, except leave trees 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, timber type change marked with pink flagging, and the D-3000 Road in Unit #2;

All forest products above located on part(s) of Sections 3 all in Township 16 North, Range 4 West, Sections 27, 33 and 34 all in Township 17 North, Range 4 West, W.M., containing 106 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

	Avg	Ring	Total	MBF by Grade								
Species	DBH	Count	MBF	1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	24.3	6	5,042				157		4,162	610	101	12
Hemlock	17.6	7	1,729						1,135	454	101	39
Red cedar	19.4		54							46	8	
Silver fir	28.2		45						43	1	1	
Red alder	12.8		43							10	29	4
Sale Total			6,913									

MINIMUM BID: $1,895,000.00 **BID METHOD:** Sealed Bids

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

EXPIRATION DATE: October 31, 2022 **ALLOCATION:** Export Restricted

BID DEPOSIT: $189,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Harvesting activities are estimated to be 50 percent cable and 50 percent ground based harvest. Cable and tracked ground based with non-tethered self-leveling equipment limited to sustained slopes 65 percent or less and tracked ground based equipment limited to sustained slopes 45 percent or less. Rubber tired skidders not allowed. 6-wheeled rubber tired skidders with over-the-tire tracks spanning both sets of rear tires are allowed in Unit #1 on sustained slopes that are 45 percent or less. Tracked skidders allowed for

pole removal only in Unit #2 on sustained slopes that are 45 percent or less. Yarding may be restricted during wet weather if rutting becomes excessive, per clause H-017.

ROADS: 18.40 stations of optional construction. 13.61 stations of optional reconstruction. 669.18 stations of required prehaul maintenance. 3.58 stations of abandonment, if constructed. 13.61 stations of abandonment, if reconstructed. Purchaser maintenance on the D-2050, D-2056, D-2000A, D-3000, D-3000A, D-3036, D-3067, D-3072, D-3200, and D-3202 roads. Designated maintenance on all other roads used.

Rock for this proposal may be obtained from the State owned Low Bank Quarry at no cost to the Purchaser or any commercial rock source at the Purchaser's expense.

Road construction, reconstruction, abandonment, and/or prehaul maintenance of any roads will not be permitted from November 1 to April 30 unless authority to do so is granted, in writing, by the Contract Administrator. If permission is granted to operate from November 1 to April 30, a maintenance plan is required per Road Plan clause 1-26.

The hauling of forest products will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator. If permission is granted to operate from November 1 to April 30, preventative measures may be required to protect water, soil, roads, and other forest assets.

ACREAGE DETERMINATION

CRUISE METHOD: Acreage was determined by traversing boundaries by GPS in Units #1 and #2, and length times width for existing roads in Unit #1. GPS data files are available at DNR's website for timber sale auction packets. See cruise narrative for cruise method.

FEES: $117,521.00 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 all hardwood stems greater than 2 inches DBH within the harvest unit(s), leaving a stump no more than 12 inches in height.

Intermediate supports may be necessary for logging operations in Unit #1 north of the D-3200 Road. Six potential support trees were identified and marked with orange paint, though all of them may not be necessary.

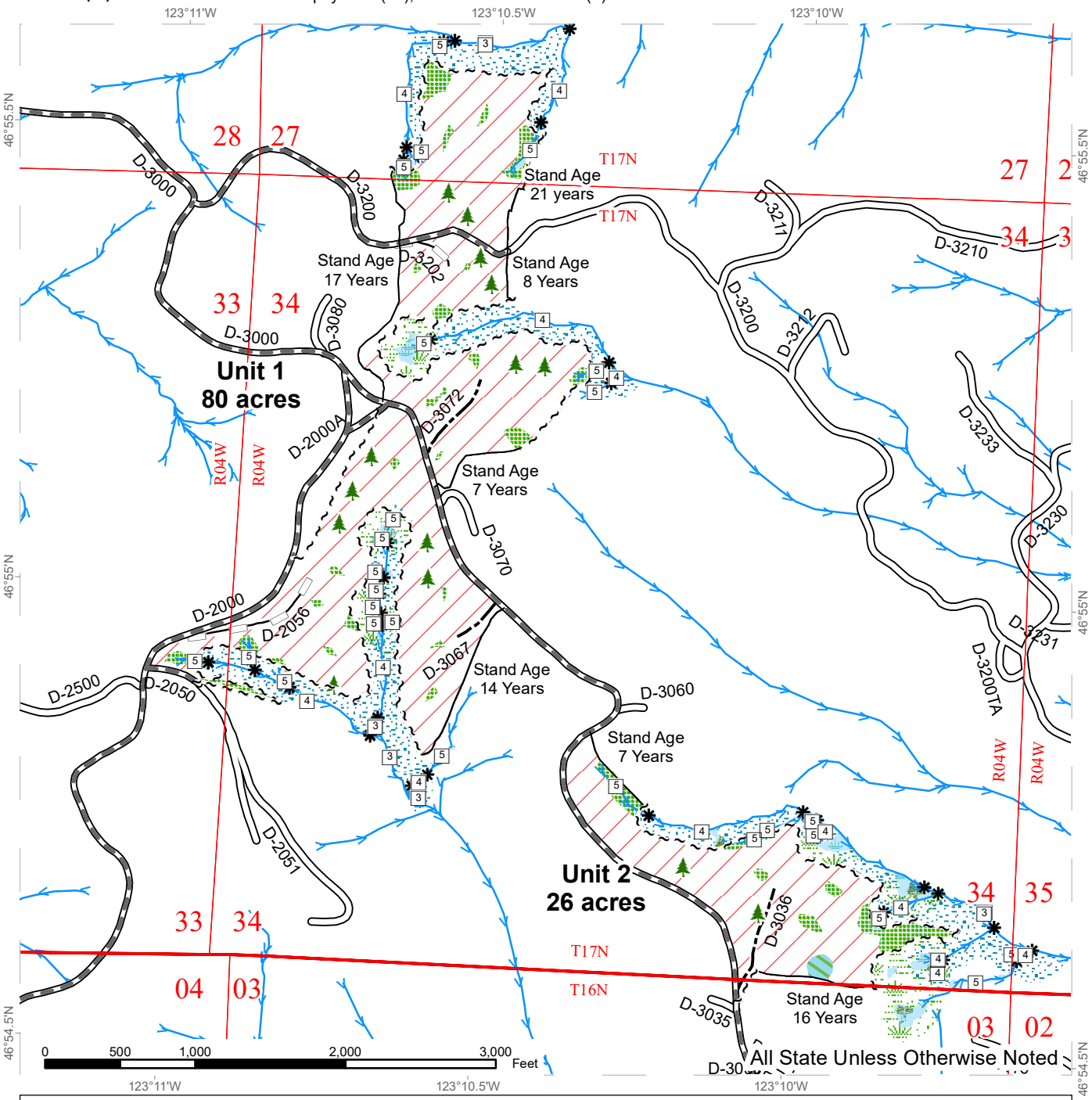
Tailhold locations are restricted due to protection of potentially unstable slopes. Trees shall not be used as tailholds within non-tradable leave tree clumps within the sale area or locations identified as Slope Stability Mitigation Zones on the Logging Plan Map. Stringing cables through and suspending cables over these areas are allowed with approval by the Contract Administrator. Tailhold locations and cable corridors for Units #1 and #2 shall be identified in a harvest plan by the Purchaser and approved in writing by the Contract Administrator prior to the start of operations.

There are no gates on the access route to this sale. Contact KelliAnne Ricks at 360-480-9702 for questions on the sale.

TIMBER SALE MAP

SALE NAME: GLINDA THE GOOD
AGREEMENT #: 30-099052
TOWNSHIP(S): T16R4W, T17R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor
ELEVATION RGE: 803-2160



Variable Retention Harvest	Existing Roads	Streams
Riparian Mgt Zone	Required Pre-Haul Maintenance	Stream Type
Forested Wetland	Optional Construction	Stream Type Break
Wetland Mgt Zone	Optional Reconstruction	Leave Tree Area <1/4-acre
Leave Tree Area	Sale Boundary Tags	
Non-Tradeable Leave Trees	Timber Type Change	

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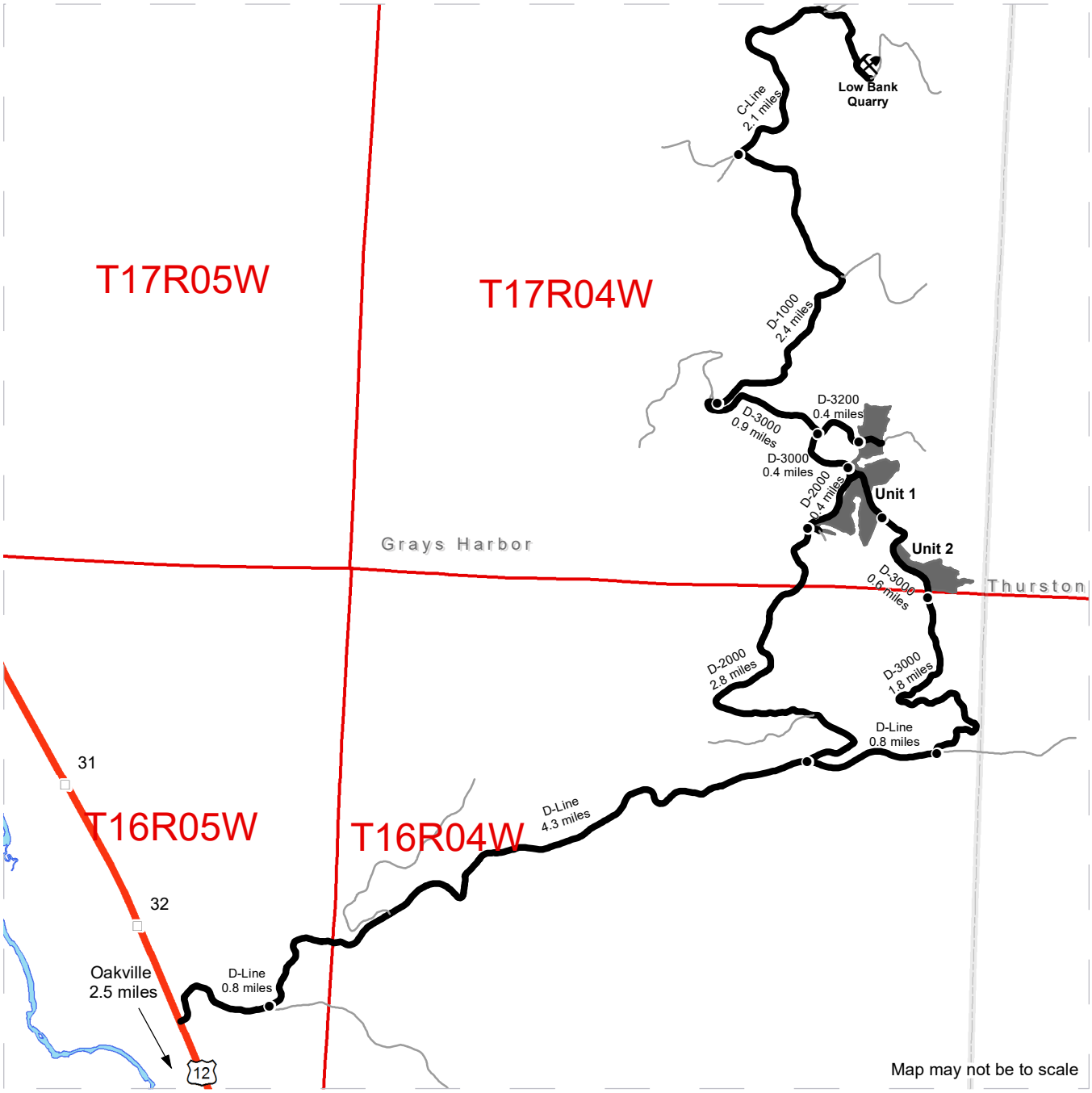
DRIVING MAP

SALE NAME: GLINDA THE GOOD
AGREEMENT#: 30-099052
TOWNSHIP(S): T16R4W, T17R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 803-2160



Timber Sale Unit
Haul Route
Other Road
Rock Pit
Distance Indicator

DRIVING DIRECTIONS:

Unit 1: From Highway 12, between mile posts 32 and 33, turn east onto the D-Line. Follow for 0.8 miles to reach the intersection with the E-Line, and continue left to stay on the D-Line for 4.3 miles. Turn left (North) onto the D-2000, and continue for 2.8 miles to reach Unit 1. Continue on the D-2000 for 0.4 miles. Turn left (North) at the intersection, and then continue left (West) onto the D-3000, for 0.4 miles. Turn right (East) onto the D-3200, follow for 0.4 miles to reach the top (North) quadrant of Unit 1.

Rock Pit: From the turn-off for the D-3200, continue on the D-3000 for 0.9 miles, then turn right onto the D-1000. Follow for 2.4 miles, then turn right onto the C-line. Continue on the C-line for 2.1 miles to reach Low Bank Quarry.

Unit 2: From the turn-off for the D-2000, follow the D-Line for another 0.8 miles, then turn left (North) onto the D-3000. Continue for 3.8 miles to reach Unit 2. Continue for 0.6 miles to reach Unit 1.

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STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-099052

SALE NAME: GLINDA THE GOOD

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on July 28, 2020 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract: All timber, except leave trees bounded out by yellow leave tree area tags, trees marked with blue paint, snags, and down timber existing more than 5 years from the day of sale, bounded by the following: white Timber Sale Boundary tags, timber type change marked with pink flagging, and the D-2000, D-2000A, D-2050, and D-3000 roads in Unit #1;

All timber, except leave trees 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, timber type change marked with pink flagging, and the D-3000 Road in Unit #2;

All forest products above located, located on approximately 106 acres on part(s) of Section 3 in Township 16 North, Range 4 West, Sections 27, 33, and 34 all in Township 17 North, Range 4 West W.M. in Grays Harbor 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, 2022.

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

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

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

G-051 Contract Term Extension - Payment

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

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

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

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

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

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

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

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

e. Payment of $999.00 per acre per annum for the acres on which an operating release has not been issued in 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. TE812521-1 and 1168 (collectively referred to as ITP), or as amended hereafter by the Services. The ITP authorizes the incidental take of certain federally listed threatened and endangered species, as specified in the ITP conditions. All HCP materials, including the ITP, are available for review at the State's Regional Offices and the administrative headquarters in Olympia, Washington.

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet

habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

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

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

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

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

this contract and State shall not be liable for any injuries resulting from Purchaser's reliance on any State advice regarding the method or manner of performance.

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-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: PwC-SFIFM-513.

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

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

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

G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of the contract. "Claim" as used in this contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Purchasers' obligations to indemnify, defend, and hold

harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

G-150 Insurance

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

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

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

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

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

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

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements

stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

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

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

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

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

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

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

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

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any subcontractor or sub-subcontractor. Coverage shall include bodily injury (including

death) by accident or disease, which exists out of or in connection with the performance of this contract. Except as prohibited by law, Purchaser waives all rights of subrogation against State for recovery of damages to the extent they are covered by workers' compensation, employer's liability, commercial general liability, or commercial umbrella liability insurance.

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

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

G-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 address of record:

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

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

G-210 Violation of Contract

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

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

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

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; the C-Line, D-1000, D-2000, D-2050, D-2056, D-2000A, D-3000, D-3000A, D-3036, D-3067, D-3072, D-3200, and D-3202 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 C-Line, D-Line, D-1000, D-2000, and D-3000 roads, except as stated in road plan clause 1-7, 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:

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

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of $179,738.00. The total contract price consists of a $0.00 contract bid price plus $179,738.00 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 100 square inches.

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

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

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

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

H-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-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for all units. The plan shall address the felling, yarding, landing locations, tail holds, cable corridors, and slash management plan, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-051 Branding and Painting

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

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested and removed using cable and tracked ground based with non-tethered self-leveling equipment limited to sustained slopes 65 percent or less and tracked ground based equipment limited to sustained slopes 45 percent or less. Rubber tired skidders not allowed. 6-wheeled rubber tired skidders with over-the-tire tracks spanning both sets of rear tires are allowed in Unit #1 on sustained slopes that are 45 percent or less. Tracked skidders allowed for pole removal only in Unit #2 on sustained slopes that are 45 percent or less. Authority to use other equipment or to operate outside the equipment specifications detailed above must be approved in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

a. Any existing downed trees or logs dead for more than 5 years yarded to the landing will be returned to their original locations.

b. Equipment limitation zones are required within 30 feet of Type 5 streams.

c. 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.

d. The Purchaser shall notify all employees and contractors working on this sale that any danger tree marked or unmarked may be felled. Any marked danger tree will be replaced with a suitable tree of similar size and species as approved by the Contract Administrator.

e. No equipment shall operate, or trees felled or damaged, outside the timber sale boundary.

f. Purchaser shall take measures throughout operations to control soil erosion, water channelization, and prevent sediment delivery to streams or wetlands. Methods may include construction of water bars, “sweeping” with logs, silt traps, or other measures on skid trails, yarding corridors and haul roads.

g. Designated haul roads have been designed to allow for the transport of poles 60 feet in length or less. If the Purchaser chooses to remove poles greater than 60 feet in length, a haul plan must be submitted in writing to the Contract Administrator, which details the desired haul route, additional reconstruction needs, and mitigation for damage, which is a result of hauling oversize material. If approved in writing by the Contract Administrator, all work shall be at the Purchaser’s expense.

h. To facilitate proper reforestation in areas of high slash concentrations, purchaser shall, in concurrence with ground based yarding, clear plantable spots at a 11.5 foot by 11.5 foot spacing.

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.

b. Tailhold locations are restricted due to protection of potentially unstable slopes. Trees shall not be used as tailholds within non- tradeable leave tree clumps within the sale area, or locations identified as Slope Stability Mitigation Zones on the Logging Plan Map. Stringing cables through and suspending cables over these areas are allowed with approval by the Contract Administrator. Tailhold locations and cable corridors for Units #1 and #2 shall be identified in a harvest plan by the Purchaser and approved in writing by the Contract Administrator prior to the start of operations.

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

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

H-230 Tops and Limbs Outside the Sale Boundary

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

H-250 Additional Falling Requirements

Within harvest units, all hardwood stems greater than 2 inches DBH, shall be felled. Remaining stump shall be no more than 12 inches in height. Areas of young or immature timber may be excluded from this requirement by the Contract Administrator.

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 5/22/2019 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the D-2050, D-2056, D-2000A, D-3000, D-3000A, D-3036, D-3067, D-3072, D-3200, and D-3202 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used not covered in clause C-

050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the equipment rate schedule on file at the Region office or Engineering Division in Olympia. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

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

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 Type 5 stream as a result of operations under this contract and which is identified by the Contract Administrator shall be removed and deposited in a stable position. Removal of slash or debris shall be accomplished in a manner that avoids damage to the natural stream bed and bank vegetation.

S-110 Resource Protection

No equipment may operate within Riparian or Wetland Management Zones unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through Type 3 and Type 4 streams.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

If safe to do so, Purchaser shall take immediate action to contain and control all hazardous material spills. Purchaser shall ensure that enough quick response spill kits capable of absorbing 10 gallons of oil, coolant, solvent or contaminated water are available on site to quickly address potential spills from any piece of equipment at all times throughout active operations. If

large quantities of bulk fuel/other hazardous materials are stored on site, Purchaser must be able to effectively control a container leak and contain & recover a hazmat spill equal to the largest single on site storage container volume. (HAZWOPER reg. 29CFR 1910.120 (j) (1) (vii)).

d. Hazardous Material Release Reporting

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

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

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

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

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

ECY - Eastern Region:
1-509-329-3400
(Adams, Asotin, Columbia, Ferry, Franklin, Garfield, Grant, Lincoln, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman counties)

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-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 all units.

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

	STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES
_____ Purchaser	_____ Scott Sargent South Puget Sound Region Manager
_____ Print Name	
Date: _____	Date: _____
Address:	

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

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: South Puget Sound

Timber Sale Name: Glinda The Good

Application Number: 30- 099052

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 1,482 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 0 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

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

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

Pre-Haul Maintenance: 66918 **linear feet**
Existing road to receive maintenance work (optional and required) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

Temporary Construction: 358 **linear feet**
Roads to be constructed (optional and required) and then abandoned

Temporary Reconstruction: 1361 **linear feet**
Roads to be reconstructed (optional and required) and then abandoned

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

PRE-CRUISE NARRATIVE

Sale Name: **Glinda the Good**	Region: **South Puget Sound**
Agreement #: **30-099052**	District: **Black Hills**
Contact Forester: **KelliAnne Ricks**	Phone/ Location: **(360) 480-9702** Ext: /
Alternate Contact: **Derwood Duncan III**	Phone/ Location: **(360) 280-3113** Ext: /

Type of Sale (lump sum, mbf scale, tonnage scale or contract harvest): Lump Sum
Required or Optional removal of utility as pulp: Optional
Evaluated for RFRS Implementation?: Yes
Percentage cable (specify downhill vs uphill): 50% Uphill
Percentage ground based: 50%
Species Onsite: ☒RC, ☒DF, ☒WH, ☒RA, ☐BC, ☒BLM, ☐NF, ☒SF, ☐SS, ☐ Other:(Please List)

UNIT ACREAGES* AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description Sec/Twp/Rng	Grant	Gross Traversed Acres	Deductions from Gross Acres (No harvest acres) RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)	Net Harvest Acres	Acreage Determination (List method, dimensions and error of closure if applicable)
1 (VRH)	Sec 27,28,33,34 /T17N/ R04W	42	87.1	0	6	1.5	0	79.6	GPS (Garmin and Trimble) D-3200 780'x50', D-3000 705'x
2 (VRH)	Sec 34/ T17N/ R04W Sec 03/ T16N/ R04W	42	30.5	0	4.3	0	0	26.2	GPS (Garmin and Trimble)
TOTAL ACRES			117.6	0	10.3	1.5	0	105.8	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Mark leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 (VRH)	Variable Retention Harvest: Boundaries are marked by white "Timber Sale Boundary" tags and pink flagging, the D-2000, D-2000A, D-2050 and the D-3000. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging, or marked with blue paint.	N/A	8 leave trees per acre (23 painted blue)
2 (VRH)	Variable Retention Harvest: Boundaries are marked by white "Timber Sale Boundary" tags and pink flagging, and the D-3000. Clumped leave trees are marked with yellow "Leave Tree Area" tags and pink flagging.	N/A	8 leave trees per acre

OTHER PRE-CRUISE INFORMATION:

Unit #	Estimated Volume	Access information (Gates, locks, etc.)	Photos, traverse maps required
1 (VRH)	See Cruise	N/A	Traverse maps with contours, roads and leave trees. Photo (Scale 1" to 400')
2 (VRH)	See Cruise	N/A	Traverse maps with contours, roads and leave trees. Photo (Scale 1" to 400')

REMARKS:

This is a 2 unit VRH harvest. There are new construction roads in units 1 and 2.

Prepared By: KelliAnne Ricks Date: 04/08/19	Title: Forester NRS 2	CC:

Revised 2/23/2007 (PSLD)

Cruise Narrative

Sale Name: Glinda the Good	**Region: South Puget Sound**
App. #: 30-099052	**District: Black Hills**
Lead Cruiser: Daniel Hohl	**Completion Date: 07/12/19 *Revised 5/27/20 - AC**
Other Cruisers: Phil Kirner, Aaron Coleman	

Unit acreage specifications:

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
VRH U1	79.6	Yes	
VDT U2	26.2	Yes	
Total	**105.8**	**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
U1	VP	54.44 – Majors 40.00 – Minors	4.5 ft	230’ x 230’	1:1	62
U2	VP	54.44 – Majors 40.00 – Minors	4.5 ft	250’ x 250’	1:1	19

Sale/Cruise Description:

Minor species cruise intensity:	Cruised on appropriate plots.					
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:	VRH units contain leave tree areas bound with yellow “Leave Tree Area” tags and pink flagging and single bands of **BLUE** paint.					
Sort Description:	**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") **HB -** Logs meeting the following criteria: Surface characteristics for an Intermediate B sort will have sound tight knots not to exceed 11/2" 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"). **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”.) **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 that 33% of the gross scale. (Rough oversize sort. Grade 3S. Lengths 16ft-40ft, 2ft multiples TDIB 12"+)
Status Description:	**P – Logs classified as pole volume.**

Field observations:

This sale consists of 2 variable retention harvest (VRH) units off the 2000rd & 3000rd within the Capitol State Forest.

***Although pole volume is included, a specific pole cruise was not done on this sale. Pole volume was captured on the same plots as the saw log volume.**

The primary species breakdown for this sale is as follows:

Douglas-fir (DF): **73%**
Western Hemlock (WH): **25%**
Western redcedar (RC): **1%**
Red Alder: **1%**

The DF throughout this sale averages 24" diameter with 108' bole height, the WH throughout this sale averages 17" diameter with 71' bole height and the RC throughout this sale averages 19" diameter with 63' bole height. Defect observed consisted of spike knots, broken/forked tops, butt rot, and sweep.

All roads to this sale are in good condition and there are good access points into both units.

Grant(s):42 **Prepared by: Aaron Coleman** **Title: Timber Cruiser**

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T17N R04W S34 Ty0001	79.60
T17N R04W S34 Ty0002	26.20

Project: **GLINDAN**

Acres **105.80**

Page **1**
Date **5/27/2020**
Time **9:16:14AM**

Spp	S T	So Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU CU		100.0	182											7	7		0.00	33.0
DF		HA SM			180	180	19				100				100	40	17	460	2.63	.4
DF		HA 2S	2	1.8	934	917	97			58	42				100	37	15	324	1.89	2.8
DF		HA 3S			165	165	17		100						100	40	11	180	1.12	.9
DF		HB 2S	10	.9	4,551	4,509	477			19	81				100	38	17	419	2.28	10.8
DF		D SM	3	1.9	1,327	1,301	138				100		10		90	37	19	569	3.18	2.3
DF		D 2S	71	4.4	34,350	32,851	3,476			29	71	0			100	40	16	420	2.22	78.2
DF		D 3S	11	5.1	5,596	5,313	562	12	88			2	1	5	92	38	9	107	0.77	49.4
DF		D 4S	2	4.8	944	899	95	83	17			13	28	8	51	30	6	39	0.41	23.0
DF		D UT	1		111	111	12	59	41			88	12			18	6	26	0.35	4.3
DF	**Totals**		71	4.3	48,338	46,244	4,893	3	11	23	63	1	1	1	98	33	12	225	1.53	205.1
DF	P	CU CU														4	7		0.00	1.3
DF	P	HB 2S	48		682	682	72			22	78		12		88	34	15	330	1.83	2.1
DF	P	HB 3S	3		37	37	4		100						100	36	9	100	0.61	.4
DF	P	D 2S	27		381	381	40			100					100	40	13	259	1.32	1.5
DF	P	D 3S	18		255	255	27		100						100	40	10	137	0.77	1.9
DF	P	D 4S	4		55	55	6	100					49	51		31	6	41	0.40	1.3
DF	**Totals**		2	.0	1,411	1,411	149	4	21	38	38		8	2	90	32	11	168	1.10	8.4
WH		CU CU		100.0	123											9	6		0.00	13.0
WH		D 2S	65	13.6	12,404	10,723	1,134		1	49	51	0	0		100	40	15	317	2.04	33.9
WH		D 3S	26	3.5	4,451	4,296	454	11	89				2	2	97	39	9	116	0.76	37.1
WH		D 4S	6	2.6	976	951	101	97	3			7	58	16	18	28	5	31	0.35	31.1
WH		D UT	3		373	373	39	100				62	38			18	5	22	0.29	16.8
WH	**Totals**		25	10.8	18,326	16,342	1,729	11	24	32	33	2	5	1	92	31	9	124	1.03	131.9
RC		CU CU														6	5		0.00	1.8
RC		D 3S	85	11.3	489	434	46	11	50	38					100	37	10	127	1.53	3.4
RC		D 4S	15	7.6	79	73	8	100					39	15	46	33	5	35	0.48	2.1
RC	**Totals**		1	10.7	568	507	54	24	43	33			6	2	92	28	7	69	1.09	7.4
RA		CU CU															6		0.00	1.8
RA		D 3S	22	29.5	130	92	10		100			50			50	28	10	72	1.01	1.3
RA		D 4S	68	7.0	299	278	29	46	54			13	5	6	76	30	7	51	0.56	5.4
RA		D UT	10		37	37	4	100				64	36			18	5	16	0.27	2.3
RA	**Totals**		1	12.7	466	406	43	41	59			26	7	4	63	22	7	38	0.58	10.8
SF		D 2S	94	10.7	453	404	43			33	67				100	40	17	441	2.47	.9
SF		D 3S	3		13	13	1		100				100			28	9	70	0.83	.2
SF		D 4S	3		11	11	1	100					100			25	7	40	0.59	.3
SF	**Totals**		1	10.2	477	428	45	3	3	31	63		6		94	35	14	312	2.03	1.4
Totals				6.1	69,586	65,339	6,913	5	15	26	54	1	2	1	96	32	10	179	1.32	364.9

TC PSTATS

PROJECT STATISTICS

PROJECT GLINDAN

DATE 5/27/2020

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04	34	GLINDA	0001	105.80	81	492	S	W
17N	04W	34	GLINDA	0002					

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	81	492	6.1		
CRUISE	40	239	6.0	14,267	1.7
DBH COUNT					
REFOREST					
COUNT	41	253	6.2		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	144	63.8	24.3	108	41.6	205.0	48,338	46,244	10,231	10,183
DOUG FIR-P	5	2.2	21.5	122	1.2	5.6	1,411	1,411	291	291
WHEMLOCK	72	59.6	17.6	71	24.0	100.9	18,326	16,342	4,276	4,242
WR CEDAR	10	3.3	19.4	63	1.5	6.8	568	507	223	223
R ALDER	6	5.4	12.8	50	1.4	4.9	466	406	138	137
PS FIR	2	.5	28.2	106	0.4	2.0	477	428	99	99
TOTAL	*239*	*134.9*	*21.0*	*89*	*70.9*	*325.1*	*69,586*	*65,339*	*15,259*	*15,175*

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	54.8	4.6	953	998	1,044			
DOUG FIR-P	35.4	17.6	521	632	743			
WHEMLOCK	85.6	10.1	472	525	578			
WR CEDAR	41.5	13.8	153	177	201			
R ALDER	44.9	20.0	73	92	110			
PS FIR	40.9	38.3	608	985	1,362			
TOTAL	*71.4*	*4.6*	*753*	*790*	*826*	*203*	*104*	*51*

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	45.9	3.8	206	214	222			
DOUG FIR-P	28.8	14.3	112	130	149			
WHEMLOCK	76.4	9.0	125	137	150			
WR CEDAR	40.8	13.6	70	81	92			
R ALDER	53.8	24.0	24	32	40			
PS FIR	23.1	21.7	174	222	270			
TOTAL	*59.8*	*3.9*	*172*	*179*	*186*	*143*	*73*	*36*

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	77.9	8.6	58	64	69			
DOUG FIR-P	473.6	52.6	1	2	3			
WHEMLOCK	130.1	14.4	51	60	68			
WR CEDAR	310.0	34.4	2	3	4			
R ALDER	392.8	43.6	3	5	8			
PS FIR	518.4	57.6	0	0	1			
TOTAL	*51.7*	*5.7*	*127*	*135*	*143*	*107*	*54*	*27*

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	67.6	7.5	190	205	220			
DOUG FIR-P	498.9	55.4	3	6	9			
WHEMLOCK	126.6	14.1	87	101	115			
WR CEDAR	314.1	34.9	4	7	9			

TC PSTATS

PROJECT STATISTICS

PROJECT GLINDAN

DATE 5/27/2020

TWP	RGE	SC	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04	34	GLINDA	0001	105.80	81	492	S	W
17N	04W	34	GLINDA	0002					

CL 68.1	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.00	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
R ALDER	370.8	41.2	3	5	7			
PS FIR	513.1	57.0	1	2	3			
TOTAL	*34.6*	*3.8*	*313*	*325*	*338*	*48*	*24*	*12*

CL 68.1	COEFF		NET BF/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	72.0	8.0	42,550	46,244	49,939			
DOUG FIR-P	518.0	57.5	599	1,411	2,222			
WHEMLOCK	141.9	15.7	13,768	16,342	18,915			
WR CEDAR	357.7	39.7	306	507	708			
R ALDER	379.8	42.2	235	406	578			
PS FIR	515.7	57.2	183	428	673			
TOTAL	*42.4*	*4.7*	*62,263*	*65,339*	*68,415*	*72*	*37*	*18*

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	69.1	7.7	9,402	10,183	10,963			
DOUG FIR-P	508.5	56.5	127	291	455			
WHEMLOCK	134.9	15.0	3,606	4,242	4,877			
WR CEDAR	331.2	36.8	141	223	306			
R ALDER	370.4	41.1	81	137	194			
PS FIR	513.1	57.0	42	99	155			
TOTAL	*37.6*	*4.2*	*14,542*	*15,175*	*15,808*	*56*	*29*	*14*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: GLINDAN

Date 5/27/2020

Time 9:16:14AM

T17N R04W S34 T0001

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
17N	04W	34	GLINDA	0001	79.60	62	185	S	W

T17N R04W S34 T0001

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	195											8	6		0.00	31.7
DF		HA	SM			239	239	19				100				100	40	17	460	2.63	.5
DF		HA	2S	2		705	705	56			100					100	36	14	263	1.60	2.7
DF		HA	3S	1		219	219	17		100						100	40	11	180	1.12	1.2
DF		HB	2S	10	.6	3,786	3,763	300			30	70				100	37	16	369	2.09	10.2
DF		DM	SM	1		432	432	34				100		40		60	31	20	523	3.56	.8
DF		DM	2S	71	5.6	27,969	26,406	2,102			31	69				100	40	16	391	2.16	67.5
DF		DM	3S	12	7.7	4,719	4,356	347	15	85			1	2	7	90	38	9	99	0.77	43.9
DF		DM	4S	2	5.3	873	826	66	84	16			12	31	12	46	30	6	38	0.42	21.8
DF		DM	UT	1		119	119	9	73	27			85	15			18	5	24	0.31	5.0
DF		**Totals**		61	5.6	39,253	37,063	2,950	4	11	27	58	1	1	1	97	32	11	200	1.43	185.4
DF	P	CU	CU															5		0.00	.5
DF	P	HB	2S	58	.0	89	89	7			100					100	36	12	180	1.28	.5
DF	P	HB	3S	32		50	50	4		100						100	36	9	100	0.61	.5
DF	P	DM	4S	10		15	15	1	100					100			30	5	30	0.29	.5
DF	**P**	**Totals**		0		154	154	12	10	32	58			10		90	26	8	78	0.75	2.0
WH		CU	CU		100.0	163											9	6		0.00	17.2
WH		DM	2S	66	11.3	15,942	14,145	1,126			49	51	0	0		100	40	15	325	2.04	43.5
WH		DM	3S	27	3.5	5,916	5,709	454	11	89				2	2	97	39	9	116	0.76	49.3
WH		DM	4S	4	3.2	1,040	1,006	80	96	4			8	48	21	23	29	5	31	0.35	32.7
WH		DM	UT	3		472	472	38	100				60	40			18	5	22	0.28	21.6
WH		**Totals**		35	9.3	23,533	21,333	1,698	10	24	32	34	2	4	1	93	31	9	130	1.06	164.4
RC		CU	CU														6	5		0.00	2.5
RC		DM	3S	85	11.3	650	577	46	11	50	38					100	37	10	127	1.53	4.5
RC		DM	4S	15	7.6	105	97	8	100					39	15	46	33	5	35	0.48	2.8
RC		**Totals**		1	10.7	755	674	54	24	43	33			6	2	92	28	7	69	1.09	9.8
RA		CU	CU															6		0.00	2.4
RA		DM	3S	22	29.5	173	122	10		100			50			50	28	10	72	1.01	1.7
RA		DM	4S	68	7.0	397	369	29	46	54			13	5	6	76	30	7	51	0.56	7.2
RA		DM	UT	10		49	49	4	100				64	36			18	5	16	0.27	3.0
RA		**Totals**		1	12.7	619	540	43	41	59			26	7	4	63	22	7	38	0.58	14.3
SF		DM	2S	94	10.7	602	537	43			33	67				100	40	17	441	2.47	1.2
SF		DM	3S	3		18	18	1		100				100			28	9	70	0.83	.3
SF		DM	4S	3		14	14	1	100					100			25	7	40	0.59	.4
SF		**Totals**		1	10.2	633	569	45	3	3	31	63		6		94	35	14	312	2.03	1.8
Type Totals					7.1	64,948	60,333	4,803	6	16	29	48	1	2	1	95	31	10	160	1.24	377.7

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: GLINDAN

Date 5/27/2020

Time 9:16:14AM

T17N R04W S34 T0002 **T17N R04W S34 T0002**

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
17N	04W	34	GLINDA	0002	26.20	19	57	S	W

Spp	ST	Sort	Grade	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 5-7	8-11	12-15	16+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU		100.0	143											3	9		0.00	36.7
DF		HA	2S	2	4.1	1,630	1,563	41				100				100	40	17	472	2.53	3.3
DF		HB	2S	9	1.5	6,877	6,774	177				100				100	40	18	544	2.70	12.4
DF		DM	SM	5	2.6	4,046	3,942	103				100				100	39	19	585	3.07	6.7
DF		DM	2S	71	2.4	53,736	52,432	1,374			25	75	0			100	40	17	473	2.33	110.9
DF		DM	3S	11	.5	8,260	8,220	215	8	92			2	1	3	94	38	9	124	0.79	66.3
DF		DM	4S	1	3.5	1,161	1,121	29	80	20			16	22		62	30	6	42	0.39	26.6
DF		DM	UT	1		86	86	2		100			100				18	9	40	0.68	2.1
DF Totals				92	2.4	75,939	74,138	1,942	2	11	18	70	1	0	0	99	33	13	280	1.72	265.0
DF	P	CU	CU														5	7		0.00	3.6
DF	P	HB	2S	47		2,483	2,483	65			13	87		13		87	34	16	364	1.96	6.8
DF	P	DM	2S	29		1,539	1,539	40			100					100	40	13	259	1.32	5.9
DF	P	DM	3S	20		1,028	1,028	27		100						100	40	10	137	0.77	7.5
DF	P	DM	4S	4		179	179	5	100					36	64		32	6	46	0.44	3.9
DF P Totals				6		5,230	5,230	137	3	20	36	41		8	2	90	33	11	188	1.16	27.8
WH		DM	2S	27	80.3	1,655	326	9		93		7				100	40	15	70	2.05	4.7
WH		DM	4S	67		781	781	20	100					100			27	5	30	0.34	26.0
WH		DM	UT	6		70	70	2	100				100				17	7	30	0.46	2.3
WH Totals				1	53.0	2,507	1,178	31	72	26		2	6	66		28	28	6	36	0.69	33.0
Type Totals					3.7	83,675	80,546	2,110	3	11	19	67	1	2	0	97	33	12	247	1.58	325.9

TC TSTATS

STATISTICS

PROJECT GLINDAN

DATE 5/27/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04W	34	GLINDA	0001	79.60	62	376	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	62	376	6.1		
CRUISE	30	182	6.1	11,419	1.6
DBH COUNT					
REFOREST COUNT	32	194	6.1		
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	94	60.9	23.3	101	37.3	180.0	39,253	37,063	8,615	8,561
DOUG FIR-P	1	.5	18.0	105	0.2	.9	154	154	38	38
WHEMLOCK	69	69.9	18.1	76	29.5	125.6	23,533	21,333	5,474	5,427
WR CEDAR	10	4.4	19.4	63	2.1	9.0	755	674	297	297
R ALDER	6	7.2	12.8	50	1.8	6.5	619	540	183	183
PS FIR	2	.6	28.2	106	0.5	2.6	633	569	131	131
TOTAL	*182*	*143.4*	*20.4*	*85*	*71.9*	*324.6*	*64,948*	*60,333*	*14,739*	*14,637*

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	55.3	5.7	800	849	897			
DOUG FIR-P								
WHEMLOCK	82.4	9.9	490	544	598			
WR CEDAR	41.5	13.8	153	177	201			
R ALDER	44.9	20.0	73	92	110			
PS FIR	40.9	38.3	608	985	1,362			
TOTAL	*73.0*	*5.4*	*634*	*670*	*706*	*213*	*108*	*53*

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	48.0	5.0	183	192	202			
DOUG FIR-P								
WHEMLOCK	74.5	9.0	128	140	153			
WR CEDAR	40.8	13.6	70	81	92			
R ALDER	53.8	24.0	24	32	40			
PS FIR	23.1	21.7	174	222	270			
TOTAL	*62.9*	*4.7*	*153*	*161*	*168*	*158*	*81*	*39*

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	90.8	11.5	54	61	68			
DOUG FIR-P	787.4	99.9	0	0	1			
WHEMLOCK	115.9	14.7	60	70	80			
WR CEDAR	267.3	33.9	3	4	6			
R ALDER	340.8	43.2	4	7	10			
PS FIR	451.8	57.3	0	1	1			
TOTAL	*50.8*	*6.5*	*134*	*143*	*153*	*103*	*53*	*26*

CL: 68.1 %	COEFF		**BASAL AREA/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	77.6	9.8	162	180	198			
DOUG FIR-P	787.4	99.9	0	1	2			
WHEMLOCK	109.2	13.9	108	126	143			
WR CEDAR	271.0	34.4	6	9	12			

TC TSTATS

STATISTICS

PROJECT GLINDAN

DATE 5/27/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04W	34	GLINDA	0001	79.60	62	376	S	W

CL: 68.1 %	COEFF		BASAL AREA/ACRE			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
R ALDER	321.3	40.8	4	6	9			
PS FIR	447.1	56.7	1	3	4			
TOTAL	*36.6*	*4.6*	*309*	*325*	*340*	*54*	*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	78.3	9.9	33,382	37,063	40,743			
DOUG FIR-P	787.4	99.9	0	154	308			
WHEMLOCK	117.8	14.9	18,145	21,333	24,521			
WR CEDAR	309.8	39.3	409	674	939			
R ALDER	329.3	41.8	314	540	766			
PS FIR	449.4	57.0	245	569	894			
TOTAL	*41.6*	*5.3*	*57,147*	*60,333*	*63,520*	*69*	*35*	*17*

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	77.6	9.8	7,718	8,561	9,404			
DOUG FIR-P	787.4	99.9	0	38	76			
WHEMLOCK	114.2	14.5	4,640	5,427	6,214			
WR CEDAR	286.2	36.3	189	297	405			
R ALDER	321.0	40.7	108	183	257			
PS FIR	447.1	56.7	57	131	206			
TOTAL	*39.0*	*4.9*	*13,914*	*14,637*	*15,361*	*61*	*31*	*15*

TC TSTATS

STATISTICS

PROJECT GLINDAN

DATE 5/27/2020

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
17N	04W	34	GLINDA	0002	26.20	19	116	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	19	116	6.1		
CRUISE	10	57	5.7	2,849	2.0
DBH COUNT					
REFOREST COUNT	9	59	6.6		
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	50	72.8	26.6	128	54.5	280.8	75,939	74,138	15,141	15,108
DOUG FIR-P	4	7.5	22.1	126	4.3	20.1	5,230	5,230	1,059	1,059
WHEMLOCK	3	28.4	12.9	33	7.2	25.8	2,507	1,178	639	640
TOTAL	*57*	*108.7*	*23.5*	*103*	*67.4*	*326.6*	*83,675*	*80,546*	*16,839*	*16,808*

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	44.7	6.4	1,203	1,285	1,367			
DOUG FIR-P	21.5	12.3	625	713	800			
WHEMLOCK	105.4	72.9	21	77	133			
TOTAL	*52.4*	*7.0*	*1,097*	*1,180*	*1,262*	*110*	*56*	*27*

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	37.7	5.4	242	256	269			
DOUG FIR-P	18.2	10.4	129	144	159			
WHEMLOCK	148.1	102.4		63	128			
TOTAL	*44.2*	*5.9*	*223*	*237*	*251*	*78*	*40*	*20*

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	35.6	8.4	67	73	79			
DOUG FIR-P	253.0	59.6	3	8	12			
WHEMLOCK	212.7	50.1	14	28	43			
TOTAL	*52.7*	*12.4*	*95*	*109*	*122*	*117*	*60*	*29*

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	33.7	8.0	258	281	303			
DOUG FIR-P	259.3	61.1	8	20	32			
WHEMLOCK	215.4	50.8	13	26	39			
TOTAL	*28.3*	*6.7*	*305*	*327*	*348*	*34*	*17*	*8*

CL: 68.1 %	COEFF		**NET BF/ACRE**			# OF PLOTS REQ.		INF. POP.
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	35.1	8.3	68,012	74,138	80,265			
DOUG FIR-P	262.1	61.7	2,000	5,230	8,459			
WHEMLOCK	215.4	50.8	580	1,178	1,776			
TOTAL	*33.5*	*7.9*	*74,184*	*80,546*	*86,907*	*47*	*24*	*12*

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	34.1	8.0	13,895	15,108	16,322			
DOUG FIR-P	260.6	61.4	409	1,059	1,709			
WHEMLOCK	221.3	52.1	307	640	974			
TOTAL	*30.4*	*7.2*	*15,606*	*16,808*	*18,010*	*39*	*20*	*10*

TC PSPCTLTCM

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

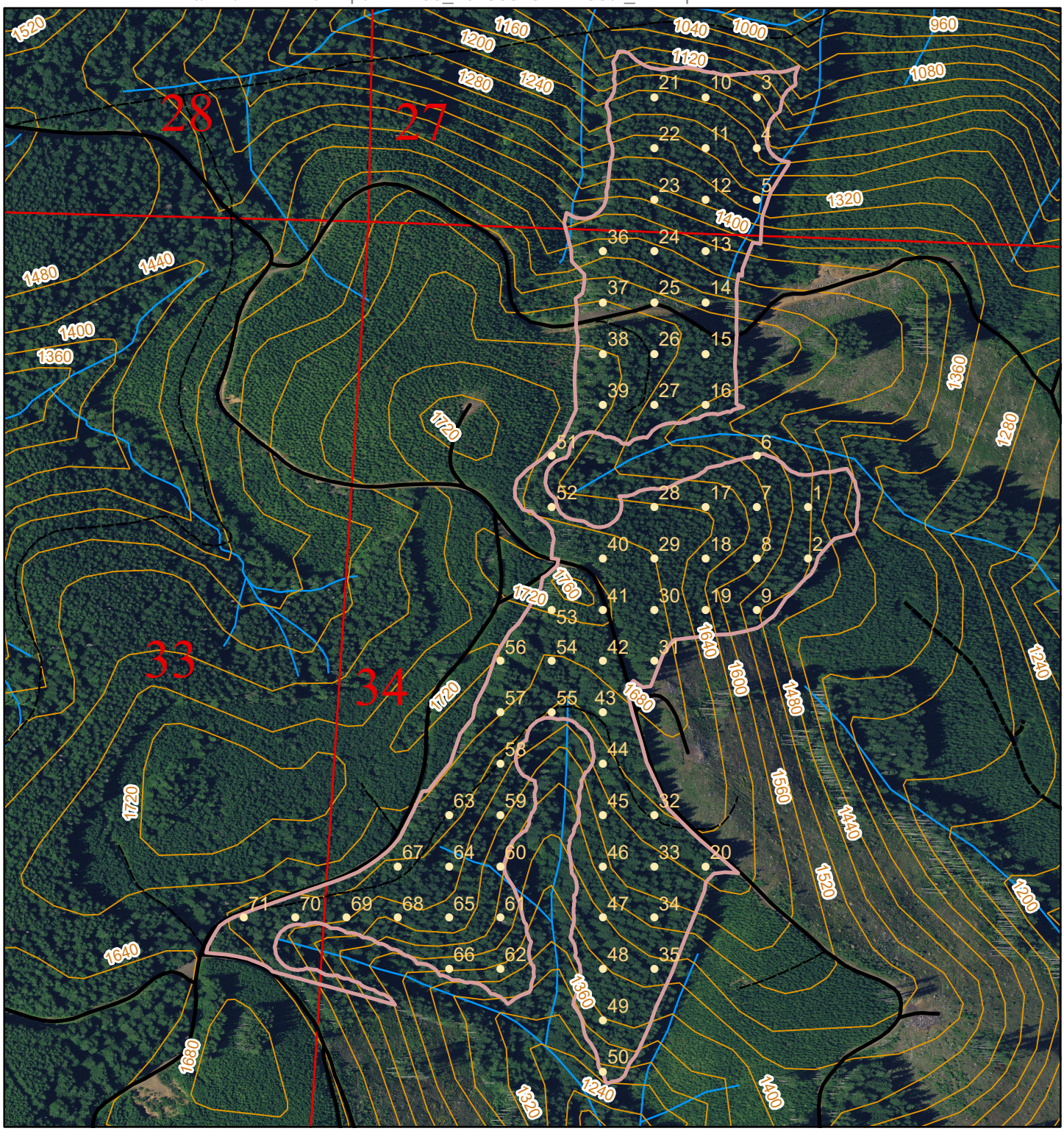
T17N R04W S34 Ty000	79.6
T17N R04W S34 Ty000	26.2

Project GLINDAN
Acres 105.80

Page No 1
Date: 5/27/2020
Time 9:16:15AM

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		6,753	18,213	30,851	159.53	59.15	1.58	10,825	10,773	5,114	4,893
WHEMLOCK		6,307	12,579	14,478	71.16	35.68	1.09	4,525	4,488	1,939	1,729
DOUG FIR	P	237	752	877	129.95	40.91	1.12	308	308	149	149
WR CEDAR		351	584	555	67.29	40.48	1.16	236	236	60	54
PS FIR		48	145	299	215.68	71.89	2.05	105	104	50	45
R ALDER		571	948	401	25.48	15.34	0.59	146	145	49	43
Totals		14,267	33,222	47,463	112.53	48.33	1.37	16,144	16,055	7,362	6,913

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	13,697	32,274	47,061	116.16	49.30	1.39	15,998	15,910	7,313	6,870
H	571	948	401	25.48	15.34	0.59	146	145	49	43
Totals	14,267	33,222	47,463	112.53	48.33	1.37	16,144	16,055	7,362	6,913



Glinda the Good unit 1 - 79.7 ac.

Layer:	glinda_the_good_hohl1	Township:	T17R04W
Poly Id:	1	Total Sample Points:	71
Acres:	87	Spacing Between Points:	Width: 230 Height: 230
Imagery:	2017 Orthophoto (1-ft Color) [HXIP]	Point Rotation Degrees:	0

N

0 220 440 880 1,320 1,760 Feet

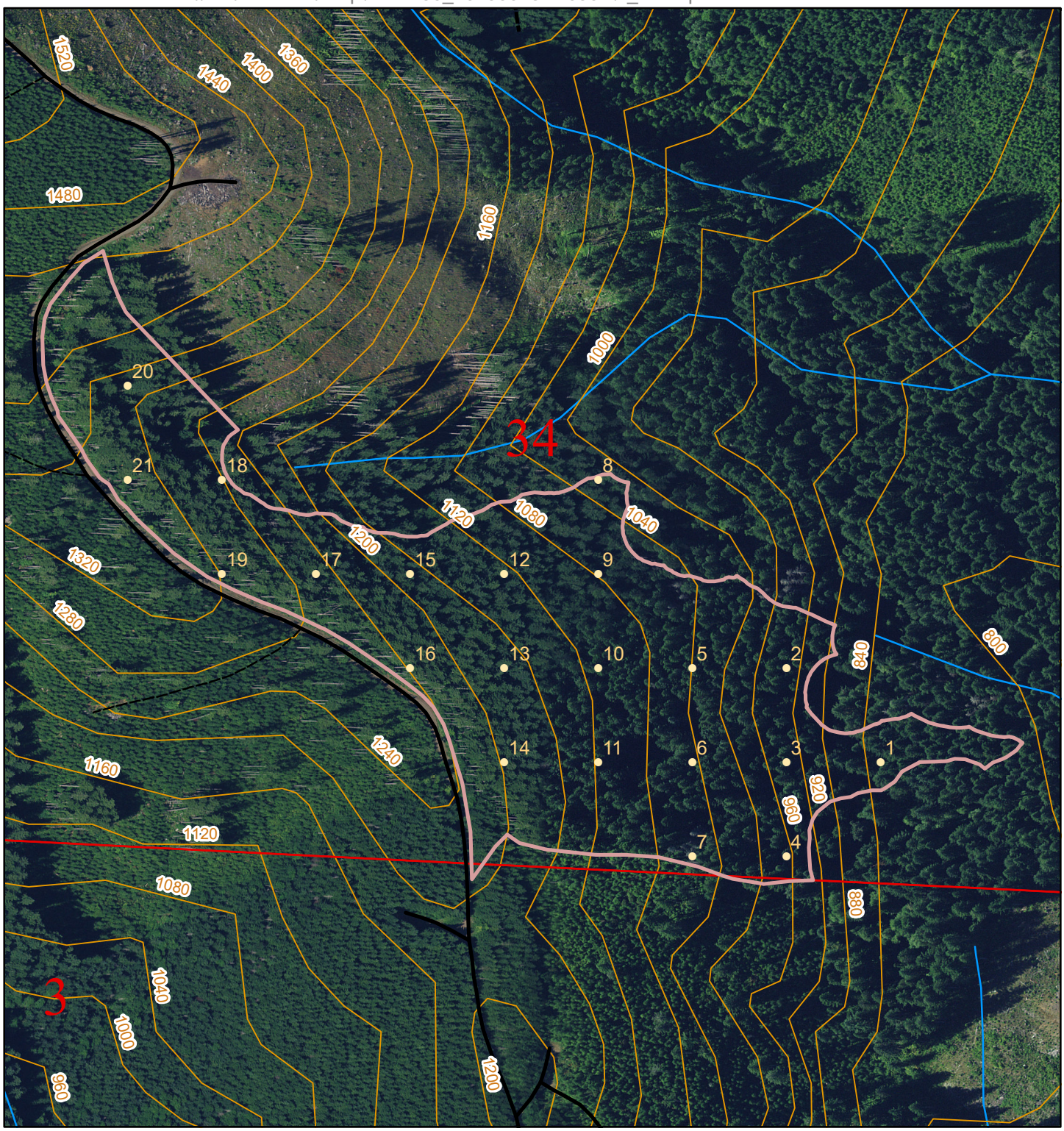
Scale 1:7,600

Legend

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

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 13, 2019 11:12 AM



Glinda the Good Unit 2 - 26.2 ac.

Layer:	glinda_the_good_hohl2	Township:	T17R04W
Poly Id:	1	Total Sample Points:	21
Acres:	30	Spacing Between Points:	250
Imagery:	2017 Orthophoto (1-ft Color) [HXIP]	Point Rotation Degrees:	0

N

0 130 260 520 780 1,040 Feet

Scale 1:4,500

Legend

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

Washington State Department of Natural Resources
Hilary Franz, Commissioner of Public Lands

Jun 13, 2019 11:09 AM

FPA/N No: 2421548

Effective Date: 5/1/2020

Expiration Date: 5/1/2023

Shut Down Zone 651 N

EARR Tax Credit: ☒ Eligible ☐ Non-eligible

Reference: Glinda the Good #30-099052

Forest Practices Application/Notification

Notice of Decision

Decision

☐ **Notification Accepted** 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 the FPA/N.

FPA/N Classification

☐ Class II ☒ Class III ☐ Class IVG ☐ Class IVS

Number of Years Granted on Multi-Year Request

☐ 4 yrs ☐ 5 yrs

Conditions on Approval/Reasons for Disapproval

Issued By: Matt Brady **Region:** South Puget Sound

Title: Resource Protection Forester **Date:** 5/1/2020

Copies to: ☒ Landowner, Timber Owner and Operator

Issued in person: ☒ Landowner ☒ Timber Owner ☒ Operator **By:** MI Jessens

Appeal Information
You have thirty (30) days to ***file*** (i.e., ***actually deliver***) an appeal in writing of this Decision and any related State Environmental Policy Act (SEPA) determinations to the Pollution Control Hearings Board, the Attorney General's Office, and the Department of Natural Resources' region office. See RCW 76.09.205. The appeal period starts when the applicant receives this decision, which usually happens electronically on the date indicated below.

You must file your appeal at all three addresses below:

Pollution Control Hearings Board	**Office of the Attorney General Natural Resources Division**	**Department Of Natural Resources** South Puget Sound Region
Physical Address 1111 Israel Road, SW Suite 301 Tumwater, WA 98501 Mailing address Post Office Box 40903 Olympia, WA 98504-0903	Physical Address 1125 Washington Street, SE Olympia, WA 98504 Mailing Address Post Office Box 40100 Olympia, WA 98504-0100	Physical & Mailing Address 950 Farman Ave N Enumclaw, WA 98022

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

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

Transfer of Forest Practices Application/Notification (WAC 222-20-010)
Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices website: http://www.dnr.wa.gov/businesspermits/forestpractices. Notify DNR of new Operators within 48 hours.

Continuing Forestland 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 forestland 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 and 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 forestland obligation, the seller must pay the buyer's costs related to continuing forestland obligations, including all legal costs and reasonable attorneys' fees incurred by the buyer in enforcing the continuing forestland obligation against the seller.

Failure by the seller to send the required notice to 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 forestland obligation prior to sale.

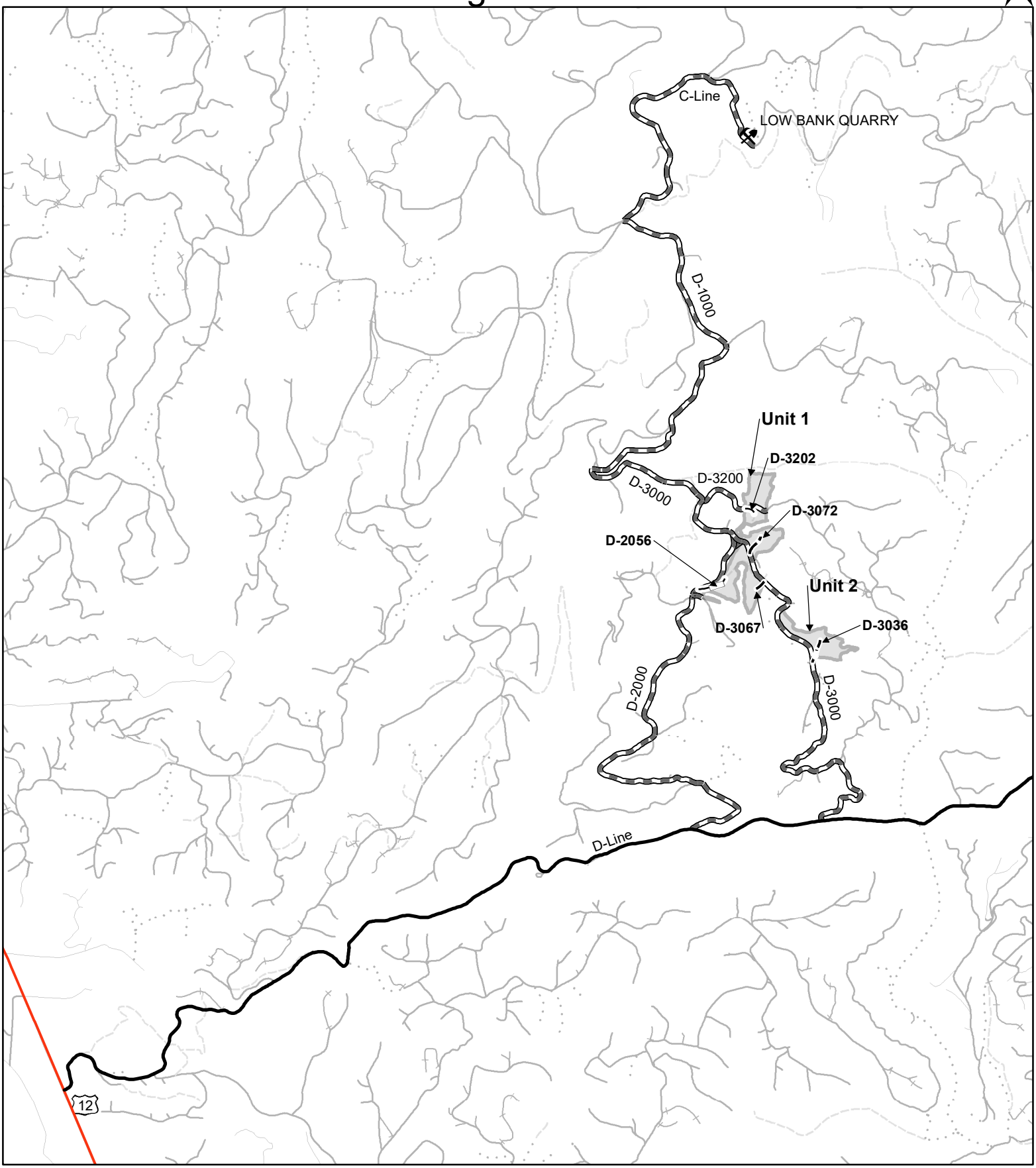
DNR affidavit of mailing:

On this day **5/1/2020**, I placed in the United States mail at **Olympia**, WA, postage paid, a true and accurate copy of this document. Notice of Decision FPA #**2421548**

Meredith Dessens _____

(Printed Name) *(Signature)*

Glinda The Good Vicinity Map
Page 1 of 9

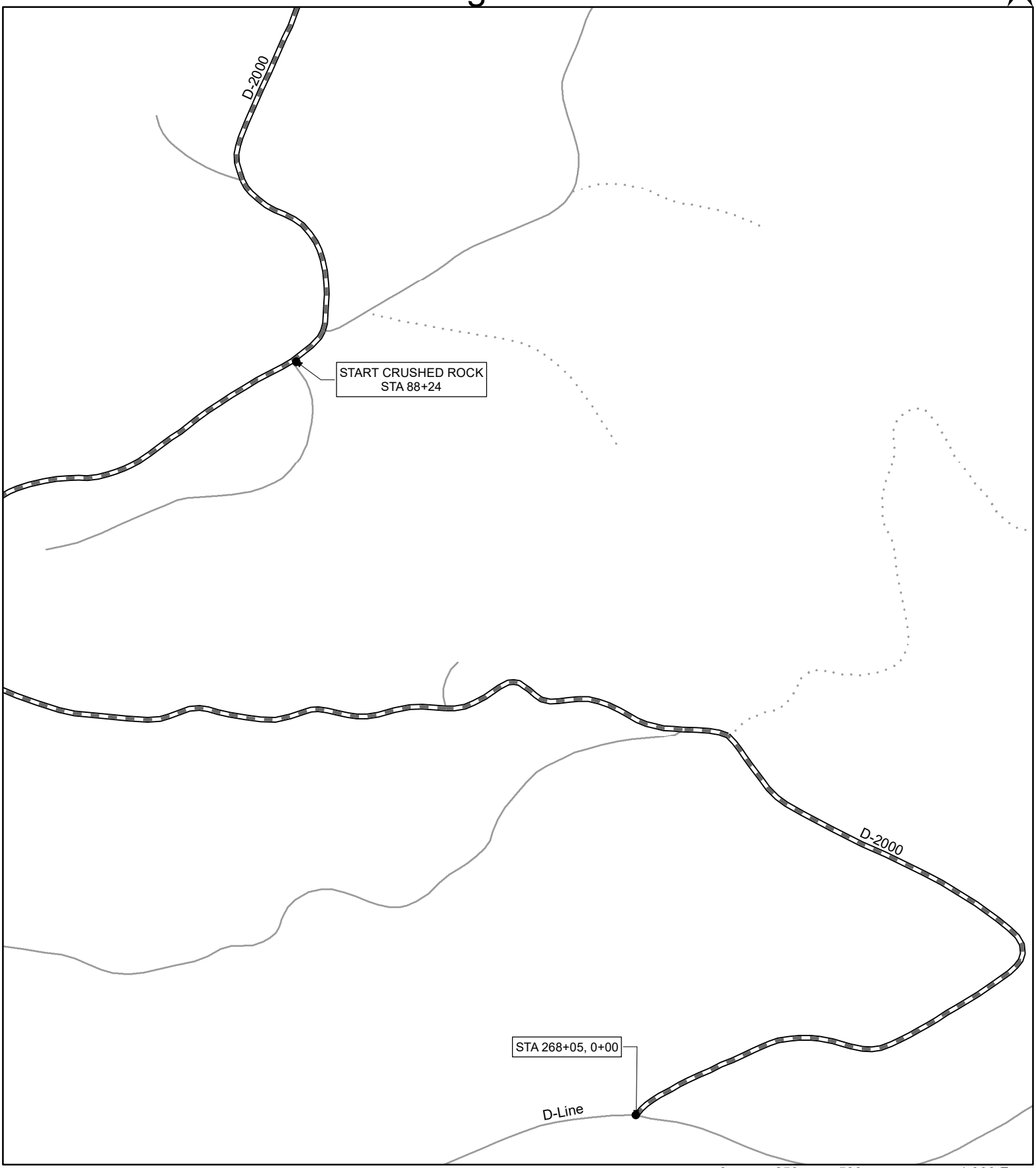


Legend

0 0.5 1 2 Miles

- Rockpit
- Haul Route
- Optional Construction
- Optional Reconstruction
- Prehaul Maintenance
- U.S.
- <all other values>
- Active
- Decommissioned
- FP Abandoned
- Orphaned
- Units

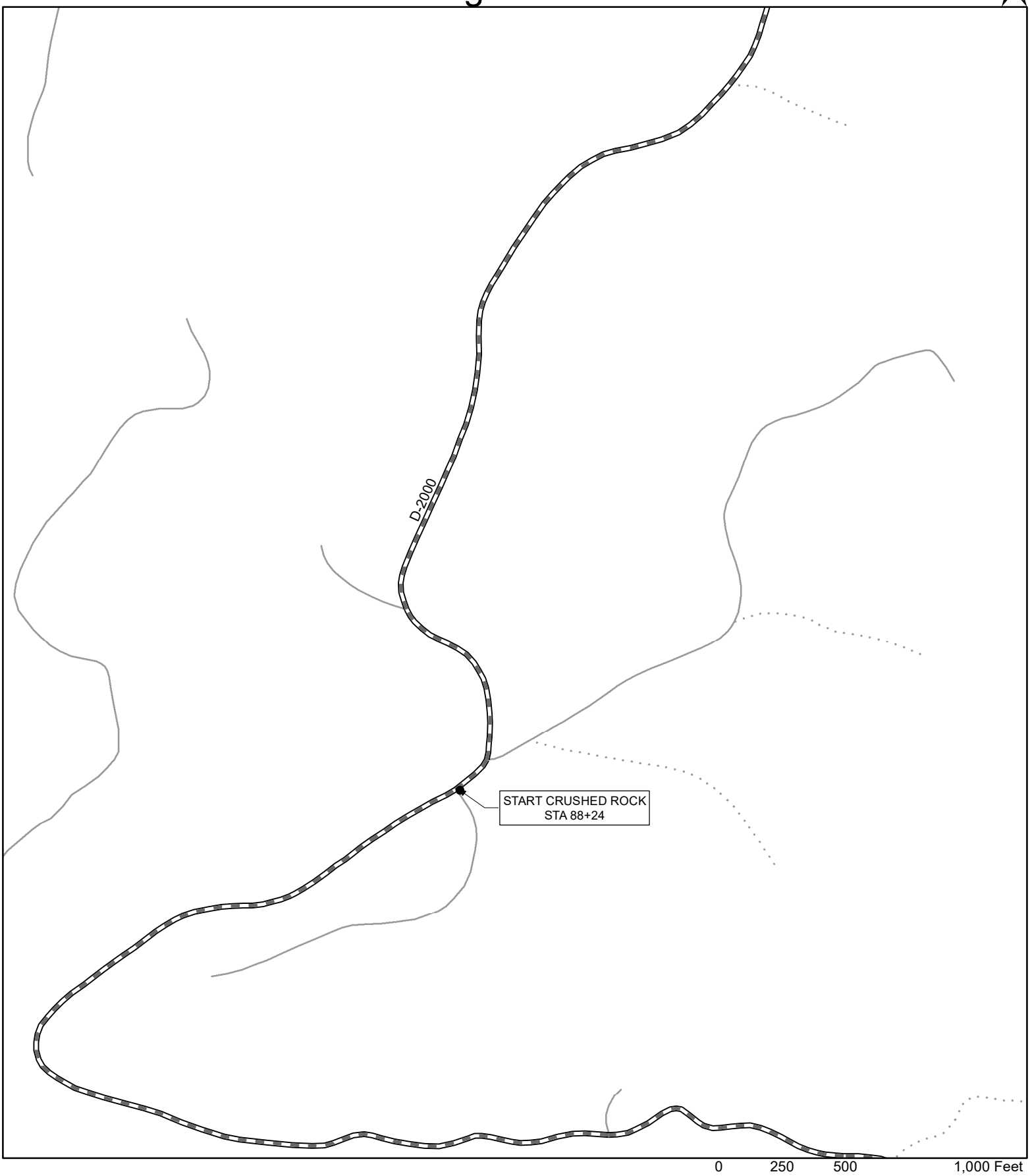
Glinda The Good Detail Maps
Page 2 of 9



Legend

Road Work · Station · Prehaul Maintenance · Active · FP Abandoned

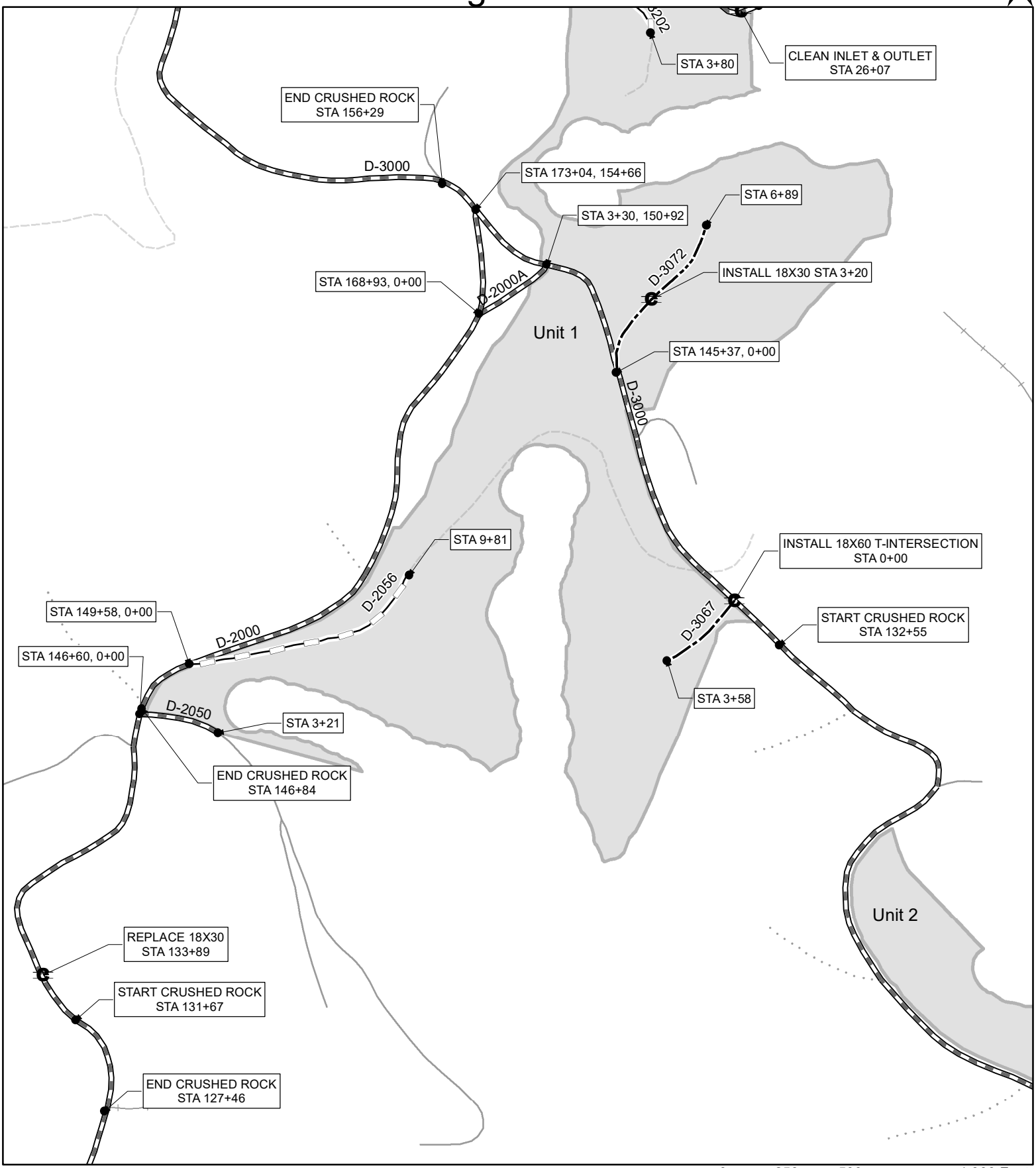
Glinda The Good Detail Maps
Page 3 of 9



Legend

Road Work | Prehaul Maintenance | Active | FP Abandoned

Glinda The Good Detail Maps
Page 4 of 9



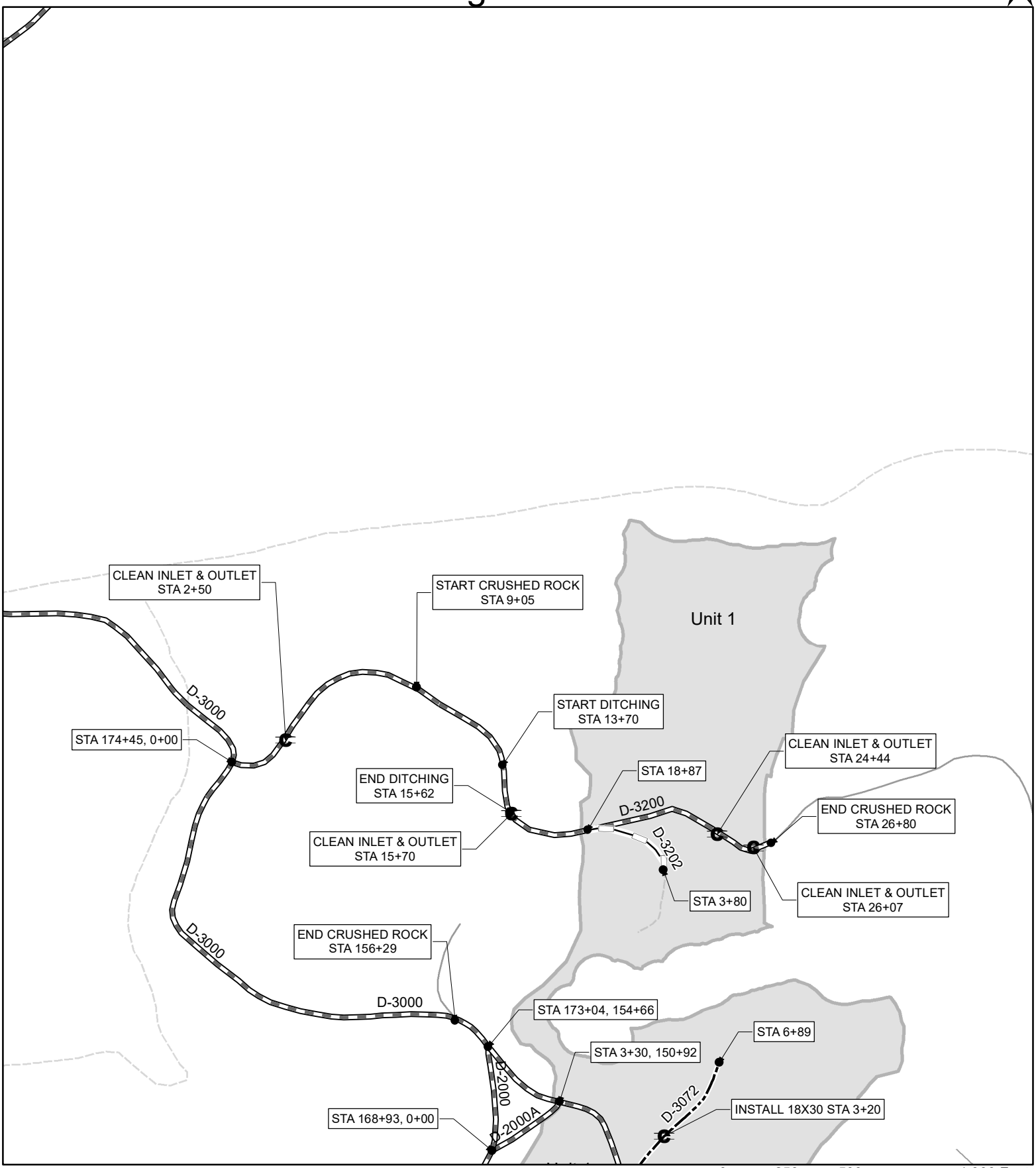
Legend

0 250 500 1,000 Feet

Culvert · Station · Optional Reconstruction · Active · FP Abandoned · Units

Road Work · Optional Construction · Prehaul Maintenance · Decommissioned · Orphaned

Glinda The Good Detail Maps
Page 5 of 9



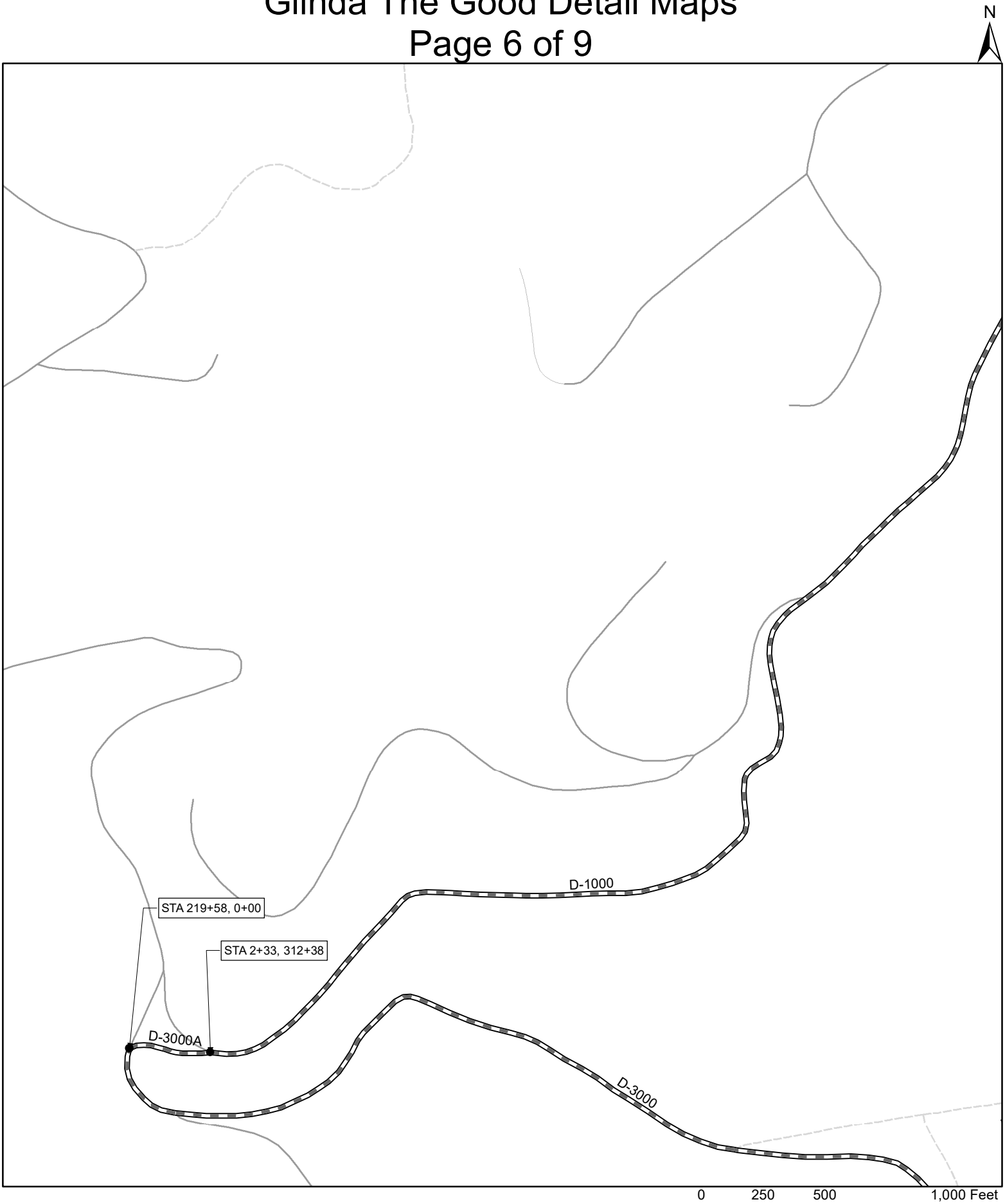
Legend

0 250 500 1,000 Feet

Culvert · Station · Optional Reconstruction · Active · Orphaned

Road Work · Optional Construction · Prehaul Maintenance · Decommissioned · Units

Glinda The Good Detail Maps
Page 6 of 9



Legend

Station | Prehaul Maintenance | <all other values> | Active | Orphaned

Glinda The Good Detail Maps
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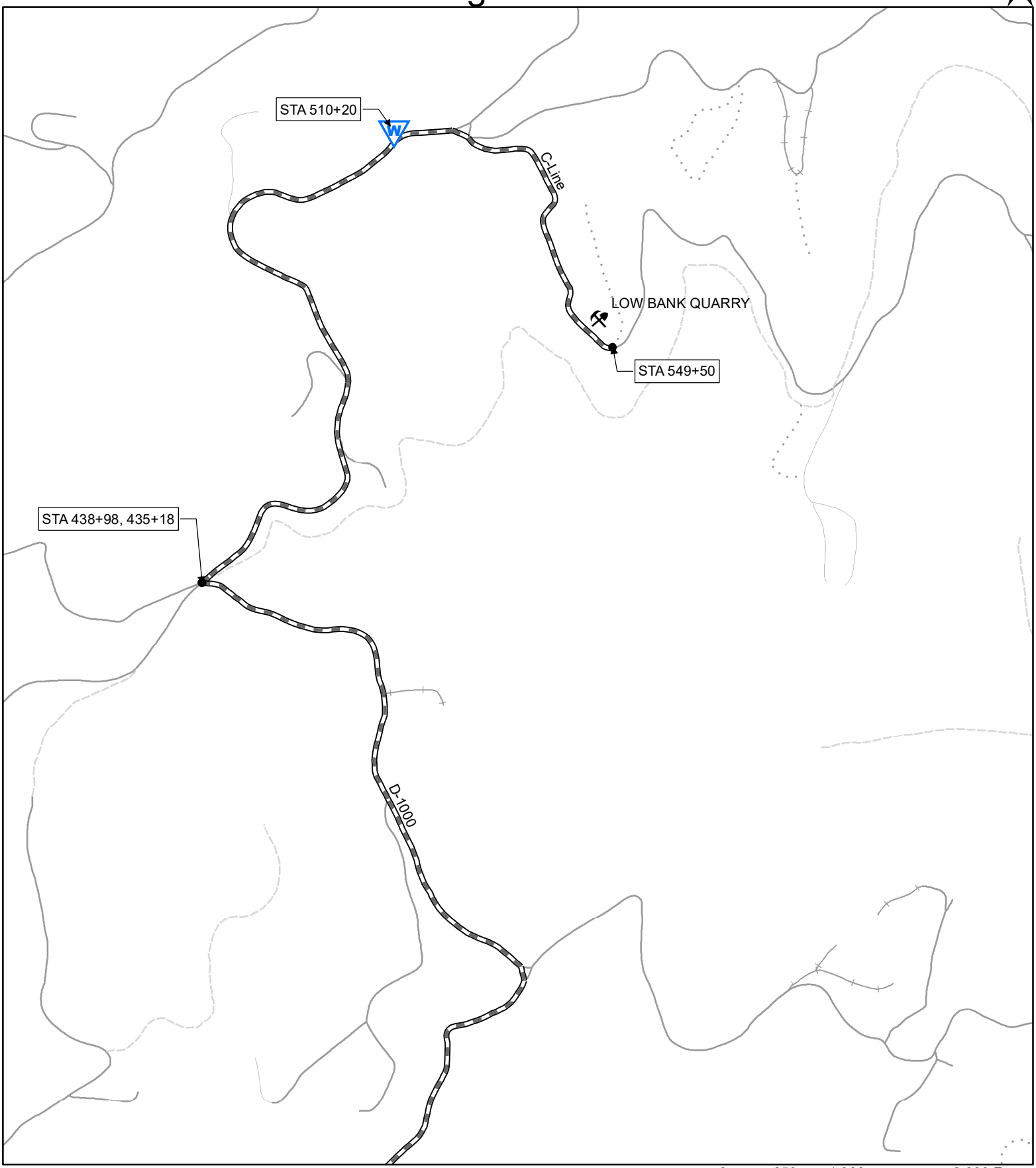

Legend

0 650 1,300 2,600 Feet

Rockpit
Station
Waste Area
Prehaul Maintenance
<all other values>
Active
Decommissioned
FP Abandoned
Orphaned

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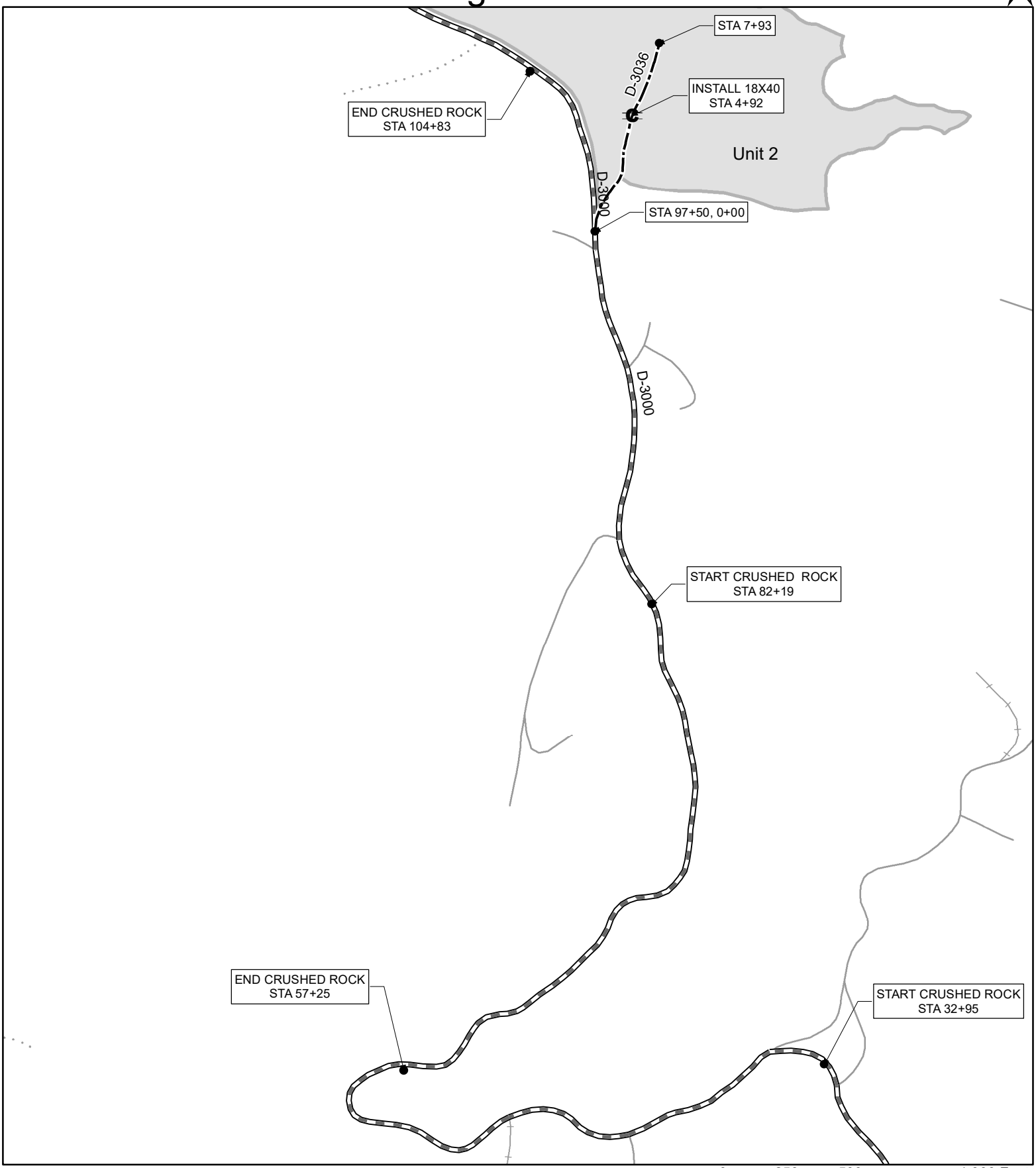

Legend

0 250 500 1,000 Feet

Culvert · Station · Prehaul Maintenance · Decommissioned · Units

Road Work · Optional Construction · Active · FP Abandoned

Glinda The Good Detail Maps
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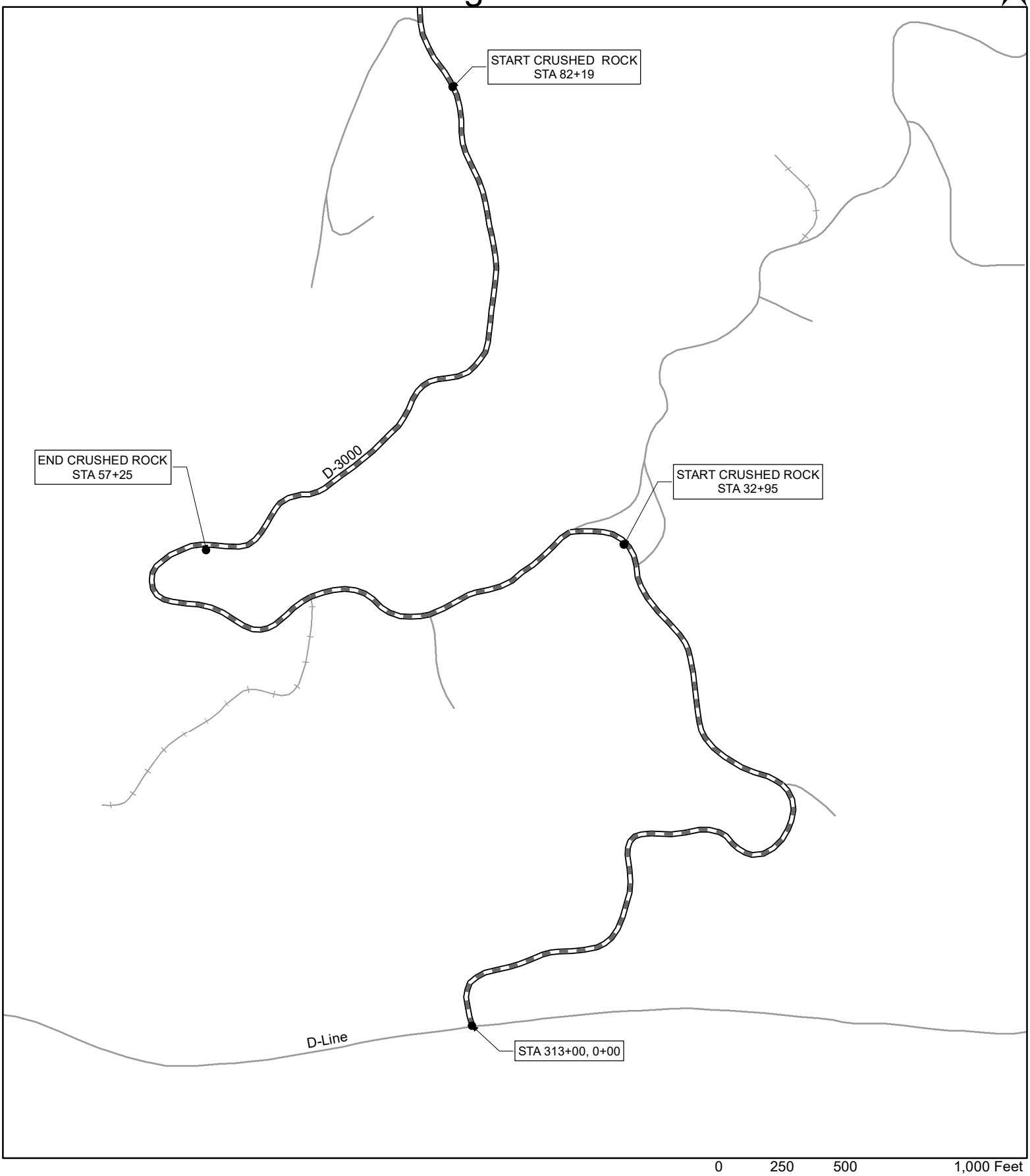


0 250 500 1,000 Feet

Legend

Road Work · Station · Prehaul Maintenance · Active · Decommissioned

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

GLINDA THE GOOD TIMBER SALE ROAD PLAN
GRAYS HARBOR COUNTY
LITTLEROCK UNIT
BLACK HILLS DISTRICT

AGREEMENT NO.:30-099052 STAFF ENGINEER: CHAD VANDEHEY

DATE: 22 MAY 2019 DRAWN & COMPILED BY: CHAD VANDEHEY

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
C-Line	435+18 to 549+50	Prehaul Maintenance
D-1000	312+38 to 438+98	Prehaul Maintenance
D-2000	0+00 to 173+04	Prehaul Maintenance
D-2050	0+00 to 3+21	Prehaul Maintenance
D-2056	0+00 to 9+81	Abandonment (If Reconstructed)
D-2000A	0+00 to 3+30	Prehaul Maintenance
D-3000	0+00 to 219+58	Prehaul Maintenance
D-3000A	0+00 to 2+33	Prehaul Maintenance
D-3067	0+00 to 3+58	Abandonment (If Constructed)
D-3200	0+00 to 26+80	Prehaul Maintenance
D-3202	0+00 to 3+80	Abandonment (If Reconstructed)

0-3 OPTIONAL ROADS

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

Road	Stations	Type
D-2056	0+00 to 9+81	Reconstruction (outsloped)

D-3036	0+00 to 7+93	Construction
D-3067	0+00 to 3+58	Construction
D-3072	0+00 to 6+89	Construction
D-3202	0+00 to 3+80	Reconstruction

0-4 CONSTRUCTION

Construction includes, but is not limited to:

- Clearing;
- Grubbing;
- Right-of-way debris disposal;
- Excavation and/or embankment to subgrade;
- Turnout and turnaround construction;
- Landing construction;
- Curve widening;
- Acquisition and installation of drainage structures;
- Acquisition, manufacture, and application of rock;
- Full Bench Construction with End Haul.

0-5 RECONSTRUCTION

Reconstruction 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 and application of rock;
- Installation of culvert inlet/outlet armoring;

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
C-Line	435+18 to 549+50	Grade, Compact
D-1000	312+38 to 438+98	Grade, Compact
D-2000	0+00 to 173+04	Grade,Compact, Spot Rock, Culvert Replacement
D-2050	0+00 to 3+21	Grade, Compact, Brush
D-2000A	0+00 to 3+30	Grade, Compact
D-3000	0+00 to 219+58	Grade, Compact, Spot Rock, Brush
D-3000A	0+00 to 2+33	Grade, Compact
D-3200	0+00 to 26+80	Grade, Compact, Brush, Rock Lift, Culvert Cleaning, Ditching

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

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

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

Purchaser shall perform road work in accordance with the dimensions shown on the TYPICAL SECTION SHEET and the specifications within this road plan, unless controlled by construction stakes or design data (plan, profile, and cross-sections).

1-4 ROAD TOLERANCES

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

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

1-6 ORDER OF PRECEDENCE

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

1. Addenda.
2. 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.
7. Road Work Maps

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 3 calendar days before the closure of any road. Construction may not close the following roads for more than the specified number of hours.

Road	Number of Allowable Closed Hours
C-Line	4 consecutive hours
D-1000	4 consecutive hours
D-2000	4 consecutive hours
D-2000A	4 consecutive hours
D-3000	4 consecutive hours
D-3000A	4 consecutive hours

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:

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

1-16 CONSTRUCTION STAKES SET BY STATE

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

1-18 REFERENCE POINT DAMAGE

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

SUBSECTION TIMING

1-20 COMPLETE BY DATE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

Purchaser shall notify the Contract Administrator a minimum of 3 working days before work begins.

1-23 ROAD WORK PHASE APPROVAL

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

- Drainage installation
- Subgrade compaction
- Rock compaction

SUBSECTION RESTRICTIONS

1-25 ACTIVITY TIMING RESTRICTION

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

Activity	Closure Period
The construction, reconstruction, abandonment and/or prehaul maintenance of any roads	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 or Contract Clause H-130 HAULING SCHEDULE, Purchaser shall provide a maintenance plan to include further protection of state resources. Purchaser shall obtain written approval from the Contract Administrator for the maintenance plan, and shall put preventative measures in place before operating during the closure period. Purchaser is required to maintain all haul roads at their own expense including those listed in Contract Clause C-060 DESIGNATED ROAD MAINTAINER. If other operators are using, or desire to use these designated maintainer roads, a joint operating plan must be developed. All parties shall follow this plan.

1-29 SEDIMENT RESTRICTION

Purchaser shall not allow silt-bearing runoff to enter any streams. Purchaser shall accomplish sediment removal through silt traps, silt fences, settling ponds, or other methods as approved, in writing by the Contract Administrator.

1-30 CLOSURE TO PREVENT DAMAGE

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

- Wheel track rutting exceeds 6 inches on jaw run roads.
- Wheel track rutting exceeds 4 inches on crushed rock roads.
- Surface or base stability problems persist.

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

1-32 BRIDGE AND ASPHALT SURFACE RESTRICTION

The use of metal tracked equipment is not allowed on bridge or asphalt surfaces at any time. If Purchaser must run equipment on bridge or asphalt surfaces, then rubber tired

equipment or other methods, approved in writing by Contract Administrator, must be used.

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

1-33 SNOW PLOWING RESTRICTION

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

SUBSECTION OTHER INFRASTRUCTURE

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-43 ROAD WORK AROUND UTILITIES

Road work is in close proximity to a utility. It is the Purchaser's responsibility to identify any utilities. 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.

SECTION 2 – MAINTENANCE

2-1 GENERAL ROAD MAINTENANCE

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

2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE

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

2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER

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

2-4 PASSAGE OF LIGHT VEHICLES

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

Road	Stations
C-Line	435+18 to 549+50
D-1000	312+38 to 438+98
D-2000	0+00 to 173+04
D-3000	0+00 to 219+58
D-3036	0+00 to 7+93
D-3072	0+00 to 6+89
D-3200	0+00 to 26+80

2-5 MAINTENANCE GRADING – EXISTING ROAD

On the following road(s), Purchaser shall use a grader to shape the existing surface before rock application, if rock application is required. If rock application is not required, Purchaser shall use a grader to shape the existing surface before hauling of timber. Purchaser shall accomplish all grading using a motor grader. Desoding the road may be required.

Road	Stations
C-Line	435+18 to 549+50
D-1000	312+38 to 438+98
D-2050	0+00 to 3+21
D-2000A	0+00 to 3+30
D-3000	0+00 to 219+58
D-3000A	0+00 to 2+33
D-3200	0+00 to 26+80

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

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

Road	Stations	Comment
D-3200	13+70 to 15+62	Clean Ditch

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

SUBSECTION BRUSHING

3-1 BRUSHING

On the following road(s), Purchaser shall cut vegetative material up to 4 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by manual or mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

Road	Stations
D-2050	0+00 to 3+21
D-3000	0+00 to 219+58
D-3200	0+00 to 26+80

SUBSECTION CLEARING

3-5 CLEARING

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

3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing trees unless approved by the Contract Administrator.

SUBSECTION GRUBBING

3-10 GRUBBING

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

SUBSECTION ORGANIC DEBRIS

3-20 ORGANIC DEBRIS DEFINITION

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

3-21 DISPOSAL COMPLETION

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

3-23 PROHIBITED DISPOSAL AREAS

Purchaser shall not place organic debris in the following areas:

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream, or wetland.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 55%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

3-24 BURYING ORGANIC DEBRIS RESTRICTED

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

3-25 SCATTERING ORGANIC DEBRIS

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

SECTION 4 – EXCAVATION

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

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

4-4 SWITCHBACK STANDARDS

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

- Maximum adverse grades for switchbacks is 12%.
- Maximum favorable grades for switchbacks is 14%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

4-5 CUT SLOPE RATIO

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

Material Type	Excavation Slope Ratio	Excavation Slope Percent
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:

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-12 FULL BENCH CONSTRUCTION

On the following road(s), and where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width except as construction staked or designed. If designated, Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

Road	Full Bench Location	Comments
D-3036	3+00 to 4+91	End haul/ push out of full bench station range

4-20 SUBGRADE DIMENSIONS FOR INTERSECTIONS

On the following road(s), Purchaser shall construct the subgrade to the dimensions shown on the T-INTERSECTION DETAIL.

Road
D-3067

4-21 TURNOUTS

Purchaser shall construct turnouts as designated on the TURNOUT LIST. Locations may be adjusted to fit the final subgrade alignment and sight distances. Minimum dimensions are shown on the TURNOUT LIST.

4-22 TURNAROUNDS

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

SUBSECTION DITCH CONSTRUCTION

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

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.

4-29 DITCHOUTS

Purchaser shall construct ditchouts as identified in maps, in field, and as directed by the Contract Administrator. Ditchouts must be constructed in a manner that diverts ditch water onto the forest floor and must have excavation backslopes no steeper than a 1:1 ratio.

SUBSECTION WASTE MATERIAL (DIRT)

4-35 WASTE MATERIAL DEFINITION

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

4-36 DISPOSAL OF WASTE MATERIAL

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

4-37 WASTE AREA LOCATION

Purchaser shall deposit waste material in the listed designated areas. Additional waste areas may also be identified or approved by the Contract Administrator. The amount of material allowed in a waste area is as listed.

Road	Waste Area Location	Comments	Volume
C-Line	510+20	Low Bank Overburden	9000 C.Y.

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

- Within 50 feet of a cross drain culvert.
- Within 100 feet of a live stream or wetland.
- On side slopes steeper than 55%.
- In locations that interfere with the construction of the road prism.

- In locations that impede drainage.
- Within the operational area for cable landings.
- Against standing timber.

SUBSECTION BORROW

4-46 COMMON BORROW

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

4-47 NATIVE MATERIAL

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

4-48 BORROW MATERIAL

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

4-49 BORROW SOURCE

Purchaser shall obtain borrow material from borrow sources identified or approved by the Contract Administrator. 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.

SUBSECTION SHAPING

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

SUBSECTION COMPACTION

4-60 FILL COMPACTION

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. Waste

material may be placed by end-dumping or sidecasting until sufficiently wide enough to support the equipment.

4-61 SUBGRADE COMPACTION

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

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders to permit escape of runoff, except as specified in Clause 8-7 ROAD SHOULDER BERM INSTALLATION.

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 AND DRAINAGE 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 except as provided in clause 5-6 USED CULVERT MATERIAL.

5-7 USED CULVERT MATERIAL

On the following road(s), Purchaser may install used culverts. All other roads must have new culverts installed.

Road	Stations
D-2056	0+00 to 9+81

D-3067	0+00 to 3+58
D-3202	0+00 to 3+80

5-10 CULVERT MARKER INSTALLATION

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

5-12 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST and materials listed in Clause 5-13 CONTINGENCY CULVERTS that are not installed will become the property of the state. Purchaser shall stockpile materials at Mima Mounds Pit (SW ¼ NW ¼ Section 10, T16R03W).

5-13 CONTINGENCY CULVERTS

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

Road	Size
On any portion of road used for timber or rock haul.	18” x 30’ culvert 18” x 30’ culvert 18” x 30’ culvert 18” x 30’ culvert 18” culvert band 18” culvert band

SUBSECTION CULVERT INSTALLATION

5-15 CULVERT INSTALLATION

Culvert, downspout, flume and energy dissipater 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”. Culverts shall be banded using lengths of no less than 10 feet, and no more than one length less than 16 feet**.** Shorter section of banded culvert shall be installed at the inlet end.

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

culverts must be installed with a depth of cover recommended by the culvert manufacturer for the type and size of the pipe.

SUBSECTION ENERGY DISSIPATERS

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock. Energy dissipater installation is subject to approval by the Contract Administrator.

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

SUBSECTION CATCH BASINS, HEADWALLS, AND ARMORING

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CULVERTS

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

SECTION 6 – ROCK AND SURFACING

SUBSECTION ROCK SOURCE

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following source(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 3 working days before starting any operations in the listed locations.

Source	Location
Low Bank Quarry	T17NR04WS15

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. Purchaser shall notify the Contract Administrator a minimum of 3 working days before starting any operations in the rock source.

Source	Rock Type
Low Bank Quarry	2 Inch Minus, 4 Inch Jaw, Quarry Spalls, Pit Run, Light Loose Riprap.

6-12 ROCK SOURCE SPECIFICATIONS

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

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

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

- Pit walls must be maintained in a condition to minimize the possibility of the walls sliding or failing.
- The width of pit benches must be a minimum of 1.5 times the maximum length of the largest machine used.
- The surface of pit floors and benches must be uniform and free-draining at a minimum 2% outslope gradient.

- All operations must be carried out in compliance with all regulations of the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- All vehicle access to the top of the pit faces must be blocked.

6-14 DRILL AND SHOOT

Rock drilling and shooting must meet the following specifications:

- Oversize material remaining in the rock source at the conclusion of the timber sale may not exceed 1000 cubic yards.
- Oversize material is defined as rock fragments larger than two feet in any dimension.
- Oversized rock that exceeds the maximum allowable amount must be reduced to a smaller size within the rock source.
- Purchaser shall notify the Contract Administrator a minimum of 3 working days before blasting operations.
- Purchaser shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days before any drilling. The drilling and shooting plan must include, at a minimum, the mapped location and spacing of all holes to be loaded, the type of blasting agent used, the powder factor calculated and the units of same, stem amount held per hole. After drilling, the type of rock encountered while drilling e.g. hard black, soft brown, etc. shall be amended to submitted plan.
- All operations must be carried out in compliance with the Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration and the Safety Standards for Construction Work (296-155 WAC), Washington Department of Labor and Industries.
- Purchaser shall block access roads and trails before blasting operations.

SUBSECTION ROCK MANUFACTURE

6-20 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.

6-23 ROCK GRADATION TYPES

Purchaser shall manufacture rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform

quality when placed in hauling vehicles**.** Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

SUBSECTION ROCK GRADATION

6-30 2-INCH MINUS CRUSHED ROCK

% Passing 2” square sieve	100%
% Passing 1” square sieve	55 - 75%
% Passing U.S. #4 sieve	20 - 45%

Of the fraction passing the No. 4 sieve, 40% to 60% must pass the No. 10 sieve.

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

6-37 4-INCH JAW RUN ROCK

% Passing 4” square sieve	95%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-41 PIT RUN ROCK

No more than 50 percent of the rock may be larger than 8 inches in any dimension and no rock may be larger than 12 inches in any dimension. Pit Run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

6-43 QUARRY SPALLS

% Passing 8" square sieve	100%
% Passing 3" square sieve	40% maximum
% Passing 3/4" square sieve	10% maximum

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

6-50 LIGHT LOOSE RIP RAP

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

At Least/Not More Than	Size Range
20% / 90%	18”- 28”

15% / 80%	8”- 18”
10% / 20%	3”- 8”

SUBSECTION ROCK MEASUREMENT

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

SUBSECTION ROCK APPLICATION

6-70 APPROVAL BEFORE ROCK APPLICATION

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

6-71 ROCK APPLICATION

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

6-73 ROCK FOR WIDENED PORTIONS

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

6-75 OPTIONAL ROCK EXCEPTION

On the following roads, Purchaser may place less rock than shown on the ROCK LIST, when approved in writing by the Contract Administrator.

If less rock is applied, Purchaser shall submit a written plan, for approval, describing how these roads will be constructed, used, maintained, and treated post-haul. Purchaser shall meet post-haul specifications in Section 9 POST-HAUL ROAD WORK, the FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS, or other conditions of the approved plan.

Road	Stations
D-2056	0+00 to 9+81
D-3067	0+00 to 3+58
D-3202	0+00 to 3+80

SUBSECTION ASPHALT

6-93 ASPHALT REPAIR

If hauled upon, asphalt could deteriorate. Any damage or wear, including but not limited to depressions, sags, cracks, and alligatoring, must be replaced with new material. All pavement repair areas must be saw-cut before removal. The cutting line must be a minimum of 6 inches beyond the damaged area. Damaged areas exceeding 25 square feet must have asphalt placed with an approved paving machine. The replacement asphalt must be Hot Mix Asphalt or equivalent and installed per Clause 5-04.3(5)E of the WSDOT Standard Specifications. Purchaser shall notify the Contract Administrator at least 3 working days before starting any asphalt road repairs. Purchaser shall obtain written approval from the Contract Administrator for all completed repairs.

6-94 HMA WEATHER LIMITATIONS *(WSDOT 5-04.3(16))*

HMA may not be placed on any wet surface, or when the average surface temperatures are less than 45°F, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

Sediment control shall be accomplished using sediment traps, silt fence, or other methods as approved in writing by the Contract Administrator.

SUBSECTION REVEGETATION

8-15 REVEGETATION

On the following road(s), Purchaser shall spread grass seed on all exposed soils resulting from road work activities. Cover all exposed soils using hand method. Other methods of covering must be approved in writing by the Contract Administrator.

Road	Location	Comments
D-2056	0+00 to 9+81	Abandonment
D-3067	0+00 to 3+58	Abandonment
D-3202	0+00 to 3+80	Abandonment

8-16 REVEGETATION SUPPLY

The Purchaser shall provide the seed mixture.

8-17 REVEGETATION TIMING

Purchaser shall revegetate immediately after road work is completed unless alternative plan approved in writing by the Contract Administrator.

8-25 GRASS SEED

Purchaser shall evenly spread the seed mixture listed below on all soil specified in 9-21 ROAD ABANDONMENT at a rate of 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

1. Weed seed may not exceed 0.5% by weight.
2. All seed species must have a minimum 90% germination rate, unless otherwise specified.
3. Seed must be certified.
4. Seed must be furnished in standard containers showing the following information:
    a. Common name of seed.
    b. Net weight.
    c. Percent of purity.
    d. Percentage of germination.
    e. Percentage of weed seed and inert material.
5. Seed must conform to the following mixture unless a comparable mix is approved in writing by the Contract Administrator.
6.

Kind and Variety of Seed in Mixture	% by Weight
Perennial Rye	35-45
Red Fescue	35-45
Highland Bent	5-15
White Clover	5-15
Inert and Other Crop	0.5

SECTION 9 – POST-HAUL ROAD WORK

SUBSECTION STRUCTURES

9-1 BARRICADE DETAIL

On the following road(s), Purchaser shall construct barricades in accordance with the BARRICADE DETAIL.

Road	Station
D-2056	0+00
D-3067	0+00
D-3202	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.

SUBSECTION POST-HAUL LANDING MAINTENANCE

9-10 LANDING DRAINAGE

Purchaser shall provide for drainage of the landing surface.

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads if constructed/reconstructed before the termination of this contract.

Road	Stations
D-2056	0+00 to 9+81
D-3067	0+00 to 3+58
D-3202	0+00 to 3+80

9-22 ABANDONMENT

- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 10 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 per cent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Remove culverts from State Land.
- Remove ditch cross drain culverts and leave the resulting trench open.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment at a rate of 50 lbs/acre.
- Construct barricade per clause 9-1 BARRICADE DETAIL.

SECTION 10 MATERIALS

SUBSECTION GEOTEXTILES

10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

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

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

SUBSECTION CULVERTS

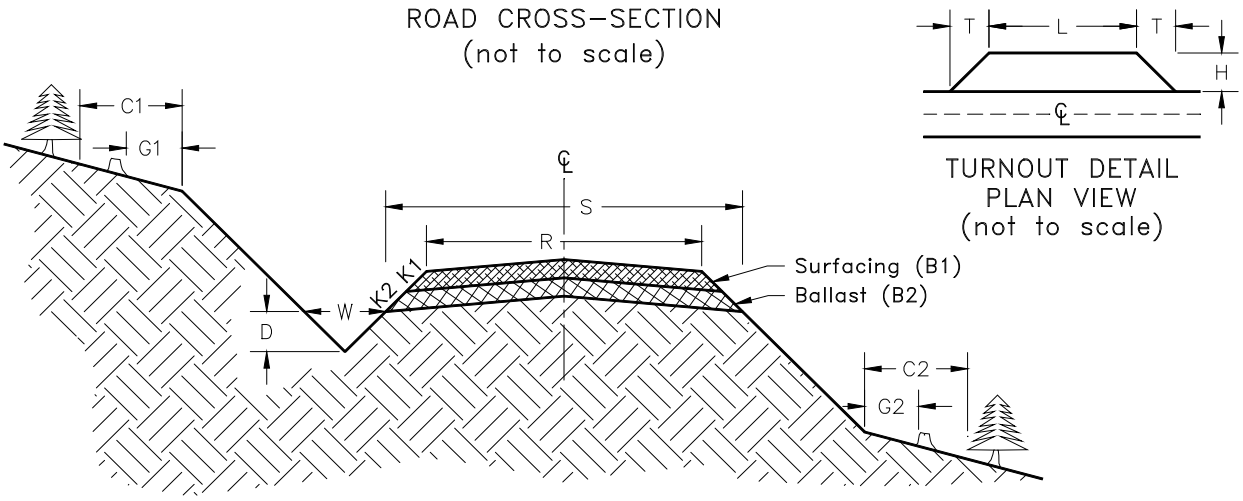
10-17 CORRUGATED PLASTIC CULVERT

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

10-22 PLASTIC BAND

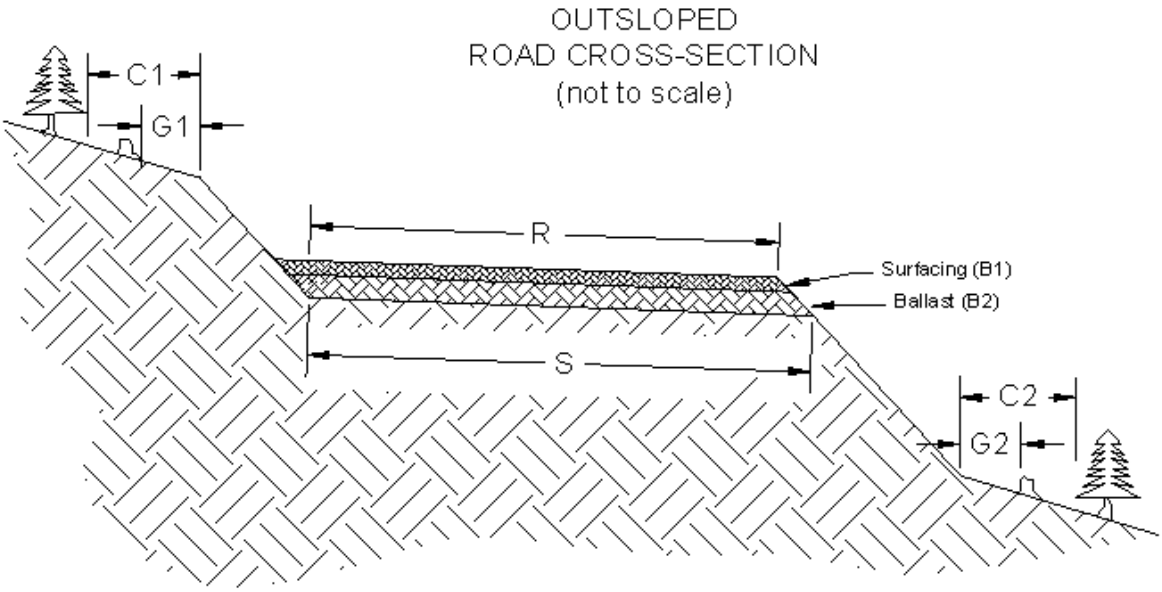
Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe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

TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
				S	R	W	D		G1	G2	C1	C2	Clause	Clause
C-Line	435+18	549+50	A	-	16	-	-	4	-	-	-	-	4-5	4-6
D-1000	312+38	438+98	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-2000	0+00	173+04	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-2050	0+00	3+21	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-2000A	0+00	3+30	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-3000	0+00	219+58	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-3000A	0+00	2+33	A	-	12	-	-	4	-	-	-	-	4-5	4-6
D-3036	0+00	7+93	C	16	12	3	1	4	2	2	5	5	4-5	4-6
D-3067	0+00	3+58	C	16	12	3	1	4	0	0	0	0	4-5	4-6
D-3072	0+00	6+89	C	16	12	3	1	4	2	2	5	5	4-5	4-6
D-3200	0+00	26+80	A		12	3	1	4	-	-	-	-	4-5	4-6
D-3202	0+00	3+80	C	16	12	3	1	4	0	0	0	0	4-5	4-6

TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Crown in. @ CL	Grubbing Limits (feet)		Clearing Limits (feet)		Cut Slope Ratio	Fill Slope Ratio
				S	R	W	D		G1	G2	C1	C2	Clause	Clause
D-2056	0+00	9+81	C	16	16	-	-	4,-4	0	0	0	0	4-5	4-6

TURNOUT and TURNAROUND LIST

Road Number	Begin L- Station	End L- Station	Turnout Width (H)	Full Width Length (L)	Taper Length (T)	Comments
D-3036	1+99	2+50	30	51	25	Turnout R
	5+91	6+30	30	39	25	Turnaround L, Push Full Bench Material And Compact
D-3072	3+98	4+28	30	30	25	Turnaround R

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)
C-Line	435+18	549+50	After Grading	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-1000	312+38	438+98	After Grading	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-2000	0+00	95+69	After Grading, Spot Rock, Culvert Replacement	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-2050	0+00	3+21	After Grading	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-2056	0+00	9+81	Reconstruction	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-2000A	0+00	3+30	After Grading	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3000	0+00	219+58	After Grading, Spot Rock	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3000A	0+00	2+33	After Grading	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3036	0+00	7+93	Construction, Turn Around	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3067	0+00	3+58	Construction	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3072	0+00	6+89	Construction	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3200	0+00	26+80	After Grading, Rock Lift	-	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5
D-3202	0+00	3+80	Reconstruction	12”	Smooth Drum Vibratory Roller	14,000	2 low freq. vibe on	3.5

ROCK LIST
Ballast

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
			K2	B2					CW	TO	TA
					4 Inch Jaw Run						
D-2056*	0+00	9+81	1½ : 1	12”	49	9.81	481	Low Bank			
D-3036	0+00	7+93	1½ : 1	12”	52	7.93	527	Low Bank	42	30	42
D-3067*	0+00	3+58	1½ : 1	12”	52	3.58	187	Low Bank			
D-3072	0+00	6+89	1½ : 1	12’	52	6.89	439	Low Bank	32		48
D-3202*	0+00	3+80	1½ : 1	12”	52	3.80	198	Low Bank			
T-Intersections				12”	40 per	1	40	Low Bank			
					Quarry Spalls						
All Permanent Culverts Except Live Stream					2.5 per culvert	7	18	Low Bank			
					Pit Run						
Landings					50 per landing	14	700	Low Bank			
					Light Loose Riprap						
Dissipaters					Place at Outlet	1	3	Low Bank	See CULVERT AND DRAINAGE LIST		

4 Inch Jaw Total __1,872___Cubic Yards
Quarry Spalls Total__18____Cubic Yards
Light Loose Riprap Total__3_____Cubic Yards
Pit Run Total__700____Cubic Yards
Ballast Total__2,593____Cubic Yards

<u>Included in C.Y. Subtotal</u>
CW- Curve Widening
TO- Turn Out
TA- Turn Around

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

ROCK LIST

Surfacing

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Comments		
			K1	B1	**2 Inch Minus**				CW	TO	TA
D-2000	88+24	127+46	1½ : 1	6"	26	39.22	1020	Low Bank			
	131+67	146+84	1½ : 1	6"	26	15.17	395	Low Bank			
D-3000	32+95	57+25	1½ : 1	6"	26	24.30	632	Low Bank			
	82+19	104+83	1½ : 1	6"	26	22.64	589	Low Bank			
	132+55	156+29	1½ : 1	6"	26	23.74	618	Low Bank			
D-3036	0+00	7+93	1½ : 1	6"	26	7.93	227	Low Bank	20		
D-3072	0+00	6+89	1½ : 1	6"	26	6.89	197	Low Bank	17		
D-3200	9+05	26+80	1½ : 1	6"	26	17.75	462	Low Bank			
T-Intersection			1½ : 1	6"	20 per	1	20	Low Bank			
Prehaul/ Reconstruction Culverts					10 Per Culvert	5	50	Low Bank	Includes Contingency Culverts		

2 Inch Minus Total __4,210___Cubic Yards
Surfacing Total__4,210___Cubic Yards

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

Included in C.Y. Subtotal
CW- Curve Widening
TO- Turn Out
TA- Turn Around

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

** Post Haul Rock

CULVERT AND DRAINAGE LIST

Road Number	Location	Culvert Dia. (in)	Culvert Type	Length (ft) Culvert	Length (ft) Downspt	Length (ft) Flume	Riprap (C.Y.) Inlet	Riprap (C.Y.) Outlet	Riprap (C.Y.) Type	Backfill Material *	Placement Method*	Const. Staked*	Remarks
D-2000	133+89	18	PD	30			1	1.5	QS	NT			Replace
D-3036	4+92	18	PD	40			1	1.5	QS	NT			Install W/ 3 CY LL Dissipater
D-3067	0+00	18	Temp	60			-	-	-	-	In D-3000 Ditch		Install, See T-Intersection Detail
D-3072	3+20	18	PD	30			1	1.5	QS	NT			Install
D-3200	2+50	-	-	-			-	-	-	-			Clean Inlet and Outlet
	15+70	-	-	-			-	-	-	-			Clean Inlet and Outlet
	24+44	-	-	-			-	-	-	-			Clean Inlet and Outlet
	26+07	-	-	-			-	-	-	-			Clean Inlet and Outlet
Contingency Culverts		18	PD	30			1	1.5	QS	NT			At CA Discretion
		18	PD	30			1	1.5	QS	NT			
		18	PD	Band			-	-	-	-			
		18	PD	Band			-	-	-	-			

* SEE CULVERT AND DRAINAGE SPECIFICATION DETAIL

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

TEMP = Temporary Culvert

Key:

QS - Quarry Spalls

LL - Light Loose Riprap

SR - Shot Rock

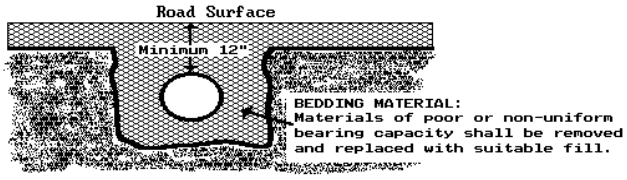
NT - Native (bank run)

SL - Select Fill

Flume - Half round pipe

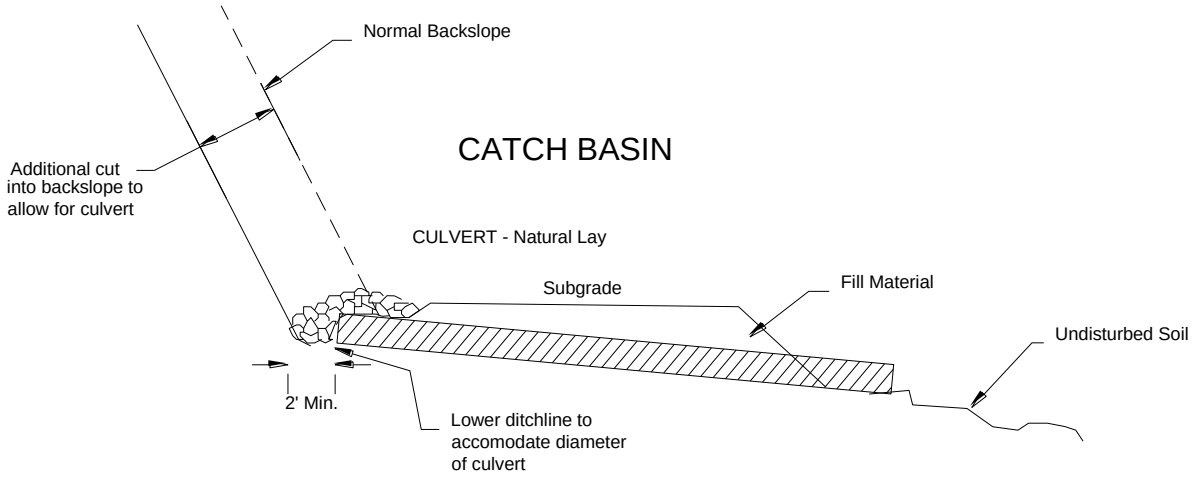
Downspout - Full round pipe

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

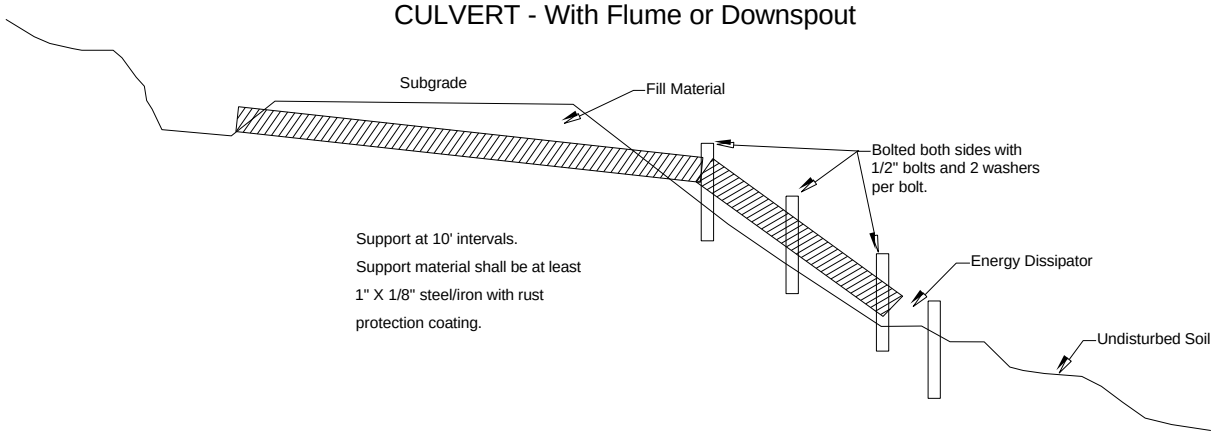


CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)



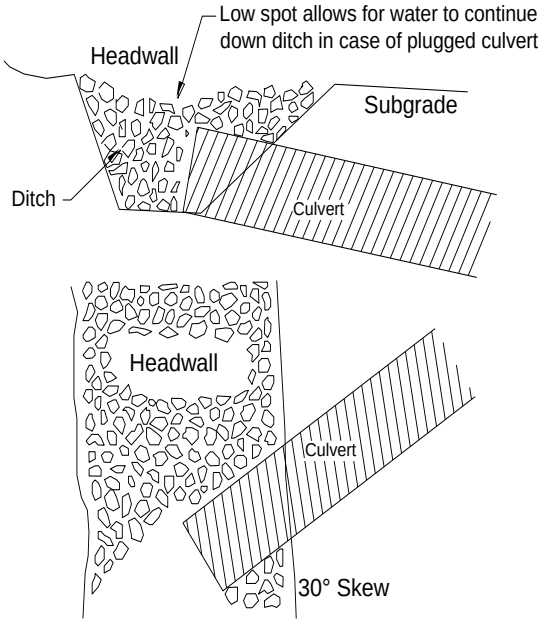
CULVERT - With Flume or Downspout



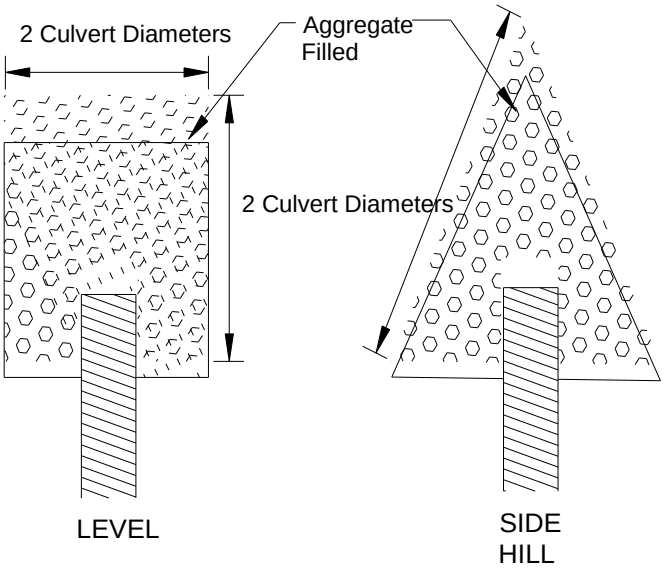
CULVERT AND DRAINAGE SPECIFICATION DETAIL
(Page 2 of 3)

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

HEADWALLS



ENERGY DISSIPATORS



Headwalls to be constructed of material that will resist erosion.

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

CULVERT AND DRAINAGE SPECIFICATION DETAIL
(Page 3 of 3)
POLYETHYLENE PIPE INSTALLATION

INSTALLATION REQUIREMENTS:

1. Crushed stone, gravel, or compacted soil backfill material shall be used as the bedding and envelope material around the culvert. The aggregate size shall not exceed 1/6 pipe diameter or 4" diameter, whichever is smaller.

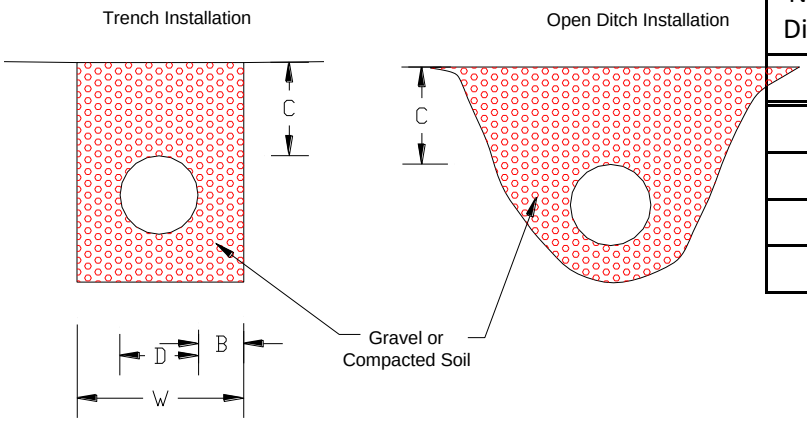
2. The corrugated pipe shall be laid on grade, on a layer of bedding material as shown for the two types of installations. If native soil is used as the bedding and backfill material, it shall be well compacted in six inch layers under the haunches, around the sides and above the pipe to the recommended minimum height of cover.

3. Either crushed aggregate or flexible (asphalt) pavement may be laid as part of the minimum cover requirements.

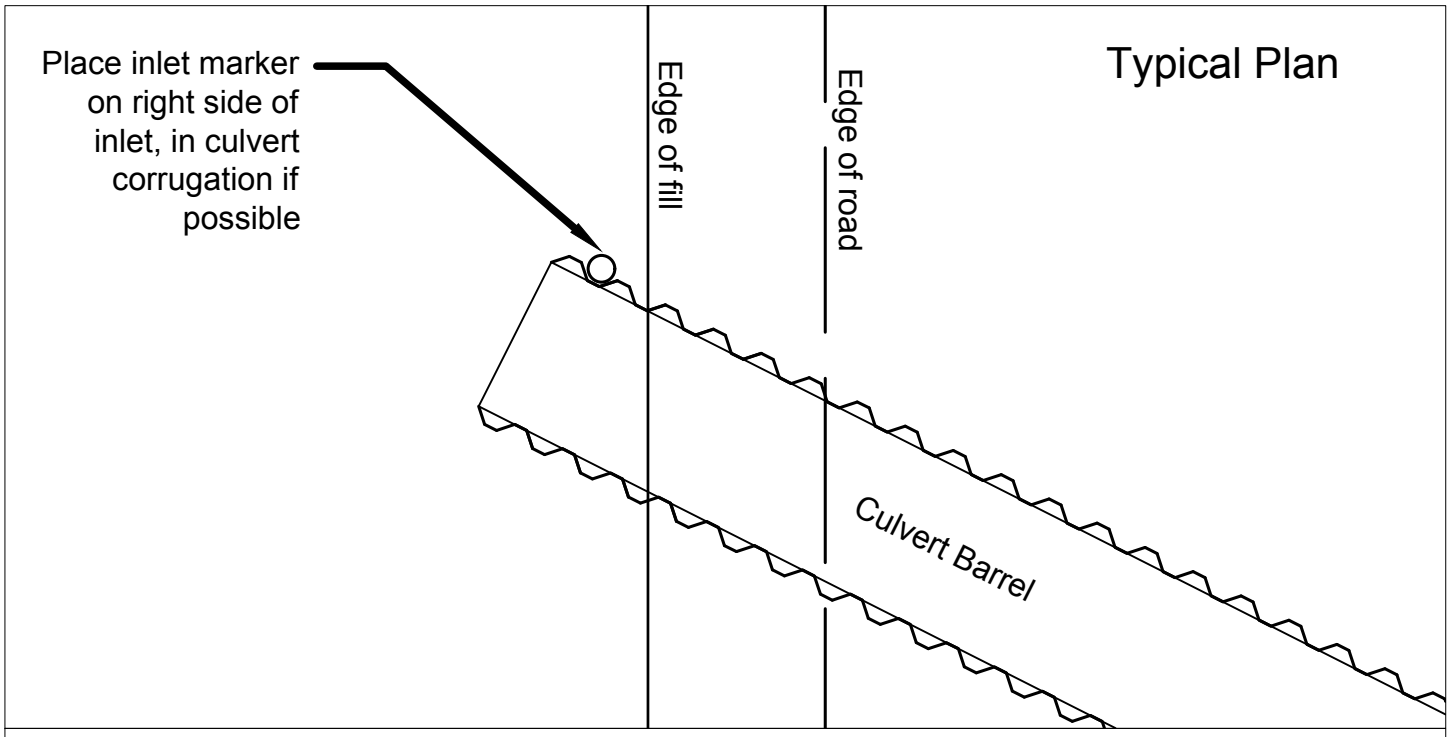
4. Site conditions and availability of bedding materials often dictate the type of installation method used.

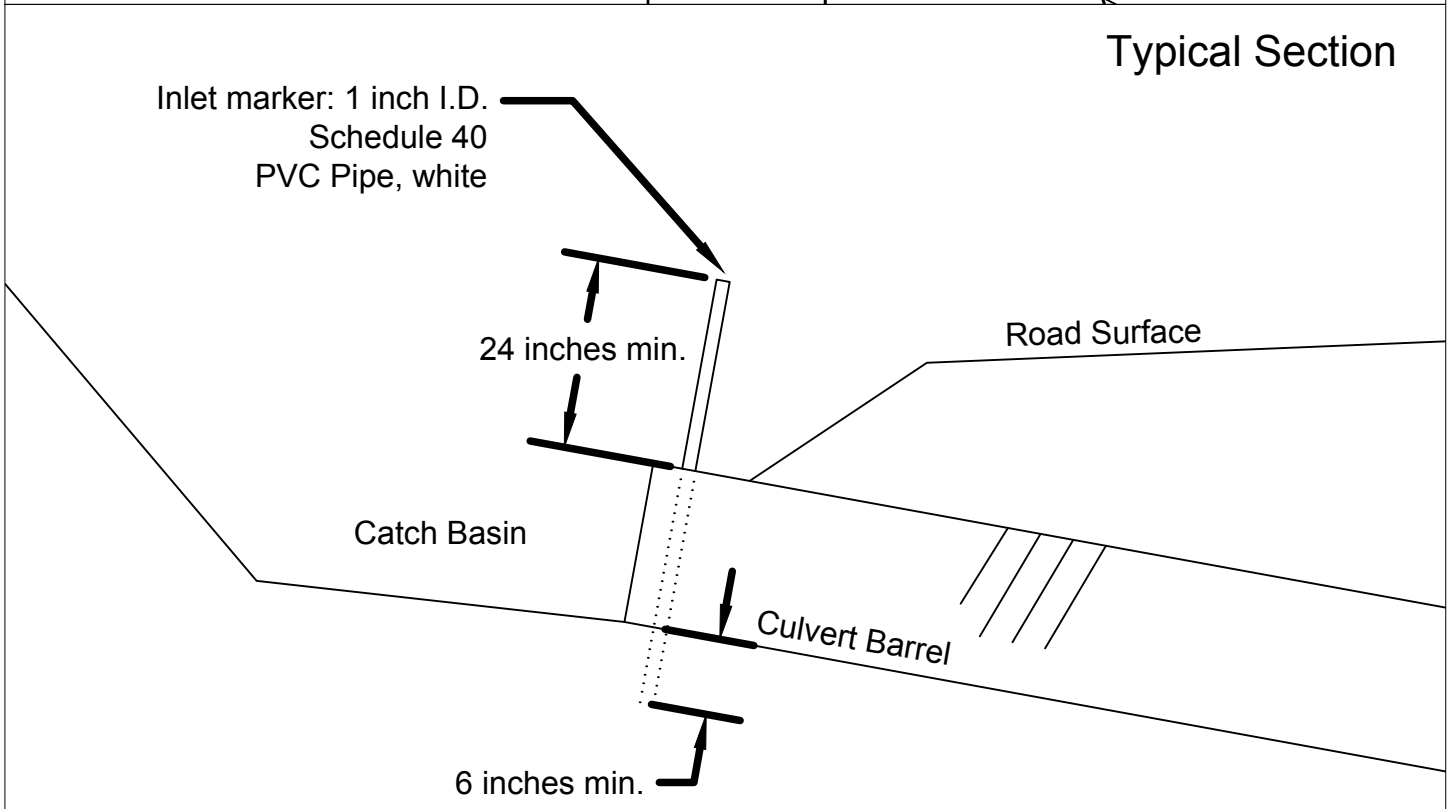
5. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used as backfill material, a compaction level of 85% is required. This minimum compaction can be achieved by either hand or mechanical tamping.

MINIMUM DIMENSIONS
Trench or Open Ditch Installation



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"
6"	6"	12"	54"





CULVERT MARKER DETAIL (INLET SHOWN)

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES

Drawn by: WP Hoskins

FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Cuts and Fills

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

Surface

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

Drainage

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

Preventative Maintenance

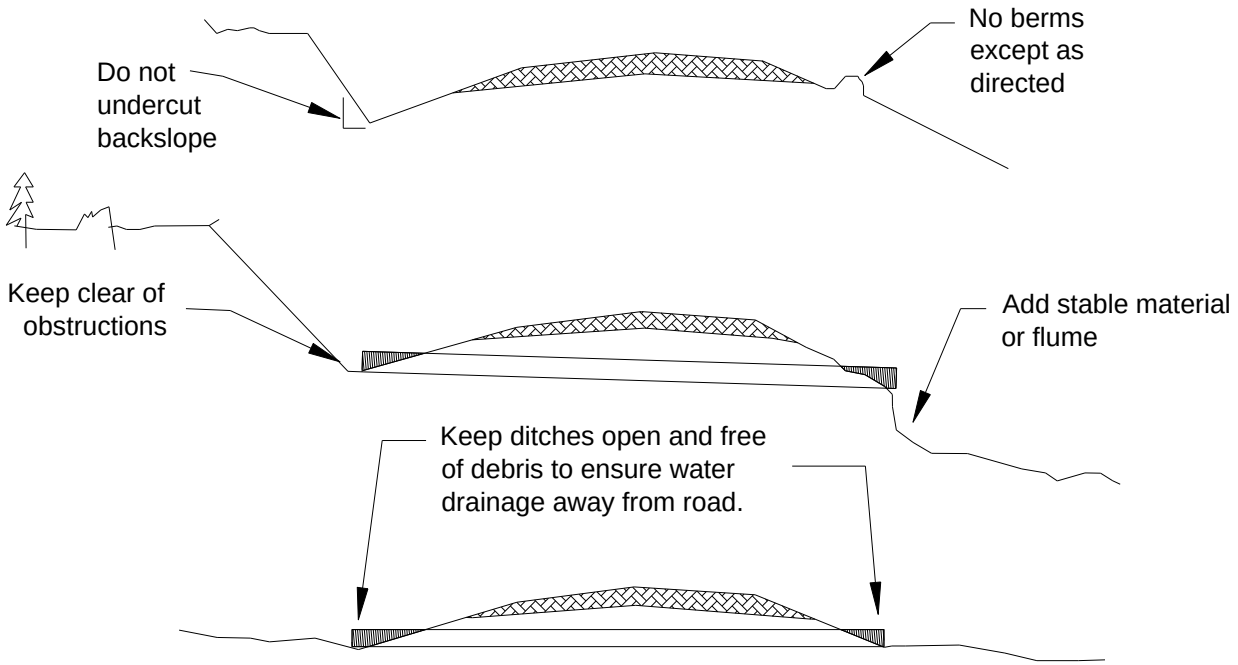
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

Termination of Use or End of Season

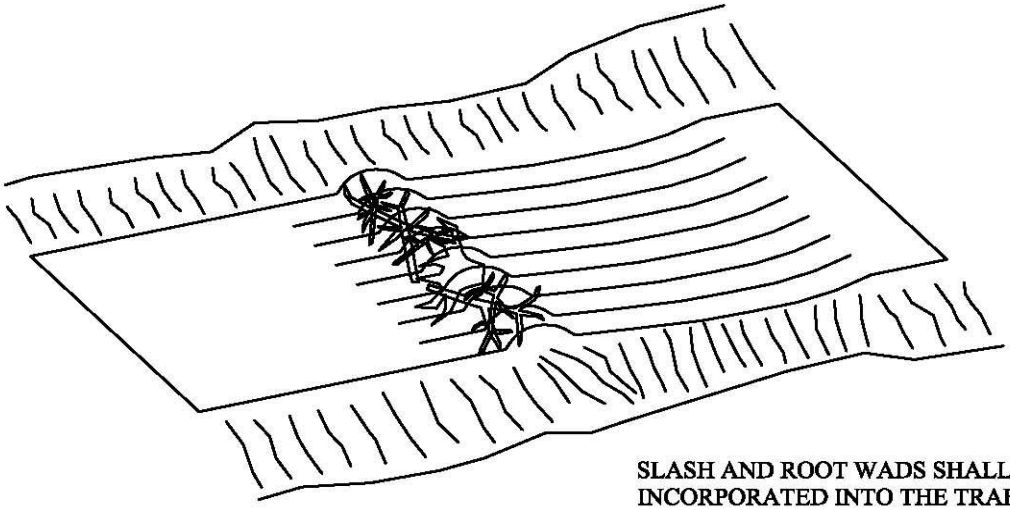
- At the conclusion of logging operations, ensure all conditions of these specifications have been met.

Debris

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

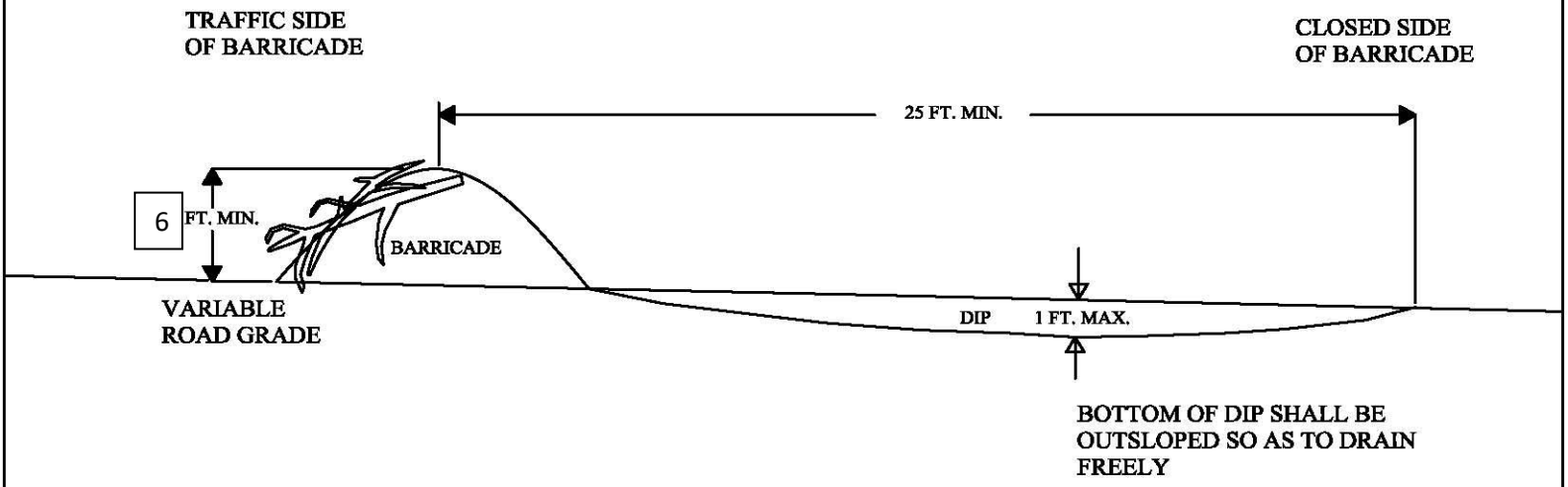


BARRICADE DETAIL



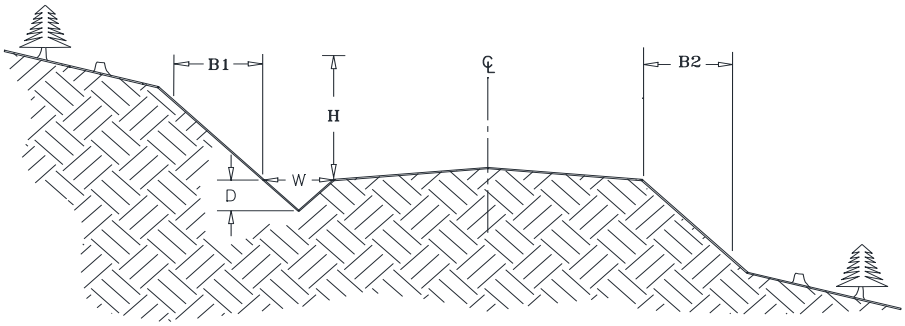
SLASH AND ROOT WADS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

PLAN VIEW



PROFILE VIEW

BRUSHING DETAIL
(not to scale)



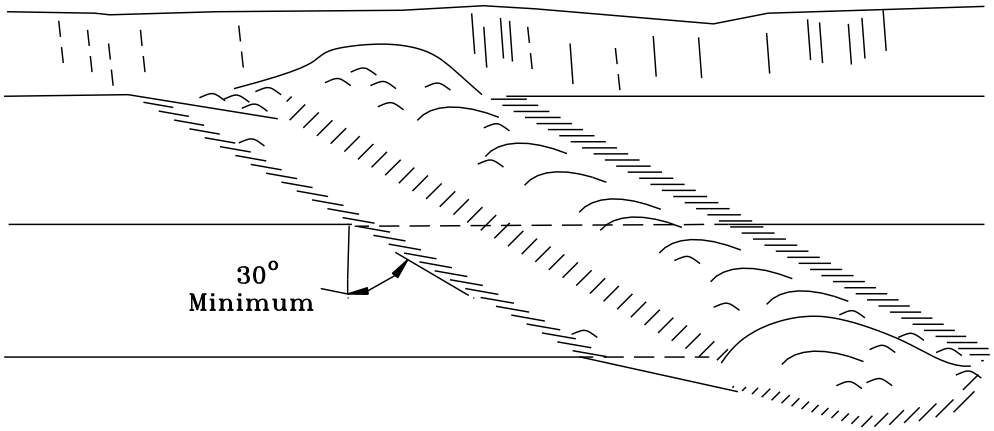
BRUSHING LIST

Road Number	From station	To station	Road Width (feet)	Ditch Width (feet)	Ditch Depth (feet)	Height (feet)	Brushing Limits (feet)	
				W	D		B1	B2
D-2050	0+00	3+21	Varies	Varies	Varies	14	8	8
D-3000	0+00	219+58	Varies	Varies	Varies	14	8	8
D-3200	0+00	26+80	Varies	Varies	Varies	14	8	8

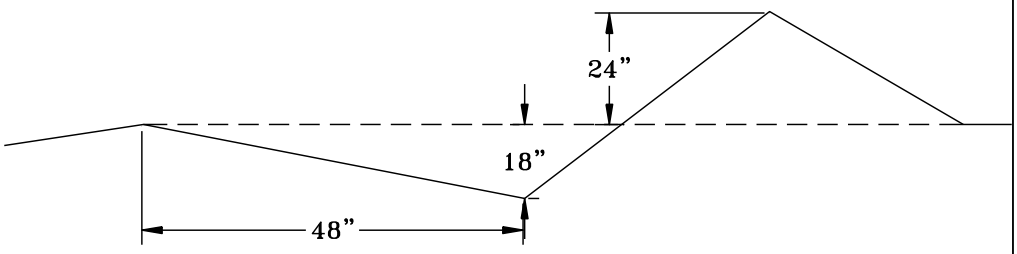
B1 extends horizontally the specified distance in feet from the back of the ditch. B2 extends horizontally the specified distance in feet from the outside edge of the running surface. Brush is defined as all non-merchantable vegetative material found within the specified limits. Brush that is cut shall be removed to the downhill side of the road and placed such that it will not block ditches, ditch-outs, or drainage structures. Signs, culvert location markers, or any other identification features damaged by brushing shall be replaced at the Purchasers expense.

Non-Drivable Water Bar Detail

Cross Ditch



Cross Section at Centerline

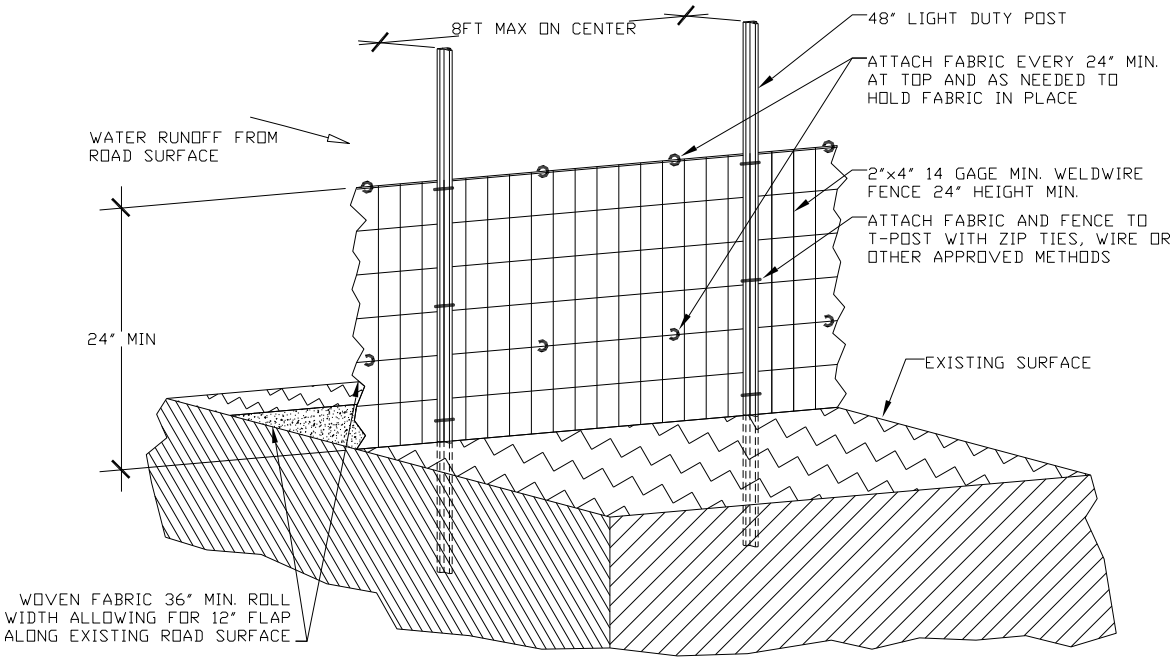


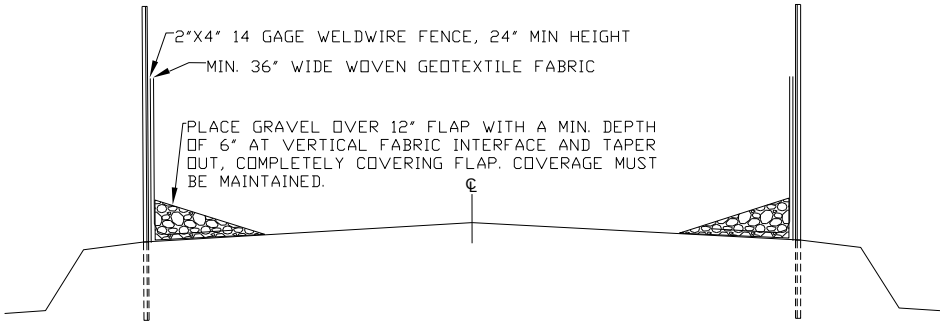
Date:
Scale : None
App#
Drawn by: M.A.D.

Water Bar Detail

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES
SPS REGION

SILT FENCE DETAIL





1. Silt fence shall be installed with Contract Administrator approval prior to haul.

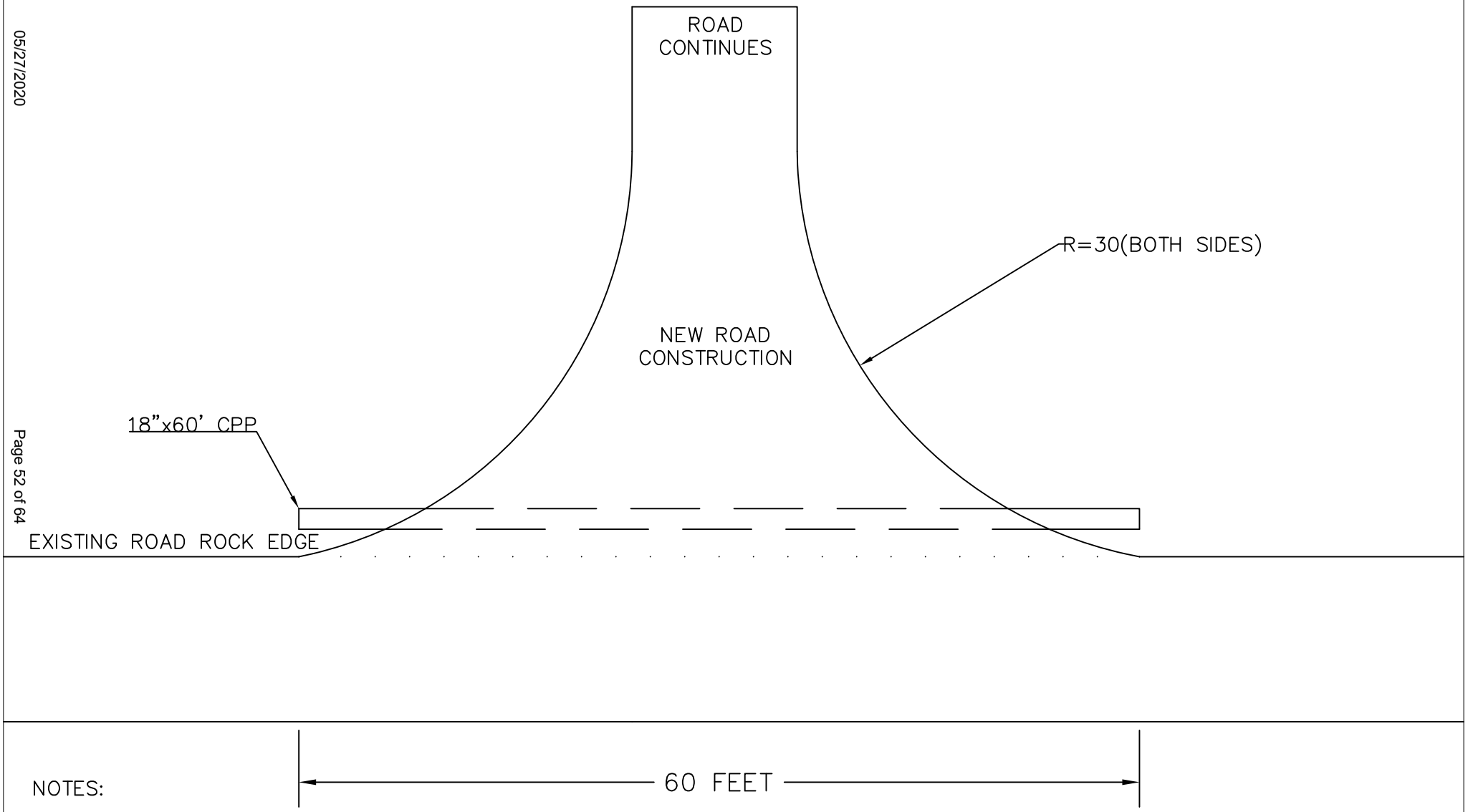
2. Silt fence shall be installed with a minimum of 6" of cover starting at fabric/weldwire and tapering toward road centerline. Coverage of fabric shall be maintained.

3. Light Duty T-Posts shall be place on the down slope side of the fabric/weldwire. If conditions exist that a taller silt fence is required, such as splash, longer T-Posts, wider fabric rolls and taller fence maybe necessary or other methods as approved by the Contract Administrator.

4. When a silt fence is continued from another run, the end T-Posts shall be connected together and not overlapped.

5. If runoff of silt laden water flows around the sides and additional fence may be used, realignment of the fence, removal of built up sediment and/or other BMP's such as ditch filters shall be used until controlled. Until under control haul shall be suspended.

6. FABRIC SPECS - min tensile strength: 120lbs, min puncture strength: 50lbs, min tear strength: 40lbs, min burst strength: 200lbs, min permittivity: 0.1 sec-1, UV resistance: 70%.



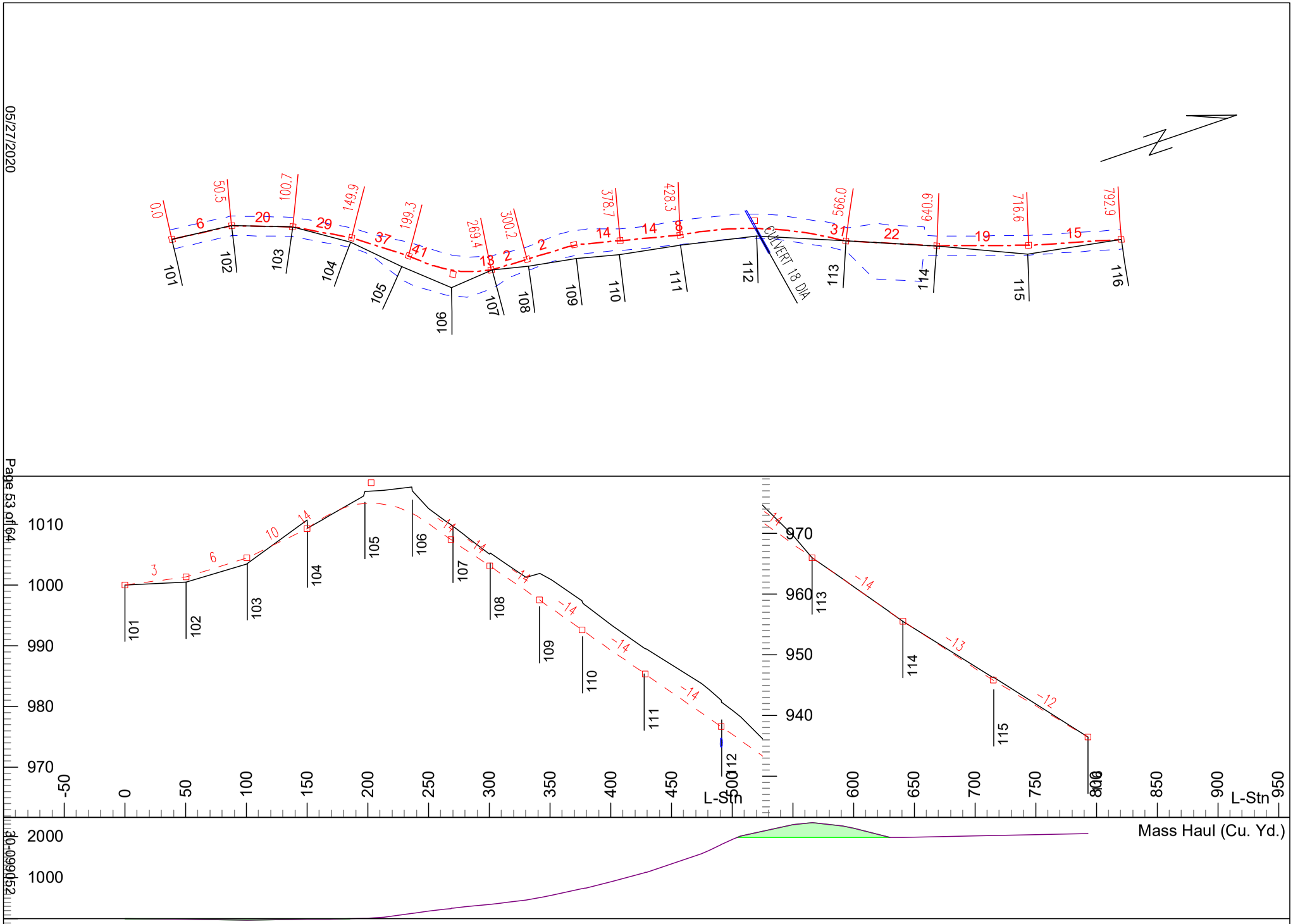
NOTES:

Approach flared to accommodate tractor–trailer traffic in and out.

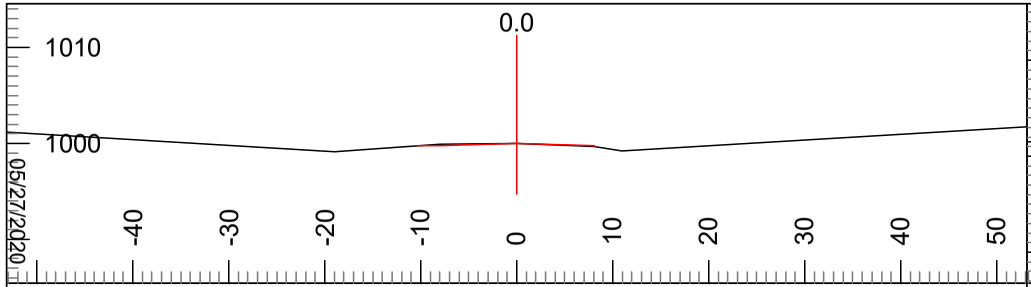
Drawn by C.Vandehey
04 APR 2019

T–INTERSECTION DETAIL

WASHINGTON STATE DEPARTMENT OF
NATURAL RESOURCES



Glinda The Good Timber Sale D-3036 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: C. Vandehey 19/07/10 Page 1 of 4



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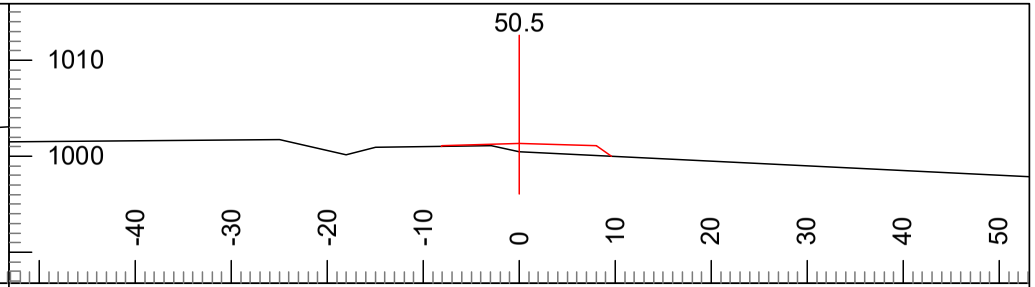

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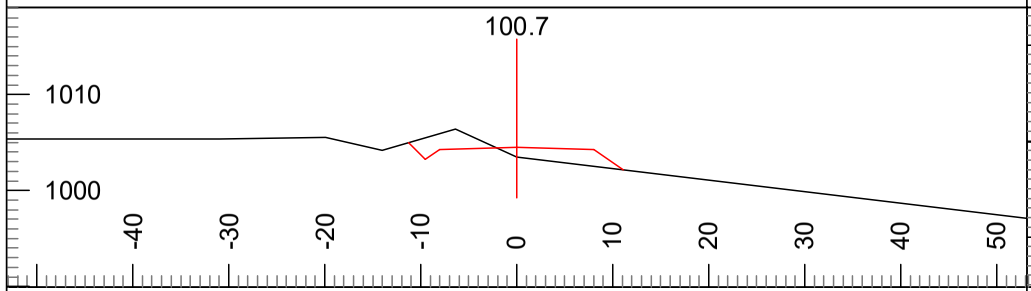

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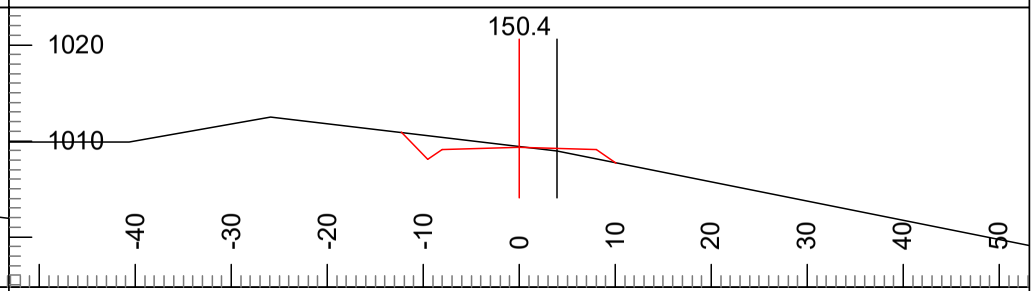

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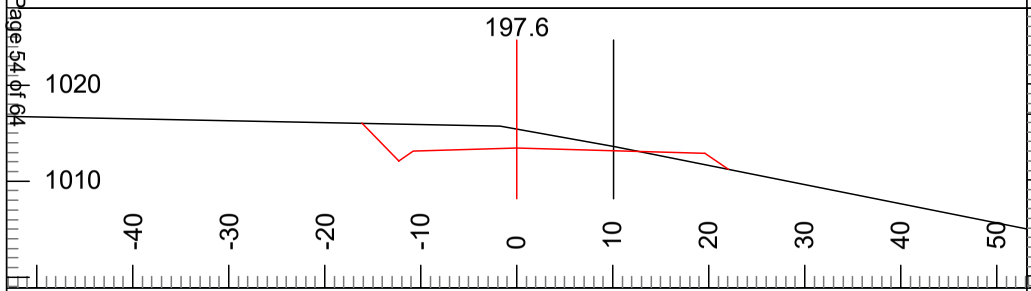

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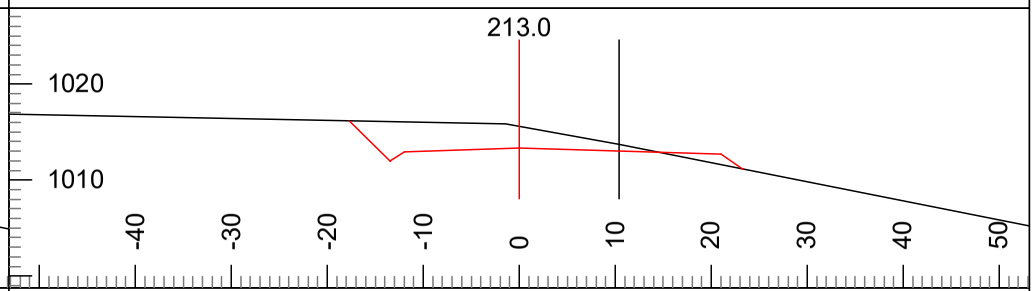

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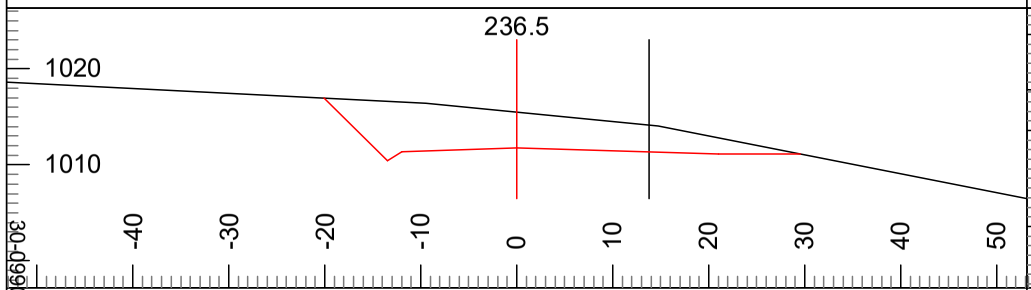

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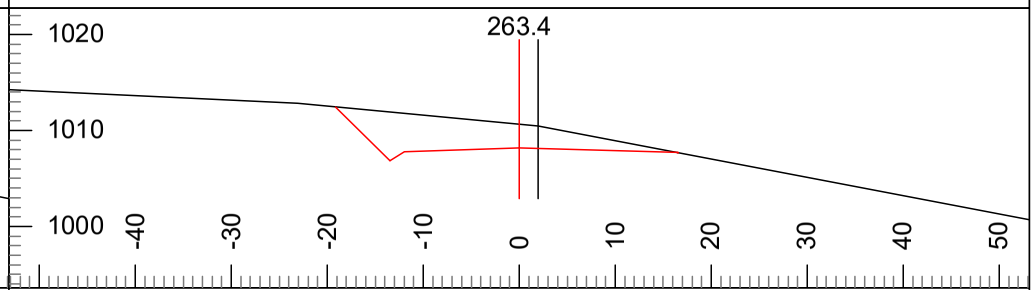

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Glinda The Good Timber Sale
D-3036
Contract#: 30-099052

Washington State Department of Natural Resources
South Puget Sound Region

Section Scale 1:240

Engineer: C. Vandehey

19/07/10

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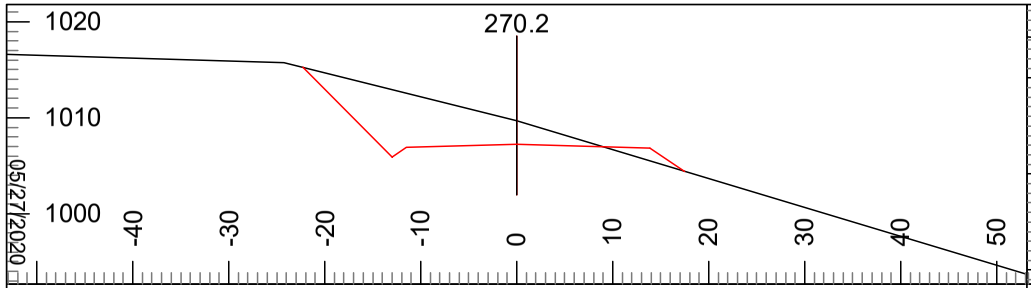

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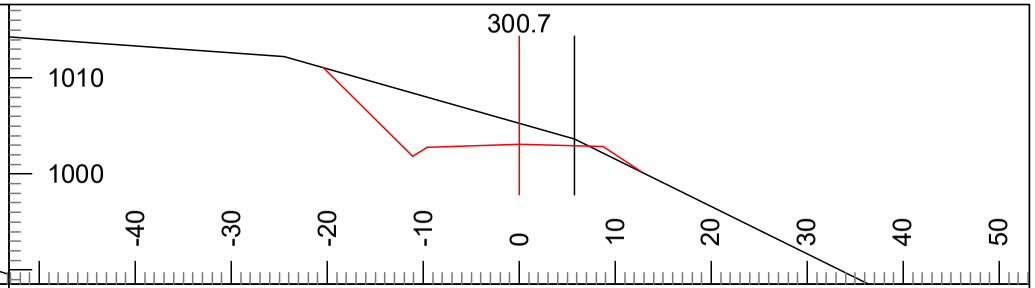

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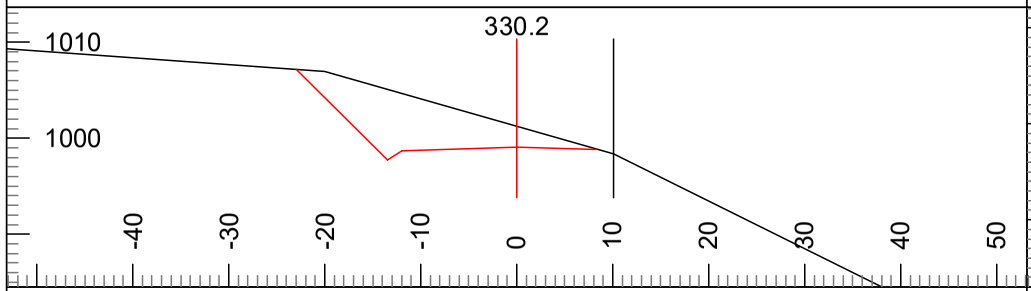

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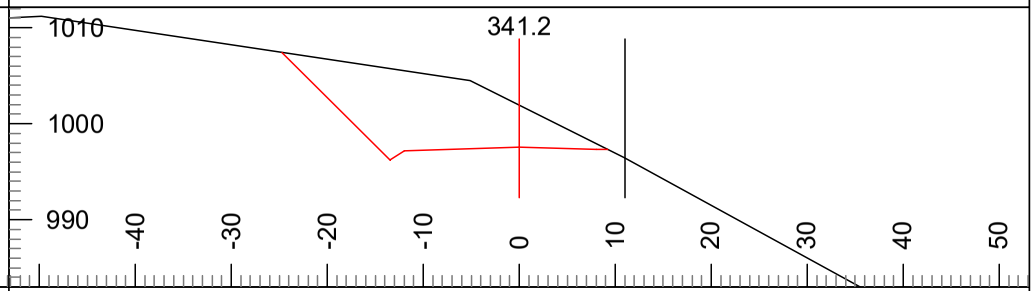

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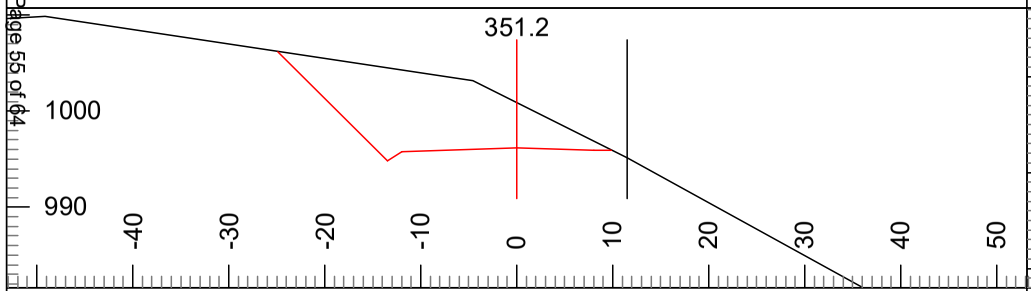

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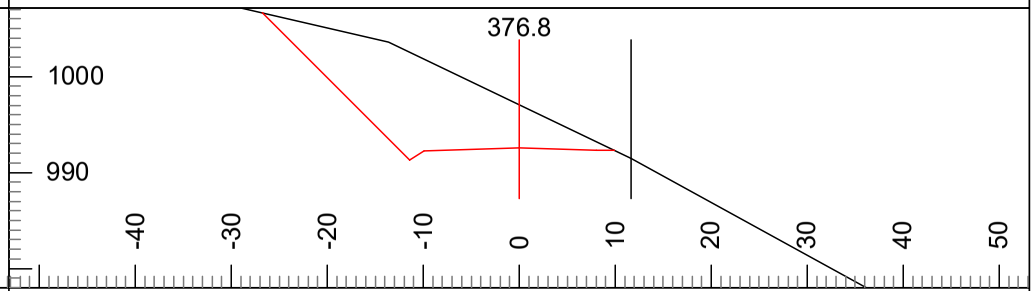

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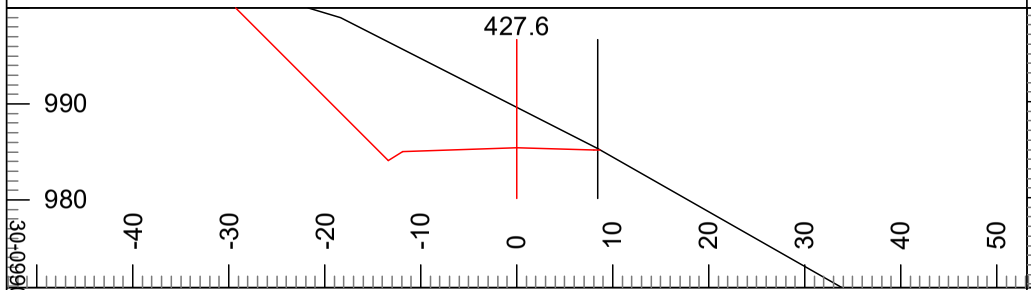

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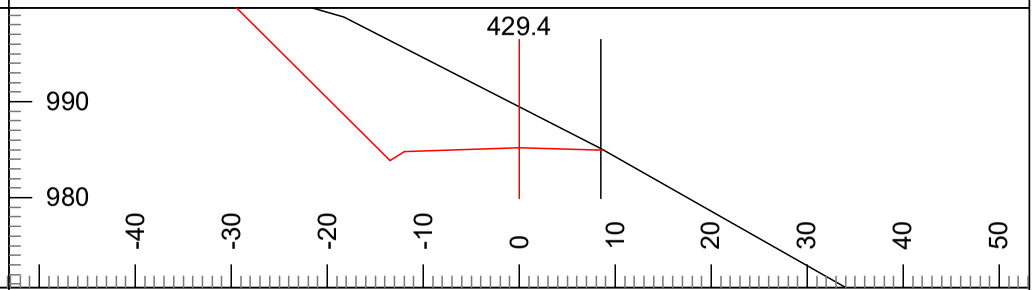

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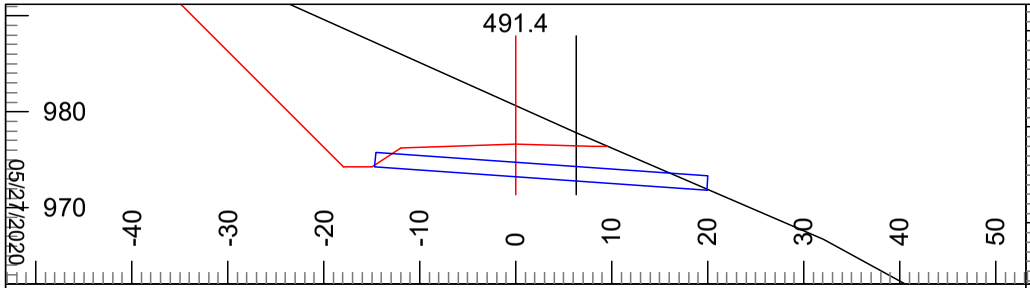

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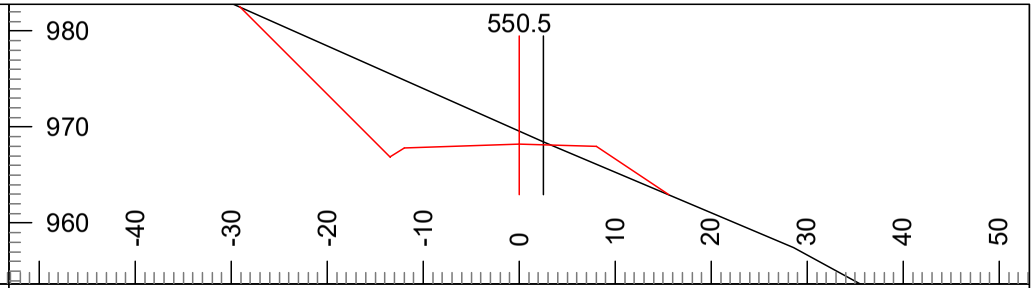

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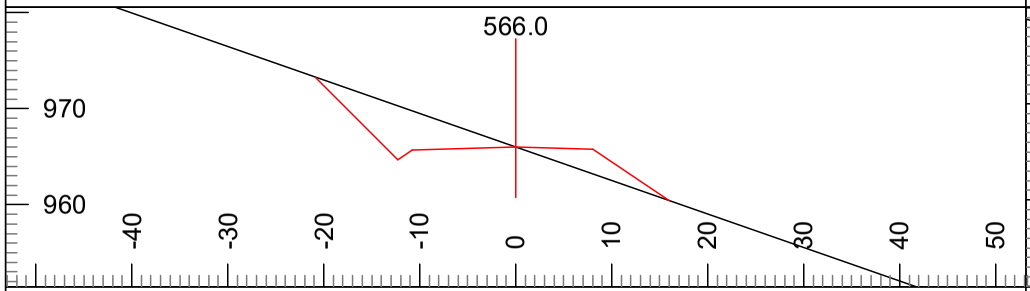

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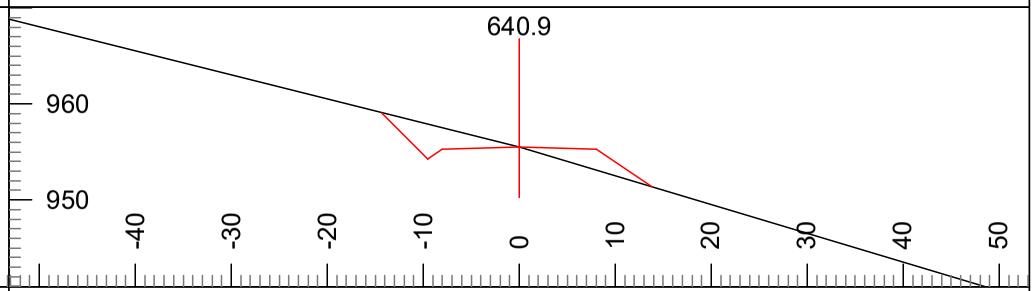

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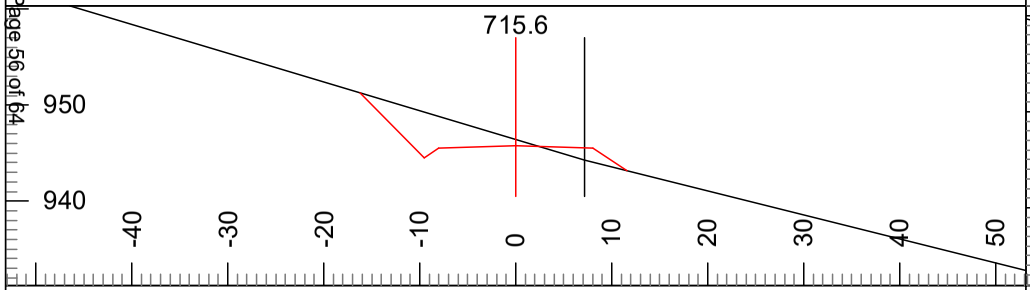
L-Stn : 640.9 H. Offset: 0.0 Index: 114 Clr L X: -14.3



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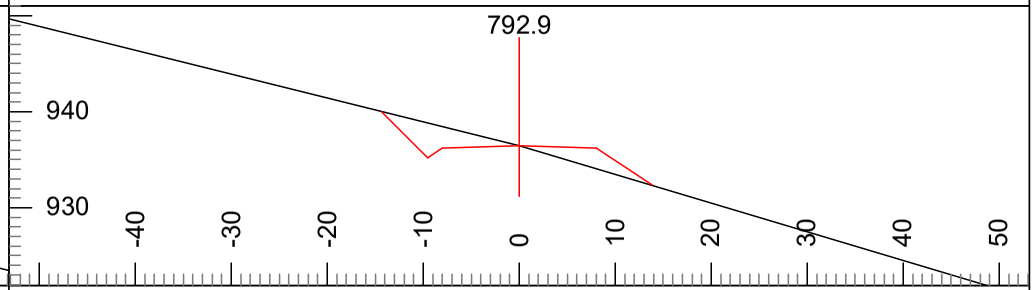
L-Stn : 715.6 H. Offset: -7.2 Index: 115 Clr L X: -16.2



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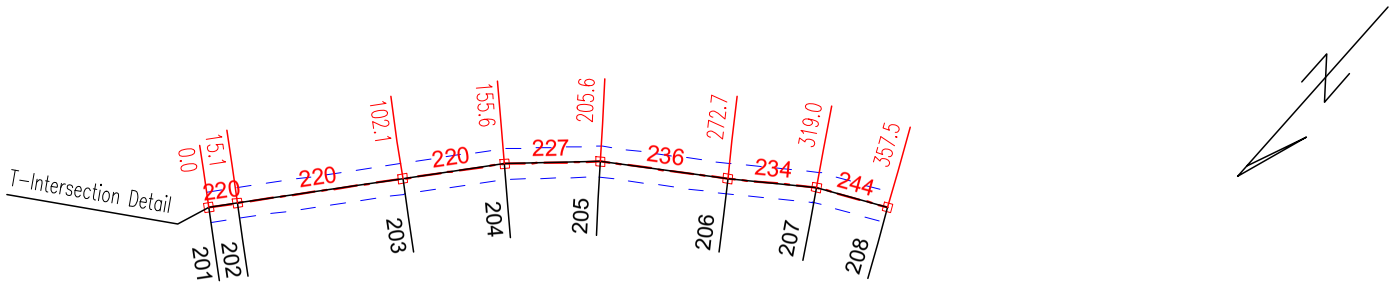
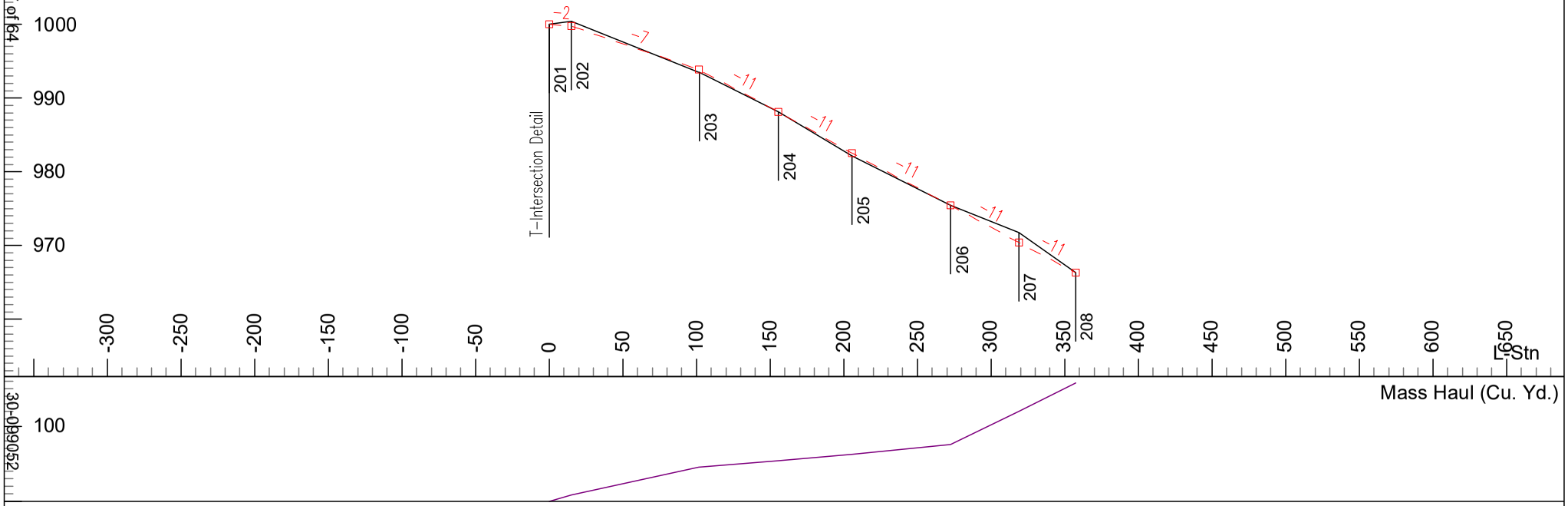
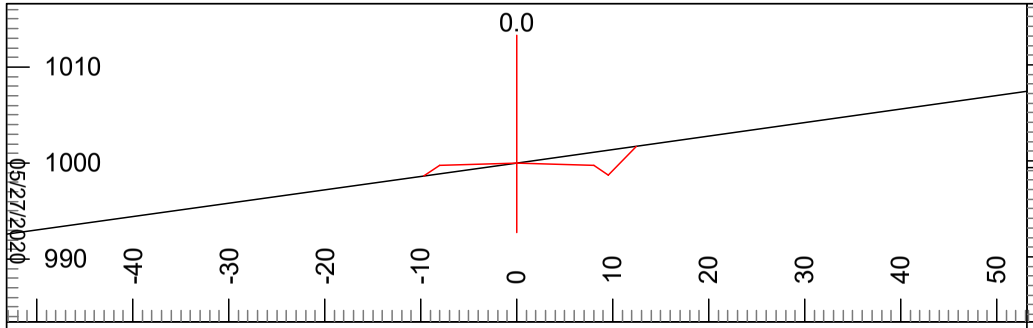
L-Stn : 792.9 H. Offset: 0.0 Index: 116 Clr L X: -14.3

Glinda The Good Timber Sale D-3036 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: C. Vandehey 19/07/10 Page 4 of 4





Glinda The Good Timber Sale D-3067 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: C. Vandehey 19/07/10 Page 1 of 2



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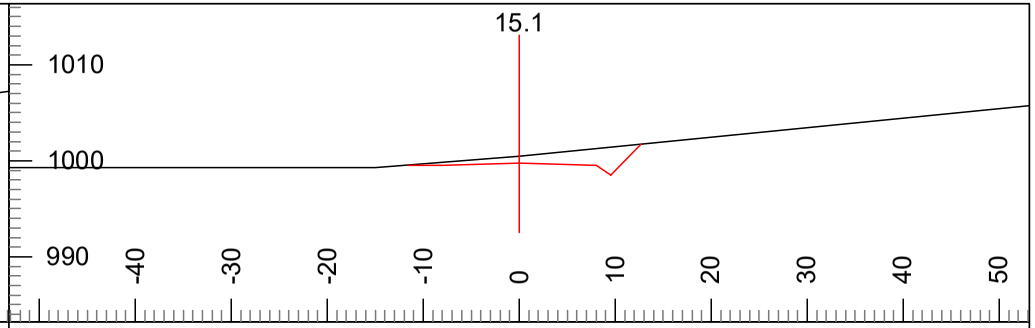

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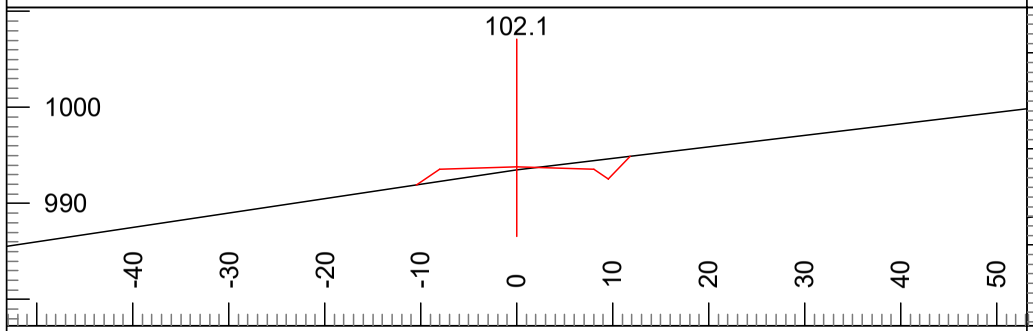

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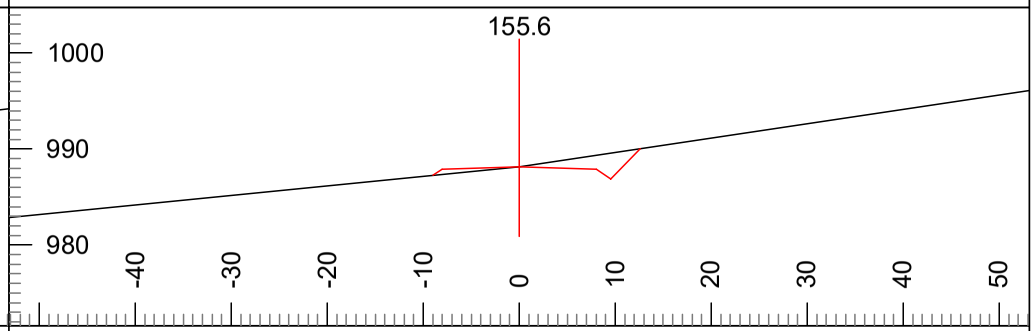

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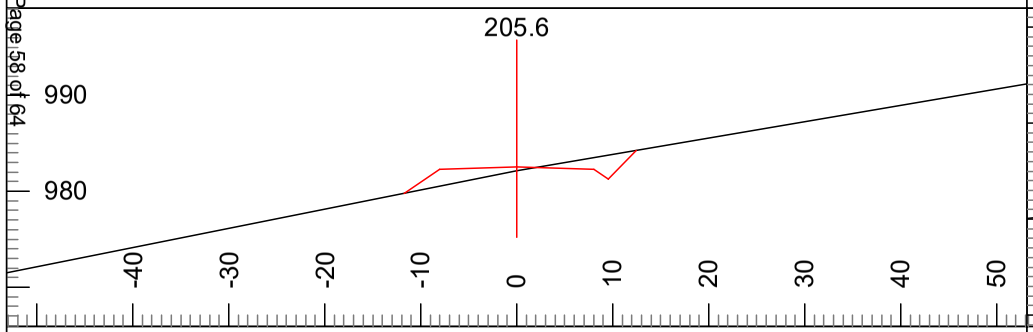

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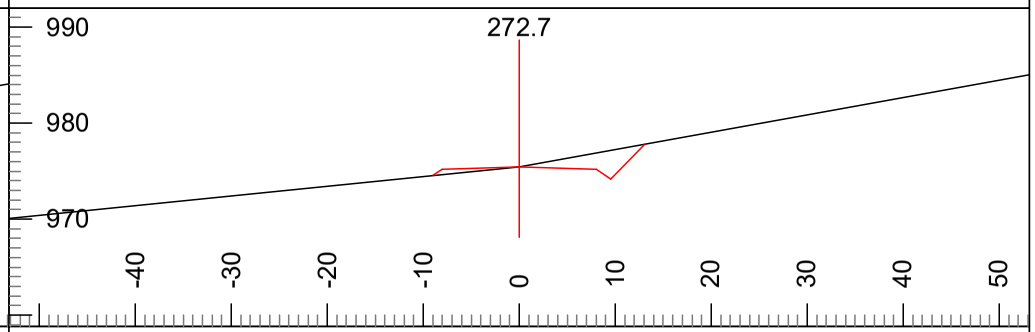

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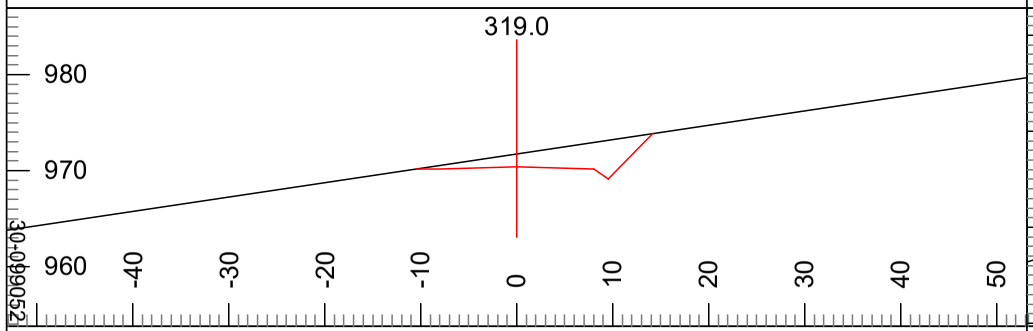

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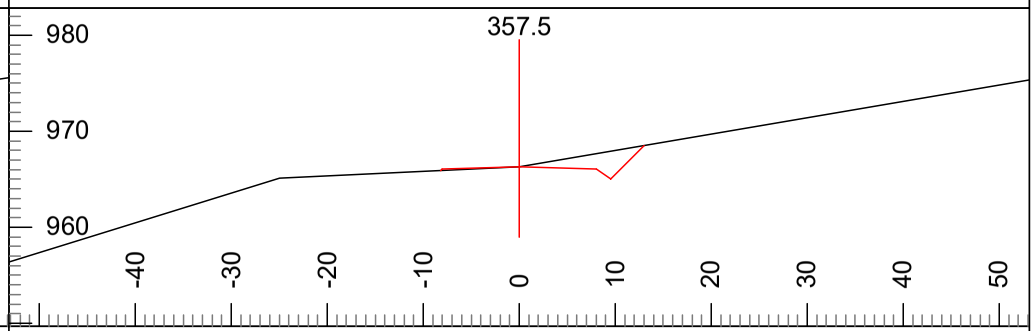

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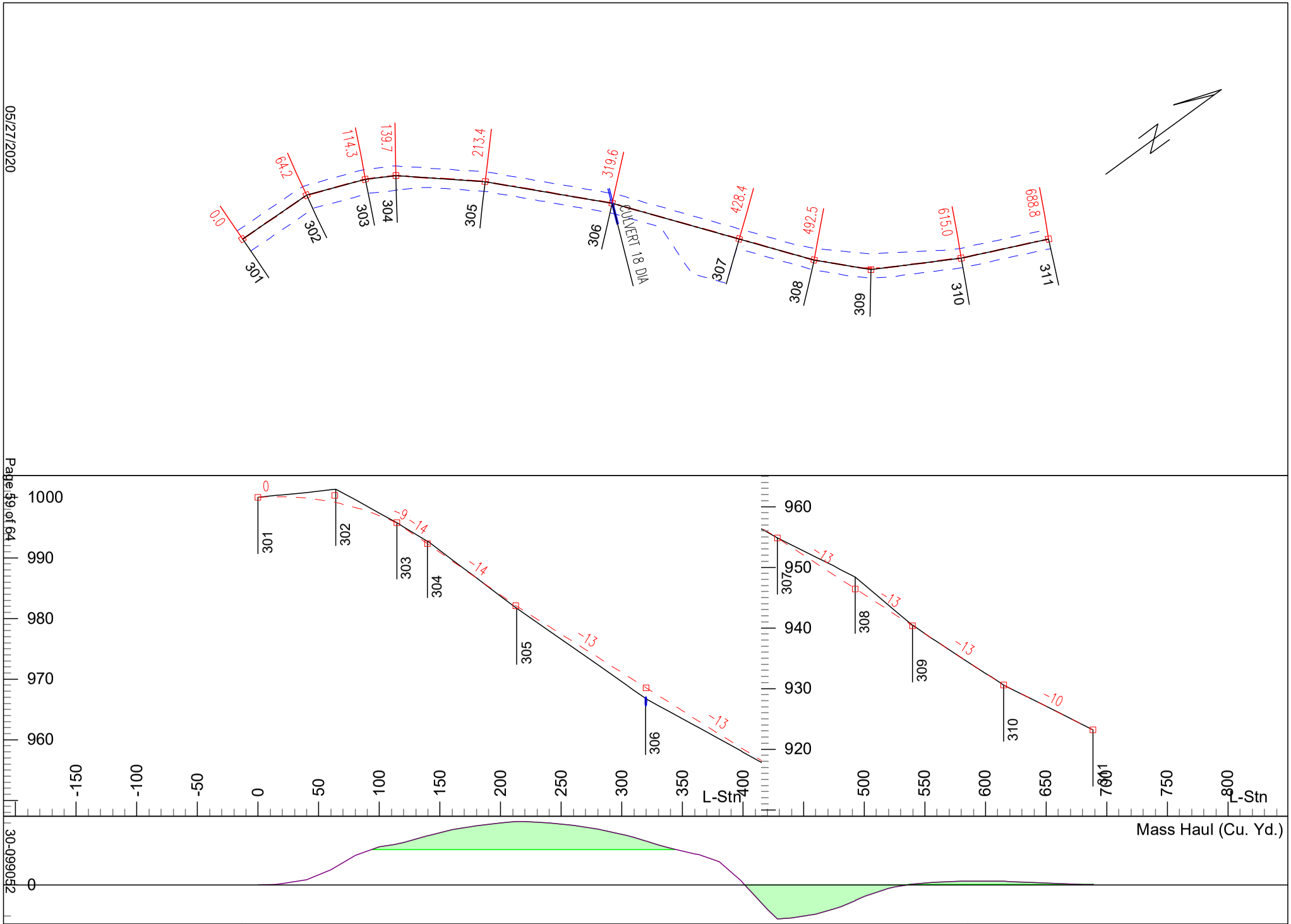
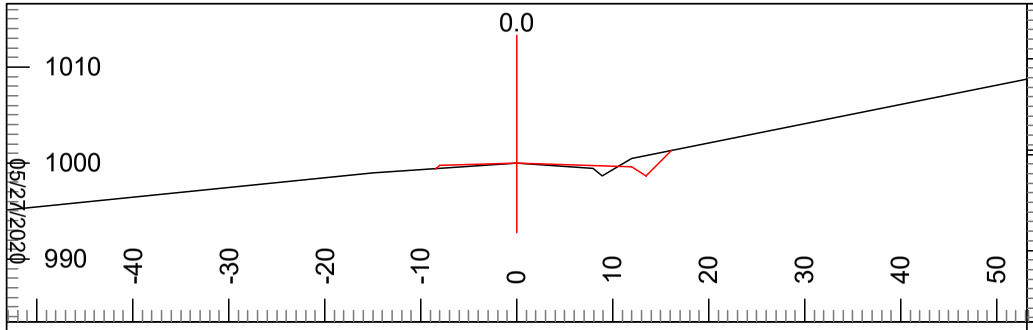
Glinda The Good Timber Sale D-3067 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: C. Vandehey 19/07/10 Page 2 of 2



Glinda The Good Timber Sale D-3072 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Plan Scale 1:1200 Profile Vert Scale 1:240 Profile Horz Scale 1:1200	Engineer: C. Vandehey 19/07/10 Page 1 of 3



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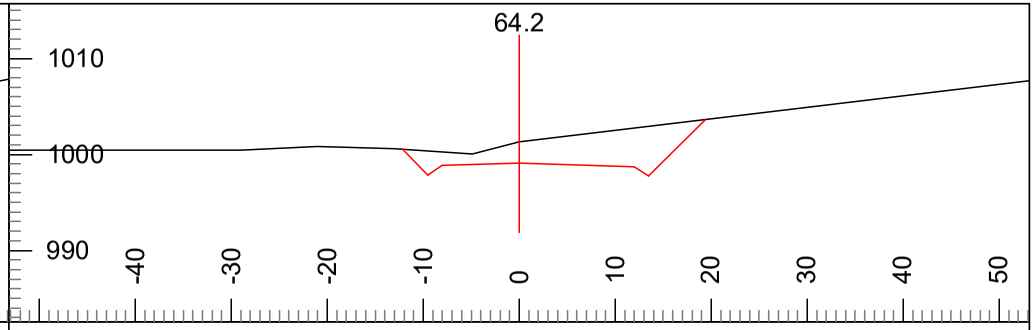

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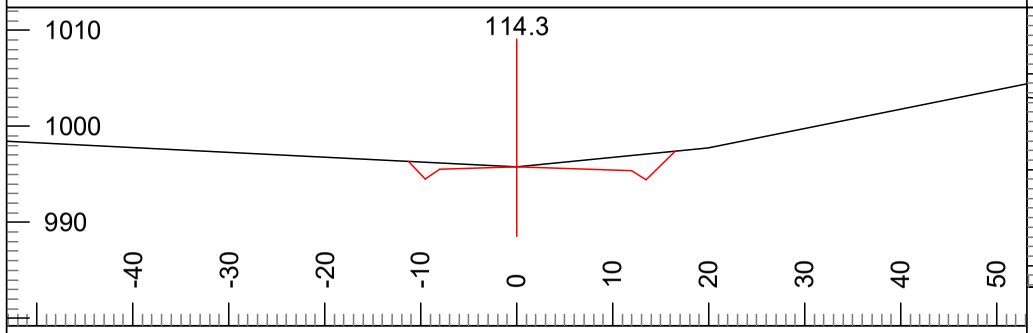

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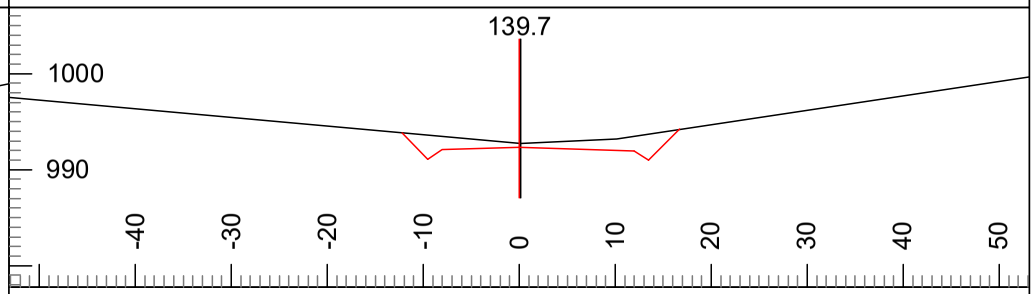

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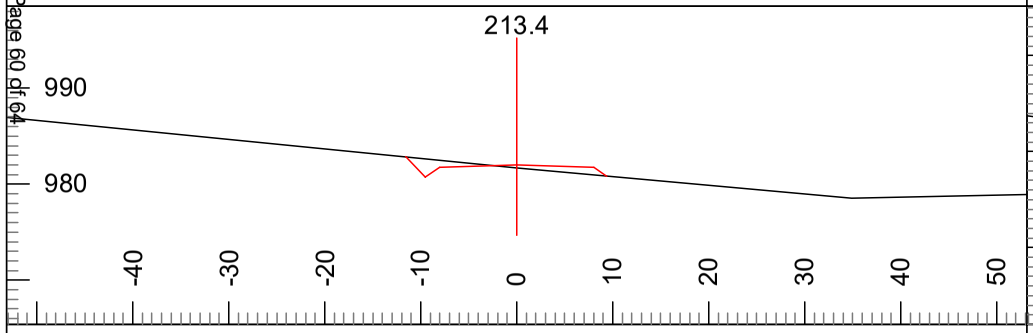

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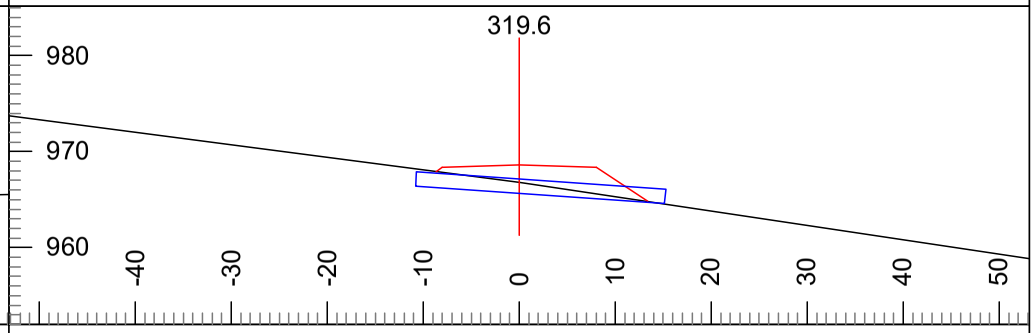

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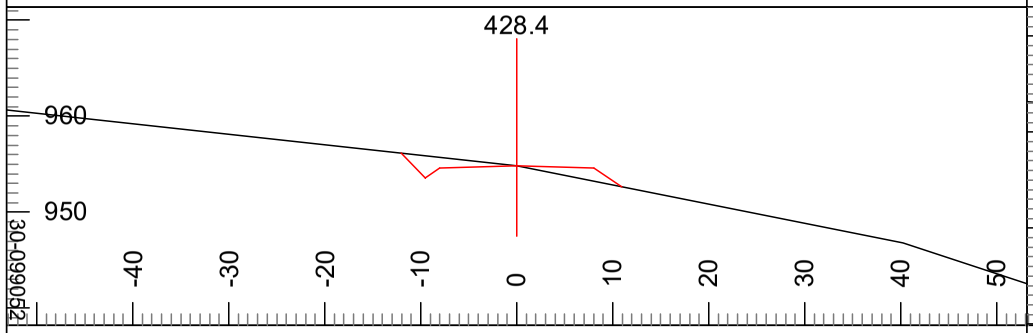

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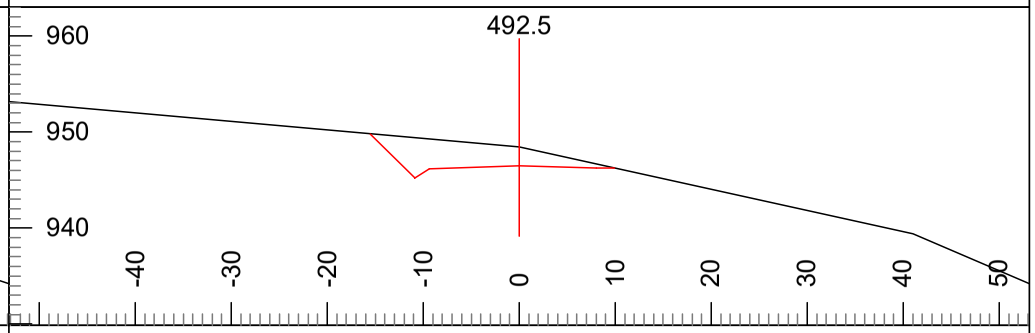

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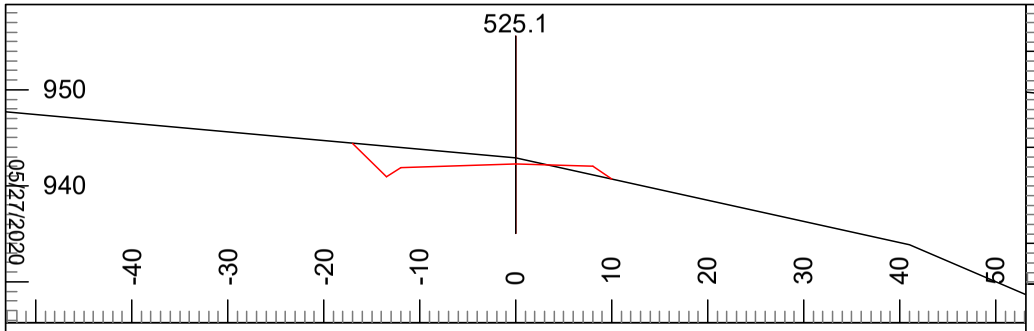
Glinda The Good Timber Sale D-3072 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: C. Vandehey 19/07/10 Page 2 of 3



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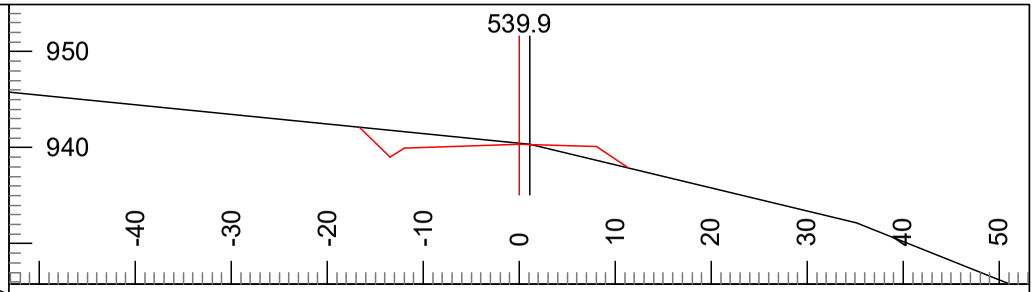

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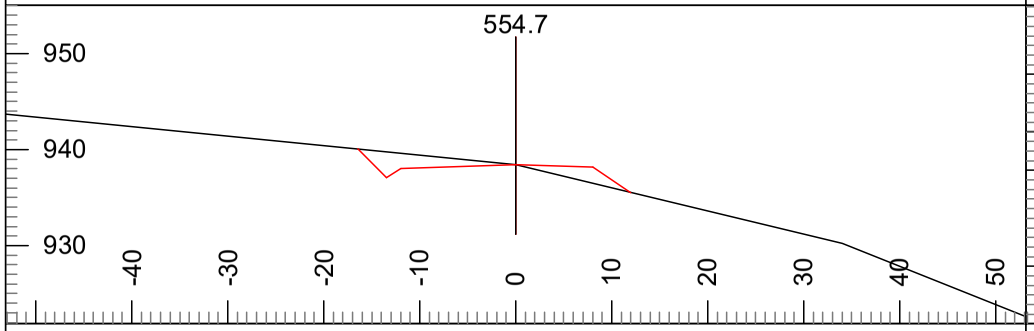

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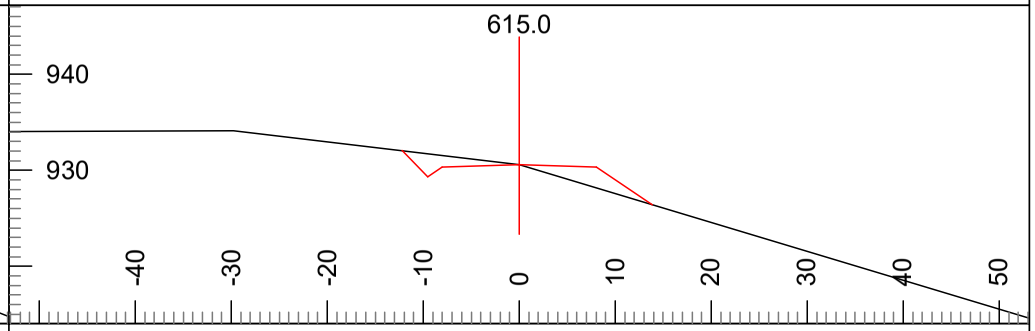

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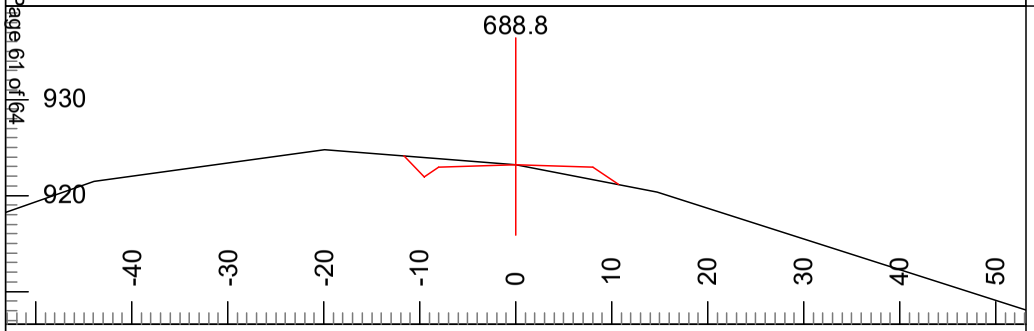
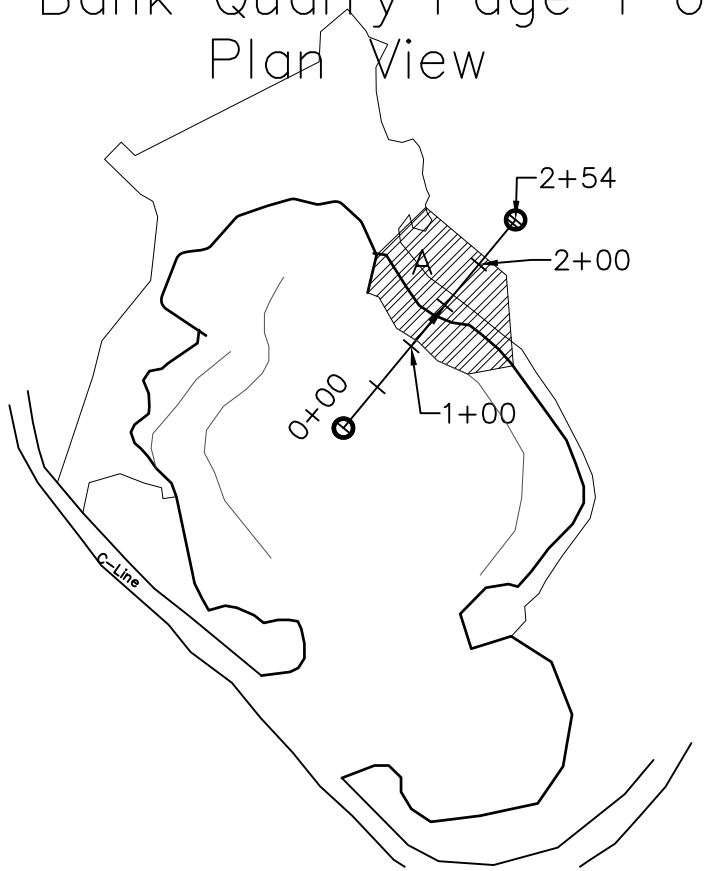


P-Stn : 689.0 L-Stn : 688.8 V.Offset: 0.0 H. Offset: 0.0 Cut Dp: 0.0 Index: 311

Glinda The Good Timber Sale D-3072 Contract#: 30-099052	Washington State Department of Natural Resources South Puget Sound Region	Section Scale 1:240	Engineer: C. Vandehey 19/07/10 Page 3 of 3

Low Bank Quarry Page 1 of 3

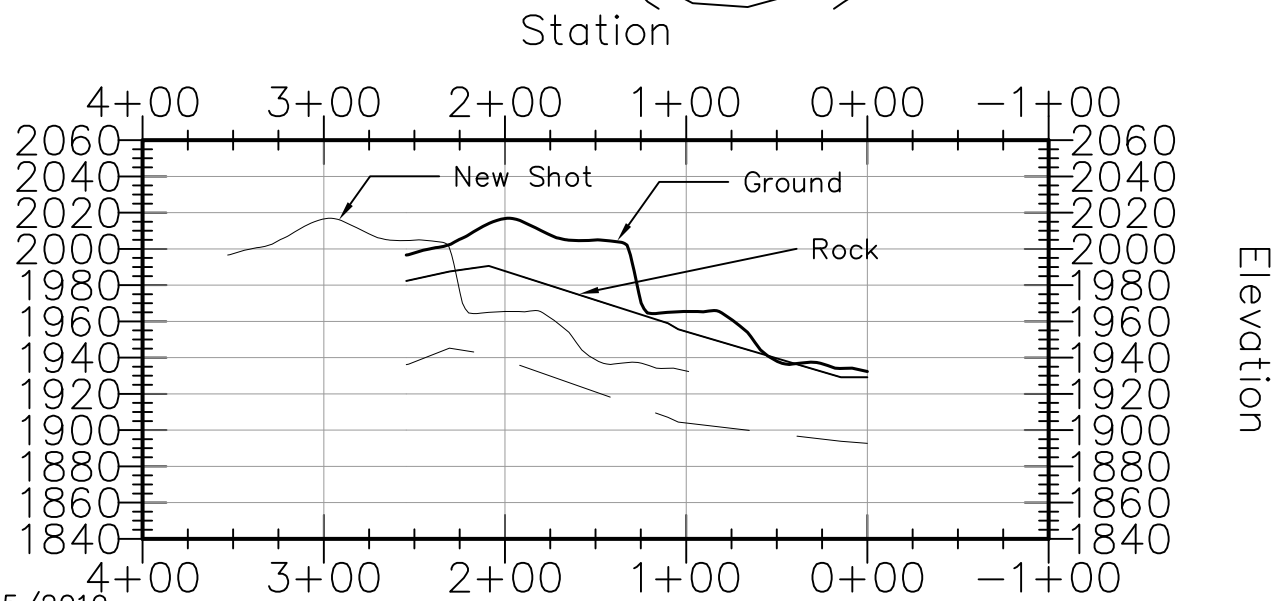
Plan View



Work Area
Bench
Pit Edge
Stripped

0 100 200 Feet

The location of Area B shall be at the discretion of the C.A. Waste Area located approx. 30 Stations NW on C-Line



Drawn by C. Vandehey 6/25/2019
Glinda The Good Timber Sale

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES
SOUTH PUGET SOUND REGION

LOW BANK QUARRY DEVELOPMENT PLAN

SECTION 15, TOWNSHIP 17 NORTH, RANGE 04 WEST, W.M.
(Page 2 of 3)

1. Oversize material is defined as rock fragments larger than two feet in any direction. At the conclusion of the operation, oversize material shall not exceed 1000 cubic yards.

2. Quarry development shall proceed as directed by the attached map, at a suitable elevation to not create a working face over 35ft with a back slope no steeper than ½:1.

3. The work area shall be stripped and all overburden shall be hauled to the overburden site.

4. Overburden shall be end hauled to the designated waste area and compacted. Minimal acceptable compaction is achieved by placing waste material in 2 foot or shallower lifts and routing excavation equipment over entire width of the lifts.

5. All vegetation including stumps shall be cleared a minimum of 20 feet beyond the top of all working faces. Trees shall be cleared to a minimum of ¾ of the height of the tallest tree adjacent to the pit.

6. All exposed soil and waste areas shall be grass seeded in accordance to road plan clause 8-25.

7. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in an area designated by the Contract Administrator.

8. The quarry floor shall have continuity of slope, providing drainage to the south at a minimum of 2 %.

9. The location and amount of material to be placed in a stockpile are subject to approval of the Contract Administrator. All stockpiled material shall be maintained in a neat and useable condition.

10. Existing stockpiles shall be replaced if used.

11. At the conclusion of operations, oversize material shall be placed as directed by the Contract Administrator. All existing oversize material shall be utilized prior to the development of that area.

12. The working bench width shall be a minimum of 25 feet, or alternatively, 18 feet wide with a 3 foot high by 3 foot wide berm placed on the outside of the bench, opposite the high wall, leaving a 15 foot wide trail between the berm and high wall.

13. Any access roads shall be lined with oversize rock to keep traffic a minimum of 10 feet from the face.

14. At the end of operations faces and walls shall be scaled and cleared of loose and overhanging material.

15. Reclamation will not be required under this contract.

LOW BANK QUARRY DEVELOPMENT PLAN

SECTION 15, TOWNSHIP 17 NORTH, RANGE 04 WEST, W.M.
(Page 3 of 3)

16. At the completion of rock source operations, Purchaser shall request written approval from the Contract Administrator for final rock source condition and compliance with the terms of this plan.

17. All operations shall be carried out in compliance with all regulations of:
    a. "Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations" (30 CFR) U. S. Department of Labor, Mine Safety and Health Administration.
    b. "Safety Standards - Metal and Nonmetallic Mines, Quarries, Pits, and Crushing Operations" (296-61 WAC), Washington Department of Labor and Industries.
    c. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.

18. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator 3 working days prior to any drilling.

19. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner.

20. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish, and shall be left in a neat and presentable condition. Access restriction berms shall be rebuilt at the entrance of the Quarry.

21. Quantity and Quality of ballast pit is not guaranteed by the State.

Point	Requirements
A	Work area to be developed.
B	Alternative work area to be developed if necessary, after completion of area A. Shall be identified by the C.A.

*Updated 06/25/2019 by C.Vandehey

DEPARTMENT OF NATURAL RESOURCES - SOUTH PUGET SOUND REGION

FORM 9-87(Rev. 01-09)

Road Development Cost Estimate

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

REGION: SPS UNIT: Littlerock

SALE/PROJECT NAME: Glinda The Good CONTRACT NUMBER: 30-099052

LEGAL DESCRIPTION: 0

ROAD NUMBER:		D-3036, D-3067, D-3072		D-2056, D-3202	C-Line, D-1000, D-2000, D-2050, D-2000A, D-3000, D-3000A, D-3200
ROAD STANDARD:		Construction		Reconstruction	Pre-haul Maintenance
NUMBER OF STATIONS:		18.40		13.61	669.18
SIDESLOPE:		0-57%		0-25%	0-60%
CLEARING AND GRUBBING:		$5,195		$3,736	
EXCAVATION AND FILL:		$34,031		$8,522	
MISC. MAINTENANCE:					$8,209
ROCK TOTALS (Cu. Yds.):					
2" Minus:	3621	$9,045		$0	$79,759
Light Loose	3	$44		$0	$0
Quarry Spalls	13	$66		$0	$113
4" Jaw	1,872	$ 23,329		$ 13,189	$0
Pit Run	700	$ 10,239		$ -	0
Pavement	0	$ -			0
CULVERTS AND FLUMES:		$2,805		$0	$2,216
STRUCTURES:		$0		$0	$0
GENERAL EXPENSES:		$6,780		$2,290	$7,224
MOBILIZATION:		$5,427		$5,427	$5,427
TOTAL COSTS:		$96,961		$33,163	$102,948
COST PER STATION:		$5,270		$2,437	$154

ROAD DEACTIVATION AND ABANDONMENT COSTS: $6,864

NOTE[1]: This appraisal has no allowance for profit and risk.

TOTAL (All Roads) = $239,937

SALE VOLUME MBF = 6,913

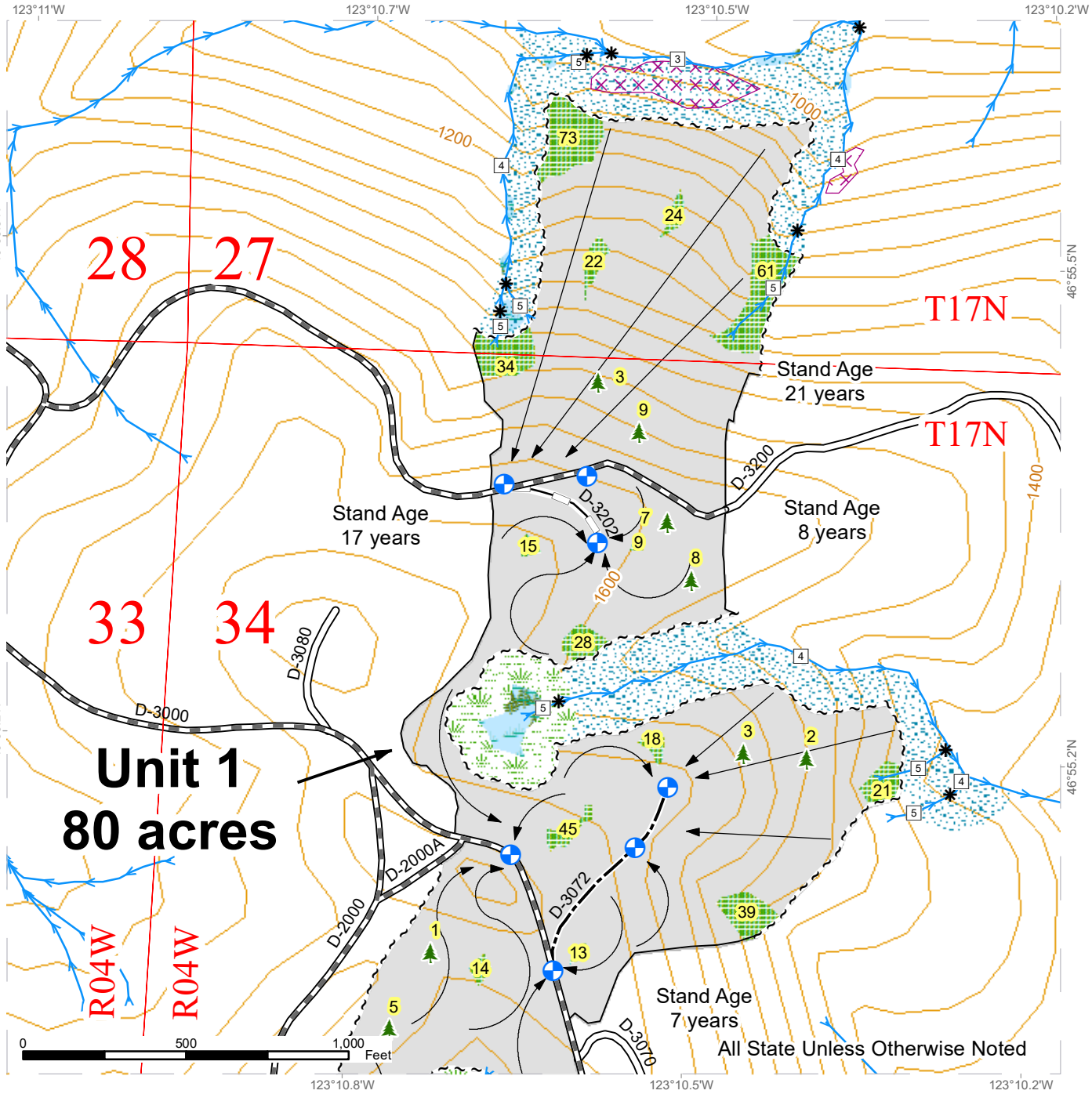
TOTAL COST PER MBF = $34.71

Date: 05/22/19

LOGGING PLAN MAP

SALE NAME: GLINDA THE GOOD
AGREEMENT#: 30-099052
TOWNSHIP(S): T16R4W, T17R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 803-2160



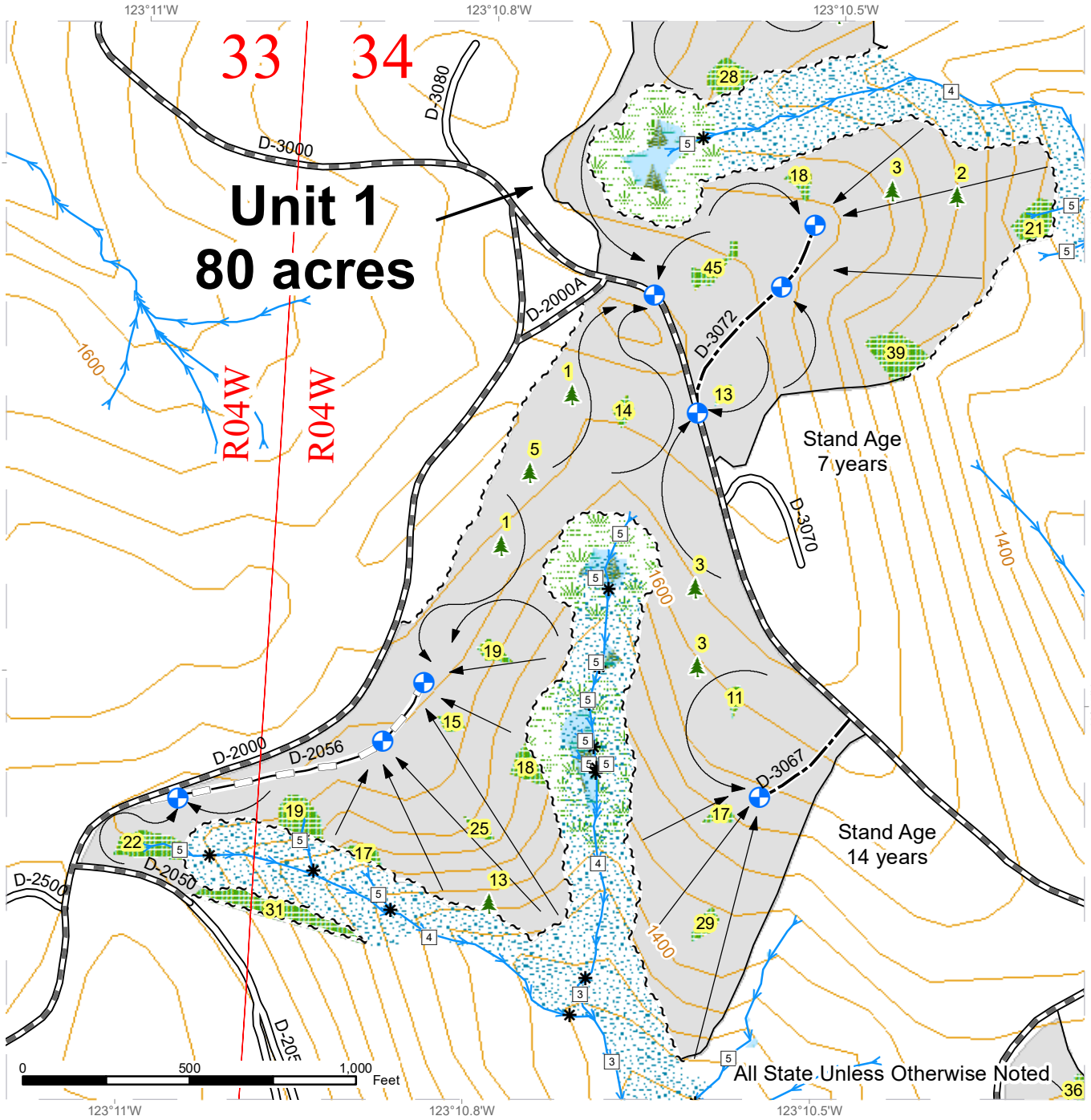
Sale Area	Existing Roads	Cable Harvest
Riparian Mgt Zone	Required Pre-Haul Maintenance	Ground Harvest
Forested Wetland	Optional Construction	Streams
Wetland Mgt Zone	Optional Reconstruction	Stream Type
Leave Tree Area	Sale Boundary Tags	Stream Type Break
Slope Stability Mitigation Zones	Timber Type Change	Landing - Proposed
		Leave Tree Area <1/4-acre

N

LOGGING PLAN MAP

SALE NAME: GLINDA THE GOOD
AGREEMENT#: 30-099052
TOWNSHIP(S): T16R4W, T17R4W
TRUST(S): Forest Board Repayment (42), State Forest Purchase (2)

REGION: South Puget Sound Region
COUNTY(S): Grays Harbor, Thurston
ELEVATION RGE: 803-2160



Sale Area	Existing Roads	Cable Harvest
Riparian Mgt Zone	Required Pre-Haul Maintenance	Ground Harvest
Forested Wetland	Optional Construction	Streams
Wetland Mgt Zone	Optional Reconstruction	Stream Type
Leave Tree Area	Sale Boundary Tags	Stream Type Break
	Timber Type Change	Landing - Proposed
		Leave Tree Area <1/4-acre

N

LOGGING PLAN MAP

SALE NAME: GLINDA THE GOOD
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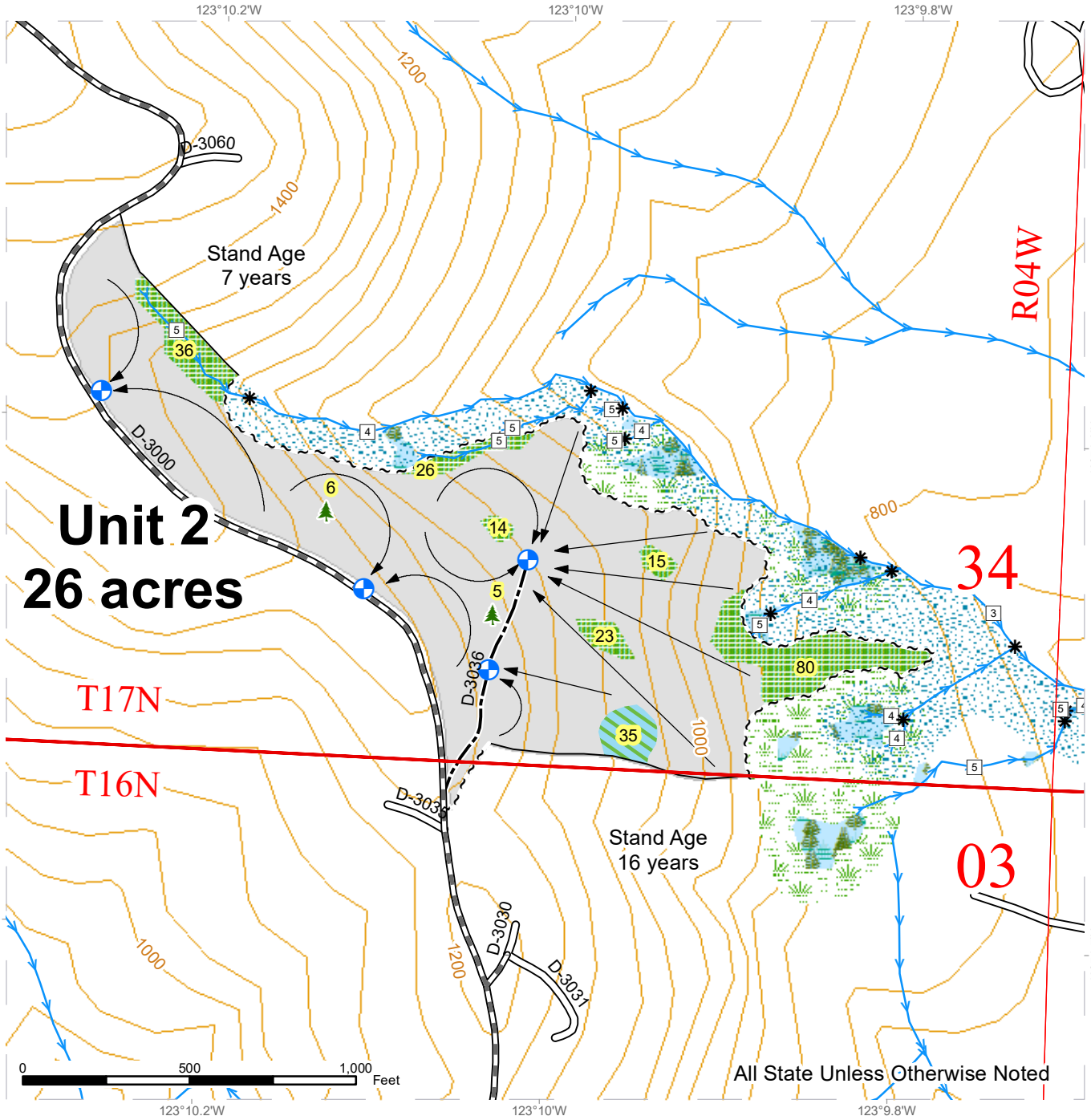

Sale Area	Existing Roads	Cable Harvest
Riparian Mgt Zone	Required Pre-Haul Maintenance	Ground Harvest
Forested Wetland	Optional Construction	Streams
Wetland Mgt Zone	Sale Boundary Tags	Stream Type
Leave Tree Area	Timber Type Change	Stream Type Break
Non-tradeable Leave Trees		Landing - Proposed
Slope Stability Mitigation Zones		Leave Tree Area <1/4-acre

N