



**TIMBER NOTICE OF SALE**

**SALE NAME:** GEODE

**AGREEMENT NO:** 30-107180

**AUCTION:** February 27, 2025 starting at 10:00 a.m., **COUNTY:** Skamania  
Pacific Cascade Region Office, Castle Rock, WA

**SALE LOCATION:** Sale located approximately 25 miles northeast of Washougal, WA

**PRODUCTS SOLD  
AND SALE AREA:**

All timber, except leave trees marked with blue paint, and all down timber greater than 30 inches diameter, all timber 60 inches DBH and larger, and snags bound by the following;

Unit 1, white "Timber Sale Boundary" tags with pink flagging and Property Line flagged with pink flagging;

Unit 2, white "Timber Sale Boundary" tags with pink flagging and the W-2050 road;

Unit 3 (ROW), orange "Right of Way" tags with orange flagging;

Unit 4 (ROW), orange "Right of Way" tags with orange flagging;

All forest products above located on part(s) of Sections 17, 19, 20 and 30 all in Township 3 North, Range 6 East, W.M., containing 93 acres, more or less.

**CERTIFICATION:** This sale is certified under the Sustainable Forestry Initiative® program Standard (cert no: BVC-SFIFM-018227)

**ESTIMATED SALE VOLUMES AND QUALITY:**

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade								
				1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	18.8	9	3,551				128		2,120	1,059	222	22
Hemlock	10.3		12							4	8	
Sale Total			3,563									

**MINIMUM BID:** \$786,000.00 **BID METHOD:** Sealed Bids

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

**EXPIRATION DATE:** October 31, 2027 **ALLOCATION:** Export Restricted

**BID DEPOSIT:** \$78,600.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

**HARVEST METHOD:** Cable, Cable-Assist, and Shovel. This sale is estimated to be 15 percent shovel and 85 percent cable harvest systems. Shovel harvesting is restricted to sustained slopes of 40 percent or less, and cable-assist to 70 percent or less. 6-wheeled rubber-tired skidders with over-the-tire-tracks spanning both sets of rear tires will not be permitted on sustained slopes over 40 percent. Ground Based Yarding will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator.



## TIMBER NOTICE OF SALE

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**ROADS:** 41.86 stations of required construction. 36.89 stations of optional construction. 440.46 stations of required prehaul maintenance.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the W-2050 Pit located in Section 17, T3N, R6E, W.M. on state land at no charge to the Purchaser.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the W-2045A Potential Rock Pit located in Section 19, T3N, R6E, W.M. on state land at no charge to the Purchaser.

Rock used in accordance with the quantities on the ROCK LIST may be obtained from any commercial source at the Purchaser's expense.

Purchaser shall conduct rock source development and use at the W-2025 Pit and W-2045A Potential Rock Pit, in accordance with the written ROCK SOURCE DEVELOPMENT PLAN prepared by the state and included in this road plan.

See Road Plan for further details. Road construction will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator. The hauling of forest products will not be permitted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

### ACREAGE DETERMINATION

**CRUISE METHOD:** The sale acres were determined by GPS delineation. Cruise was completed using variable plot cruise methods.

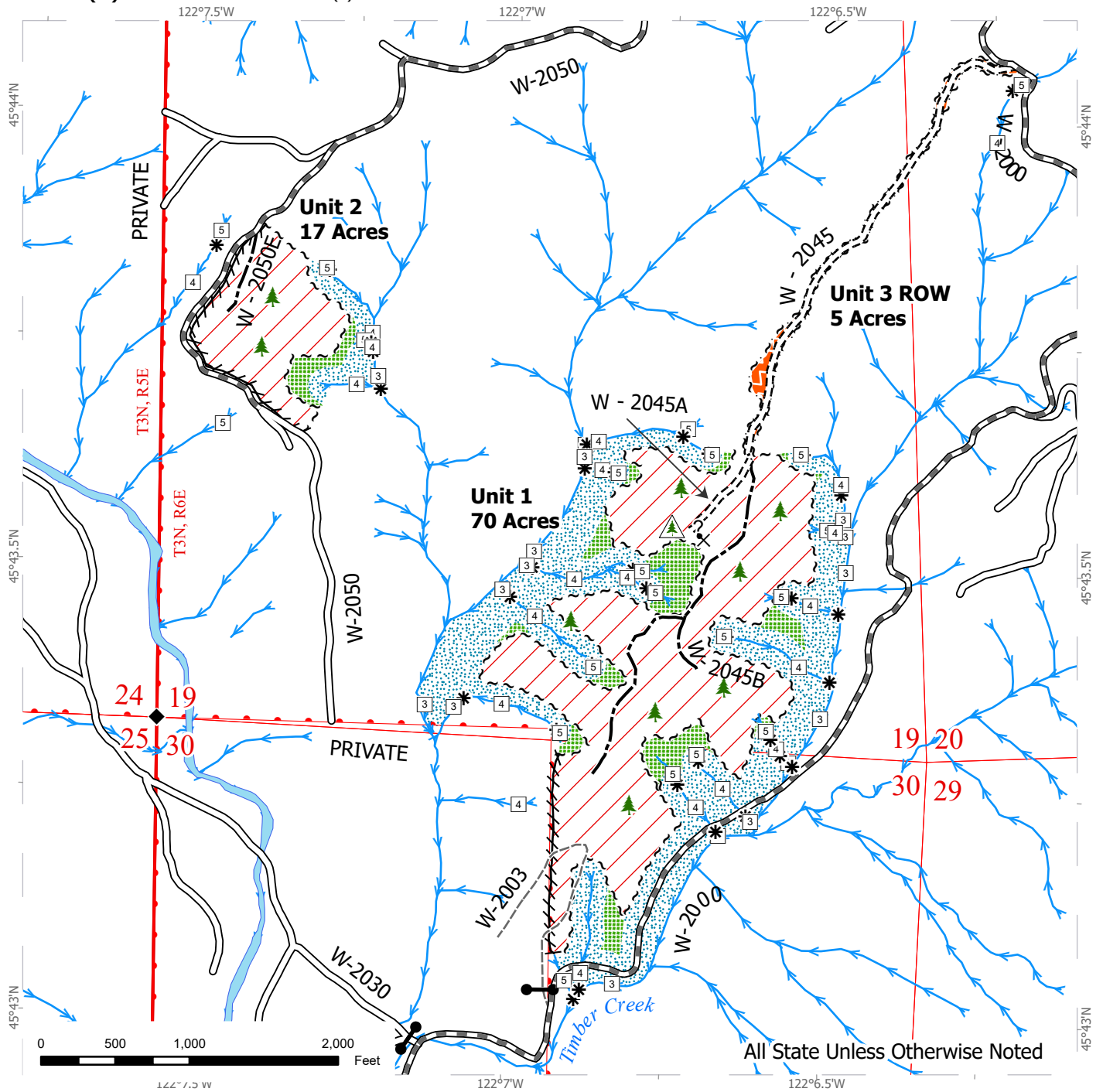
**FEES:** \$60,571.00 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

**SPECIAL REMARKS:** This sale contains approximately 382 MBF of pole quality DF, 128 MBF SM DF, 393 MBF High Quality 2 saw DF, 231MBF High Quality 3 saw DF. See Cruise for additional information.

# TIMBER SALE MAP

**SALE NAME:** GEODE  
**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
**TRUST(S):** State Forest Transfer (1)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760

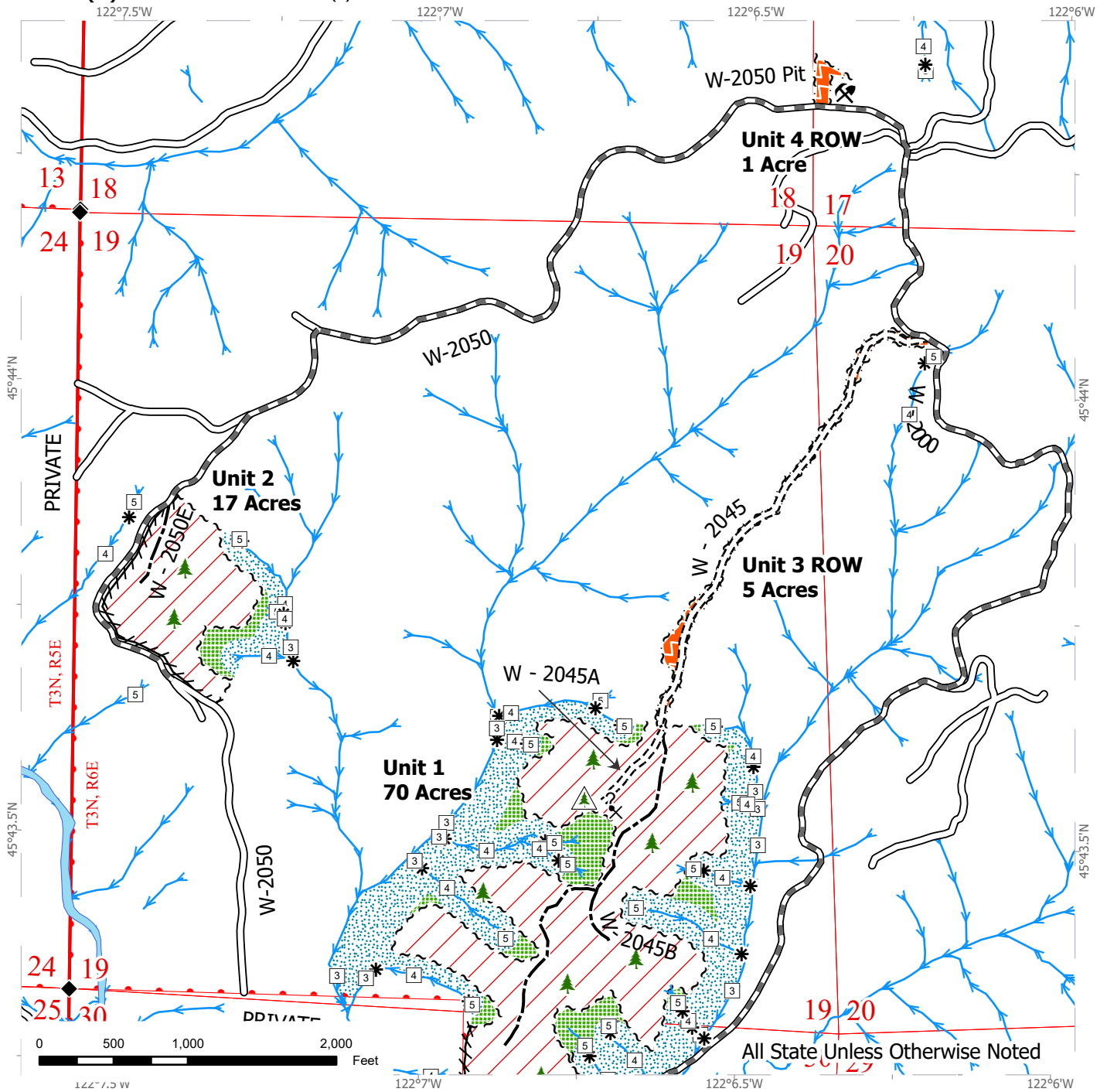


Variable Retention Harvest	Property Line	Stream Type
Right-of-Way Harvest	Existing Roads	Stream Break
Leave Tree Area	Required Pre-Haul Maintenance	Leave Tree Area <1/4-acre
Riparian Mgt Zone	Required Construction	Non-Tradeable Leave Trees
Sale Boundary Tags	Optional Construction	Gate
Right of Way Tags	Old Grades/Trails	Potential Rock Source
Flag Line	Streams	Survey Monument

# TIMBER SALE MAP

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**REGION:** Pacific Cascade Region  
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All State Unless Otherwise Noted

	Variable Retention Harvest		Property Line		Stream Break
	Right-of-Way Harvest		Existing Roads		Leave Tree Area <1/4-acre
	Leave Tree Area		Required Pre-Haul Maintenance		Non-Tradeable Leave Trees
	Riparian Mgt Zone		Required Construction		Rock Pit
	Sale Boundary Tags		Optional Construction		Potential Rock Source
	Right of Way Tags		Streams		Survey Monument
	Flag Line		Stream Type		



# DRIVING MAP

**SALE NAME:** GEODE  
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**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
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- Harvest Unit
- Highway
- Haul Route
- Other Route
- Milepost Marker
- Distance Indicator
- Gate
- Rock Pit
- Town

**DRIVING DIRECTIONS:**

From State Route 14, near mile marker 16, turn north onto Washougal River Road and travel for 10.2 miles.  
 At intersection with Salmon Falls Road, continue straight on Washougal River Road for another 7.5 miles.  
 Turn right onto the W-2000 road at Dougan Falls and follow for 5 miles to access Unit 1.  
 From Unit 1, continue approximately 2 miles on the W-2000.  
 Turn left onto the W-2050 for approximately .2 miles to access Unit 4 (W-2050 Pit).  
 From Unit 4, continue approximately 1.5 miles on the W-2050 to access Unit 2.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted Lump Sum AGREEMENT NO. 30-0107180**

**SALE NAME: GEODE**

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on February 27, 2025 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 marked with blue paint, and all down timber greater than 30 inches diameter, all timber 60 inches DBH and larger, and snags bound by the following;

Unit 1, white "Timber Sale Boundary" tags with pink flagging and Property Line flagged with pink flagging;

Unit 2, white "Timber Sale Boundary" tags with pink flagging and the W-2050 road;

Unit 3 (ROW), orange "Right of Way" tags with orange flagging;

Unit 4 (ROW), orange "Right of Way" tags with orange flagging;

All forest products described above located on approximately 93 acres on part(s) of Sections 17, 19, 20, and 30 all in Township 3 North, Range 6 East W.M. in Skamania 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, 2027.

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 \$786.00 per acre per annum for the acres on which an operating release has not been issued .
- f. In no event will the extension charge be less than \$200.00.
- g. Extension payments are non-refundable.

**G-053 Surveys - Sensitive, Threatened, Endangered Species**

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

**G-060 Exclusion of Warranties**

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

- a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.
- b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."
- c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.
- d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.
- e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL

OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.

- f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.
- g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.
- h. Items contained in any other documents prepared for or by the State.

G-061 Inadvertent Discovery of Cultural Resources

Purchaser acknowledges that cultural resources as defined in WAC 222-16-010 may exist within the timber sale area and that the existence and location of such resources may be unknown at the time this contract is executed. Purchaser has a duty to exercise due care in its operations and in the event any human skeletal remains are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify local law enforcement in the most expeditious manner possible then notifying the Contract Administrator. In the event cultural resources are discovered by the Purchaser or the State during the course of operations Purchaser shall immediately halt operations and notify the Contract Administrator. Any potential resources shall not be removed or disturbed. Purchaser shall resume operations as directed in writing by the Contract Administrator.

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 2022 Forest Management Standard under certificate number: BVC-SFIFM-018227.

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 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.

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.

Road is defined as the road bed, including but not limited to its component parts, such as cut and fill slopes, 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.

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 Castle Rock, 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 Operations

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; W-2000 (0+00 to 355+28), W-2045, W2045A, W-2045B, W-2050 (0+00 to 85+18) and W-2050E. 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 W-2000 road, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easement #55-000108 between State and William J. Gill, Juliet A Gill, and Della B. Miller dated December 14, 1965.

Easement #55-000075 between State and Leon P. Montchalin dated April 27, 1961.

Easement #55-000151 between State and Boise Cascade dated February 22, 1974.

Easement #55-000076 between State and Boise Cascade dated Novemner 6, 1974.

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:

Lease, including the terms and provisions thereof,  
For: Minor Forest Products  
In Favor of: DNR – Pacific Cascade Region  
Disclosed by Application No.: 35-RP0004  
Granted: 3/1/1993  
Expires: Indefinite

Special Notations: Access for Timber Creek Communication Site located in Section 21, Township 3 North, Range 6 East crosses the subject property.

Section P: Payments and Securities

P-011 Initial Deposit

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

P-020 Payment for Forest Products

Purchaser agrees to pay the total, lump sum contract price of \$92,638.00. The total contract price consists of a \$0.00 contract bid price plus \$92,638.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations

Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

Purchaser agrees to furnish, within 30 days of the confirmation date, security acceptable to the State in the amount of \$100,000.00. The Security provided shall guarantee performance of all provisions of this contract and payment of any damages caused by operations under this contract or resulting from Purchaser's noncompliance with any rule or law. Acceptable performance security may be in the form of a performance bond, irrevocable letter of credit, cash, savings or certificate of deposit account assignments, and must name the State as the obligee or beneficiary. A letter of credit must comply with Title 62A RCW, Article 5. Performance security must remain in full force over the duration of the contract length. Surety bonds issued shall conform to the issuance and rating requirements in clause G-150. The State shall retain the performance security pursuant to RCW 79.15.100. Purchaser shall not operate unless the performance security has been accepted by the State. If at any time the State decides that the security document or amount has become unsatisfactory, Purchaser agrees to suspend operations and, within 30 days of notification, to replace the security with one acceptable to the State or to supplement the amount of the existing security.

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Ground Based Yarding will not be permitted from October 1 to April 30 unless authorized in writing by the Contract Administrator.

**H-013 Reserve Tree Damage Definition**

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

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

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

If the Contract Administrator determines that a reserve tree has been cut or damaged, the Purchaser shall provide a replacement reserve tree of like condition, size, and species within the sale 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 '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-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, cable-assist, shovel or 6-wheeled rubber-tired skidders with over-the-tire-tracks spanning both sets of rear tires. Shovel restricted to sustained slopes of 40 percent or less. Cable-assist restricted to sustained slopes of 70 percent or less. 6-wheeled rubber-tired skidders with over-the-tire-tracks spanning both sets of rear tires will not be permitted on sustained slopes over 40 percent. 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-127 Tailholds on Private Land

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

H-130 Hauling Schedule

The hauling of forest products will not be permitted 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:

Active Haul Routes will be posted with CB channels by Purchaser.

Ground based yarding equipment shall only operate during dry soil conditions.

All trees 60 inches Diameter at Breast Height (DBH) and greater shall not be felled unless for safety reasons. If trees 60 inches DBH or greater needs to be felled for safety reasons, Contract Administrator approval is required and trees will be left where felled.

Tailhold locations will be marked by the Purchaser to avoid Rule Identified Landforms and approved in writing by the Contract Administrator prior to commencement of operations.

Within shovel logging areas, the shovel operator shall break up concentrations of logging debris greater than 10 feet by 10 feet to allow exposure of natural soils to ensure proper reforestation.

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

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-240 Lop and Scatter

The tops of all felled trees shall be lopped and slash scattered away from leave trees .

H-250 Additional Falling Requirements

Within all units, all non-merchantable hardwood stems 2 inches DBH or 10 feet tall, shall be felled concurrently with felling operations. 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 7/10/2024 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on W-2045, W-2045A, W-2045B, W-2050 and the W-2050E 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 roads not listed in Clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs

incurred while performing this work. Costs shall be based on the rates set forth in the 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-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-070 Water Supply**

Purchaser shall provide, during the "closed season", a water supply with a minimum capacity of 300 gallons for rapid filling of pump trucks or trailers at a location designated by the Contract Administrator.

**S-100 Stream Cleanout**

Slash or debris which enters all typed streams 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-120 Stream Protection**

No timber shall be felled into, across, or yarded through type 5 stream.

**S-130 Hazardous Materials****a. Hazardous Materials and Waste - Regulatory Compliance**

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

Purchaser shall be responsible for restoring the site in the event of a spill or other releases of hazardous material/waste during operations conducted under this contract.

**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 covered in part a., the Purchaser is responsible for immediately notifying all the following:

- Department of Emergency Management at 1-800-258-5990
- National Response Center at 1-800-424-8802
- Appropriate Department of Ecology (ECY) at 1-800-645-7911
- DNR Contract Administrator

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 harvest units.

SIGNATURES

This agreement may be executed in any number of counterparts (including by electronic mail in portable document format (.pdf), or by facsimile) each of which shall be deemed an original but all of which, when taken together, shall constitute one and the same Agreement binding on all parties.

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Scott Sargent

\_\_\_\_\_  
Print Name

Pacific Cascade Region Manager

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 \_\_\_\_\_

## PRE-CRUISE NARRATIVE

Sale Name: <b>Geode</b>	Region: <b>Pacific Cascade</b>
Agreement #: <b>30-107180</b>	District: <b>Yacolt</b>
Contact Forester: <b>John Choate</b> Phone / Location: <b>360-827-5867</b>	County(s): <b>Skamania</b>
Alternate Contact: <b>Ben Jeske</b> Phone / Location: <b>360-480-2412</b>	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: <b>Lump Sum</b>	
Harvest System: <b>Uphill Cable</b> <a href="#">Click here to enter text.</a>	84%
Harvest System: <b>Ground based</b> <a href="#">Click here to enter text.</a>	16%
Enter % of sale acres	

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit #	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination  (List method and error of closure if applicable)
				RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres (describe)		
1	Sec 19 and 30 / T03N R06E	01	142.3	62.3	10.2			69.8	GPS (Trimble)
2	Sec 19 / T03N / R06E	01	23.4	4.2	1.9			17.3	GPS (Trimble)
3 ROW	Sec 19 and 20 / T03N / R06E	01	5.4					5.4	GPS (Trimble)
4 ROW	Sec 17 / T03N / R06E	01	0.9					0.9	GPS (Trimble)
<b>TOTAL ACRES</b>			172.0	66.5	12.1			93.4	

### HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Unit 1 is a Variable Retention Harvest bounded by white "Timber Sale Boundary" tags and pink flagging.	None	690 leave trees (54 painted blue)



2	Unit 2 is a Variable Retention Harvest bounded by white “Timber Sale Boundary” tags and pink flagging.	None	169 leave trees (53 painted blue)
3 ROW	Unit 3 is a Right-of-Way bounded by orange “Right-of-Way” tags.	None	N/A
4 ROW	Unit 3 is a Right-of-Way bounded by orange “Right-of-Way” tags.	None	N/A

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH, RA / 2,094 MBF	N/A	
2	DF, WH, RA / 529 MBF	N/A	
3 ROW	DF / 162 MBF	N/A	
4 ROW	DF / 27 MBF	N/A	
TOTAL MBF	2,812 MBF		

**REMARKS:**

Unit 1 can be accessed by foot via an old equipment trail on the southern portion of the unit. The beginning of this trail has a gate at the property line.
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<b>Prepared By:</b> John Choate	<b>Title:</b> State Lands Forester	<b>CC:</b>
<b>Date:</b> 8/14/2024		

## Timber Sale Cruise Report Geode

**Sale Name:** GEODE

**Sale Type:** LUMP SUM

**Region:** PACIFIC CASC

**District:** YACOLT

**Lead Cruiser:** Dylan Buchanan

**Other Cruisers:** Blake Warnstadt, Dillon Adair

**Cruise Narrative:**

Location: Geode is located approximately 16.5 miles northeast of Washougal. It can be accessed by turning north off of state route 14 onto Washougal River Rd just after mile marker 16. Stay on Washougal River Rd for 17.7 miles where you will turn right onto the W-2000. Take the W-2000 for 6.5 miles where unit 1 will be located just off the road. It can also be accessed by continuing on State Route 14 about half mile past mile marker 26 where you will turn north onto Salmon Falls Rd. Take Salmon Falls Rd for 3.4 miles where you will turn right onto Washougal River Rd. Take Washougal River Rd 7.5 miles to the W-2000 and continue with previous directions. Unit 1 can be accessed by walking in from the south end or walking in on U3 ROW from the North end of the unit. U4 ROW and Unit 2 can be accessed by turning onto the W-2050 just past U3 ROW. U4 ROW is located on the right about 0.1 mile down the W-2050. Continue down the W-2050 for another mile past U4 ROW where U2 can be accessed off the road.

Cruise Design: Geode has 2 variable retention harvest units and 2 right of way units. They were all cruised using variable radius plots with trees sighted at 4.5 feet. U1 was cruised using a 54.44 BAF with a cruise to count ratio of 1:2. U2 and U3 ROW were cruise using a 46.94 BAF. U2 was cruised with a cruise to count ratio of 1:1, while U3 ROW all plots were cruised. U4 ROW was cruised using a 40 BAF with all plots cruised. Bole heights were cruised to an estimated break point of 40% the diameter at 16' or to a 5-inch top. Preferred log lengths for conifers were 40'.

Timber Quality: The Geode timber sale is Douglas Fir dominant with just a trace of Western Hemlock and Red Alder. Average DF diameters at 4.5' include Unit 1- 19.3", Unit 2- 18", and Units 3-4 ROW 14.5-14.8". They look nice and have a healthy amount of HQ B present with the domestic sorts. There is also a few HQ A logs and DF poles are scattered throughout the sale. A few spike knots were observed, but overall, there is little defect present. Observed no conks and minimal mortality.

Logging and Stand Conditions: Geodes is steep terrain with moderate to heavy veg cover consisting of mostly vine maple and Oregon grape. It is estimated to logged using 84% uphill cable and 16% ground based logging. Numerous Mountain Beaver holes were observed on south facing slopes.

**Timber Sale Notice Volume (MBF)**

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	18.8	9.0		3,551	128	2,120	1,059	222	22
WH	10.3			12			4	8	0
ALL	18.3	9.0		3,563	128	2,120	1,062	230	23

**Timber Sale Notice Weight (tons)**

Sp	Tons by Grade					
	All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	25,356	795	13,646	8,690	2,058	168
WH	106			44	57	4
ALL	25,462	795	13,646	8,734	2,115	173

**Timber Sale Overall Cruise Statistics**

BA (sq ft/acre)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR SE (%)	Net Vol (bf/acre)	Vol SE (%)
229.3	3.9	166.2	2.2	38,147	4.5

**Timber Sale Unit Cruise Design**

Unit	Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
GEODE U1	B1C: VR, 1 BAF (54.44) Measure/ Count Plots, Sighting Ht = 4.5 ft	69.8	80.1	72	27	1
GEODE U2	B1C: VR, 1 BAF (46.94) Measure/ Count Plots, Sighting Ht = 4.5 ft	17.3	19.2	18	9	0
GEODE ROW U3	B1: VR, 1 BAF (46.94) Measure All, Sighting Ht = 4.5 ft	5.4	5.4	5	5	0
GEODE ROW U4	B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.9	0.9	3	3	0
All		93.4	105.6	98	44	1

**Timber Sale Log Grade x Sort Summary**

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
DF	LIVE	2 SAW	Domestic	16.3	40	15,891	15,620	1.7	9,317.8	1,458.9
DF	LIVE	2 SAW	HQ-A	15.3	40	541	541	0.0	327.6	50.5
DF	LIVE	2 SAW	HQ-B	15.2	40	3,726	3,666	1.6	2,356.1	342.4
DF	LIVE	2 SAW	Pole	14.0	46	2,879	2,869	0.3	1,644.3	268.0
DF	LIVE	3 SAW	Domestic	8.7	39	7,754	7,635	1.5	6,110.6	713.1
DF	LIVE	3 SAW	HQ-B	9.8	40	2,483	2,476	0.3	1,782.6	231.2
DF	LIVE	3 SAW	Pole	10.6	45	1,224	1,224	0.0	796.5	114.3
DF	LIVE	4 SAW	Domestic	5.8	28	2,422	2,373	2.0	2,057.8	221.7
DF	LIVE	CULL	Cull	6.3	5	144	0	100.0	0.0	0.0
DF	LIVE	SPECIAL MILL	HQ-A	17.2	40	1,373	1,373	0.0	794.6	128.2
DF	LIVE	UTILITY	Pulp	6.3	13	240	240	0.3	168.3	22.4

Sp	Status	Grade	Sort	Dia	Len	BF Gross	BF Net	Defect %	Tons	MBF Net
WH	LIVE	3 SAW	Domestic	11.7	40	42	38	10.0	44.2	3.6
WH	LIVE	4 SAW	Domestic	5.1	22	90	90	0.0	57.1	8.4
WH	LIVE	UTILITY	Pulp	6.9	12	3	3	0.0	4.2	0.3

### Timber Sale Log Sort x Diameter Bin Summary

Sp	Bin	Status	Sort	Dia	Len	BF Net	Defect %	Tons	MBF Net
DF	5 - 7	LIVE	Pulp	5.7	14	204	0.3	134.6	19.1
DF	5 - 7	LIVE	Domestic	5.9	32	4,273	1.8	3,677.3	399.1
DF	5 - 7	LIVE	Cull	6.0	5	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Cull	8.5	7	0	100.0	0.0	0.0
DF	8 - 11	LIVE	Pulp	8.5	14	35	0.0	33.7	3.3
DF	8 - 11	LIVE	Domestic	9.6	37	5,735	1.5	4,491.1	535.7
DF	8 - 11	LIVE	HQ-B	9.6	40	2,476	0.3	1,782.6	231.2
DF	8 - 11	LIVE	Pole	10.5	44	1,224	0.0	796.5	114.3
DF	12 - 15	LIVE	Pole	13.4	47	2,369	0.4	1,405.7	221.3
DF	12 - 15	LIVE	Domestic	13.7	40	5,161	2.5	3,516.5	482.1
DF	12 - 15	LIVE	HQ-B	13.7	40	2,341	1.5	1,568.4	218.6
DF	12 - 15	LIVE	HQ-A	14.6	40	541	0.0	327.6	50.5
DF	12 - 15	LIVE	Cull	14.7	1	0	100.0	0.0	0.0
DF	16+	LIVE	HQ-A	17.2	40	1,373	0.0	794.6	128.2
DF	16+	LIVE	Pole	18.1	51	500	0.0	238.6	46.7
DF	16+	LIVE	HQ-B	18.3	40	1,325	1.8	787.7	123.8
DF	16+	LIVE	Domestic	18.8	40	10,458	1.3	5,801.3	976.8
WH	5 - 7	LIVE	Domestic	5.1	21	90	0.0	57.1	8.4
WH	5 - 7	LIVE	Pulp	6.9	12	3	0.0	4.2	0.3
WH	8 - 11	LIVE	Domestic	11.7	40	38	10.0	44.2	3.6

## Cruise Unit Report GEODE U1

### Unit Sale Notice Volume (MBF): GEODE U1

Sp	DBH	Rings/In	Age	MBF Volume by Grade					
				All	Spec Mill	2 Saw	3 Saw	4 Saw	Utility
DF	19.3	9.0		2,773	128	1,747	733	153	11
WH	10.2			12			4	8	0
ALL	18.6	9.0		2,784	128	1,747	736	161	12

### Unit Cruise Design: GEODE U1

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (54.44) Measure/Count Plots, Sighting Ht = 4.5 ft	69.8	80.1	72	27	1

### Unit Cruise Summary: GEODE U1

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	136	301	4.2	1
WH	4	4	0.1	0
ALL	140	305	4.2	1

### Unit Cruise Statistics: GEODE U1

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	227.6	41.4	4.9	174.5	30.1	2.6	39,721	51.2	5.5
WH	3.0	415.2	48.9	56.7	25.4	12.7	171	416.0	50.6
ALL	230.6	40.7	4.8	173.0	32.0	2.7	39,892	51.8	5.5

### Unit Summary: GEODE U1

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	136	ALL	19.3	80	103	40,378	39,721	1.6	112.0	227.6	51.8	2,772.5
WH	LIVE	CUT	4	ALL	10.2	26	30	177	171	3.2	5.3	3.0	0.9	12.0
ALL	LIVE	CUT	140	ALL	19.0	77	100	40,555	39,892	1.6	117.3	230.6	52.8	2,784.5
ALL	ALL	CUT	140	ALL	19.0	77	100	40,555	39,892	1.6	117.3	230.6	52.8	2,784.5

## Cruise Unit Report GEODE U2

### Unit Sale Notice Volume (MBF): GEODE U2

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	18.4	9.0		544	289	207	42	7
ALL	18.4	9.0		544	289	207	42	7

### Unit Cruise Design: GEODE U2

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1C: VR, 1 BAF (46.94) Measure/Count Plots, Sighting Ht = 4.5 ft	17.3	19.2	18	9	0

### Unit Cruise Summary: GEODE U2

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	42	80	4.4	1
ALL	42	80	4.4	1

### Unit Cruise Statistics: GEODE U2

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	208.6	28.1	6.6	150.6	22.0	3.4	31,418	35.7	7.4
ALL	208.6	28.1	6.6	150.6	22.0	3.4	31,418	35.7	7.4

### Unit Summary: GEODE U2

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	42	ALL	18.5	79	101	32,007	31,418	1.8	111.8	208.6	48.5	543.5
ALL	LIVE	CUT	42	ALL	18.5	79	101	32,007	31,418	1.8	111.8	208.6	48.5	543.5
ALL	ALL	CUT	42	ALL	18.5	79	101	32,007	31,418	1.8	111.8	208.6	48.5	543.5

## Cruise Unit Report GEODE ROW U3

### Unit Sale Notice Volume (MBF): GEODE ROW U3

Sp	DBH	Rings/In	Age	MBF Volume by Grade				Utility
				All	2 Saw	3 Saw	4 Saw	
DF	14.5	9.0		223	83	111	25	4
ALL	14.5	9.0		223	83	111	25	4

### Unit Cruise Design: GEODE ROW U3

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (46.94) Measure All, Sighting Ht = 4.5 ft	5.4	5.4	5	5	0

### Unit Cruise Summary: GEODE ROW U3

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	31	31	6.2	1
ALL	31	31	6.2	1

### Unit Cruise Statistics: GEODE ROW U3

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	291.0	31.0	13.9	141.9	20.6	3.7	41,310	37.2	14.4
ALL	291.0	31.0	13.9	141.9	20.6	3.7	41,310	37.2	14.4

### Unit Summary: GEODE ROW U3

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	31	ALL	14.5	68	93	42,329	41,310	2.4	253.8	291.0	76.4	223.1
ALL	LIVE	CUT	31	ALL	14.5	68	93	42,329	41,310	2.4	253.8	291.0	76.4	223.1
ALL	ALL	CUT	31	ALL	14.5	68	93	42,329	41,310	2.4	253.8	291.0	76.4	223.1

## Cruise Unit Report GEODE ROW U4

### Unit Sale Notice Volume (MBF): GEODE ROW U4

Sp	DBH	Rings/In	Age	MBF Volume by Grade				
				All	2 Saw	3 Saw	4 Saw	Utility
DF	14.8	10.0		12	1	8	2	0
WH	13.0			0			0	
ALL	14.6	10.0		12	1	8	2	0

### Unit Cruise Design: GEODE ROW U4

Design	Cruise Acres	FMA Acres	N Plots	N Cruise Plots	N Void Plots
B1: VR, 1 BAF (40) Measure All, Sighting Ht = 4.5 ft	0.9	0.9	3	3	0

### Unit Cruise Summary: GEODE ROW U4

Sp	Cruised Trees	All Trees	Trees/Plot	Ring-Count Trees
DF	11	11	3.7	1
WH	1	1	0.3	0
ALL	12	12	4.0	1

### Unit Cruise Statistics: GEODE ROW U4

Sp	BA (sq ft/acre)	BA CV (%)	BA SE (%)	V-BAR (bf/sq ft)	V-BAR CV (%)	V-BAR SE (%)	Net Vol (bf/acre)	Vol CV (%)	Vol SE (%)
DF	146.7	31.5	18.2	87.5	24.9	7.5	12,831	40.1	19.7
WH	13.3	173.2	100.0	22.8	0.0	0.0	304	173.2	100.0
ALL	160.0	25.0	14.4	82.1	34.0	9.8	13,134	42.2	17.5

### Unit Summary: GEODE ROW U4

Sp	Status	Rx	N	D	DBH	BL	THT	BF Gross	BF Net	Defect %	TPA	BA	RD	MBF Net
DF	LIVE	CUT	11	ALL	14.8	55	70	12,994	12,831	1.3	122.8	146.7	38.1	11.5
WH	LIVE	CUT	1	ALL	13.0	21	23	304	304	0.0	14.5	13.3	3.7	0.3
ALL	LIVE	CUT	12	ALL	14.6	51	65	13,298	13,134	1.2	137.3	160.0	41.8	11.8
ALL	ALL	CUT	12	ALL	14.6	51	65	13,298	13,134	1.2	137.3	160.0	41.8	11.8





Forest Practices Application/Notification
Notice of Decision

FPA/N No: 2942933

Effective Date: 11/26/2024

Expiration Date: 11/26/2027

Shut Down Zone: 660

EARR Tax Credit: Eligible Non-eligible

Reference: 17,19,20,30-03-06E

Geode 30-107180

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.
Withdrawn Applicant has withdrawn the Forest Practices Application/Notification (FPA/N).
Closed All forest practices obligations are met.

FPA/N Classification

Class II Class III Class IVG Class IVS

Number of Years Granted on Multi-Year Request

4 years 5 years

Conditions on Approval/Reasons for Disapproval

No additional conditions.

Issued By: Michael Rutledge

Region: Pacific Cascade Region

Title: Forest Practices Forester

Date: Click or tap to enter a date.

Copies to: Landowner, Timber Owner, and Operator

Issued in person: LO TO OP By: Tonya Johnston Date: 11/26/2024

Handwritten signature of Tonya Johnston

**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](http://www.wa.gov/RCW76.09.205). 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:**

<b>Pollution Control Hearings Board</b>	<b>Office of the Attorney General Natural Resources Division</b>	<b>Department Of Natural Resources Pacific Cascade Region</b>
<u>Physical Address</u> 1111 Israel Road, SW Suite 301 Tumwater, WA 98501	<u>Physical Address</u> 1125 Washington Street, SE Olympia, WA 98504	<u>Physical Address</u> 601 Bond Rd Castle Rock WA 98611
<u>Mailing address</u> Post Office Box 40903 Olympia, WA 98504-0903	<u>Mailing Address</u> Post Office Box 40100 Olympia, WA 98504-0100	<u>Mailing Address</u> Post Office Box 280 Castle Rock, WA 98611-0280

Information regarding the Pollution Control Hearings Board can be found at: <https://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 <https://www.dnr.wa.gov/programs-and-services/forest-practices/review-applications-fpars/forest-practices-forms-and>. 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 Declaration of Mailing**

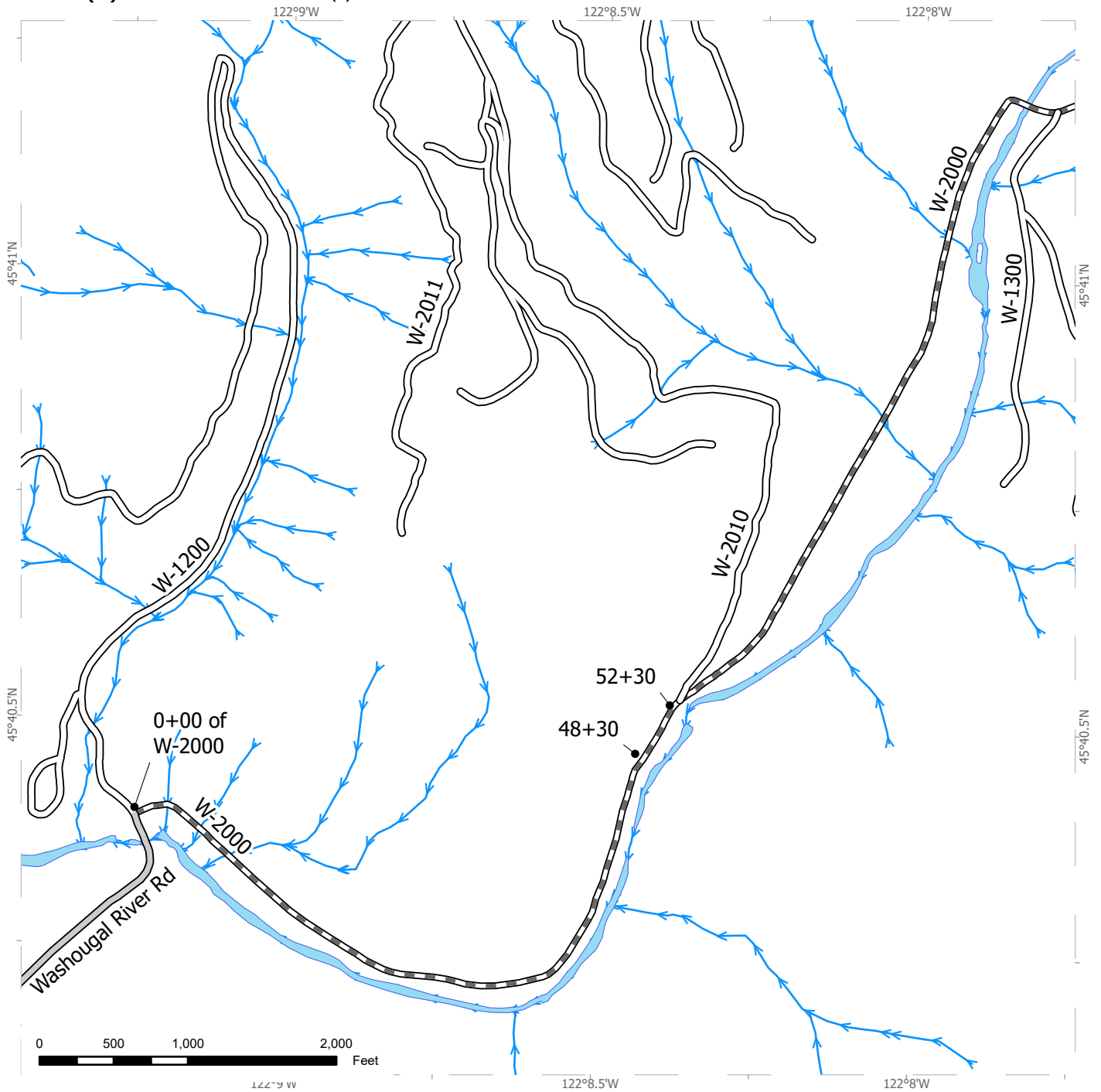
I \_\_\_\_\_, caused the Notice of Decision for FPA/N No. \_\_\_\_\_ to be placed in the United States mail at Castle Rock, WA, postage paid. I declare under penalty of perjury of the laws of the State of Washington, that the foregoing is true and correct.

\_\_\_\_\_ Castle Rock, WA \_\_\_\_\_  
(Date) (City & State where signed) (Signature)

# ROAD PLAN MAP

**SALE NAME:** GEODE  
**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
**TRUST(S):** State Forest Transfer (1)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760

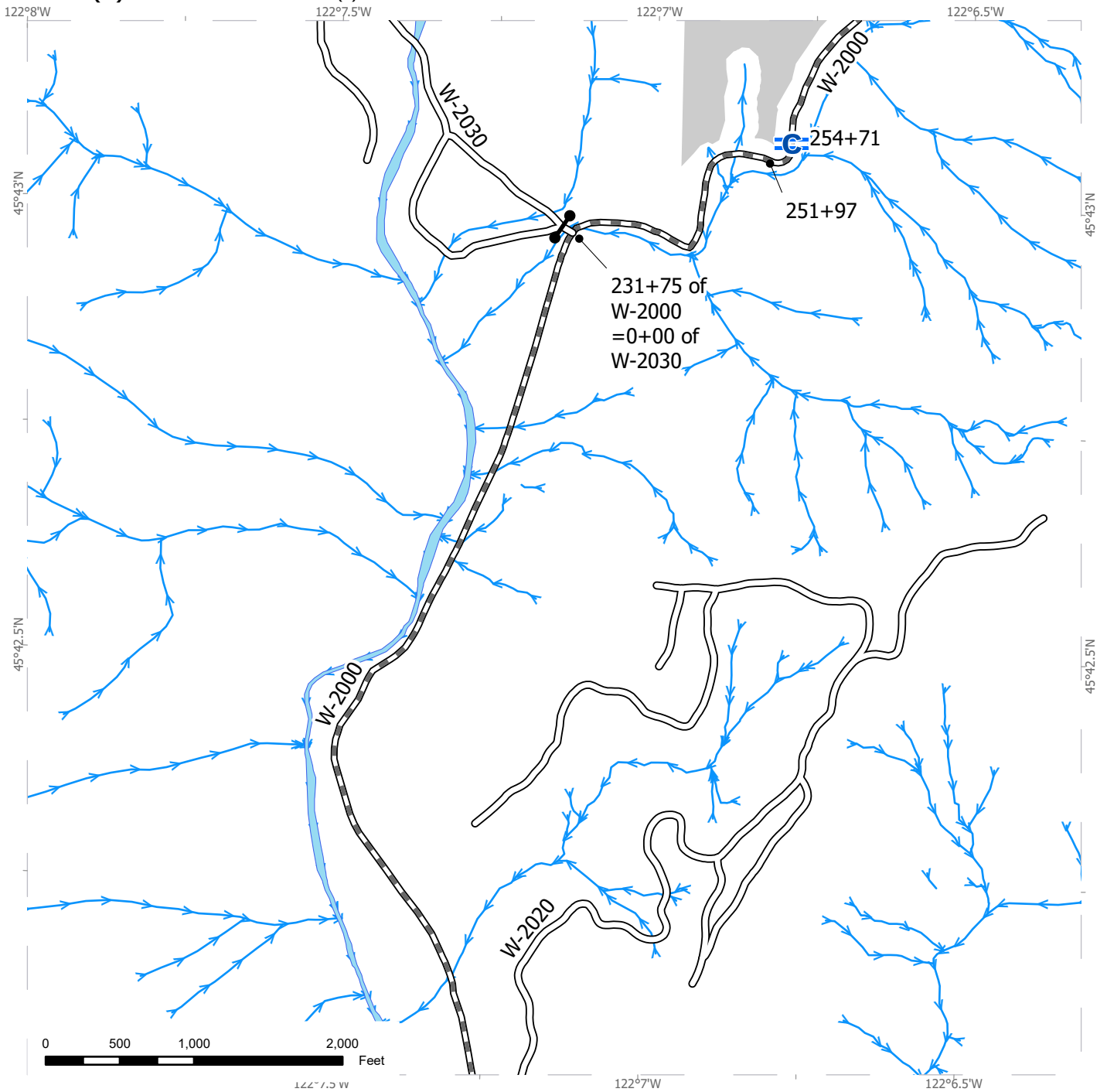


<ul style="list-style-type: none"> <li> County Road</li> <li> Existing Roads</li> <li> Required Pre-Haul Maintenance</li> </ul>	<ul style="list-style-type: none"> <li> Streams</li> </ul>
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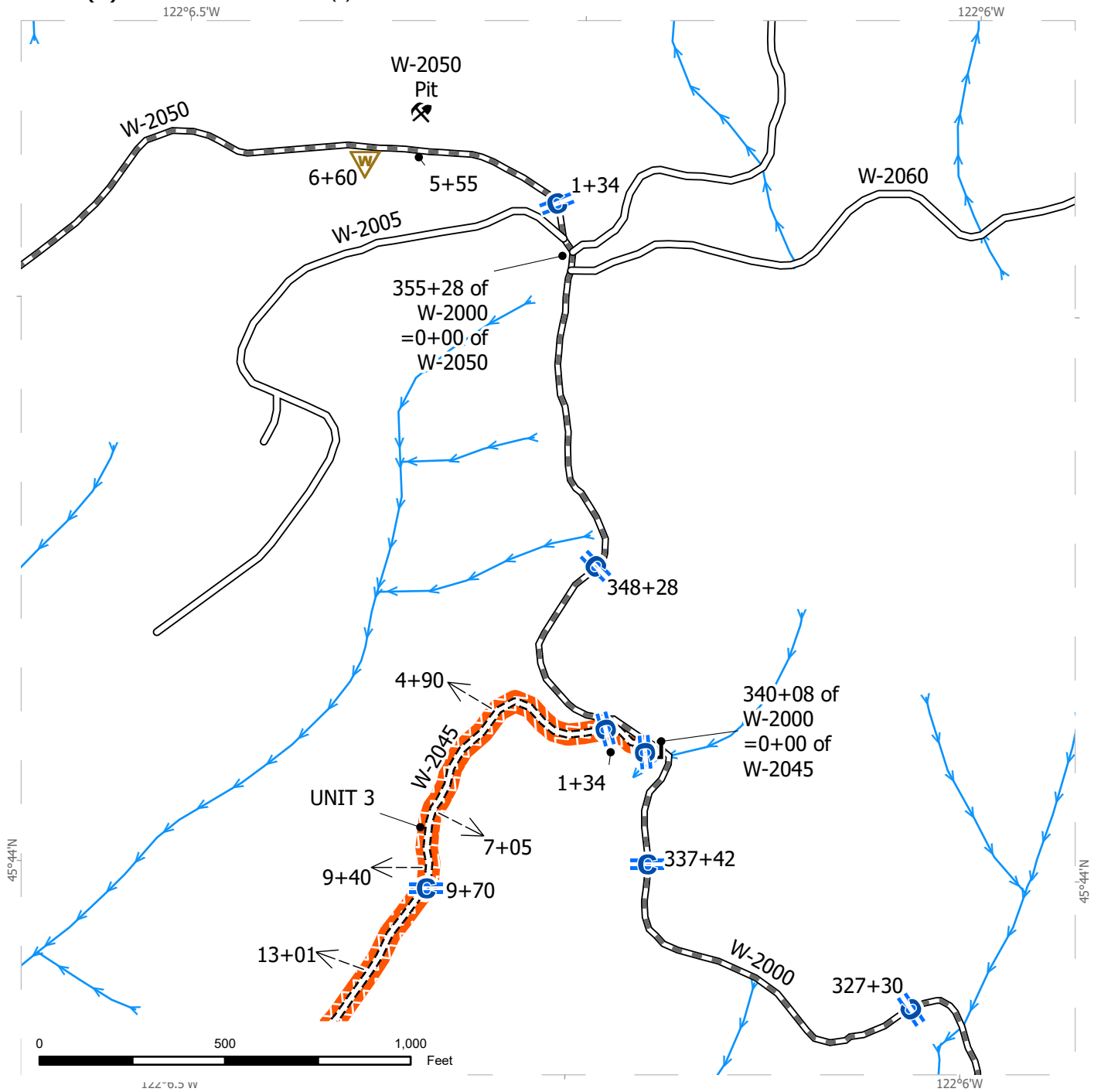
Existing Roads	Cross-drain Culvert	Harvest Unit
Required Pre-Haul Maintenance	Gate (PCP 1-1)	Streams



# ROAD PLAN MAP

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**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
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**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760

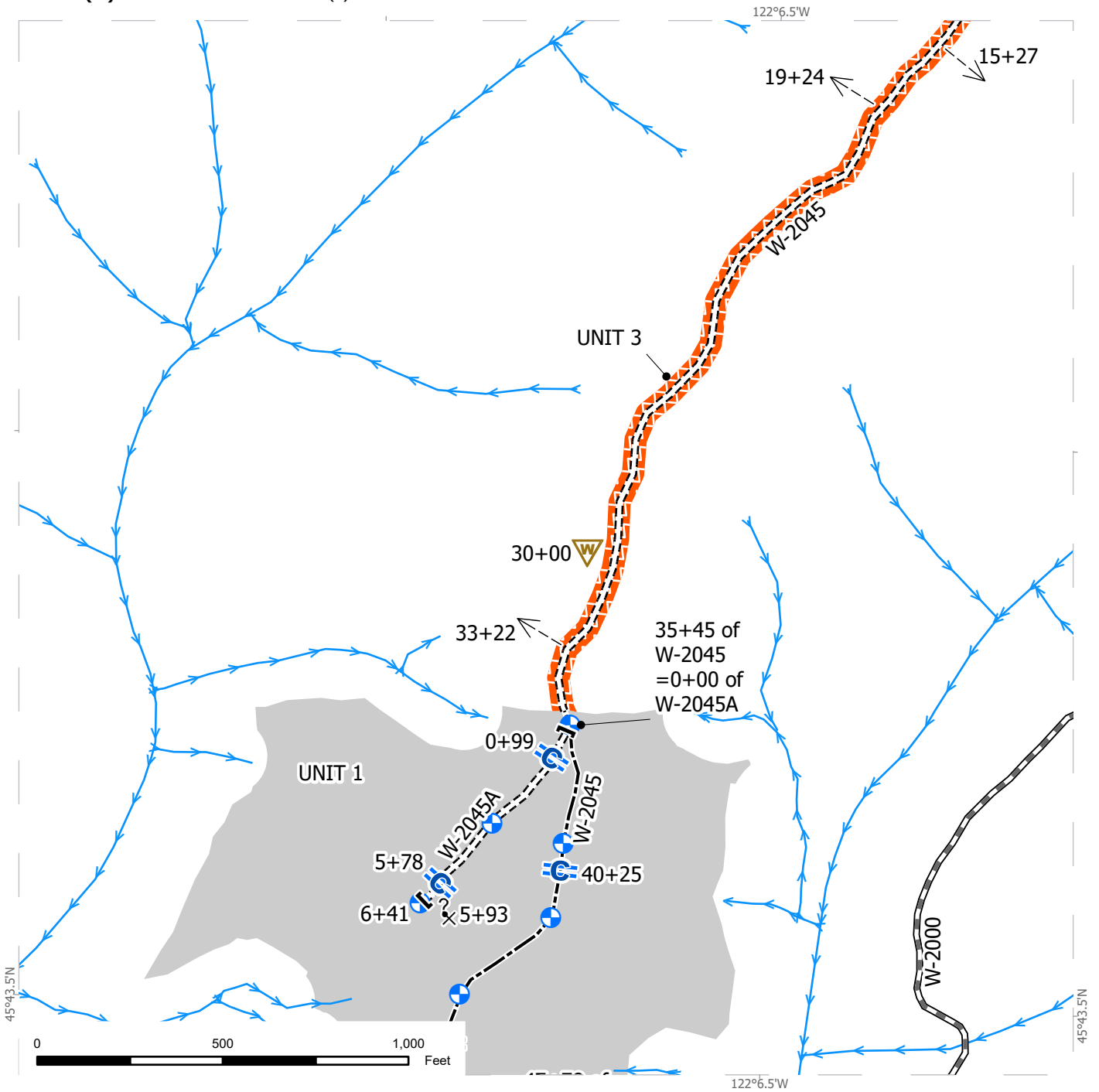


Existing Roads	Cross-drain Culvert	Right-of-Way Harvest
Required Pre-Haul Maintenance	Ditchout	Streams
Required Construction	End Haul Area	
	Rock Pit	
	Waste Area	

# ROAD PLAN MAP

**SALE NAME:** GEODE  
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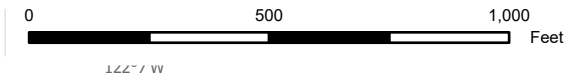
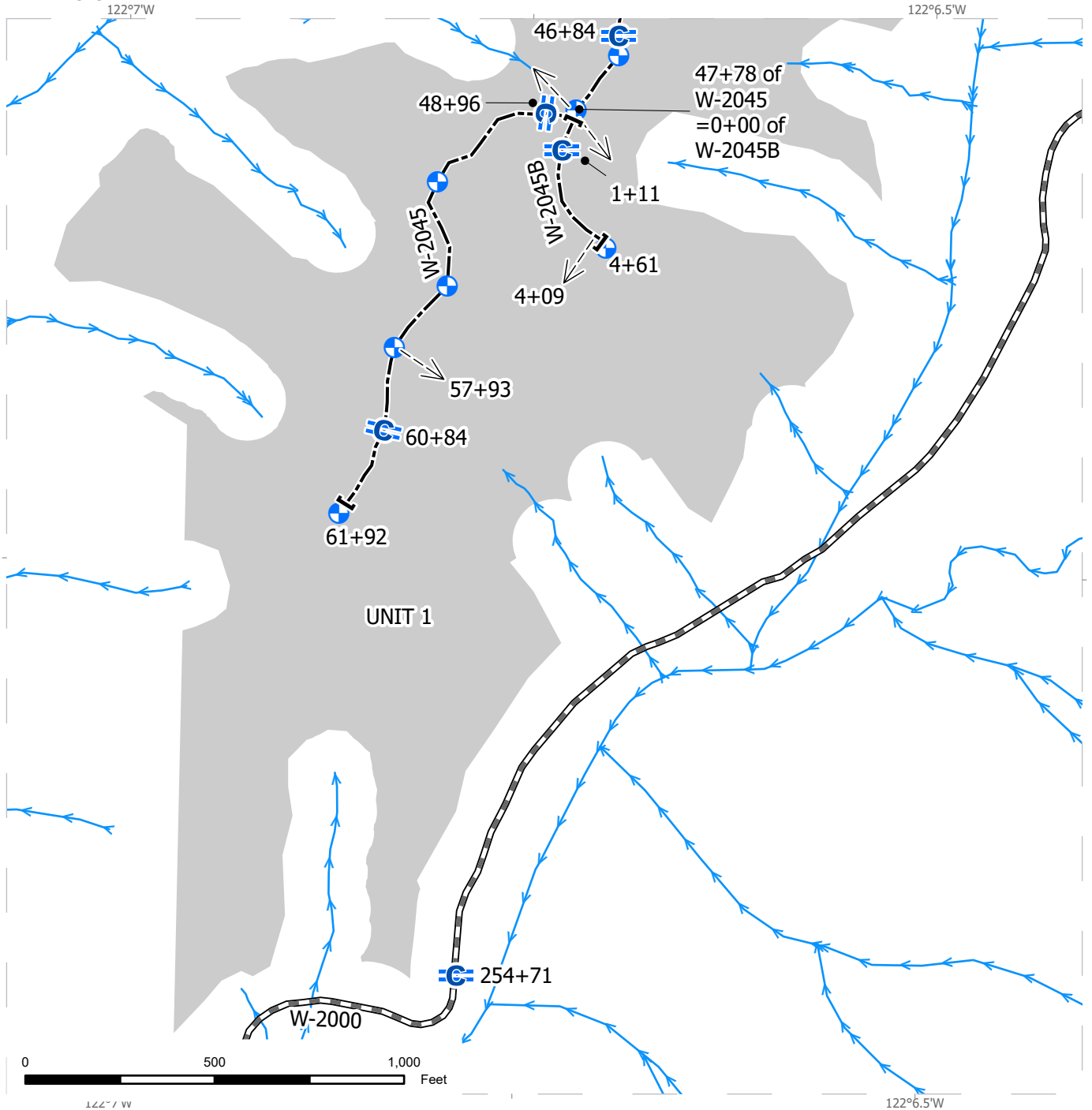


Existing Roads	Cross-drain Culvert	Harvest Unit
Required Pre-Haul Maintenance	Ditchout	Right-of-Way Harvest
Required Construction	End Haul Area	Streams
Optional Construction	Potential Rock Source	
	Landing - Proposed	
	Waste Area	

# ROAD PLAN MAP

**SALE NAME:** GEODE  
**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
**TRUST(S):** State Forest Transfer (1)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760



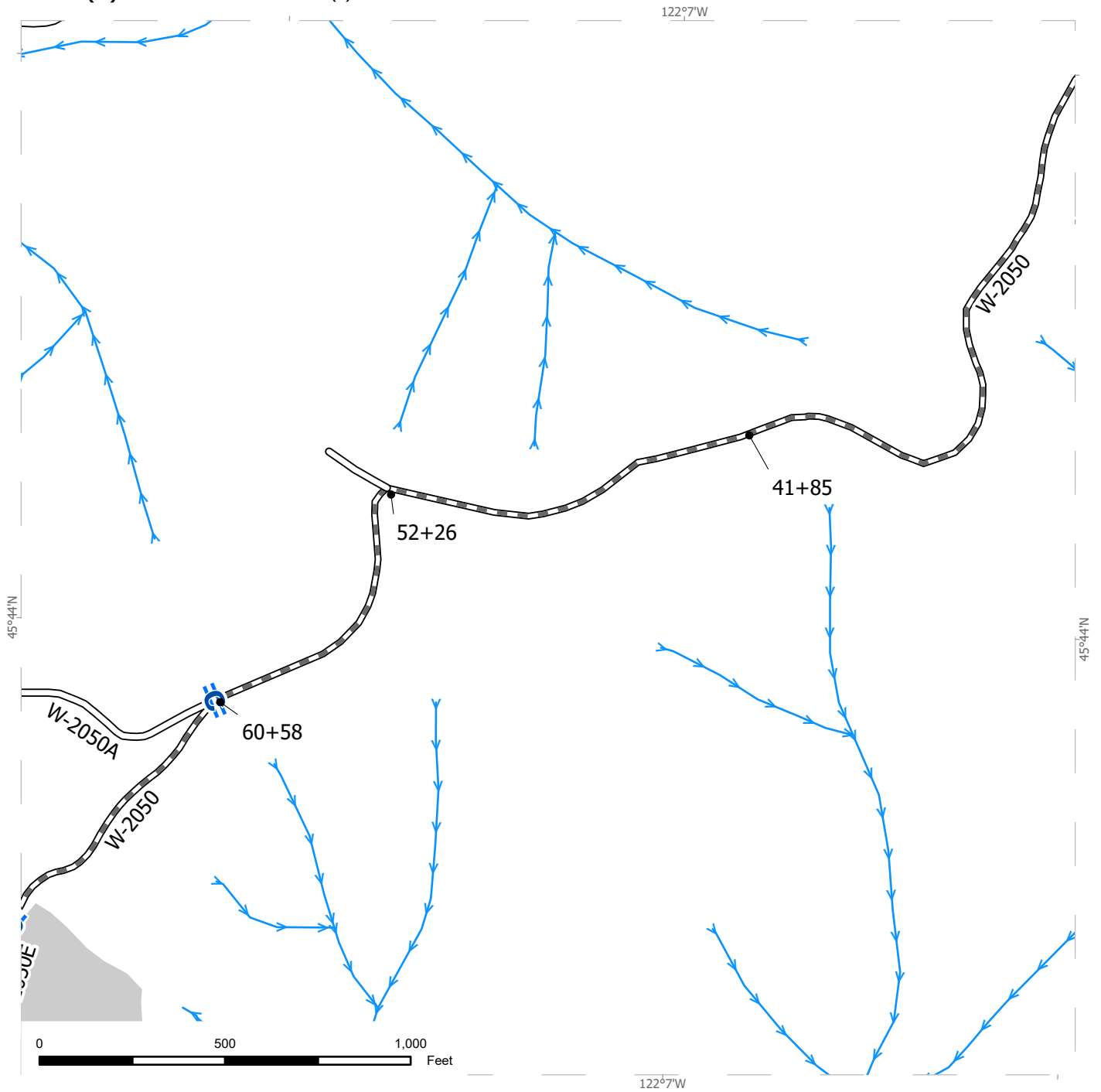
Required Pre-Haul Maintenance	Cross-drain Culvert	Harvest Unit
Optional Construction	Ditchout	Streams
End Haul Area	Landing - Proposed	



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Existing Roads	Cross-drain Culvert	Harvest Unit
Required Pre-Haul Maintenance		Streams
Optional Construction		

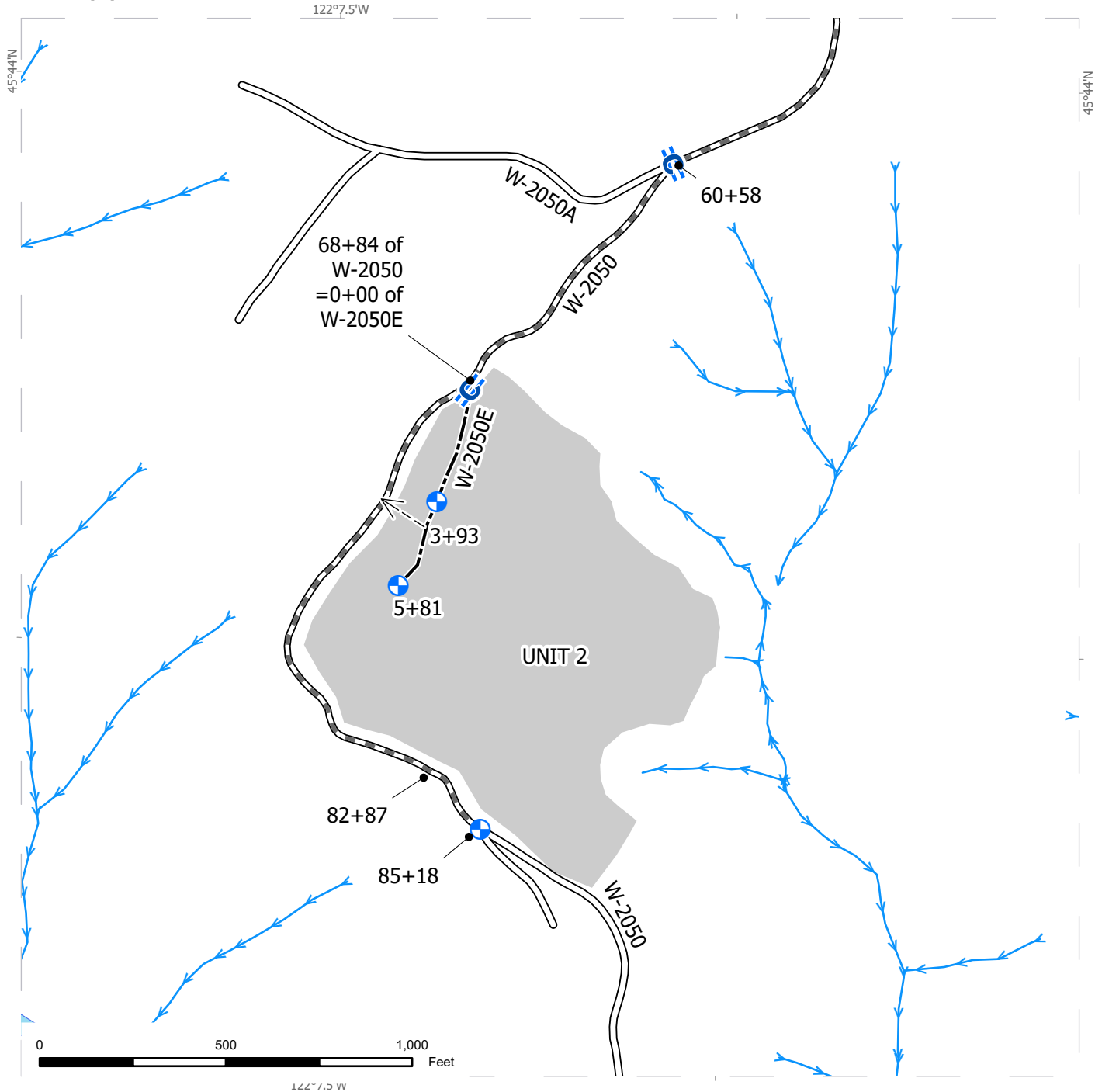




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Existing Roads	Cross-drain Culvert	Harvest Unit
Required Pre-Haul Maintenance	Ditchout	Streams
Optional Construction	Landing - Proposed	

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

GEODE TIMBER SALE ROAD PLAN  
SKAMANIA COUNTY  
THREE CORNER ROCK UNIT, YACOLT DISTRICT  
PACIFIC CASCADE REGION

AGREEMENT NO.: 30-107180

STAFF ENGINEER: DAVID STONE

DRAWN & COMPILED BY: ALICIA COMPTON  
& DAVID STONE

SECTION 0 – SCOPE OF PROJECT

**0-1 ROAD PLAN SCOPE**

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

**0-2 REQUIRED ROADS**

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
W-2000	0+00 to 355+28	Pre-haul Maintenance
W-2050	0+00 to 85+18	Pre-haul Maintenance
W-2045	0+00 to 35+45	Construction
W-2045A	0+00 to 6+41	Construction

**0-3 OPTIONAL ROADS**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
W-2045	35+45 to 61+92	Construction
W-2045B	0+00 to 4+61	Construction
W-2050E	0+00 to 5+81	Construction

**0-4 CONSTRUCTION**

Construction includes, but is not limited to: clearing; grubbing; right-of-way debris disposal; excavation and embankment to sub-grade; turnout, turnaround and landing construction; acquisition and installation of drainage structures; shaping subgrade; manufacture and application of rock; compaction of earthwork and rock; and acquisition and application of erosion control materials.

**0-6 PRE-HAUL MAINTENANCE**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
W-2000 W-2050	0+00 to 355+28 0+00 to 85+18	Grade, shape, and compact existing surface in accordance with the TYPICAL SECTION SHEET. Manufacture and apply rock in accordance with the ROCK LIST. Grade, shape, and compact rock. Clean and widen ditchlines in accordance with the TYPICAL SECTION SHEET at locations specified in Clause 2-7. Clean culverts in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at locations specified in Clause 2-6. Rip road surface and remove large rocks at locations specified in Clause 4-57. Acquire and install drainage structures in accordance with the CULVERT LIST.

**0-12 DEVELOP ROCK SOURCE**

Purchaser may develop an existing rock source and may develop a new rock source. Rock source development will involve requirements listed in the ROCK SOURCE DEVELOPMENT PLAN. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

**SECTION 1 – GENERAL**

**1-1 ROAD PLAN CHANGES**

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

**1-2 UNFORESEEN CONDITIONS**

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

**1-3 ROAD DIMENSIONS**

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

**1-4 ROAD TOLERANCES**

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

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

**1-6 ORDER OF PRECEDENCE**

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

1. Addenda.
2. Designs or Plans. On designs and plans, figured dimensions shall take precedence over scaled dimensions.
3. Road Plan Clauses.
4. Typical Section Sheet.
5. Standard Lists.
6. Standard Details.
7. Road Plan maps.

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

**1-8 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 cut ends, or damaged galvanized or aluminized coating on existing or new bridge components, culverts, downspouts, and flumes must be cleaned and treated with a minimum of two coats of zinc rich paint or cold galvanizing compound.

**1-15 ROAD MARKING**

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

- Four-foot stakes with orange flagging, orange paint, and/or aluminum reference tags for all road types. Right-of-Way (ROW) boundary tags – on roads with designated ROW harvest units.

**1-16 CONSTRUCTION STAKES SET BY STATE**

The Purchaser shall construct the following roads in accordance with the construction stakes and reference points set in the field for grade and alignment. Prior to road construction Purchaser shall reset slope stakes after right-of-way has been cleared.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
W-2045	0+00 to 61+92	Centerline stakes, slope stakes, and RPs
W-2045A	0+00 to 6+41	
W-2045B	0+00 to 4+61	

**1-18 REFERENCE POINT DAMAGE**

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

**1-20 COMPLETE BY DATE**

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

**1-21 HAUL APPROVAL**

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

**1-22 WORK NOTIFICATIONS**

Purchaser shall notify the Contract Administrator a minimum of 5 calendar days before work begins.

**1-23 ROAD WORK PHASE APPROVAL**

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

- Subgrade construction and drainage installation
- Waste area construction
- Subgrade compaction
- Rock pit development
- Rock application and compaction

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not allowed during the listed closure periods unless authorized in writing by the Contract Administrator. Restrictions for hauling forest products are specified in Contract Clause H-130 Hauling Schedule.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All	Construction, Pre-haul Maintenance, & Rock Source Work	October 1 to April 30

**1-26 OPERATING DURING CLOSURE PERIOD**

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

**1-29 SEDIMENT RESTRICTION**

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

### **1-30 CLOSURE TO PREVENT DAMAGE**

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

- Wheel track rutting exceeds 4 inches on jaw run roads.
- Wheel track rutting exceeds 2 inches on crushed rock roads.
- Wheel track rutting exceeds 2 inches on native surface roads.
- Surface or base stability problems persist.
- Weather is such that satisfactory results cannot be obtained in an area of operations.
- When, in the opinion of the Contract Administrator excessive road damage or rutting may occur.

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

### **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. Other methods must meet the following criteria: Material utilized to protect the deck surface from tracked equipment damage must be of substantial thickness, durability and width to support the machine weight and prevent grousers from touching the bridge deck and asphalt surfaces.

If tracked equipment is used on bridge or asphalt surfaces, Purchaser shall immediately cease all road construction and hauling operations. Purchaser shall remove any dirt, rock, or other material tracked or spilled on the bridge or asphalt surfaces and have surfaces evaluated by the Region Engineer or their designee for any damage caused by transporting equipment. Any damage to the surfaces 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 Contract Administrator upon request. Purchaser shall contact the Contract Administrator prior to each time snow plowing occurs on a signed SNOW PLOWING AGREEMENT. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

### **1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS**

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

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

SECTION 2 – MAINTENANCE

**2-1 GENERAL ROAD MAINTENANCE**

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

**2-2 ROAD MAINTENANCE – PURCHASER MAINTENANCE**

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

**2-3 ROAD MAINTENANCE – DESIGNATED MAINTAINER**

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

**2-4 PASSAGE OF LIGHT VEHICLES**

Purchaser shall maintain the roads in a condition that will allow the passage of light administrative vehicles.

**2-5 MAINTENANCE GRADING – EXISTING ROAD**

Purchaser shall use a grader to shape the existing surface before applying rock. Purchaser shall accomplish all grading using a motor grader with a minimum of 175 horsepower.

**2-6 CLEANING CULVERTS**

On the following road, Purchaser shall clean the inlets and outlets of all culverts.

<u>Road</u>	<u>Stations</u>
W-2050	0+00 to 85+18

**2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS**

On the following roads, Purchaser shall clean ditches, headwalls, and catch basins. Pulling ditch material across the road or mixing in with the road surface is not allowed. Scatter material down slope outside of cleared right-of-way.

<u>Road</u>	<u>Stations</u>
W-2000	251+97 to 355+28
W-2050	41+85 to 52+26 and 60+58 to 82+87

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

**3-5 CLEARING**

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

**3-7 RIGHT-OF-WAY DECKING**

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

**3-8 PROHIBITED DECKING AREAS**

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 45%.
- Against standing trees.
- On slopes above a cut bank.

**3-10 GRUBBING**

Purchaser shall remove all stumps between the grubbing limits specified on the TYPICAL SECTION SHEET. Purchaser shall also remove stumps with undercut roots outside the grubbing limits. Stumps over 22 inches diameter must be split. Stumps over 40 inches must be quartered. Grubbing must be completed before starting excavation and embankment.

**3-12 STUMP PLACEMENT**

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

**3-14 STUMPS WITHIN DESIGNATED WASTE AREAS**

Purchaser is not required to remove stumps within waste areas if they are cut flush with the ground.

**3-20 ORGANIC DEBRIS DEFINITION**

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

**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 subgrade approval.

**3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS**

Waste areas for organic debris are located as listed below and at areas approved in writing by the Contract Administrator.

<u>Excavation Location - Road/Pit</u>	<u>Waste Area Location</u>
W-2045, W-2045A, & W-2045B	On the Right side of the W-2045 at Station 30+00
W-2045A Potential Pit	On the Right side of the W-2045 at station 30+00
W-2050 Pit	On the Left side of the W-2050 at station 6+60



### 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 45%.
- 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.
- On slopes above a cut bank.

### 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 downhill side of the road, unless otherwise detailed in this road plan and as directed by the Contract Administrator.

### 3-32 END HAULING ORGANIC DEBRIS

On the following roads and on slopes greater than 45%, Purchaser shall end haul or push organic debris to the designated waste areas specified in Clause 3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS, or to a waste area located by the Contract Administrator.

<u>Road/Pit</u>	<u>Stations</u>
W-2045	35+45 to 61+92
W-2045A	0+00 to 6+41
W-2045B	0+00 to 4+61
W-2045A Potential Pit	Locations determined by Contract Administrator
W-2050 Pit	Locations on Pit Development Plan Map

## SECTION 4 – EXCAVATION

### 4-2 PIONEERING

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

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

### 4-3 ROAD GRADE AND ALIGNMENT STANDARDS

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 13 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 6% 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 10% of the curve radius.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

**4-5 CUT SLOPE RATIO**

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

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

**4-6 EMBANKMENT SLOPE RATIO**

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

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

**4-7 SHAPING CUT AND FILL SLOPE**

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

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

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

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

- 2 feet for embankment heights at centerline of 3 to 6 feet.
- 4 feet for embankment heights at centerline of greater than 6 feet.

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

**4-12 FULL BENCH CONSTRUCTION**

On the following roads, and where side slopes exceed 45%, Purchaser shall use full bench construction for the entire subgrade width. Purchaser shall end haul waste material to the location specified in Clause 4-37 WASTE AREA LOCATION.

<u>Road</u>	<u>Full Bench Location</u>	<u>Comments</u>
W-2045	35+45 to 61+92	End haul all material. Material that is devoid of organic debris may be used as fill embankment.
W-2045A	0+00 to 6+41	
W-2045B	0+00 to 4+61	

**4-21 TURNOUTS**

Purchaser shall construct turnouts intervisible with a maximum distance of 1000 feet between turnouts. Locations may be adjusted to fit the final subgrade alignment and sight distances. Locations are subject to written approval by the Contract Administrator. Minimum dimensions are shown on the ROCK LIST.

**4-22 TURNAROUNDS**

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

**4-25 DITCH CONSTRUCTION AND RECONSTRUCTION**

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

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

Purchaser shall construct ditchouts as identified on the CULVERT LIST 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.

**4-35 WASTE MATERIAL DEFINITION**

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

**4-36 DISPOSAL OF WASTE MATERIAL**

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

**4-37 WASTE AREA LOCATION**

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

<u>Excavation Location - Road/Pit</u>	<u>Waste Area Location</u>	<u>Comments</u>
W-2045, W-2045A, & W-2045B	On the Right side of the W-2045 at Station 30+00	Pile Organic material separately from all other waste
W-2045A Potential Pit	On the Right side of the W-2045 at station 30+00	
W-2050 Pit	On the Left side of the W-2050 at station 6+60	

**4-38 PROHIBITED WASTE DISPOSAL AREAS**

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

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

**4-48 NATIVE MATERIAL**

Native material consists of naturally occurring material that is free of organic debris, trash, and rocks greater than 4 inches in any dimension.

**4-55 ROAD SHAPING**

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

**4-57 EXISTING ROAD RIPPING AND BLADING**

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

<u>Road</u>	<u>Stations</u>
W-2000	48+30 to 52+30

**4-56 DRY WEATHER SHAPING**

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

**4-60 FILL COMPACTION**

Purchaser shall compact all embankment and waste material in accordance with the COMPACTION LIST by routing equipment over the entire width of each lift. A plate compactor must be used for areas specifically requiring keyed embankment construction and for embankment, waste area, and segments too narrow to accommodate equipment.

**4-61 SUBGRADE COMPACTION**

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

**4-62 DRY WEATHER COMPACTION**

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**

**5-5 CULVERTS**

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

**5-6 CULVERT TYPE**

Purchaser shall install culverts made of steel or plastic in accordance with Clauses 10-15 through 10-24.

**5-12 UNUSED MATERIALS STATE PROPERTY**

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

**5-15 CULVERT INSTALLATION**

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

**5-17 CROSS DRAIN SKEW AND SLOPE**

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

**5-18 CULVERT DEPTH OF COVER**

All 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, and as recommended by the culvert manufacturer for the type and size of the pipe.

**5-20 ENERGY DISSIPATERS**

Purchaser shall install energy dissipaters in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL 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 with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed.

**5-25 CATCH BASINS**

Purchaser shall construct catch basins in accordance with CULVERT AND DRAINAGE SPECIFICATION DETAIL. Minimum dimensions of catch basins are 3 feet wide and 4 feet long with back slopes consistent with Clause 4-5 CUT SLOPE RATIO.

**5-26 HEADWALLS FOR CROSS DRAIN CULVERTS**

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Minimum specifications require that rock be placed at a width of one culvert diameter on each side of the culvert opening, and to a height of one culvert diameter above the top of the culvert. Rock may not restrict the flow of water into culvert inlets or catch basins. Rock must be set in place by machine. Placement must be with a zero-drop-height only. No placement by end dumping or dropping of rock is allowed. Rock type must meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

**5-33 NATIVE SURFACE ROADS**

If overwintered, native surface roads must be waterbarred by October 1. Purchaser shall construct waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical distance of no more than 10 feet between waterbars or between natural drainage paths, and with a maximum spacing of 200 feet.

SECTION 6 – ROCK AND SURFACING

**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 on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source, a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 5 business days before starting any operations in the listed locations.

<u>Source</u>	<u>Location</u>	<u>Comments</u>
W-2050 Pit	SW¼ SW¼ Sec. 17, T03N, R06E, W.M.	No Mining or development in existing pit floor. Mining only in designated area on Pit Development Plan Map for crushing 3" Jaw Run and 1½" Minus Rock.
W-2045A Potential Rock Pit	NW¼ SE¼ Sec. 19, T03N, R06E, W.M.	Potential Pit for 3" Jaw Run. Pit to be developed only at the direction of the Contract Administrator. If used, Purchaser shall submit a Pit Development Plan Map to the Contract Administrator for approval.

**6-5 ROCK FROM COMMERCIAL SOURCE**

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

**6-10 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 5 business days before starting any operations in the rock source.

<u>Source</u>	<u>Location</u>
W-2050 Pit	SW¼ SW¼ Sec. 17, T03N, R06E, W.M.
W-2045A Potential Rock Pit	NW¼ SE¼ Sec. 19, T03N, R06E, W.M.

**6-22 FRACTURE REQUIREMENT FOR ROCK**

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

**6-23 ROCK GRADATION TYPES**

Purchaser shall provide or 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 during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator. Purchaser shall provide a sieve analysis upon request from the Contract Administrator. Gradation specifications in Clause 6-29, 6-34, 6-50, and the Rock Crushing Compliance Procedure.

**6-29 1 ½-INCH MINUS CRUSHED ROCK**

% Passing 1 ½" square sieve	100%
% Passing 1" square sieve	70 - 90%
% Passing 5/8" square sieve	50 - 80%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	3 - 18%
% Passing U.S. #200 sieve	7.5% 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.

**6-34 3-INCH JAW RUN ROCK**

% Passing 3" square sieve	100%
% Passing 1 ½" square sieve	45 - 65%

Ballast rock must be 100% equal to, or smaller than, 3 inches in at least one dimension. Rock may contain no more than 5 percent organic debris and trash. All percentages are by weight.

**6-50 LIGHT LOOSE RIP RAP**

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

<u>Quantity</u>	<u>Approximate Size Range</u>
20% to 90%	18" - 28"
15% to 80%	8" - 18"
10% to 20%	3" - 8"

**6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH**

Measurement of specified rock depths, are defined as the compacted depths using the compaction methods required in this road plan. Estimated quantities specified in the ROCK LIST are loose yards. Purchaser shall apply adequate amounts of rock to meet the specified rock depths. Specified rock depths are minimum requirements and are not subject to reduction. Unless otherwise stated in Clause 6-75 OPTIONAL ROCK EXCEPTION.



**6-56 ROCK MEASUREMENT BY TRUCK VOLUME**

Measurement of Spot Rocking, Landing, Junction, and Rip Rap Rock is on a cubic yard truck measure basis. The Contract Administrator will measure each truck box before rock hauling. An average of such volumes for each truck will be used to tally the volume hauled. The Contract Administrator may periodically require that a load be flattened off and its volume calculated. Purchaser shall maintain load tally sheets for each truck as shown in ROCK ACCOUNTABILITY DETAIL and shall give them to the Contract Administrator or mail them to the Pacific Cascade Region Office on a weekly basis during rocking operations.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator for completed subgrade and drainage installation, including inlet and outlet armor and subgrade compaction, 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. 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, if hauling takes place from June 1 to September 30 the 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.

<u>Road</u>	<u>Stations</u>
W-2045B	0+00 to 4+61
W-2050E	0+00 to 5+81

**6-76 DRY WEATHER ROCK COMPACTION**

The Contract Administrator may require the application of water to facilitate compaction of the rock surfacing. The method of water application is subject to approval by the Contract Administrator.

SECTION 8 – EROSION CONTROL

**8-1 SEDIMENT CONTROL STRUCTURES**

On all roads, sediment control in ditchlines shall be accomplished by using sediment traps or other methods, as directed by the Contract Administrator and according to the SEDIMENT TRAP DETAIL.

**8-2 PROTECTION FOR EXPOSED SOIL**

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

**8-15 REVEGETATION**

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

<u>Road</u>	<u>Location</u>	<u>Qty (lbs)*</u>
W-2000	Ditchline work	38.0
W-2050	Ditchline work & Landing	12.9
W-2045	0+00 to 61+92	148.5
W-2045A	0+00 to 6+41	13.4
W-2045B	0+00 to 4+61	10.2
W-2050E	0+00 to 5+81	9.8
W-2050 Pit	Pit perimeter, Access Road, Bench & Waste Area at 6+60 on W-2050	19.1

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

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the grass seed.

**8-17 REVEGETATION TIMING**

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

**8-19 ASSURANCE FOR SEEDED AREA**

Purchaser shall ensure the growth of a uniform and dense crop at least 75% coverage of 3-inch tall grass. Purchaser shall reapply the grass seed in areas that have failed to germinate or have been damaged through any cause, restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the grass seed at no additional cost to the state.

**8-25 GRASS SEED**

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

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

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>	<u>Minimum % germination</u>
Perennial Rye	25-35	90
Red Fescue	40-50	90
Highland Bent	5-15	85
Red and White Clover	10-20	90
Inert and Other Crop	0.5	

**SECTION 9 – POST-HAUL ROAD WORK**

**9-5 POST-HAUL MAINTENANCE**

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

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

**9-11 LANDING EMBANKMENT**

Purchaser shall slope landing embankments to the original construction specifications.

**9-12 LANDING EMBANKMENT REMOVAL**

Purchaser shall reduce or relocate the landing embankment. Place excavated material in a waste area designated by the Contract Administrator.

**SECTION 10 MATERIALS**

**10-15 CORRUGATED STEEL CULVERT**

Metallic coated steel culverts must meet AASHTO M-36 (ASTM A-760) specifications. Culverts must be must be aluminized (aluminum type 2 coated meeting AASHTO M-274).

**10-17 CORRUGATED PLASTIC CULVERT**

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

**10-21 METAL BAND**

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

**10-22 PLASTIC BAND**

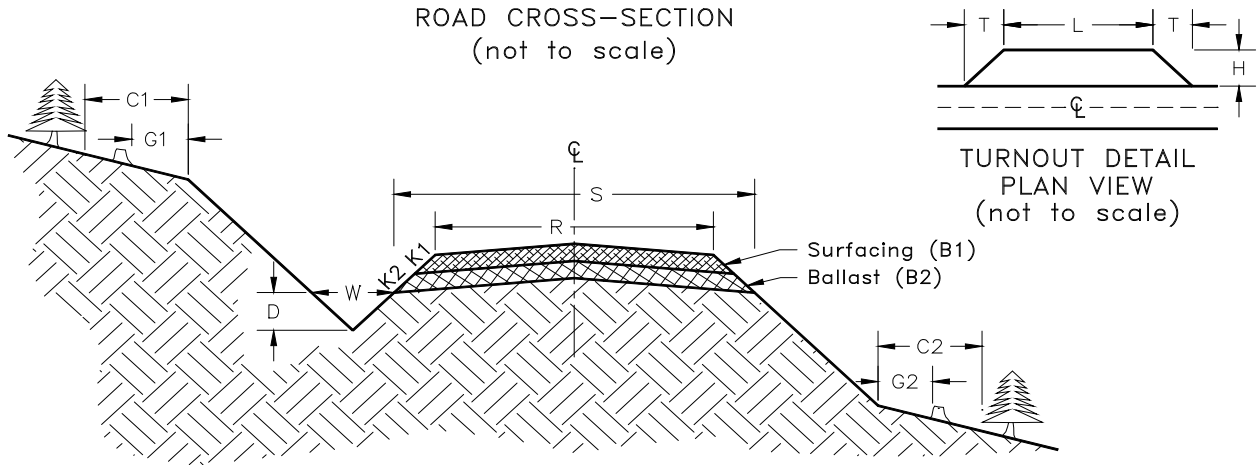
Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used. Couplings must be split coupling band. Split coupling bands must have a minimum of four corrugations, two on each side of the pipe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

**10-24 GAUGE AND CORRUGATION**

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

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

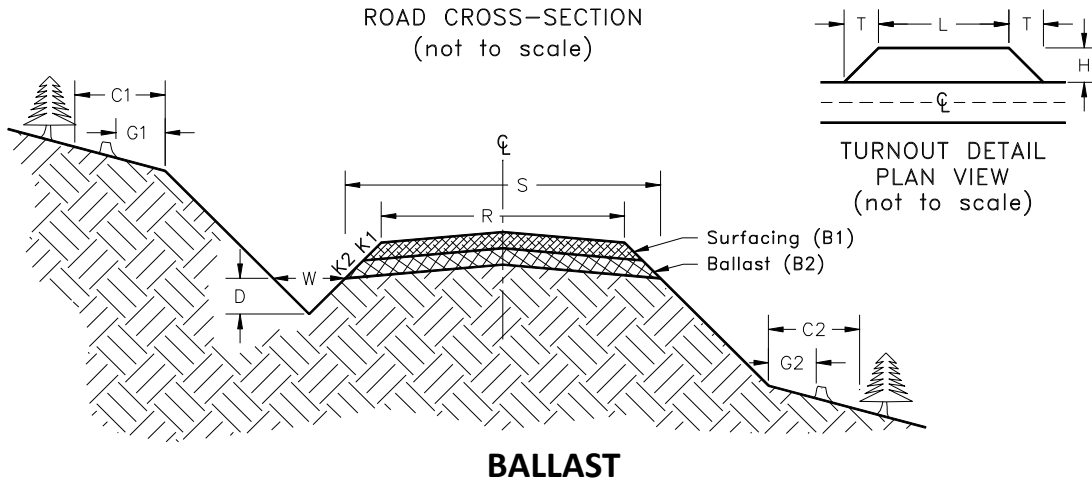
# TYPICAL SECTION SHEET



Road Number	From Station	To Station	Tolerance Class	Subgrade Width (feet)	Road Width (feet)	Ditch		Crown at CL (%)	Grubbing Limits (feet)		Clearing Limits (feet)	
						Width (feet)	Depth (feet)		G1	G2	C1	C2
				S	R	W	D					
W-2000	0+00	355+28	A	--	12	3	1	4	NA	NA	NA	NA
W-2050	0+00	85+18	A	--	12	3	1	4	NA	NA	NA	NA
W-2045	0+00	34+99	A	16	12	3	1	4	3	3	ROW TAGS	
W-2045	34+99	35+45	A	16	12	3	1	4	3	3	5	5
* W-2045	35+45	61+92	A	16	12	3	1	4	3	3	5	5
W-2045A	0+00	6+41	C	16	12	3	1	4	3	3	5	5
* W-2045B	0+00	4+61	C	16	12	3	1	4	3	3	5	5
* W-2050E	0+00	5+81	C	16	12	3	1	4	3	3	5	5

\* Optional Roads

**ROCK LIST**  
(Page 1 of 3)



Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
<b>3" JAW RUN</b>											
W-2045	0+00	35+45	1½:1	9	49	35.45	1,737	W-2050 Pit or W-2045A Potential Pit			
CURVE	--	--	1½:1	9	--	--	87				
WIDENING	--	--	1½:1	9	28/TO	5 TO's	140		50	10	25
TURNOUT	--	--	1½:1	9	--	--	20				
JUNCTION	0+00		--	--	--	--					
W-2045	35+45	61+92	1½:1	12	63	26.47	1,668				
CURVE	--	--	1½:1	12	--	--	83				
WIDENING	--	--	1½:1	12	38/TO	2 TO's	76		50	10	25
TURNOUT	--	--	--	--	41/Landing	9 Landings	369				
LANDING	--	--	--	--	--	--					
W-2045A	0+00	6+41	1½:1	12	63	6.41	404				
CURVE	--	--	1½:1	12	--	--	21				
WIDENING	--	--	--	--	41/Landing	2 Landings	82				
JUNCTION	0+00		--	--	--	--	19				
LANDING	--	--	--	--	--	--					
* W-2045B	0+00	4+61	1½:1	9	46	4.61	212				
* CURVE	--	--	1½:1	9	--	--	11				
WIDENING	--	--	--	--	--	--					
* JUNCTION	0+00		--	--	--	--	14				
* LANDING	--	--	--	--	41/Landing	2 Landings	82				

ROCK LIST  
(Page 2 of 3)

**BALLAST CONTINUED**

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K2	B2					L	H	T
					<b>3" JAW RUN</b>						
* W-2050E	0+00	5+81	1½:1	9	46	5.81	267	W-2050 Pit or W-2045A Potential Pit			
* CURVE WIDENING	--	--	1½:1	9	--	--	14				
* JUNCTION		0+00	--	--	--	--	14				
* LANDING	--	--	--	--	41/Landing	2 Landings	82				
W-2050 LANDING	--	--	--	--	41/Landing	1 Landing	41				

\*Optional Rock see Clause 6-75

Required 3" JAW RUN BALLAST TOTAL **4,747** Cubic Yards  
Optional 3" JAW RUN BALLAST TOTAL **696** Cubic Yards

**ROCK LIST**  
(Page 3 of 3)

**SURFACE**

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth (inches)	C.Y./ Station	# of Stations	C.Y. Subtotal	Rock Source	Turnout		
									Length (feet)	Width (feet)	Taper (feet)
			K1	B1					L	H	T
<b>1 1/2-INCH MINUS</b>											
W-2000	0+00	355+28		SPOT ROCK	--	--	1,350	<b>W-2050 Pit</b>			
W-2050	0+00	85+18		SPOT ROCK	--	--	250				
W-2045	0+00	35+45	1½:1	4	19	35.45	674				
CURVE WIDENING	--	--	1½:1	4	--	--	34				
TURNOUT JUNCTION	--	--	1½:1	4	12/TO	5 TO's	60		50	10	25
	0+00		1½:1	4	9/JNCT	1 JNCT	9				

Required 1 1/2 -INCH MINUS CRUSHED SURFACE TOTAL **2,377** Cubic Yards

**RIP-RAP**

Road Number	From Station	To Station	Rock Slope	Compacted Rock Depth	C.Y./ Station	# of Stations	C.Y. Total	Rock Source
			K1	B1				
						<b>LIGHT LOOSE RIPRAP</b>		<b>W-2045A Potential Pit &amp; W-2050 Pit, or Rock found during excavation on road Construction</b>
Culvert headwall, energy dissipators and armor								
W-2000 Culverts	--	--	--	--	--	--	22.0	
W-2050 Culverts	--	--	--	--	--	--	11.0	
W-2045 Culverts	--	--	--	--	--	--	38.5	
W-2045A Culverts	--	--	--	--	--	--	11.0	
W-2045B Culverts	--	--	--	--	--	--	5.5	
W-2050E Culverts	--	--	--	--	--	--	5.5	

LIGHT LOOSE RIPRAP TOTAL **93.5** Cubic Yards



## CULVERT LIST

Road Number	Location	Culvert			Armoring (Cubic Yards)			Backfill Material	Bedding Material	Culvert Marker (Y/N)	Remarks
		Dia. (inches)	Length (feet)	Type	Inlet	Outlet	Type				
W-2000	254+71	18	38	XX	0.5	5.0	LL	NT	NT	N	Replace Cross drain
	327+30	18	34	XX	0.5	5.0	LL	NT	NT	N	Replace Cross drain
	337+42	18	38	XX	0.5	5.0	LL	NT	NT	N	Replace Cross drain
	348+28	18	30	XX	0.5	5.0	LL	NT	NT	N	Replace Cross drain
W-2050	1+34	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	60+58	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
W-2045	0+00	18	40	XX	0.5	5.0	LL	NT	NT	N	Cross drain – no skew
	1+34	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	4+90	-	-	-	-	-	-	-	-	-	Ditchout Right
	7+05	-	-	-	-	-	-	-	-	-	Ditchout Left
	9+40	-	-	-	-	-	-	-	-	-	Ditchout Right
	9+70	18	38	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	13+01	-	-	-	-	-	-	-	-	-	Ditchout Right
	15+27	-	-	-	-	-	-	-	-	-	Ditchout Left
	19+24	-	-	-	-	-	-	-	-	-	Ditchout Right
	33+22	-	-	-	-	-	-	-	-	-	Ditchout Right
	40+25	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	46+84	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	47+78	-	-	-	-	-	-	-	-	-	Ditchout Right & Ditchout Left
	48+96	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	57+93	-	-	-	-	-	-	-	-	-	Ditchout Left
	60+84	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
W-2045A	0+99	18	32	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	5+78	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
W-2045B	1+11	18	30	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	4+09	-	-	-	-	-	-	-	-	-	Ditchout Right
W-2050E	0+00	18	40	XX	0.5	5.0	LL	NT	NT	N	Cross drain
	3+93	-	-	-	-	-	-	-	-	-	Ditchout Right

**Key:**

- NT - Native (bank run)
- LL - Light Loose Riprap
- PD - Polyethylene Pipe Dual Wall
- AM - Aluminized Metal
- XX - PD or AM

## 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)
All Waste Areas	All	All	Waste Area	12	Excavation	28,000	3	--
All roads	All	All	Embankment	12	Excavation	28,000	4	--
All roads	All	All	Subgrade	12	Vibratory Smooth Drum	20,000	4	5
All roads	All	All	3 " Jaw Run	12	Vibratory Smooth Drum	20,000	4	5
All roads	All	All	1 1/2" Minus	6	Vibratory Smooth Drum	20,000	4	5

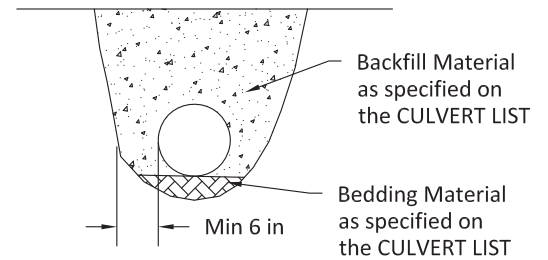
**CULVERT AND DRAINAGE SPECIFICATION DETAIL**  
PAGE 1 OF 2

**INSTALLATION REQUIREMENTS:**

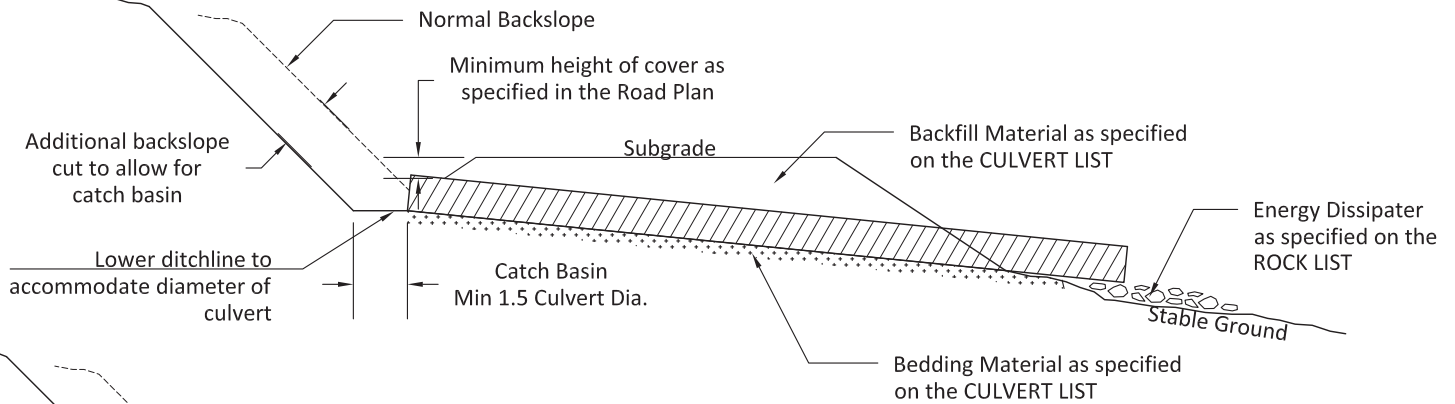
1. Proper preparation of foundation and placement of any required bedding material shall precede the installation of all culverts. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform, dense, unyielding base. The pipe must be uniformly supported along the barrel.
2. Backfill material shall be compacted under the culvert haunches, around the sides, and above the culvert in accordance with the COMPACTION LIST.

ALL DRAWINGS ARE NOT TO SCALE

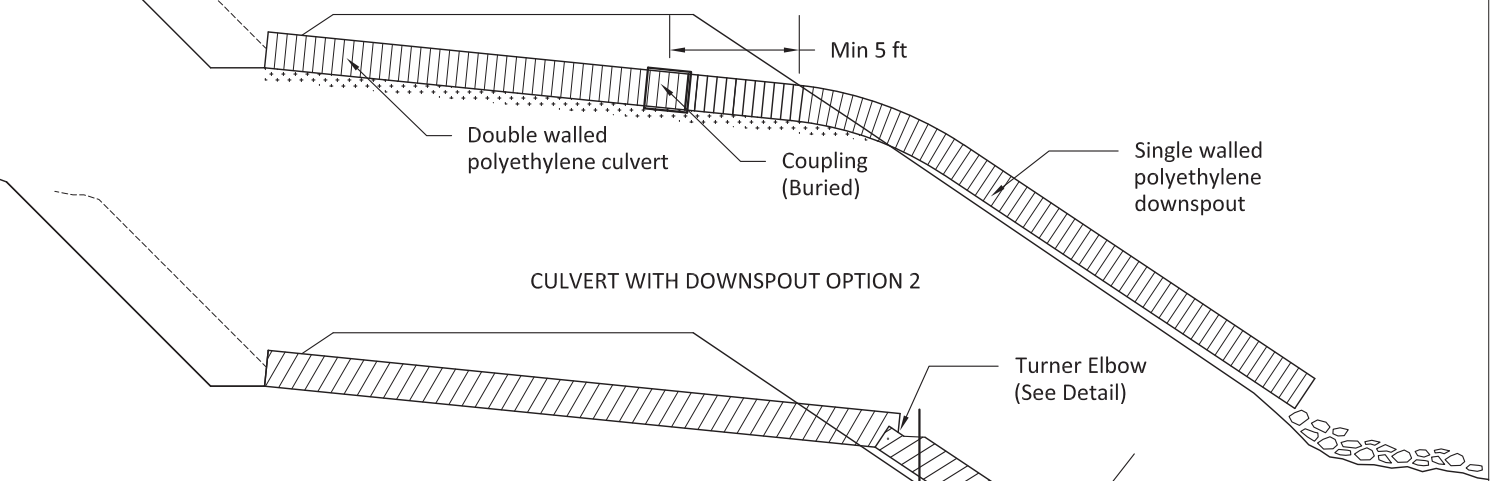
**CROSS SECTION**



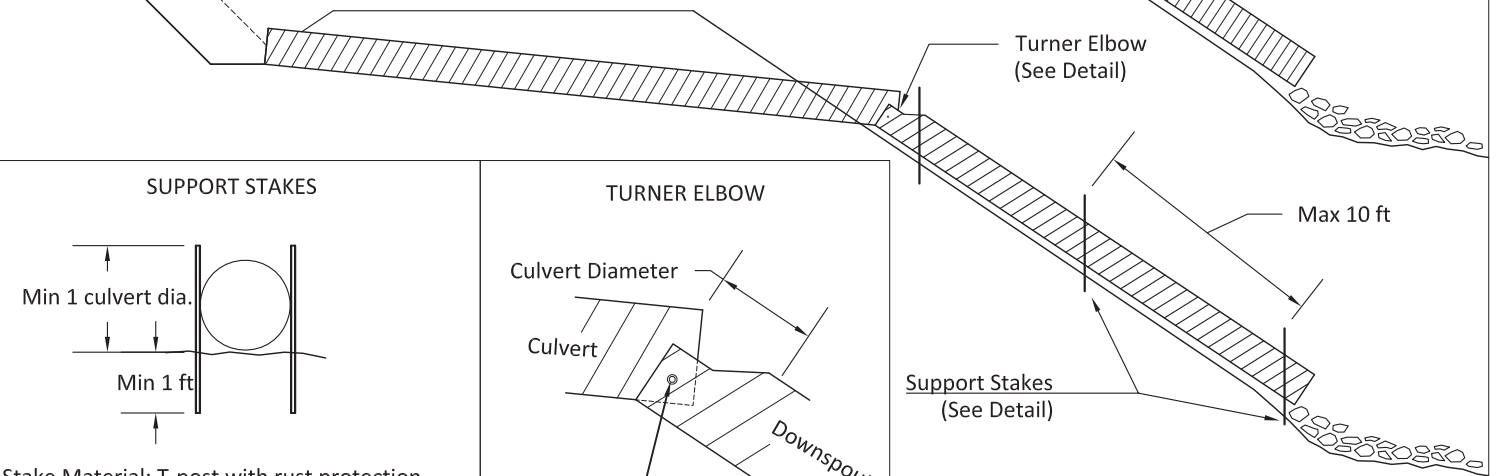
**CULVERT PROFILE (TYPICAL)**



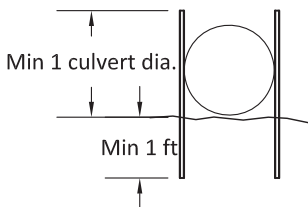
**CULVERT WITH DOWNSPOUT OPTION 1**



**CULVERT WITH DOWNSPOUT OPTION 2**

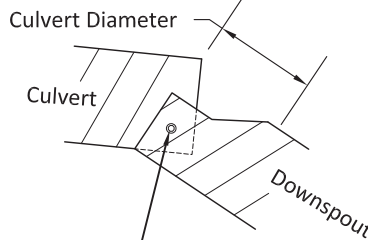


**SUPPORT STAKES**



Stake Material: T-post with rust protection coating.  
Connections: Bolt support stakes to the culvert with  $\frac{5}{8}$ " u-bolts, with washers on both the inside and outside of the culvert.  
Alternative staking methods may be approved, in writing, by the Contract Administrator.

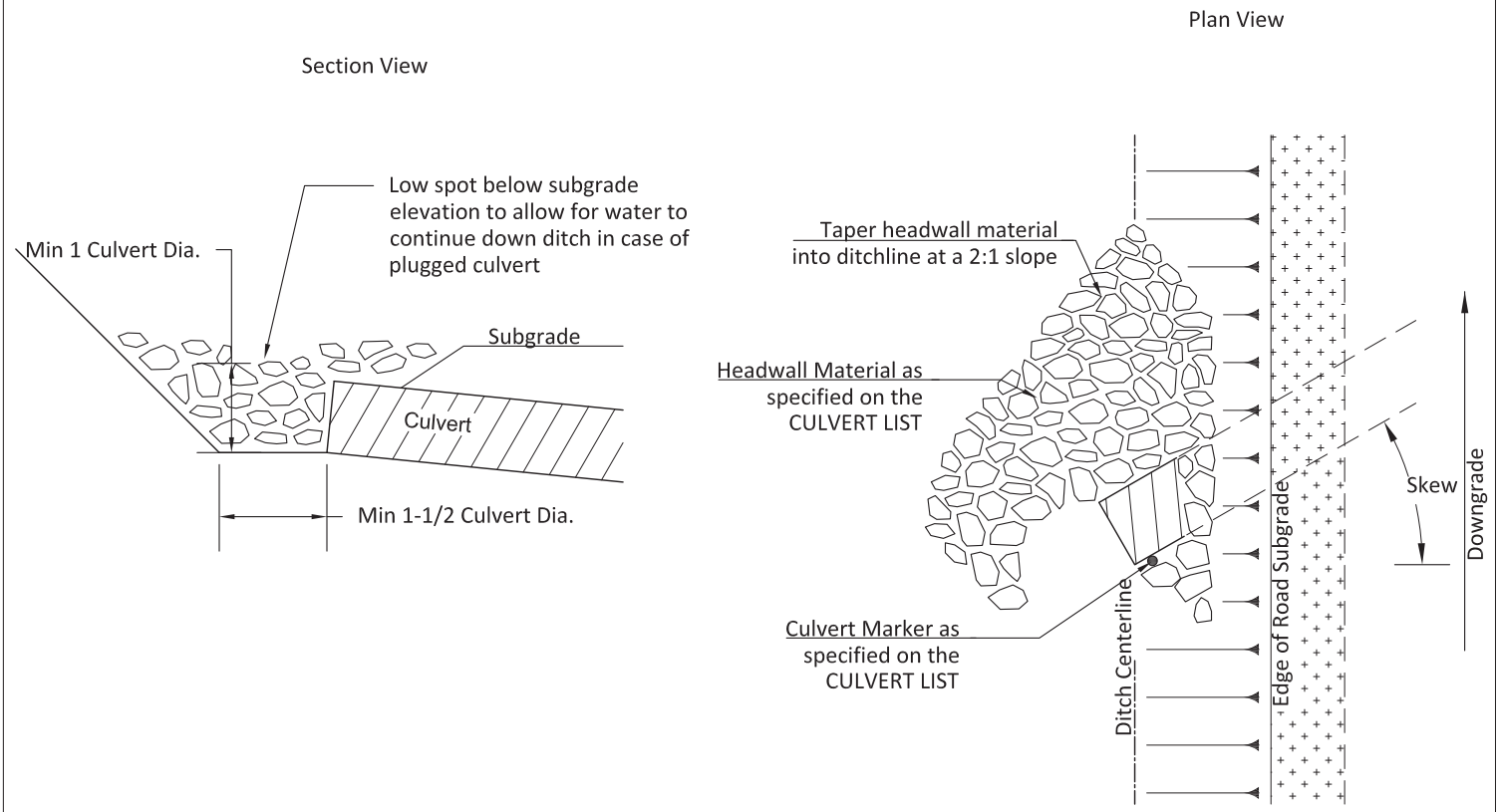
**TURNER ELBOW**



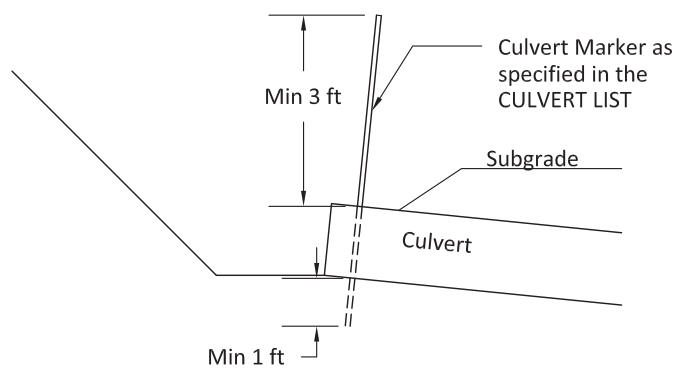
Bolted with  $\frac{5}{8}$ " galvanized bolts and washers (both sides)  
Downspout must be 6 inches larger in diameter than the culvert.

**CULVERT AND DRAINAGE SPECIFICATION DETAIL**  
**PAGE 2 OF 2**

**HEADWALLS**

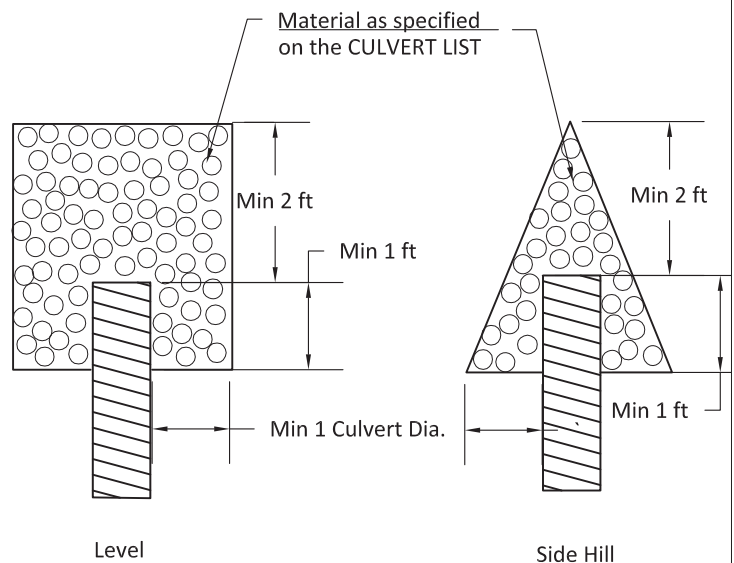


**CULVERT MARKERS**



Culvert Marker Material: 1 Inch I.D., Schedule 40 PVC Pipe, White. Marker must be capped on the top.  
 Culvert Marker Placement: Place on uphill side of culvert, between corrugations if possible.  
 Alternative culvert marker types may be approved, in writing, by the Contract Administrator.

**ENERGY DISSIPATORS**



Min Energy Dissipater Depth: 1 Culvert Dia.

## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 1 of 2

### Cuts and Fills

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

### Surface

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

### Drainage

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

# FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

Page 2 of 2

## Preventative Maintenance

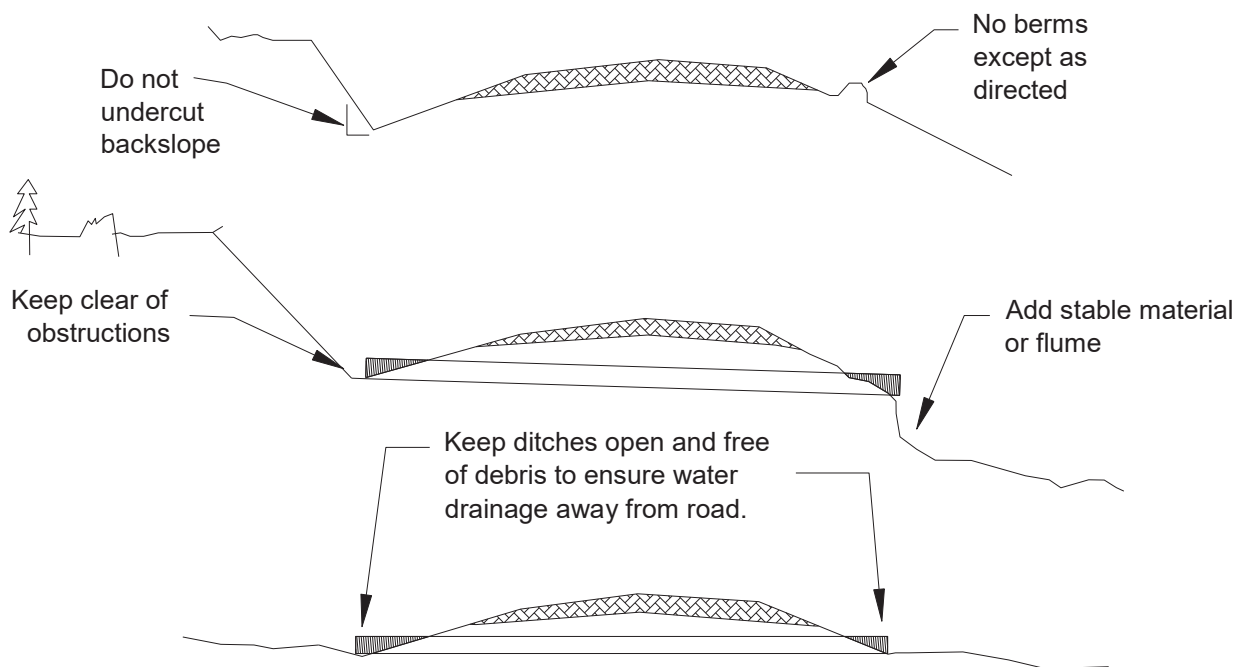
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

## Termination of Use or End of Season

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

## Debris

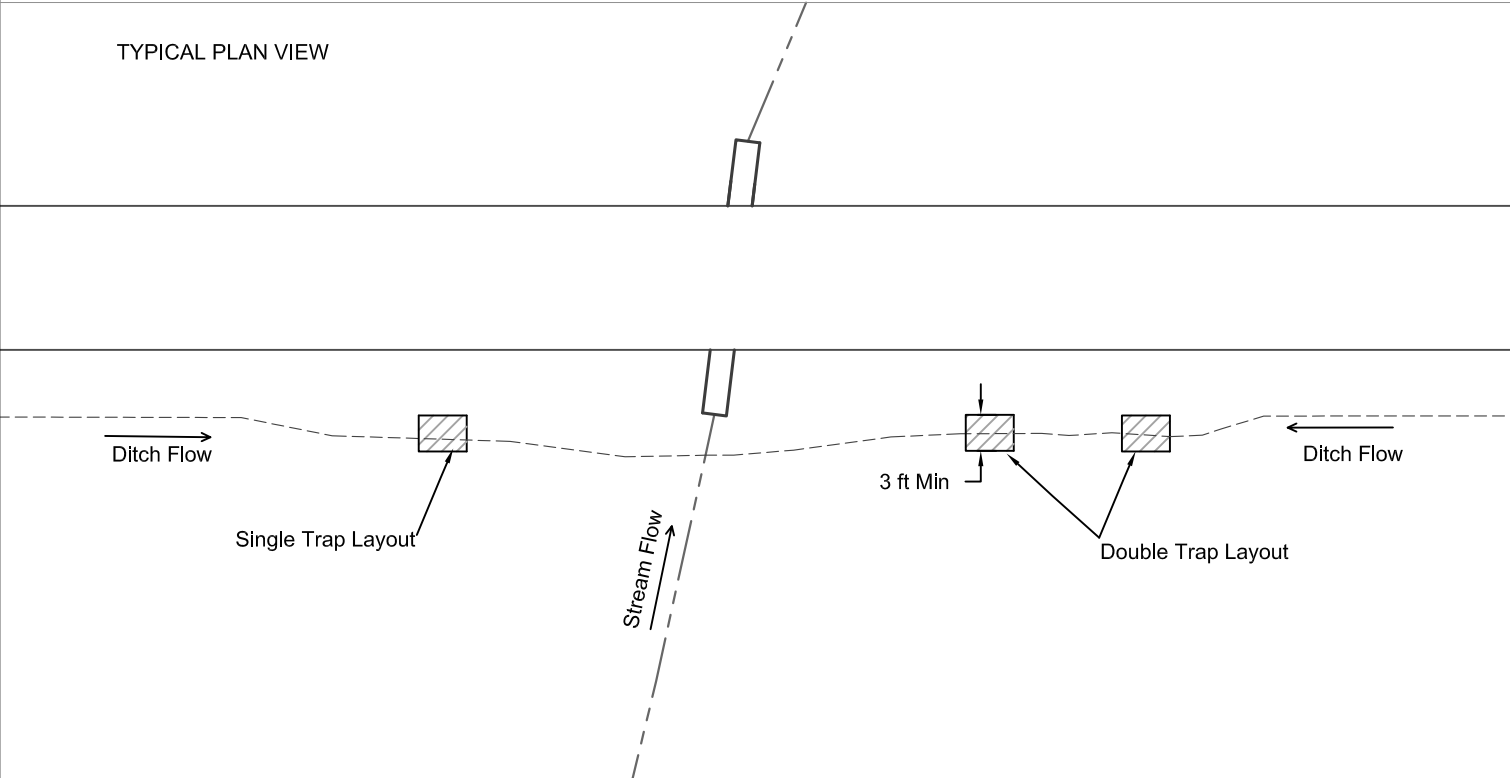
- Remove fallen timber, limbs, and stumps from the slopes, roadway, ditchlines, and culvert inlets.



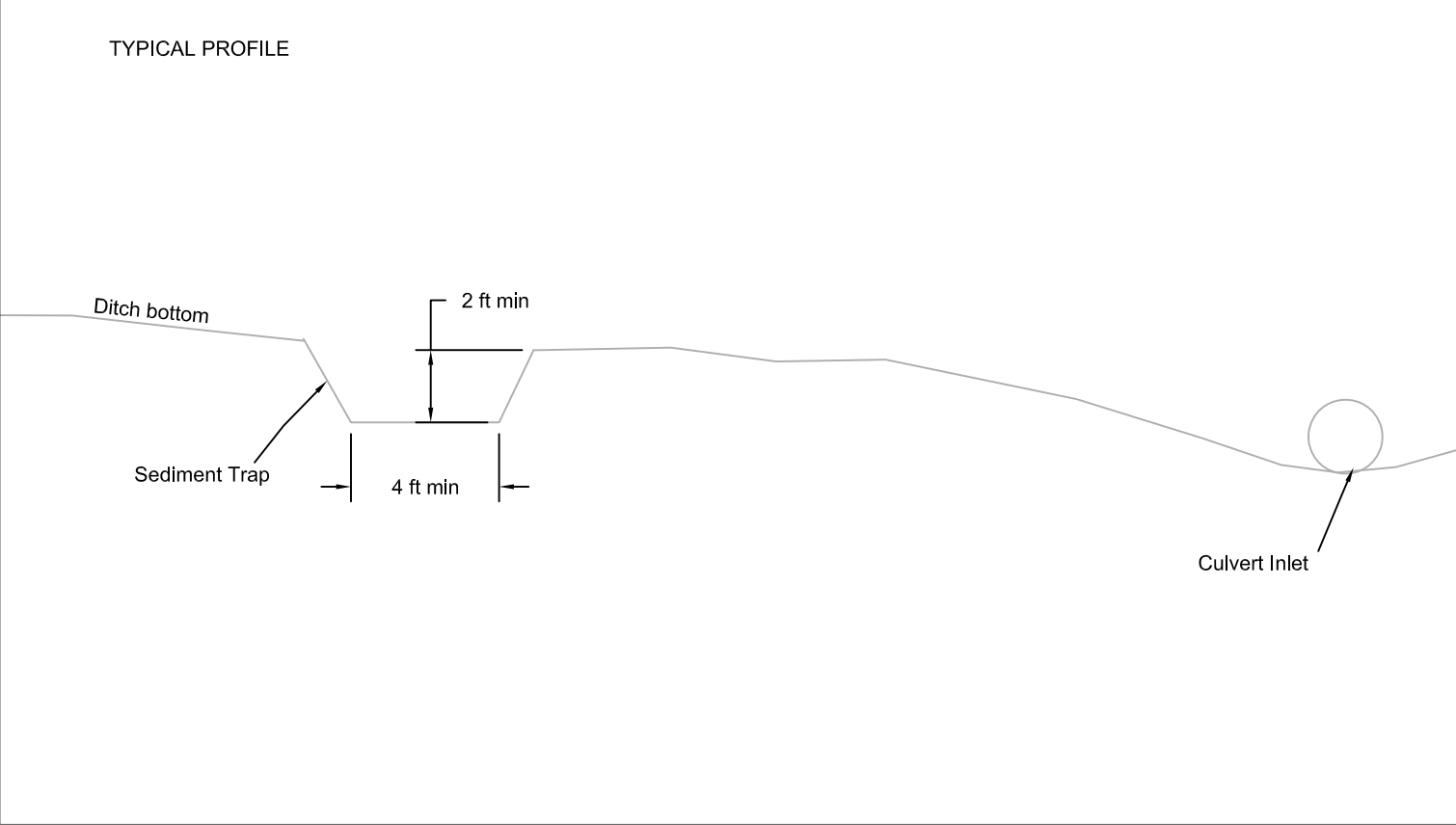
# SEDIMENT TRAP DETAIL

No Scale

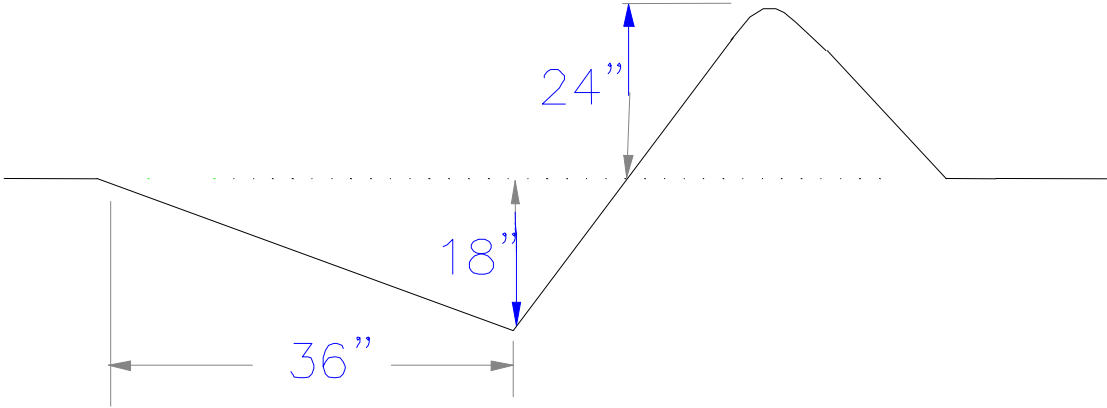
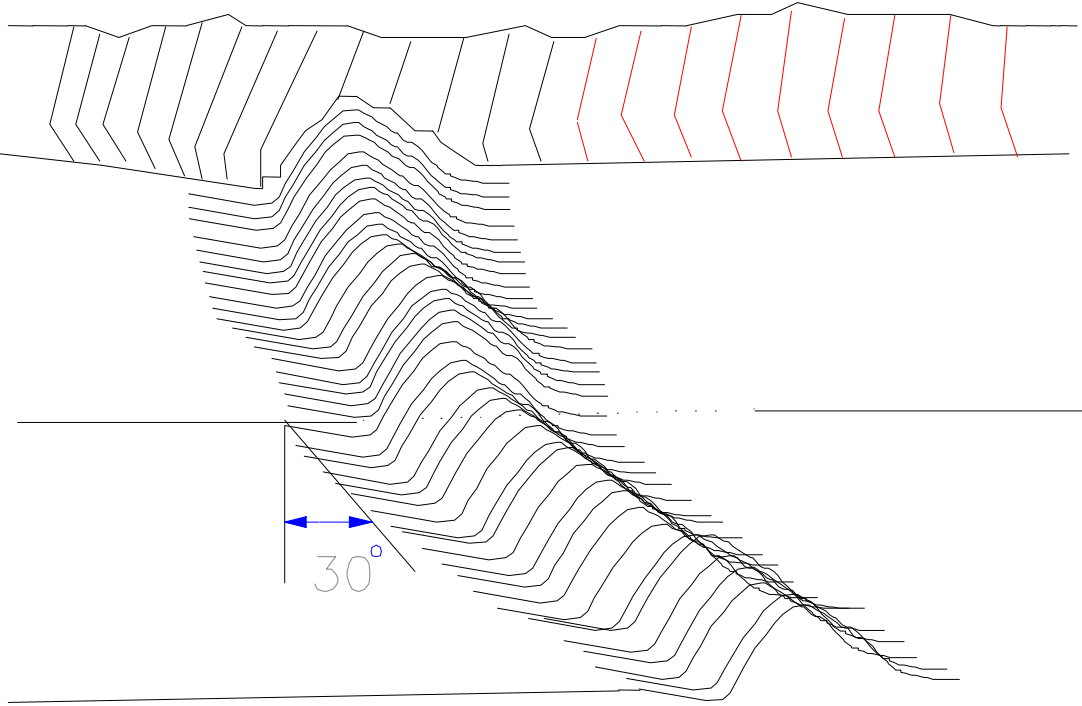
## TYPICAL PLAN VIEW



## TYPICAL PROFILE



NON-DRIVABLE WATER BAR DETAIL





## ROCK ACCOUNTABILITY DETAIL

SALE NAME: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Agreement #: \_\_\_\_\_

Contractor: \_\_\_\_\_

Rock Quarry/Pit: \_\_\_\_\_

Truck No: \_\_\_\_\_

### DAILY ROCK LOAD RECORD

DATE	LOAD TIME	ROAD NO.	TYPE OF ROCK	QUANTITY	COMMENTS

Truck Driver Signature

\_\_\_\_\_ SIGNATURE

\_\_\_\_\_ DATE

# Rock Crushing Compliance Procedure

## Phase I. Equipment Adjustment

- Step 1:** At start up of crushing operations, the contractor will notify the contract administrator when the rock meets the gradation specifications in the contract. None of the rock crushed during this calibration period will be counted toward the amount required to be crushed, and this rock must be kept separate from accepted rock crushed later.
- Step 2:** The contract administrator and the contractor will test the rock. Two samples will be taken. If the rock meets specifications, crushing may begin. If the rock does not meet specifications, return to Step 1.

## Phase II. Production

- Step 3:** The contract administrator and the contractor will continue periodic testing to ensure that rock stays in spec. Testing will take place according to the following schedule:
- After the first 500 yards
  - After every 1,000 yards thereafter
- a) Any time a sample is out of spec, but is within 5%\*, the contractor will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed since the last acceptable test will be counted toward the amount to be crushed.
- b) Any time a sample is out of spec and is more than 5% off in any category, none of the rock crushed since the last acceptable test will be accepted and that rock must be kept separate from the stockpile. Return to Step 1.
- c) Contractors are strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.
- \* The 5% will be applied only to sieve specs for 2" to ¼"; rock that is out of spec in larger sizes must be kept separate from the acceptable rock.

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
PACIFIC CASCADE REGION

**INFORMATIONAL BLASTING PLAN**

Timber Sale/Project Name: \_\_\_\_\_ App./Project No.: \_\_\_\_\_

1. Blaster-in-Charge: Name: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

2. Quarry Name/Location: \_\_\_\_\_

3. Total Estimated Cubic Yards in Blast (loose): \_\_\_\_\_

4. Hole Spacing: \_\_\_\_\_

5. Burden: \_\_\_\_\_

6. Hole Diameter: \_\_\_\_\_

7. Hole Depth: \_\_\_\_\_

8. Sub Drill: \_\_\_\_\_

9. Number of Holes: \_\_\_\_\_

10. Stemming Depth: \_\_\_\_\_

11. Explosive (mfg., name, density, %, V.O.D.): \_\_\_\_\_

\_\_\_\_\_

12. Type and Size of Primer (if applicable): \_\_\_\_\_

13. Total Weight of Primers for Shot: \_\_\_\_\_

14. Calculated Powder Factor/Cubic Yard: \_\_\_\_\_

15. Number of Delays (in M.S.): \_\_\_\_\_

M-126PAC (03/04)

INFORMATIONAL BLASTING PLAN

Page 2 of 3

16. Number of Holes Fired on Each Delay: \_\_\_\_\_

\_\_\_\_\_

17. Total Amount of Explosives Fired on Each Delay: \_\_\_\_\_

\_\_\_\_\_

18. Type of Blasting Machine: \_\_\_\_\_

\_\_\_\_\_

19. Date, Start Drilling: \_\_\_\_\_

20. Date and Time, Start Loading: \_\_\_\_\_

21. Date and Time of Blast (approx.): \_\_\_\_\_

INFORMATIONAL BLASTING PLAN

Page 3 of 3

22. Detail drawing of delay system (show hole pattern and delays in milliseconds). Attach additional sheets if required:

23. Typical cross-section of hole (show primer, main charge, sub drill, and stemming):

23. Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

24. Received by: \_\_\_\_\_ Date: \_\_\_\_\_

Note: Attach copies of manufacturer=s data sheet(s) for explosive and caps.

M-126PAC (03/04)

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES  
PACIFIC CASCADE REGION

**ROCK SOURCE DEVELOPMENT PLAN**

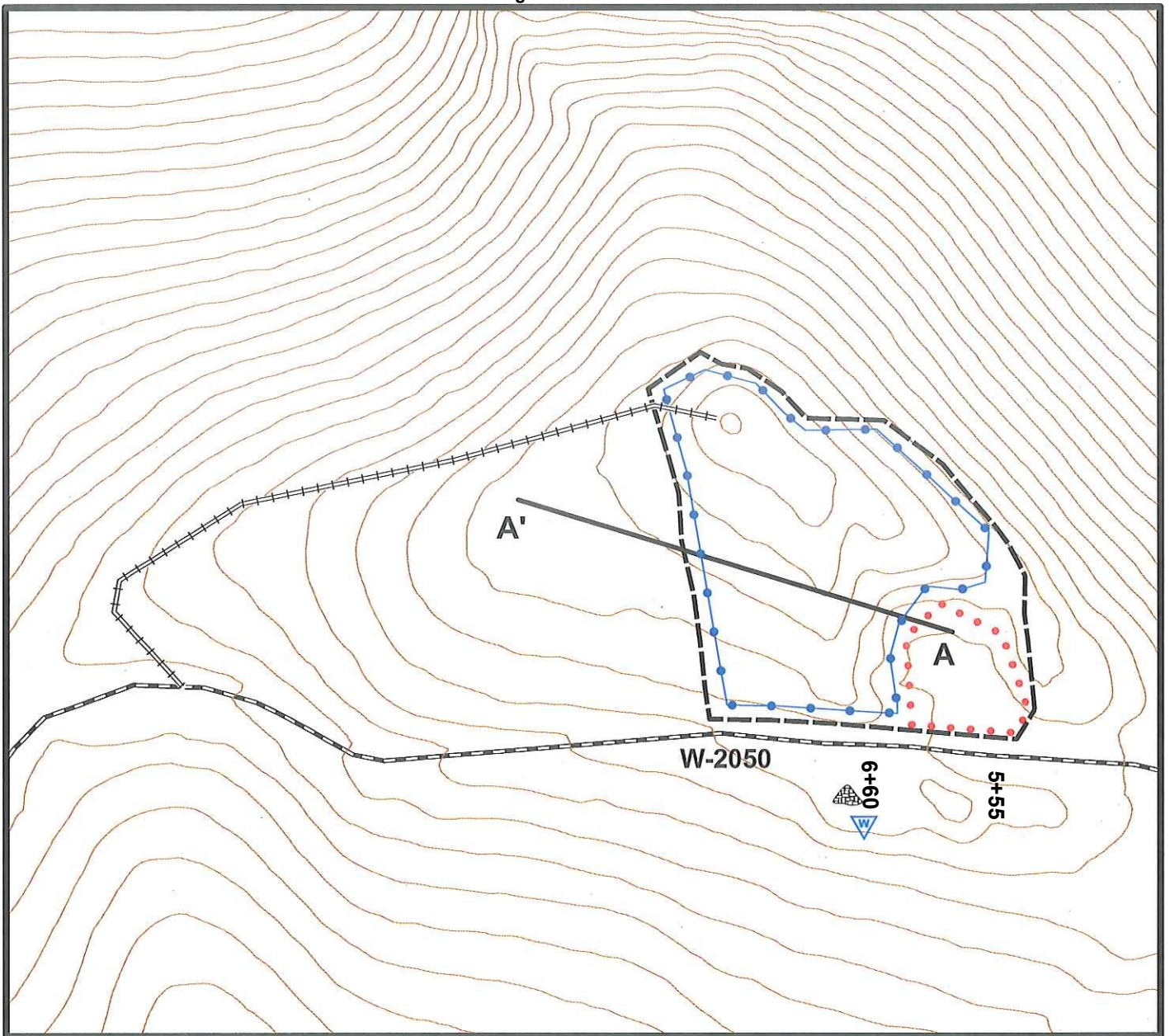
W-2050 Pit – SW¼ SW¼ Section 17, Township 03 North, Range 06 East, W.M.  
W-2045A Potential Pit – NW¼ SE¼ Section 19, Township 03 North, Range 06 East, W.M.  
(Page 1 of 2)

1. Development shall take place in mining areas as indicated on the Pit Development Plan Maps for all Pits.
2. All vegetation including stumps shall be cleared a minimum of 25 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. The Contractor shall maintain a minimum of 15 foot wide area stripped to rock from the pit face at all times. All Clearing shall be approved in writing by the Contract Administrator prior to overburden removal.
3. Overburden from the W-2050 Pit shall be end hauled to the waste area at Station 6+60 on the W-2050. Overburden from the W-2045A Potential Pit shall be end hauled to the waste area at Station 30+00 on the W-2045. All waste material shall be compacted. Minimal acceptable compaction is achieved by placing waste material in 1 foot or shallower lifts and routing excavation equipment over entire width of the lifts. All Overburden removal shall be approved in writing by the Contract Administrator prior to any drilling operation and or rock extraction.
4. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated Waste Area.
5. The Operator shall submit an informational drilling and shooting plan to the Contract Administrator 5 working days prior to any drilling. (Form #M-126PAC)
6. Drilling may begin when the Contract Administrator has approved, in writing, all of the Clearing, Grubbing and Overburden removal. Purchaser shall block access roads and trails before blasting operations.
7. Pit faces shall not exceed 30 feet in height. All pit faces shall be sloped no steeper than ¼:1.
8. Working bench width shall be a minimum of 20 feet.
9. The pit floor shall have continuity of slope and be left in a smooth and neat condition, providing drainage at a minimum of 2 percent. All knobs, bumps, or extrusions shall be removed to the designated floor level by excavation or drill and shoot techniques. The installation of a culvert may be necessary to drain water from the pit floor in locations where the pit floor is adjacent to a road. The location of the culvert shall be subject to approval of the Contract Administrator. No sediment shall enter live water.
10. The location and amount of material to be placed in a temporary stockpile are subject to approval of the Contract Administrator. All stock piled material shall be maintained in a neat and useable condition.
11. Oversize material remaining in the rock source at the conclusion of use shall not exceed 5 percent of the total volume mined during that operation. Oversize material is defined as rock fragments larger than two feet in any direction and not larger than two cubic yards in volume. At the conclusion of operations, all remaining oversize material shall be placed at the location shown on the Pit Development Plan Map and as directed by the Contract Administrator in a location outside of the future development.
12. At the end of operations, pit faces and walls shall be scaled and cleared of loose and overhanging material and shall not be undermined or over steepened; benches shall have safety berms constructed or access blocked to highway vehicles. Access roads/trails shall have Non-driveable waterbars constructed in accordance with the NON-DRIVEABLE WATER BAR DETAIL as directed by the Contract Administrator. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property, or be hazardous to human life.
13. All exposed soil in the waste area, access roads, and exposed banks shall be grass seeded in accordance with Road Plan Clauses 8-15 and 8-25.
14. All operations shall be carried out in compliance with all regulations of:
  - a. Regulations and Standards Applicable to Metal and Nonmetal Mining and Milling Operations (30 CFR) U.S. Department of Labor, Mine Safety and Health Administration.
  - b. "Safety Standards for Construction Work" (296-155 WAC), Washington Department of Labor and Industries.
15. The Operator shall submit an informational drilling and shooting report to the Contract Administrator after blasting has occurred. (Form #M-126PAC)
16. The pit area shall be worked and left in a condition that future operations may proceed in an orderly manner. Upon completion of operations, the site shall be cleared of all temporary structures/equipment and rubbish, access roads shall be blocked with riprap at locations as directed by the Contract Administrator, and shall be left in a neat and presentable condition. At the completion of rock source operations, Contractor shall ask Contract Administrator for written approval of final rock source condition and compliance with the terms of this plan.

# W-2050 Rock Source Development Plan Map

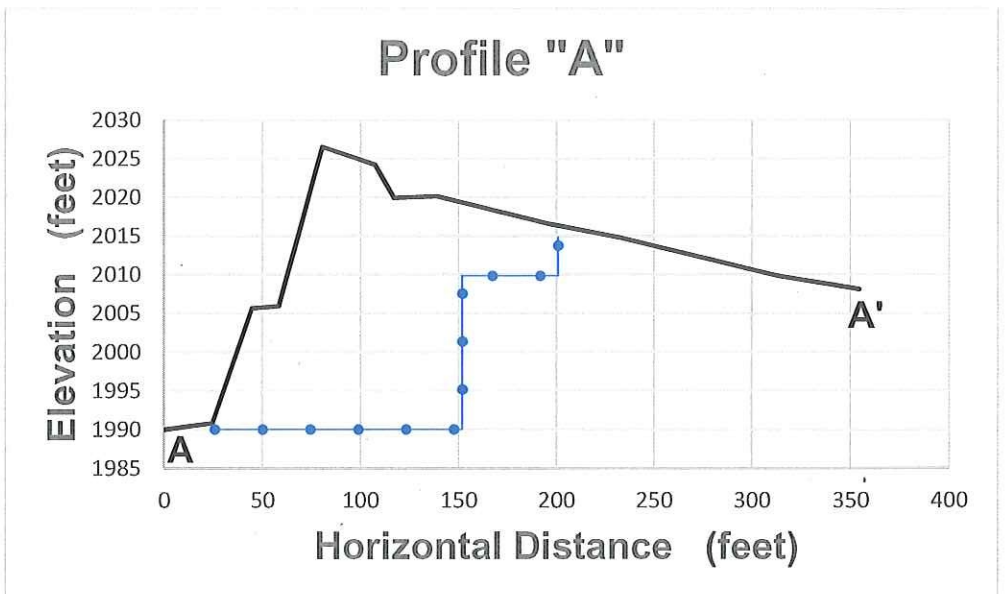
## SW1/4 SW1/4 Sec.17, T03N, R06 E, W.M

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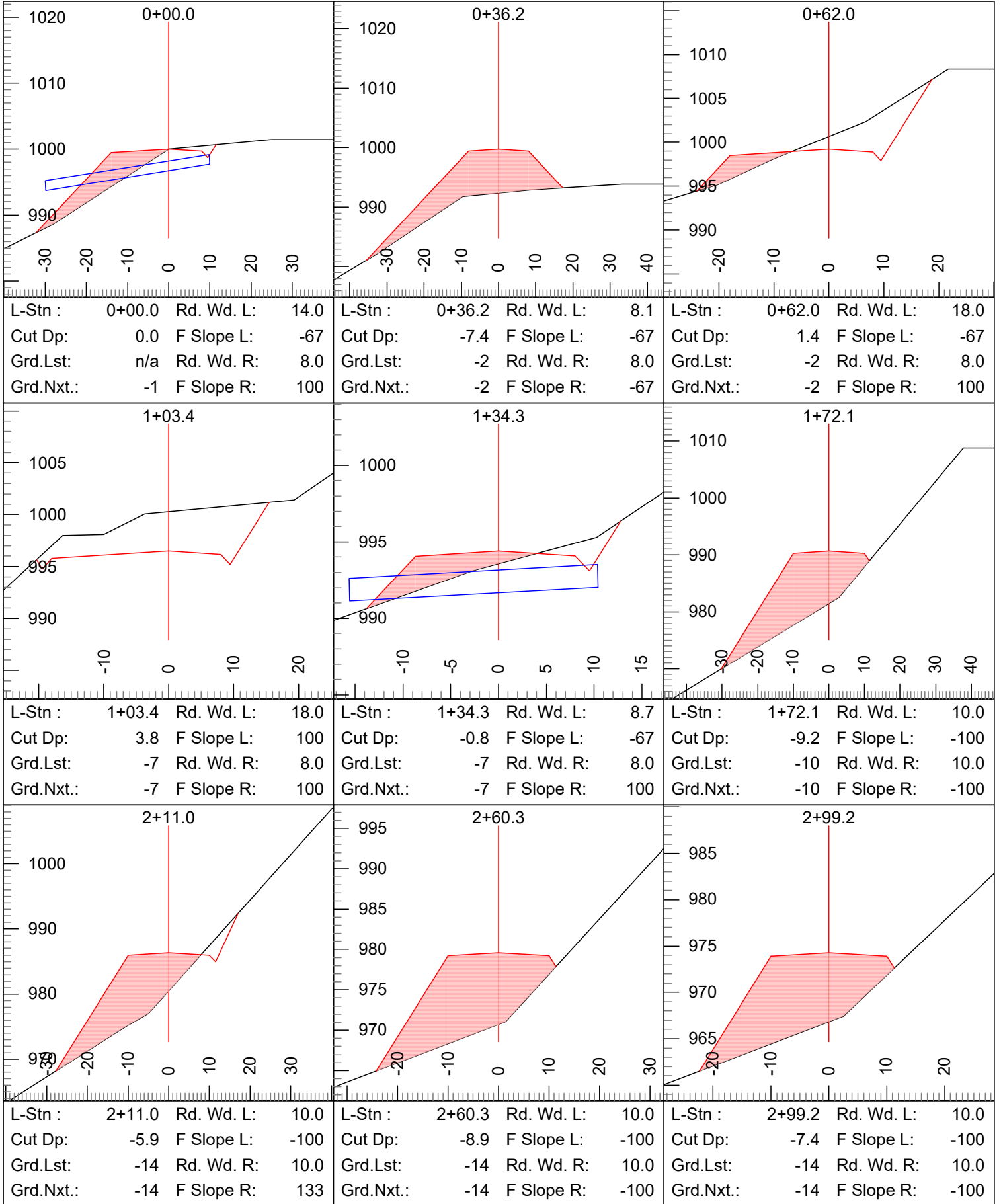


0 25 50 100 150 200  
 Feet

- Existing Road
- Access Road
- Mining Area
- Pit Floor
- Rock Pit Boundary
- Profile Line
- Waste Area
- Oversize Rock Storage Area
- Contours 10ft

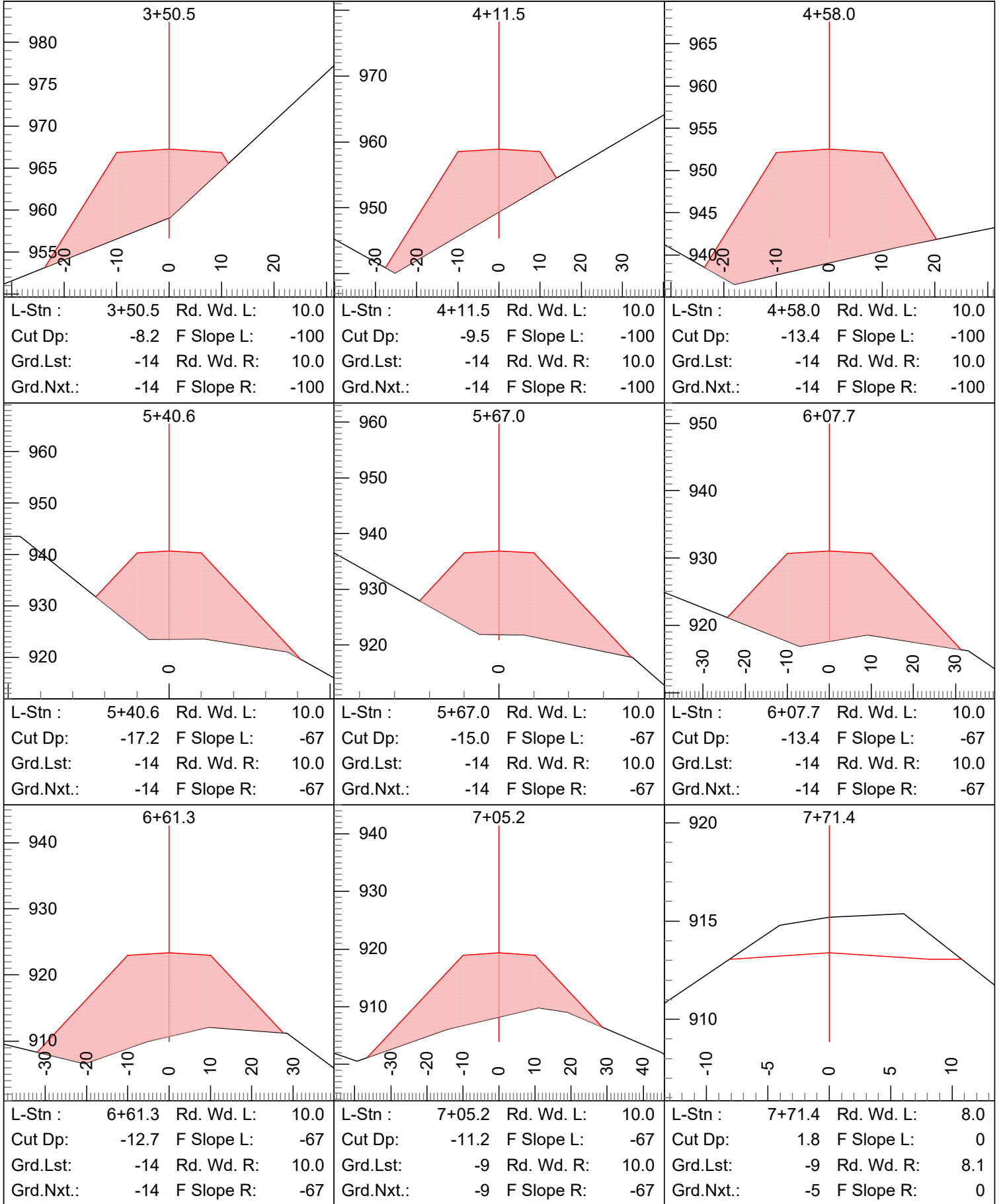


**Page 1 of 25**  
**W-2045**  
**CROSS SECTION VIEW**

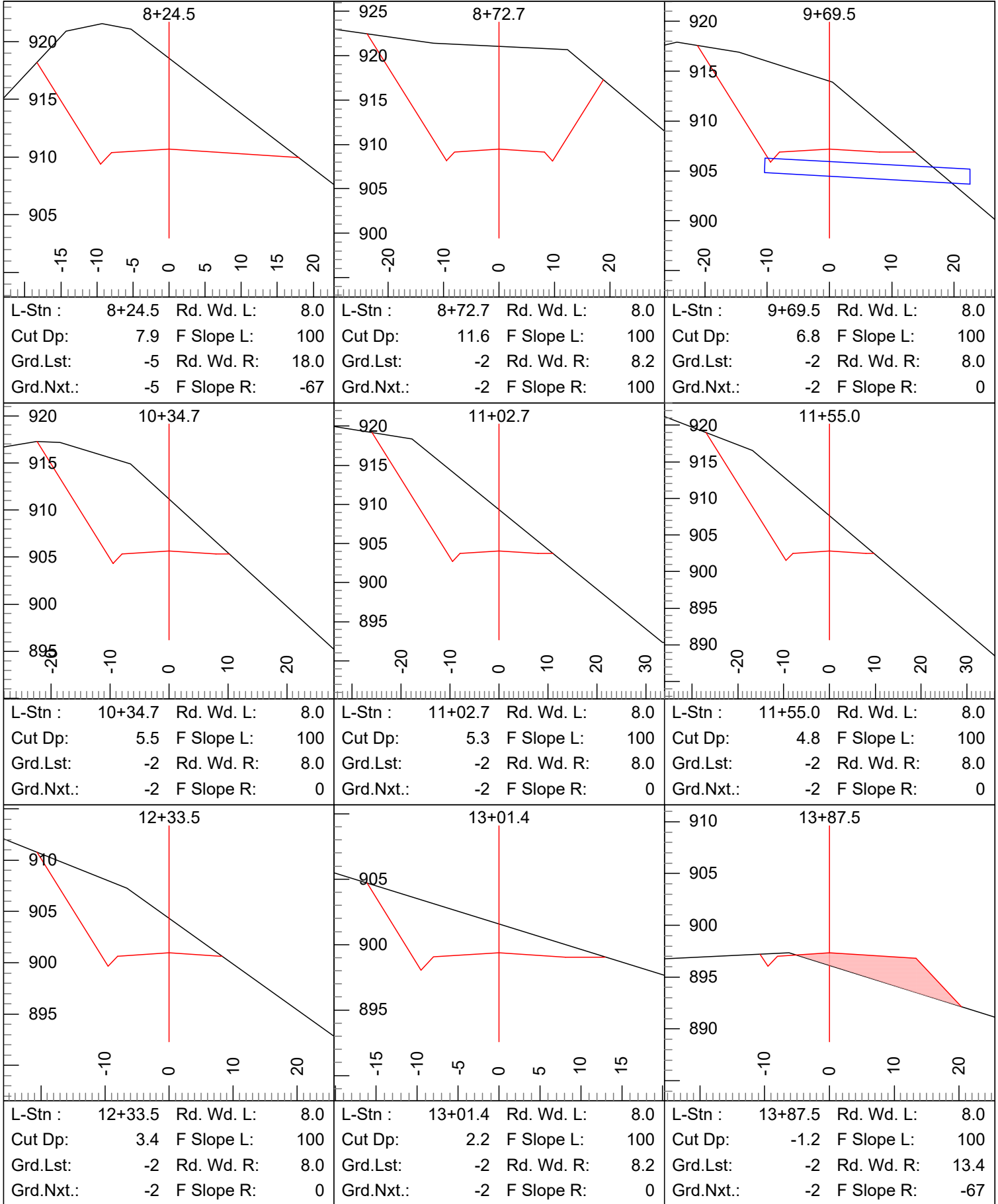




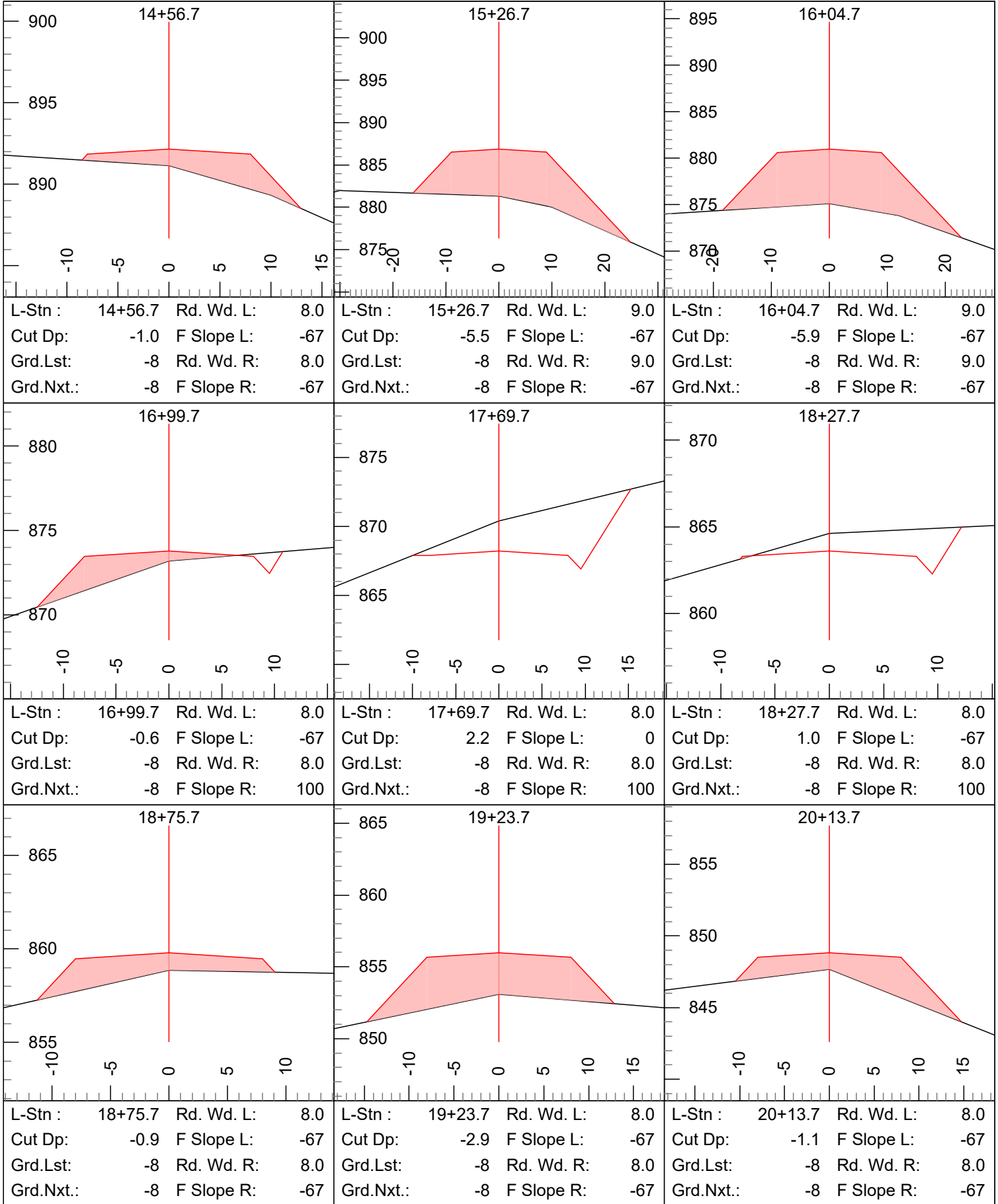
**Page 2 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



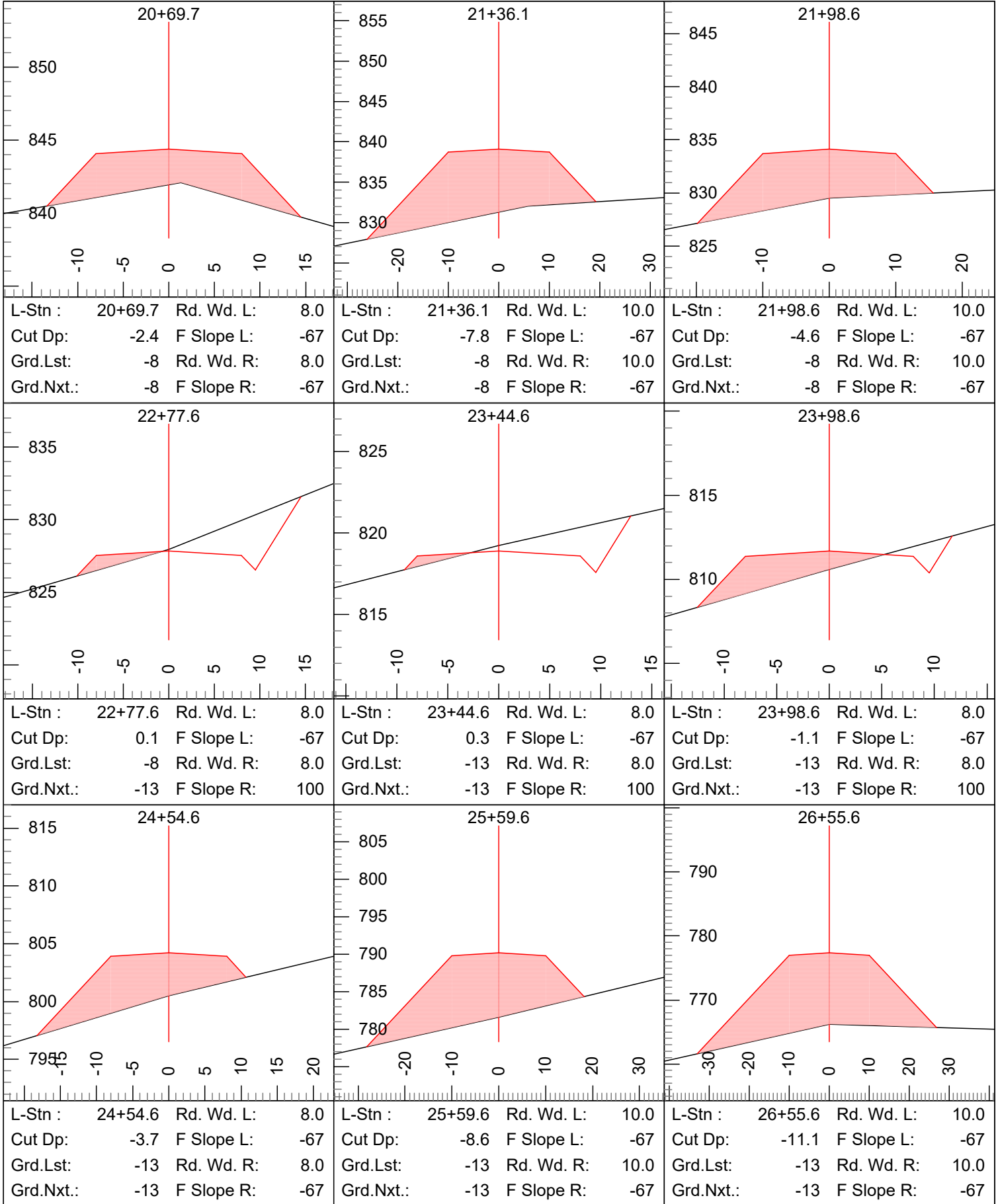
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**W-2045**  
**CROSS SECTION VIEW**



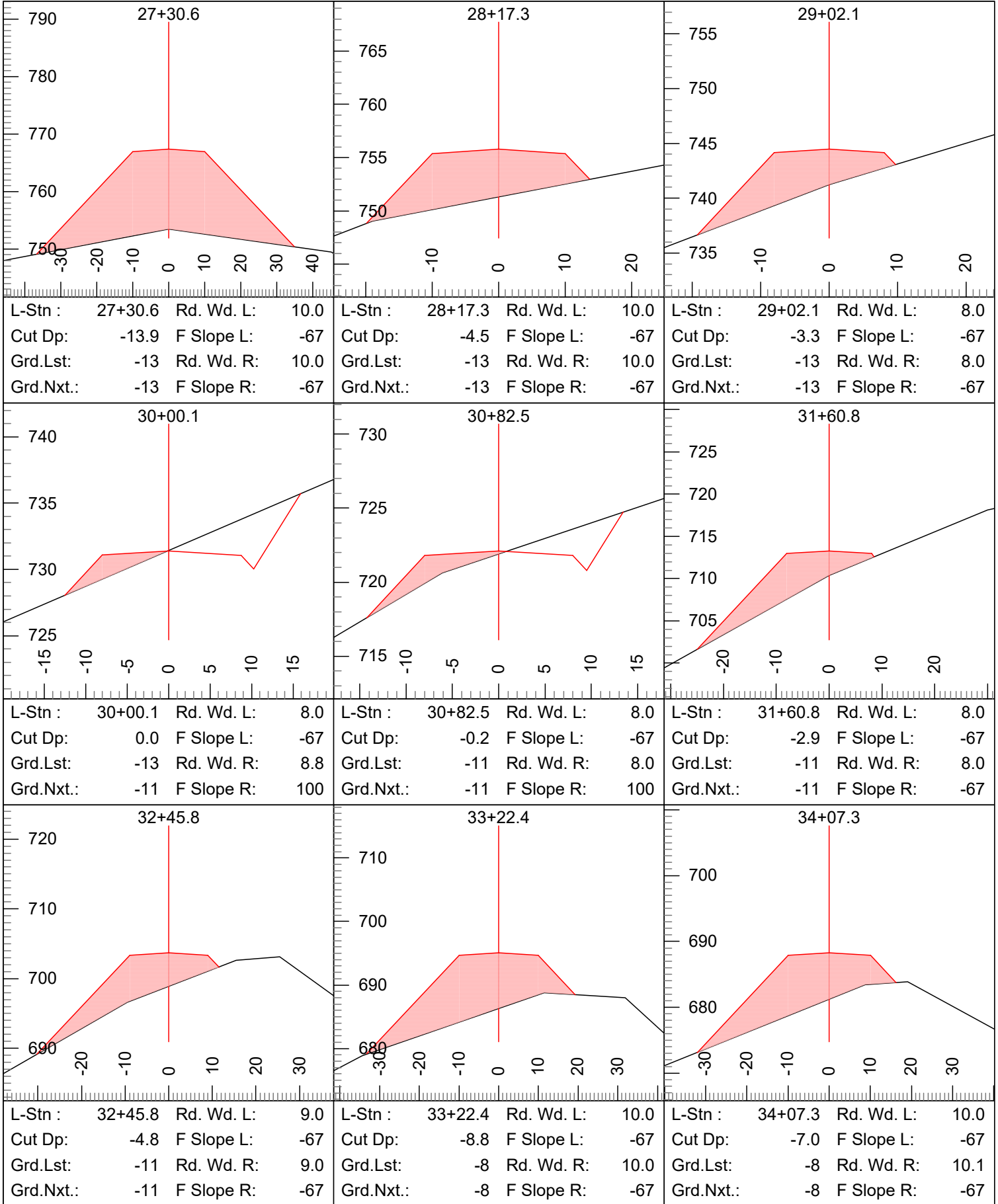
**Page 4 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



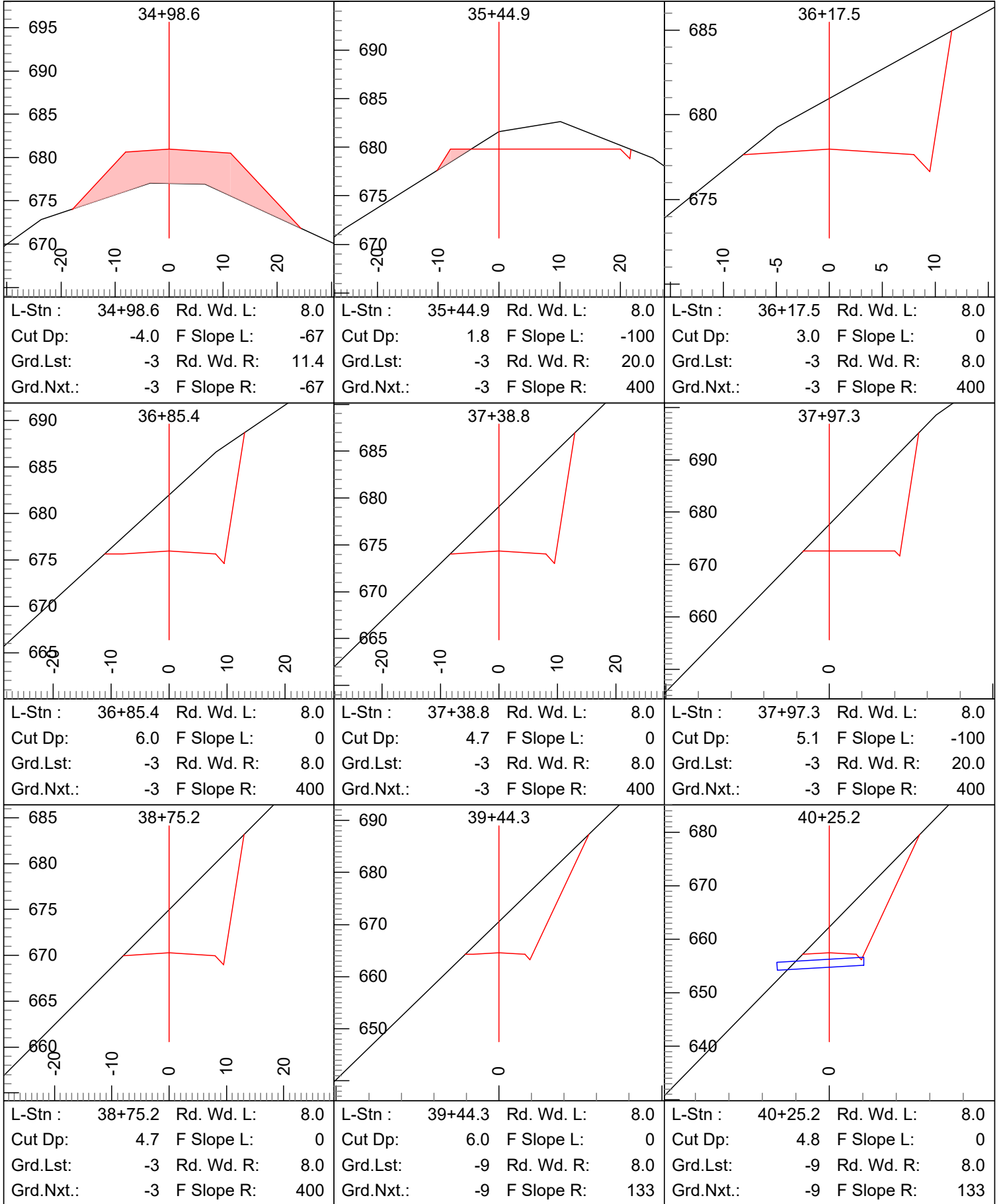
**Page 5 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



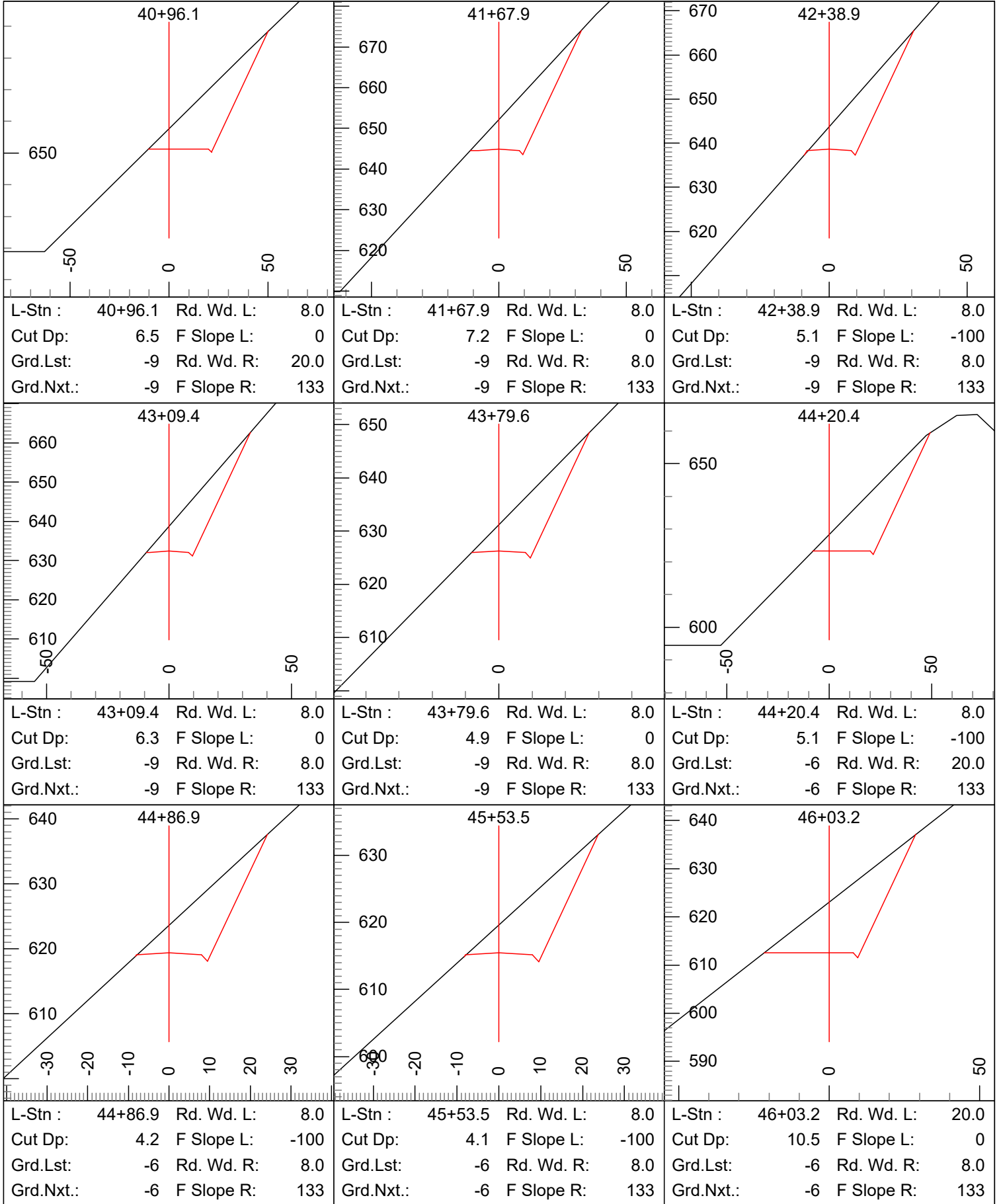
**Page 6 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



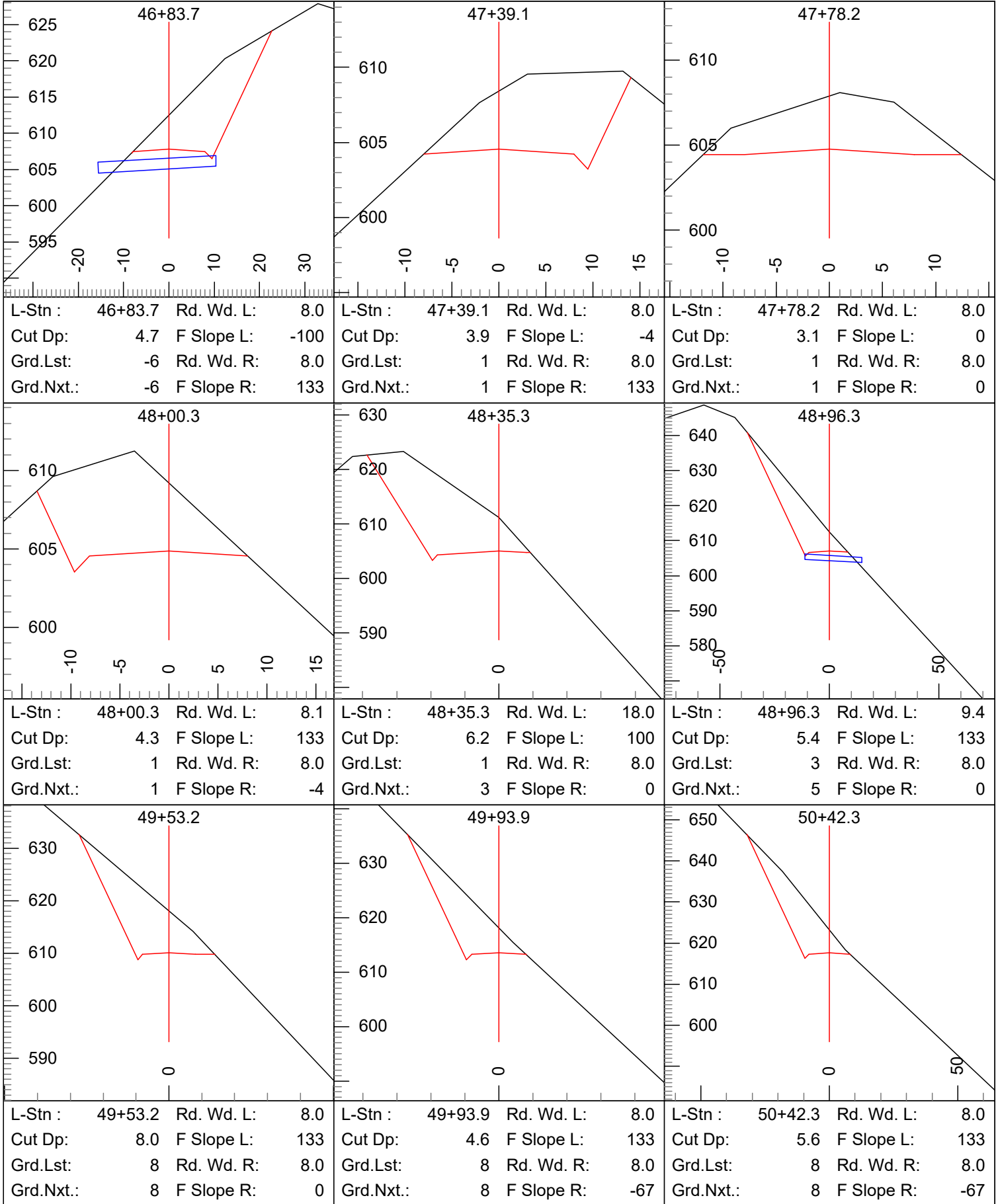
**Page 7 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



**Page 8 of 25**  
**W-2045**  
**CROSS SECTION VIEW**

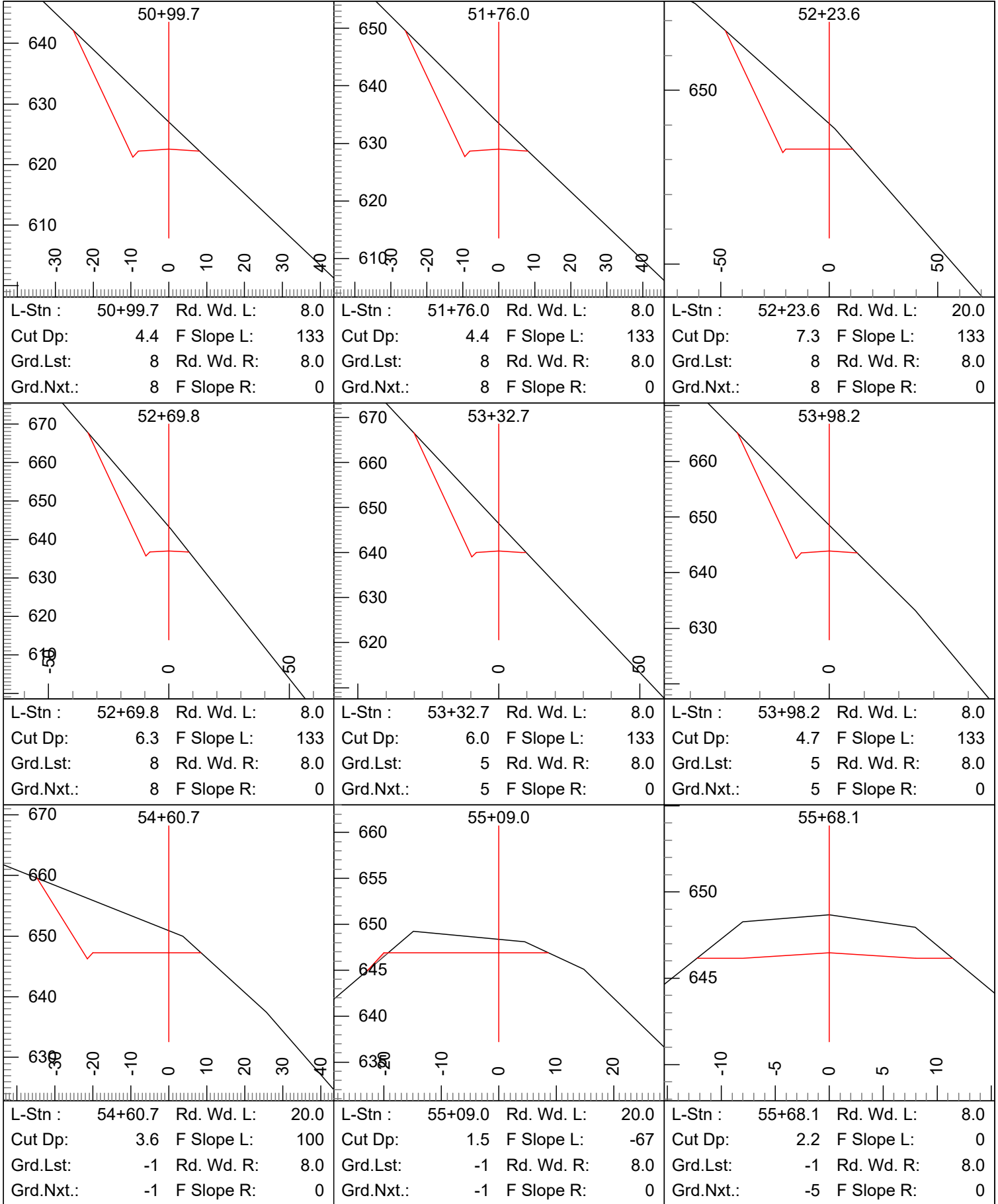


**Page 9 of 25**  
**W-2045**  
**CROSS SECTION VIEW**

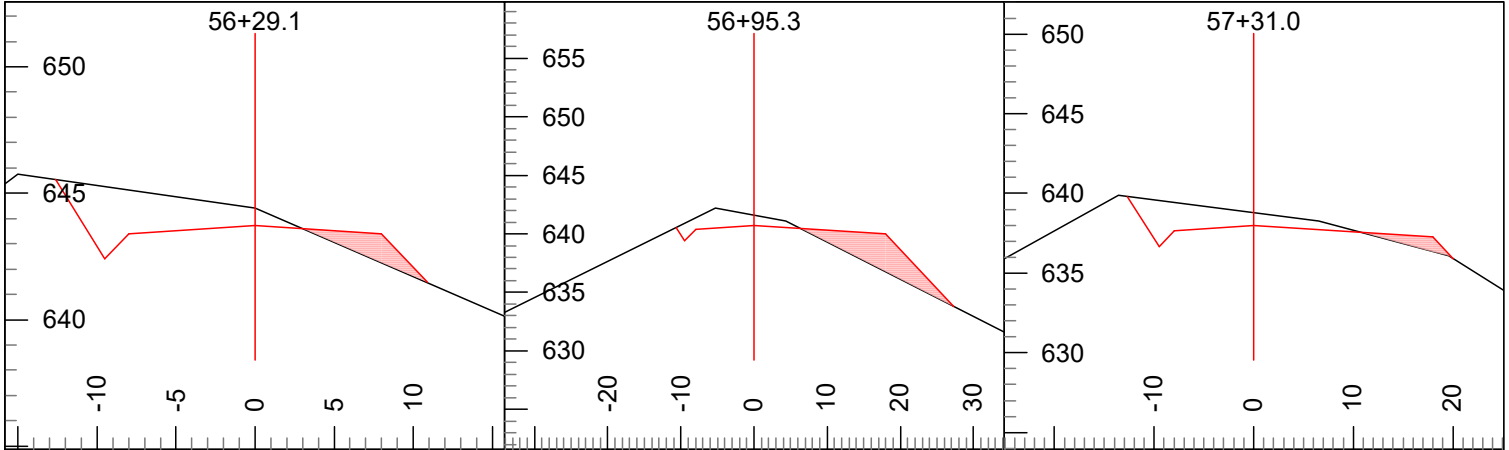




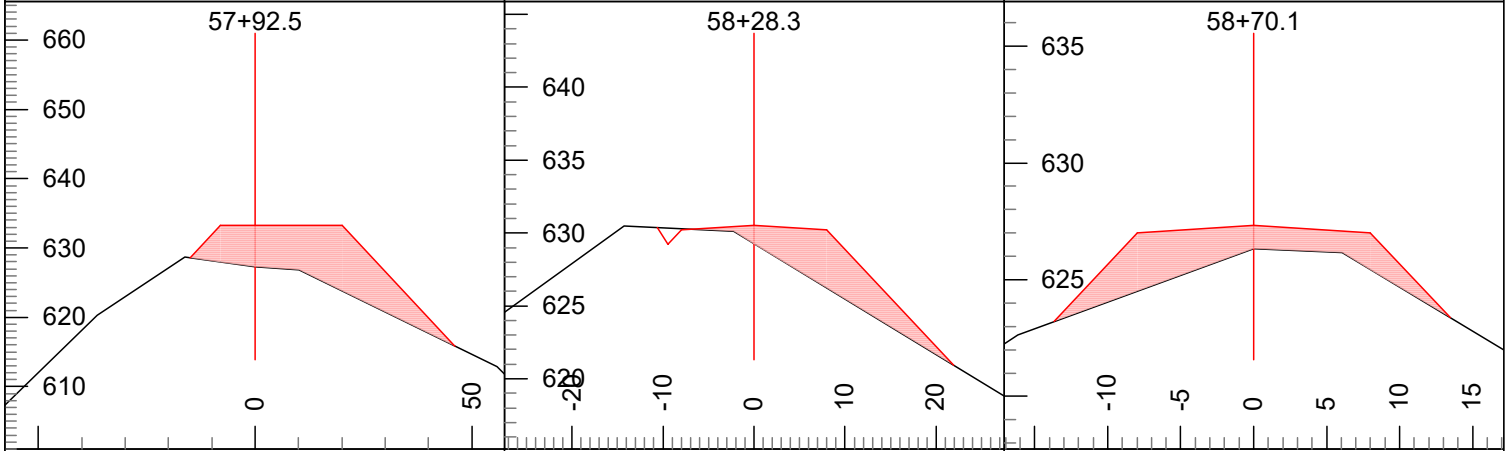
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**W-2045**  
**CROSS SECTION VIEW**



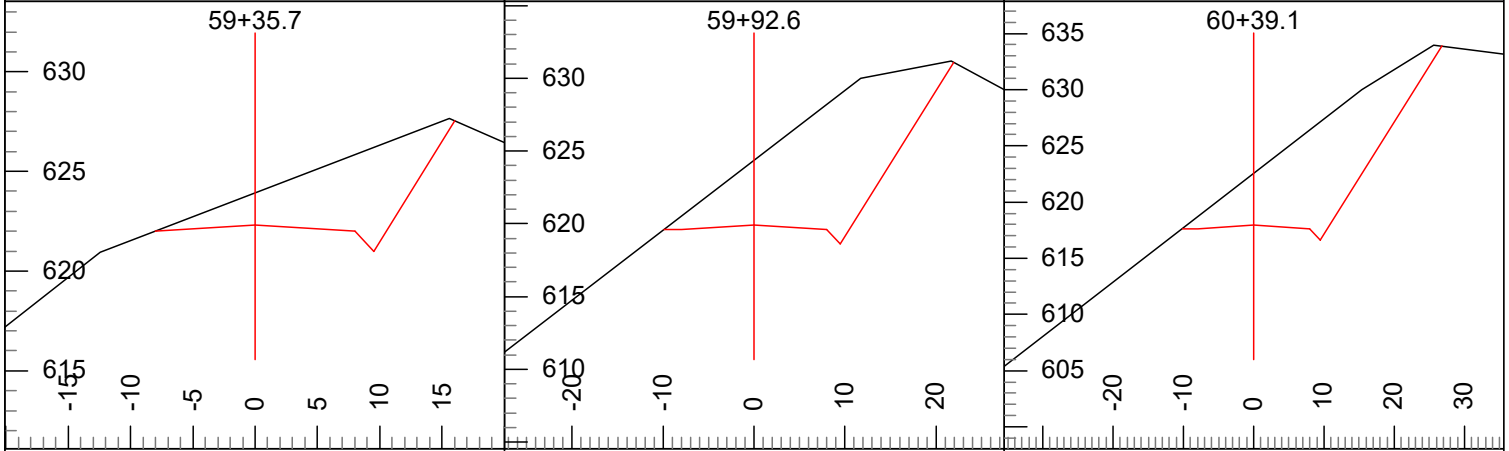
**Page 11 of 25**  
**W-2045**  
**CROSS SECTION VIEW**



L-Stn : 56+29.1	Rd. Wd. L: 8.0	L-Stn : 56+95.3	Rd. Wd. L: 8.0	L-Stn : 57+31.0	Rd. Wd. L: 8.0
Cut Dp: 0.7	F Slope L: 100	Cut Dp: 0.9	F Slope L: 100	Cut Dp: 0.8	F Slope L: 100
Grd.Lst: -5	Rd. Wd. R: 8.0	Grd.Lst: -8	Rd. Wd. R: 18.0	Grd.Lst: -8	Rd. Wd. R: 18.0
Grd.Nxt.: -5	F Slope R: -67	Grd.Nxt.: -8	F Slope R: -67	Grd.Nxt.: -8	F Slope R: -67

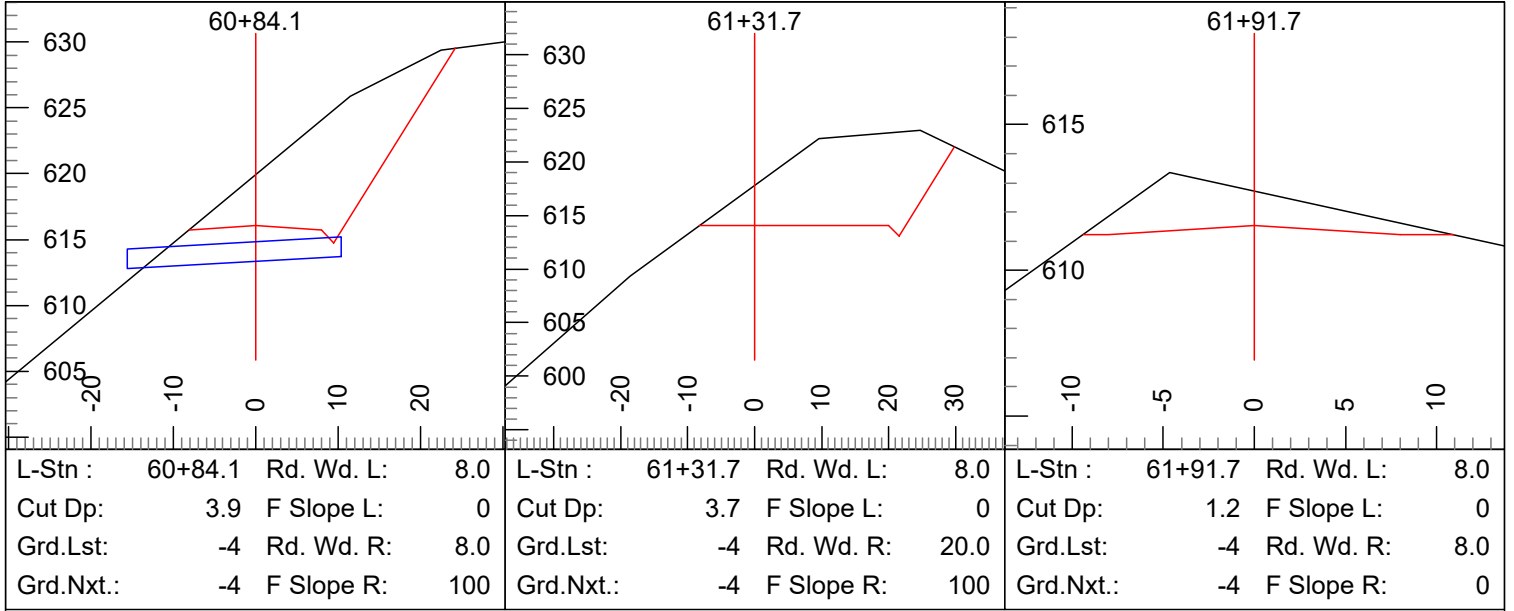


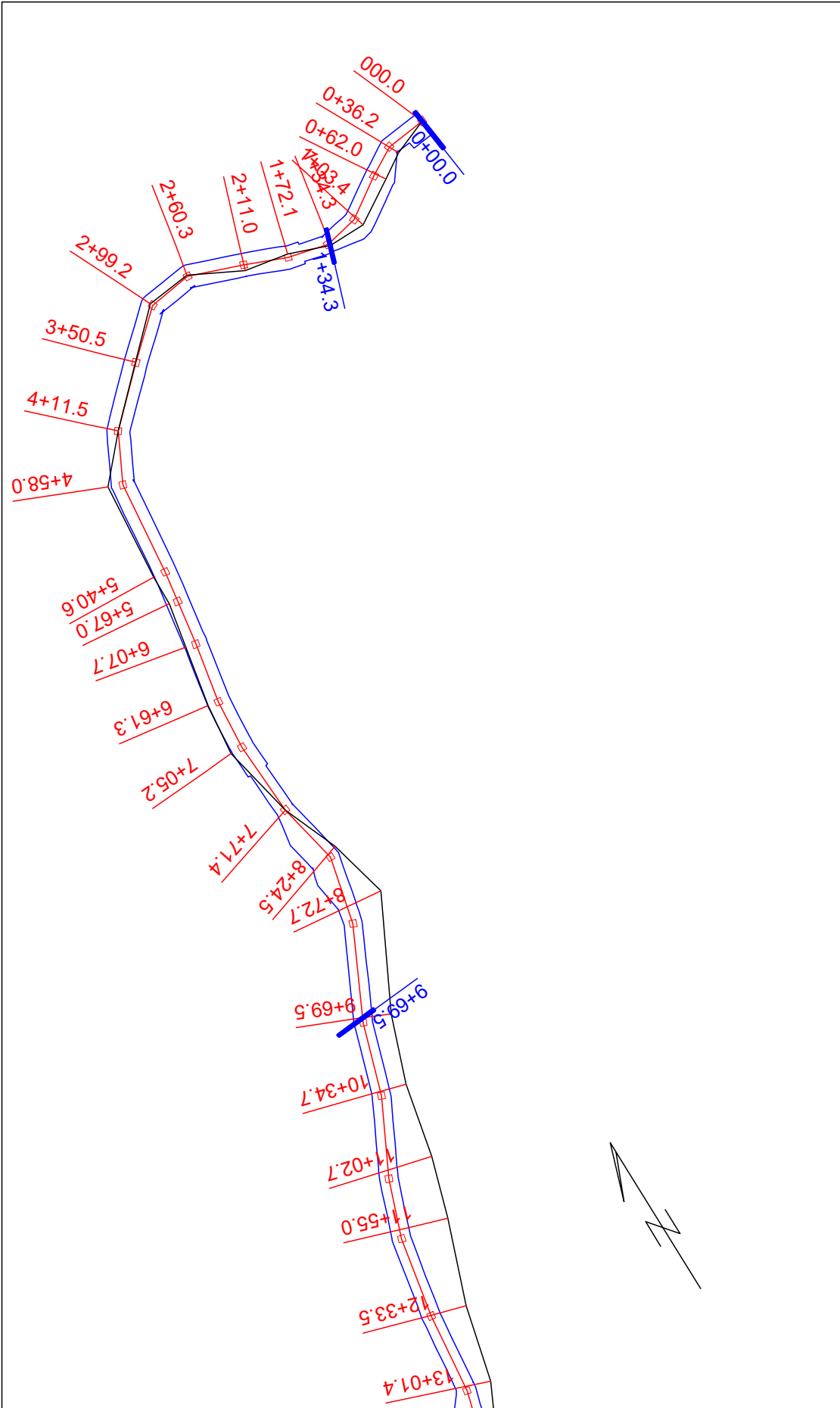
L-Stn : 57+92.5	Rd. Wd. L: 8.0	L-Stn : 58+28.3	Rd. Wd. L: 8.0	L-Stn : 58+70.1	Rd. Wd. L: 8.0
Cut Dp: -6.0	F Slope L: -67	Cut Dp: -1.3	F Slope L: 100	Cut Dp: -1.0	F Slope L: -67
Grd.Lst: -8	Rd. Wd. R: 20.0	Grd.Lst: -8	Rd. Wd. R: 8.0	Grd.Lst: -8	Rd. Wd. R: 8.0
Grd.Nxt.: -8	F Slope R: -67	Grd.Nxt.: -8	F Slope R: -67	Grd.Nxt.: -8	F Slope R: -67



L-Stn : 59+35.7	Rd. Wd. L: 8.0	L-Stn : 59+92.6	Rd. Wd. L: 8.0	L-Stn : 60+39.1	Rd. Wd. L: 8.0
Cut Dp: 1.6	F Slope L: 0	Cut Dp: 4.4	F Slope L: 0	Cut Dp: 4.6	F Slope L: 0
Grd.Lst: -4	Rd. Wd. R: 8.0	Grd.Lst: -4	Rd. Wd. R: 8.0	Grd.Lst: -4	Rd. Wd. R: 8.0
Grd.Nxt.: -4	F Slope R: 100	Grd.Nxt.: -4	F Slope R: 100	Grd.Nxt.: -4	F Slope R: 100

**Page 12 of 25**  
**W-2045**  
**CROSS SECTION VIEW**





**Legend**

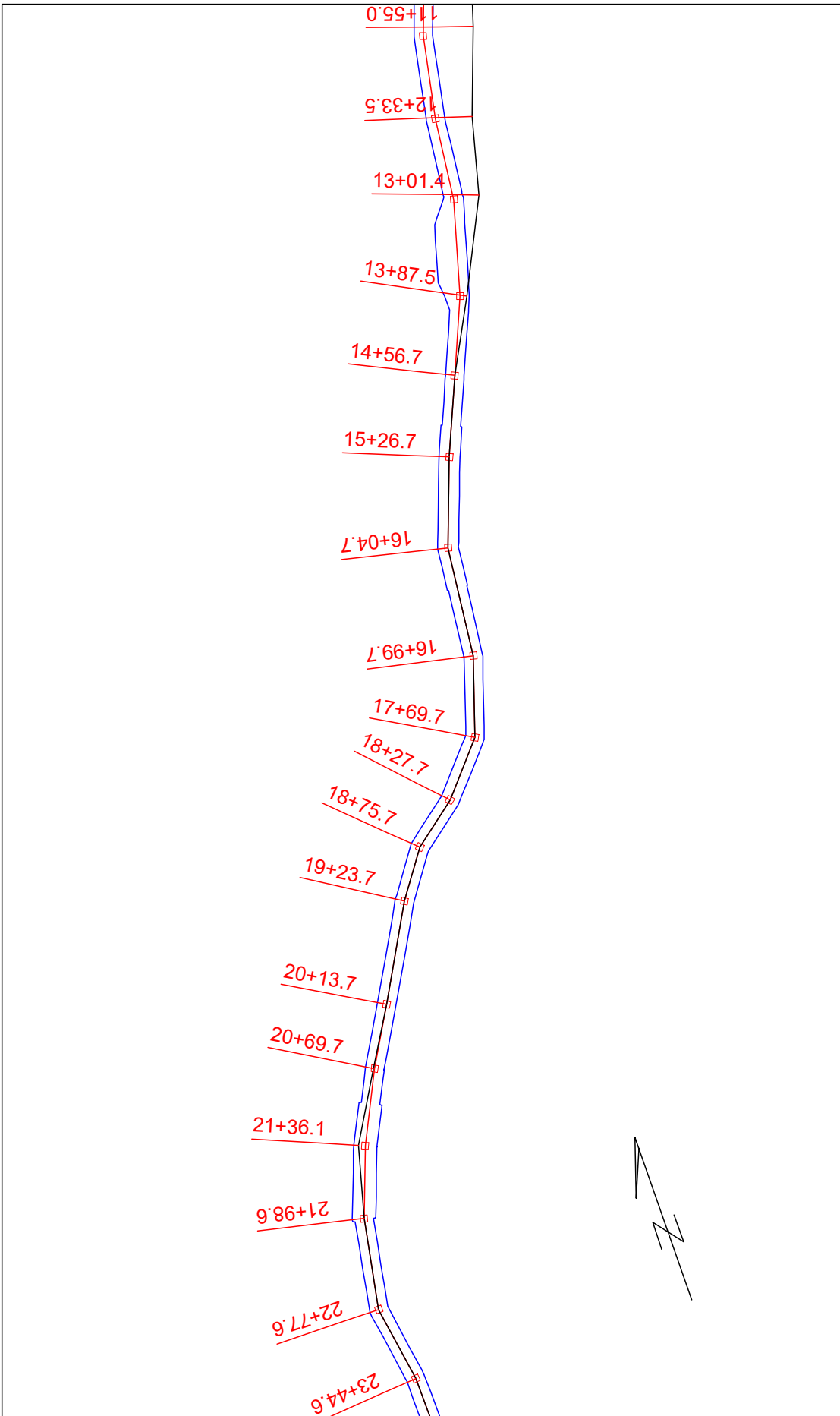
- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

PLAN VIEW  
W-2045  
Scale 1:1500

**Legend**

- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

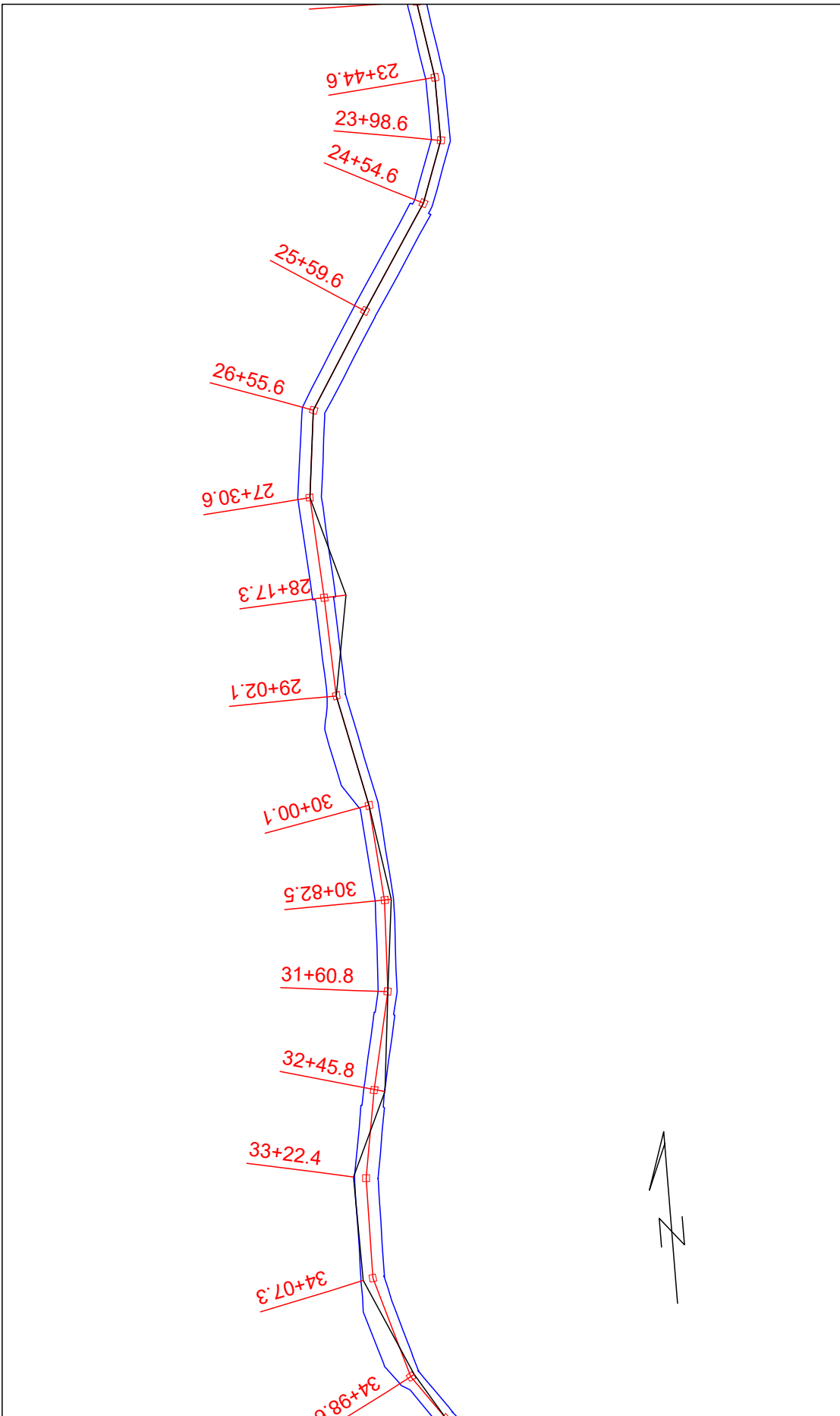
PLAN VIEW  
W-2045  
Scale 1:1500



**Legend**

- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

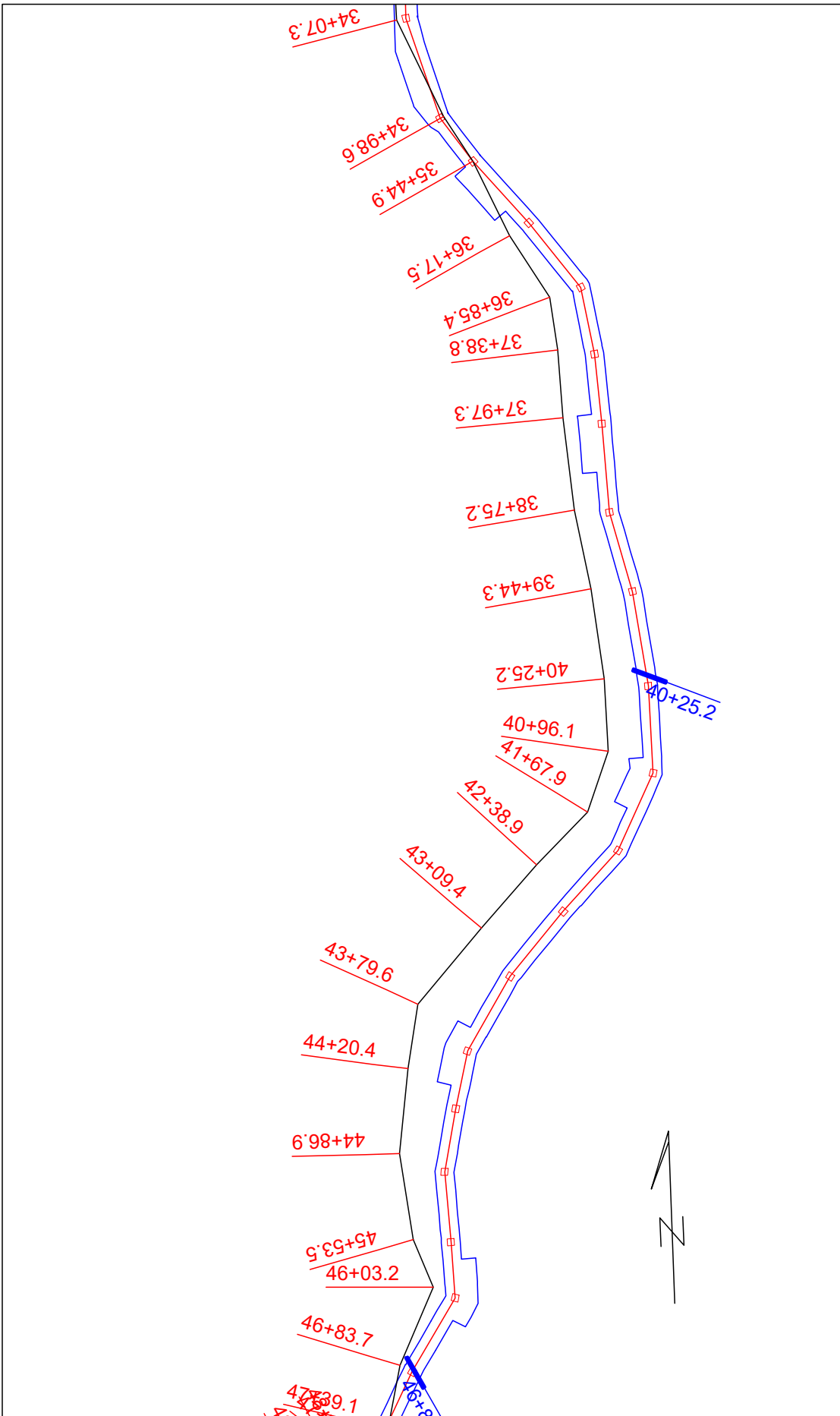
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W-2045  
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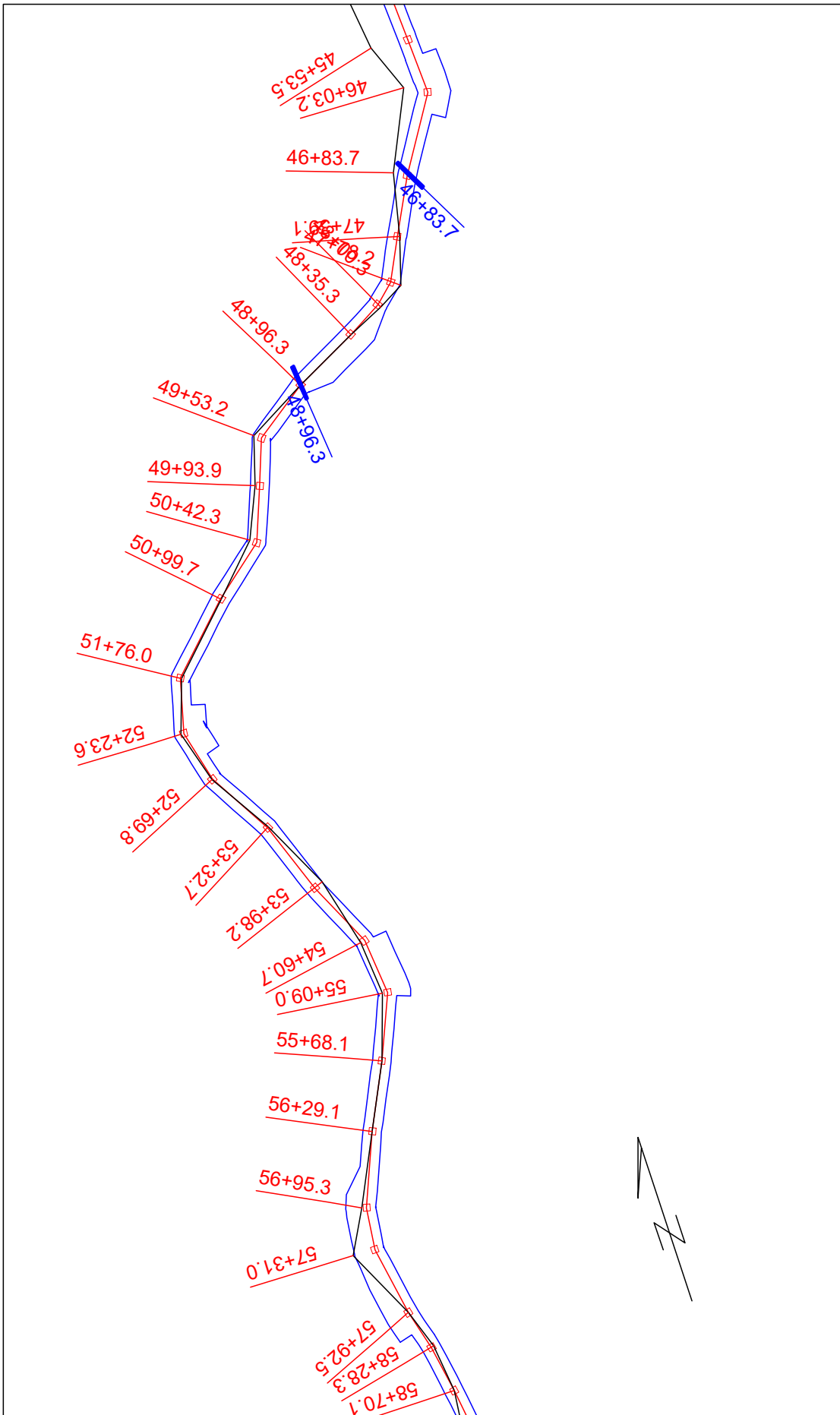


**Legend**

- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

PLAN VIEW  
W-2045  
Scale 1:1500



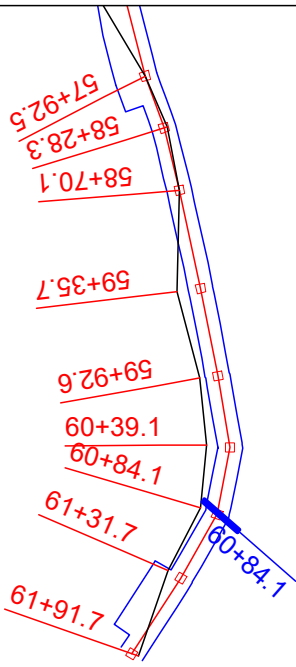


**Legend**

- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

PLAN VIEW  
W-2045  
Scale 1:1500



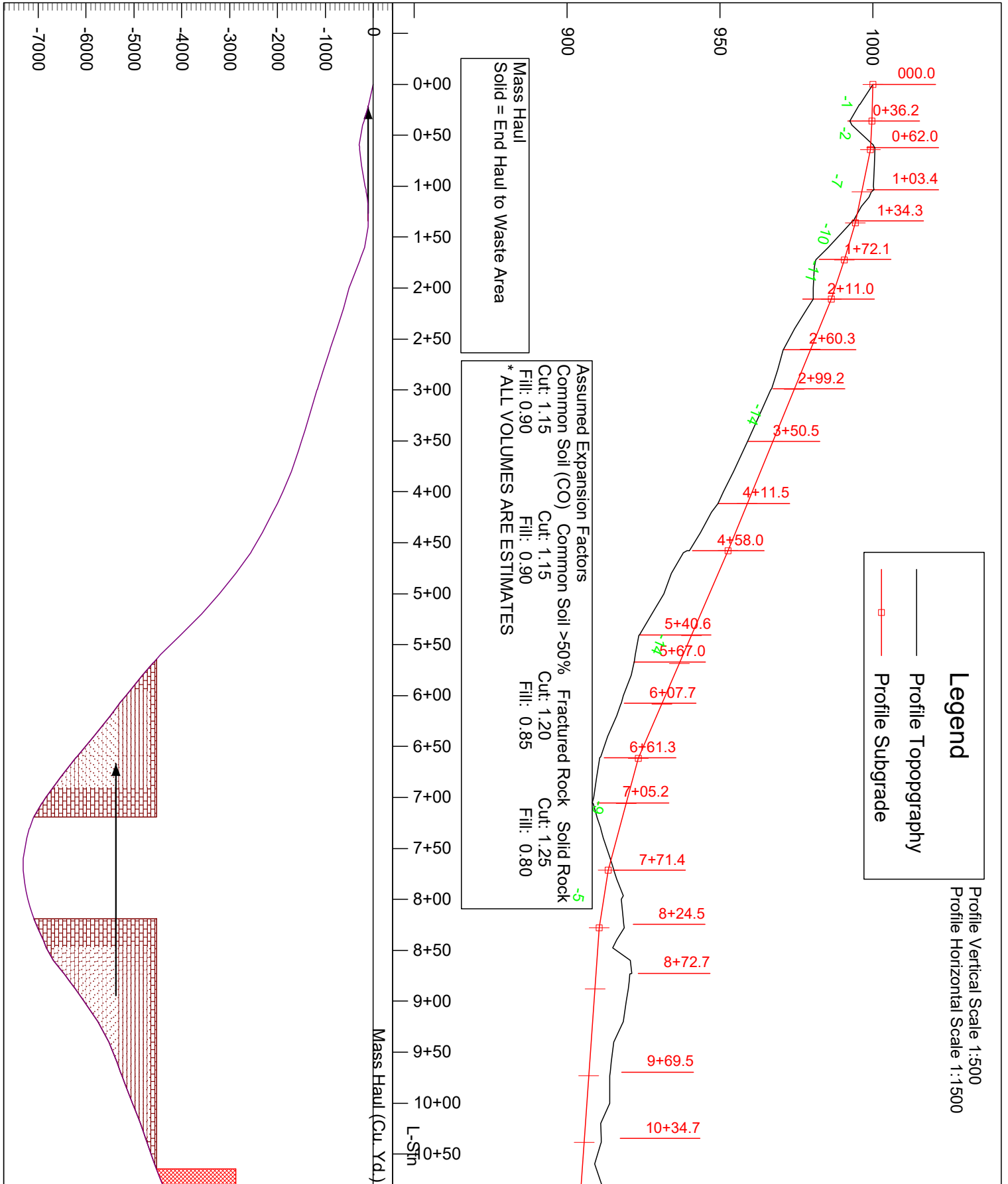


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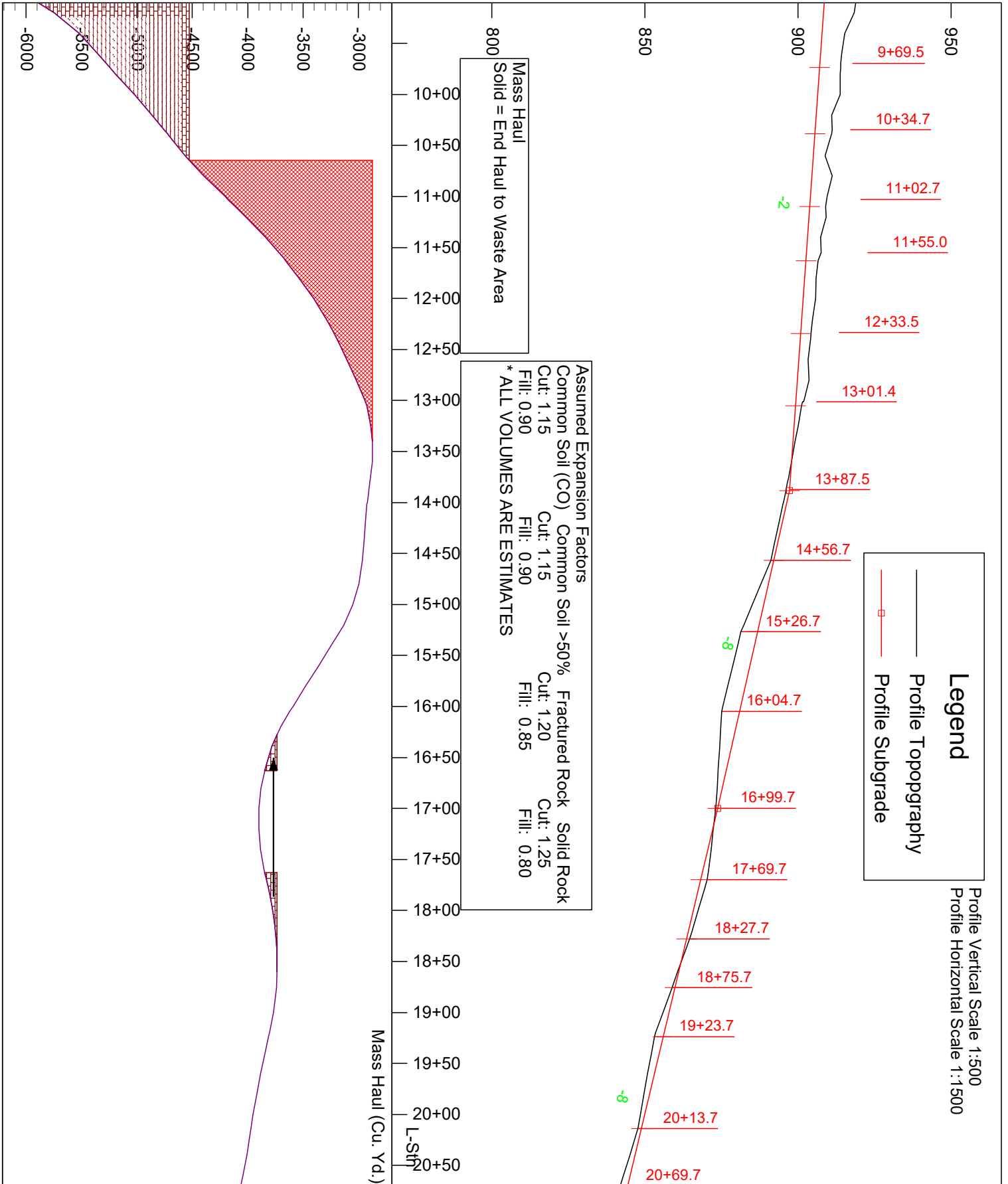
- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-line Location

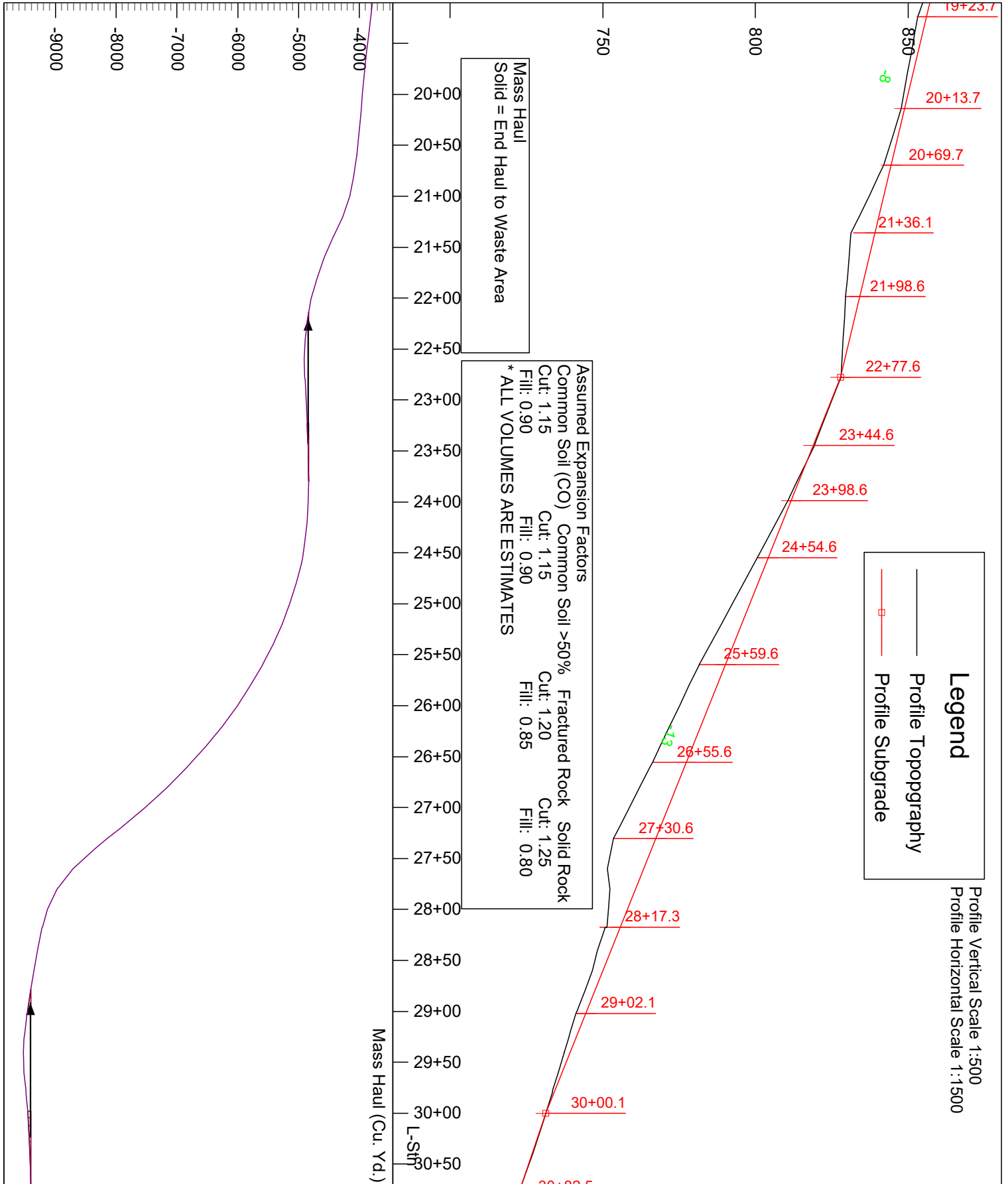
PLAN VIEW  
W-2045  
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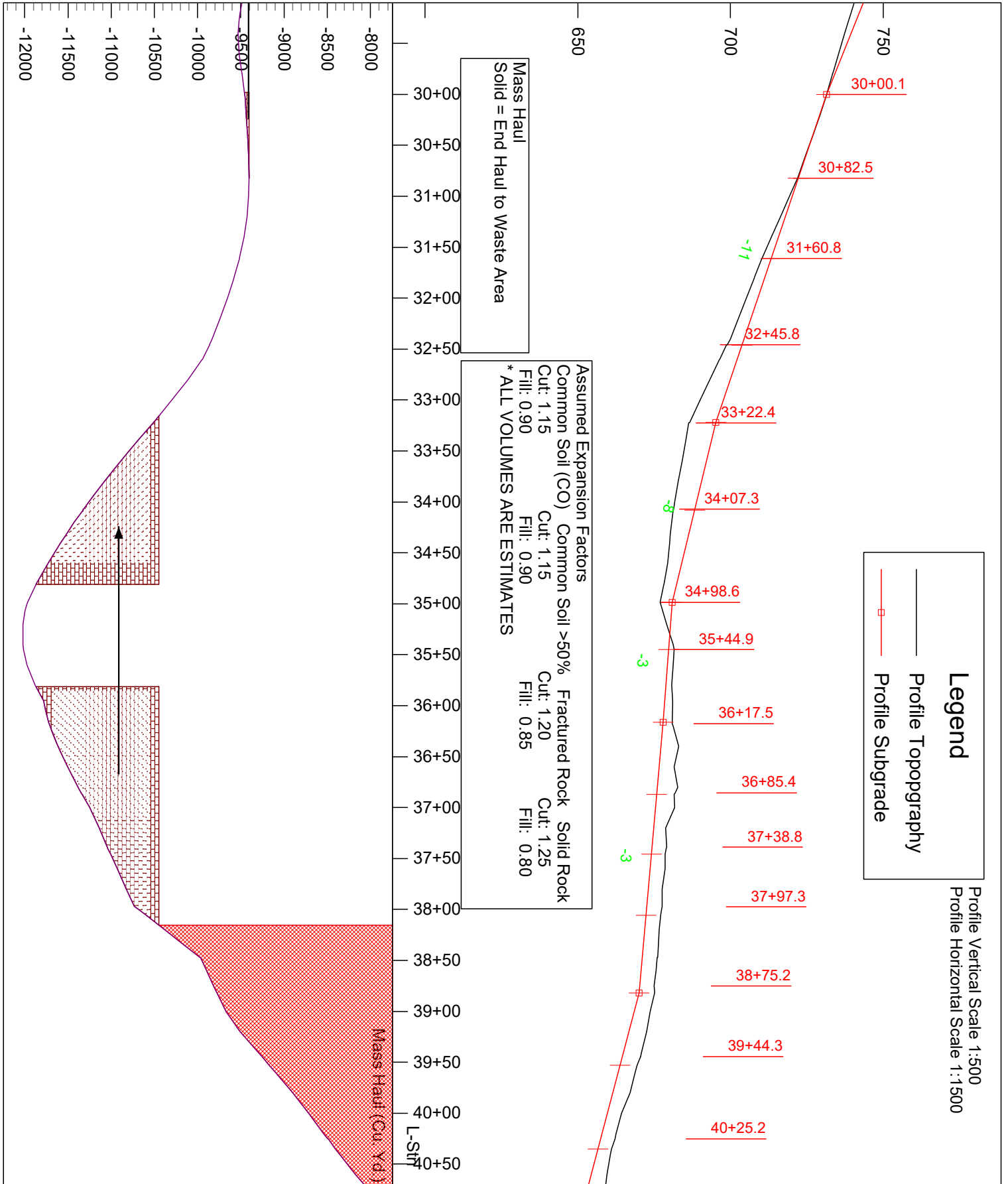




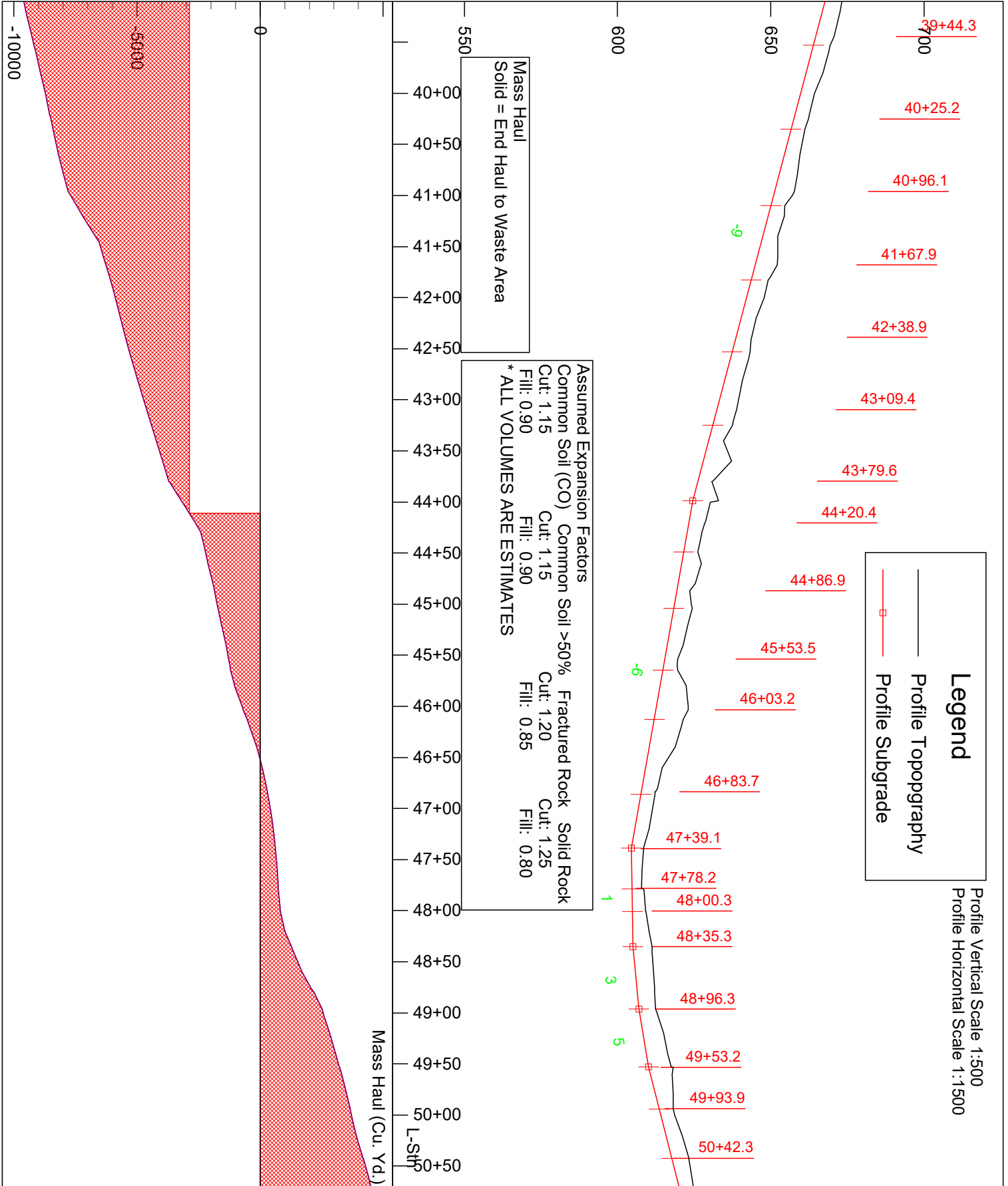
**Page 20 of 25**  
**PROFILE VIEW**  
**W-2045**

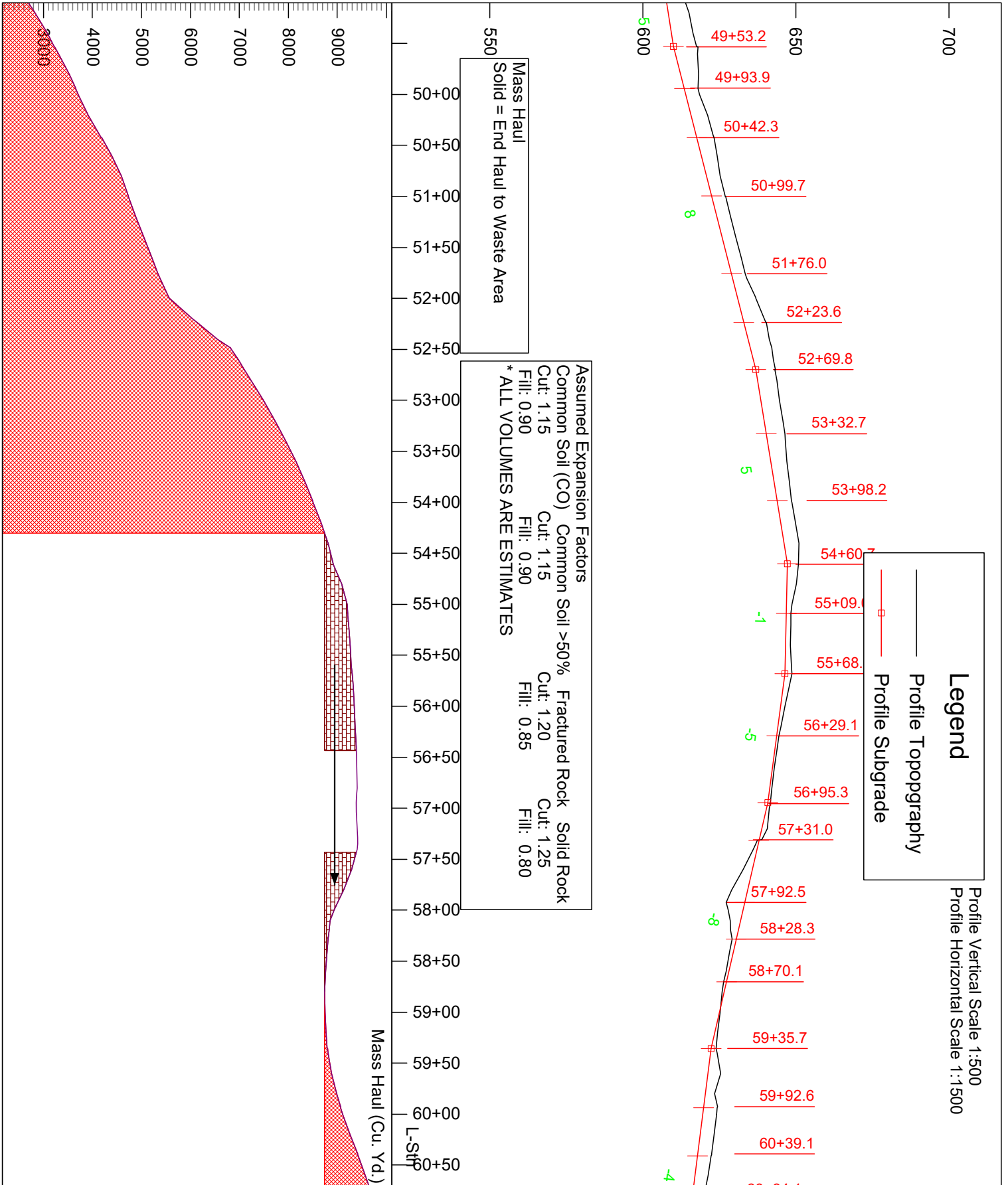




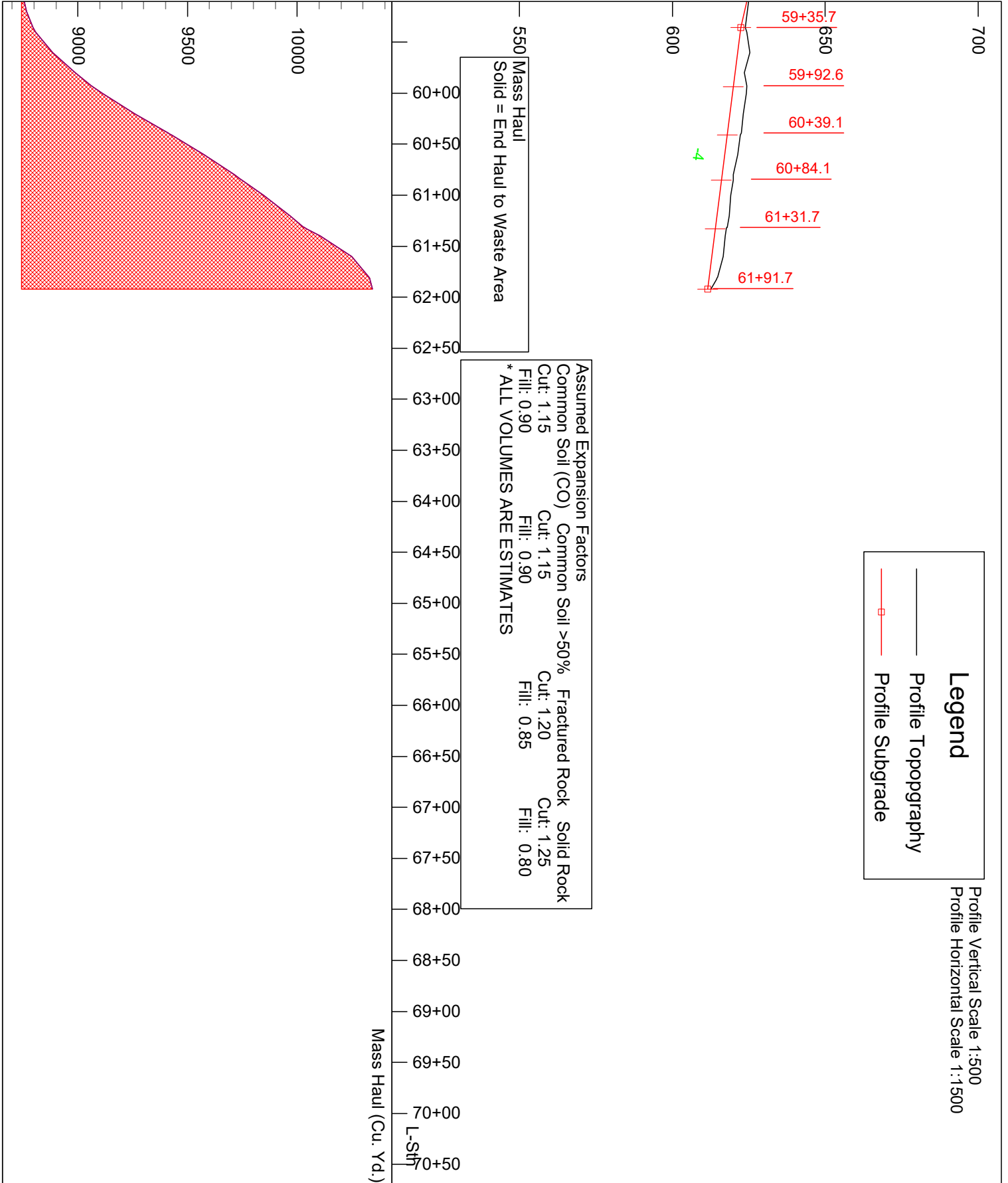


**Page 23 of 25**  
**PROFILE VIEW**  
**W-2045**



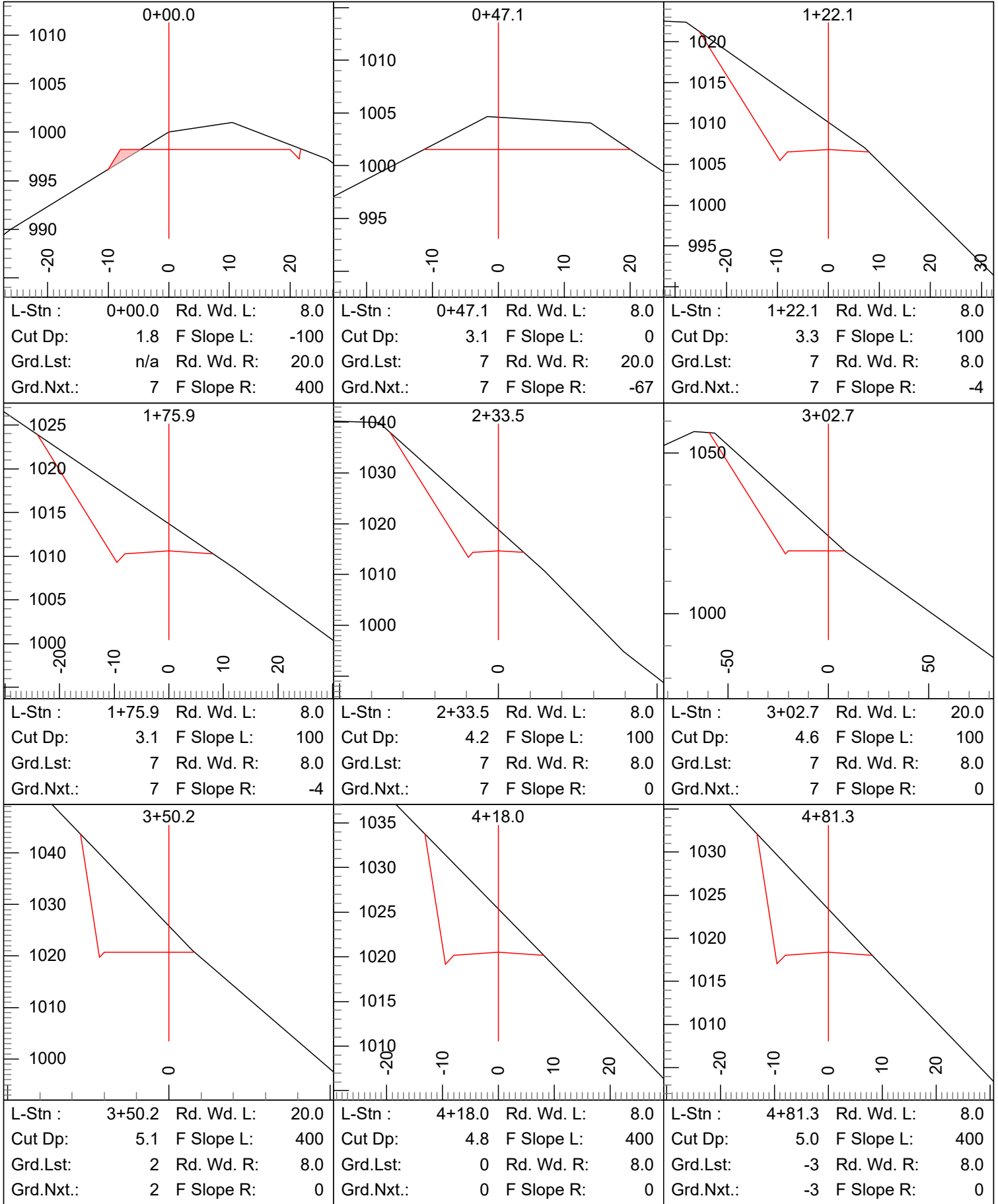


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 PROFILE VIEW  
 W-2045

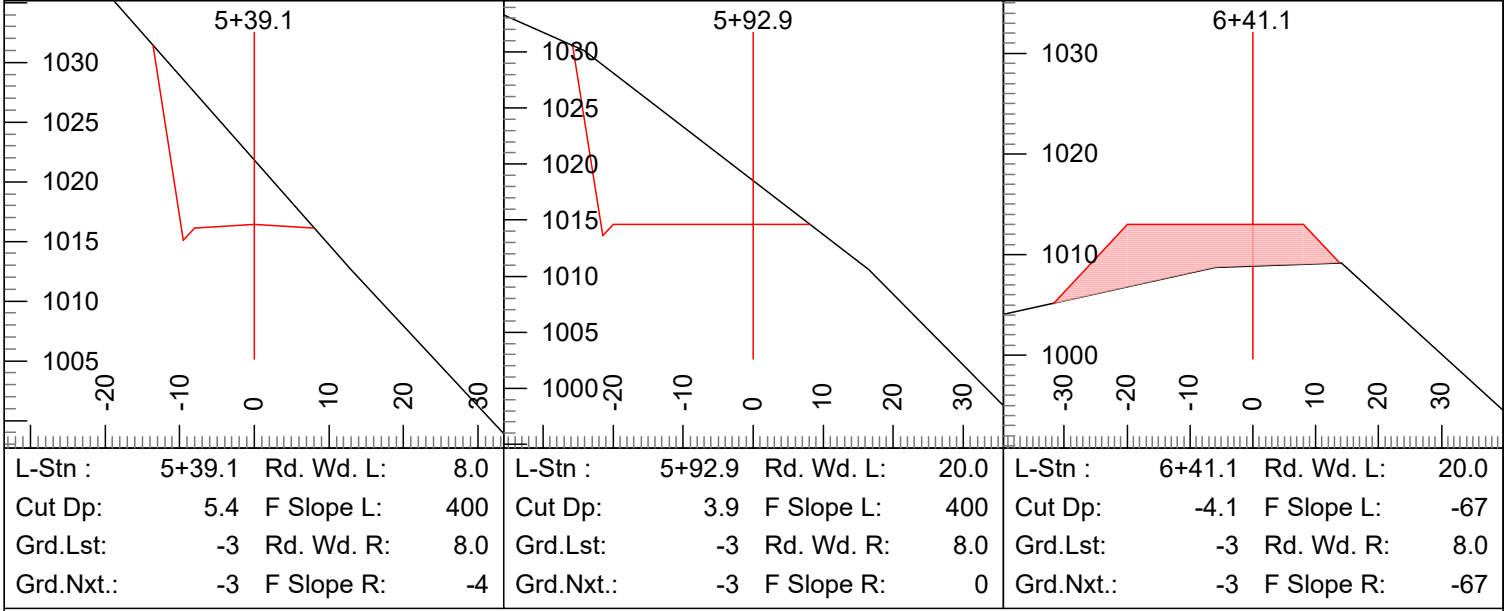


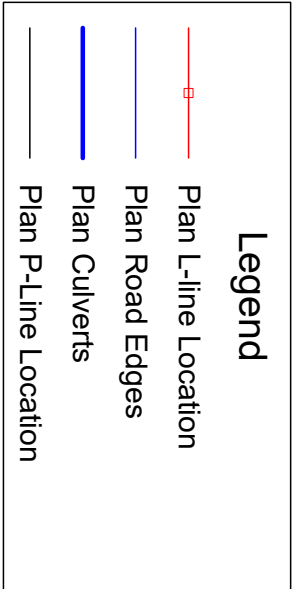
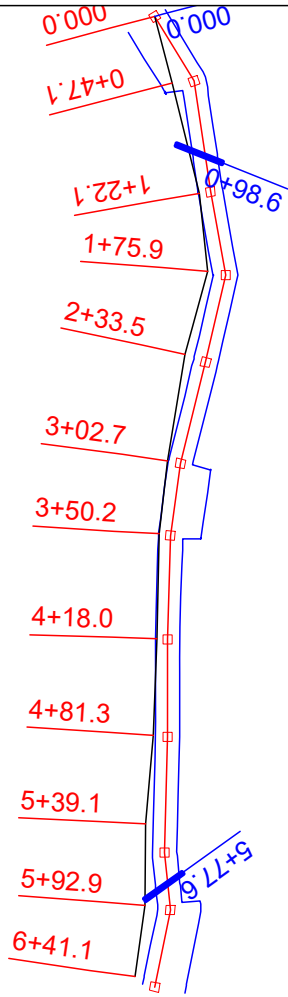


**Page 1 of 4**  
**W-2045A**  
**CROSS SECTION VIEW**



**Page 2 of 4**  
**W-2045A**  
**CROSS SECTION VIEW**

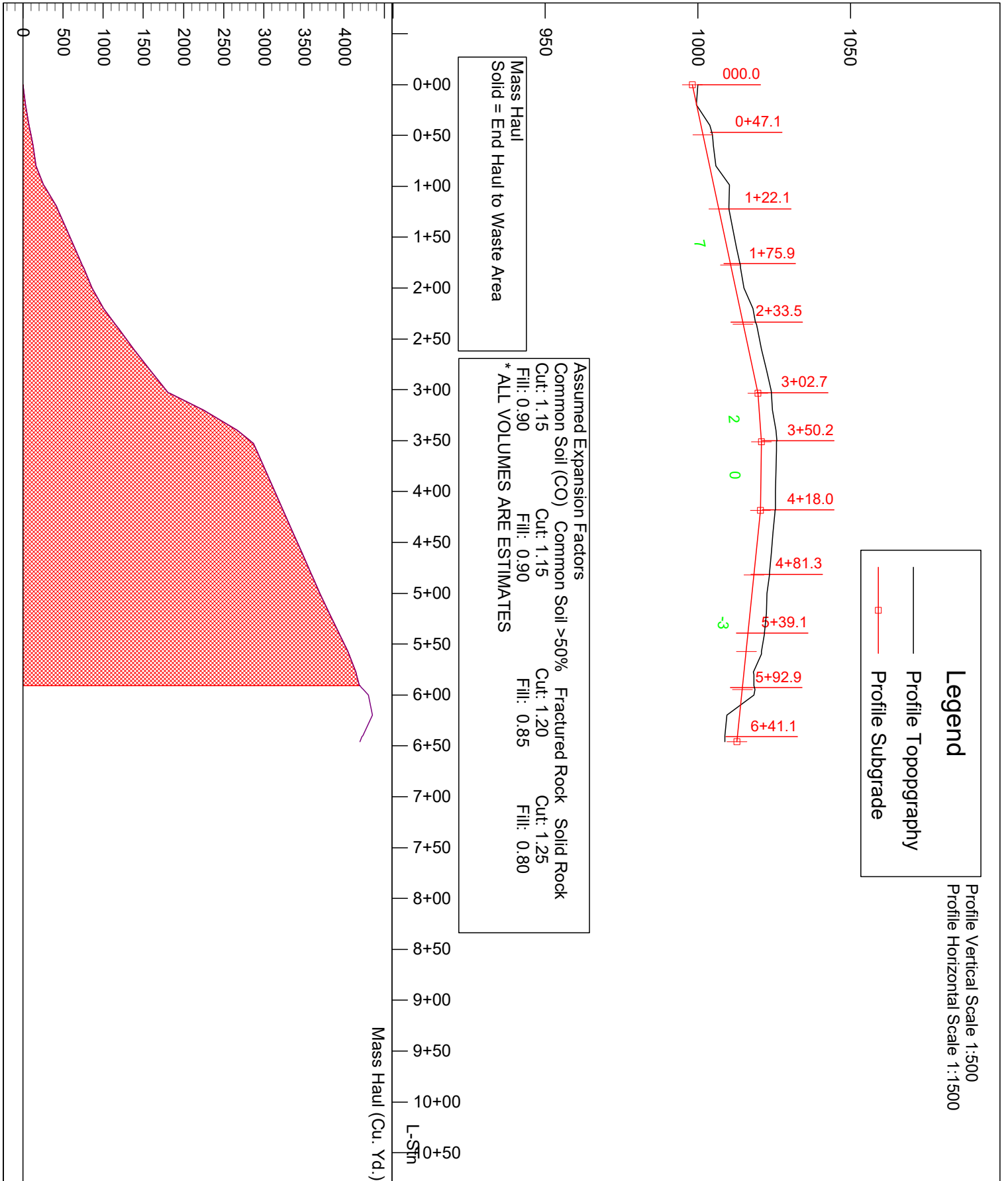




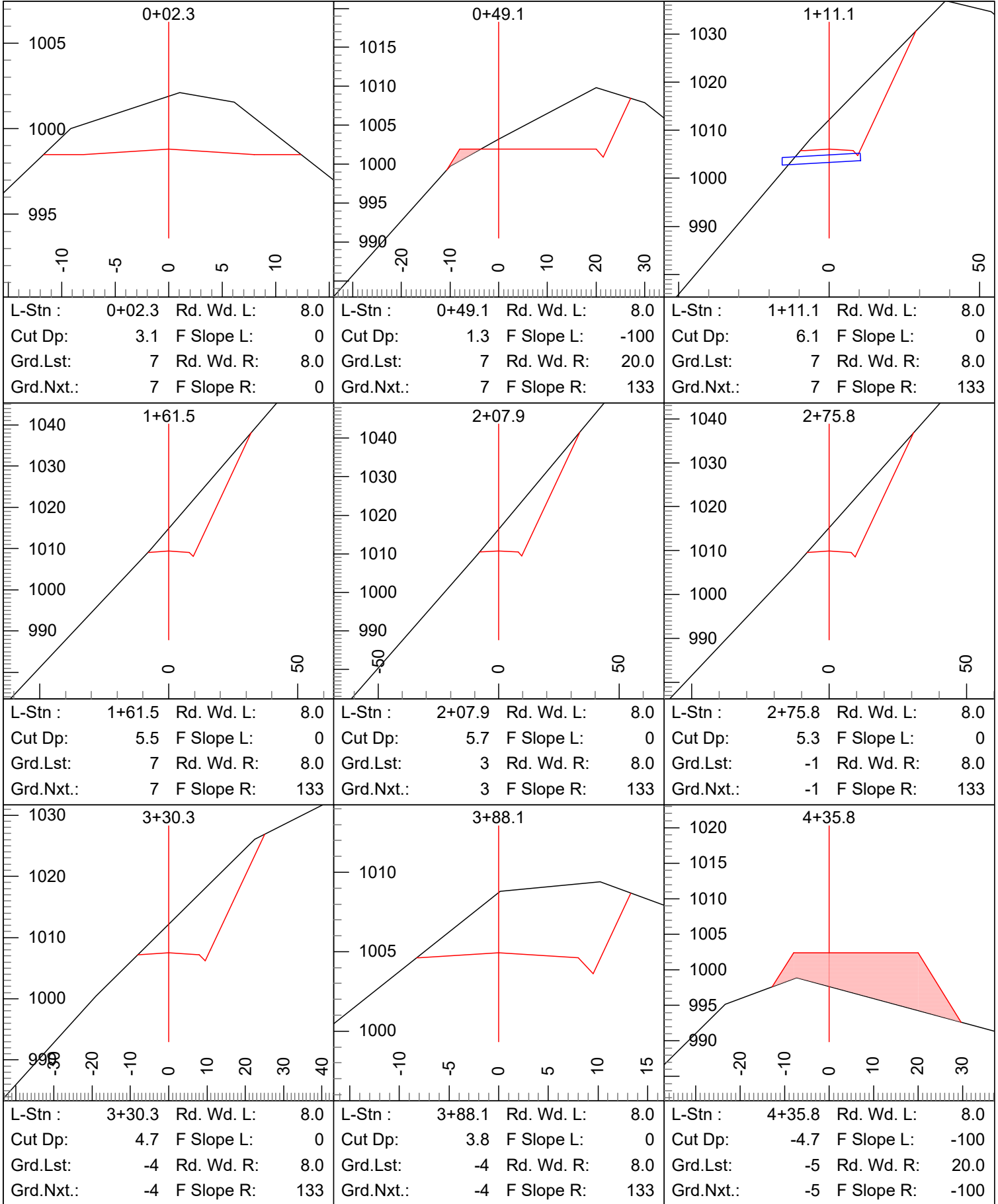
PLAN VIEW  
W-204A  
Scale 1:1500



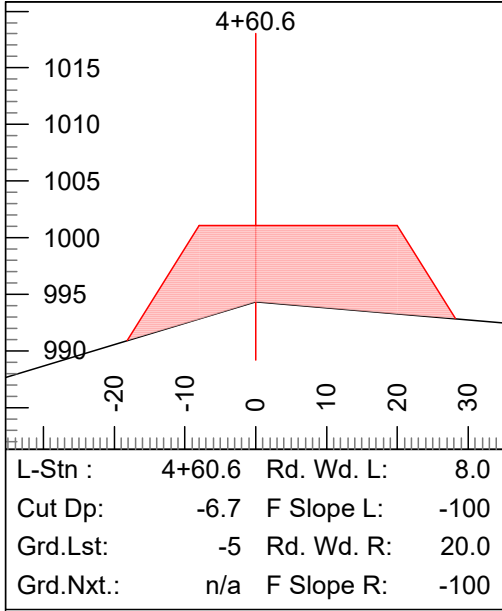
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**PROFILE VIEW**  
**W-2045A**



**Page 1 of 4**  
**W-2045B**  
**CROSS SECTION VIEW**



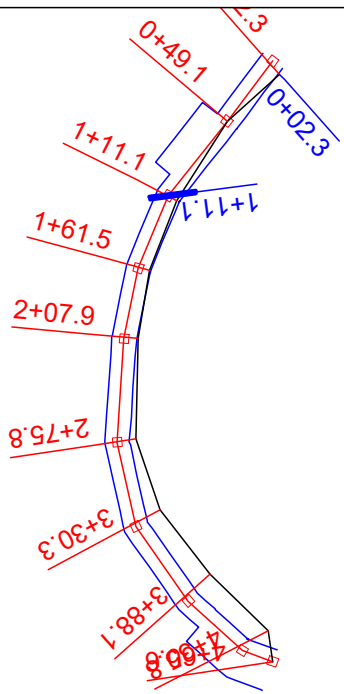
Page 2 of 4  
W-2045B  
CROSS SECTION VIEW



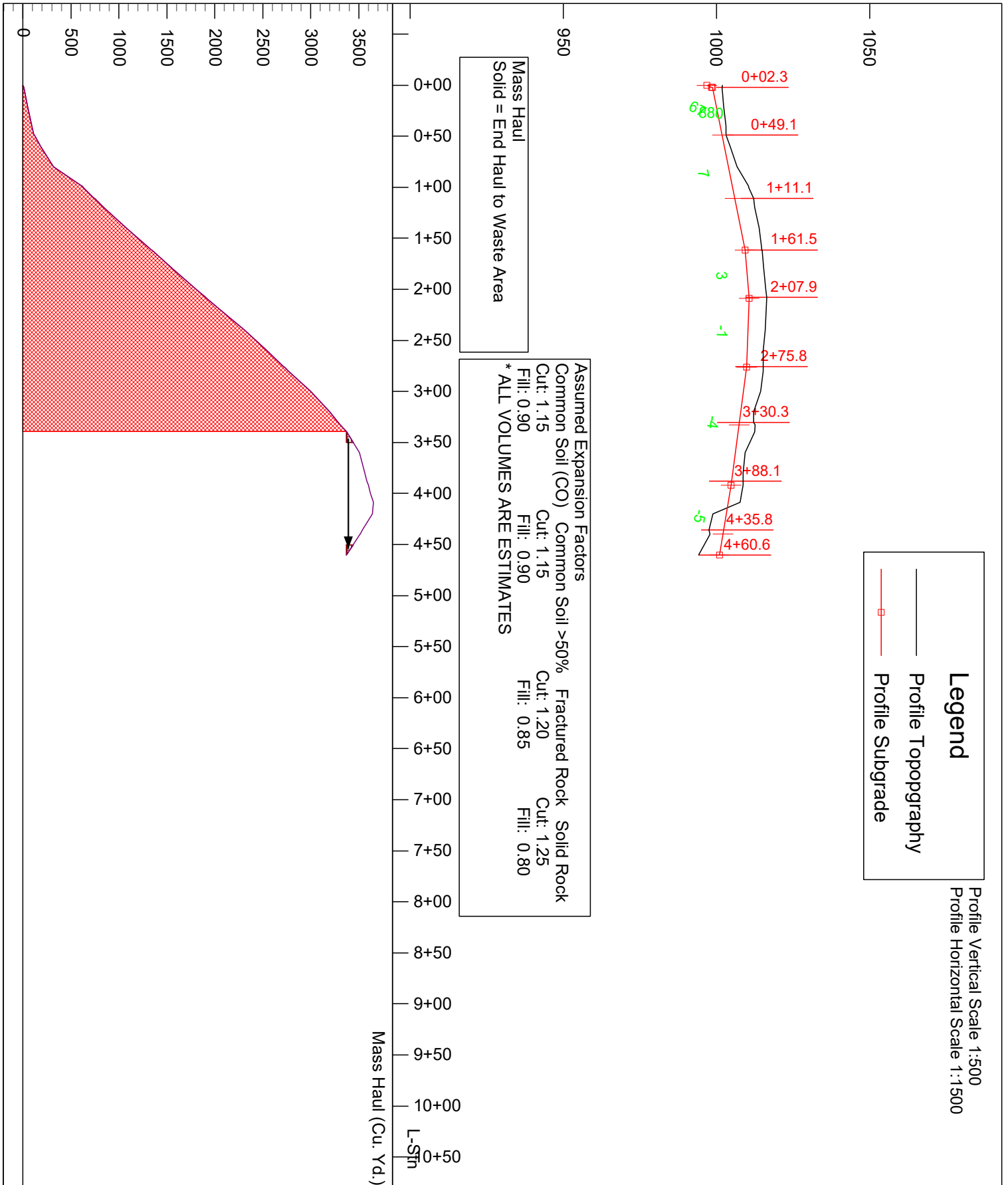
**Legend**

- Plan L-line Location
- Plan Road Edges
- Plan Culverts
- Plan P-Line Location

PLAN VIEW  
W-2045B  
Scale 1:1500



**Page 4 of 4**  
**PROFILE VIEW**  
**W-2045B**





## SUMMARY - Road Development Costs

REGION: Pacific Cascade

DISTRICT: Yacolt

SALE/PROJECT NAME: Geode

AGREEMENT #: 30-107180

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ROAD NUMBERS: W-2045, W-2045A, W-2045B, & W-2050E W-2000 & W-2050

ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	78.75	0.00	440.46
CLEARING & GRUBBING, EXCAVATION AND FILL, MISC., & ADDITIONAL REQ.:	\$310,540.07	\$0.00	\$24,042.69
ROAD ROCK:			
Optional:	\$14,221.26	\$0.00	\$0.00
Required:	\$109,405.12	\$0.00	\$41,032.42
Total:	\$123,626.38	\$0.00	\$41,032.42
STOCKPILE/PIT DEVELOPMENT:	\$0.00	\$0.00	\$0.00
CULVERTS AND FLUMES:	\$8,951.98	\$0.00	\$4,971.08
STRUCTURES:	\$0.00	\$0.00	\$0.00
DUST ABATEMENT	\$0.00	\$0.00	\$0.00
MOBILIZATION:	\$8,419.74	\$0.00	\$1,370.66
TOTAL COSTS:	\$451,538.17	\$0.00	\$71,416.85
COST PER STATION:	\$5,734	\$0	\$0
ROAD DEACTIVATION & ABANDONMENT COSTS:	\$0.00	\$0.00	\$0.00
	<b>10% OVERHEAD AND GENERAL EXPENSE =</b>		<b>\$52,295.50</b>
	<b>TOTAL (All Roads) =</b>		<b>\$575,250.52</b>
	<b>TOTAL (Minus Optional Rock) =</b>		<b>\$561,029.26</b>
	<b>SALE VOLUME MBF =</b>		<b>3,563</b>
	<b>TOTAL \$/MBF =</b>		<b>\$161.45</b>
	<b>TOTAL \$/MBF (Minus Optional Rock) =</b>		<b>\$157.46</b>

Profit and Risk costs are accounted on an individual basis.

Compiled by: David Stone

Date: October 24, 2024

## SUMMARY OF ROAD

Sale:	<b>Geode</b>		Road: <b>W-2000</b>
Required Pre-Haul Maintenance-	355+28 6.73	stations miles	Required Reconstruction
			0.00
			stations miles
Required Abandonment-	0.00	stations miles	Optional Reconstruction -
			0.00
			stations miles
			Required Construction -
			0.00
			stations miles
			Optional Construction -
			0.00
			stations miles

### PRE-HAUL MAINTENANCE

#### CLEARING

#### EXCAVATION

Rip roadway - 48+30 to 52+30	4.00	stations @	\$35.60	per station	\$142.40
Excavate ditchline and scatter material/ clean ditch - 251+97 to 355+28	103.31	stations @	\$19.95	per station	\$2,061.03
Remove culverts from state lands -	4	@	\$125.00	total	\$500.00

#### MISC.

Grade and shape existing road surface -	355.28	stations @	\$27.10	per station	\$9,628.09
Roll shaped road surface w/ vibratory roller prior to rocking -	355.28	stations @	\$14.40	per station	\$5,116.03
Grass seed -	38.0	lbs @	\$11.00	per lb	\$418.00

#### ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$17,865.55**

### RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts & Bands

140	LF of 18"	\$3,475.72	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00 w/bevel
0	LF of 42"	\$0.00 w/gasket-bevel	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$3,475.72			\$0.00

#### Half Rounds

0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00

#### Culvert Stakes & Markers

0	stakes	\$0.00			
0	markers	\$0.00			
		\$0.00			

TOTAL CULVERTS **\$3,475.72**

### ROCK

0+00 to 355+28 Spot Rock	1,350	cy. of	1 1/2" Minus	@	\$25.66	per c.y.=	\$34,641.00
Energy Dissipator/Headwall - culverts	22.0	cy. of	Riprap LL	@	\$19.74	per c.y.=	\$434.28
							TOTAL ROCK <b>\$35,075.28</b>

### ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

### ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$56,416.55	Required Reconstruction	\$0.00	SUBTOTAL	<b>\$56,416.55</b>
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00		
Required Construction -	\$0.00	Optional Construction -	\$0.00	<b>TOTAL</b>	<b>\$56,416.55</b>
				<b>COST PER STATION</b>	<b>\$158.79</b>

## SUMMARY OF ROAD

Sale:	<b>Geode</b>		Road:	<b>W-2050</b>	
Required Pre-Haul Maintenance-	85+18 <hr style="width: 100%;"/> 1.61	stations miles	Required Reconstruction -	0.00 <hr style="width: 100%;"/> 0.00	stations miles
Required Abandonment-	0.00 <hr style="width: 100%;"/> 0.00	stations miles	Optional Reconstruction -	0.00 <hr style="width: 100%;"/> 0.00	stations miles
			Required Construction -	0.00 <hr style="width: 100%;"/> 0.00	stations miles
			Optional Construction -	0.00 <hr style="width: 100%;"/> 0.00	stations miles

### PRE-HAUL MAINTENANCE

#### CLEARING

#### EXCAVATION

Construct waste area, includes clearing grubbing & piling of organic debris -	1.5	hours @	\$402.00	per hour	\$603.00
Clean existing culvert inlets and outlets -	3.0	hours @	\$178.00	per hour	\$534.00
Excavate ditchline and scatter material/ clean ditch - 41+85 to 52+26 & 60+58 to 82+87	32.70	stations @	\$19.95	per station	\$652.37
Remove culverts from state lands -	1	@	\$125.00	total	\$125.00

#### MISC.

Grade and shape existing road surface -	85.18	stations @	\$27.10	per station	\$2,308.38
Roll shaped road surface w/ vibratory roller prior to rocking -	85.18	stations @	\$14.40	per station	\$1,226.59
Construct landings -	1	@	\$185.50	each	\$185.50
Grass seed -	12.9	lbs @	\$11.00	per lb	\$141.90

#### ENDHAUL

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$6,177.14**

### RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts

60	LF of 18"	\$1,495.36		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00
0	LF of 42"	\$0.00		0	LF of 48"	\$0.00
0	LF of 54"	\$0.00		0	LF of 60"	\$0.00
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$1,495.36				\$0.00

#### Half Rounds

0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00

#### Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$1,495.36**

### ROCK

0+00 to 85+18 Spot Rock	250	cy. of	1 1/2" Minus	@	\$19.82	per c.y.=	\$4,955.00
Energy Dissipator/Headwall - culverts	11.0	cy. of	Riprap LL	@	\$19.54	per c.y.=	\$214.94
Landing	41	cy. of	3" Jaw Run	@	\$19.20	per c.y.=	\$787.20
						TOTAL ROCK	<b>\$5,957.14</b>

### ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

### ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$13,629.64	Required Reconstruction -	\$0.00		SUBTOTAL	<b>\$13,629.64</b>
Required Abandonment-	\$0.00	Optional Reconstruction -	\$0.00			
Required Construction -	\$0.00	Optional Construction -	\$0.00		TOTAL	<b>\$13,629.64</b>
					COST PER STATION	<b>\$160.01</b>

## SUMMARY OF ROAD

Sale: Geode

Road: W-2045

Required Pre-Haul Maintenance - <span style="border: 1px solid black; padding: 2px;">0.00</span> stations miles	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">0.00</span> stations miles	Required Construction - <span style="border: 1px solid black; padding: 2px;">35+45</span> stations miles <span style="border: 1px solid black; padding: 2px;">0.67</span> miles
Required Abandonment - <span style="border: 1px solid black; padding: 2px;">0.00</span> stations miles	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">0.00</span> stations miles	Optional Construction - <span style="border: 1px solid black; padding: 2px;">26+47</span> stations miles <span style="border: 1px solid black; padding: 2px;">0.50</span> miles

### PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CONSTRUCTION

#### CLEARING/GRUBBING

Scattering Organic Debris	4.07	acres @	\$1,010.00	per acre	\$4,110.70
Removal and loading of Organic Debris from Endhaul locations -	3.04	acres @	\$1,200.00	per acre	\$3,648.00
Remove large stumps -	32	@	\$117.00	each	\$3,744.00
Construct waste area - Station 30+00 on W-2045	5.0	hours @	\$402.00	per hour	\$2,010.00

#### EXCAVATION - includes drift endhaul, designed turnouts (7), designed landings (9), & ditchouts

Grade and shape subgrade -	61.92	stations @	\$22.55	per station	\$1,396.30
Earthwork - Common - ≤ 55% slope	8,693	cy. @	\$1.95	per c.y. =	\$16,951.35
Earthwork - Common - > 55% slope	6,407	cy. @	\$2.30	per c.y. =	\$14,736.10
Earthwork - Fractured Rock	10,544	cy. @	\$4.80	per c.y. =	\$50,611.20
Earthwork - Solid Rock - drill & shoot	2,764	cy. @	\$9.80	per c.y. =	\$27,087.20

#### FILL

Earthwork embankment- spread w/cat and compact w/roller	18,058	cy. @	\$1.90	per c.y. =	\$34,310.20
Waste Area Compaction - earthwork and organic debris	10,609	cy. @	\$0.50	per c.y. =	\$5,304.50

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking -	61.92	stations @	\$18.00	per station	\$1,114.56
Grass seed - includes landing and waste area on W-2045	148.5	lbs @	\$11.00	per lbs	\$1,633.50

#### ENDHAUL - by trucking

To Waste Area @ 30+00 on W-2045	10,350	cy. @	\$3.31	per c.y. =	\$34,258.50
0+00 to 37+97 for embankment between 0+00 and 36+18 on W-2045	10,723	cy. @	\$3.01	per c.y. =	\$32,276.23
Organic Debris - To Waste Area @ 30+00 on W-2045	259	cy. @	\$4.73	per c.y. =	\$1,225.07

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$234,417.41**

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts & Bands

228	LF of 18"	\$5,670.26		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00 w/bevel
0	LF of 42"	\$0.00 w/gasket-bevel		0	LF of 48"	\$0.00 w/gasket-bevel
0	LF of 54"	\$0.00 w/gasket-bevel		0	LF of 60"	\$0.00 w/gasket-bevel
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$5,670.26				\$0.00

#### Half Rounds

0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00

#### Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$5,670.26**

### ROCK

0+00 to 35+45	777	cy. of	1 1/2" Minus	@	\$19.59	per c.y. =	\$15,221.43
Energy Dissipator/Headwall - culverts	38.5	cy. of	Riprap LL	@	\$21.17	per c.y. =	\$815.05
0+00 to 35+45	1,984	cy. of	3" Jaw Run	@	\$19.34	per c.y. =	\$38,370.56
35+45 to 61+92	2,196	cy. of	3" Jaw Run	@	\$20.17	per c.y. =	\$44,293.32
							TOTAL ROCK

**\$98,700.36**

### ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

### ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Required Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	
Required Abandonment - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	Optional Reconstruction - <span style="border: 1px solid black; padding: 2px;">\$0.00</span>	SUBTOTAL <b>\$338,788.03</b>
Required Construction - <span style="border: 1px solid black; padding: 2px;">\$152,454.61</span>	Optional Construction - <span style="border: 1px solid black; padding: 2px;">\$186,333.42</span>	TOTAL <b>\$338,788.03</b>

Includes Abandonment - **COST PER STATION \$5,471.38**

## SUMMARY OF ROAD

Sale: Geode

Road: W-2045A

Required Pre-Haul Maintenance-	0.00	stations miles
Required Abandonment-	0.00	stations miles

Required Reconstruction -	0.00	stations miles
Optional Reconstruction -	0.00	stations miles

Required Construction -	6+41 0.12	stations miles
Optional Construction -	0.00	stations miles

### PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CONSTRUCTION

#### CLEARING/GRUBBING

Removal and loading of Organic Debris from Endhaul locations -	0.74	acres @	\$1,200.00	per acre	\$888.00
Remove large stumps -	6	@	\$117.00	each	\$702.00

#### EXCAVATION - includes drift endhaul, & designed landings (2)

Earthwork - Common- ≤ 55% slope	2,737	cy. @	\$1.95	per c.y.=	\$5,337.15
Earthwork - Solid Rock - drill & shoot	1,695	cy. @	\$9.80	per c.y.=	\$16,611.00
Grade and shape subgrade -	6.41	stations @	\$22.55	per station	\$144.55

#### FILL

Earthwork embankment - spread w/cat and compact w/roller	208	cy. @	\$1.90	per c.y.	\$395.20
Waste Area Compaction - earthwork and organic debris	4,330	cy. @	\$0.50	per c.y.	\$2,165.00

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking -	6.41	stations @	\$18.00	per station	\$115.38
Grass seed -	13.4	lbs @	\$11.00	per lbs	\$147.40

#### ENDHAUL

To Waste Area @ 30+00 on W-2045	4,224	cy. @	\$3.61	per c.y.=	\$15,248.64
Organic Debris - To Waste Area @ 30+00 on W-2045	106	cy. @	\$5.20	per c.y.=	\$551.20

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$42,305.52**

### CULVERTS - MATERIALS & INSTALLATION

#### Culverts & Bands

62	LF of 18"	\$1,543.86	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$1,543.86			\$0.00

#### Half Rounds

0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00

#### Culvert Stakes & Markers

0	stakes	\$0.00
0	markers	\$0.00
		\$0.00

TOTAL CULVERTS **\$1,543.86**

### ROCK

Energy Dissipator/Headwall - culverts	11.0	cy. of	Riprap LL	@	\$21.10	per c.y.=	\$232.10
0+00 to 6+41	526	cy. of	3" Jaw Run	@	\$19.91	per c.y.=	\$10,472.66

TOTAL ROCK **\$10,704.76**

### ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

### ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$0.00
Required Abandonment-	\$0.00
Required Construction -	\$54,554.14

Required Reconstruction -	\$0.00
Optional Reconstruction -	\$0.00
Optional Construction -	\$0.00

SUBTOTAL **\$54,554.14**

TOTAL **\$54,554.14**

COST PER STATION **\$8,510.79**

## SUMMARY OF ROAD

Sale: Geode

Road: W-2045B

	Pre-	0.00	stations miles		Required Reconstruction -	0.00	stations miles		Required Construction -	0.00	stations miles
Required Haul Maintenance-											
Required Abandonment-		0.00	stations miles		Optional Reconstruction -	0.00	stations miles		Optional Construction -	4+61	stations miles
										0.09	

### PRE-HAUL MAINTENANCE

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### RECONSTRUCTION

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

### CONSTRUCTION

#### CLEARING/GRUBBING

Removal and loading of Organic Debris from Endhaul locations -	0.53	acres @	\$1,200.00	per acre	\$636.00
Remove large stumps -	4	@	\$117.00	each	\$468.00

#### EXCAVATION - includes drift endhaul, designed landings (2), & ditchout

Earthwork - Fractured Rock	3,671	cy. @	\$4.80	per c.y.=	\$17,620.80
Grade and shape subgrade -	4.61	stations @	\$22.55	per station	\$103.96

#### FILL

Earthwork embankment - spread w/cat and compact w/roller	309	cy. @	\$1.90	per c.y.	\$587.10
Waste Area Compaction - earthwork and organic debris	3,454	cy. @	\$0.50	per c.y.	\$1,727.00

#### MISC.

Roll subgrade w/ vibratory roller prior to rocking -	4.61	stations @	\$18.00	per station	\$82.98
Grass seed - includes	10.2	lbs @	\$11.00	per lbs	\$112.20

#### ENDHAUL - by trucking

To Waste Area @ 30+00 on W-2045	3,362	cy. @	\$2.84	per c.y.=	\$9,548.08
Organic Debris - To Waste Area @ 30+00 on W-2045	92	cy. @	\$4.24	per c.y.	\$390.08

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$31,276.20**

### CULVERTS - MATERIALS & INSTALLATION

<u>Culverts</u>						
30	LF of 18"	\$747.68		0	LF of 24"	\$0.00
0	LF of 30"	\$0.00		0	LF of 36"	\$0.00
0	LF of 42"	\$0.00		0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	w/gasket-bevel	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00		0	LF of 72"	\$0.00
		\$747.68				\$0.00
<u>Half Rounds</u>						
0	LF of 24"	\$0.00		0	LF of 30"	\$0.00
0	LF of 36"	\$0.00		0	LF of 42"	\$0.00
		\$0.00				\$0.00
<u>Culvert Stakes &amp; Markers</u>						
0	stakes	\$0.00				
0	markers	\$0.00				
		\$0.00				
<u>TOTAL CULVERTS</u>						<b>\$747.68</b>

### ROCK

Energy Dissipator/Headwall - culvert		5.5	cy. of	Riprap LL	@	\$21.62	per c.y.=	\$118.91
0+00 to	4+61	319	cy. of	3" Jaw Run	@	\$20.37	per c.y.=	\$6,498.03
								<b>\$6,616.94</b>

### ADDITIONAL REQUIREMENTS

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

### ABANDONMENT

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	\$0.00		Required Reconstruction -	\$0.00				
Required Abandonment-	\$0.00		Optional Reconstruction -	\$0.00		SUBTOTAL	<b>\$38,640.82</b>	
Required Construction -	\$0.00		Optional Construction -	\$38,640.82		<b>TOTAL</b>	<b>\$38,640.82</b>	
							<b>COST PER STATION</b>	<b>\$8,381.96</b>

**SUMMARY OF ROAD**

Sale: Geode

Road: W-2050E

Required Pre-Haul Maintenance-	<input type="text" value="0.00"/> stations miles	Required Reconstruction -	<input type="text" value="0.00"/> stations miles	Required Construction -	<input type="text" value="0.00"/> stations miles
Required Abandonment-	<input type="text" value="0.00"/> stations miles	Optional Reconstruction -	<input type="text" value="0.00"/> stations miles	Optional Construction -	<input type="text" value="5+81"/> stations <input type="text" value="0.11"/> miles

**PRE-HAUL MAINTENANCE**

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

**RECONSTRUCTION**

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$0.00**

**CONSTRUCTION**

**CLEARING/GRUBBING**

Scattering Organic Debris	0.60	acres @	\$1,010.00	per acre	\$606.00
Remove large stumps -	3	@	\$117.00	each	\$351.00

**EXCAVATION**

Road Construction Earthwork - common - includes embankment work	5.81	sta. @	\$134.00	per sta. =	\$778.54
Construct ditchouts -	1	@	\$91.00	each	\$91.00
Grade and shape subgrade -	5.81	stations @	\$22.55	per station	\$131.02

**FILL**

**MISC.**

Roll subgrade w/ vibratory roller prior to rocking -	5.81	stations @	\$18.00	per station	\$104.58
Construct landings -	2	@	\$185.50	each	\$371.00
Grass seed -	9.8	lbs @	\$11.00	per lbs	\$107.80

**ENDHAUL**

TOTAL CLEARING, GRUBBING, EXCAVATION, FILL, and MISC. **\$2,540.94**

**CULVERTS - MATERIALS & INSTALLATION**

<u>Culverts</u>					
40	LF of 18"	\$990.18	0	LF of 24"	\$0.00
0	LF of 30"	\$0.00	0	LF of 36"	\$0.00
0	LF of 42"	\$0.00	0	LF of 48"	\$0.00
0	LF of 54"	\$0.00	0	LF of 60"	\$0.00
0	LF of 66"	\$0.00	0	LF of 72"	\$0.00
		\$990.18			\$0.00
<u>Half Rounds</u>					
0	LF of 24"	\$0.00	0	LF of 30"	\$0.00
0	LF of 36"	\$0.00	0	LF of 42"	\$0.00
		\$0.00			\$0.00
<u>Culvert Stakes &amp; Markers</u>					
0	stakes	\$0.00			
0	markers	\$0.00			
		\$0.00			
			<u>TOTAL CULVERTS</u>		<b>\$990.18</b>

**ROCK**

Energy Dissipator/Headwall - culvert	5.5	cy. of	Riprap LL	@	\$21.29	per c.y.=	\$117.10
0+00 to 5+81	377	cy. of	3" Jaw Run	@	\$19.86	per c.y.=	\$7,487.22
						<u>TOTAL ROCK</u>	<b>\$7,604.32</b>

**ADDITIONAL REQUIREMENTS**

TOTAL ADDITIONAL REQUIREMENTS **\$0.00**

**ABANDONMENT**

TOTAL ABANDONMENT **\$0.00**

Required Pre-Haul Maintenance-	<input type="text" value="\$0.00"/>	Required Reconstruction -	<input type="text" value="\$0.00"/>		
Required Abandonment-	<input type="text" value="\$0.00"/>	Optional Reconstruction -	<input type="text" value="\$0.00"/>		
Required Construction -	<input type="text" value="\$0.00"/>	Optional Construction -	<input type="text" value="\$11,135.44"/>		
				SUBTOTAL	<b>\$11,135.44</b>
				<b>TOTAL</b>	<b>\$11,135.44</b>
				<b>COST PER STATION</b>	<b>\$1,916.60</b>

**ROCK DEVELOPMENT COST SUMMARY**

Pit:	<u>W-2050</u>	Location:	<u>SW ¼ SW¼ Sec. 17, T03N, R06E, W.M.</u>
Sale:	<u>Geode</u>	Road:	<u>7913.5 CY</u>
Swell:	<u>1.30</u>	Stockpile:	<u>c.y.</u>
Shrinkage	<u>0.00</u>	Total Truck Loads:	<u>7913.5 CY</u>
Drill Pct.:	<u>100%</u>	In Place Total:	<u>6087 CY</u>

Access Road Reconstruction	4.5 Stations	\$67.00 /Station	\$301.50
Pit Development & Cleanup including Clearing and Grubbing of Waste Area, Endhaul and place overburden, Grass Seeding.			
in Waste Area, spread and compact.	\$5.08 /cu.yd x	1478.0 cu.yds.	\$7,508.24
Drill & Shoot:	\$5.00 /cu.yd x	6087.0 cu.yds.	\$30,435.00
Rip Rock:	\$3.00 /cu.yd x	0 cu.yds.	\$0.00
Push Rock:	\$1.35 /cu.yd x	7913.5 cu.yds.	\$10,683.23
Load Crusher:	\$0.75 /cu.yd x	7820.0 cu.yds.	\$5,865.00
Crush 3" Jaw Run Rock:	\$4.25 /cu.yd x	5443 cu.yds.	\$23,132.75
Crush 1½" Minus Rock:	\$5.50 /cu.yd x	2377 cu.yds.	\$13,073.50
Load Crushed Rock in Truck:	\$0.75 /cu.yd x	7820.0 cu.yds.	\$5,865.00
Load Rip Rap Rock in Truck:	\$2.50 /cu.yd x	93.5 cu.yds.	\$233.75
	\$0.00 /ton x	0 tons =	\$0.00
	\$0.00 /ton x	0 tons =	\$0.00
	\$0.00 /ton x	0 tons =	\$0.00
	\$0.00 /cu.yd x	0 cu.yds.	\$0.00
		Subtotal	\$97,097.97

Move In/Set-up Mobile Jaw	1	@	\$1,639.79	=	\$1,639.79
Move In/Set-up Mobile 2 Stage Crusher	1	@	\$1,979.93	=	\$1,979.93
Move In/Set-up 3 Stage Crusher	0	@	\$0.00	=	\$0.00
Move In and set up Drill and Compressor	1	@	\$1,252.13	=	\$1,252.13
Move in Roller and Compactor	0	@	\$1,039.93	=	\$0.00
Move in Grader	0	@	\$1,005.95	=	\$0.00
Move in D-8	1	@	\$1,182.72	=	\$1,182.72
Move in Loader	1	@	\$1,102.59	=	\$1,102.59
Move in Excavator	2	@	\$1,063.34	=	\$2,126.68
Move in Trucks	5	@	\$440.74	=	\$2,203.70
Move in Water Truck	0	@	\$0.00	=	\$0.00
				Subtotal	\$11,487.54

TOTAL PRODUCTION COSTS \$108,585.51

Base Cost = \$13.72 Per Cu.Yd.

Road Segment	Haul Cost /cu.yd.	Proc Cost /cu.yd.	Base Cst. /cu.yd.	Cost /cu.yd.	Number Cu. Yds	Speed (Mi/hr.)	One-Way Dist (ft)	ROCK COST
W-2000 0+00 to 355+28 Spot Rock 1 1/2" Minus	\$10.24	\$1.70	\$13.72	\$25.66	1350	17	21872	\$34,641.00
W-2000 LL Energy Dissipator/Headwall - culverts	\$4.22	\$1.80	\$13.72	\$19.74	22.0	12	3353	\$434.28
W-2050 0+00 to 85+18 Spot Rock 1 1/2" Minus	\$4.40	\$1.70	\$13.72	\$19.82	250	17	5972	\$4,955.00
W-2050 Landing 3" Jaw Run	\$4.58	\$0.90	\$13.72	\$19.20	41	17	7963	\$787.20
W-2050 LL Energy Dissipator/Headwall - culverts	\$4.02	\$1.80	\$13.72	\$19.54	11.0	12	2962	\$214.94
W-2045 0+00 to 35+45 1 1/2" Minus	\$4.17	\$1.70	\$13.72	\$19.59	777	15	4734	\$15,221.43
W-2045 LL Energy Dissipator/Headwall - culverts	\$5.65	\$1.80	\$13.72	\$21.17	38.5	12	6100	\$815.05
W-2045 0+00 to 35+45 3" Jaw Run	\$4.17	\$1.45	\$13.72	\$19.34	1984	15	4734	\$38,370.56
W-2045 35+45 to 61+92 3" Jaw Run	\$5.00	\$1.45	\$13.72	\$20.17	2196	15	6719	\$44,293.32
W-2045A LL Energy Dissipator/Headwall - culverts	\$5.58	\$1.80	\$13.72	\$21.10	11.0	12	5959	\$232.10
W-2045A 0+00 to 6+41 3" Jaw Run	\$4.74	\$1.45	\$13.72	\$19.91	526	15	6101	\$10,472.66
W-2045B LL Energy Dissipator/Headwall - culvert	\$6.10	\$1.80	\$13.72	\$21.62	5.5	12	6964	\$118.91
W-2045B 0+00 to 4+61 3" Jaw Run	\$5.20	\$1.45	\$13.72	\$20.37	319	15	7199	\$6,498.03
W-2050E LL Energy Dissipator/Headwall - culvert	\$5.77	\$1.80	\$13.72	\$21.29	5.5	12	6329	\$117.10
W-2050E 0+00 to 5+81 3" Jaw Run	\$4.69	\$1.45	\$13.72	\$19.86	377	17	6765	\$7,487.22
				Total C.Y.	7913.5		Sub Total	\$164,658.80

TOTAL ROCKING COSTS \$164,658.80



## Road Building Move-In Calculations

Sale: Geode

LOWBOY HAUL (Round Trip)		
DIST. (mi)	ROADWAY	AVE SPEED (mph)
32.0	Highway	55
44.2	County/ Mainline	25
4.1	Steep Grades	15

No.	EQUIPMENT DESCRIPTION	Move in Cost	Pilot Cars	within Area			Within		
				Move (\$/mile)	Begin Mileage	End Mileage	Total Miles	Area Cost	Total Cost
0	Brush Cutter	\$696.46		\$11.87	0.00	0.00	0	\$0.00	\$0.00
1	Graders	\$1,089.98		\$19.83	0.00	0.00	3.1	\$61.47	\$1,151.45
0	Loader (Small)	\$696.46		\$15.00	0.00	0.00	0	\$0.00	\$0.00
0	Loader (Med. & Large)	\$1,089.98		\$17.00	0.00	0.00	0	\$0.00	\$0.00
1	Rollers & Compactors	\$696.46		\$27.14	0.00	0.00	3.1	\$84.13	\$780.59
1	Drill & Compressor	\$696.46		\$35.60	0.00	0.00	1.7	\$60.52	\$756.98
0	Excavators (Small)	\$696.46		\$50.00	0.00	0.00	0	\$0.00	\$0.00
1	Excavators (Large)	\$1,371.06	2	\$56.00	0.00	0.00	5.7	\$319.20	\$1,901.74
0	Tired Backhoes/Skidlers	\$1,089.98		\$12.50	0.00	0.00	0	\$0.00	\$0.00
1	Tractors (D6)	\$1,089.98		\$32.43	0.00	0.00	1.1	\$35.67	\$1,125.65
0	Tractors (D7)	\$1,089.98		\$30.00	0.00	0.00	0	\$0.00	\$0.00
1	Tractor (D8)	\$1,371.06	2	\$57.43	0.00	0.00	5.7	\$327.35	\$1,909.89
5	Dump Truck (10 cy +)	\$432.82		\$11.00	0.00	0.00	0	\$0.00	\$2,164.10
0	Dump Truck (Off Hiway)	\$1,046.35		\$9.00	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (1500 Gal)	\$330.52		\$10.50	0.00	0.00	0	\$0.00	\$0.00
0	Water Truck (2500 Gal)	\$385.60		\$12.25	0.00	0.00	0	\$0.00	\$0.00

\* Includes move in for abandonment

	<b>TOTAL MOVE-IN COSTS: \$9,790.40</b>
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## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:** Pacific Cascade

**Timber Sale Name:** GEODE

**Application Number:** 30- 107180

#### EXCISE TAX APPLICABLE ACTIVITIES

**Construction:** 7,875 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:** 44,046 linear feet  
*Existing road to receive maintenance work (optional and required) prior to haul*

#### EXCISE TAX EXEMPT ACTIVITIES

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

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

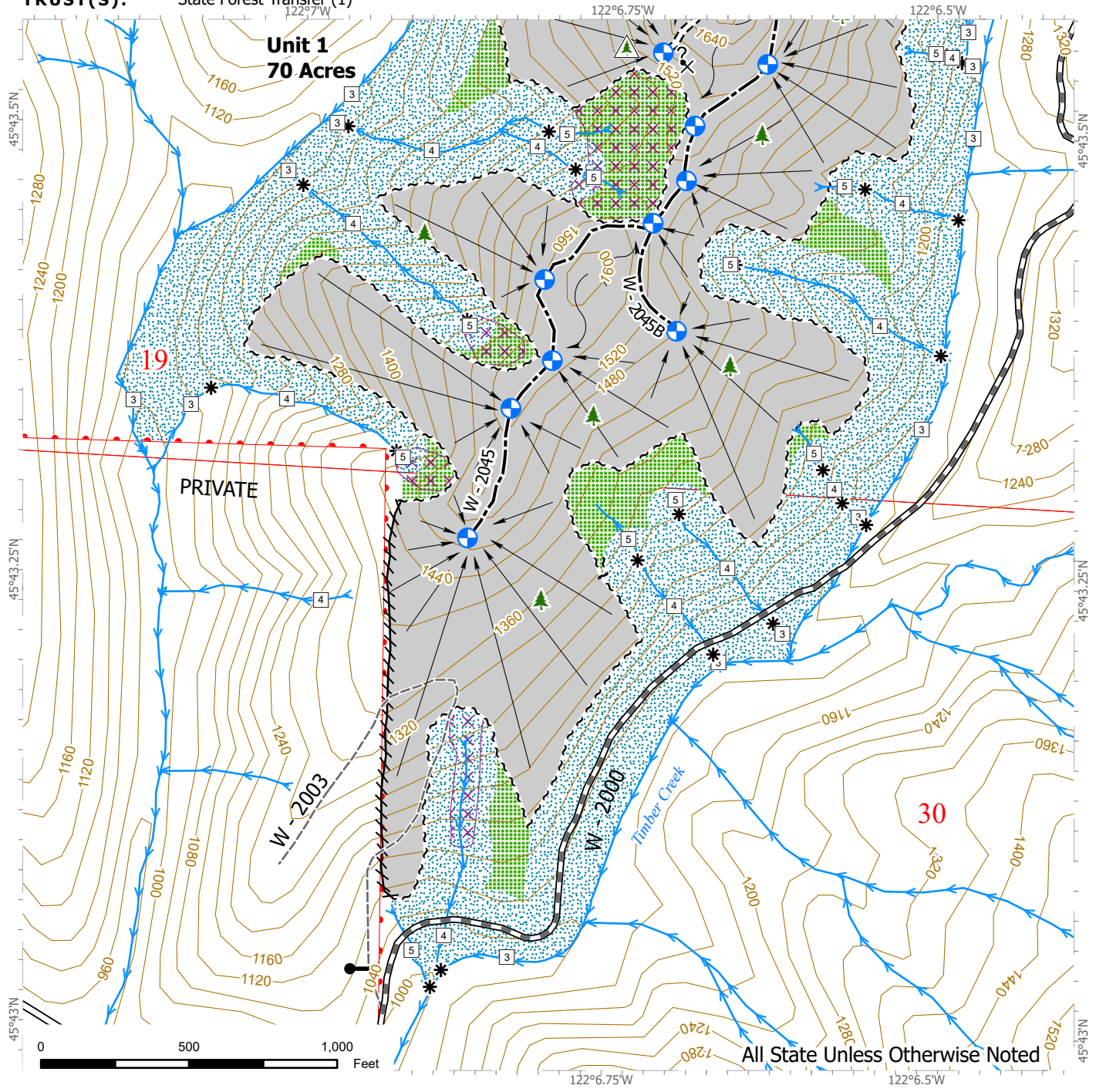
All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contract. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact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

(Revised 9/18)

# LOGGING PLAN MAP

**SALE NAME:** GEODE  
**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
**TRUST(S):** State Forest Transfer (1)

**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760



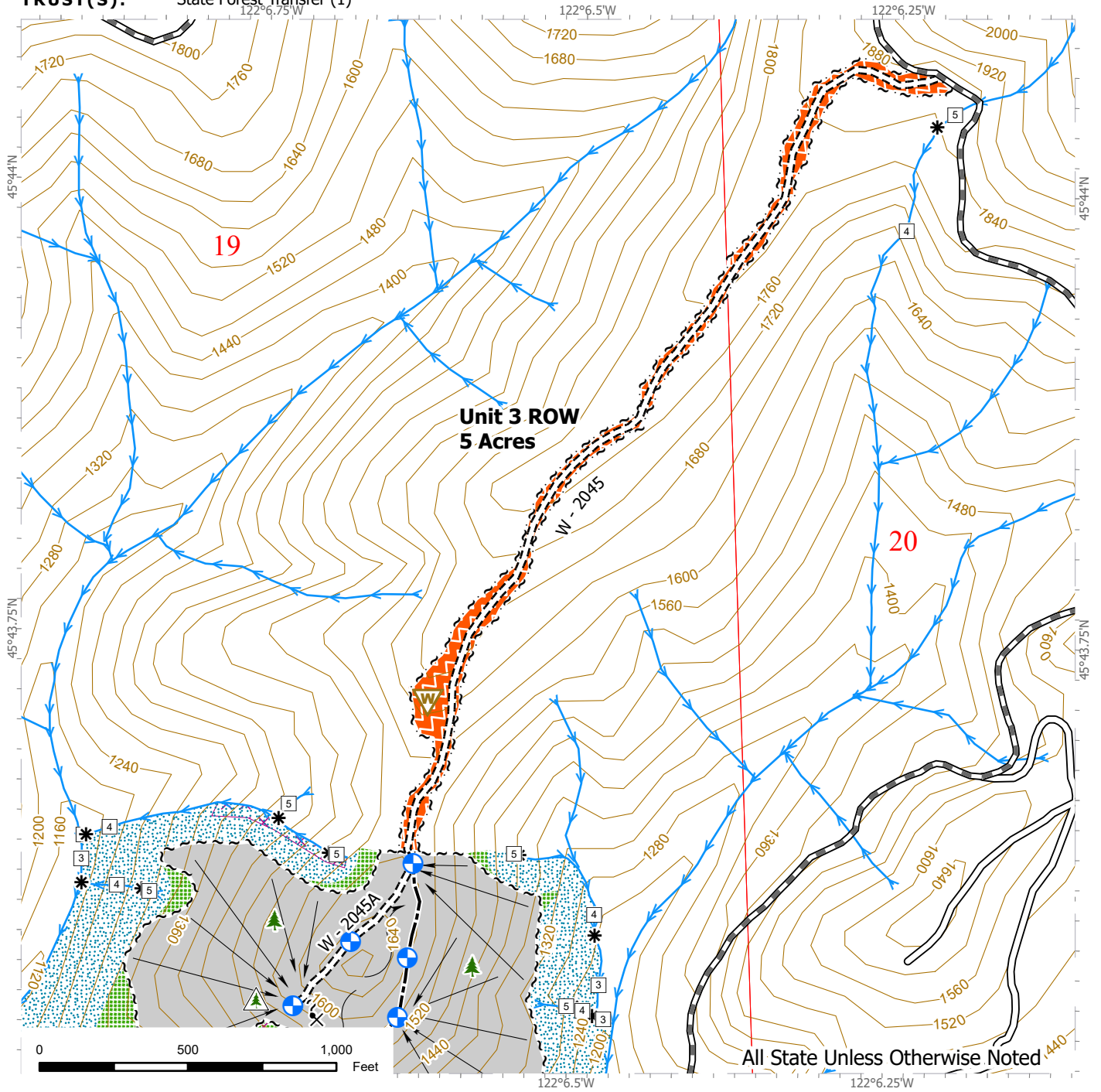
All State Unless Otherwise Noted

Cable	Property Line	Stream Break
Ground	Existing Roads	Landing - Proposed
Harvest Unit	Required Pre-Haul Maintenance	Leave Tree Area <1/4 acre
Leave Tree Area	Required Construction	Non-Tradeable Leave Trees
Riparian Mgt Zone	Optional Construction	Gate (Private)
Potentially Unstable Slopes	Old Grades/Trails	Potential Rock Source
Sale Boundary Tags	Streams	
Flag Line	Stream Type	

# LOGGING PLAN MAP

**SALE NAME:** GEODE  
**AGREEMENT #:** 30-107180  
**TOWNSHIP(S):** T3R6E  
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**REGION:** Pacific Cascade Region  
**COUNTY(S):** Skamania  
**ELEVATION RGE:** 1040-1760



Cable	Right of Way Tags	Landing - Proposed
Ground	Existing Roads	Leave Tree Area <1/4-acre
Harvest Unit	Required Pre-Haul Maintenance	Non-Tradeable Leave Trees
Right-of-Way Harvest	Required Construction	Potential Rock Source
Leave Tree Area	Optional Construction	Waste Area
Riparian Mgt Zone	Streams	
Potentially Unstable Slopes	Stream Type	
Sale Boundary Tags	Stream Break	

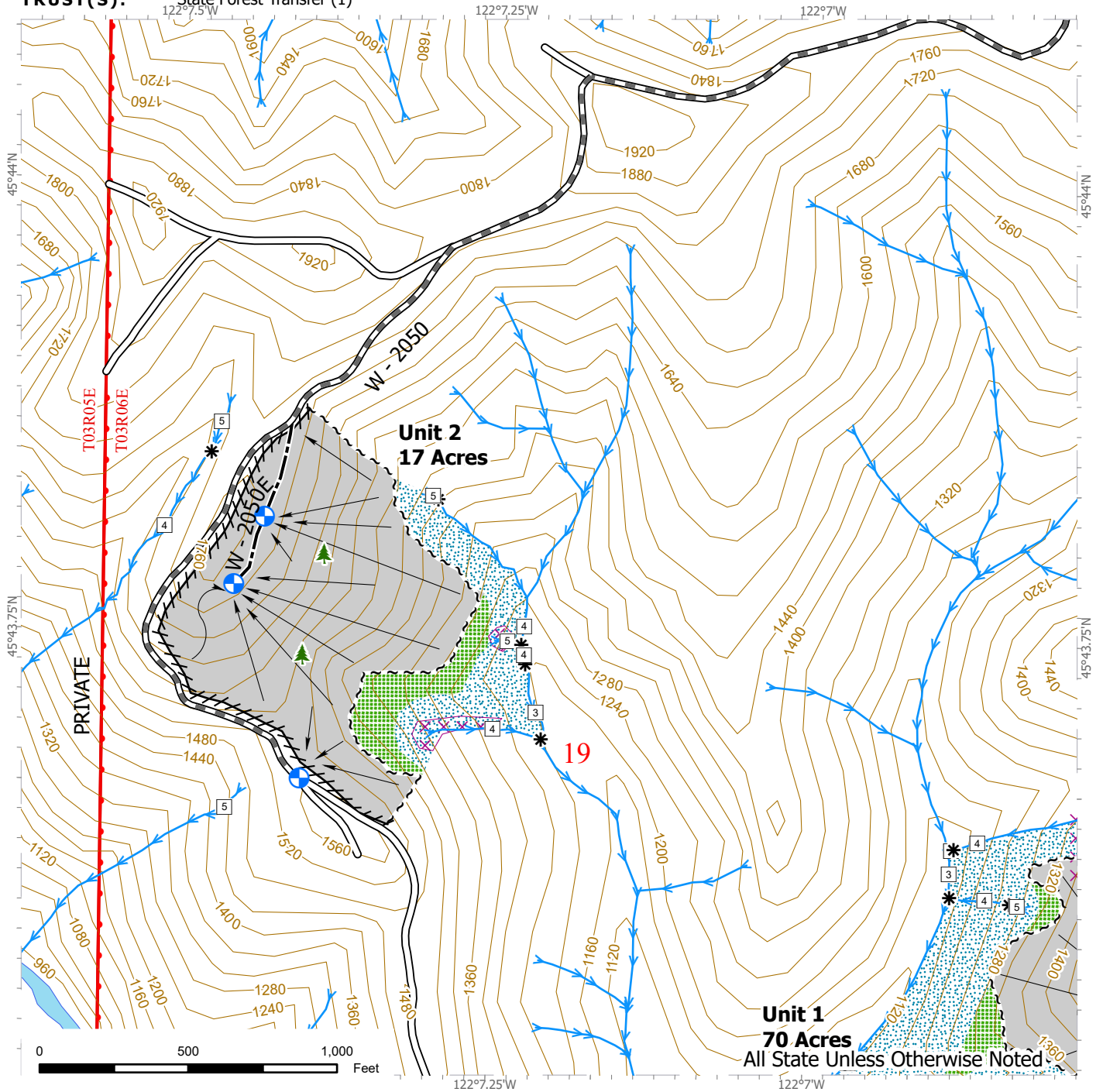




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Cable	Property Line	Landing - Proposed
Ground	Existing Roads	Leave Tree Area <1/4-acre
Harvest Unit	Required Pre-Haul Maintenance	Potentially Unstable Slopes
Leave Tree Area	Optional Construction	Stream Break
Riparian Mgt Zone	Streams	Stream Type
Sale Boundary Tags	Flag Line	

