WASHINGTON STATE DEPARTMENT OF Natural Resources

TIMBER NOTICE OF SALE

***SALE NAME:** DEER* ***AGREEMENT NO:** 30-092347*

AUCTION: June 15, 2016 starting at 10:00 a.m., Olympic Region Office, Forks, WA

COUNTY: Clallam

SALE LOCATION: Sale located approximately 14 miles southeast of Port Angeles, Washington

PRODUCTS SOLD AND SALE AREA: All timber, except trees marked with a ring of blue paint, bounded by the following: Timber Sale Boundary Tags, reprod, and the PA-F-2800 in Unit 1; Timber Sale Boundary Tags in Unit 3; and Timber Sale Boundary Tags and reprod in Unit 4.

All timber, except trees marked with a ring of blue paint or bounded out by Leave Tree Area Tags, bounded by Timber Sale Boundary Tags, reprod, the PA-F-2500, and Deer Park Road in Unit 2;

All timber bounded by Right-of-Way Boundary Tags, except that title to the timber within the Right-of-Way Boundary Tags of the PA-F-2860 from Station 0+00 to 28+00, the PA-F-2600 from Station 32+00 to 38+30, and the PA-F-2700 from Station 29.73 to station 32.44 is not conveyed to the Purchaser unless the road segment is actually constructed; and

Biomass, as described in Schedule C.

In no instance shall downed red cedar be removed from the sale area. All timber that has been on the ground for five years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of sap rot on part(s) of Sections 10, 15, 16 and 17 all in Township 29 North, Range 5 West, W.M., containing 160 acres, more or less.

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

ESTIMATED SALE VOLUMES AND QUALITY:

Species	Avg DBH	Ring Count	Total MBF	MBF by Grade 1P	2P	3P	SM	1S	2S	3S	4S	UT
Douglas fir	14.4	7	2,016				31		658	900	390	37
Hemlock	12.6	6	1,186						122	600	397	67
Red cedar	12.6		572							347	223	2
Grand fir	13.8		209						118	59	30	2
Red alder	11.5		22							2	13	7
Sale Total			4,005									

MINIMUM BID: $644,000.00

BID METHOD: Sealed Bids

PERFORMANCE SECURITY: $100,000.00

SALE TYPE: Lump Sum

EXPIRATION DATE: October 31, 2017

ALLOCATION: Export Restricted

BID DEPOSIT: $64,400.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable Methods - 64%, Ground Based Methods - 36% as shown on the timber sale maps. The following types of equipment are allowed in areas mapped as "Ground and/or Cable": Tracked skidder, shovel, and cable. Tracked skidders, feller-buncher, and shovels shall not operate on sustained slopes over 40%. Self-leveling ground based equipment is permitted on slopes up to 60%. Leading end of the log must be elevated when logs are being skidded.

Cutting with a feller-buncher, yarding, and timber hauling is restricted from November 1 to April 30 unless authorized in writing by the Contract Administrator.

ROADS: 16.45 stations of required reconstruction. 85.60 stations of optional construction. 198.53 stations of required pre-haul maintenance. 23.00 stations of required abandonment. 27.87 stations of required decommissioning.

Pre-haul maintenance, road construction, reconstruction, rock haul, and rock pit development are restricted from November 1 through April 30 unless permission is granted by the Contract Administrator.

ACREAGE DETERMINATION

CRUISE METHOD: The sale acreage was determined by GPS. The sale area was cruised using a variable plot cruise method.

FEES: $71,089.00 is due on day of sale. $9.00 per MBF is due upon removal. These are in addition to the bid price.

SPECIAL REMARKS: 46% of the Douglas fir is of high quality and is found mostly in Units 2, 3, and 4.

Portions of Unit 1 are in the buffer of an old military munitions range. The Army Corp of Engineers believe there is a small chance that remaining unexploded ordnances may occur in Section 16, Township 29 North Range 5 West. If you suspect or recognize that you have encountered a munition in the sale area, consider it extremely dangerous. Do not touch, move, or disturb it. Carefully leave the area the way you entered, and contact one of the following: Washington State Police - (360) 452-3394, Clallam County Sheriff - (360) 417-2459, City of Port Angeles Police - (360) 452-4545, or call 911.

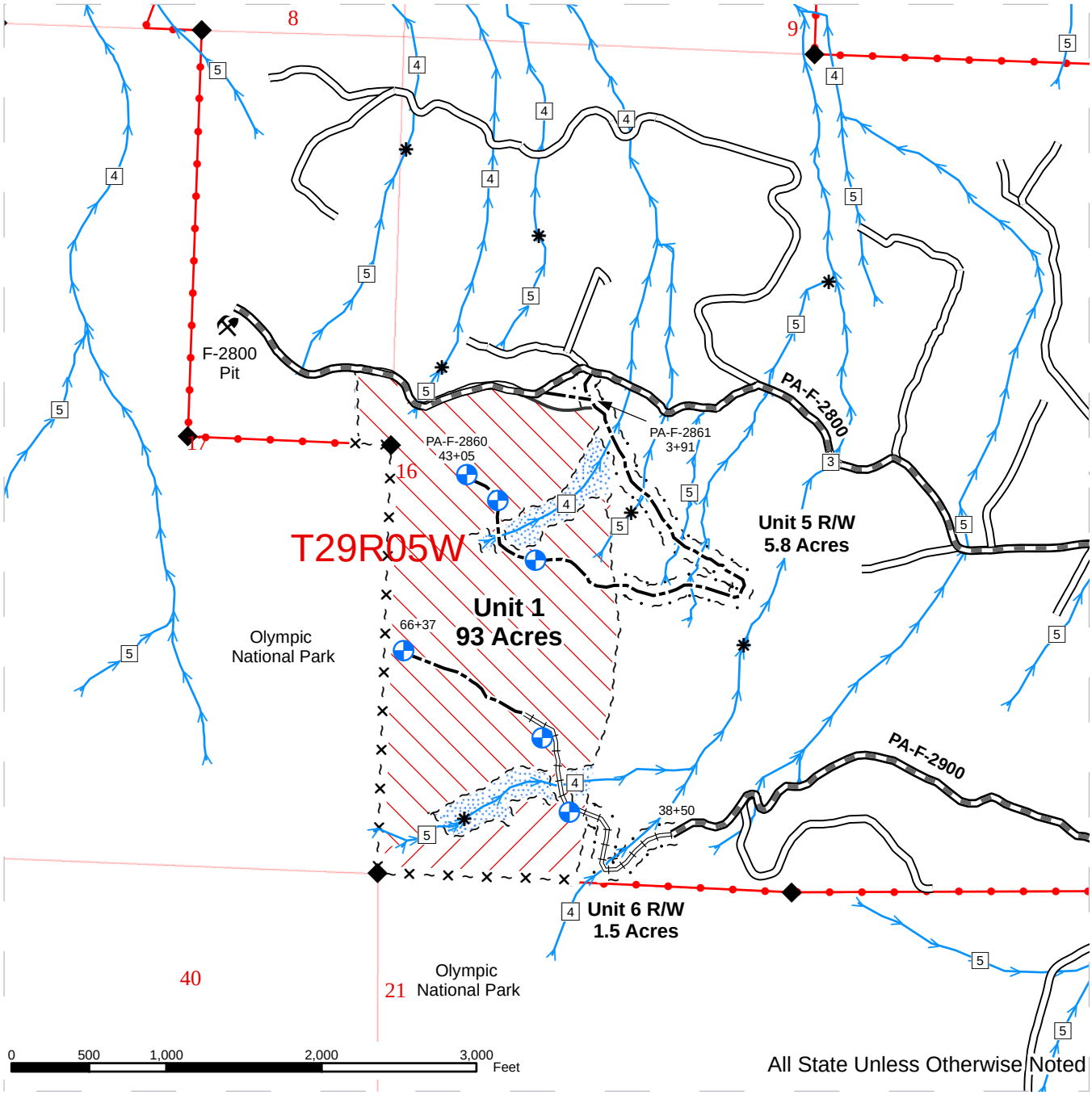
There are locked gates on the PA-F-2600, PA-F-2800, and PA-F-2900. Contact Olympic Region Dispatch Center at 360-374-2800 to check out an AA-1 key.

Removal of all slash piles is required in Unit 2. In Units 1, 3, and 4, biomass removal within 100 feet of roads and landings is at the option of the Purchaser.

TIMBER SALE MAP

SALE NAME: DEER
AGREEMENT#: 30-092347
TOWNSHIP(S): T29N R5W
TRUST(S): State Forest Transfer (1), Common School and Indemity (3)

REGION: Olympic
COUNTY(S): Clallam
ELEVATION RGE: 1310-3000



- Timber Sale Boundary Tags
- Boundary Timber Type Change
- Private Property with Tags
- Right-of-way Boundary Tags
- Ground and/or Cable
- Cable Only
- Property Line
- Cable Landing
- Existing Road
- Required Pre-haul Maintenance
- Required Construction
- Optional Construction
- Required Reconstruction
- Optional Skid Road
- Required Abandonment
- Leave Tree Area
- Gate
- Stream
- Stream Type
- Stream Type Break
- Riparian Management Zone
- Hazard Abatement
- Monumented Corner

N

Prepared By: gmff490

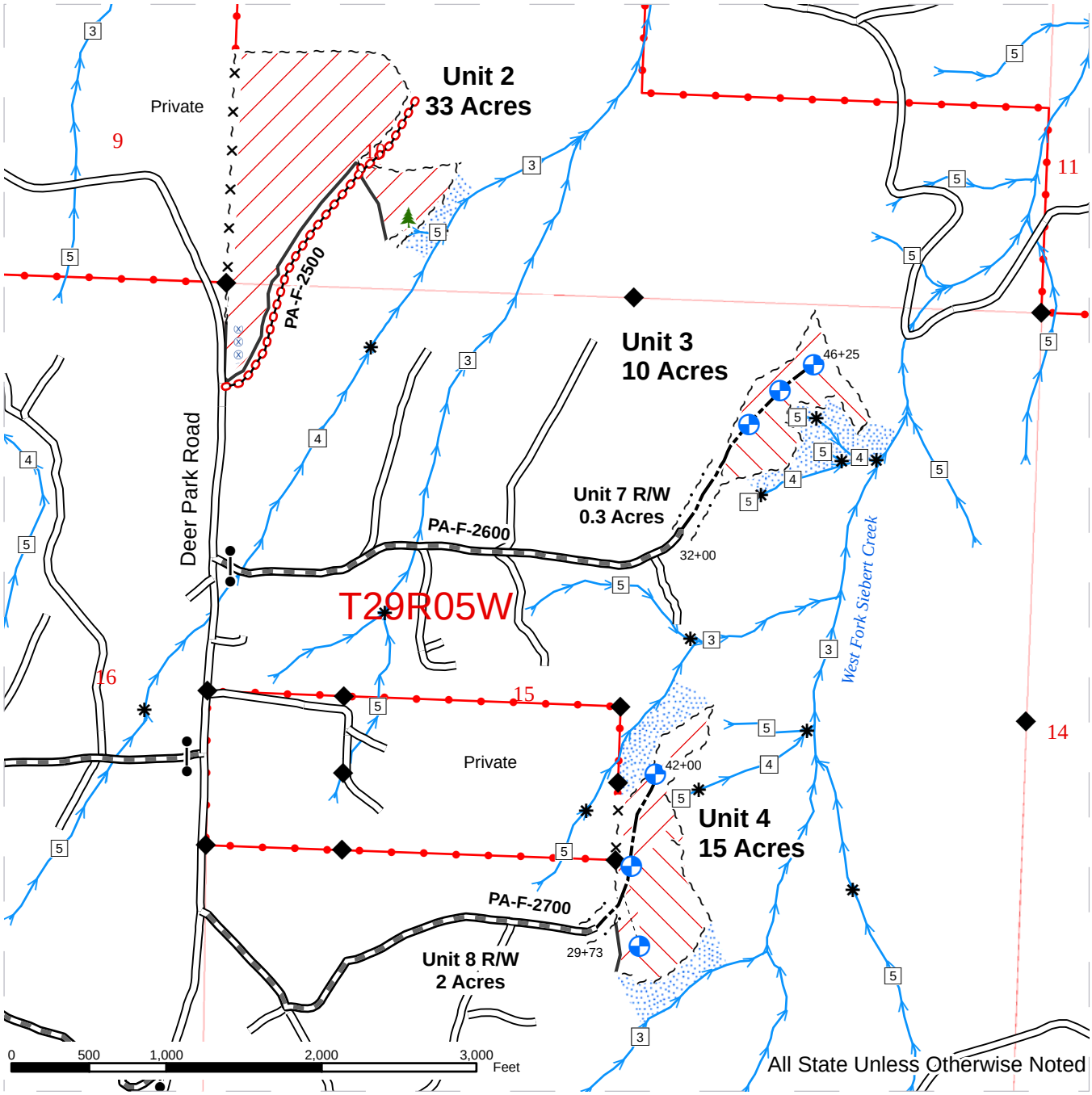
Creation Date: 01/07/16

Modification Date: 02/18/16

TIMBER SALE MAP

SALE NAME: DEER
AGREEMENT#: 30-092347
TOWNSHIP(S): T29N R5W
TRUST(S): State Forest Transfer (1), Common School and Indemity (3)

REGION: Olympic
COUNTY(S): Clallam
ELEVATION RGE: 1310-3000



~ ~ ~ Timber Sale Boundary Tags
Boundary Timber Type Change
× ~× Private Property with Tags
Right-of-way Boundary Tags
Ground and/or Cable
Cable Only
Property Line

Cable Landing
Existing Road
Required Pre-haul Maintenance
Required Construction
Optional Construction
Required Reconstruction
Optional Skid Road
Required Abandonment

Leave Tree Area
Gate
Stream
Stream Type
Stream Type Break
Riparian Management Zone
Hazard Abatement
Monumented Corner

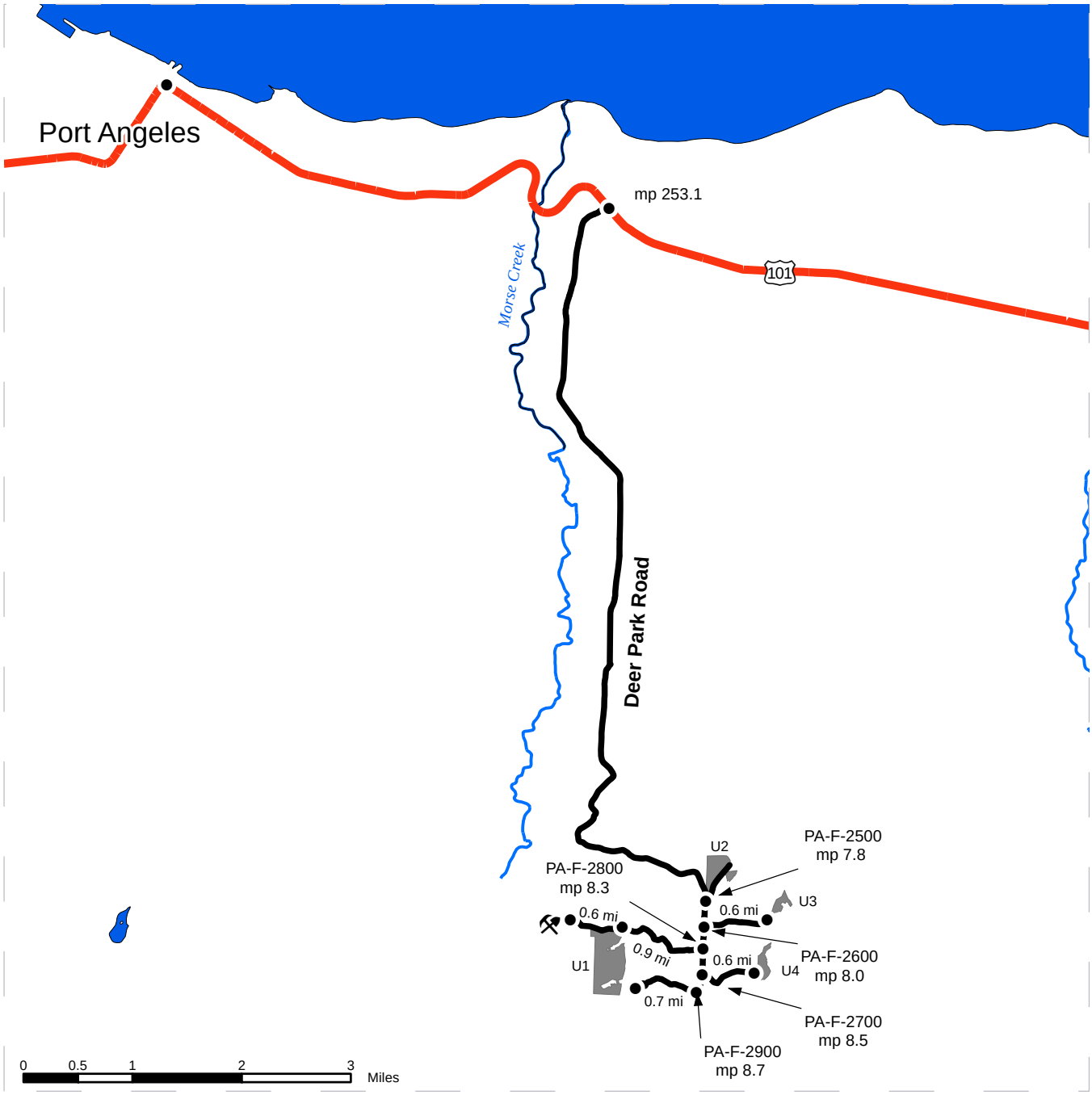
N

Prepared By: gmff490
Creation Date: 01/07/16
Modification Date: 02/18/16

DRIVING MAP

SALE NAME: DEER
AGREEMENT#: 30-092347
TOWNSHIP(S): T29R05W
TRUST(S): State Forest Transfer (01), Common School and Indemnity (3)

REGION: Olympic Region
COUNTY(S): CLALLAM
ELEVATION RGE: 1310-3000



Sale Area
US Highway 101
Haul Route
Mile Marker
F-2800 Pit

DRIVING DIRECTIONS

From Port Angeles travel east on Highway 101. Turn right (south) on Deer Park Road (milepost 253.1) and travel 7.8 miles to timber sale area.
Unit 2 - Located on the east side of Deer Park Road at mp 7.8.
Units 3 and 7R/W- Drive to mp 8.0 on Deer Park Road. Turn left (east) on PA-F-2600 road and drive 0.6 miles to end of road. Walk right-of-way to unit.
Units 1 north, 5R/W, and the F-2800 Pit - Drive to mp 8.3 and turn right (west) on PA-F-2800 road. Drive 0.9 miles and walk right-of-way to unit or continue driving 0.6 miles to F-2800 pit.
Units 1 south and 6R/W - Drive to mp 8.7 on Deer Park Road. Turn right (west) on PA-F-2900 road. Drive 0.7 miles to end of road. Walk right-of-way to unit.
Units 4 and 8R/W - Drive to mp 8.5 on Deer Park Road. Park at blocked road on east side of road. Walk 0.6 miles to right-of-way and unit.

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Prepared By: gmff490 Creation Date: 01/11/16 Modification Date: 03/24/16

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

BILL OF SALE AND CONTRACT FOR FOREST PRODUCTS

Export Restricted Lump Sum AGREEMENT NO. 30-092347

SALE NAME: DEER

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

G-011 Right to Remove Forest Products and Contract Area

Purchaser was the successful bidder on June 15, 2016 and the sale was confirmed on _____. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase as much of the following forest products as can be cut and removed during the term of this contract:

All timber, except trees marked with a ring of blue paint, bounded by the following: Timber Sale Boundary Tags, reprod, and the PA-F-2800 in Unit 1; Timber Sale Boundary Tags in Unit 3; and Timber Sale Boundary Tags and reprod in Unit 4.

All timber, except trees marked with a ring of blue paint or bounded out by Leave Tree Area Tags, bounded by Timber Sale Boundary Tags, reprod, the PA-F-2500, and Deer Park Road in Unit 2;

All timber bounded by Right-of-Way Boundary Tags, except that title to the timber within the Right-of-Way Boundary Tags of the PA-F-2860 from Station 0+00 to 28+00, the PA-F-2600 from Station 32+00 to 38+30, and the PA-F-2700 from Station 29.73 to station 32.44 is not conveyed to the Purchaser unless the road segment is actually constructed; and

Biomass, as described in Schedule C.

In no instance shall downed red cedar be removed from the sale area. All timber that has been on the ground for five years or more shall be left undisturbed and not yarded. Five years is defined by more than 1.5 inches of sap rot, located on approximately 160 acres on part(s) of Sections 10, 15, 16, and 17 all in Township 29 North, Range 5 West W.M. in Clallam County(s) as designated on the sale area and as shown on the attached timber sale map.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

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

G-031 Contract Term

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

G-040 Contract Term Adjustment - No Payment

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

a. Road and bridge failures which deny access.

b. Access road closures imposed by road owner.

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

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

G-051 Contract Term Extension - Payment

Extensions of this contract term may be granted only if, in the judgment of the State, Purchaser is acting in good faith and is endeavoring to remove the forest products

conveyed. The term of this contract may be extended for a reasonable time by the State if all of the following conditions are satisfied:

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

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

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

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

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

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

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

e. Payment of $665.00 per acre per annum for the acres on which an operating release has not been issued.

f. In no event will the extension charge be less than $200.00.

g. Extension payments are non-refundable.

G-053 Surveys - Sensitive, Threatened, Endangered Species

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

G-060 Exclusion of Warranties

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

a. The MERCHANTABILITY of the forest products. The use of the term "merchantable" in any document is not intended to vary the foregoing.

b. The CONDITION of the forest products. The forest products will be conveyed "AS IS."

c. The ACREAGE contained within any sale area. Any acreage descriptions appearing in the timber notice of sale, timber sale contract, or other documents are estimates only, provided solely for administrative and identification purposes.

d. The VOLUME, QUALITY, OR GRADE of the forest products. The State neither warrants nor limits the amount of timber to be harvested. The descriptions of the forest products to be conveyed are estimates only, made solely for administrative and identification purposes.

e. The CORRECTNESS OF ANY SOIL OR SURFACE CONDITIONS, PRE-SALE CONSTRUCTION APPRAISALS, INVESTIGATIONS, AND ALL OTHER PRE-BID DOCUMENTS PREPARED BY OR FOR THE STATE. These documents have been prepared for the State's appraisal purposes only.

f. THAT THE SALE AREA IS FREE FROM THREATENED OR ENDANGERED SPECIES or their habitat. The State is not responsible for any interference with forestry operations that result from the presence of any threatened or endangered species, or the presence of their habitat, within the sale area.

g. THAT THE FORESTRY OPERATIONS to be performed under this contract WILL BE FREE FROM REGULATORY ACTIONS by governmental agencies. The State is not responsible for actions to enforce regulatory laws, such as the Washington Forest Practices Act (chapter 76.09 RCW), taken by the Department of Natural Resources or any other agency that may affect the operability of this timber sale.

h. Items contained in any other documents prepared for or by the State.

G-062 Habitat Conservation Plan

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

By signing this contract, Purchaser agrees to comply with the terms and conditions of the ITP, and the HCP, which shall become terms of this contract. The State agrees to

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

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

G-063 Incidental Take Permit Notification Requirements

a. Purchaser shall immediately notify the Contract Administrator of new locations of permit species covered by the Incidental Take Permits (ITP) that are discovered within the area covered by the State's Habitat Conservation Plan (HCP), including, but not limited to: locations of occupied murrelet habitat; spotted owl nest sites; wolves; grizzly bears; nests, communal roosts, or feeding concentrations of bald eagles; peregrine falcon nests; Columbian white-tailed deer; Aleutian Canada geese; Oregon silverspot butterflies; and additional stream reaches found to contain bull trout. Purchaser is required to notify the Contract Administrator upon discovery of any fish species found in streams or bodies of water classified as non-fish bearing. In all circumstances, notification must occur within a 24 hour time period.

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

c. Purchaser shall refer to a specific ITP number, PRT-812521 or ITP 1168 (copies which are located in the region office) in all correspondence and reports concerning permit activities.

d. Provisions and requirements of the ITP shall be clearly presented and explained to Purchaser by Contract Administrator during the Pre-Work Conference as per contract clause G-330. All applicable provisions of the ITP and this schedule must be presented and clearly explained by Purchaser to all authorized officers, employees, contractors, or agents of Purchaser conducting

authorized activities in the timber sale area. Any questions Purchaser may have about the ITP should be directed to the Contract Administrator.

G-064 Permits

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

G-065 Regulatory Disclaimer

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

G-066 Governmental Regulatory Actions

a. Risk

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

b. Sale Area

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

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

c. Adjustment of Price

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

Purchaser's rights to purchase and remove the timber and all other interest in the affected sale area.

G-070 Limitation on Damage

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

G-080 Scope of State Advice

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

G-091 Sale Area Adjustment

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

G-101 Forest Products Not Designated

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

The pricing schedule has not been set for the sale.

G-106 Adding Naturally Damaged Forest Products

Any forest products not designated for removal that are seriously damaged by disease, insects or wind, or that may contribute seriously to the spread of insect or disease damage may be added to this sale by the State's Contract Administrator. Additions must be in unlogged areas of the sale and added volume shall not exceed an amount equal to 10 percent of the original advertised volume. Added forest products become a

part of this contract and shall be paid for at the rate set forth in clause G-101, G-102 or G-103.

G-111 Title and Risk of Loss

Title to the forest products under this contract passes to the Purchaser after they are removed from the sale area, if adequate advance payment or payment security has been provided to the State under this contract. Purchaser bears all risk of loss of, or damage to, and has an insurable interest in, the forest products described in this contract from the time the sale is confirmed under RCW 79.15.120. Breach of this contract shall have no effect on this provision.

G-116 Sustainable Forestry Initiative® (SFI) Certification

Forest products purchased under this contract are certified as being in conformance with the Sustainable Forestry Initiative program Standard under certificate number: BV-SFIS-US09000572.

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

G-120 Responsibility for Work

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

G-121 Exceptions

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

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

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

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

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

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

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

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

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

G-140 Indemnity

To the fullest extent permitted by law, Purchaser shall indemnify, defend and hold harmless State, agencies of State and all officials, agents and employees of State, from and against all claims arising out of or resulting from the performance of the contract. "Claim" as used in this contract means any financial loss, claim, suit, action, damage, or expense, including but not limited to attorneys' fees, attributable for bodily injury, sickness, disease or death, or injury to or destruction of tangible property including loss of use resulting therefrom. Purchasers' obligations to indemnify, defend, and hold harmless includes any claim by Purchasers' agents, employees, representatives, or any subcontractor or its employees. Purchaser expressly agrees to indemnify, defend, and hold harmless State for any claim arising out of or incident to Purchasers' or any subcontractors' performance or failure to perform the contract. Purchasers' obligation to indemnify, defend, and hold harmless State shall not be eliminated or reduced by any actual or alleged concurrent negligence of State or its agents, agencies, employees and officials. Purchaser waives its immunity under Title 51 RCW to the extent it is required to indemnify, defend and hold harmless State and its agencies, officials, agents or employees.

G-150 Insurance

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

All insurance and surety bonds should be issued by companies admitted to do business within the State of Washington and have a rating of A-, Class VII or better in the most recently published edition of Best's Reports. If an insurer is not admitted, all insurance

policies and procedures for issuing the insurance policies must comply with Chapter 48.15 RCW and 284-15 WAC.

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

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

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

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

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each subcontractor. Subcontractor(s) must comply fully with all insurance requirements stated herein. Failure of subcontractor(s) to comply with insurance requirements does not limit Purchaser's liability or responsibility.

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

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

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

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

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

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

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

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

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

Business Auto Policy (BAP). Purchaser shall maintain business auto liability and, if necessary, commercial umbrella liability insurance with a limit not less than $1,000,000.00 per accident. Such insurance shall cover liability arising out of "Any Auto". Business auto coverage shall be written on ISO form CA 00 01, or substitute liability form providing equivalent coverage. If necessary the policy shall be endorsed to provide contractual liability coverage and cover a "covered pollution cost or

expense" as provided in the 1990 or later editions of CA 00 01. Purchaser waives all rights against State for the recovery of damages to the extent they are covered by business auto liability or commercial umbrella liability insurance.

G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Forks, Washington. The Region Manager will notify Purchaser in writing who is responsible for administering the contract. The Region Manager has sole authority to waive, modify, or amend the terms of this contract in the manner prescribed in clause G-180. No agent, employee, or representative of the State has any authority to bind the State to any affirmation, representation, or warranty concerning the forest products conveyed beyond the terms of this contract.

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

G-170 Assignment and Delegation

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

G-180 Modifications

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

G-190 Contract Complete

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

G-200 Notice

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

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

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

G-210 Violation of Contract

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

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

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

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

G-220 State Suspends Operation

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

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

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

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

G-230 Unauthorized Activity

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

G-240 Dispute Resolution

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

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

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

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

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

G-250 Compliance with All Laws

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

G-260 Venue

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

G-270 Equipment Left on State Land

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

damages to or loss of the equipment or damage caused by the moving, storing or disposal of the equipment.

G-280 Operating Release

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

G-310 Road Use Authorization

Purchaser is authorized to use the following State roads and roads for which the State has acquired easements and road use permits; PA-F-2500, PA-F-2600, PA-F-2700, PA-F-2800, PA-F-2860, PA-F-2861, and PA-F-2900. 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 PA-F-2600, PA-F-2700, PA-F-2800, and PA-F-2900, unless authority is granted in writing by the Contract Administrator.

G-390 Road Approach Permit Requirements

Purchaser agrees to comply with the attached terms and conditions of the two road approach permits entered into between the State and Clallam County.

G-430 Open Fires

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

G-450 Encumbrances

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

Easement, including the terms and provisions thereof,
For: County Road
In Favor of: Clallam County
Disclosed by Application No.: 50-CR3201
Granted: 9/23/1985
Expires: Indefinite

Easement, including the terms and provisions thereof,
For: Road
In Favor of: US Dept. of Agriculture
Disclosed by Application No.: 50-041367
Granted: 9/22/1933
Expires: Indefinite

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 $107,134.00. The total contract price consists of a $0.00 contract bid price plus $107,134.00 in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause. Purchaser shall be liable for the entire purchase price, and will not be entitled to any refunds or offsets unless expressly stated in this contract.

THE PURCHASE PRICE SHALL NOT BE AFFECTED BY ANY FACTORS, INCLUDING: the amount of forest products actually present within the contract area, the actual acreage covered by the contract area, the amount or volume of forest

products actually cut or removed by purchaser, whether it becomes physically impossible or uneconomic to remove the forest products, and whether the subject forest products have been lost or damaged by fire or any other cause. The only situations Purchaser may not be liable for the full purchase price are governed by clause G-066, concerning governmental regulatory actions taken during the term of the contract.

P-045 Guarantee of Payment

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

P-050 Billing Procedure

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

P-080 Payment Account Refund

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

P-090 Performance Security

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

P-100 Performance Security Reduction

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

Section H: Harvesting Operations

H-001 Operations Outside the Sale Boundaries

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

H-010 Cutting and Yarding Schedule

Cutting with a feller-buncher and yarding will not be permitted from November 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 area, as approved by the Contract Administrator. Purchaser may be required to pay liquidated damages for Excessive Reserve Tree Damage as detailed in clause D-041.

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

H-016 Skid Trail Requirements

A skid trail is defined as an area that is used for more than three passes by any equipment.

Purchaser shall comply with the following during the yarding operation:

a. A skid trail will not exceed 12 feet in width, including rub trees.

b. Skid trails shall not cover more than 15 percent of the total acreage on one unit.

c. Location of the skid trails must be marked by Purchaser and approved by the Contract Administrator.

d. Except for rub trees, skid trails shall be felled and yarded prior to the felling of adjacent timber.

e. Rub trees shall be left standing until all timber tributary to the skid trail has been removed.

f. Excessive soil damage is not permitted. Excessive soil damage is described in clause H-017.

g. Purchaser will not have more than two skid trails open to active skidding at any one time. All other skid trails used for skidding timber will be closed.

h. Once a skid trail is closed, Purchaser will not reopen a skid trail unless approved in writing by the Contract Administrator.

i. Skid trails will be water barred at the time of completion of yarding, if required by the Contract Administrator.

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

H-017 Preventing Excessive Soil Disturbance

Operations may be suspended when soil rutting exceeds 12 inches as measured from the natural ground line. To reduce soil damage, the Contract Administrator may require water bars to be constructed, grass seed to be placed on exposed soils, or other mitigation measures. Suspended operations shall not resume unless approval to do so has been given, in writing, by the Contract Administrator.

H-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-060 Skid Trail Locations

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

H-080 Snags Not to be Felled

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

H-120 Harvesting Equipment

Forest products sold under this contract shall be harvested using cable and ground based methods as shown on the timber sale maps. The following types of equipment are allowed in areas mapped as "Ground and/or Cable": Tracked skidder, shovel, and cable. Self-leveling ground based equipment is permitted on slopes up to 60%. Tracked skidders, feller-buncher, and shovels shall not operate on sustained slopes over 40% unless authority to use other equipment is granted in writing by the State.

H-125 Log Suspension Requirements

Lead-end suspension is required for all yarding activities.

H-126 Tailholds on State Land

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

H-127 Tailholds on Private Land

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

H-130 Hauling Schedule

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

H-140 Special Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

1. Purchaser must have utility lines located before beginning operations.

2. Purchaser shall immediately repair all gate damage resulting from operations to an equal or better condition than existed at the time of the sale.

3. While felling timber, 2 Timber Felling Ahead warning signs must be posted on the PA-F-2800 and Deer Park Roads.

4. All landing slash shall be stacked in dirt free piles and shall not block roads or interfere with functioning of drainage structures, ditches, or stream channels. Slash and displaced soil shall be removed from swales and natural drainage channels concurrent with yarding. Landing, processing, and hazard abatement slash shall be stacked in dirt free piles in accordance with the attached Specifications for Slash Piling Schedule or removed from State Lands as biomass.

5. Purchaser is required to remove all slash piles generated during operations in Unit 2 from State Lands. In Units 1, 3, and 4, biomass removal within 100 feet of roads and landings is at the option of the Purchaser. See Schedule C, Biomass Removal Schedule.

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

7. The Contract Administrator shall approve any trees used for tailholding and intermediate supports.

8. Hazard abatement in Unit 2 will include pullback of all slash less than 4 inches DBH at least 100 feet from Deer Park Road. The slash will be included in the biofuels processing.

9. Portions of Unit 1 are in the buffer of an old military munitions range. The Army Corp of Engineers believe there is a small chance that remaining unexploded ordnances may occur in Section 16, Township 29 North Range 5 West. If you suspect or recognize that you have encountered a munition in the sale area, consider it extremely dangerous. Do not touch, move, or disturb it. Carefully leave the area the way you entered, and contact one of the following: Washington State Police - (360) 452-3394, Clallam County Sheriff - (360) 417-2459, City of Port Angeles Police - (360) 452-4545, or call 911.

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.

Section C: Construction and Maintenance

C-040 Road Plan

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

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on all new construction, reconstruction, pre/post haul maintenance roads, and all existing forest roads used. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on all other roads used and not listed in Clause C-050. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State's current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-080 Landing Locations Approved Prior to Construction

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

C-140 Water Bars

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

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

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

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

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

S-020 Extreme Hazard Abatement

Purchaser shall provide a written Extreme Hazard Abatement plan that meets the requirements of WAC 332-24 prior to the beginning of logging operations. The plan must be acceptable to the Contract Administrator. The plan will identify how Purchaser will accomplish abatement. Purchaser shall also provide, and keep current, a written timetable for completion of all specified work in the plan. The Contract Administrator's acceptance and approval of Purchaser's hazard abatement plan shall not be construed as any statement or warranty that the hazard abatement plan is adequate for Purchaser's purposes or complies with applicable laws.

S-030 Landing Debris Clean Up

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

S-050 Cessation of Operations for Low Humidity

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

S-060 Pump Truck or Pump Trailer

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

S-100 Stream Cleanout

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

S-110 Resource Protection

No equipment may operate within 30 feet of any stream unless authority is granted in writing by the Contract Administrator.

S-120 Stream Protection

No timber shall be felled into, across, or yarded through any streams.

S-130 Hazardous Materials

a. Hazardous Materials and Waste - Regulatory Compliance

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

b. Hazardous Materials Spill Prevention

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

c. Hazardous Materials Spill Containment, Control and Cleanup

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

d. Hazardous Material Release Reporting

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

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

ECY - Northwest Region:
1-425-649-7000

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

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

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

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

S-131 Refuse Disposal

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

Section D: Damages

D-013 Liquidated Damages or Failure to Perform

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

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

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of $500.00 per tree for all damaged reserve trees that are not replaced in sale area.

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

STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

_____	_____
Purchaser	Susan K. Trettevik Olympic Region Manager
Date: _____	Date: _____
Address:	

CORPORATE ACKNOWLEDGEMENT

STATE OF _____)
)
COUNTY OF _____)

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

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

_____
Notary Public in and for the State of

_____

My appointment expires _____

Schedule A
Specifications for Slash Piling

The landings shall be piled by creating circular piles of slash and brush conforming to the following specifications:

A. Piles shall be a minimum of 12 feet tall by 8 feet wide to a maximum of 30 feet tall and 16 feet wide. Piles shall be cone shaped and stable.

B. Piles shall be free of topsoil, large rotten logs and large stumps. No material larger than 8 inches in diameter shall be piled. Any burnable material shall be well scattered.

C. Piles shall not be placed on large stumps or logs.

D. Piles shall be stacked a minimum of 50 feet from all unit boundaries, Riparian Management Zones, leave tree areas, and any standing timber; a minimum of 100 feet from any public roads and highways; and a minimum of 200 feet from any structures.

E. Piling shall be completed using an approved hydraulic shovel and grapples.

F. Slash and displaced soil shall be removed from swales and natural drainage channels concurrent with yarding.

G. Purchaser may remove slash as biomass. Removal of all slash piles is required in Unit 2.

Schedule B
Green Tree Retention Plan

Leave the following:

1. All trees marked with a band of blue paint and all leave tree area clumps shall remain standing. The perimeter of the leave tree clumps are designated by Leave Tree Area tags. The tags face outward from the leave tree clumps.

Unit #	# of Individually Marked Trees	# of Clumps	# of Trees Clumped	Total # of Leave Trees
1	736			736
2	235	1	29	264
3	80			80
4	120			120

Schedule C
Biomass Removal Schedule

Removal of all slash piles is required in Unit 2.

In Units 1, 3, and 4, biomass removal within 100 feet of roads and landings is at the option of the Purchaser.

Biomass is defined as the above ground components of a tree that remain as by-products after the manufacture of logs including, but not limited to, tree tops, branches, limbs, needles, leaves, stumps, and is eligible for removal under the terms of this contract.

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

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

FOREST EXCISE TAX ROAD SUMMARY SHEET

Region: Olympic

Timber Sale Name: Deer

Application Number: 30- 092347

EXCISE TAX APPLICABLE ACTIVITIES

Construction: 8,560 **linear feet**
Road to be constructed (optional and required) but not abandoned

Reconstruction: 1645 **linear feet**
Road to be reconstructed (optional and required) but not abandoned

Abandonment: 2300 **linear feet**
Abandonment of existing roads not reconstructed under the contract

Decommission: 2787 **linear feet**
Road to be made undriveable but not officially abandoned.

Pre-Haul Maintenance: 19853 **linear feet**
Existing road to receive maintenance work (specifically required by the contract) prior to haul

EXCISE TAX EXEMPT ACTIVITIES

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

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

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

All parties must make their own assessment of the taxable or non-taxable status of any work performed under the timber sale contact. The Department of Revenue bears responsibility for determining forest road excise taxes. The Department of Natural Resources developed this form to help estimate the impact of forest excise taxes. However, the information provided may not precisely calculate the actual amount of taxes due. The Department of Revenue is available for consultation by calling 1.800.548.8829.
(Revised 4/09)

PRE-CRUISE NARRATIVE

Sale Name: **Deer**	Region: **Olympic**
Agreement #: **30-092347**	District: Straits
Contact Forester: Jeff Happe Phone / Location: 360-457-2570 Ext 230, 360-374-2800	County(s): Clallam
Alternate Contact: Gary McLaughlin Phone / Location: 360-457-2570 Ext 241	Other information:

Type of Sale: Lump Sum	Total Sale Area
Harvest System: Ground based Unit 1 –5%, Unit 2 – 100%, Unit 3 – 32% Unit 4 – 52%	37%
Harvest System: Downhill Cable Unit 1 –24%, Unit 2 – 0%, Unit 3 – 0% Unit 4 – 0%	14%
Harvest System: Uphill Cable Unit 1 – 71%, Unit 2 – 0%, Unit 3 – 68%, Unit 4 – 48%, Enter % of sale acres	49%

UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description (Enter only one legal for each unit) Sec/Twp/Rng	Grant or Trust	Gross 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 16 T29N R5W	03	92.7	0	0	0	0	92.7	GPS (Garmin)
2	Sec 10 T29N R5W	01	33.5	0	0.2	0.3	0	33.0	GPS (Garmin)
3	Sec 15 T29N R5W	01	9.7	0	0	0	0	9.7	GPS (Garmin)
4	Sec 15 T29N R5W	01	14.8	0	0	0	0	14.8	Combination
5R/ W	Sec 16 T29N R5W	03	5.8	0	0	0	0	5.8	GPS (Garmin)
6R/ W	Sec 16 T29N R5W	03	1.5	0	0	0	0	1.5	GPS (Garmin)
7R/ W	Sec 15 T29N R5W	01	0.3	0	0	0	0	0.3	GPS (Garmin)
8R/ W	Sec 15 T29N R5W	01	3.7	0	0	1.7	0	2.0	GPS (Garmin)
TOTAL ACRES			162.0	0	0.2	2.0	0	159.8	

HARVEST PLAN AND SPECIAL CONDITIONS:

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1	Leave trees marked with blue paint		736 individual trees
2	Leave trees marked with blue paint, Leave tree area marked with yellow LTA tags		235 individual trees, LTA – 29 trees
3	Leave trees marked with blue paint.		80 individual trees
4	Leave trees marked with blue paint		120 individual trees
5 R/W	Orange R/W boundary tags		Average 90 foot R/W
6 R/W	Orange R/W boundary tags		Average 70 foot R/W
7 R/W	Orange R/W boundary tags		Average 65 foot R/W
8 R/W	Orange R/W boundary tags		Average 50 foot R/W

OTHER PRE-CRUISE INFORMATION:

Unit #	Primary,secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1	DF, WH, BM, RA 2111 MBF	Gate on PA-F-2900 will have an AA1 key to access, follow F-2900 to the top of the hill until you arrive at rock pit. Follow R/W tags to the top of the unit.	Traverse map
2	DF, WH,RA,WRC 1129 MBF	Park on PA-F-2500. The Unit is Between the F-2500 and Deer Park road.	Traverse map
3	DF, WH, RA 418 MBF	Gate on the PA-F-2600 will have an AA-1 lock. Drive to the end of the road and follow right of way tags to the northeast to the unit.	Traverse map
4	DF, WH, WRC 619 MBF	On the PA-F-2700 will have orange ribbon follow old road which will lead you to the unit.	Traverse map
5 R/W	DF, WH, RA 100 MBF	Gate at the PA-F-2800 drive about 0.5 of a mile. The R/W takes off from the PA-F-2800 and heads northeast	
6 R/W	DF, WH, RA 30 MBF	Gate on PA-F-2900 will have an AA1 key to access, follow F-2900 to the top of the hill until you arrive at rock pit follow R/W tags start on the edge of the pit.	
7 R/W	DF, WH, RA 5 MBF	Gate: On the PA-F-2600 will have an AA1 lock drive to the end of the road and the R/W location starts at the southwest corner of the pit it is marked with orange ribbon with R/W	

		tags and flashers	
8 R/W	DF, WH, RA 7 MBF	On the PA-F-2700 will have orange ribbon follow old road which will lead you to the unit.	
TOTAL MBF	4419 MBF		

REMARKS:

Existing PA-F-2700 road is not tagged, but it will be brushed 25 feet from centerline. After subtracting for running surface of road (1.7 acres), cruise acreage of existing PA-F-2700 road is 1.7 acres. Tagged R/W of new construction for PA-F-2700 is 0.3 acres.

Prepared By: Jeff Happe **Date: 01/04/16**	**Title: NRS1**	**CC:**

Cruise Narrative

Sale Name: Deer	**Region:** Olympic
Agreement #: 30-092347	**District**: Straits
Lead Cruiser: Kevin Peterson	**Completion Date**: 1/7/2016
Other Cruisers: None	

Unit acreage specifications:

Unit #	Cruised Acres	Cruised acres agree with sale acres? Y/N	If acres do not agree explain why.
1	92.6	Y	
2	33.0	Y	
3	9.7	Y	
4	14.8	Y	
5 R/W	5.8	Y	
6 R/W	1.5	Y	
7 R/W	0.3	Y	
8 R/W	2.0	Y	
Total	159.8	Y	

Unit cruise specifications:

Unit #	Sample Type (VP,FP,ITS,100%)	Expansion Factor (baf,full/half)	Sighting Height (4.5', 16')	Grid Size (plot spacing)	Plot Ratio (cruise/count)	Number of plots
1	VP	54.44/40	4.5'	300 X 300	1:2	50
2	VP	54.44/40	4.5'	300 X 300	1:1	17
3	VP	54.44/40	4.5'	300 X 300	2:1	6
4	VP	54.44/40	4.5'	300 X 300	2:1	8
5 R/W	VP	54.44/40	4.5'	Every 800'	All Cruise	4
6 R/W	VP	40	4.5'	Every 800'	All Cruise	2
7 R/W	VP	40	4.5'	Random	All Cruise	2
8 R/W	VP	20/10	4.5'	Random	All Cruise	3

Sale/Cruise Description:

Minor species cruise intensity	Minor species sampled using same cruise plots. Red Alder and Red Cedar were cruised with a 40 BAF					
Minimum cruise spec:	40% of Form Factor at 16 ft. D.O.B or 5 inch top.					
Average ring count:	**DF** =	7	**WH** =	6	**SS** =	N/A
Leave/take tree description:	Leave tree clumps are bounded out with yellow tags, pink flashers and blue paint. Individual leave trees are marked with blue bands and two blue butt marks.					

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

Field Observations:

Deer is a sale that is 36% ground base and 64% uphill cable. The sale is located about 9 miles South of US 101 on Deer Park Rd. A AA1 gate key is required for access into units 1 and 3.

The total sale volume is 4005 MBF and consist of 50% Douglas-fir, 30% Western Hemlock, 14% Red Cedar, 5% Grand-fir and 1% Red Alder. 46% of the Douglas-fir is of High Quality and will be found mostly in units 2, 3 & 4. Unit 1 contains most of the volume but the timber size in this unit varies. At the lower elevation the timber has larger diameter and taller bole heights, as you approach the top of the ridge the trees get smaller but have more stems per acre.

Common defects in the DF and WH are spike knots and crooks. Common defects in the RC are sweep and minor butt rot.

Grants: 01, 03

Prepared By: Kevin Peterson – Olympic Region Cruiser

TC PSPCSTGR

Species, Sort Grade - Board Foot Volumes (Project)

T029 R005 S10 Ty00U2
THRU
T029 R005 S16 TyU6RW

Project: **DEER**

Acres **159.80**

Date **1/6/2016**
Time **4:46:47PM**

Spp	S T	So Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent of Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
RC		CU CU		100.0	12											1	6		0.00	14.2
RC	D	3S	60	10.4	2,427	2,175	348		58	31	11		0	7	93	39	9	118	1.20	18.5
RC	D	4S	39	4.4	1,456	1,392	223	95	5			20	39	4	37	26	5	27	0.34	52.4
RC	D	UT	1		14	14	2	100				100				9	5	10	0.17	1.4
RC	**Totals**		14	8.4	3,909	3,582	572	37	37	19	6	8	15	6	71	24	6	41	0.63	86.4
WH		CU CU															5		0.00	5.7
WH	D	2S	10	12.9	875	763	122			69	31				100	40	14	277	1.90	2.8
WH	D	3S	50	5.2	3,963	3,756	600		100					5	95	39	8	98	0.75	38.4
WH	D	4S	34		2,482	2,482	397	92	8			13	22	28	37	29	5	31	0.32	78.8
WH	D	UT	6		418	418	67	25	75			25			75	9	5	16	0.50	25.5
WH	**Totals**		30	4.1	7,739	7,419	1,186	32	58	7	3	6	7	12	75	27	6	49	0.53	151.2
DF		CU CU		100.0	3											0	5		0.00	8.9
DF		HA SM	1		192	192	31				100		100			30	19	450	2.97	.4
DF		HA 2S	18	3.1	2,280	2,210	353			96	4				100	40	13	234	1.64	9.4
DF		HA 3S	11	3.0	1,531	1,485	237		100						100	40	10	138	1.05	10.7
DF		HB 2S	9	9.3	1,141	1,034	165			39	61				100	40	15	328	2.18	3.2
DF		HB 3S	7	2.1	940	920	147		100						100	40	9	126	0.93	7.3
DF	D	2S	7	8.4	956	876	140			100					100	40	13	213	1.65	4.1
DF	D	3S	25	2.9	3,328	3,230	516		100				1	20	80	38	8	79	0.63	40.9
DF	D	4S	20	1.5	2,477	2,440	390	82	18			17	31	31	21	26	5	29	0.33	84.1
DF	D	UT	2		229	229	37	96	4			100				9	5	9	0.20	25.9
DF	**Totals**		50	3.5	13,077	12,617	2,016	18	48	27	7	5	8	11	76	28	7	65	0.68	194.9
GF		CU CU															8		0.00	.1
GF	D	2S	56	2.9	763	741	118			26	74				100	40	18	516	2.81	1.4
GF	D	3S	29	3.6	386	372	59		100				7		93	39	7	73	0.51	5.1
GF	D	4S	14	21.5	242	190	30	38	62			37	10	41	12	19	5	18	0.30	10.4
GF	D	UT	1		3	3	1	100				100				8	5	10	0.17	.3
GF	**Totals**		5	6.3	1,395	1,306	209	6	38	15	42	6	3	6	85	26	7	75	0.70	17.4
RA	D	3S	9		12	12	2		100			100				20	10	70	0.81	.2
RA	D	4S	61	5.8	88	83	13		100			27	73			26	7	41	0.50	2.0
RA	D	UT	30		41	41	7	100				87	13			17	5	19	0.23	2.2
RA	**Totals**		1	3.6	142	136	22	30	70			51	49			21	6	31	0.41	4.4
Totals				4.6	26,262	25,061	4,005	24	49	19	8	6	9	10	75	27	6	55	0.62	454.3

TC PSTATS

PROJECT STATISTICS

PROJECT DEER

DATE 1/6/2016

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
029	005	10	DEER	00U2	THR	159.80	92	468	S	W
029	005	16	DEER	U6RW						

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	92	468	5.1		
CRUISE	48	233	4.9	41,891	.6
DBH COUNT					
REFOREST					
COUNT	44	224	5.1		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	101	103.9	14.4	58	31.0	117.7	12,829	12,369	3,588	3,588
DOUG FIR-P	3	1.1	18.0	70	0.5	2.0	249	249	68	68
WHEMLOCK	61	86.4	12.6	56	21.2	75.3	7,739	7,419	2,190	2,190
WR CEDAR	53	60.4	12.6	43	14.8	52.7	3,909	3,582	1,324	1,320
GRAND F	10	8.1	13.8	69	2.3	8.5	1,395	1,306	324	324
R ALDER	5	2.2	11.5	52	0.5	1.6	142	136	38	38
TOTAL	*233*	*262.1*	*13.4*	*54*	*70.4*	*257.8*	*26,262*	*25,061*	*7,532*	*7,528*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL 68.1 SD: 1.0

TREES/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	87.9	9.2	94	104	113			
DOUG FIR-P	819.1	85.4	0	1	2			
WHEMLOCK	106.5	11.1	77	86	96			
WR CEDAR	115.4	12.0	53	60	68			
GRAND F	329.3	34.3	5	8	11			
R ALDER	786.0	82.0	0	2	4			
TOTAL	*47.3*	*4.9*	*249*	*262*	*275*	*89*	*46*	*22*

CL 68.1 SD: 1.0

BASAL AREA/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	81.3	8.5	108	118	128			
DOUG FIR-P	711.8	74.2	1	2	3			
WHEMLOCK	102.2	10.7	67	75	83			
WR CEDAR	113.3	11.8	46	53	59			
GRAND F	336.9	35.1	5	8	11			
R ALDER	747.3	77.9	0	2	3			
TOTAL	*40.2*	*4.2*	*247*	*258*	*269*	*65*	*33*	*16*

CL 68.1 SD: 1.0

NET BF/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	89.7	9.3	11,212	12,369	13,525			
DOUG FIR-P	678.3	70.7	73	249	424			
WHEMLOCK	98.8	10.3	6,655	7,419	8,184			
WR CEDAR	126.5	13.2	3,109	3,582	4,054			
GRAND F	362.2	37.8	813	1,306	1,800			
R ALDER	779.0	81.2	26	136	247			
TOTAL	*50.4*	*5.3*	*23,745*	*25,061*	*26,377*	*101*	*52*	*25*

CL 68.1 SD: 1.0

V_BAR/ACRE

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR			95	105	115			
DOUG FIR-P	678.3	70.7	37	125	214			
WHEMLOCK			88	98	109			

TC PSTATS

PROJECT STATISTICS

PROJECT DEER

DATE 1/6/2016

TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
029	005	10	DEER	00U2	THR	159.80	92	468	S	W
029	005	16	DEER	U6RW						

CL 68.1 COEFF **V_BAR/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.00 VAR. S.E.% LOW AVG HIGH 5 7 10

WR CEDAR	62.4	6.5	59	68	77			
GRAND F	320.9	33.5	96	154	212			
R ALDER	779.0	81.2	16	86	155			
TOTAL	*48.5*	*5.1*	*92*	*97*	*102*	*94*	*48*	*24*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Page 1
Date 1/6/2016
Time 4:40:34PM

T029 R005 S16 T00U1

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	16	DEER	00U1	92.70	50	83	S	W

T029 R005 S16 T00U1

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU															5		0.00	10.0
DF		HA	2S	3		273	273	25			100					100	40	12	200	1.48	1.4
DF		HA	3S	3		227	227	21		100						100	40	9	120	1.01	1.9
DF		HB	2S	3	8.3	271	248	23			100					100	40	13	220	1.78	1.1
DF		HB	3S	7		512	512	47		100						100	40	9	120	0.92	4.3
DF		DM	2S	9	10.9	744	662	61			100					100	40	12	190	1.69	3.5
DF		DM	3S	40	4.3	3,195	3,056	283		100					28	72	37	8	78	0.65	39.0
DF		DM	4S	32	2.6	2,503	2,439	226	77	23			22	29	37	12	25	5	29	0.32	84.1
DF		DM	UT	3		160	160	15	100				100				9	5	8	0.18	19.2
DF	**Totals**			38	3.9	7,883	7,576	702	27	57	16		9	9	23	58	26	6	46	0.54	164.4
WH		CU	CU															5		0.00	5.4
WH		DM	2S	12	16.0	1,175	987	91			75	25				100	40	14	270	1.95	3.6
WH		DM	3S	43	6.0	3,512	3,301	306		100					9	91	39	8	91	0.73	36.1
WH		DM	4S	36		2,756	2,756	255	87	13			15	21	26	38	29	5	32	0.33	86.9
WH		DM	UT	9		687	687	64	21	79			21			79	11	5	20	0.53	34.2
WH	**Totals**			38	4.9	8,130	7,731	717	33	54	10	3	7	8	13	72	27	6	46	0.53	166.3
RC		CU	CU		100.0	15											0	6		0.00	22.0
RC		DM	3S	51	11.4	2,014	1,785	165		56	44					100	40	8	96	1.06	18.5
RC		DM	4S	48	1.0	1,663	1,646	153	95	5			15	39		46	28	5	29	0.34	56.1
RC		DM	UT	1		25	25	2	100				100				9	5	10	0.17	2.5
RC	**Totals**			17	7.0	3,716	3,456	320	46	31	23		8	18		74	23	6	35	0.57	99.1
GF		DM	2S	40		544	544	50			32	68				100	40	19	620	3.15	.9
GF		DM	3S	40		532	532	49		100				8		92	39	7	66	0.45	8.0
GF		DM	4S	20	26.0	346	256	24	47	53			47		53		18	5	15	0.27	16.6
GF	**Totals**			7	6.3	1,421	1,331	123	9	50	13	28	9	3	10	77	26	6	52	0.51	25.5
Type Totals					5.0	21,150	20,095	1,863	31	51	14	3	8	10	15	67	26	6	44	0.54	455.4

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	16	DEER	00U1	92.70	50	237	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	50	237	4.7		
CRUISE	18	83	4.6	25,518	.3
DBH COUNT					
REFOREST					
COUNT	32	150	4.7		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	30	95.8	13.1	52	24.7	89.3	7,883	7,576	2,287	2,288
WHEMLOCK	25	98.2	12.5	54	23.7	83.8	8,130	7,731	2,344	2,343
WR CEDAR	24	68.7	12.1	43	15.8	55.2	3,716	3,456	1,323	1,317
GRAND F	4	12.5	12.0	65	2.8	9.8	1,421	1,331	335	335
TOTAL	*83*	*275.3*	*12.6*	*51*	*67.1*	*238.1*	*21,150*	*20,095*	*6,289*	*6,284*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	99.2	14.0	82	96	109			
WHEMLOCK	90.5	12.8	86	98	111			
WR CEDAR	104.7	14.8	59	69	79			
GRAND F	257.1	36.4	8	13	17			
TOTAL	*36.0*	*5.1*	*261*	*275*	*289*	*52*	*26*	*13*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	86.9	12.3	78	89	100			
WHEMLOCK	89.2	12.6	73	84	94			
WR CEDAR	101.3	14.3	47	55	63			
GRAND F	243.1	34.4	6	10	13			
TOTAL	*28.3*	*4.0*	*229*	*238*	*248*	*32*	*16*	*8*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	83.9	11.9	6,678	7,576	8,475			
WHEMLOCK	91.5	12.9	6,731	7,731	8,731			
WR CEDAR	105.5	14.9	2,940	3,456	3,972			
GRAND F	254.0	35.9	853	1,331	1,810			
TOTAL	*30.0*	*4.2*	*19,243*	*20,095*	*20,946*	*36*	*18*	*9*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			75	85	95			
WHEMLOCK			80	92	104			
WR CEDAR			53	63	72			
GRAND F	142.9	20.2	87	136	185			
TOTAL	*282.2*	*39.9*	*81*	*84*	*88*	*3,185*	*1,625*	*796*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Page 1
Date 1/6/2016
Time 4:40:34PM

T029 R005 S10 T00U2

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	10	DEER	00U2	33.00	17	39	S	W

T029 R005 S10 T00U2

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU															7		0.00	2.9
DF		HA	SM	4		932	932	31				100		100			30	19	450	2.97	2.1
DF		HA	2S	40	2.9	8,627	8,374	276			95	5				100	40	13	228	1.61	36.8
DF		HA	3S	27	3.4	5,781	5,587	184		100						100	40	10	136	1.04	41.1
DF		HB	2S	4	18.9	1,021	828	27				100				100	40	18	430	3.02	1.9
DF		DM	2S	2		497	497	16			100					100	40	13	240	1.45	2.1
DF		DM	3S	11		2,286	2,286	75		100					28	72	36	7	70	0.61	32.5
DF		DM	4S	9		1,806	1,806	60	95	5				63	9	28	28	5	30	0.39	59.9
DF		DM	UT	3		605	605	20	95	5			100				15	5	16	0.21	36.9
DF	**Totals**			73	3.0	21,553	20,913	690	11	38	41	10	3	10	4	83	31	8	97	0.90	216.1
WH		DM	3S	64	1.4	3,171	3,127	103		100						100	40	9	123	0.90	25.4
WH		DM	4S	36		1,726	1,726	57	100				11	28	62		27	5	30	0.35	56.9
WH	**Totals**			17	.9	4,897	4,853	160	36	64			4	10	22	64	31	6	59	0.57	82.3
RC		DM	3S	76	8.2	2,451	2,250	74		100					32	68	36	9	102	1.14	22.0
RC		DM	4S	24	27.1	967	705	23	100				82	18			17	5	14	0.32	50.9
RC	**Totals**			10	13.6	3,418	2,955	98	24	76			20	4	25	52	23	6	40	0.72	73.0
Type Totals					3.8	29,868	28,721	948	16	47	29	8	5	9	9	77	29	7	77	0.80	371.4

TC TSTATS

STATISTICS

PAGE 1

PROJECT DEER

DATE 1/6/2016

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	**005**	**10**	**DEER**	**00U2**	33.00	17	92	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	17	92	5.4		
CRUISE	9	39	4.3	7,385	.5
DBH COUNT					
REFOREST					
COUNT	8	49	6.1		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	21	110.5	16.9	61	42.0	172.9	20,350	19,709	5,760	5,760
DOUG FIR-P	3	5.5	18.0	70	2.3	9.6	1,204	1,204	331	331
WHEMLOCK	8	56.9	13.2	50	15.0	54.4	4,897	4,853	1,456	1,456
WR CEDAR	7	50.9	13.6	35	13.9	51.2	3,418	2,955	1,180	1,180
TOTAL	*39*	*223.8*	*15.4*	*53*	*73.5*	*288.2*	*29,868*	*28,721*	*8,726*	*8,726*

CONFIDENCE LIMITS OF THE SAMPLE

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

TREES/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	54.0	13.5	96	111	125			
DOUG FIR-P	348.8	87.2	1	5	10			
WHEMLOCK	161.5	40.4	34	57	80			
WR CEDAR	130.4	32.6	34	51	68			
TOTAL	*61.8*	*15.5*	*189*	*224*	*258*	*163*	*83*	*41*

BASAL AREA/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	54.8	13.7	149	173	197			
DOUG FIR-P	299.5	74.9	2	10	17			
WHEMLOCK	154.1	38.5	33	54	75			
WR CEDAR	127.2	31.8	35	51	68			
TOTAL	*38.2*	*9.6*	*261*	*288*	*316*	*62*	*32*	*16*

NET BF/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	56.8	14.2	16,909	19,709	22,510			
DOUG FIR-P	284.1	71.0	349	1,204	2,058			
WHEMLOCK	149.0	37.3	3,045	4,853	6,661			
WR CEDAR	133.8	33.4	1,967	2,955	3,943			
TOTAL	*38.9*	*9.7*	*25,926*	*28,721*	*31,516*	*64*	*33*	*16*

V-BAR/ACRE

CL: 68.1 % SD: 1.0

	COEFF VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR			98	114	130			
DOUG FIR-P	284.1	71.0	36	125	214			
WHEMLOCK			56	89	122			
WR CEDAR	76.8	19.2	38	58	77			
TOTAL	*232.5*	*58.1*	*90*	*100*	*109*	*2,297*	*1,172*	*574*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Date 1/6/2016

Time 4:40:34PM

T029 R005 S15 T00U3

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	15	DEER	00U3	9.70	6	31	S	W

T029 R005 S15 T00U3

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU															5		0.00	18.8
DF		HA	2S	19	5.2	5,607	5,317	52			100					100	40	15	305	1.93	17.4
DF		HA	3S	12	2.6	3,386	3,297	32		100						100	40	11	175	1.16	18.8
DF		HB	2S	27	9.8	8,050	7,259	70			24	76				100	40	17	426	2.63	17.0
DF		DM	2S	7	.0	1,779	1,779	17			100					100	40	13	242	1.39	7.4
DF		DM	3S	29	2.5	7,931	7,732	75		100				6		94	39	8	87	0.61	88.5
DF		DM	4S	6	.0	1,604	1,604	16	64	36			63	12		25	17	6	20	0.32	79.3
DF	**Totals**			50	4.8	28,357	26,988	262	4	43	33	20	4	2		94	29	8	109	0.96	247.3
RC		CU	CU		100.0	57											6	10		0.00	4.4
RC		DM	3S	88	11.0	8,580	7,640	74		30	27	44				100	40	13	235	1.83	32.5
RC		DM	4S	12		1,043	1,043	10	78	22			8	69	23		28	5	32	0.38	32.8
RC	**Totals**			16	10.3	9,679	8,683	84	9	29	23	39	1	8	3	88	32	9	125	1.21	69.7
WH		CU	CU															5		0.00	11.8
WH		DM	2S	29	2.6	2,274	2,215	21			32	68				100	40	16	375	2.11	5.9
WH		DM	3S	27	12.7	2,335	2,039	20		100					10	90	39	8	86	0.71	23.6
WH		DM	4S	44		3,234	3,234	31	100					8	15	77	37	5	39	0.25	83.1
WH		DM	UT															4		0.00	62.4
WH	**Totals**			14	4.5	7,842	7,488	73	43	27	9	20		4	9	87	22	5	40	0.45	186.8
GF		CU	CU															10		0.00	1.6
GF		DM	2S	79	5.0	7,372	7,003	68			21	79				100	40	17	459	2.62	15.3
GF		DM	3S	12	18.0	1,280	1,050	10		100						100	40	11	142	1.11	7.4
GF		DM	4S	8		657	657	6		100				47		53	31	7	56	0.52	11.8
GF		DM	UT	1		58	58	1	100				100				8	5	10	0.17	5.8
GF	**Totals**			16	6.4	9,367	8,768	85	1	19	17	63	1	4		96	31	11	210	1.61	41.8
RA		DM	4S	67	6.5	1,300	1,216	12		100			30	70			26	7	42	0.50	29.2
RA		DM	UT	33		584	584	6	100				100				18	5	20	0.21	29.2
RA	**Totals**			3	4.5	1,884	1,800	17	32	68			53	47			22	6	31	0.38	58.4
Type Totals					6.0	57,130	53,726	521	11	35	24	30	4	5	2	89	27	7	89	0.87	603.9

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	15	DEER	00U3	9.70	6	44	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	6	44	7.3		
CRUISE	5	31	6.2	2,584	1.2
DBH COUNT					
REFOREST					
COUNT	1	10	10.0		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	11	97.0	18.1	82	40.6	172.4	28,357	26,988	6,953	6,953
WR CEDAR	7	40.8	18.1	61	17.2	73.3	9,679	8,683	2,741	2,730
WHEMLOCK	5	86.0	10.8	68	16.6	54.4	7,842	7,488	1,902	1,902
GRAND F	5	13.4	24.9	102	9.1	45.4	9,367	8,768	2,122	2,124
R ALDER	3	29.2	11.2	53	6.0	20.0	1,884	1,800	490	490
TOTAL	*31*	*266.4*	*15.9*	*72*	*91.8*	*365.5*	*57,130*	*53,726*	*14,208*	*14,198*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF SD: 1.0

TREES/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	57.1	25.5	72	97	122			
WR CEDAR	99.3	44.3	23	41	59			
WHEMLOCK	121.7	54.3	39	86	133			
GRAND F	211.3	94.2	1	13	26			
R ALDER	244.9	109.2		29	61			
TOTAL			*266*	*266*	*266*			

CL: 68.1 % COEFF SD: 1.0

BASAL AREA/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	57.9	25.8	128	172	217			
WR CEDAR	116.6	51.9	35	73	111			
WHEMLOCK	109.5	48.8	28	54	81			
GRAND F	192.2	85.7	6	45	84			
R ALDER	244.9	109.2		20	42			
TOTAL			*366*	*366*	*366*			

CL: 68.1 % COEFF SD: 1.0

NET BF/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR	59.5	26.5	19,832	26,988	34,145			
WR CEDAR	128.5	57.3	3,712	8,683	13,654			
WHEMLOCK	98.1	43.7	4,214	7,488	10,761			
GRAND F	178.1	79.4	1,810	8,768	15,726			
R ALDER	244.9	109.2		1,800	3,764			
TOTAL	*22.1*	*9.8*	*48,436*	*53,726*	*59,016*	*23*	*12*	*6*

CL: 68.1 % COEFF SD: 1.0

V-BAR/ACRE

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
DOUG FIR			115	157	198			
WR CEDAR	83.6	37.2	51	118	186			
WHEMLOCK	87.3	38.9	77	138	198			
GRAND F	178.1	79.4	40	193	347			
R ALDER	244.9	109.2		90	188			
TOTAL	*115.4*	*51.4*	*133*	*147*	*161*	*635*	*324*	*159*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Page 1
Date 1/6/2016
Time 4:40:34PM

T029 R005 S15 T00U4

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	15	DEER	00U4	14.80	8	26	S	W

T029 R005 S15 T00U4

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		CU	CU															6		0.00	11.4
DF		HB	2S	13	2.4	2,464	2,405	36			46	54				100	40	14	284	1.81	8.5
DF		HB	3S	34	3.4	6,334	6,118	91		100						100	40	9	126	0.92	48.5
DF		DM	2S	10	14.9	2,181	1,856	27			100					100	40	13	224	1.81	8.3
DF		DM	3S	16		3,035	3,035	45		100						100	40	7	73	0.55	41.6
DF		DM	4S	27		4,719	4,719	70	90	10			11	10	42	37	29	5	30	0.31	156.6
DF		DM	UT															5		0.00	69.3
DF Totals				62	3.2	18,734	18,134	268	23	53	16	7	3	3	11	84	26	6	53	0.60	344.1
WH		CU	CU															5		0.00	19.5
WH		DM	3S	79	5.8	7,156	6,739	100		100						100	40	8	108	0.75	62.3
WH		DM	4S	21		1,762	1,762	26	100				12	19		69	28	5	28	0.31	62.3
WH Totals				29	4.7	8,918	8,502	126	21	79			2	4		94	30	7	59	0.57	144.1
RC		DM	3S	43	2.5	1,271	1,240	18		7	93			7		93	36	12	248	2.09	5.0
RC		DM	4S	57		1,591	1,591	24	95	5				51	27	22	29	5	31	0.33	51.0
RC Totals				10	1.1	2,862	2,830	42	53	6	41			32	15	53	29	6	51	0.52	56.0
Type Totals					3.4	30,514	29,466	436	26	56	14	4	2	6	8	84	27	6	54	0.58	544.2

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	15	DEER	00U4	14.80	8	41	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	8	41	5.1		
CRUISE	5	26	5.2	4,143	.6
DBH COUNT					
REFOREST					
COUNT	3	15	5.0		
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	15	164.9	13.5	67	44.5	163.3	18,734	18,134	5,317	5,317
WHEMLOCK	5	62.3	14.2	75	18.1	68.0	8,918	8,502	2,414	2,414
WR CEDAR	6	52.7	11.0	41	10.5	35.0	2,862	2,830	862	862
TOTAL	*26*	*279.9*	*13.2*	*64*	*73.3*	*266.4*	*30,514*	*29,466*	*8,593*	*8,593*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	53.9	20.3	131	165	198			
WHEMLOCK	56.1	21.2	49	62	75			
WR CEDAR	90.4	34.1	35	53	71			
TOTAL	*31.8*	*12.0*	*246*	*280*	*313*	*46*	*23*	*12*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	35.6	13.4	141	163	185			
WHEMLOCK	56.6	21.3	54	68	83			
WR CEDAR	95.4	36.0	22	35	48			
TOTAL	*15.9*	*6.0*	*250*	*266*	*282*	*11*	*6*	*3*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	36.3	13.7	15,647	18,134	20,621			
WHEMLOCK	62.8	23.7	6,487	8,502	10,516			
WR CEDAR	101.0	38.1	1,751	2,830	3,910			
TOTAL	*21.3*	*8.0*	*27,097*	*29,466*	*31,835*	*21*	*11*	*5*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR			96	111	126			
WHEMLOCK			95	125	155			
WR CEDAR	91.4	34.5	50	81	112			
TOTAL	*138.6*	*52.3*	*102*	*111*	*120*	*875*	*446*	*219*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Date 1/6/2016

Time 4:40:34PM

T029 R005 S16 TU5RW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	16	DEER	U5RW	5.80	4	22	S	W

T029 R005 S16 TU5RW

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		DM	2S	9		1,540	1,540	9			100					100	40	12	200	1.28	7.7
WH		DM	3S	63	4.9	10,726	10,197	59		100						100	40	8	90	0.65	113.4
WH		DM	4S	24		3,980	3,980	23	100				9	34	23	34	28	5	30	0.30	131.2
WH		DM	UT	4		514	514	3	100				100				9	5	10	0.15	51.4
WH		**Totals**		49	3.2	16,761	16,231	94	28	63	9		5	8	6	81	30	6	53	0.50	303.7
DF		CU	CU		100.0	86											8	5		0.00	8.6
DF		HB	2S	11		1,540	1,540	9			100					100	40	12	200	1.28	7.7
DF		HB	3S	11		1,554	1,554	9		100						100	40	11	180	1.12	8.6
DF		DM	2S	23	2.8	3,100	3,013	17			100					100	40	13	250	1.60	12.0
DF		DM	3S	41	2.0	5,654	5,543	32		100						100	40	9	106	0.76	52.2
DF		DM	4S	11		1,562	1,562	9	67	33				16		84	33	5	38	0.33	41.1
DF		DM	UT	3		318	318	2	73	27			100				13	5	16	0.26	19.7
DF		**Totals**		41	2.1	13,814	13,530	78	9	57	34		2	2		96	33	8	90	0.74	150.0
RC		CU	CU															5		0.00	30.3
RC		DM	3S	41	23.5	1,826	1,397	8		50		50			9	91	36	10	130	1.52	10.7
RC		DM	4S	59		1,963	1,963	11	100				4	35		62	33	5	33	0.35	60.1
RC		**Totals**		10	11.3	3,789	3,359	19	58	21		21	2	20	4	74	24	6	33	0.54	101.2
Type Totals					3.6	34,364	33,121	192	23	56	18	2	4	7	3	86	29	7	60	0.58	554.9

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	16	DEER	U5RW	5.80	4	22	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	4	22	5.5		
CRUISE	4	22	5.5	1,593	1.4
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	10	151.9	12.8	68	38.0	136.1	16,761	16,231	4,518	4,518
DOUG FIR	7	60.8	16.9	85	23.1	95.3	13,814	13,530	3,665	3,654
WR CEDAR	5	61.9	12.2	50	14.3	50.0	3,789	3,359	1,298	1,297
TOTAL	*22*	*274.6*	*13.7*	*67*	*76.0*	*281.4*	*34,364*	*33,121*	*9,481*	*9,469*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	77.0	44.1	85	152	219			
DOUG FIR	78.6	45.0	33	61	88			
WR CEDAR	87.8	50.2	31	62	93			
TOTAL	*46.6*	*26.7*	*201*	*275*	*348*	*114*	*58*	*28*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	40.0	22.9	105	136	167			
DOUG FIR	71.9	41.1	56	95	134			
WR CEDAR	76.6	43.8	28	50	72			
TOTAL	*26.1*	*14.9*	*239*	*281*	*323*	*36*	*18*	*9*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	26.1	14.9	13,806	16,231	18,657			
DOUG FIR	76.4	43.7	7,618	13,530	19,442			
WR CEDAR	77.3	44.2	1,874	3,359	4,845			
TOTAL	*27.7*	*15.9*	*27,865*	*33,121*	*38,377*	*40*	*21*	*10*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK	26.1	14.9	101	119	137			
DOUG FIR	76.4	43.7	80	142	204			
WR CEDAR	77.3	44.2	37	67	97			
TOTAL	*26.0*	*14.9*	*99*	*118*	*136*	*35*	*18*	*9*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Date 1/6/2016

Time 4:40:34PM

T029 R005 S16 TU6RW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	16	DEER	U6RW	1.50	2	11	S	W

T029 R005 S16 TU6RW

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
WH		DM	3S	83		7,958	7,958	12		100						100	40	7	94	0.64	84.6
WH		DM	4S	17		1,566	1,566	2	100				39		61		19	5	19	0.28	84.6
WH	**Totals**			42		9,524	9,524	14	16	84			6		10	84	29	6	56	0.52	169.2
RC		DM	3S	85	4.6	5,088	4,853	7		100						100	40	9	128	1.14	37.8
RC		DM	4S	15		848	848	1	100				68	32			22	5	22	0.32	37.8
RC	**Totals**			25	4.0	5,936	5,701	9	15	85			10	5		85	31	7	75	0.85	75.6
RA		DM	3S	45		1,310	1,310	2		100			100				20	10	70	0.81	18.7
RA		DM	4S	35		1,019	1,019	2		100				100			30	6	40	0.49	25.5
RA		DM	UT	20		561	561	1	100					100			11	6	13	0.34	44.2
RA	**Totals**			13		2,889	2,889	4	19	81			45	55			18	7	33	0.52	88.3
DF		DM	3S	81	3.4	3,722	3,595	5		100						100	40	7	84	0.61	43.0
DF		DM	4S	19		811	811	1	100				37			63	19	5	19	0.26	43.0
DF	**Totals**			20	2.8	4,532	4,405	7	18	82			7			93	30	6	51	0.50	86.0
Type Totals					1.6	22,882	22,520	34	17	83			12	8	4	75	27	6	54	0.58	419.2

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	16	DEER	U6RW	1.50	2	11	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	11	5.5		
CRUISE	2	11	5.5	314	3.5
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
WHEMLOCK	4	84.6	13.2	68	22.0	80.0	9,524	9,524	2,610	2,610
WR CEDAR	3	37.8	17.1	65	14.5	60.0	5,936	5,701	1,986	1,986
R ALDER	2	44.2	12.9	45	11.1	40.0	2,889	2,889	843	843
DOUG FIR	2	43.0	13.1	69	11.1	40.0	4,532	4,405	1,278	1,278
TOTAL	*11*	*209.6*	*13.9*	*63*	*59.1*	*220.0*	*22,882*	*22,520*	*6,717*	*6,717*

CONFIDENCE LIMITS OF THE SAMPLE

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

TREES/ACRE

CL: 68.1 % COEFF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK	2.3	2.1	83	85	86			
WR CEDAR	34.3	32.1	26	38	50			
R ALDER	21.6	20.3	35	44	53			
DOUG FIR	141.4	132.6		43	100			
TOTAL	*17.3*	*16.3*	*176*	*210*	*244*	*21*	*11*	*5*

BASAL AREA/ACRE

CL: 68.1 % COEFF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK			80	80	80			
WR CEDAR	47.1	44.2	33	60	87			
R ALDER			40	40	40			
DOUG FIR	141.4	132.6		40	93			
TOTAL	*12.9*	*12.1*	*193*	*220*	*247*	*12*	*6*	*3*

NET BF/ACRE

CL: 68.1 % COEFF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK	4.5	4.2	9,124	9,524	9,924			
WR CEDAR	49.0	46.0	3,080	5,701	8,321			
R ALDER	41.7	39.1	1,760	2,889	4,019			
DOUG FIR	141.4	132.6		4,405	10,245			
TOTAL	*18.7*	*17.5*	*18,570*	*22,520*	*26,469*	*25*	*13*	*6*

V-BAR/ACRE

CL: 68.1 % COEFF

SD: 1.0

	VAR.%	S.E.%	LOW	AVG	HIGH	# OF PLOTS REQ. 5	7	INF. POP. 10
WHEMLOCK	4.5	4.2	114	119	124			
WR CEDAR	49.0	46.0	51	95	139			
R ALDER	41.7	39.1	44	72	100			
DOUG FIR	141.4	132.6		110	256			
TOTAL	*18.7*	*17.5*	*84*	*102*	*120*	*25*	*13*	*6*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Page 1
Date 1/6/2016
Time 4:40:34PM

T029 R005 S15 TU7RW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	15	DEER	U7RW	.30	2	9	S	W

T029 R005 S15 TU7RW

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		DM	4S	100		5,753	5,753	2	100					30	70		31	5	34	0.26	167.3
DF Totals				45		5,753	5,753	2	100					30	70		31	5	34	0.26	167.3
WH		DM	3S	31	.0	1,528	1,528	0		100					100		32	7	60	0.53	25.5
WH		DM	4S	63	.0	3,077	3,077	1	100					100			26	5	30	0.22	102.6
WH		DM	UT	6		255	255	0	100				100				11	5	10	0.20	25.5
WH Totals				38		4,860	4,860	1	69	31			5	63	31		24	5	32	0.29	153.5
GF		CU	CU															5		0.00	25.5
GF		DM	4S	100		1,019	1,019	0	100							100	40	5	40	0.46	25.5
GF Totals				8		1,019	1,019	0	100							100	20	5	20	0.46	50.9
RC		DM	4S	100		1,100	1,100	0	100					100			28	5	30	0.34	36.7
RC Totals				9		1,100	1,100	0	100					100			28	5	30	0.34	36.7
Type Totals						12,731	12,731	4	88	12			2	46	44	8	27	5	31	0.30	408.4

STATISTICS

PROJECT DEER

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	005	15	DEER	U7RW	0.30	2	9	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	2	9	4.5		
CRUISE	2	9	4.5	107	8.4
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	4	167.3	9.4	43	26.1	80.0	5,753	5,753	1,370	1,370
WHEMLOCK	3	128.0	9.3	39	19.7	60.0	4,860	4,860	1,071	1,071
GRAND F	1	25.5	12.0	48	5.8	20.0	1,019	1,019	469	469
WR CEDAR	1	36.7	10.0	36	6.3	20.0	1,100	1,100	350	350
TOTAL	*9*	*357.5*	*9.6*	*41*	*58.1*	*180.0*	*12,731*	*12,731*	*3,260*	*3,260*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF — **TREES/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	79.4	74.5	43	167	292			
WHEMLOCK	141.4	132.6		128	298			
GRAND F	141.4	132.6		25	59			
WR CEDAR	141.4	132.6		37	85			
TOTAL	*17.9*	*16.8*	*297*	*357*	*417*	*23*	*12*	*6*

CL: 68.1 % COEFF — **BASAL AREA/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	70.7	66.3	27	80	133			
WHEMLOCK	141.4	132.6		60	140			
GRAND F	141.4	132.6		20	47			
WR CEDAR	141.4	132.6		20	47			
TOTAL	*15.7*	*14.7*	*153*	*180*	*207*	*17*	*9*	*4*

CL: 68.1 % COEFF — **NET BF/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	87.3	81.9	1,043	5,753	10,462			
WHEMLOCK	141.4	132.6		4,860	11,302			
GRAND F	141.4	132.6		1,019	2,369			
WR CEDAR	141.4	132.6		1,100	2,558			
TOTAL	*15.4*	*14.5*	*10,890*	*12,731*	*14,572*	*17*	*9*	*4*

CL: 68.1 % COEFF — **V-BAR/ACRE** — # OF PLOTS REQ. — INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	87.3	81.9	13	72	131			
WHEMLOCK	141.4	132.6		81	188			
GRAND F	141.4	132.6		51	118			
WR CEDAR	141.4	132.6		55	128			
TOTAL	*15.4*	*14.5*	*60*	*71*	*81*	*17*	*9*	*4*

T TSPCSTGR

Species, Sort Grade - Board Foot Volumes (Type)

Project: DEER

Page 1
Date 1/6/2016
Time 4:40:34PM

T029 R005 S15 TU8RW

Twp	Rge	Sec	Tract	Type	Acres	Plots	Sample Trees	CuFt	BdFt
029	005	15	DEER	U8RW	2.00	3	12	S	W

T029 R005 S15 TU8RW

Spp	ST	Sort	Grad	% Net BdFt	Bd. Ft. per Acre Def%	Gross	Net	Total Net MBF	Percent Net Board Foot Volume: Log Scale Dia. 4-5	6-11	12-16	17+	Log Length 12-20	21-30	31-35	36-99	Average Log: Ln Ft	Dia In	Bd Ft	CF/ Lf	Logs Per /Acre
DF		DM	4S	100		3,395	3,395	7	100					68	32		27	5	29	0.24	115.5
DF Totals				94		3,395	3,395	7	100					68	32		27	5	29	0.24	115.5
WH		DM	4S	100		226	226	0	100					100			30	5	30	0.29	7.5
WH Totals				6		226	226	0	100					100			30	5	30	0.29	7.5
Type Totals						3,621	3,621	7	100					70	30		27	5	29	0.25	123.0

TC TSTATS

STATISTICS

PROJECT **DEER**

DATE 1/6/2016

TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt
029	**005**	**15**	**DEER**	**U8RW**	2.00	3	12	S	W

	PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES
TOTAL	3	12	4.0		
CRUISE	3	12	4.0	246	4.9
DBH COUNT					
REFOREST					
COUNT					
BLANKS					
100 %					

STAND SUMMARY

	SAMPLE TREES	TREES /ACRE	AVG DBH	BOLE LEN	REL DEN	BASAL AREA	GROSS BF/AC	NET BF/AC	GROSS CF/AC	NET CF/AC
DOUG FIR	11	115.5	8.9	39	16.7	50.0	3,395	3,395	764	764
WHEMLOCK	1	7.5	9.0	42	1.1	3.3	226	226	65	65
TOTAL	*12*	*123.0*	*8.9*	*39*	*17.9*	*53.3*	*3,621*	*3,621*	*830*	*830*

CONFIDENCE LIMITS OF THE SAMPLE

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

CL: 68.1 % COEFF **TREES/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	52.7	36.5	73	115	158			
WHEMLOCK	173.2	120.0		8	17			
TOTAL	*43.3*	*30.0*	*86*	*123*	*160*	*108*	*55*	*27*

CL: 68.1 % COEFF **BASAL AREA/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	52.9	36.6	32	50	68			
WHEMLOCK	173.2	120.0		3	7			
TOTAL	*43.3*	*30.0*	*37*	*53*	*69*	*108*	*55*	*27*

CL: 68.1 % COEFF **NET BF/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	41.2	28.5	2,426	3,395	4,364			
WHEMLOCK	173.2	120.0		226	498			
TOTAL	*32.1*	*22.2*	*2,817*	*3,621*	*4,426*	*59*	*30*	*15*

CL: 68.1 % COEFF **V-BAR/ACRE** # OF PLOTS REQ. INF. POP.

SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10
DOUG FIR	13.5	9.4	49	68	87			
WHEMLOCK	173.2	120.0		68	149			
TOTAL	*9.7*	*6.7*	*53*	*68*	*83*	*5*	*3*	*1*

TC PSPCTLTCM

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

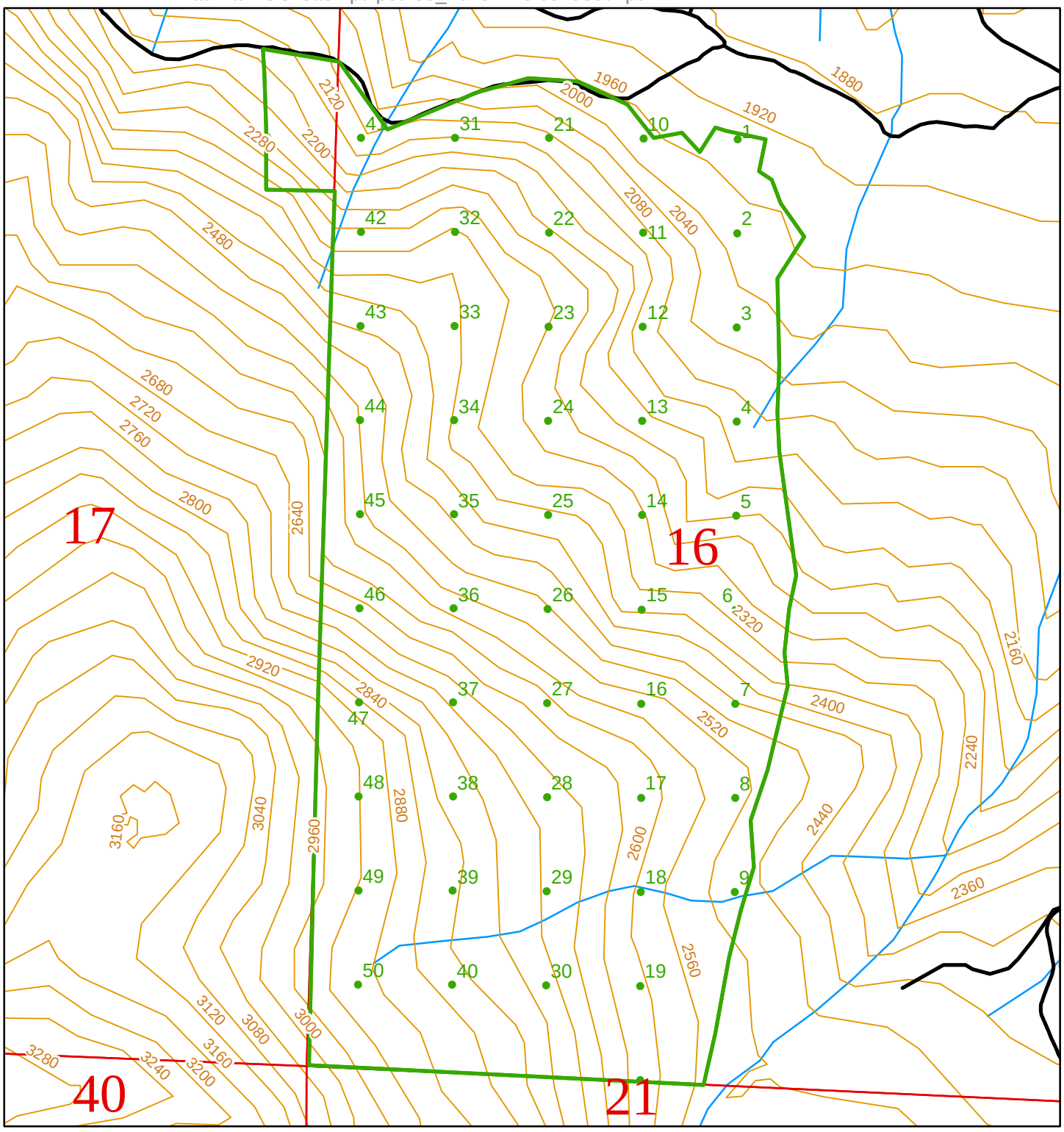
T029 R005 S10 Ty00U2	33.0
T029 R005 S15 Ty00U3	9.7
T029 R005 S16 TyU6R	1.5

Project DEER
Acres 159.80

Page No 1
Date: 1/6/2016
Time 4:46:47PM

Species	ST	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
DOUG FIR		16,790	29,726	16,650	34.80	19.65	0.70	5,842	5,843	2,090	2,016
WHEMLOCK		13,799	23,250	11,201	25.36	15.05	0.54	3,500	3,500	1,237	1,186
WR CEDAR		9,652	11,550	4,971	21.85	18.26	0.64	2,115	2,109	625	572
GRAND F		1,300	2,763	1,658	39.87	18.76	0.69	518	518	223	209
R ALDER		349	699	166	17.23	8.62	0.41	60	60	23	22
Totals		41,891	67,989	34,646	28.72	17.69	0.63	12,036	12,030	4,197	4,005

Wood Type Species	Total Trees	Total Logs	Total Tons	Net Cubic Ft/ Tree	Net Cubic Ft/ Log	CF/ LF	Total CCF Gross	Total CCF Net	Total MBF Gross	Total MBF Net
C	41,542	67,290	34,480	28.81	17.79	0.63	11,976	11,970	4,174	3,983
H	349	699	166	17.23	8.62	0.41	60	60	23	22
Totals	41,891	67,989	34,646	28.72	17.69	0.63	12,036	12,030	4,197	4,005



Cruiser Sample Point Locations

LAYER NAME:	unit_polygons	Township:	T29R05W
POLY ID:	1	Total Sample Points:	51
Acres:	103	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0

N

0 155 310 620 930 1,240 Feet

Scale 1:5,400

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

Washington State Department of Natural Resources
Peter Goldmark, Commissioner of Public Lands

Nov 23, 2015 09:51 AM

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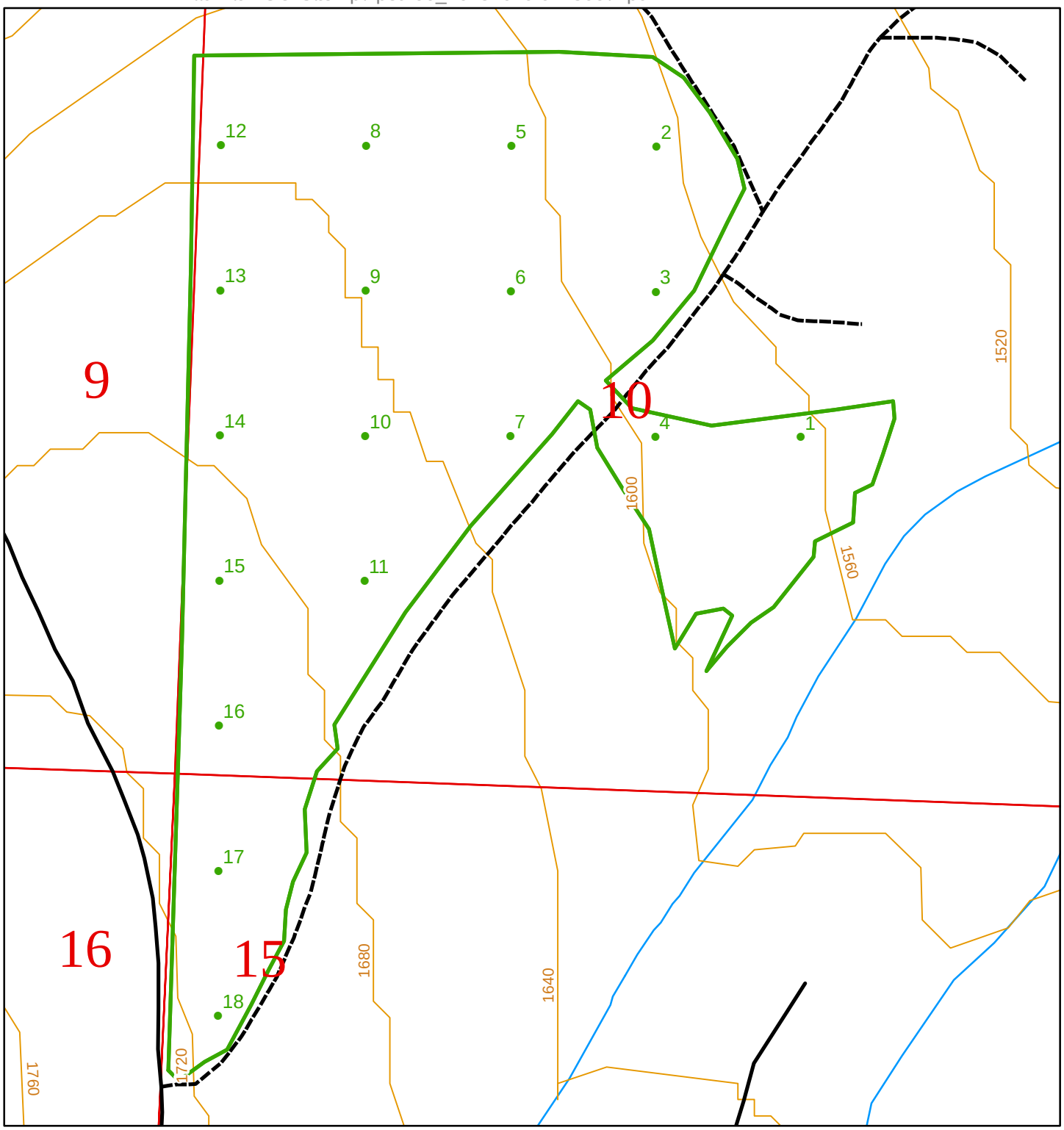


Cruiser Sample Point Locations

LAYER NAME:	u1_shape	Township:	T29R05W
POLY ID:	1	Total Sample Points:	18
Acres:	33	Spacing Between Points:	Width: 300 Height: 300
		Point Rotation Degrees:	0

N

0 100 200 400 600 800 Feet

Scale 1:3,500

Legend

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

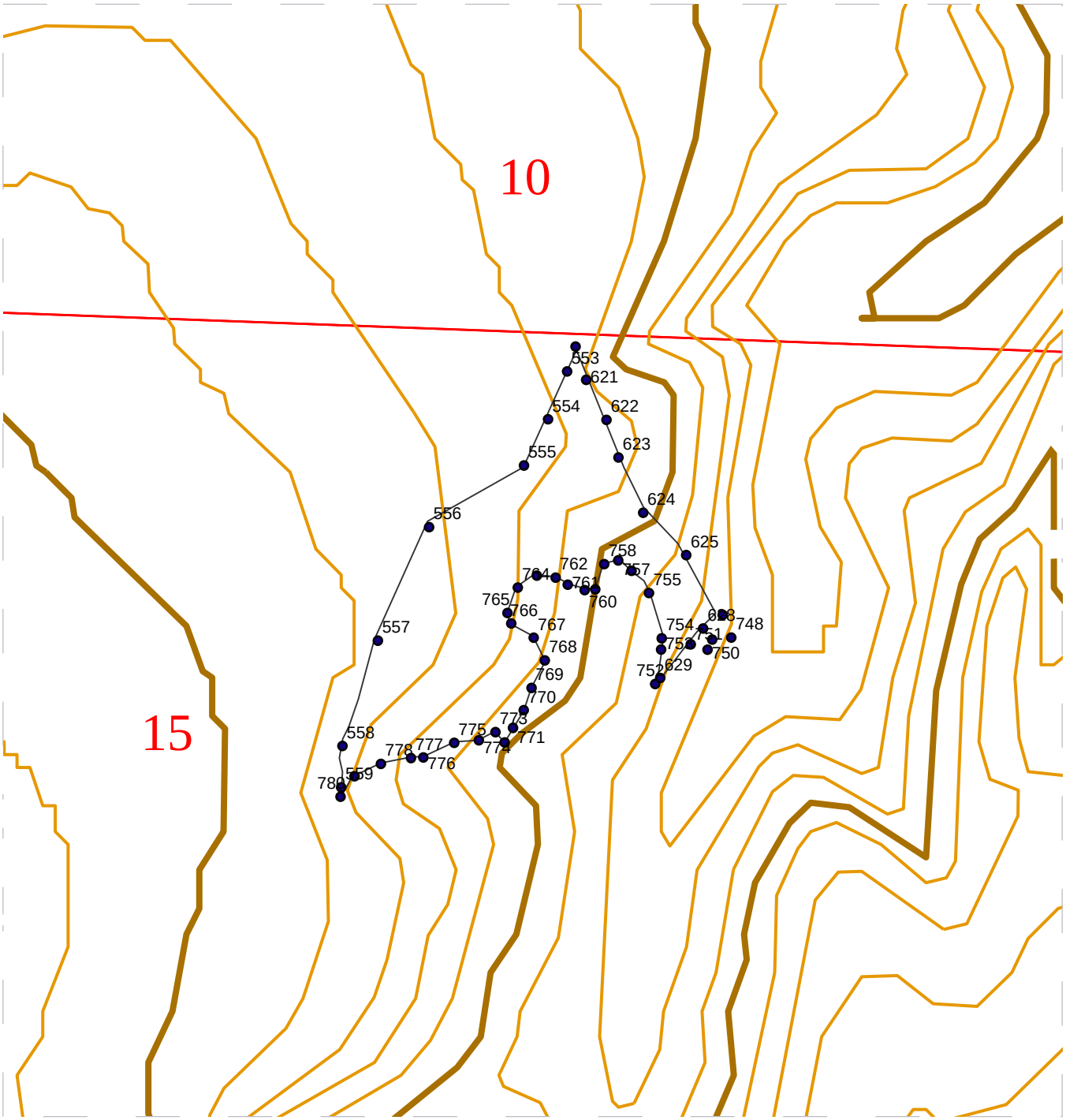
Washington State Department of Natural Resources
Peter Goldmark, Commissioner of Public Lands

Oct 20, 2015 07:44 AM

TRAVERSE MAP

SALE NAME: DEER
AGREEMENT#: 30-092347
TOWNSHIP(S): T29N R5W
TRUST(S): State Forest Board Transfer (1)

REGION: Olympic
COUNTY(S): Clallam
ELEVATION RGE: 195-1085



Unit 3 - 9.7 Net Acres

0 200 400 800 1,200 1,600 Feet

Scale 1:4800

N

Prepared By: gmff490

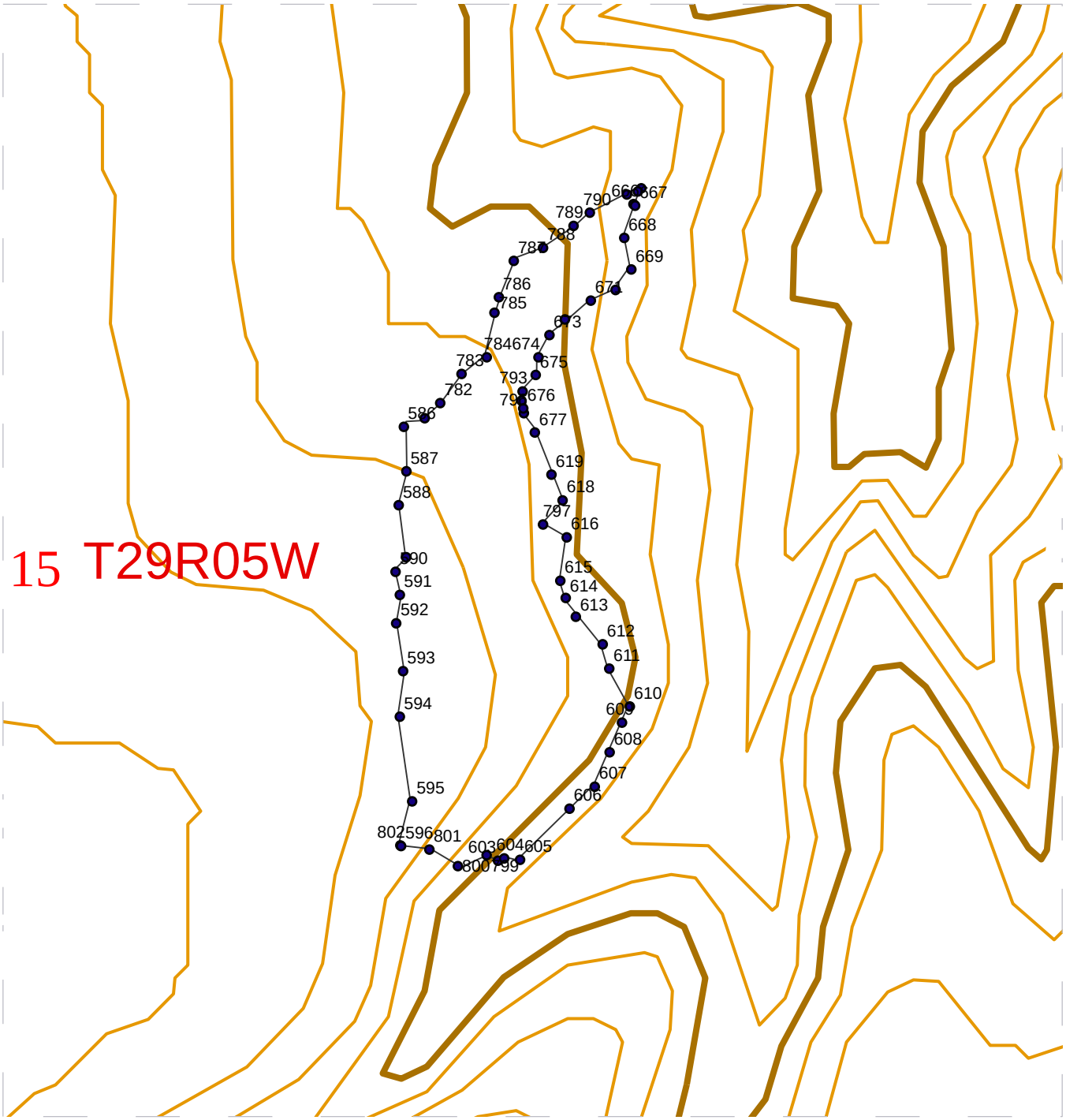
Creation Date: 12/21/15

Modification Date: N/A

TRAVERSE MAP

SALE NAME: DEER
AGREEMENT#: 30-092347
TOWNSHIP(S): T29N R5W
TRUST(S): State Forest Board Transfer (1)

REGION: Olympic
COUNTY(S): Clallam
ELEVATION RGE: 195-1085



Unit 4 - 14.7 Net Acres

0 200 400 800 1,200 1,600 Feet

Scale 1:4800

N

Prepared By: gmff490

Creation Date: 12/21/15

Modification Date: N/A

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

FPA/N No:	2614101
Effective Date:	4/3/2016
Expiration Date:	4/3/2019
Shut Down Zone:	653S
EARR Tax Credit:	[x] Eligible [ ] Non-eligible
Reference:	DNR - Deer Timber Sale

Forest Practices Application/Notification
Notice of Decision

Decision

[ ] Notification Operations shall not begin before the effective date.

[x] Approved This Forest Practices Application is subject to the conditions listed below.

[ ] Disapproved This Forest Practices Application is disapproved for the reasons listed below.

[ ] Closed Applicant has withdrawn FPA/N.

FPA/N Classification

[ ] Class II [ ] Class III [ ] Class IVG [x] Class IVS

Number of Years Granted on Multi-Year Request

[ ] 4 years [ ] 5 years

Conditions on Approval / Reasons for Disapproval

Per WDFW recommendations, replacement of the culvert labeled as crossing C-1 shall occur between July 1 and September 30 of any calendar year.

Issued By: Ross Goodwin **Region:** Olympic

Title: Forest Practice Forester **Date:** 4/3/2016

Copies to: **[x] Landowner, Timber Owner and Operator.**

Issued in person: **[x] Landowner [ ]Timber Owner [ ] Operator By:** Connie L Sallee

Appeal Information

You have thirty (30) days to appeal this Decision and any related State Environmental Policy Act determinations to the Pollution Control Hearings Board in writing at the following addresses:
Physical address: 1111 Israel Rd. SW, Ste 301, Tumwater, WA 98501
Mailing address: P.O. BOX 40903, OLYMPIA, WA 98504-0903
Information regarding the Pollution Control Hearings Board can be found at: http://www.eho.wa.gov/
At the same time you file an appeal with the Pollution Control Hearings Board, also send a copy of the appeal to the Department of Natural Resources' region office and the Office of the Attorney General at the following addresses:

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

And

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

Other Applicable Laws

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

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

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

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

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

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

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

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

DNR affidavit of mailing:

On this day_____, I placed in the United States mail at _____, WA,
(date) (post office location)
postage paid, a true and accurate copy of this document. Notice of Decision FPA # 2614101

_____ _____
(Printed name) (Signature)

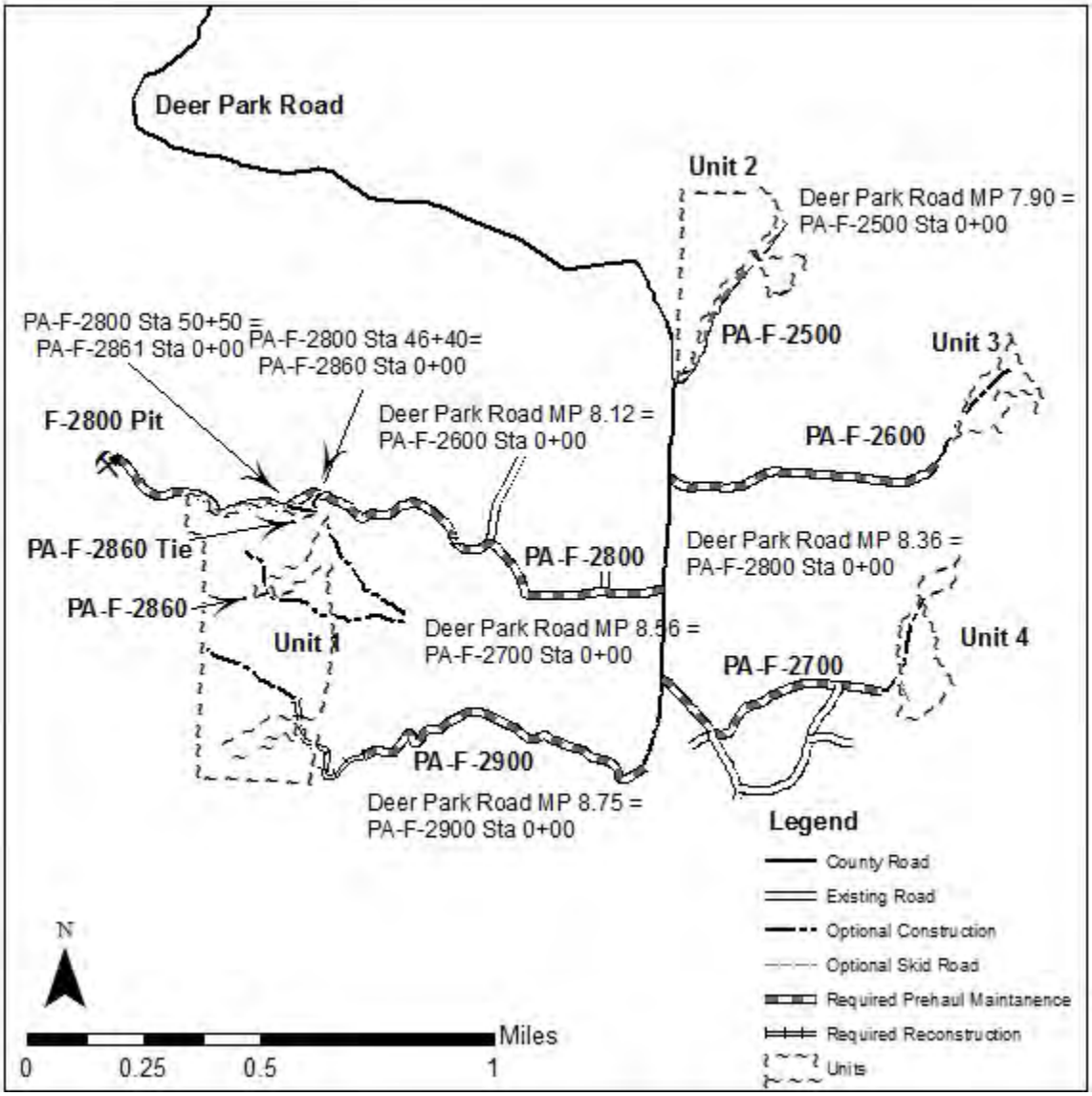
STATE OF WASHINGTON
DEPARTMENT OF NATURAL RESOURCES

DEER TIMBER SALE ROAD PLAN
CLALLAM COUNTY
STRAITS DISTRICT

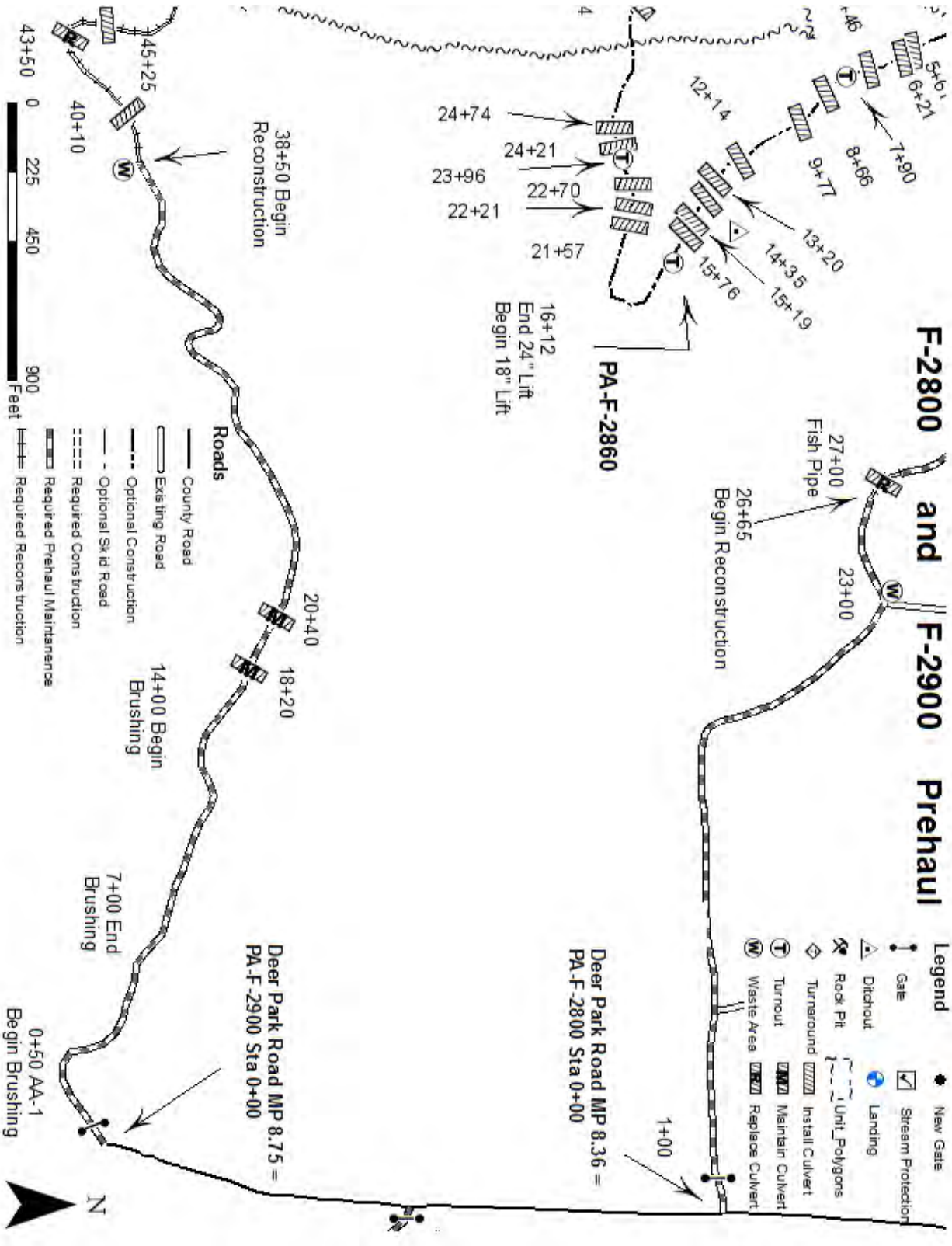
AGREEMENT NO.: 30-092347 STAFF ENGINEER: MADISEN WARNSTADT

DATE: 1/1/2016

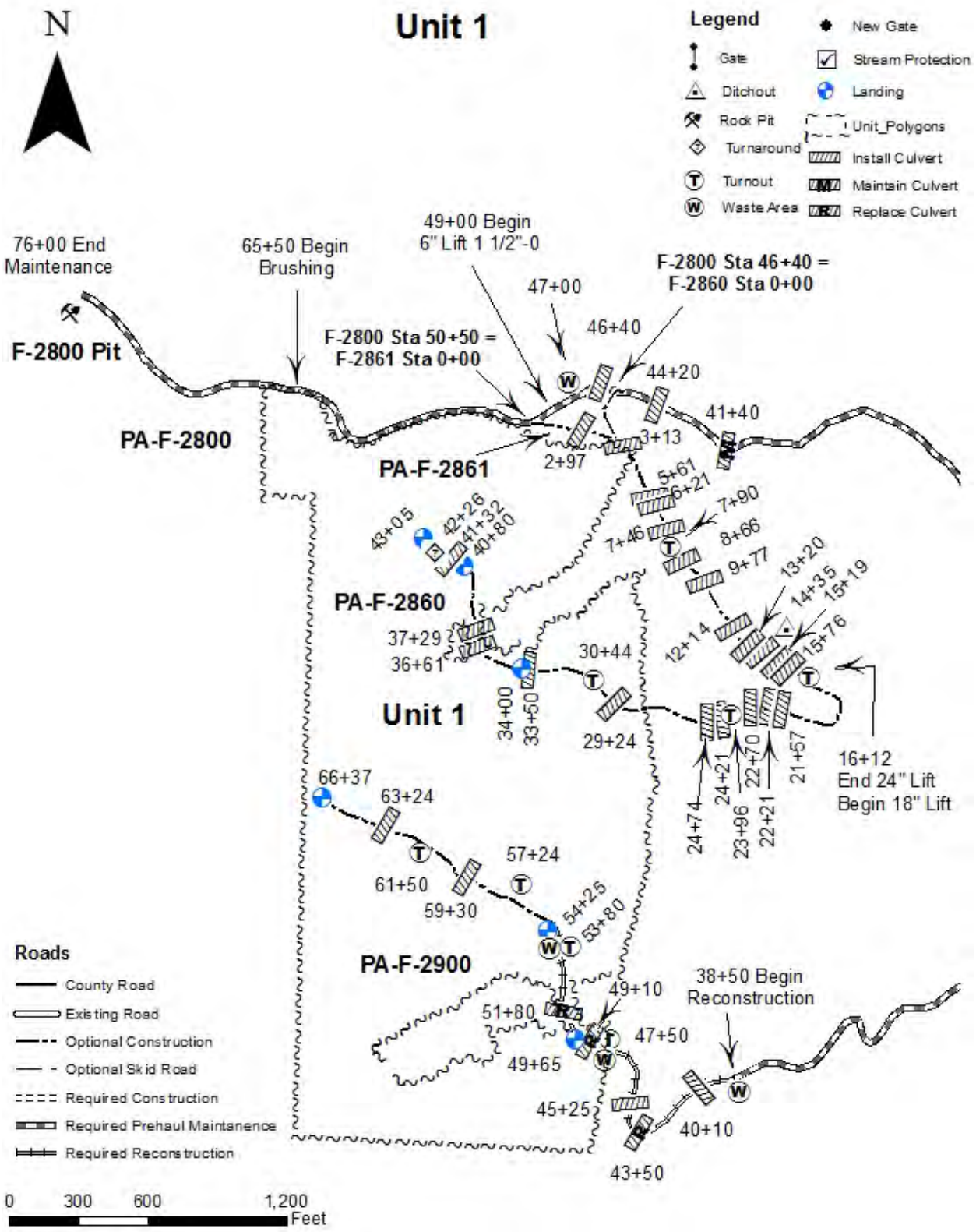
MAP 1 OF 5
DEER VICINITY MAP
SEC. 10, 15, 16, 17, T29N R05W, W.M.
CLALLAM COUNTY, WASHINGTON



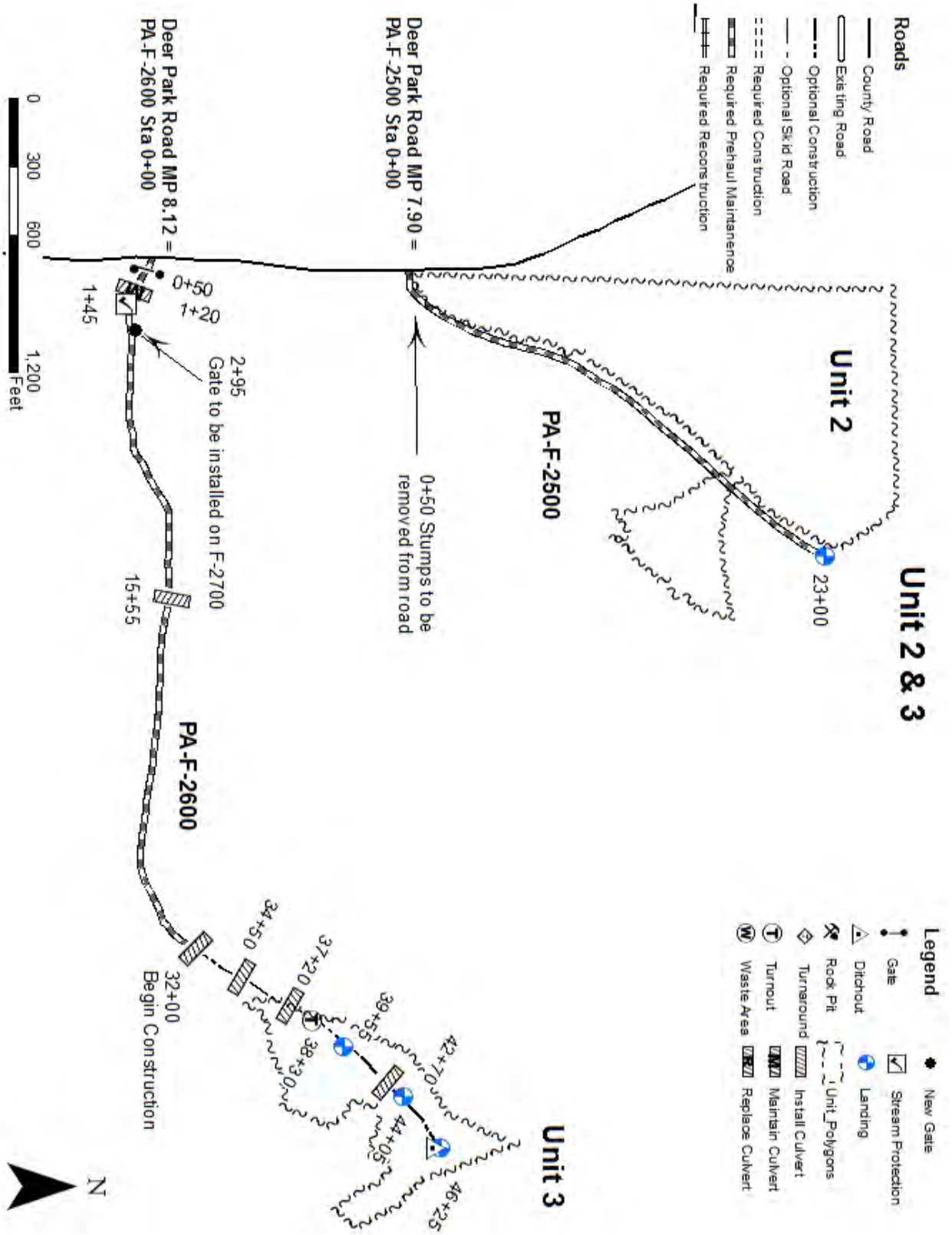
MAP 2 OF 5


F-2800 and F-2900 Prehaul
PA-F-2860
Legend
New Gate
Gate
Stream Protection
Ditchout
Landing
Rock Pit
Unit_Polygons
Turnaround
Install Culvert
Turnout
Maintain Culvert
Waste Area
Replace Culvert
Roads
County Road
Existing Road
Optional Construction
Optional Skid Road
Required Construction
Required Prehaul Maintanence
Required Reconstruction
0 225 450 900 Feet
N
43+50
45+25
40+10
38+50 Begin Reconstruction
20+40
18+20
14+00 Begin Brushing
7+00 End Brushing
0+50 AA-1 Begin Brushing
Deer Park Road MP 8.75 = PA-F-2900 Sta 0+00
Deer Park Road MP 8.36 = PA-F-2800 Sta 0+00
1+00
23+00
27+00 Fish Pipe
26+65 Begin Reconstruction
24+74
24+21
23+96
22+70
22+21
21+57
16+12 End 24" Lift Begin 18" Lift
15+76
15+19
14+35
13+20
12+14
9+77
8+66
7+90
6+21

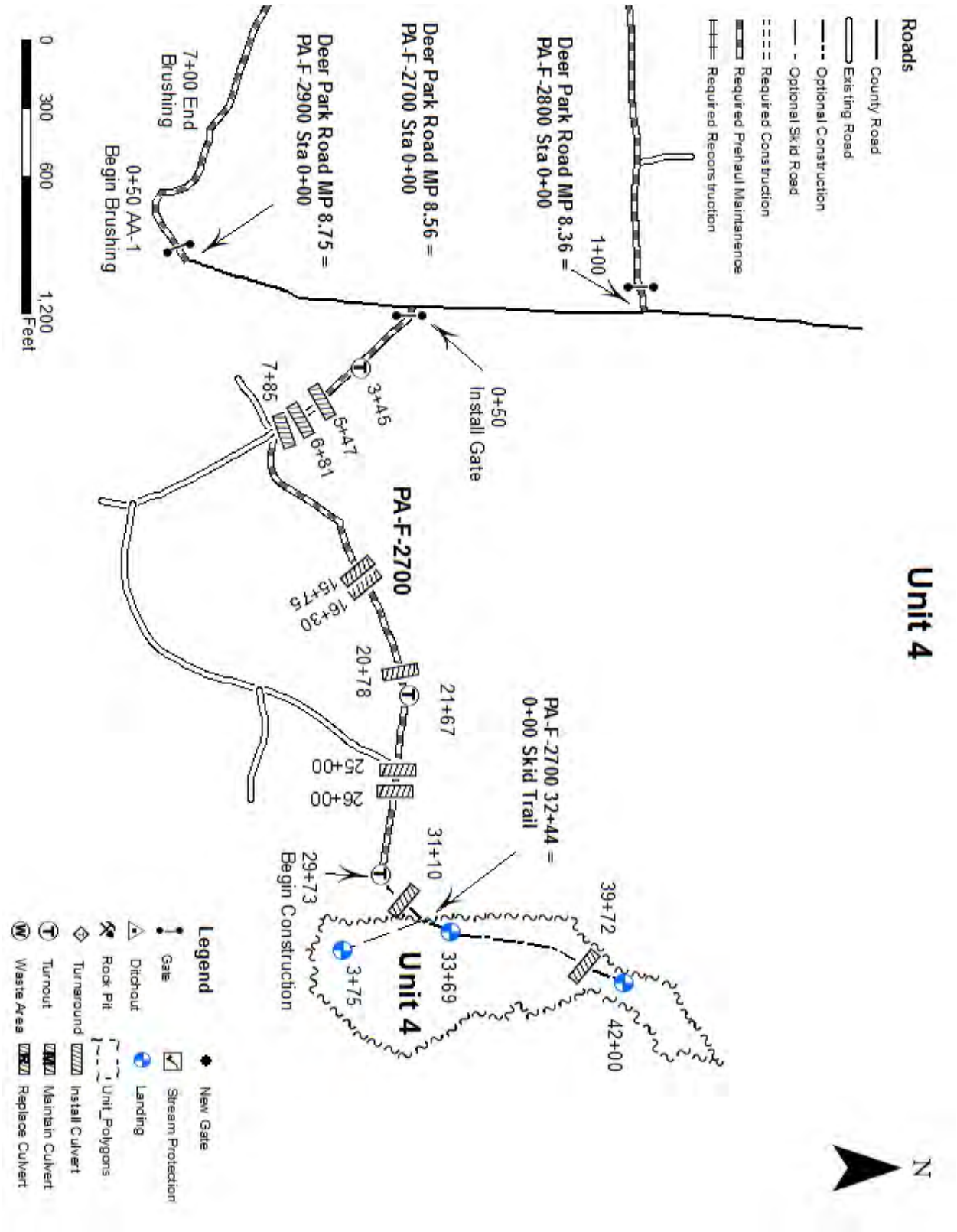
MAP 3 OF 5


N
Unit 1
Legend
New Gate
Gate
Stream Protection
Ditchout
Landing
Rock Pit
Unit_Polygons
Turnaround
Install Culvert
Turnout
Maintain Culvert
Waste Area
Replace Culvert
76+00 End Maintenance
65+50 Begin Brushing
49+00 Begin 6" Lift 1 1/2"-0
F-2800 Sta 46+40 = F-2860 Sta 0+00
47+00
46+40
F-2800 Sta 50+50 = F-2861 Sta 0+00
44+20
41+40
F-2800 Pit
PA-F-2800
PA-F-2861
3+13
2+97
5+61
6+21
7+90
7+46
8+66
9+77
43+05
42+26
41+32
40+80
PA-F-2860
13+20
14+35
15+19
12+14
15+76
37+29
36+61
30+44
Unit 1
34+00
33+50
29+24
24+21
22+70
21+57
16+12
End 24" Lift
Begin 18" Lift
24+74
23+96
22+21
66+37
63+24
57+24
61+50
59+30
54+25
53+80
PA-F-2900
49+10
38+50 Begin Reconstruction
51+80
47+50
49+65
45+25
40+10
43+50
Roads
County Road
Existing Road
Optional Construction
Optional Skid Road
Required Construction
Required Prehaul Maintanence
Required Reconstruction
0
300
600
1,200
Feet

MAP 4 OF 5


Roads
County Road
Existing Road
Optional Construction
Optional Skid Road
Required Construction
Required Prehaul Maintanence
Required Reconstruction
Legend
Gate
New Gate
Ditchout
Stream Protection
Landing
Rock Pit
Unit_Polygons
Turnaround
Install Culvert
Turnout
Maintain Culvert
Waste Area
Replace Culvert
Unit 2 & 3
Unit 2
Unit 3
PA-F-2500
PA-F-2600
Deer Park Road MP 7.90 =
PA-F-2500 Sta 0+00
Deer Park Road MP 8.12 =
PA-F-2600 Sta 0+00
0+50 Stumps to be removed from road
2+95 Gate to be installed on F-2700
0+50
1+20
1+45
15+55
23+00
32+00
Begin Construction
34+50
37+20
38+25
39+55
42+70
44+05
46+25
0
300
600
1,200
Feet
N

MAP 5 OF 5


Unit 4
Roads
County Road
Existing Road
Optional Construction
Optional Skid Road
Required Construction
Required Prehaul Maintanence
Required Reconstruction
Deer Park Road MP 8.36 = PA-F-2800 Sta 0+00
1+00
Deer Park Road MP 8.56 = PA-F-2700 Sta 0+00
Deer Park Road MP 8.75 = PA-F-2900 Sta 0+00
7+00 End Brushing
0+50 AA-1 Begin Brushing
0+50 Install Gate
3+45
5+47
6+81
7+85
PA-F-2700
15+75
16+30
20+78
21+67
25+00
26+00
29+73 Begin Construction
31+10
PA-F-2700 32+44 = 0+00 Skid Trail
39+72
42+00
33+69
3+75
Unit 4
N
0
300
600
1,200
Feet
Legend
Gate
Ditchout
Rock Pit
Turnaround
Turnout
Waste Area
New Gate
Stream Protection
Landing
Unit_Polygons
Install Culvert
Maintain Culvert
Replace Culvert

SECTION 0 – SCOPE OF PROJECT

0-1 ROAD PLAN SCOPE

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

0-2 REQUIRED ROADS

The specified work on the following roads is required.

Road	Stations	Type
PA-F-2500	0+00 to 23+00	Prehaul Maintenance
PA-F-2600	0+00 to 32+00	Prehaul Maintenance
PA-F-2700	0+00 to 29+73	Prehaul Maintenance
PA-F-2800	0+00 to 26+65 & 27+35 to 76+00	Prehaul Maintenance
PA-F-2800	26+65 to 27+35	Reconstruction
PA-F-2900	0+00 to 38+50	Prehaul Maintenance
PA-F-2900	38+50 to 54+25	Reconstruction

0-3 OPTIONAL ROADS

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

Road	Stations	Type
PA-F-2600	32+00 to 46+25	Construction
PA-F-2700	29+73 to 42+00	Construction
PA-F-2860	0+00 to 43+05	Construction
PA-F-2861	0+00 to 3+91	Construction
PA-F-2900	54+25 to 66+37	Construction

0-4 CONSTRUCTION

Construction includes, but is not limited to clearing, grubbing, right-of-way debris disposal, excavation and embankment to sub-grade, full-bench endhaul, landing, and turnout construction, culvert acquistion and installation, manufactor and application of rock,rock pit development, erosion control, compaction, and construct ditchlines.

0-5 RECONSTRUCTION

Reconstruction includes, but is not limited to clearing, grubbing, right-of-way debris disposal, excavation and embankment to sub-grade, landing, and turnout construction, culvert acquisition and installation, fish passage culvert installation, manufactor/application of rock, erosion control, compaction, and ditchline cleaning.

0-6 PRE-HAUL MAINTENANCE

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

Road	Stations	Requirements
PA-F-2500	0+00 to 23+00	Grade, shape and compact and apply spot rock as indicated in the ROCK LIST and as directed by Contract Administrator. Clean inlets and outlets of all culverts. Clean ditches. Remove Spoils Berm. Contruct Landings as indicated in ROCK LIST. Brush road in accordance with BRUSHING DETAIL.
PA-F-2600	0+00 to 32+00	Grade, shape and compact and apply spot rock as indicated in the ROCK LIST and as directed by Contract Administrator. Clean inlets and outlets of all culverts. Clean ditches. Install culverts as listed in CULVERT LIST. Install SEDIMENT TRAPS at 1+45 in accordance with the SEDIMENT TRAP DETAIL.
PA-F-2700	0+00 to 29+73	Grade, shape and compact and rock as indicated in the ROCK LIST and as directed by Contract Administrator. Clean inlets and outlets of all culverts. Clean ditches. Clear road. Install gate as per Clause 7-76.
PA-F-2800	0+00 to 26+65 & 27+35 to 76+00	Grade, shape and compact and rock as indicated in the ROCK LIST and as directed by Contract Administrator. Install culverts listed in the CULVERT LIST. Clean inlets and outlets of all culverts. Clean ditches. Brush road from 65+50 to 76+00 in accordance with BRUSHING DETAIL.
PA-F-2900	0+00 to 38+50	Grade, shape and compact and rock as indicated in the ROCK LIST and apply spot rock as directed by Contract Administrator. Clean inlets and outlets of all culverts. Clean ditches. Prime and paint gate safety yellow and grease fittings. Install SEDIMENT TRAPS at 31+60 in accordance with the SEDIMENT TRAP DETAIL.

0-7 POST-HAUL MAINTENANCE

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

0-10 ABANDONMENT

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

0-12 DEVELOP ROCK SOURCE

Purchaser may develop an existing rock source. Rock source development will involve clearing, stripping, drilling, shooting, manufacturing of rock, and hauling and compaction of overburden. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

0-13 STRUCTURES

Purchaser shall provide and install a 132" by 78' CMP. Requirements for this structures is listed in Section 7 STRUCTURES.

SECTION 1 – GENERAL

1-1 ROAD PLAN CHANGES

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

1-2 UNFORESEEN CONDITIONS

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

1-3 ROAD DIMENSIONS

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

1-4 ROAD TOLERANCES

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

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

1-5 DESIGN DATA

Plan, profile, and cross section design data is attached at the end of the ROAD PLAN on page 62 to 125.

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

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

1-7 TEMPORARY ROAD CLOSURE

Purchaser shall notify the Contract Administrator a minimum of 7 days before the closure of any road. Construction may not close any road for more than 21 calendar days.

1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS

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

1-9 DAMAGED METALLIC COATING

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

1-10 WSDOT STANDARD SPECIFICATION REFERENCE

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

1-15 ROAD MARKING

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

- Orange ribbon and paint for prehaul maintenance, reconstruction and construction work.
- ROW is marked with a orange ROW Tags.

1-16 CONSTRUCTION STAKES SET BY STATE

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

Road	Stations	Type
PA-F-2860	0+00 to 43+05	Construction
PA-F-2900	38+50 to 54+25	Reconstruction
PA-F-2900	54+25 to 66+37	Construction

1-18 REFERENCE POINT DAMAGE

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

1-21 HAUL APPROVAL

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

1-22 WORK NOTIFICATIONS

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

1-23 ROAD WORK PHASE APPROVAL

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

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

1-25 ACTIVITY TIMING RESTRICTION

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

Road	Stations	Activities	Closure Period
All	All	Prehaul Maintenance, road construction and reconstruction, rock haul, rock pit development, and timber haul.	November 1st to April 30th

1-26 OPERATING DURING CLOSURE PERIOD

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

1-29 SEDIMENT RESTRICTION

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

1-30 CLOSURE TO PREVENT DAMAGE

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

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

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

1-33 SNOW PLOWING RESTRICTION

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

1-40 ROAD APPROACHES TO COUNTY ROADS AND STATE HIGHWAYS

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

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

1-43 ROAD WORK AROUND UTILITIES

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

Road	Station	Utility
PA-F-2500	0+00	Buried Utilities
PA-F-2600	0+00	Buried Utilities
PA-F-2700	0+00	Buried Utilities
PA-F-2800	0+00	Buried Utilities
PA-F-2900	0+00	Buried Utilities

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 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 application of rock.

2-6 CLEANING CULVERTS

Purchaser shall clean the inlets and outlets of all culverts and shall obtain written approval of cleaning from the Contract Administrator before timber haul.

2-7 CLEANING DITCHES, HEADWALLS, AND CATCH BASINS

Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before timber haul and must be done in accordance with the TYPICAL SECTION SHEET and CULVERT AND DRAINAGE INSTALLATION DETAIL. Pulling ditch material across the road or mixing in with the road surface is not allowed.

2-8 MAINTAINING EROSION CONTROL STRUCTURES

On the following road(s), Purchaser shall clean and maintain all erosion control structures. Work must be completed before timber haul and must be done in accordance with the SEDIMENT TRAP DETAIL. Excavated material must be scattered outside the grubbing limits.

Road	Stations	Comments
PA-F-2600	1+45	Install Sediment Traps
PA-F-2860	5+61	Install Sediment Traps
PA-F-2860	22+21	Install Sediment Traps
PA-F-2900	31+60	Install Sediment Traps

SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

3-1 BRUSHING

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

Road	Stations
PA-F-2500	0+00 to 23+00
PA-F-2800	65+50 to 76+00

3-2 BRUSHING RESTRICTION

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

3-5 CLEARING

Purchaser shall fall all vegetative material larger than 2 inches DBH or over 1 feet high between the marked right-of-way boundaries or if not marked in the field, between the clearing limits specified on the TYPICAL SECTION SHEET. Clearing must be completed before starting excavation and embankment.

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

Purchaser shall place a log, with length equal to two (2) times the width of the ordinary high water, from the largest diameter class conifer tree cut from within the Inner Zone (25 feet either side of the stream) in the stream in accordance with the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL.

3-7 RIGHT-OF-WAY DECKING

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

3-8 PROHIBITED DECKING AREAS

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

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

3-10 GRUBBING

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

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

Purchaser shall retain all grubbed stumps (root wads) within the Inner Zone (25 feet either side of the stream) for placement in accordance with the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL. Three root wads must be placed in or adjacent to the stream channel. The remaining stumps grubbed from the Inner Zone must be placed at least 50 feet from the roadway in the Middle (25 feet to 100 feet from the stream) or the Outer Zones (remaining portion of RMZ).

3-12 STUMP PLACEMENT

Purchaser shall place grubbed stumps outside of the clearing limits and in compliance with all other clauses in this road plan. Stumps must be positioned 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 grubbing limits as shown on the TYPICAL SECTION SHEET.

3-21 DISPOSAL COMPLETION

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

3-22 DESIGNATED WASTE AREA FOR ORGANIC DEBRIS

Waste areas for organic debris are located as listed below and within the cleared right-of-way or in natural openings as designated at areas approved in writing by the Contract Administrator.

Road	Disposal Location	Requirements
PA-F-2800	23+00 on North side of road West of F-2850	Keep separate from overburden
PA-F-2800	47+00 on north side of road	Keep separate from overburden
PA-F-2900	38+50 in pit	Keep separate from overburden
PA-F-2900	47+50 on south side of road	Keep separate from overburden
PA-F-2900	53+80 on west side of road	Keep separate from overburden

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, unless used to comply with the specifications detailed in Clause 3-6 CLEARING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING, and Clause 3-11 GRUBBING WITHIN RIPARIAN AREA AT TYPE 1-3 STREAM CROSSING, or the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL.
- 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.

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 grubbing limits in natural openings downhill side of the road unless otherwise detailed in this road plan. Where natural openings are unavailable or restrictive, alternate debris disposal methods are subject to the written approval of the Contract Administrator.

3-30 EXCLUSION OF DOZER BLADES

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

3-31 PILING

Purchaser shall pile organic debris no closer than 10 feet from standing timber and no higher than 10 feet in areas specified in Clause 3-22DESIGNATED WASTE AREA FOR ORGANIC DEBRIS. Piles must be free of rock and soil.

3-32 END HAULING ORGANIC DEBRIS

On the following road(s), 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.

Road	Stations
PA-F-2860	27+50 to 43+05
PA-F-2900	54+25 to 66+37

SECTION 4 – EXCAVATION

4-1 EXCAVATOR CONSTRUCTION

Purchaser shall use a track mounted hydraulic excavator for construction work.

4-2 PIONEERING

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

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

4-3 ROAD GRADE AND ALIGNMENT STANDARDS

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

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 12 percent adverse.
- Minimum curve radius is 60 feet at centerline.
- Maximum grade change for sag vertical curves is 5% in 100 feet.
- Maximum grade change for crest vertical curves is 4% in 100 feet.

4-4 SWITCHBACK STANDARDS

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

- Maximum adverse grades for switchbacks is 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:

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

4-6 EMBANKMENT SLOPE RATIO

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

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

4-7 SHAPING CUT AND FILL SLOPE

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

4-8 CURVE WIDENING

The minimum widening placed on the inside of curves is:

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

4-9 EMBANKMENT WIDENING

The minimum embankment widening is:

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

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

4-10 WIDEN THE EXISTING SUBGRADE

Purchaser shall widen the subgrade and fill slopes to the dimensions shown on the TYPICAL SECTION SHEET. If necessary, Purchaser shall reconstruct excavation slopes to provide sufficient width for the road surface and any ditches.

4-12 FULL BENCH CONSTRUCTION

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

Road	Full Bench Location
PA-F-2860	27+00 to 43+05
PA-F-2900	54+25 to 66+37

4-13 DAYLIGHT EXCAVATION ON EXISTING ROADS

Where directed by the Contract Administrator, Purchaser shall excavate the outside shoulder to daylight.

4-21 TURNOUTS

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

4-22 TURNAROUNDS

Purchaser shall construct turnarounds as designated on the ROCK LIST. Optional Turnarounds must be no larger than 30 feet long and 20 feet wide. Locations are subject to written approval by the Contract Administrator.

4-25 DITCH CONSTRUCTION AND RECONSTRUCTION

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

4-27 DITCH WORK – MATERIAL USE PROHIBITED

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

4-28 DITCH DRAINAGE

Ditches must drain to cross-drain culverts or ditchouts.

4-29 DITCHOUTS

Purchaser shall construct ditchouts at locations shown on the CULVERT LIST and as needed. 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. The amount of material allowed in a waste area is as listed.

Road	Waste Area Location	Comments	Volume
PA-F-2800	23+00 on North side of road West of F-2850	Waste Area 132”x78” install	500 c.y.
PA-F-2800	47+00 on north side of road	Waste Area for F-2860	1,000 c.y.
PA-F-2900	38+50 in pit	Waste Area for 43+50 Culvert Removal and Curve Widening	550 c.y.
PA-F-2900	38+50 in pit	Waste Area for Full Bench	1,500 c.y.
PA-F-2900	47+50 on south side of road	Waste Area for 49+10 and 51+80 Culvert	750 c.y.
PA-F-2900	53+80 on west side of road	Waste Area for Full Bench	7,700 c. y.

4-38 PROHIBITED WASTE DISPOSAL AREAS

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

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

4-47 NATIVE MATERIAL

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

4-55 ROAD SHAPING

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

4-56 DRY WEATHER SHAPING

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

4-60 FILL COMPACTION

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

4-61 SUBGRADE COMPACTION

Purchaser shall compact constructed and reconstructed subgrades deeper than 5 feet at the road shoulder 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.

4-62 DRY WEATHER COMPACTION

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

4-63 EXISTING SURFACE COMPACTION

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

SECTION 5 – DRAINAGE

5-1 REMOVAL OF SHOULDER BERMS

Purchaser shall remove berms from road shoulders.

5-5 CULVERTS

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

5-8 BEVELED ENDS

The following culverts must have their ends beveled as specified F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL.

Road	Station	Bevel Type
PA-2800	27+00	1.5H to 1V

5-11 UNUSED MATERIALS STATE PROPERTY

On required roads, any materials listed on the CULVERT LIST that are not installed will become the property of the state. Purchaser shall stockpile materials at the Port Angeles Work Center.

5-15 CULVERT INSTALLATION

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

5-16 APPROVAL FOR LARGER CULVERT INSTALLATION

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

5-17 CROSS DRAIN SKEW AND SLOPE

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

5-18 CULVERT DEPTH OF COVER

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

5-20 ENERGY DISSIPATERS

Purchaser shall install energy dissipaters at all cross drain culvertsat all culverts on the CULVERT LIST that specify the placement of rock.

The type of energy dissipater and the amount of material must be consistent with the specifications listed on the ROCK LIST. Rock used for energy dissipaters must Light Loose Rip Rap. Energy dissipaters must extend a minimum of 1 foot to each side of the culvert at the outlet and a minimum of 2 feet beyond the outlet. Rock must be set in place by machine. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. Light Loose Rip Rap shall meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

5-21 DOWNSPOUTS AND FLUMES

Downspouts and flumes longer than 10 feet must be staked on both sides at maximum intervals of 10 feet with 6-foot heavy-duty steel posts, and fastened securely to the posts with 3/8-inch bolts in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL.

5-25 CATCH BASINS

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

5-26 HEADWALLS FOR CROSS DRAIN CULVERTS

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all culverts on the CULVERT LIST that specify the placement of rock. Rock used for headwalls must be LIGHT LOOSE RIP RAP. 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 by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. LIGHT LOOSE RIP RAP shall meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

5-27 ARMORING FOR STREAM CROSSING CULVERTS

At the following culvert(s), Purchaser shall place LIGHT LOOSE RIP RAP in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets as designated on the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL and attached culvert design(s). 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 by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. LIGHT LOOSE RIP RAP must meet the specifications in Clause 6-50 LIGHT LOOSE RIP RAP.

Road	Stations
PA-F-2800	27+00, 44+20
PA-F-2860	5+61, 8+66, 13+20, 22+21, 36+61
PA-F-2900	43+50, 51+80

SECTION 6 – ROCK AND SURFACING

6-2 ROCK SOURCE ON STATE LAND

Rock used in accordance with the quantities on the ROCK LIST may be obtained from the following source(s) on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock source(s), a joint operating plan must be developed. All parties shall follow this plan. Purchaser shall notify the Contract Administrator a minimum of 7 calendar days before starting any operations in the listed locations.

Source	Location	Rock Type
F-2800 Pit	NE ¼ S17, T29N, R5W, W.M.	All

6-5 ROCK FROM COMMERCIAL SOURCE

Rock used in accordance with the quantities on the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL and 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 7 calendar days before starting any operations in the rock source.

Source	Rock Type
F-2800 Pit	All

6-20 ROCK GRADATION TYPES

Purchaser shall provide rock in accordance with the types and amounts listed in the ROCK LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles. Purchaser shall provide a sieve analysis upon request from the Contract Administrator.

6-22 FRACTURE REQUIREMENT FOR ROCK

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

6-23 ROCK CRUSHING OPERATIONS

Rock crushing operations must conform to the following specifications:

- Operations and placement of oversize material must be conducted in or near the rock source site, as approved in writing by the Contract Administrator.
- All testing and operations must be performed in accordance with the attached ROCK CRUSHING COMPLIANCE PROCEDURE.
- Purchaser is required to produce a sieve analysis for crushing operations every 1500 yards for 1.5” MINUS CRUSHED ROCK.
- Purchaser may use a commercial testing lab to produce sieve analyses.

6-25 FINES

% Passing U.S. #40 sieve	100%
% Passing U.S. #200 sieve	0%

The portion of aggregate retained on the No. 200 sieve may not contain more than 0.2 percent organic debris and trash. All percentages are by weight.

6-29 1 ½-INCH MINUS CRUSHED ROCK

% Passing 1 ½" square sieve	100%
% Passing 1" square sieve	50 - 85%
% Passing U.S. #4 sieve	30 - 50%
% Passing U.S. #40 sieve	16% maximum
% Passing U.S. #200 sieve	5% maximum

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

6-39 6-INCH JAW RUN ROCK

% Passing 6" in one dimension	100%
% Passing 3" square sieve	45 - 65%

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

6-47 2-FOOT MINUS ENGINEERED STREAMBED MATERIAL

% Passing 24" square sieve	100%
% Passing 12" square sieve	50 - 70%
% Passing 6" square sieve	20 - 40%
% Passing 2" square sieve	10 - 15%
% Passing U.S. #4 sieve	0 - 5%
% Passing U.S. #200 sieve	5% maximum

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

6-50 LIGHT LOOSE RIP RAP

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

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

6-55 ROCK APPLICATION MEASURED BY COMPACTED DEPTH

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

6-56 ROCK MEASURMENT BY TRUCK VOLUME

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

6-70 APPROVAL BEFORE ROCK APPLICATION

Purchaser shall obtain written approval from the Contract Administrator for subgrade compaction and drainage installation before rock application.

6-71 ROCK APPLICATION

Purchaser shall apply rock in accordance with the specifications and quantities shown on the ROCK LIST and the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL . Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. The Contract Administrator will direct locations for rock that is to be applied as spot patching. Road surfaces must be compacted in accordance with the COMPACTION LIST by routing equipment over the entire width.

6-73 ROCK FOR WIDENED PORTIONS

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

6-80 WATERING FOR DUST ABATEMENT

Purchaser shall use water for dust abatement as directed by the Contract Administrator.

7-5 STRUCTURE DEBRIS

Purchaser shall not allow debris from the installation or removal of structures to enter any stream. Purchaser shall maintain a clean jobsite, with all materials stored away from the high water mark or other area presenting a risk of the materials entering a stream. Debris entering any stream must be removed immediately, and placed in the site(s) designated for stockpiling or disposal, unless otherwise stated in the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL. Purchaser shall retrieve all material carried downstream from the jobsite.

7-6 STREAM CROSSING INSTALLATION

Purchaser shall install stream crossing structures in accordance with the manufacturer's requirements, the FPHP and the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL.

7-7 BANK PROTECTION FOR STREAM CROSSING STRUCTURES

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

7-16 STRUCTURE ACCEPTANCE

The Region Engineer or designee will inspect the structure upon delivery. Acceptance will be issued if the structure meets all specifications and certifications. Structures that are not accepted may not be installed.

7-55 LARGE CULVERT INSTALLATION

Purchaser shall provide and install large culverts in accordance with the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL. Culvert designs must meet or exceed the following specifications:

Road	PA-F-2800
Station	27+00
Type	CMP
Material and Coating Type*	Aluminzed Steel
Span (in.)	132
Length (ft.)	78
End design	Bevel
Corrugations	3” by 1” or 5” by 1”
Gauge	12

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

7-56 STEEL PIPE, PIPE ARCH, AND STRUCTURAL PLATE INSTALLATION

Purchaser shall install steel pipe, pipe arches, and structural plate culverts in accordance with the National Corrugated Steel Pipe Association "Installation Manual for Corrugated Steel Pipe, Pipe Arches, and Structural Plate." Installation is subject to the inspection and approval of the Contract Administrator before placement and backfill. The latest edition of the NCSPA Installation Manual can be found at www.ncspa.org.

7-57 CULVERT SHAPE CONTROL

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

7-58 MATERIAL INSIDE CULVERT

Purchaser shall provide and install 2-FOOT MINUS ENGINEERED STREAMBED MATERIAL rock inside the following culvert(s) as specified in the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL. 2-FOOT MINUS ENGINEERED STREAMBED MATERIAL must meet the specifications in Clause 6-47 2-FOOT MINUS ENGINEERED STREAMBED MATERIAL and quantities in the F-2800 ROAD 27+00 FISH PASSAGE CULVERT DETAIL and ROCK LIST .

Road	Station
PA-F-2800	27+00

7-70 GATE CLOSURE

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

Road	Station
PA-F-2600	0+50
PA-F-2700	0+50
PA-F-2800	1+00
PA-F-2900	0+50

7-75 GATE MAINTENANCE

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

Road	Station	Requirements
PA-F-2600	0+50	Sand, Prime, paint two coats of safety yellow. Stencil "DO NOT BLOCK GATE" on the bar of the gate with 3 inch letters in black paint. Lubricate all grease points.
PA-F-2800	1+00	Sand, Prime, paint two coats of safety yellow. Stencil "DO NOT BLOCK GATE" on the bar of the gate with 3 inch letters in black paint. Lubricate all grease points.
PA-F-2900	0+50	Sand, Prime, paint two coats of safety yellow. Stencil "DO NOT BLOCK GATE" on the bar of the gate with 3 inch letters in black paint. Lubricate all grease points.

7-76 GATE INSTALLATION

Purchaser shall install the listed gate**.**

Road	Station	Provided by
PA-F-2700	0+50	DNR

The gate and lock box must be installed plumb and aligned to ensure all mating components match with precision. Each post must be filled with concrete and set in a minimum of 6 cubic yards of poured-in-place concrete. The gate must be installed with a post and locking device to allow the gate to be locked in an open position. The Contract Administrator will provide Purchaser with a padlock.

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

The gate must be primed and painted in safety yellow. Stencil "DO NOT BLOCK GATE" on the bar of the gate with 3 inch letters in black paint.

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

7-77 GATE SUPPLIED BY STATE

A gate with lock box is located at 2+95 of the PA-F-2600 road. After making arrangements through the Contract Administrator, Purchaser shall transport the gate, tie-back post, and lock box to the installation site.

SECTION 8 – EROSION CONTROL

8-1 SEDIMENT CONTROL STRUCTURES

On the following road Purchaser shall install SEDIMENT TRAPS in accordance with the SEDIMENT TRAPS DETAIL.

Road	Stations	Comments
PA-F-2600	1+45	Repair and install sediment traps and silt fences.

8-2 PROTECTION FOR EXPOSED SOIL

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

8-15 REVEGETATION

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

Road	Location	Qty (lbs)*	Type
PA-F-2600	32+00 to 46+25	72	GRASS SEED
PA-F-2700	29+73 to 4200	62	GRASS SEED
PA-F-2800	26+65 to 27+35	4	GRASS SEED
PA-F-2860	0+00 to 43+05	217	GRASS SEED
PA-F-2861	0+00 to 3+91	20	GRASS SEED
PA-F-2900	38+50 to 66+37	141	GRASS SEED

*Quantities are estimates only.

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.

8-18 PROTECTION FOR SEED

Purchaser shall provide a protective cover for seed on all exposed soils within 100 feet of streams or wetlands if revegetation occurs between July 1 and March 31. The protective cover may consist of straw. Seed may not be allowed to sit exposed during any rain event.

8-19 ASSURANCE FOR SEEDED AREA

Purchaser shall ensure the growth of a uniform and dense crop (at least 50% coverage) of 3-inch tall grass. Purchaser shall reapply the GRASS SEED in areas that have failed to germinate or have been damaged through any cause. Restore eroded or disturbed areas, clean up and properly dispose of eroded materials, and reapply the straw at no addition 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 50 pounds per acre of exposed soil. Grass seed must meet the following specifications:

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

Kind and Variety of Seed in Mixture	% by Weight	Minimum % germination
Perennial Rye	40	90
Red Fescue	40	90
Highland Bent	10	85
White Clover	10	90

SECTION 9 – POST-HAUL ROAD WORK

9-1 EARTHEN BARRICADES

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

Road	Stations
PA-F-2500	0+50

9-3 CULVERT MATERIAL REMOVED FROM STATE LAND

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

9-5 POST-HAUL MAINTENANCE

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

Road	Stations	Additional Requirements
All	All	Clean ditches and cut banks, culvert inlet and outlets, and grade and compact road surface

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.

9-20 ROAD DECOMMISSIONING

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

Road	Stations
F-2900	38+50 to 66+37

9-21 ROAD ABANDONMENT

Purchaser shall abandon the following roads before the termination of this contract. Work must be in accordance with the ROAD ABANDONMENT CROSS SECTIONS DETAIL.

Road	Stations
PA-F-2500	0+00 to 23+00

9-22 DECOMMISSIONING

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 20 feet between waterbars or between natural drainage paths and with a maximum spacing of 200 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts according to the Cross Drain Removal Detail.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with decommissioning and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with decommissioning, all exposed soils within 100 feet of any live stream, with a 4-inch deep layer of straw.

9-23 ABANDONMENT

- Remove road shoulder berms except as directed.
- Construct non-drivable waterbars according to the attached NON-DRIVABLE WATERBAR DETAIL at a maximum spacing that will produce a vertical drop of no more than 5 feet between waterbars or between natural drainage paths and with a maximum spacing of 100 feet, or as marked in the field.
- Skew waterbars at least 30 degrees from perpendicular to the road centerline on roads in excess of 3 percent grade.
- Key waterbars into the cut-slope to intercept the ditch. Waterbars must be outsloped to provide positive drainage. Outlets must be on stable locations.
- Block roads with earthen barricades in accordance with the attached EARTHEN BARRICADE DETAIL.
- Remove culverts.
- Remove ditch cross drain culverts according to the Cross Drain Removal Detail.
- Slope all trench walls and approach embankments no steeper than 1.5:1.
- Apply grass seed concurrently with abandonment and in accordance with Section 8 EROSION CONTROL.
- Cover, concurrently with abandonment, all exposed soils within 100 feet of any live stream, with a 4-inch deep layer of straw.
- Scatter woody debris onto abandoned road surfaces.

10-15 CORRUGATED STEEL CULVERT

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

10-17 CORRUGATED PLASTIC CULVERT

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

10-20 FLUME AND DOWNSPOUT

Downspouts and flumes must meet the AASHTO specification designated for the culvert. Plastic downspouts and flumes must be Type C – corrugated single walled pipe.

10-21 METAL BAND

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

10-22 PLASTIC BAND

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

10-23 RUBBER CULVERT GASKETS

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

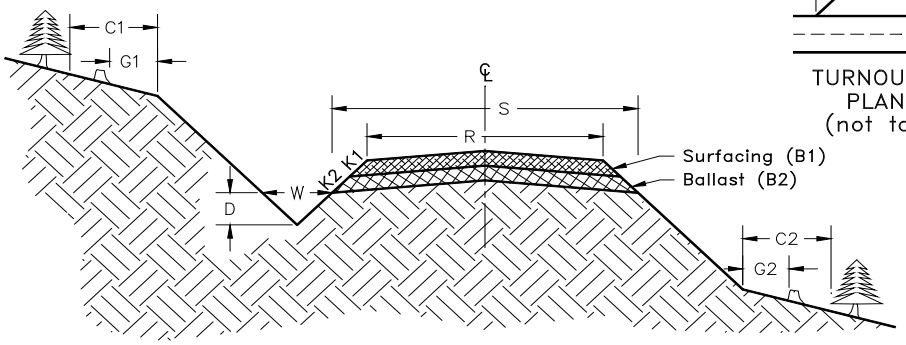
10-24 GAGE AND CORRUGATION

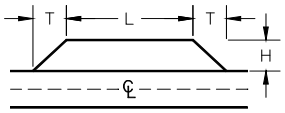
Metal culverts must conform to the following specifications for gage and corrugation as a function of diameter.

Diameter	Gage	Corrugation
18"	16 (0.064”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
24" to 48"	14 (0.079”)	$2\ ^{2}/_{3}$" X $^{1}/_{2}$"
54" to 96"	12 (0.109”)	3" X 1" or 5” x 1”

TYPICAL SECTION SHEET

ROAD CROSS–SECTION
(not to scale)



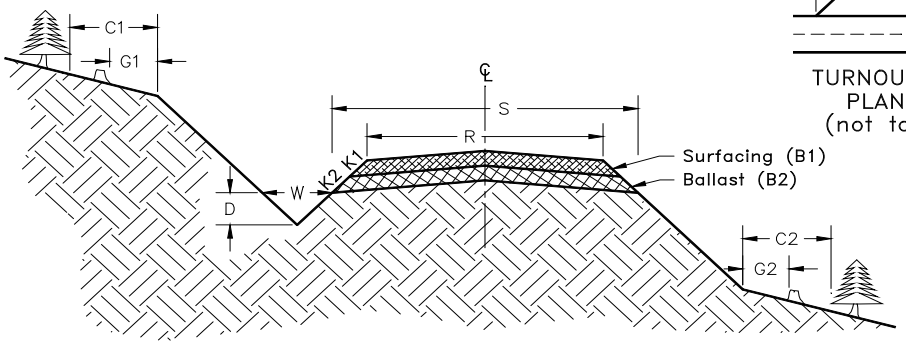


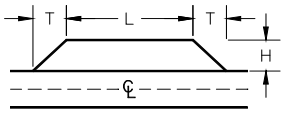
TURNOUT DETAIL
PLAN VIEW
(not to scale)

Road Name	Stations		Tolerance Class	Subgrade Width	Road Width	Ditch		Crown @ CL (in)	Grubbing Limits		Clearing Limits	
	From	To		S	R	Width	Depth		G1	G2	C1	C2
F-2500	0+00	23+00	C	16	12	3	1	3	3	3	5	5
F-2600	0+00	32+00	C	16	12	3	1	3	3	3	5	5
F-2600	32+00	46+25	C	16	12	3	1	3	3	3	ROW	ROW
F-2700	0+00	29+73	C	16	12	3	1	3	3	3	5	5
F-2700	29+73	42+00	C	16	12	3	1	3	3	3	5	5
F-2800	0+00	26+00	C	18	12	3	1	3	3	3	5	5
F-2800	26+65	27+35	A	25	20	3	1	3	3	3	5	5
F-2800	28+00	76+00	C	16	12	3	1	3	3	3	5	5
F-2860	0+00	16+12	A	18	24	3	1	3	3	3	ROW	ROW
F-2860	16+12	28+00	A	16	12	3	1	3	3	3	ROW	ROW
F-2860	28+00	43+05	A	16	12	3	1	3	3	3	5	5
F-2861	0+00	3+91	A	16	12	3	1	3	3	3	ROW	ROW
F-2900	0+00	38+50	C	16	12	3	1	3	3	3	5	5
F-2900	38+50	54+25	A	16	12	3	1	3	3	3	ROW	ROW
F-2900	54+25	66+37	A	16	12	3	1	3	3	3	ROW	ROW

TYPICAL SECTION SHEET

ROAD CROSS–SECTION
(not to scale)





TURNOUT DETAIL
PLAN VIEW
(not to scale)

Road Name	Stations		Tolerance Class	Subgrade Width	Road Width	Ditch		Crown @ CL (in)	Grubbing Limits		Clearing Limits	
	From	To		S	R	Width	Depth		G1	G2	C1	C2
F-2500	0+00	23+00	C	16	12	3	1	3	3	3	5	5
F-2600	0+00	32+00	C	16	12	3	1	3	3	3	5	5
F-2600	32+00	46+25	C	16	12	3	1	3	3	3	ROW	ROW
F-2700	0+00	29+73	C	16	12	3	1	3	3	3	5	5
F-2700	29+73	42+00	C	16	12	3	1	3	3	3	5	5
F-2800	0+00	26+00	C	18	12	3	1	3	3	3	5	5
F-2800	26+65	27+35	A	25	20	3	1	3	3	3	5	5
F-2800	28+00	76+00	C	16	12	3	1	3	3	3	5	5
F-2860	0+00	16+12	A	18	24	3	1	3	3	3	ROW	ROW
F-2860	16+12	28+00	A	16	12	3	1	3	3	3	ROW	ROW
F-2860	28+00	43+05	A	16	12	3	1	3	3	3	5	5
F-2861	0+00	3+91	A	16	12	3	1	3	3	3	ROW	ROW
F-2900	0+00	38+50	C	16	12	3	1	3	3	3	5	5
F-2900	38+50	54+25	A	16	12	3	1	3	3	3	ROW	ROW
F-2900	54+25	66+37	A	16	12	3	1	3	3	3	ROW	ROW

ROCK LIST

Rock Source A = F-2800 Pit, B = Commercial Source

6" Jaw Run Rock

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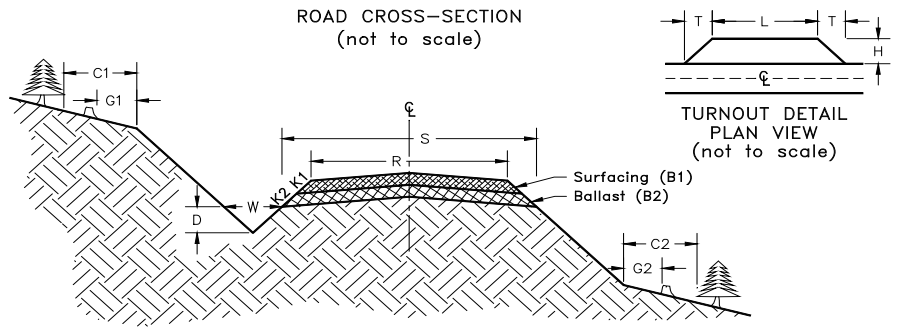


Road Name	Stations From	Stations To	Ballast Slope K1	Compacted Ballast Depth (in) B2	C. Y./ Sta	Number of Stations	Ballast Yards Total	Rock Source
F-2500	Landing		-	-	50	1.00	50	F-2800 Pit
F-2600	32+00	46+25	1.5:1	12	70	14.25	998	F-2800 Pit
	Landing		-	-	50	2.00	100	F-2800 Pit
	Turnouts		1.5:1	-	30	1.00	30	F-2800 Pit
F-2700	0+00	29+73		Varies	-	Spot Rock	80	F-2800 Pit
	29+73	42+00	1.5:1	12	70	12.27	859	F-2800 Pit
	Landings		1.5 : 1	-	50	2	100	F-2800 Pit
	Turnouts		1.5:1	12	30	3.00	90	F-2800 Pit
F-2800	26+65	27+35	1.5:1	12	115	0.70	81	F-2800 Pit
F-2860	0+00	16+12	1.5:1	18	120	16.12	1934	F-2800 Pit
	16+12	43+05	1.5:1	12	80	26.93	2154	F-2800 Pit
	Turnouts		1.5:1	12	30	5.00	150	F-2800 Pit
	Landings		-	-	50	3.00	150	F-2800 Pit
F-2861	0+00	3+91	1.5:1	12	80	3.91	313	F-2800 Pit
F-2900	38+50	66+37	1.5:1	12	80	27.87	2230	F-2800 Pit
	Turnouts		1.5:1	12	30	3.00	90	F-2800 Pit
	Landings		-	-	50	5	250	F-2800 Pit

6" Jaw Total* 9659

* See Culvert List for culvert bedding and Light Loose Rip Rap for locations

ROCK LIST

Rock Source A = F-2800 Pit, B = Commercial Source

2' MINUS ENGINEERED STREAMBED MATERIAL

Road Name	Station	2' MINUS ENGINEERED STREAMBED	Rock Source
F-2800	27+00	170	A or B

2' MINUS ENGINEERED STREAMBED TOTAL 170

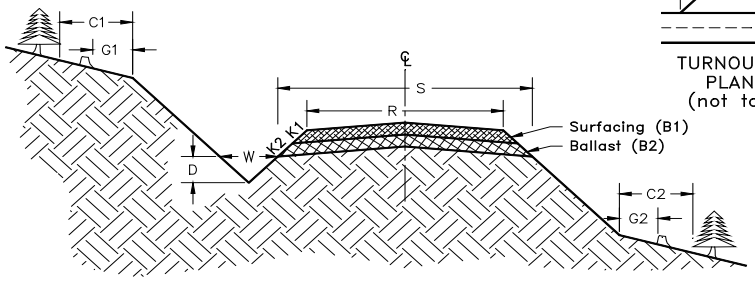
ROCK LIST

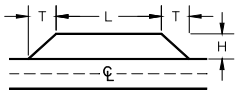
Rock Source A = F-2800 Pit, B = Commercial Source

1.5" MINUS CRUSHED ROCK

Page 2 of 2

ROAD CROSS–SECTION
(not to scale)





TURNOUT DETAIL
PLAN VIEW
(not to scale)

Road Name	Stations From	Stations To	Surface Slope K1	Compacted Surface Depth (in) B1	C. Y./ Sta	Number of Stations	Surface Yards Total	Rock Source
F-2500	0+00	23+00	-	Varies	-	Spot Rock	100	A or B
F-2600	0+00	32+00	-	Varies	-	32.00	100	A or B
F-2700	0+00	29+73	1.5 : 1	Varies	-	Spot Rock	500	A or B
F-2800	26+65	27+35	1.5 : 1	6	53	0.70	37	A or B
F-2800	49+00	76+00	1.5 : 1	6	33	33.00	1089	A or B
F-2860	0+00	43+05	1.5 : 1	6	33	43.05	1421	A or B
F-2861	0+00	3+91	1.5 : 1	6	33	3.91	129	A or B
F-2900	0+00	38+50	-	-	-	Spot Rock	30	A or B
F-2900	38+50	66+37	1.5 : 1		33	27.87	920	A or B

1.5" Minus for roads	4326
1.5" Minus for pipe bedding	1136
1.5" Minus Total	5462

ROCK LIST

Rock Source A = F-2800 Pit, B = Commercial Source

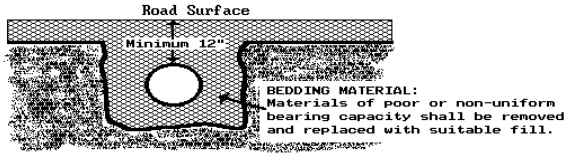
Light Loose Rip Rap

Road Name	Stations From	Stations To	Light Loose Rip Rap Yards Total	Rock Source
F-2600	0+00	32+00	5	A or B
F-2700	0+00	42+00	2	A or B
F-2800	0+00	76+00	63	A or B
F-2860	0+00	43+05	43	A or B
F-2861	0+00	3+91	1	A or B
F-2900	0+00	66+37	18	A or B

LIGHT LOOSE RIP RAP TOTAL 132

CULVERT LIST												
Page 1 of 2												
Rock Source A = F-2800 Pit, B = Commercial Source												
		Culvert		Length (feet)		Energy Dissapater (CY)			Backfill Material			
Road	Location	Diameter (in.)	Gauge	Culvert	Flume	Inlet	Outlet	Type	Type	Volume (CY)	Source	D O
F-2600	15+55	18	16	30	-	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	32+00	18	16	30	-	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	34+50	18	16	30	-	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	37+20	18	16	30	-	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	47+20	18	16	30	-	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	L
F-2700	5+47	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	6+81	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	7+85	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	15+76	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	16+30	24	16	30		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	20+78	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	25+00	18	16	40		0.50	0.50	LLRR	1 1/2" Minus	20	A or B	
	26+00	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	31+10	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	39+72	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
F-2800	27+00	132	12	78		30.00	30.00	LLRR	1 1/2" Minus	476	A or B	
	44+20	24	14	30		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	46+40	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	

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



Key:

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

CULVERT LIST												
Page 2 of 2												
Rock Source A = F-2800 Pit, B = Commercial Source												
		Culvert		Length (feet)		Energy Dissapater (CY)			Backfill Material			
Road	Location	Diameter (in.)	Gauge	Culvert	Flume	Inlet	Outlet	Type	Type	Volume (CY)	Source	D O
F-2860	3+13	18	16	40		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	5+61	24	14	40		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	6+21	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	7+46	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	8+66	24	14	40		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	9+77	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	12+14	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	13+20	24	14	30		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	14+35	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	15+19	24	14	30		1.00	1.00	LLRR	1 1/2" Minus	20	A or B	
	15+76	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	21+57	18	16	50		0.50	0.50	LLRR	1 1/2" Minus	20	A or B	
	22+21	24	14	60	30	5.00	5.00	LLRR	1 1/2" Minus	60	A or B	
	22+70	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	24+21	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	24+74	18	16	40		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	29+24	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	33+50	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	36+61	24	14	40	15	5.00	5.00	LLRR	1 1/2" Minus	20	A or B	
	37+29	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	41+32	18	16	40		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
F-2861	2+97	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
F-2900	40+10	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	43+50	42	14	45		5.00	5.00	LLRR	1 1/2" Minus	40	A or B	
	45+25	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	49+10	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	51+80	24	14	40		0.50	0.50	LLRR	1 1/2" Minus	20	A or B	
	52+30	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	55+78	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	59+30	18	16	30	20	0.50	0.50	LLRR	1 1/2" Minus	10	A or B	
	63+24	18	16	30		0.50	0.50	LLRR	1 1/2" Minus	10	A or B	

Key:

SR - Shot Rock
NT - Native (bank run)
SL - Select Fill
HL - Heavy Loose Rip Rap
LL - Light Loose Rip Rap
Flume - Half round pipe
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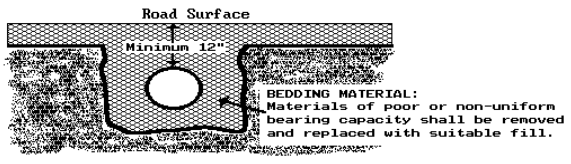
CULVERT BACKFILL AND BASE PREPARATION
(For culverts less than 36")



COMPACTION LIST

Road	From Station	To Station	Type	Max Depth Per Lift (inches)	Equipment Type	Equipment Weight (lbs)	Minimum Number of Passes	Maximum Operating Speed (mph)
F-2500	0+00	23+00	All	N/A	Vibratory Smooth Drum	20,000	1	3
F-2600	0+00	32+00	All	6	Vibratory Smooth Drum	20,000	1	3
F-2600	32+00	46+25	All	6	Vibratory Smooth Drum	20,000	3	3
F-2700	0+00	29+73	All	6	Vibratory Smooth Drum	20,000	3	3
F-2700	29+73	42+00	All	6	Vibratory Smooth Drum	20,000	3	3
F-2800	0+00	76+00	All	6	Vibratory Smooth Drum	20,000	1	3
F-2800	26+65	27+35	Culvert backfill	12	jumping jack, vibratory plate, Vibratory Smooth Drum	20,000	3	3
F-2800	26+65	27+35	Rock Lift	6	Vibratory Smooth Drum	20,000	3	3
F-2860	0+00	16+12	All	6	Vibratory Smooth Drum	20,000	3	3
F-2860	16+12	28+00	All	6	Vibratory Smooth Drum	20,000	3	3
F-2860	28+00	43+05	All	6	Vibratory Smooth Drum	20,000	3	3
F-2861	0+00	3+91	All	6	Vibratory Smooth Drum	20,000	3	3
F-2900	0+00	38+50	All	6	Vibratory Smooth Drum	20,000	1	3
F-2900	38+50	54+25	All	6	Vibratory Smooth Drum	20,000	3	3
F-2900	54+25	66+37	All	6	Vibratory Smooth Drum	20,000	3	3
Waste Areas	ALL		Waste	24	Excavation Equipment	Varies	2	-
All Roads	All		Embankment	12	Varies	Varies	1	-

All includes prehaul surfaces, rock lifts, spot patch rock, culvert backfill, subgrade, fill, embankment and post haul surfaces

ROCK ACCOUNTABILITY DETAIL

SALE NAME: _____ Purchaser:_____

Agreement #: _____ Contractor:_____

Rock Quarry/Pit:_____ Truck No:_____

DAILY ROCK LOAD RECORD

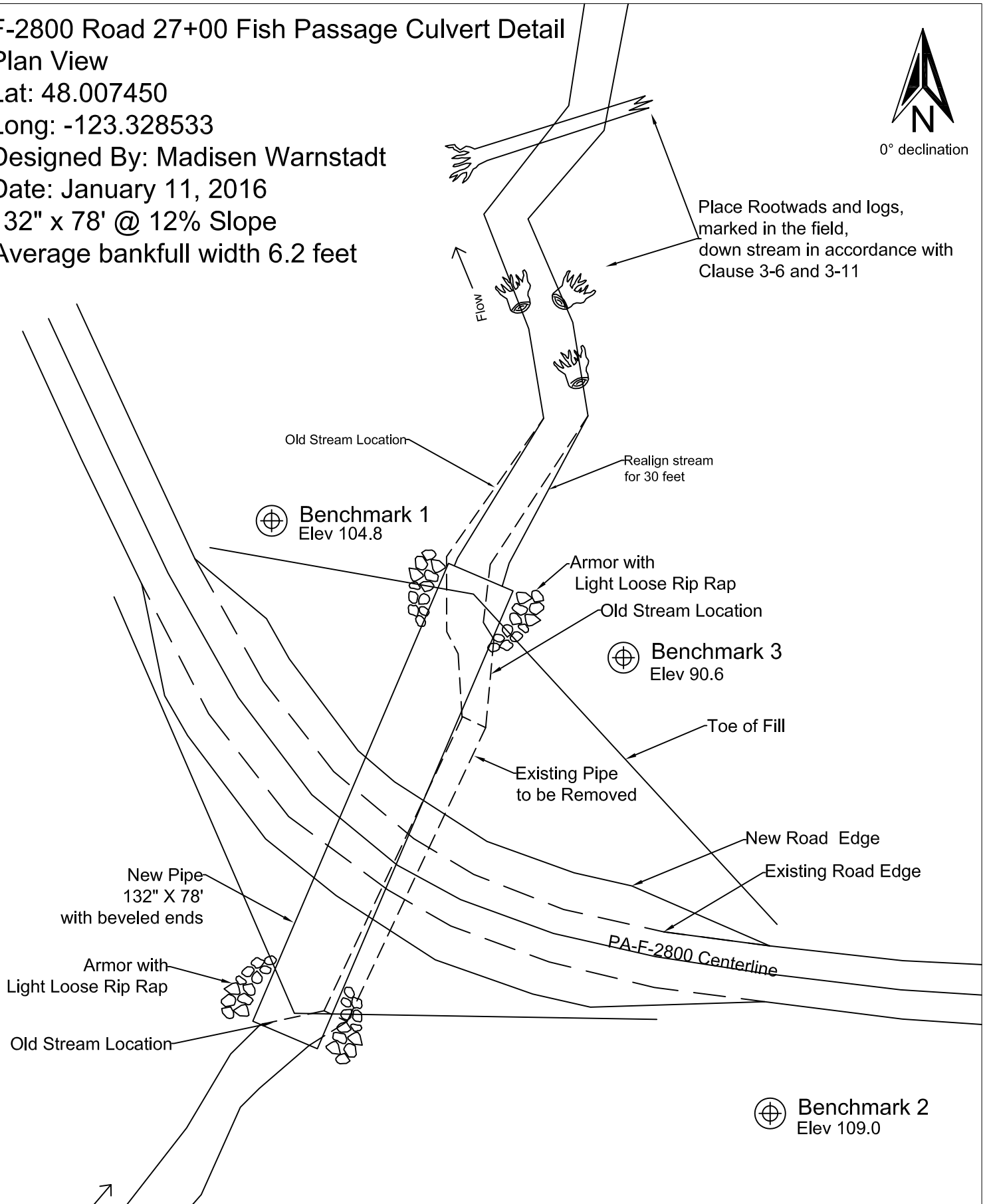
DATE	LOAD TIME	ROAD NO.	TYPE OF ROCK	QUANTITY	COMMENTS

Truck Driver Signature _____

SIGNATURE DATE

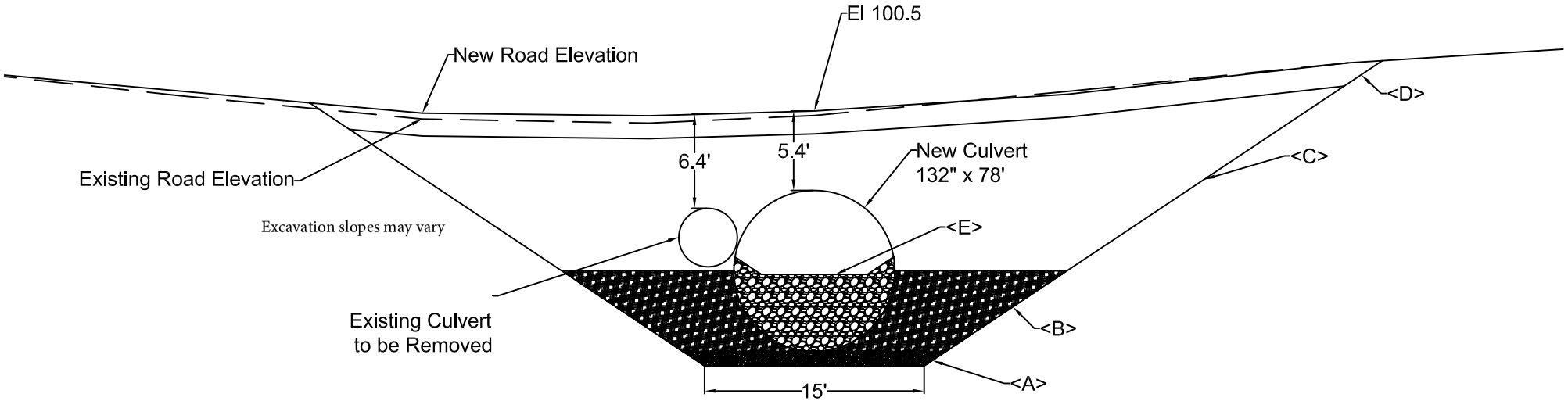
F-2800 Road 27+00 Fish Passage Culvert Detail

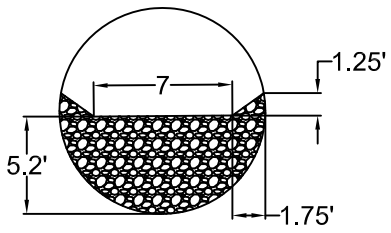
Plan View
Lat: 48.007450
Long: -123.328533
Designed By: Madisen Warnstadt
Date: January 11, 2016
132" x 78' @ 12% Slope
Average bankfull width 6.2 feet



Benchmarks					
From	To	Horizontal Distance (Feet)	Vertical Distance (Feet) to Pipe Bottom	Vertical Distance(Feet) to Stream Elevation	Azimuth (degrees)
Benchmark 1	Outlet	33.9	-26.1	-20.6	105
Benchmark 2	Inlet	77.0	-21.0	-15.5	279
Benchmark 3	Outlet	25.7	-11.9	-6.4	299
Benchmark 4	Inlet	31.2	-18.0	-12.5	18

Cross Section at Centerline
Looking Upstream





Stream Bed Detail

<A> Culvert Bedding Material
<B> Backfill with 1 1/2 " Crushed Rock
<C> Backfill with Embankment Material
<D> Road Rock 12" 6" Jaw Run Capped with 6" 1 1/2 " Crushed Rock
<E> Engineered Streambed Material 2 foot minus

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

5 15 20

F-2800 Road 27+00 Fish Passage Culvert Detail
Lat: 48.007450
Long: -123.328533
Designed By: Madisen Warnstadt
Date: January 11, 2016

Revised March 21, 2016

Deer Timber Sale
Contract No. 30-092347

F-2800 Road 27+00 Fish Passage Culvert Detail

Profile View

All work shall be in accordance with the FP/HP, and as directed by the Contract Administrator or their designee. The Contract Administrator or their designee shall be on site at all times while work in commencing. Purchaser shall give at least 7 days notice before beginning operations.

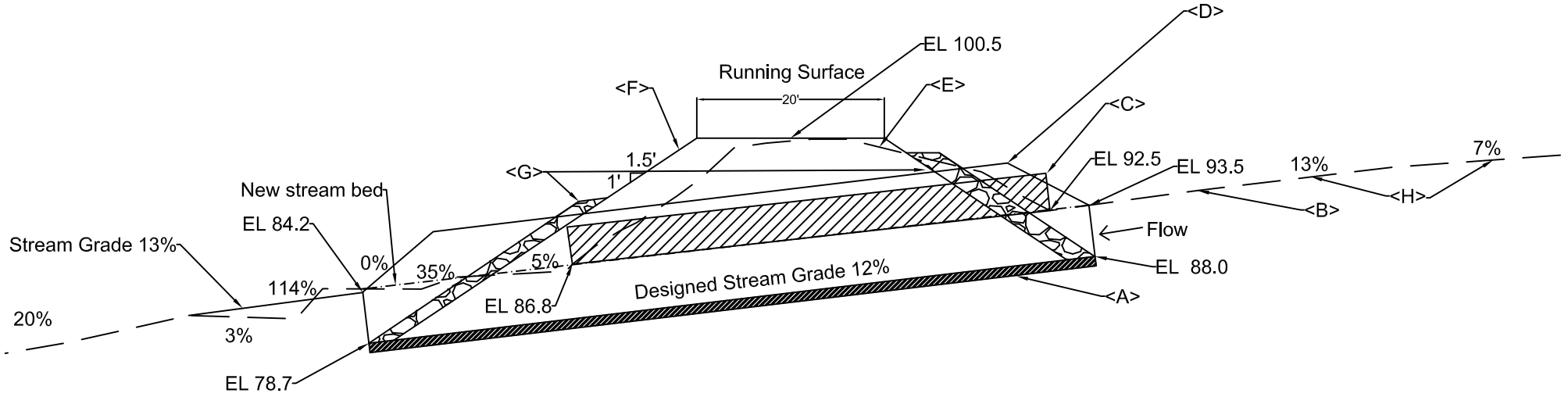
Lat: 48.007450

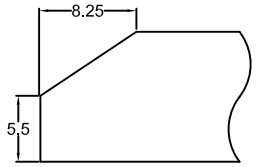
Long: -123.328533

Average Bankfull width 6.2 feet

Average Stream Grade 11%

All pitrun, crushed, and backfill material shall be compacted using a jumping jack in lifts between 6" and 8", except above the top of the culvert, where material may be compacted using a vibratory roller in accordance with the Compaction List of the road plan. Culvert shall be counter sunk $\frac{1}{2}$ the diameter of the culvert. Culvert shall be backfilled 50% with 2-foot minus engineered streambed material.





<A> 12" Culvert Bedding
<B> Stream Elevation
<C> Existing 48" Pipe to be removed
<D> Beveled End 1.5:1
<E> Existing Road Prism
<F> New Road Prism
<G> Armor with Light Loose Rip Rap
<H> Stream Grade

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

5 15 20

Designed By: Madisen Warnstadt
Date: January 11, 2016

Revised March 21, 2016

Deer Timber Sale
Contract No. 30-092347

LIVE STREAM WORK REQUIREMENTS
Page 1 of 3

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

Revegetation/Erosion Control

2. All exposed soil on either the embankment slopes (replacements) or on the excavation slopes (removal) shall be covered with grass seed. Cover all exposed soils using manual dispersion.
3. All exposed soil within 100' of the live streams shall be seeded and 4-inch layer of straw to ensure proper revegetation. Soils may not sit exposed during any rain event.

Dewatering Temporary Bypass/Fish Capture and Exclusion

4. All work shall be conducted in the dry or in isolation from the stream flow by the installation of a bypass flume or diversion pipe, or by pumping the flow around the work area.
5. The temporary bypass to divert flow around the work area shall be in place prior to initiation of other work in the wetted perimeter.
6. A sandbag revetment or similar device shall be installed at the bypass inlet to divert the entire flow through the bypass. The bypass shall be of sufficient size to pass all flows and debris for the duration of the project.
7. While flow is being diverted around the work area, and prior to the commencement of instream work, the Purchaser shall capture and safely move all fish life from the construction site. The Purchaser shall have fish capture and transportation equipment ready and on the job site. Captured fish shall be immediately and safely transferred to free-flowing water downstream of the project site.
8. If a pump is used for diverting water from the fish-bearing stream, it shall be equipped with a fish guard to prevent passage of fish into the diversion device pursuant to RCW 77.57.010 and 77.57.070. The pump intake shall be screened by one of the following:
a. Perforated plate: 0.094 inch (maximum operating diameter)
b. Profile bar: 0.069 inch (maximum width opening)
c. Woven wire: 0.087 inch (maximum opening in the narrow direction)
The minimum open area for all types of fish guards is 27%. The screened intake shall consist of a facility with enough surface area to ensure that the velocity through the screen is less than
0.4 feet per second. Screen maintenance shall be adequate to prevent injury or entrapment of juvenile fish and the screen shall remain in place whenever water is withdrawn from the stream through the pump intake.
9. Upon completion of the project, reintroduction of stream flow to channel shall be done gradually, then all material used in the temporary bypass shall be removed from the site and the site returned to pre-project or improved conditions.

Sediment Control Measures

10. All waste material such as excess dirt or spoils resulting from this project shall be deposited in an approved upland disposal site (waste area) so that it will not re-enter the stream, associated wetlands, or any other surface waters.

11. Roadway drainage shall be directed into an area allowing the settlement of fines and silt before entering streams.

12. All crossings shall use the following sediment control measures: sediment traps built according to the sediment trap detail; silt fencing along the side of the road; waddles in ditch lines and other measures approved, in writing, by the contract administrator.

Equipment to be utilized

13. All construction activities shall be completed with tracked excavators. Placement of stream simulation material may be accomplished using small dozers or other methods approved in writing by the Contract Administrator.

14. Equipment used for this project may operate below the ordinary high water line (OWWL), provided the drive mechanisms (wheels, tracks, tires, etc.) shall not enter or operate below the OHWL. Equipment crossings of the live stream channel are not authorized.

15. Equipment shall be free of external petroleum-based products while working around the stream. Equipment shall be checked daily for leaks and any necessary repairs shall be completed prior to commencing work activities.

Culvert & Fill Removal

16. Channel reconstruction/ restoration shall be restricted to work necessary to remove associated fill, remove the existing culvert(s), and reconfigure disturbed areas. All earth and roadbed material shall be removed prior to removal of the culvert(s) or fill(s).

17. Following removal of the culvert(s) and associated fills, the exposed channel shall be restored to blend with natural conditions both upstream and downstream, similar in width, streambed elevation, and gradient profile.

18. In-channel work such as channel regrading, large woody material placement, and rock placement in plunge pools shall be conducted as necessary to facilitate fish passage through the degraded area, prevent uncontrolled head cutting associated with culvert removal, and allow controlled bedload recruitment from upstream to promote natural streambed stabilization.

19. The disturbed banks shall be contoured and sloped to a natural, stable configuration. Bank sloping shall be accomplished in a manner that avoids the release of overburden material.

Temporary Culverts for Forest Roads

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

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

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

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

PLAN VIEW

N

0° declination

LEGEND

DEVELOPMENT AREA

PIT BOUNDARY

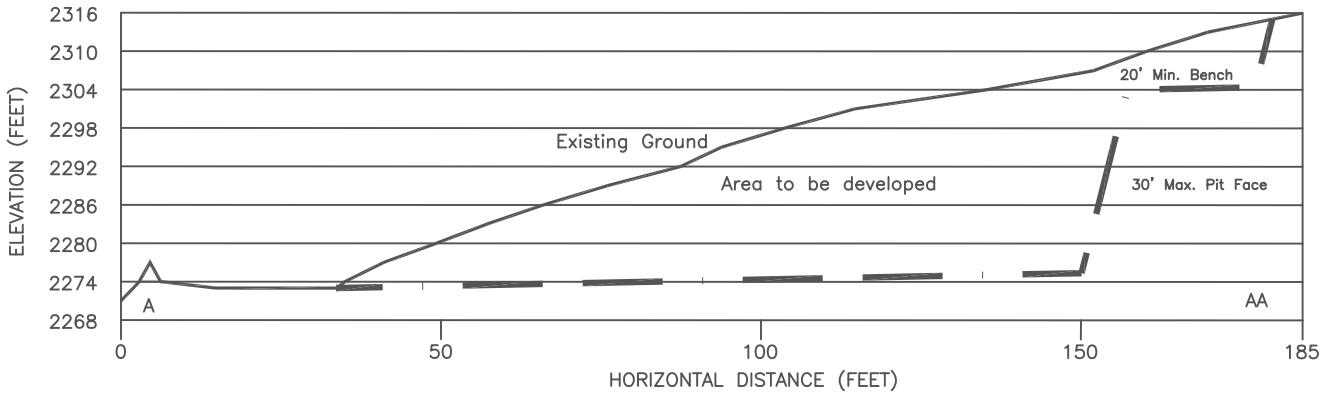
EXISTING ROAD

Elevation is from arbitrary datum.

1:50 Scale

Always verify scale

PROFILE VIEW



DEER TIMBER SALE
F-2800 Pit
Drawn By: Tom Barnes
Designed By: Tom Barnes

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

Date: December 12, 2015
Sheet 2 of 2

ROCK SOURCE DEVELOPMENT PLAN

F-2800 PIT

1. Pit development shall take place in the area indicated in the plan and profile views.
2. Overburden waste shall be placed and compacted at the waste area located at 47+00 of the PA-F-2800 road.
3. Minimal acceptable compaction of overburden is achieved by placing waste material in 4 foot or shallower lifts and routing excavation equipment over entire width of the lifts.
4. All vegetation, including stumps, shall be cleared a minimum of 25 feet beyond the top pit face.
5. All overburden and soil shall be stripped a minimum 15 feet beyond the top of pit face.
6. Root wads and organic debris larger than one cubic foot in volume shall be separated from overburden material and piled in the designated organic waste area.
7. Rock extraction may begin when the Contract Administrator has approved, in writing, all of the clearing, grubbing and overburden removal.
8. Pit faces shall not exceed 30 feet in height and must be sloped less than or equal to H1/4:V1.
9. Working bench width shall be a minimum of 20 feet.
10. 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.
11. The location and amount of material to be placed in a temporary stockpile are subject to approval by the Contract Administrator. All stock piled material shall be maintained in a neat and useable condition.
12. 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. At the conclusion of operations, all remaining oversize material shall be placed as directed by the Contract Administrator in a location outside of the future development.
13. Upon completion of operations in the pit, the area will be left in a condition that will not endanger public safety, damage property or be hazardous to animal or human life; pit faces and walls shall be scaled and cleared of loose and overhanging material.
14. All exposed soil in the overburden waste area shall be grass seeded and fertilized in accordance with Road Plan clause 8-15 REVEGETATION.
15. Upon completion of operations, the site shall be cleared of all temporary structures, equipment and rubbish and left in a condition that future operations may proceed in an orderly manner.
16. Contractor shall obtain written approval of final rock source condition and compliance with the terms of this plan before completion of operations.

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 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 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 1,500 yards thereafter.

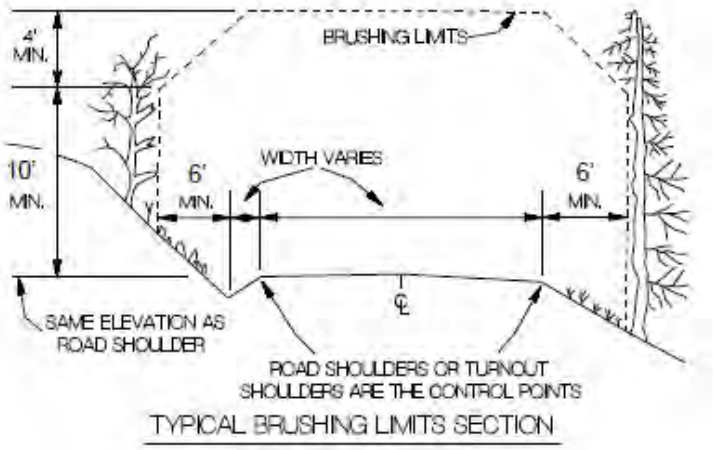
a) Any time a sample is out of spec, but is within 5%*, the contractor will be notified and a second sample will be taken later in the day. If the second sample meets specifications, the rock crushed during that day will be accepted. If the second sample also fails to meet spec, none of the rock crushed 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.

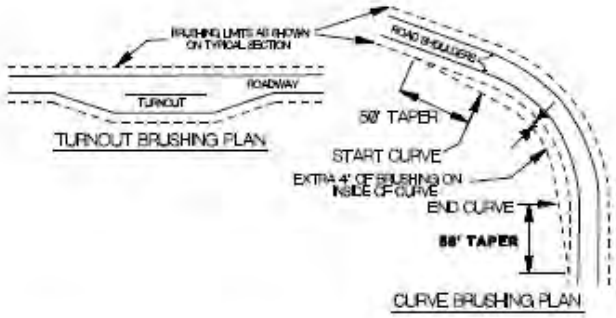
c) Contractors are strongly encouraged to take their own samples regularly and keep their operations in spec to avoid unnecessary expenses.

- 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.

BRUSHING DETAIL

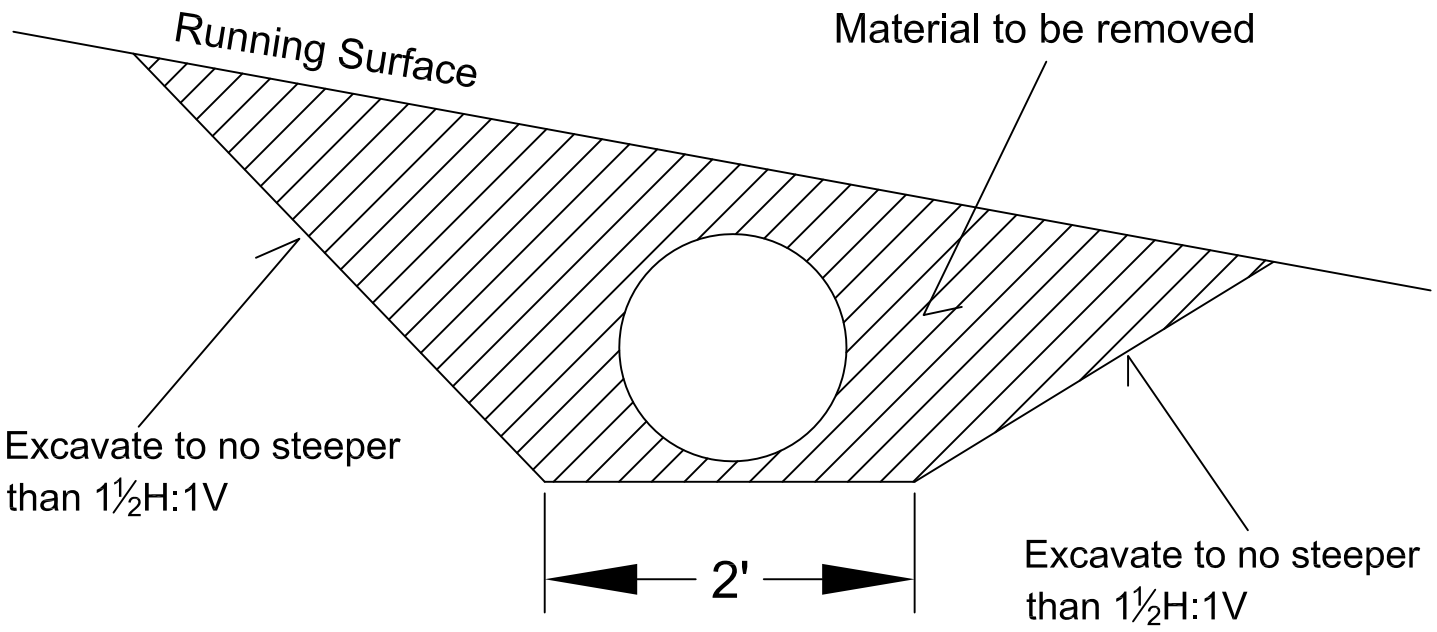


TYPICAL BRUSHING LIMITS SECTION



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

CROSSDRAIN REMOVAL DETAIL

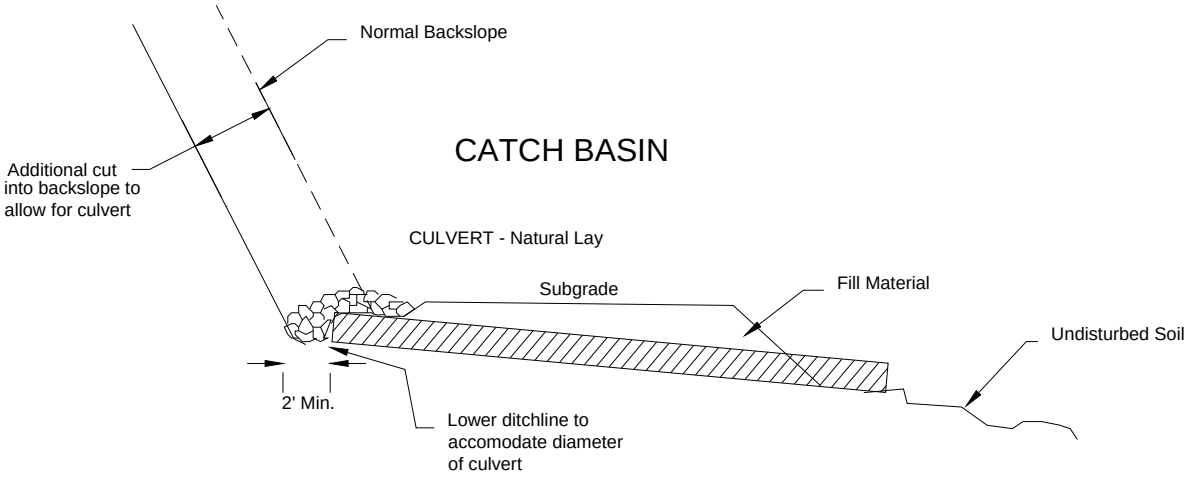


1) Excavated material may be wasted on the road surface on the downhill side of the excavation. Waste material shall be sloped at no steeper than ½ H:1V.

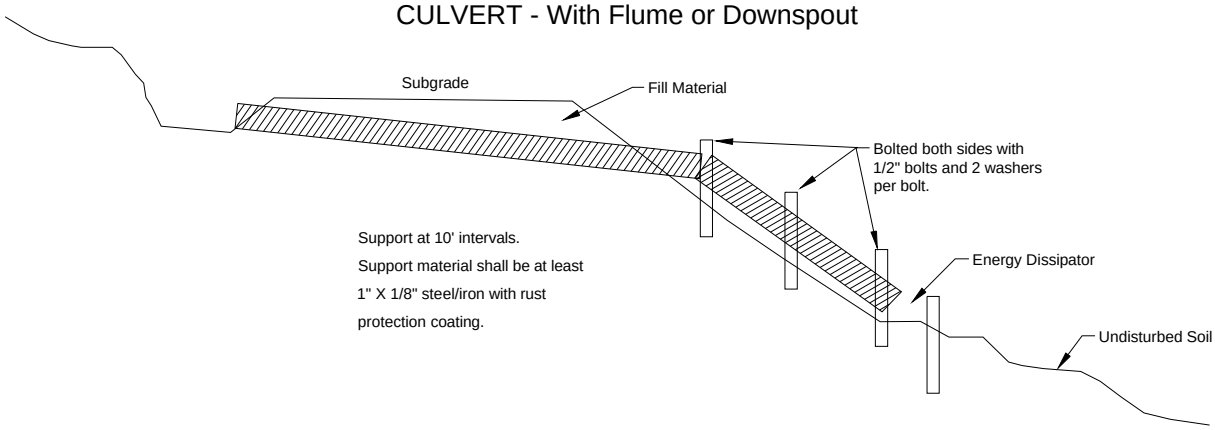
2) Resulting trench shall be keyed into the ditchline and sloped towards the outside edge of the road with a drop of at least 1 foot in 10 feet.

CULVERT AND DRAINAGE SPECIFICATION DETAIL

(Page 1 of 3)

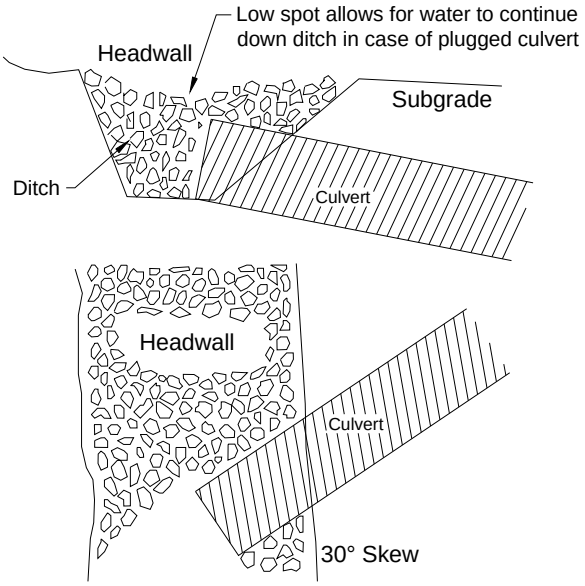


CULVERT - With Flume or Downspout



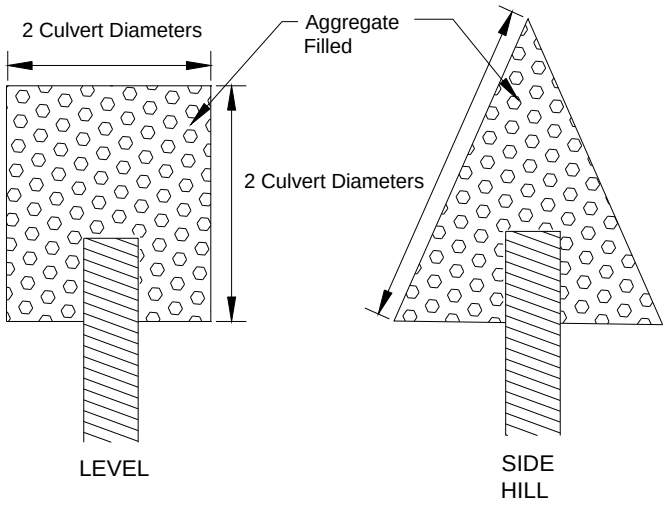
Proper preparation of foundation and placement of bedding material shall precede the installation of all culvert pipe. This includes necessary leveling of the native trench bottom and compaction of required bedding material to form a uniform dense unyielding base. The backfill material shall be placed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

HEADWALLS



Headwalls to be constructed of material that will resist erosion.

ENERGY DISSIPATORS



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

POLYETHYLENE PIPE INSTALLATION

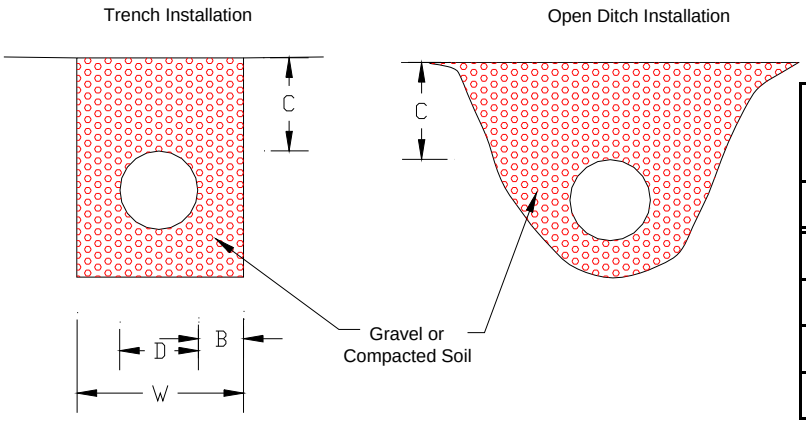
INSTALLATION REQUIREMENTS:

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

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

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

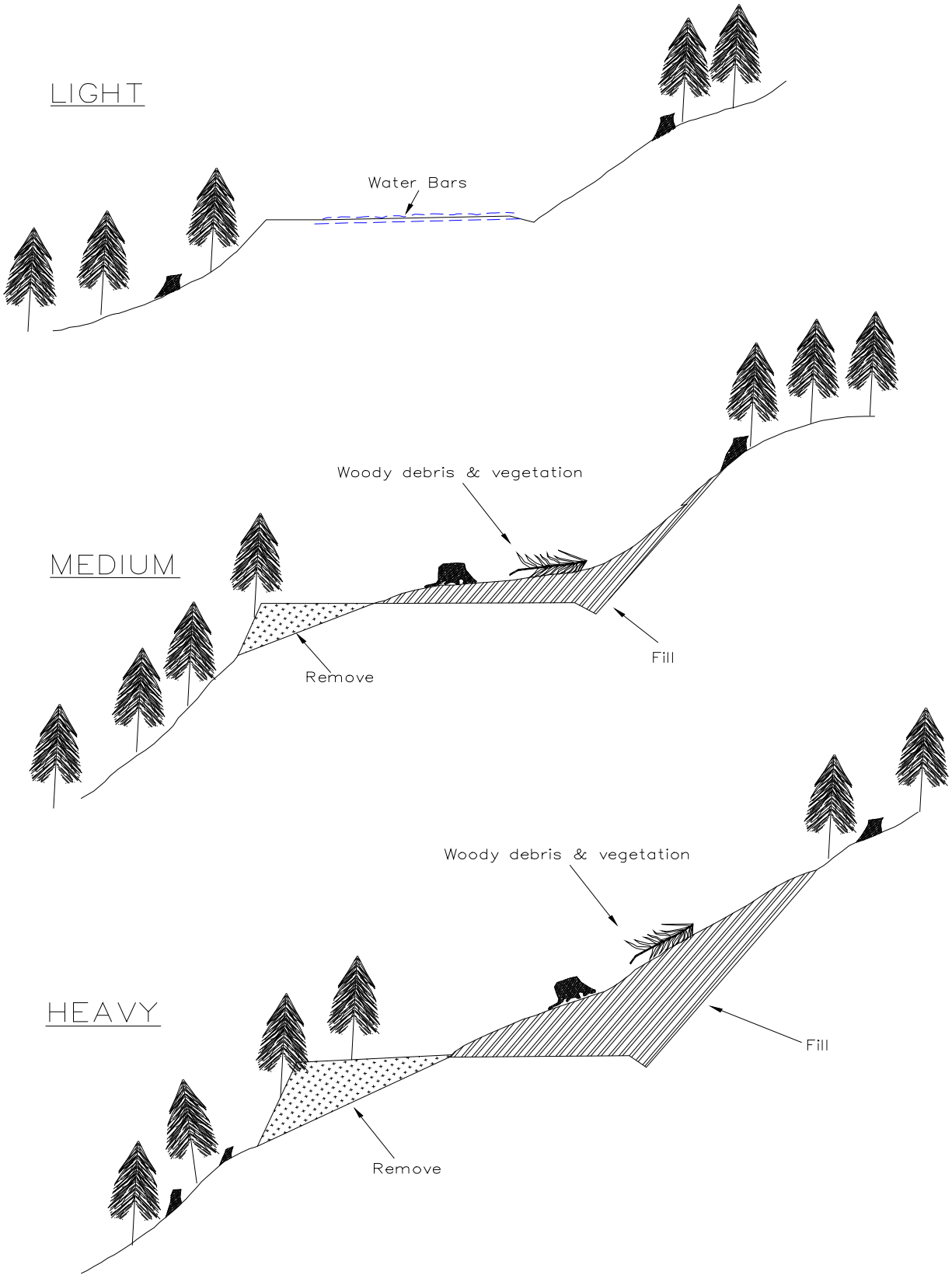
4. The load bearing capability of flexible conduits is dependent on the type of backfill material used and the degree of compaction achieved. Crushed stone and gravel backfill materials typically reach a compaction level of 90-95% AASHTO standard density without compaction. When native soils are used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



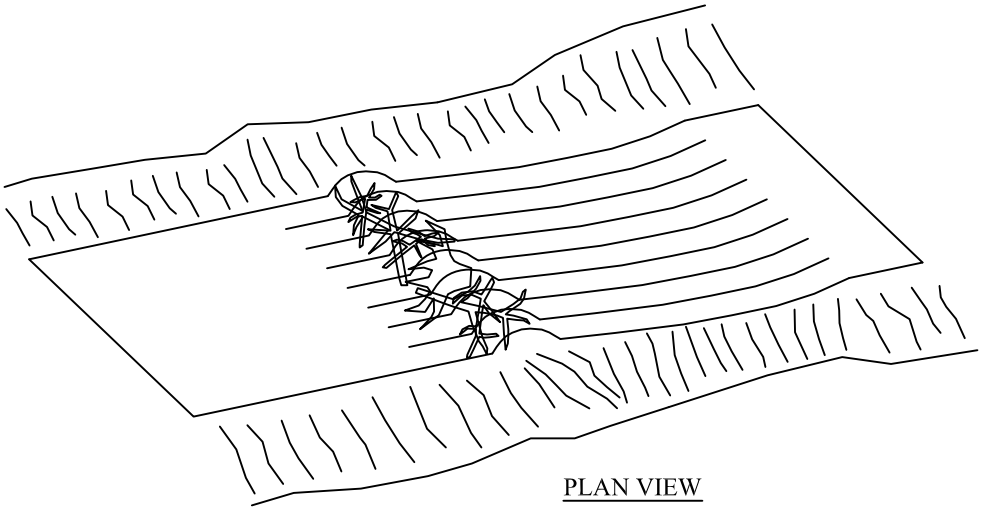
MINIMUM DIMENSIONS
Trench or Open Ditch Installation

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

ROAD ABANDONMENT CROSS SECTIONS

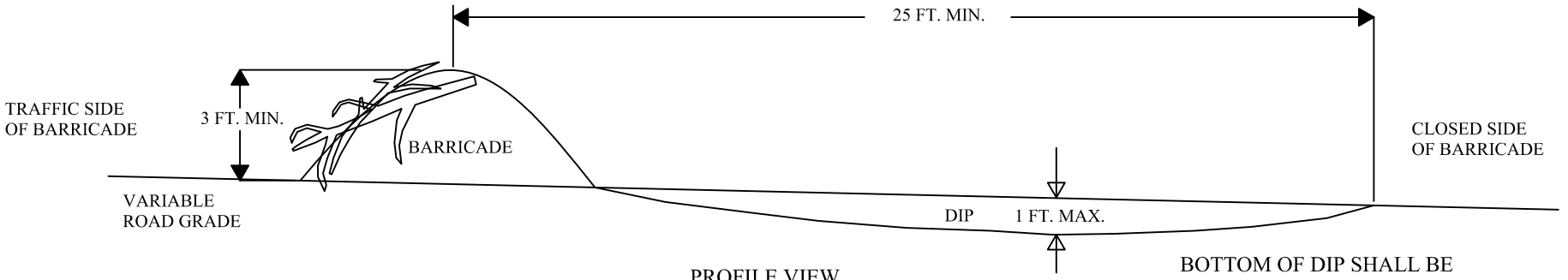


BARRICADE DETAIL



PLAN VIEW

ROOT WADS AND/OR BOULDERS SHALL BE INCORPORATED INTO THE TRAFFIC SIDE OF THE BARRICADE.

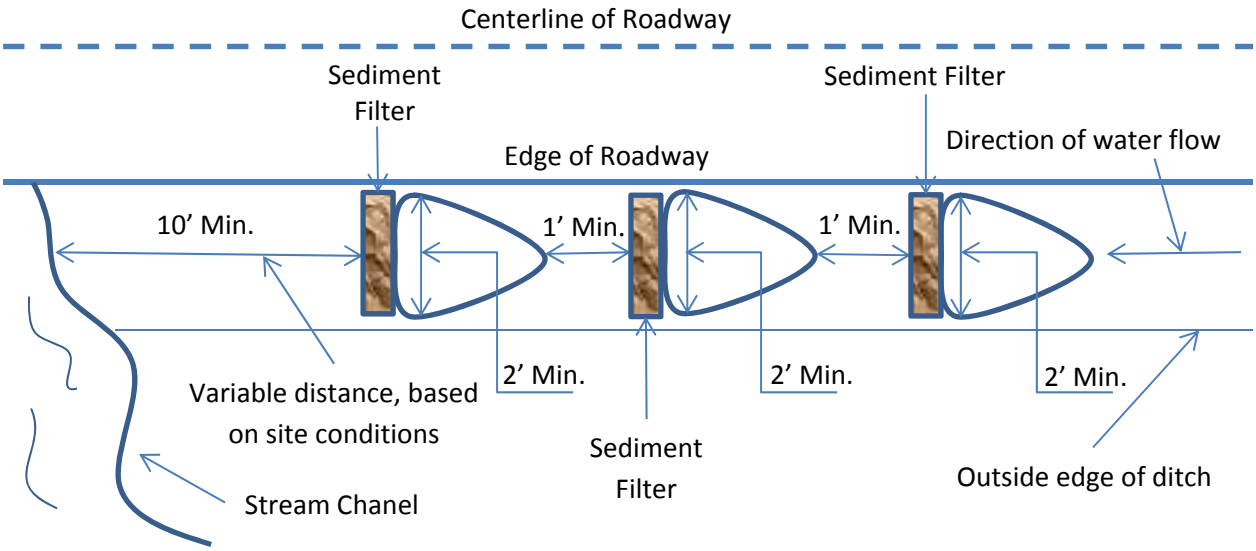


PROFILE VIEW

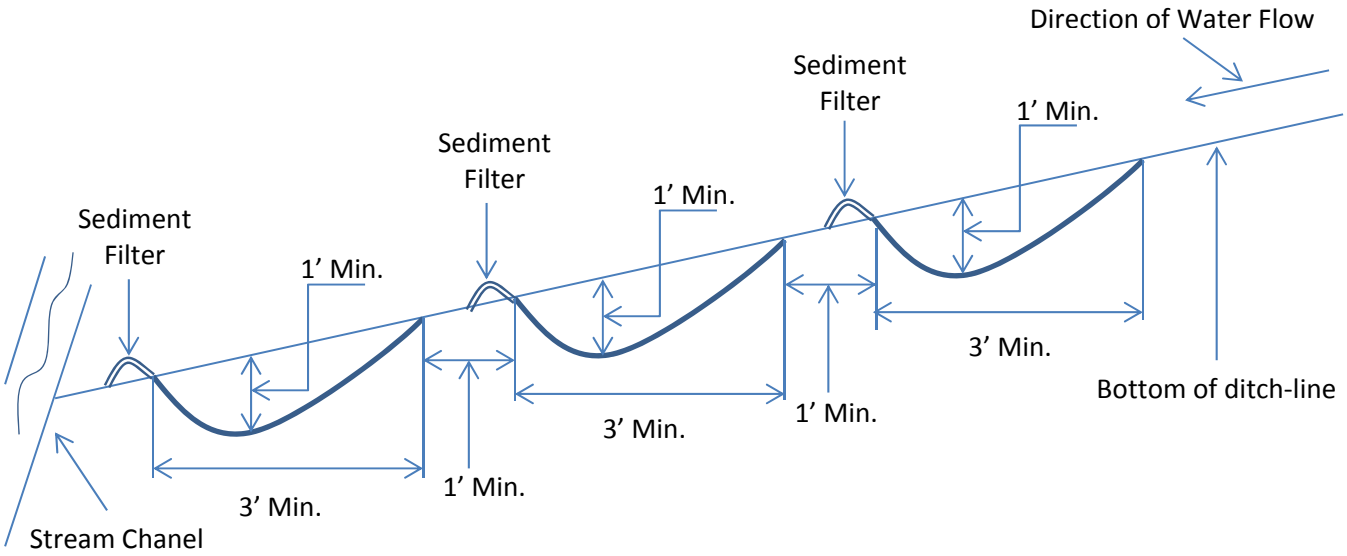
BOTTOM OF DIP SHALL BE OUTSLOPED SO AS TO DRAIN FREELY

SEDIMENT TRAP DETAIL

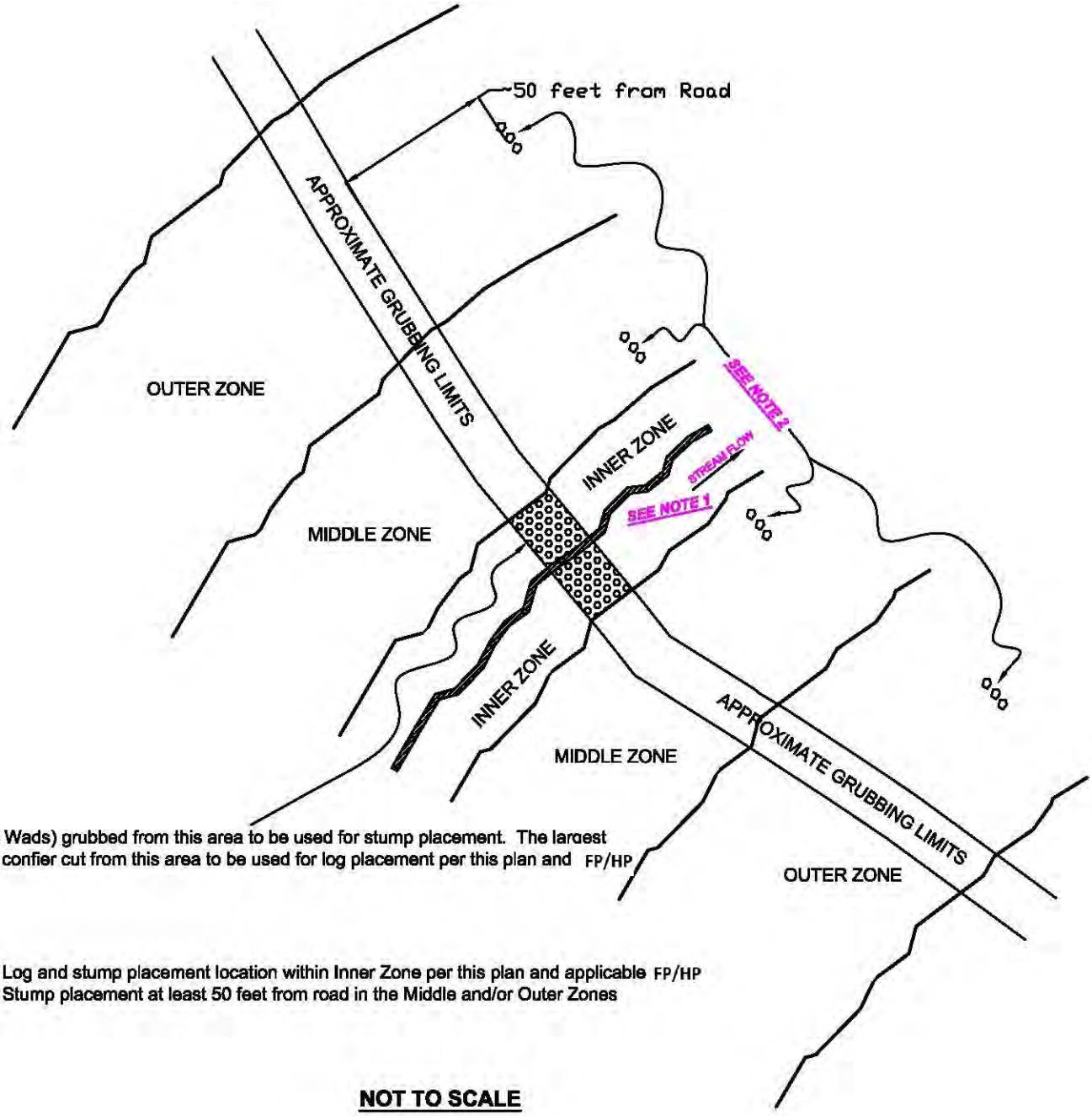
Top View



Profile View



TYPICAL RIPARIAN STRATEGY STREAM CROSSING PLAN

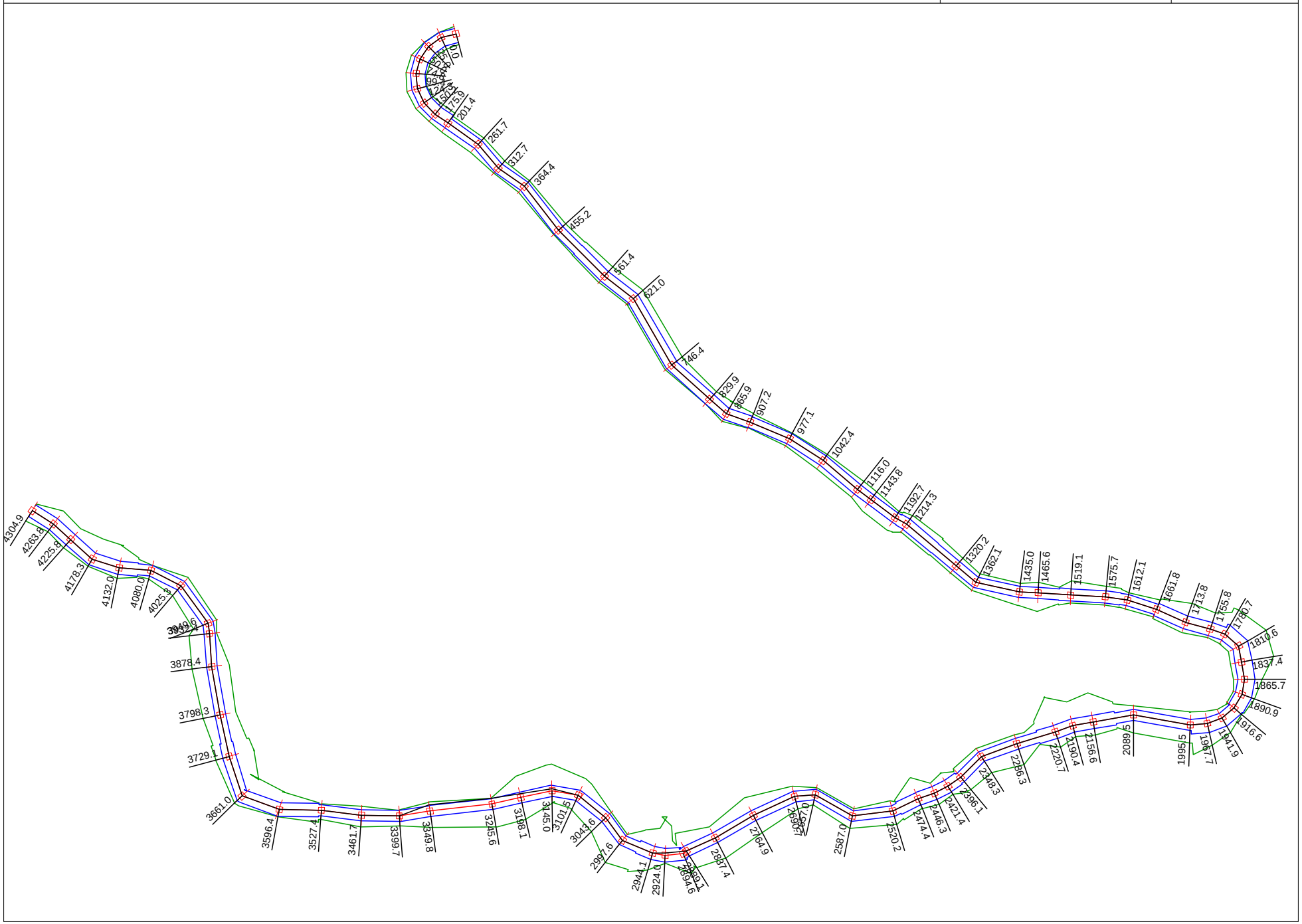


– Stumps (Root Wads) grubbed from this area to be used for stump placement. The largest diameter class confier cut from this area to be used for log placement per this plan and FP/HP

NOTE 1: Log and stump placement location within Inner Zone per this plan and applicable FP/HP
NOTE 2: Stump placement at least 50 feet from road in the Middle and/or Outer Zones

NOT TO SCALE

ROADENG Plan	Scale 1:2500	P. 1
J:\District_Straits\Engineering\Timber Sales\Road Plans\Deer\Designs\PA-F-2860		16/01/28



ROADENG Profile	Horz Scale 1:1500	P. 1
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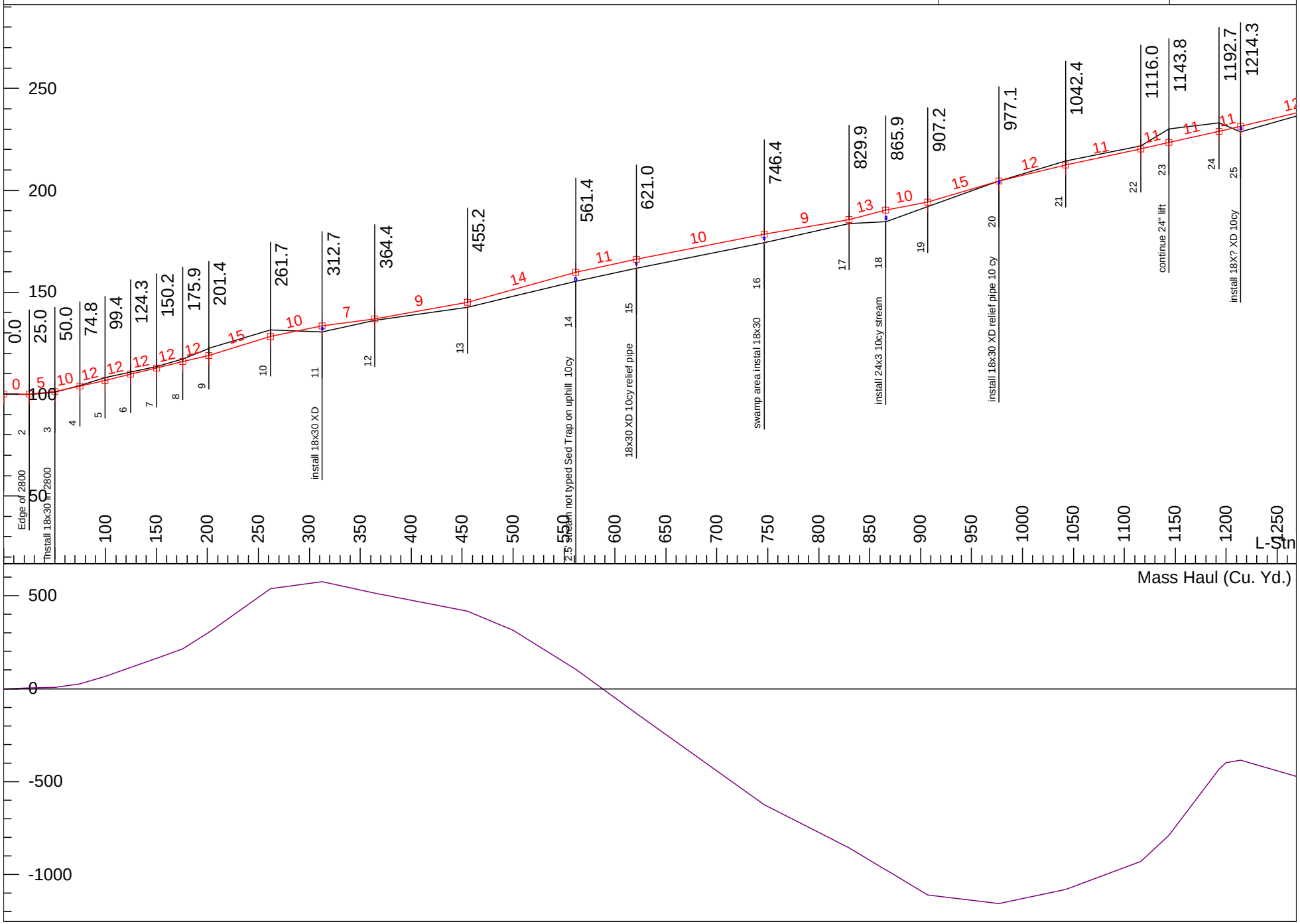

ROADENG Profile	Horz Scale 1:1500	P. 2
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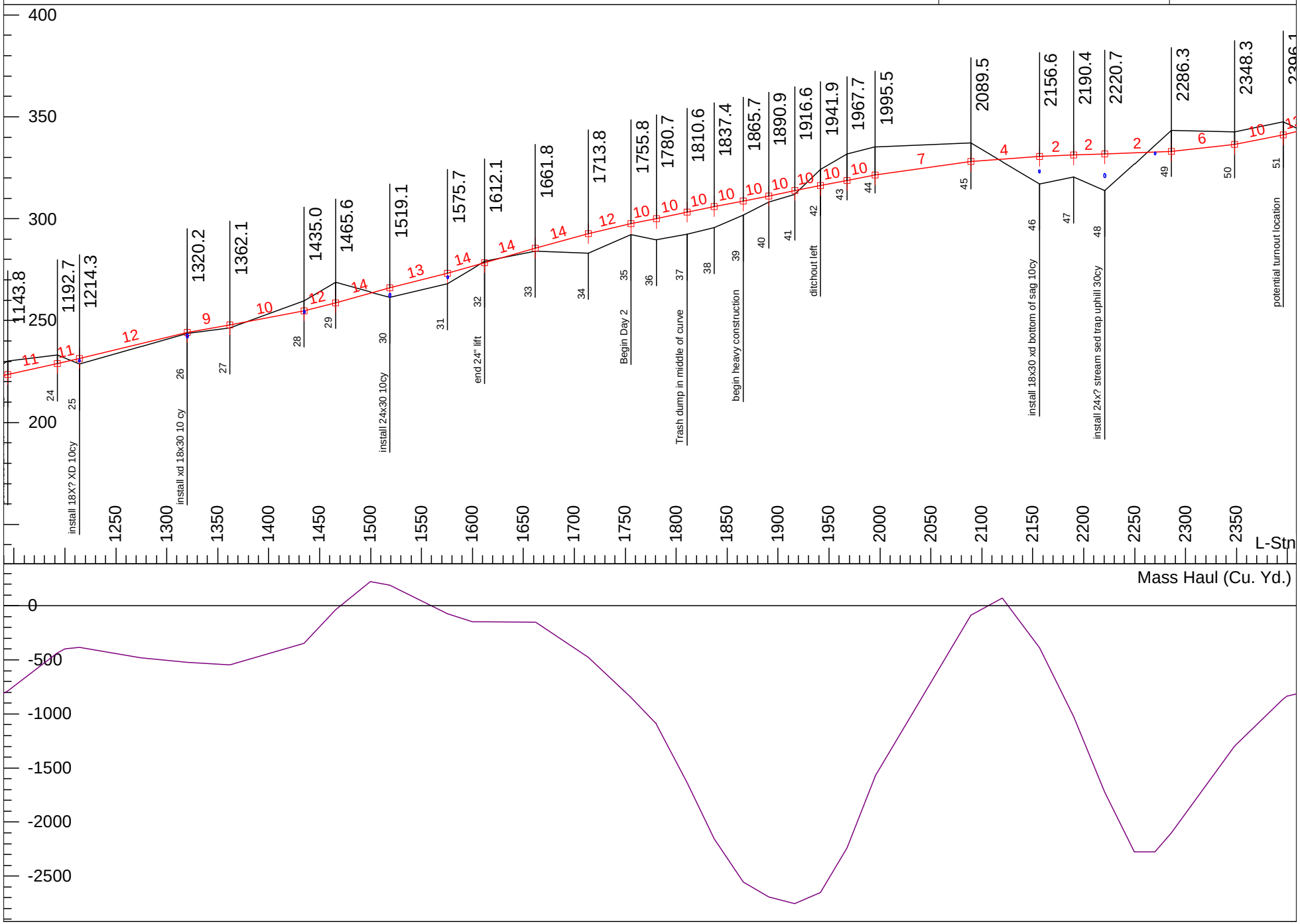

ROADENG Profile	Horz Scale 1:1500	P. 3
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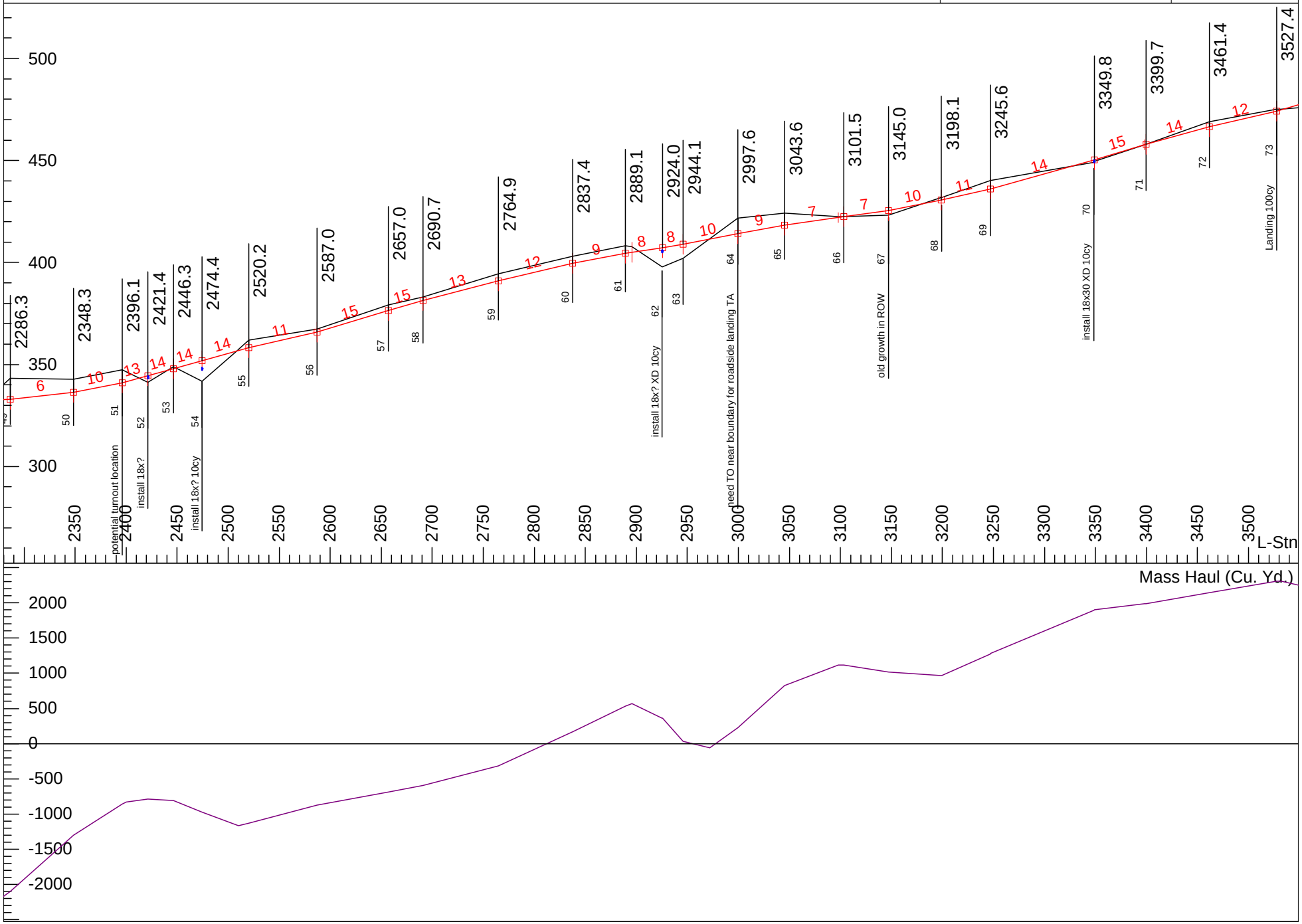

ROADENG Profile	Horz Scale 1:1500	P. 4
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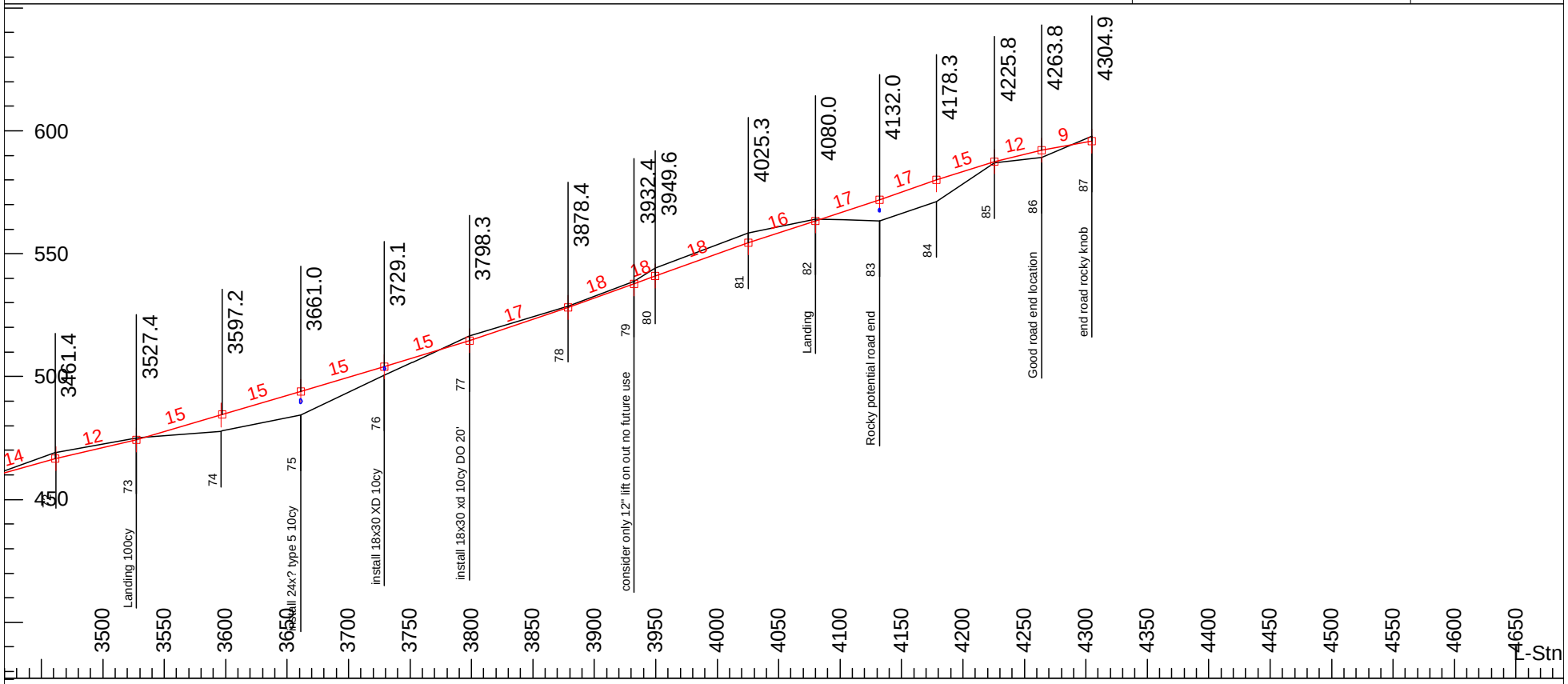

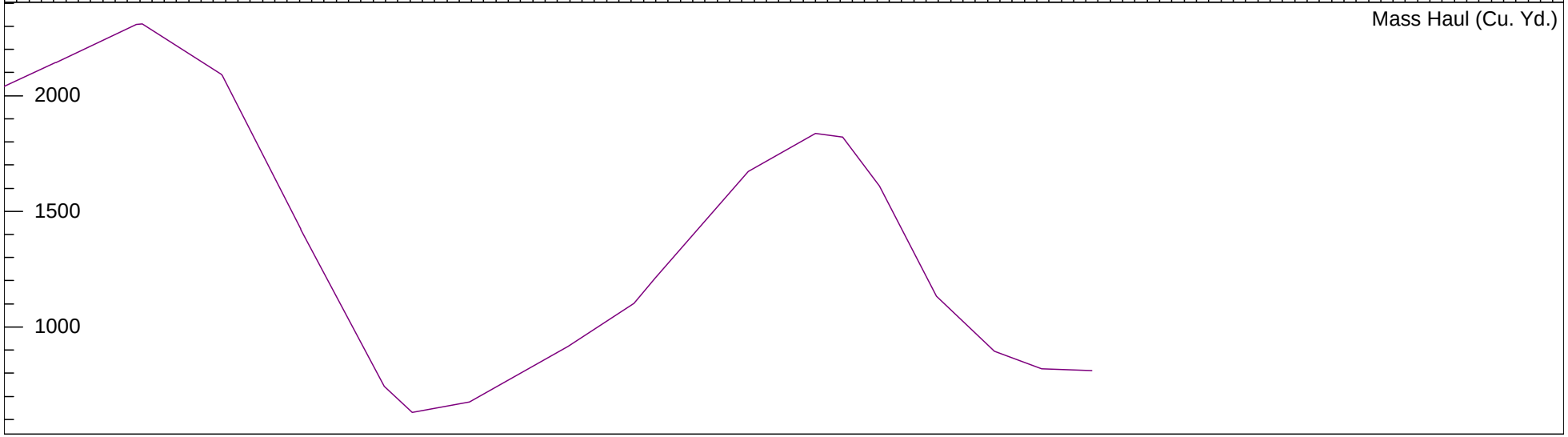

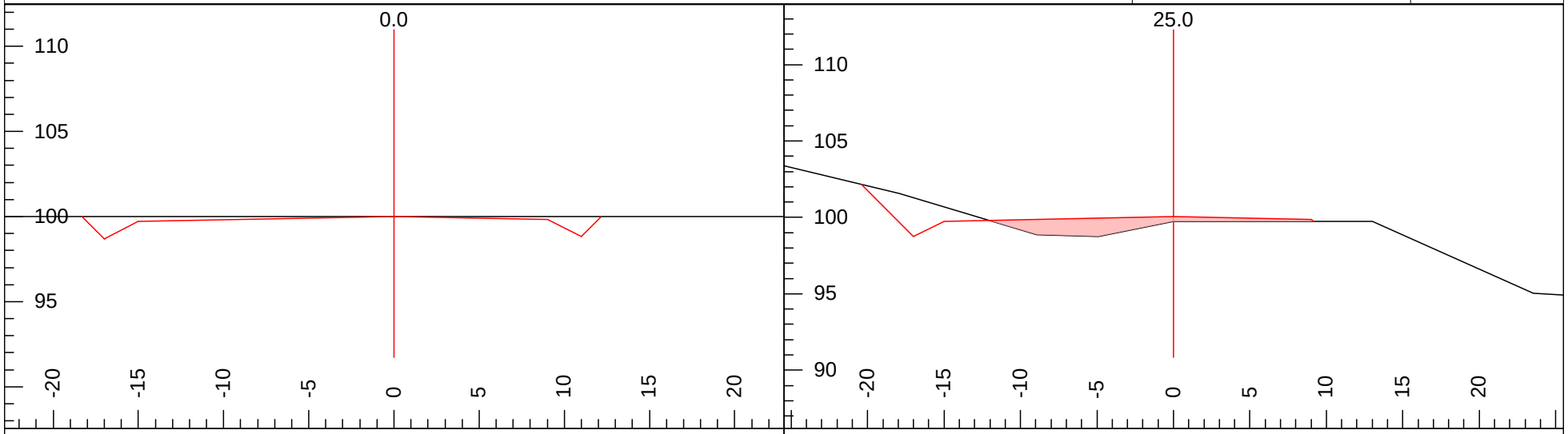

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Grd.Nxt.:	0	Super L:	-2	Cut Dp:	0.0	Cul DIA:		
Grd.Lst:	n/a	Super R:	-2	Stk R X:	12.2	Cul Length:		

L-Stn:	25.0	L-Ssl:	-20	F Slope L:	100	Stk L X:	-20.4	
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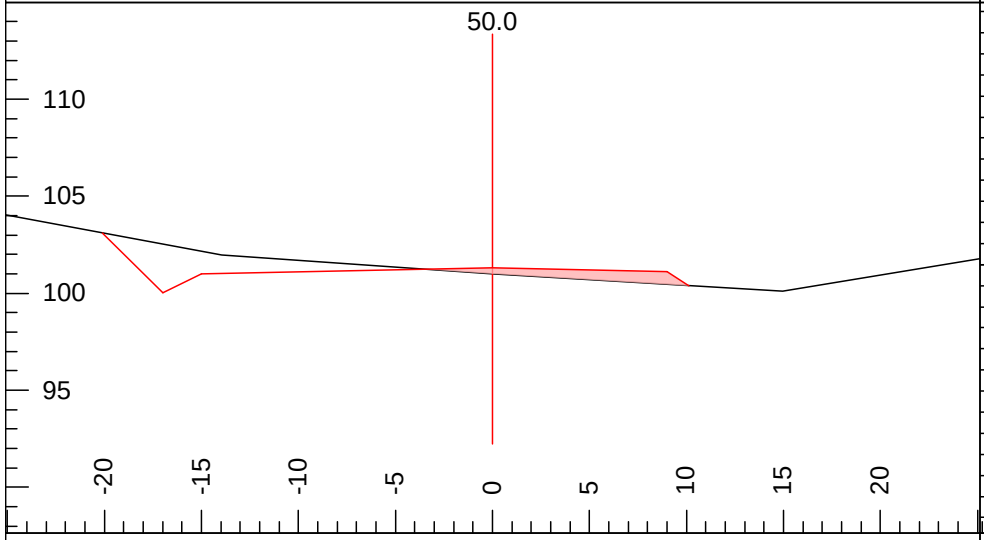
Grd.Lst:	0	Super R:	-2	Stk R X:	9.2	Cul Length:		



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Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-0.3	Cul DIA:		
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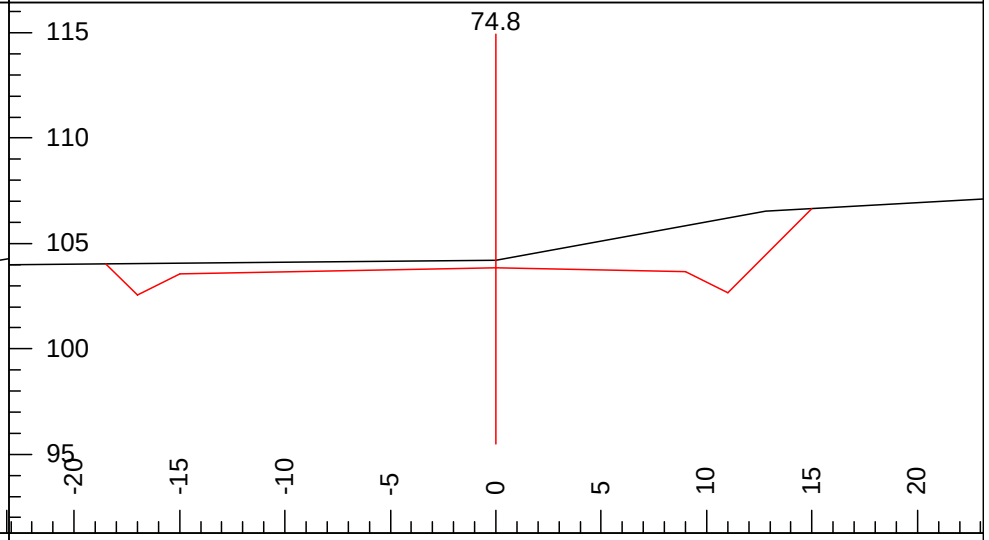

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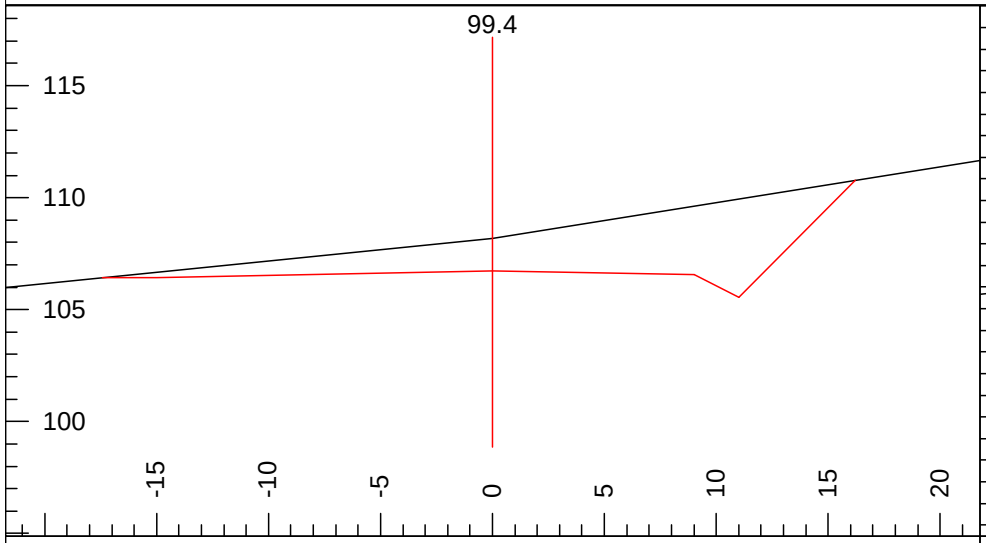
Grd.Lst:	10	Super R:	-2	Stk R X:	15.0	Cul Length:		



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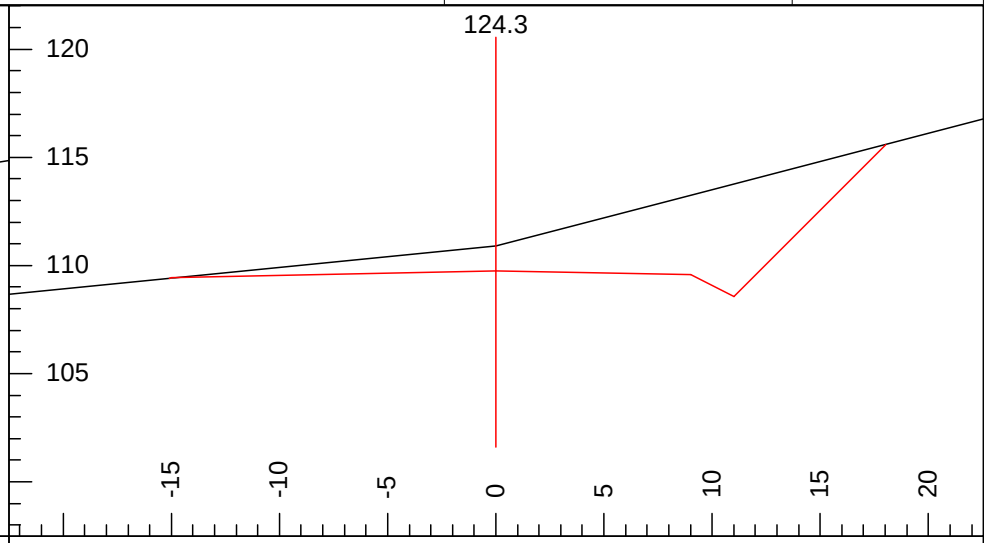

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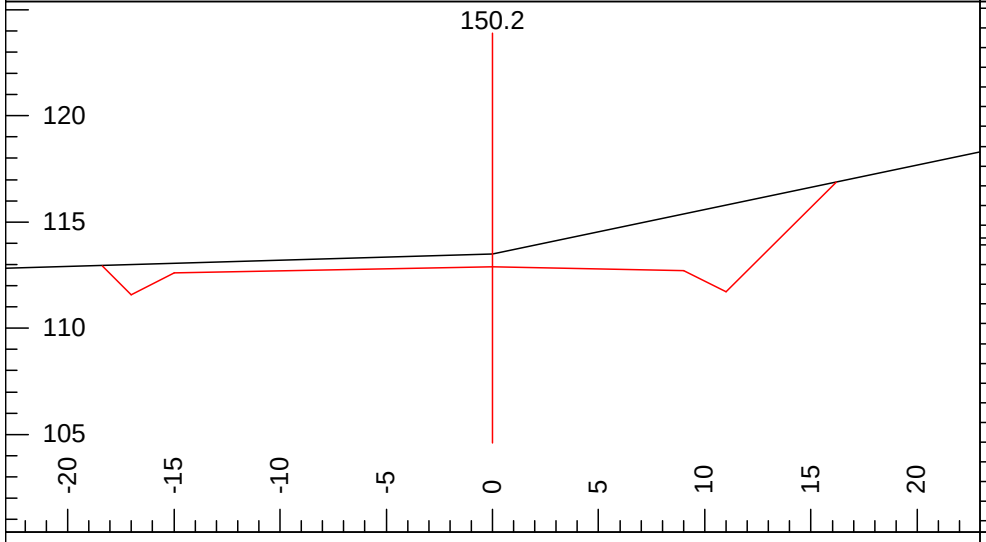

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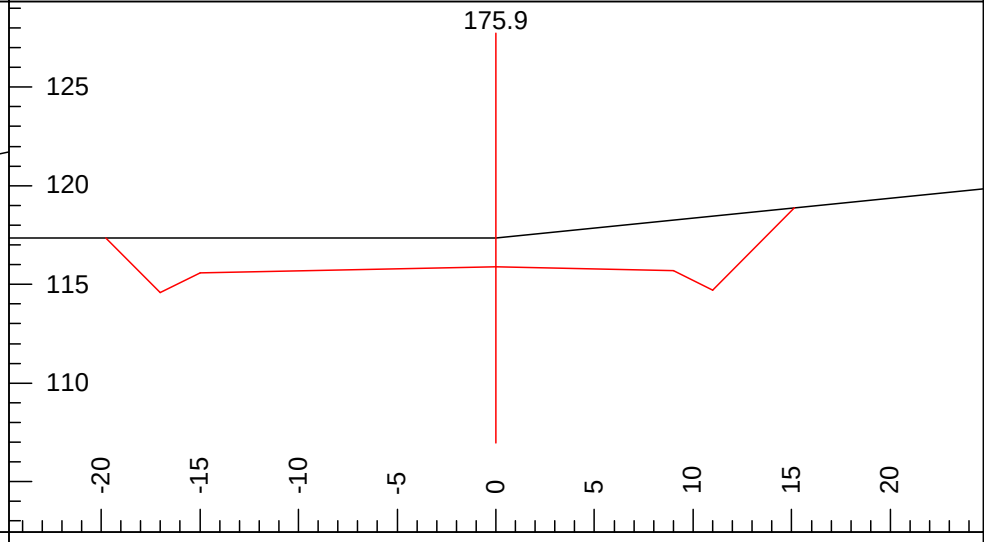

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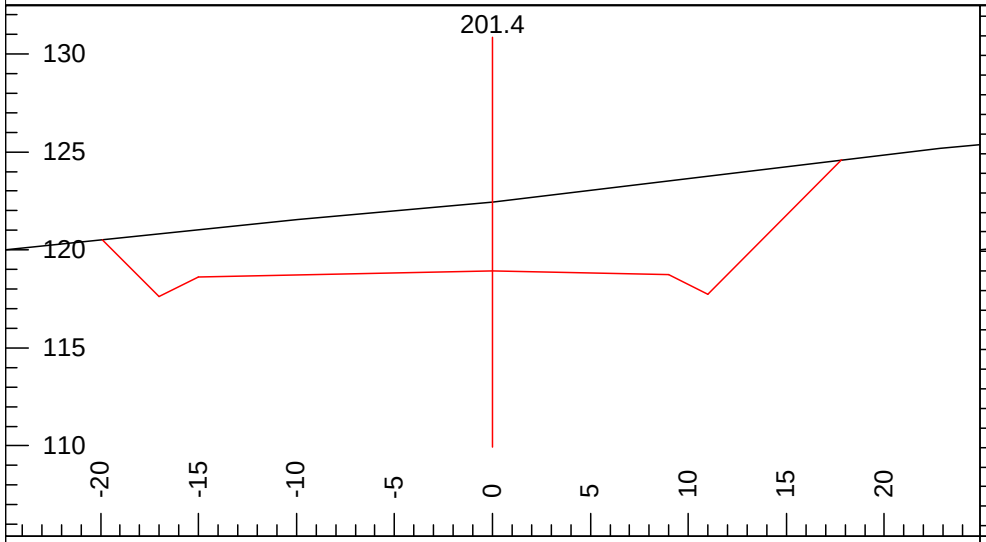

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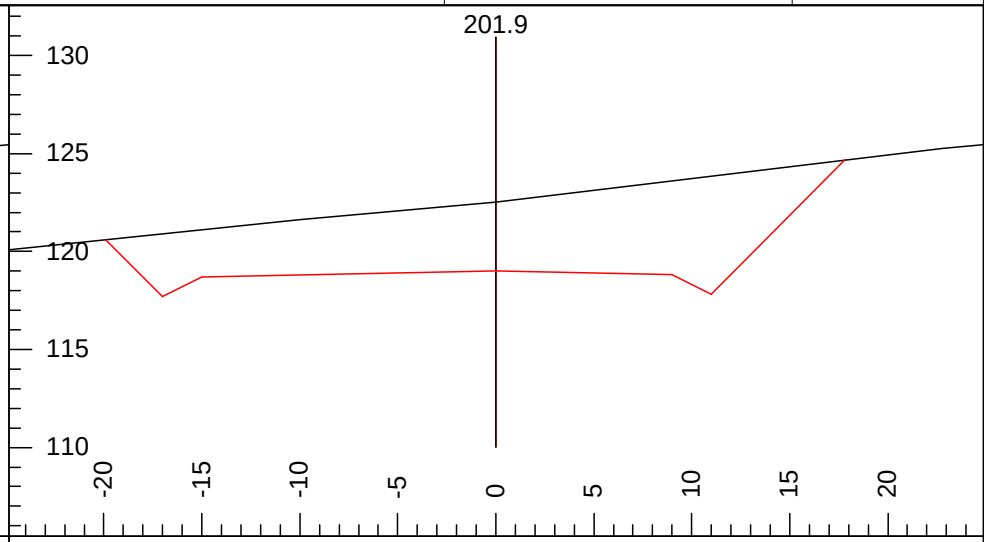

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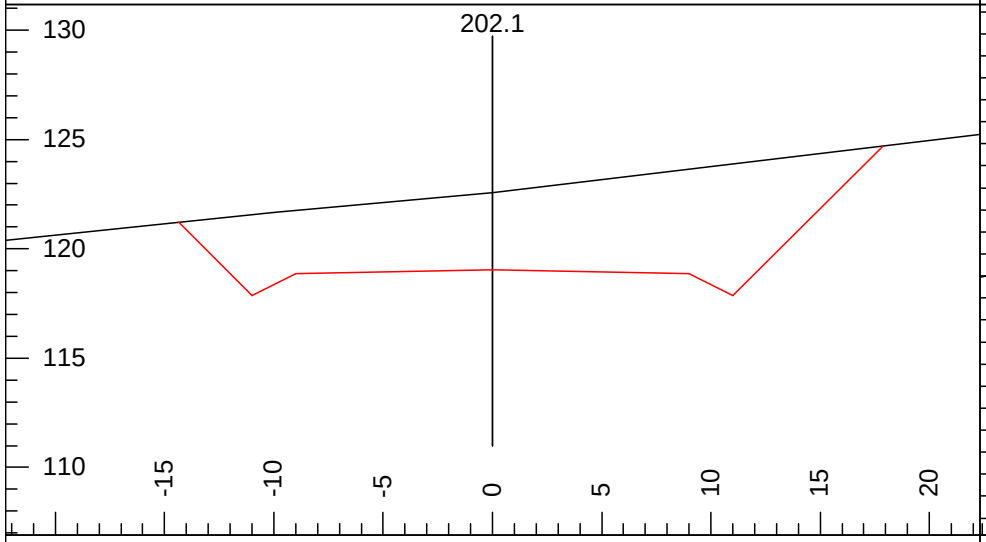

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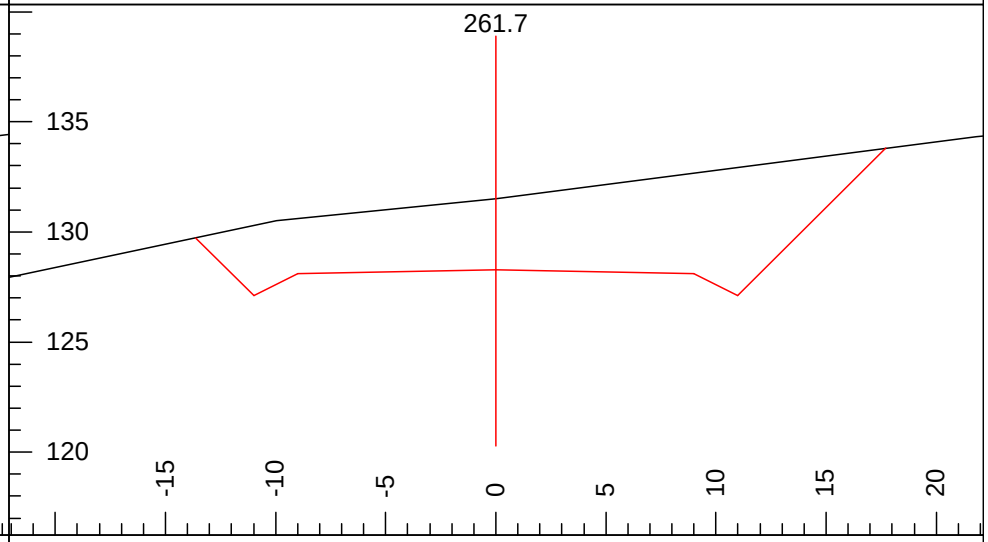

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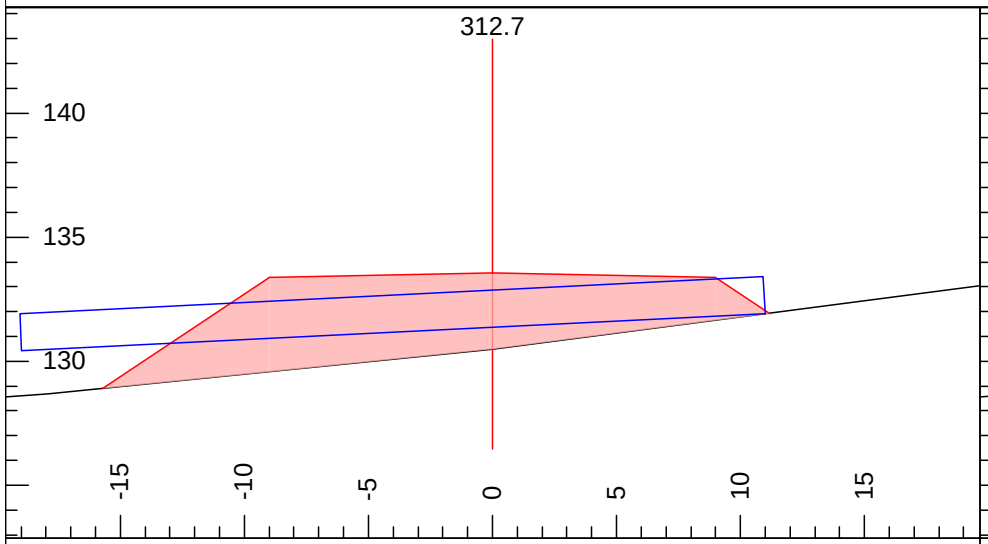

L-Stn:	312.7	L-Ssl:	-10	F Slope L:	-67	Stk L X:	-15.7
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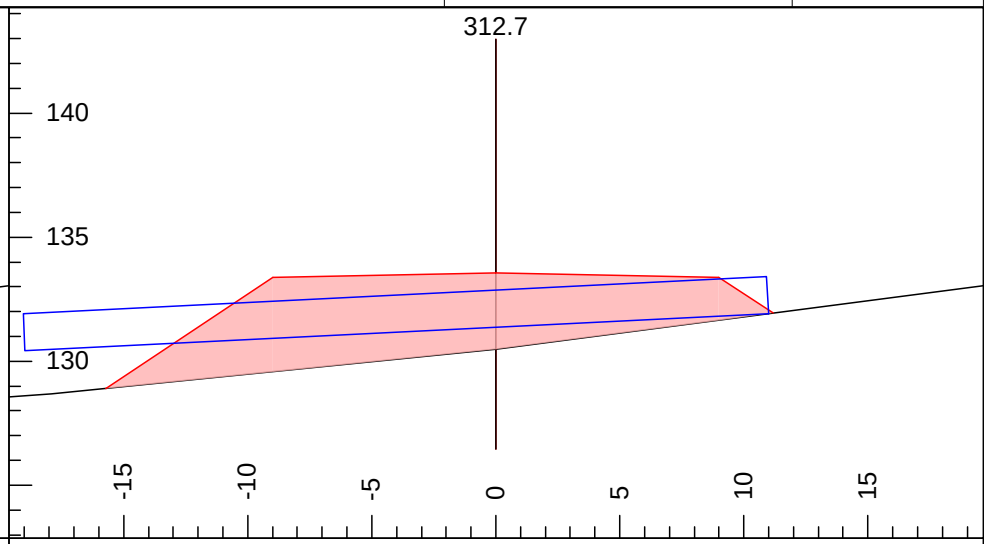

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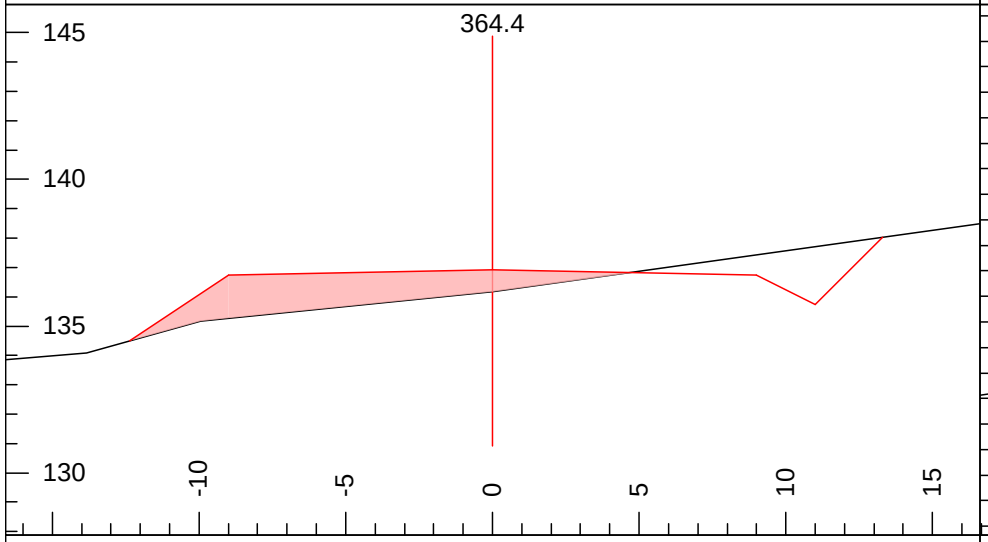

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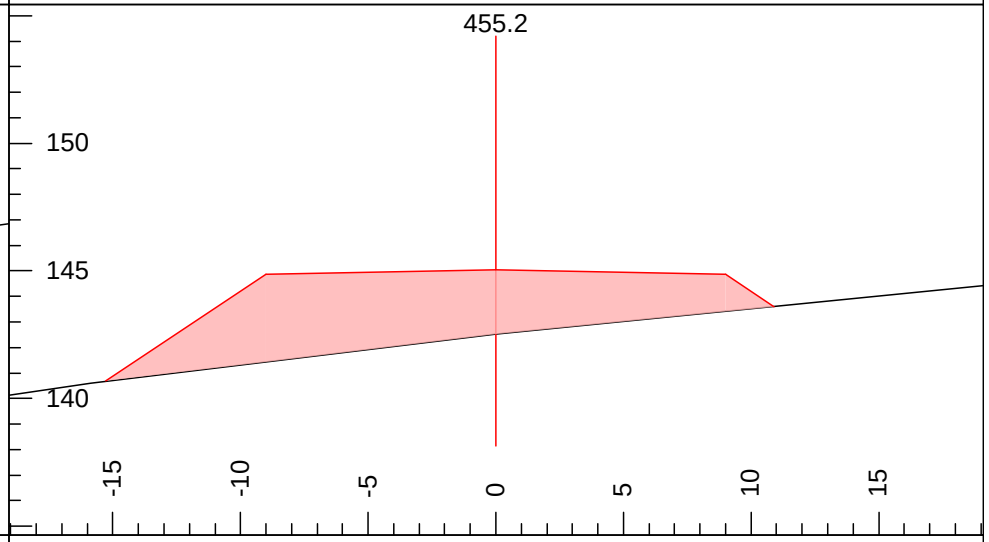

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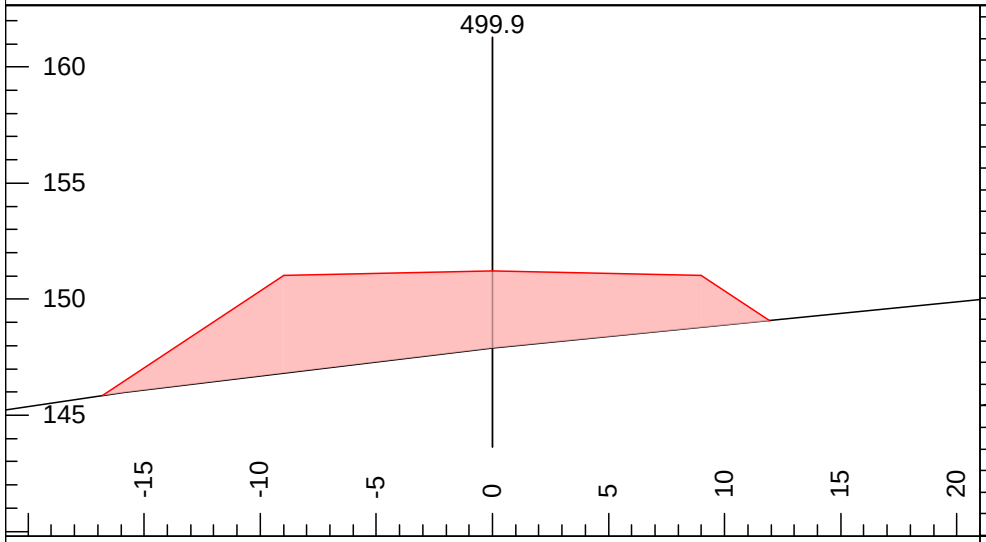

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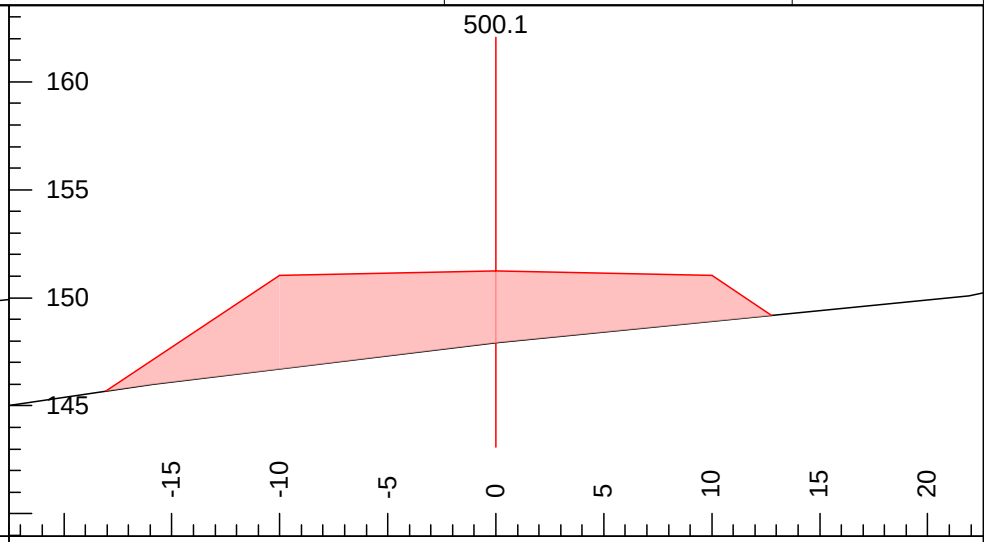

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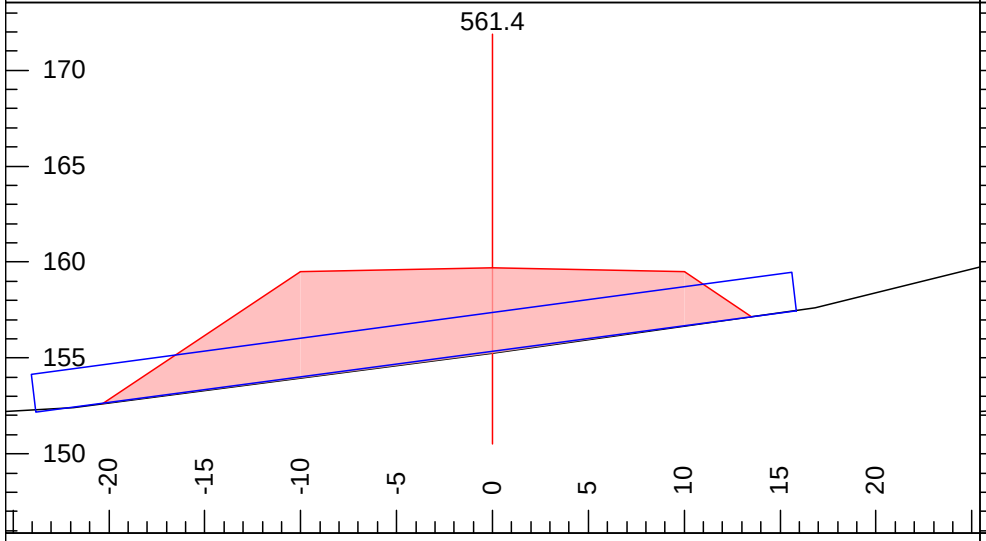

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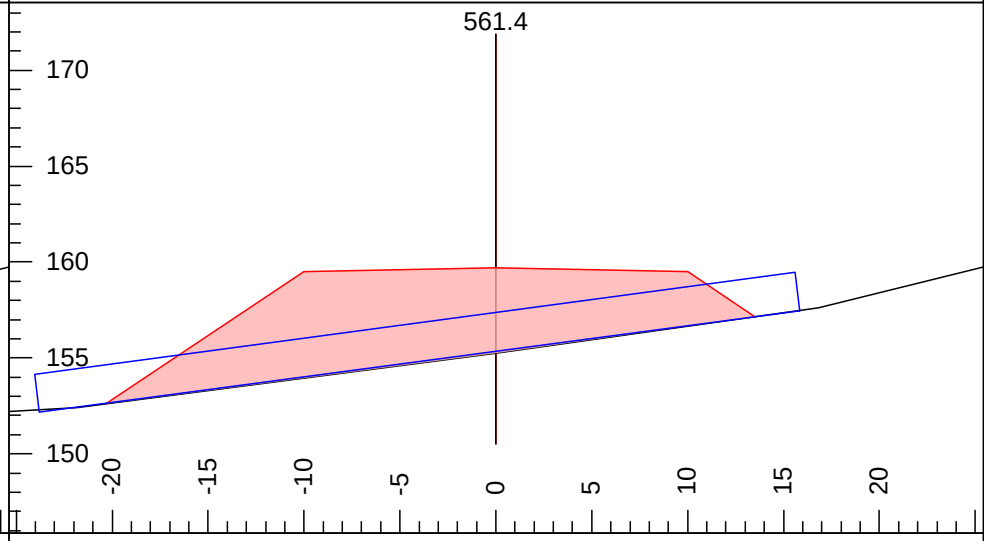

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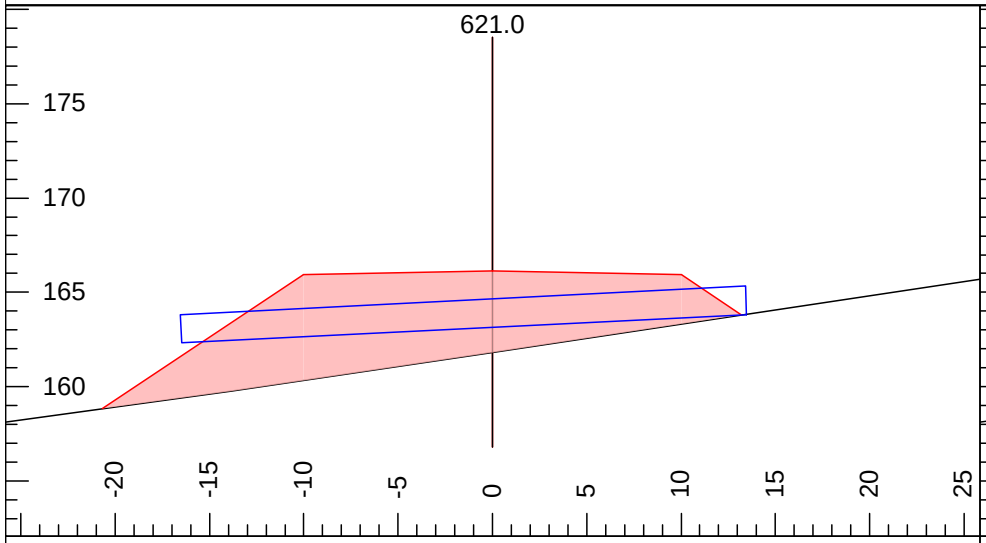
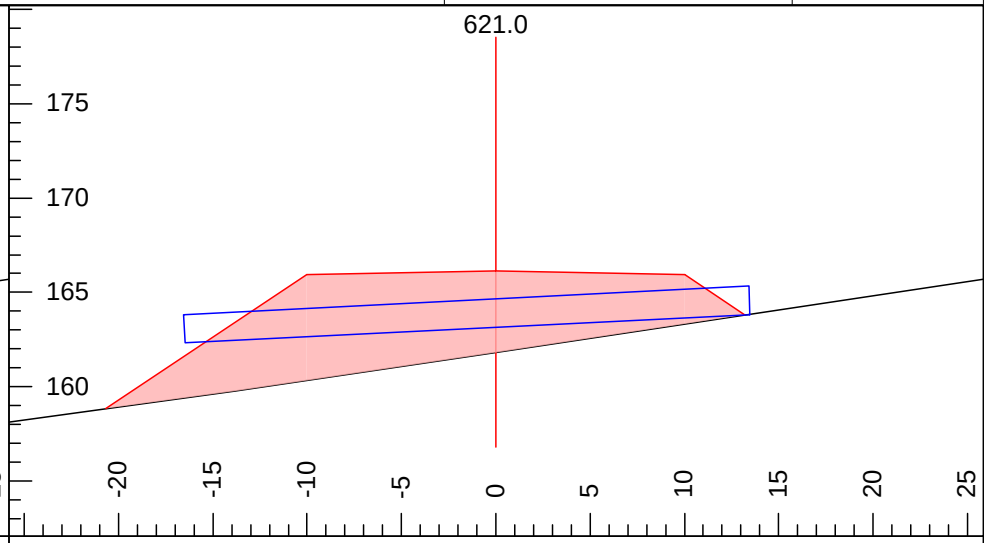
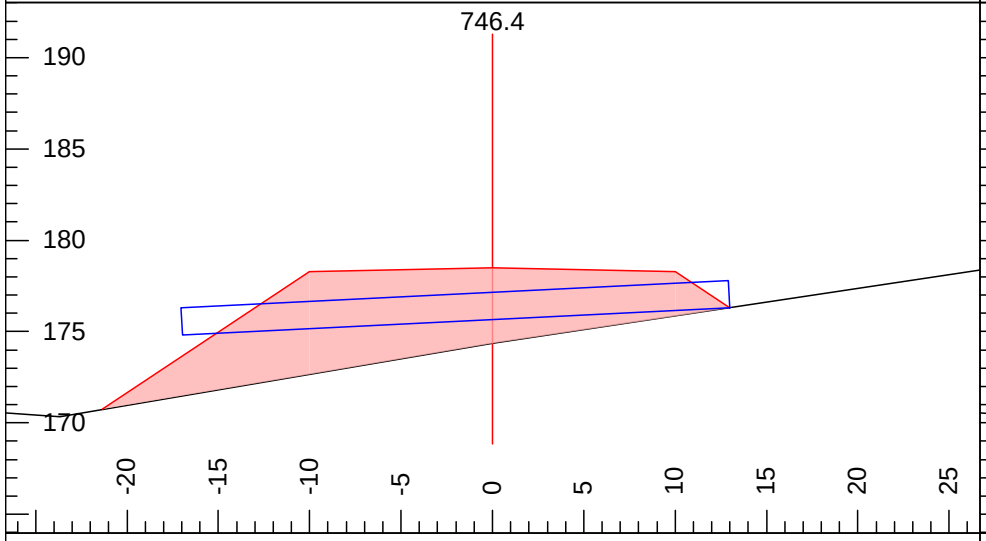
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	-4.4	Cul DIA:	24in
Grd.Lst:	11	Super R:	-2	Stk R X:	13.5	Cul Length:	40.0



L-Stn:	621.0	L-Ssl:	-15	F Slope L:	-67	Stk L X:	-20.7
P-Stn:	621.0	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	-4.3	Cul DIA:	18in
Grd.Lst:	11	Super R:	-2	Stk R X:	13.2	Cul Length:	30.0



L-Stn:	621.0	L-Ssl:	-15	F Slope L:	-67	Stk L X:	-20.7
P-Stn:	621.0	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-4.3	Cul DIA:	18in
Grd.Lst:	11	Super R:	-2	Stk R X:	13.2	Cul Length:	30.0



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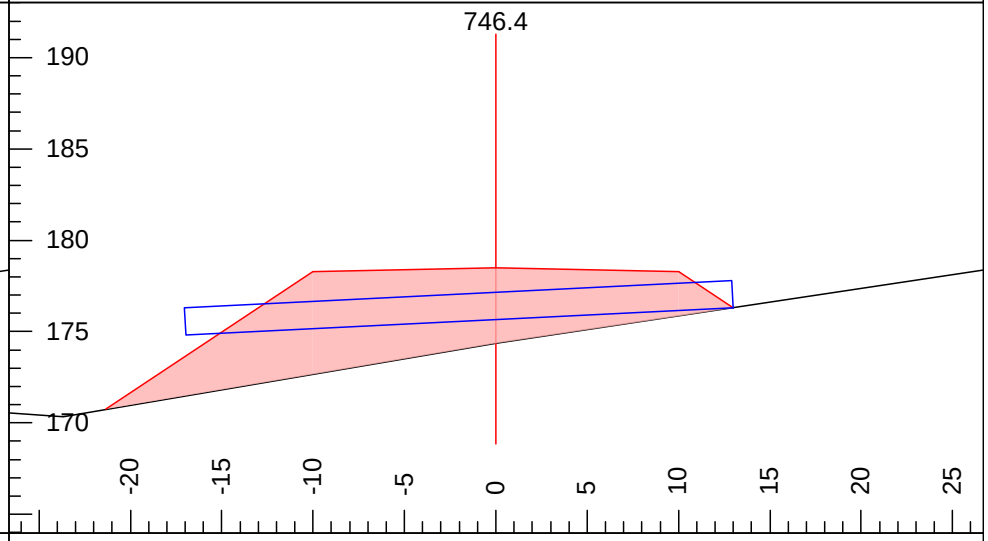
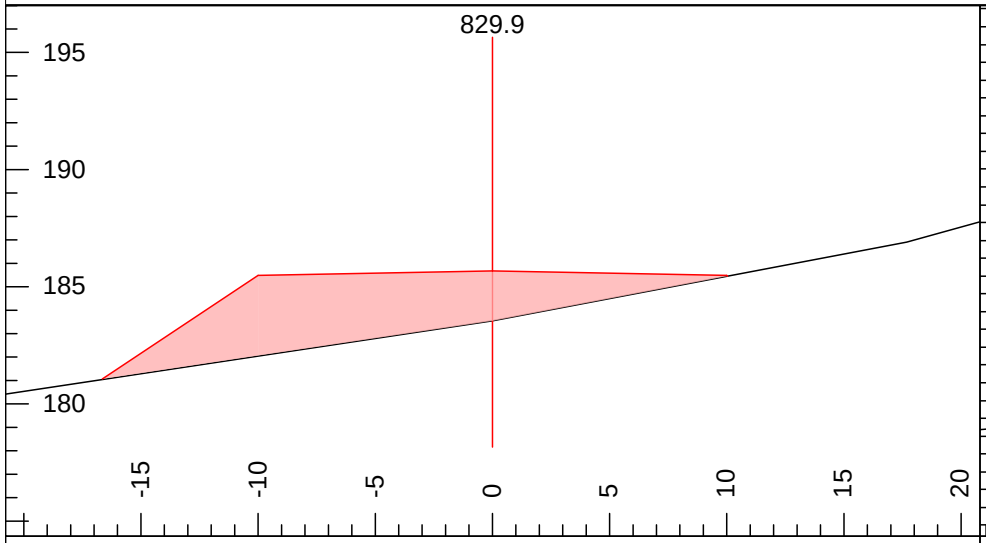
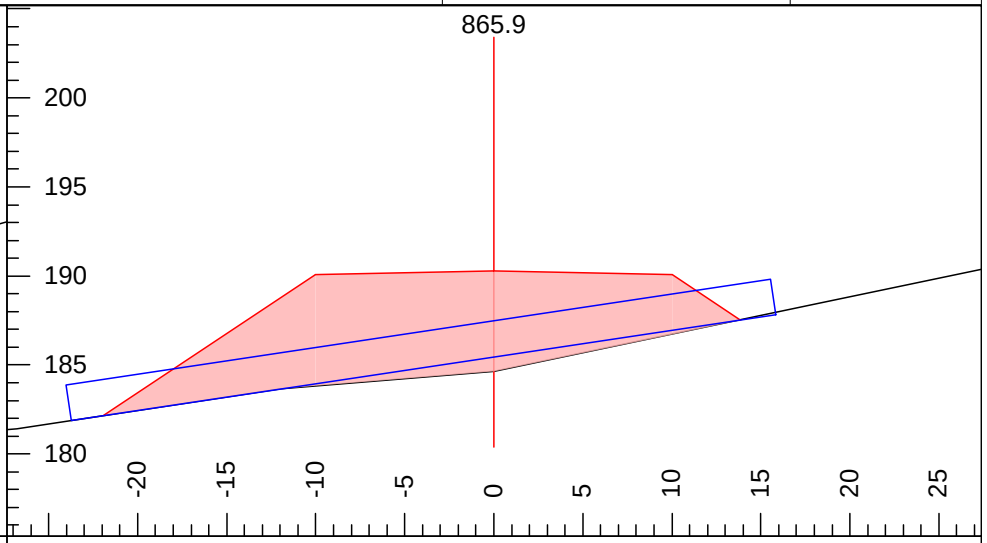
P-Stn:	746.4	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-4.1	Cul DIA:	18in
Grd.Lst:	10	Super R:	-2	Stk R X:	13.0	Cul Length:	30.0



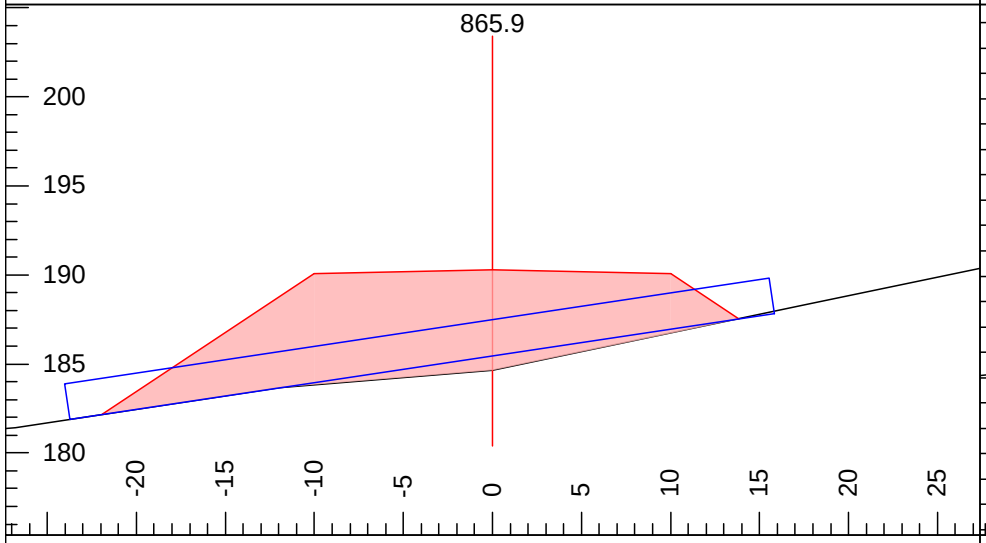
L-Stn:	746.4	L-Ssl:	-17	F Slope L:	-67	Stk L X:	-21.3
P-Stn:	746.4	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	-4.1	Cul DIA:	18in
Grd.Lst:	10	Super R:	-2	Stk R X:	13.0	Cul Length:	30.0



L-Stn:	829.9	L-Ssl:	-15	F Slope L:	-67	Stk L X:	-16.6		
P-Stn:	829.9	L-Ssr:	19	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	-2.1	Cul DIA:			
Grd.Lst:	9	Super R:	-2	Stk R X:	10.0	Cul Length:			



L-Stn:	865.9	L-Ssl:	-8	F Slope L:	-67	Stk L X:	-21.9		
P-Stn:	865.9	L-Ssr:	21	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-5.7	Cul DIA:	24in		
Grd.Lst:	13	Super R:	-2	Stk R X:	13.8	Cul Length:	40.0		



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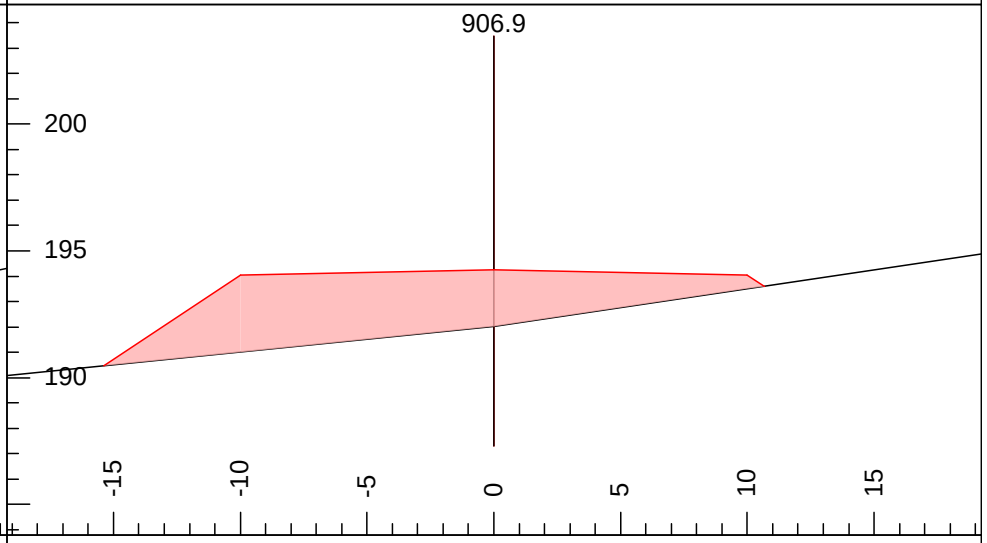
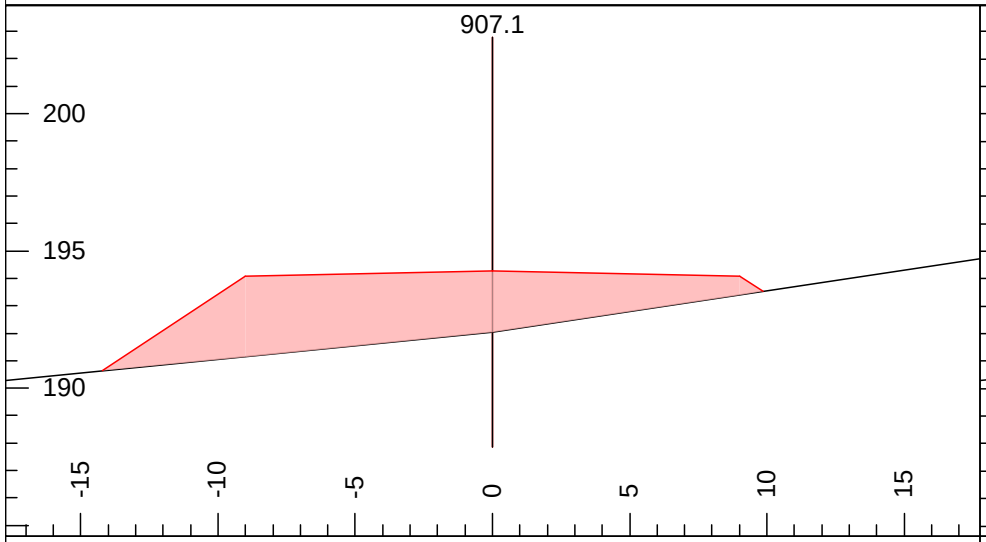
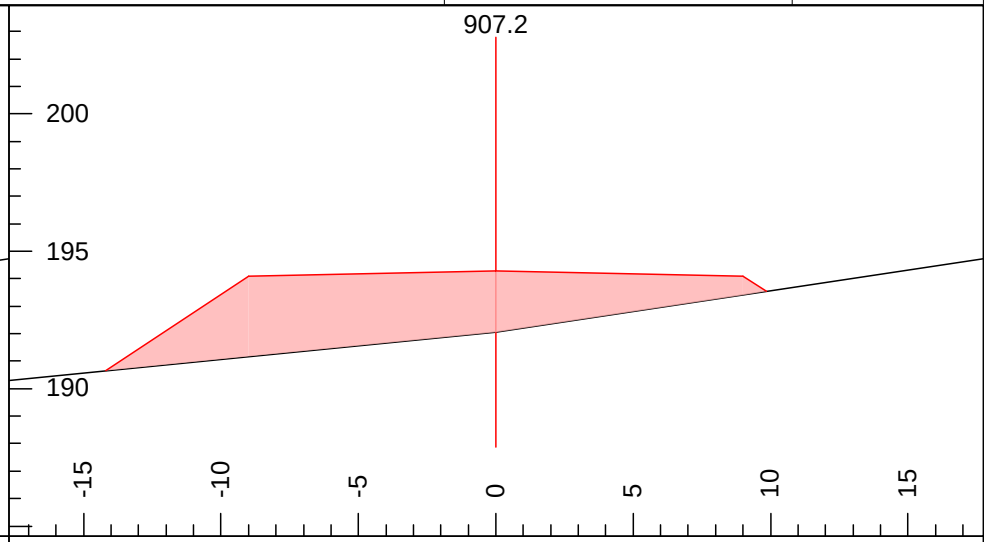
P-Stn:	865.9	L-Ssr:	21	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-5.7	Cul DIA:	24in		
Grd.Lst:	10	Super R:	-2	Stk R X:	13.8	Cul Length:	40.0		



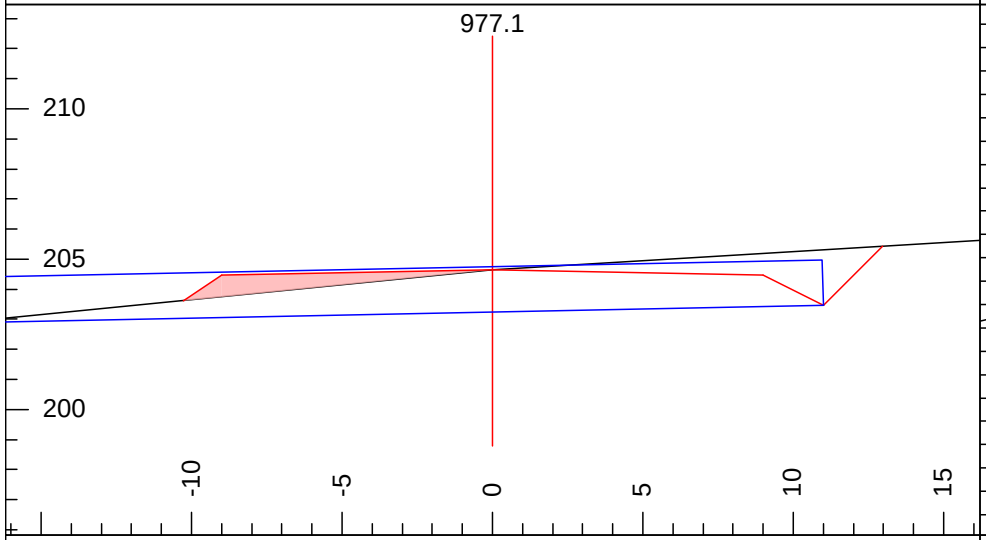
L-Stn:	906.9	L-Ssl:	-10	F Slope L:	-67	Stk L X:	-15.4		
P-Stn:	906.9	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-2.2	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	10.7	Cul Length:			



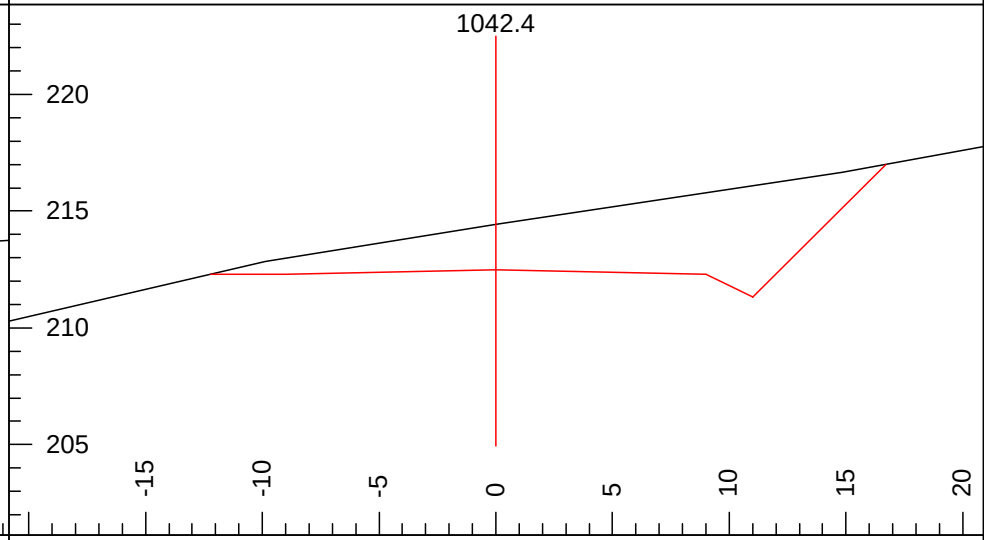
L-Stn:	907.1	L-Ssl:	-10	F Slope L:	-67	Stk L X:	-14.2	
P-Stn:	907.1	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-2.2	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	9.9	Cul Length:		



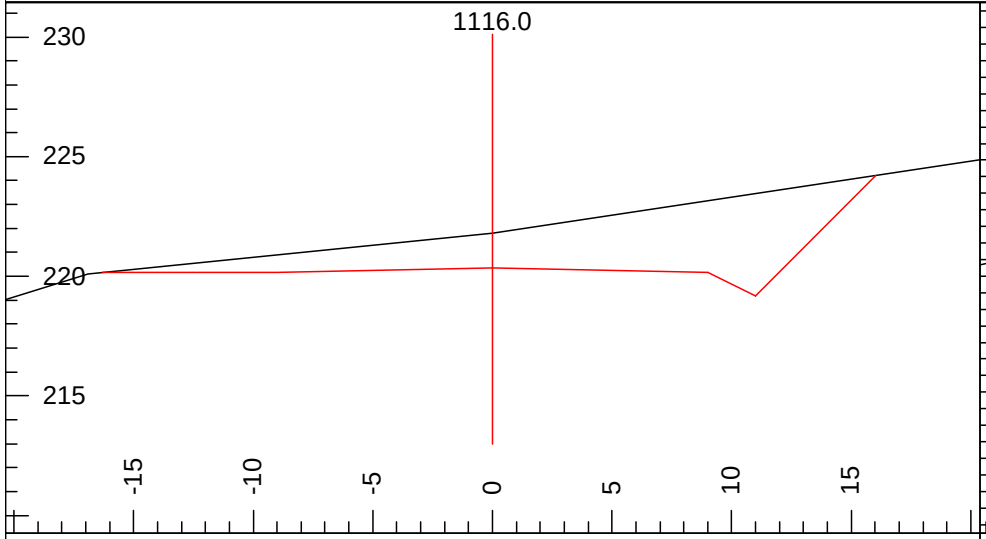
L-Stn:	907.2	L-Ssl:	-10	F Slope L:	-67	Stk L X:	-14.2	
P-Stn:	907.2	L-Ssr:	15	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-2.2	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	9.8	Cul Length:		



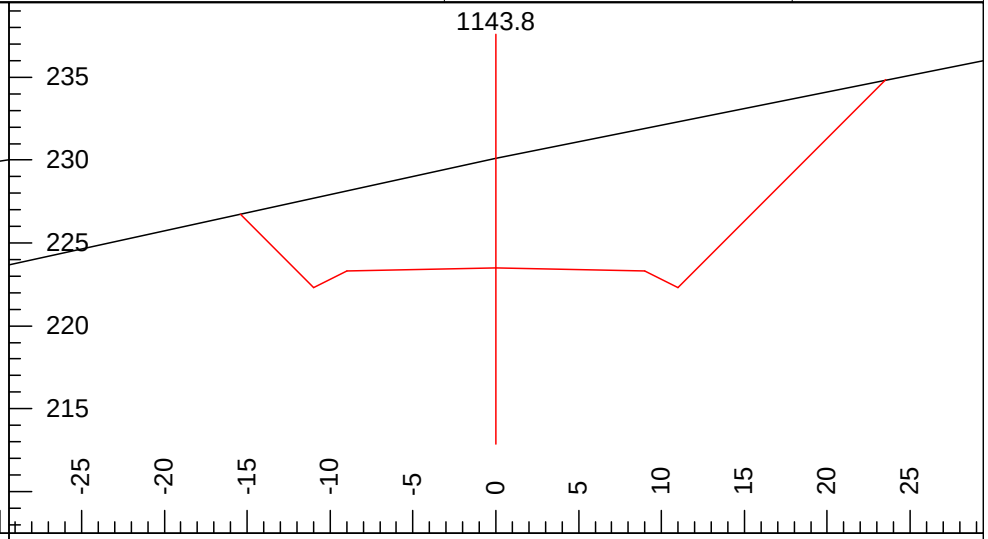
L-Stn:	977.1	L-Ssl:	-10	F Slope L:	-67	Stk L X:	-10.3	
P-Stn:	977.1	L-Ssr:	6	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	0.0	Cul DIA:	18in	
Grd.Lst:	15	Super R:	-2	Stk R X:	13.0	Cul Length:	30.0	



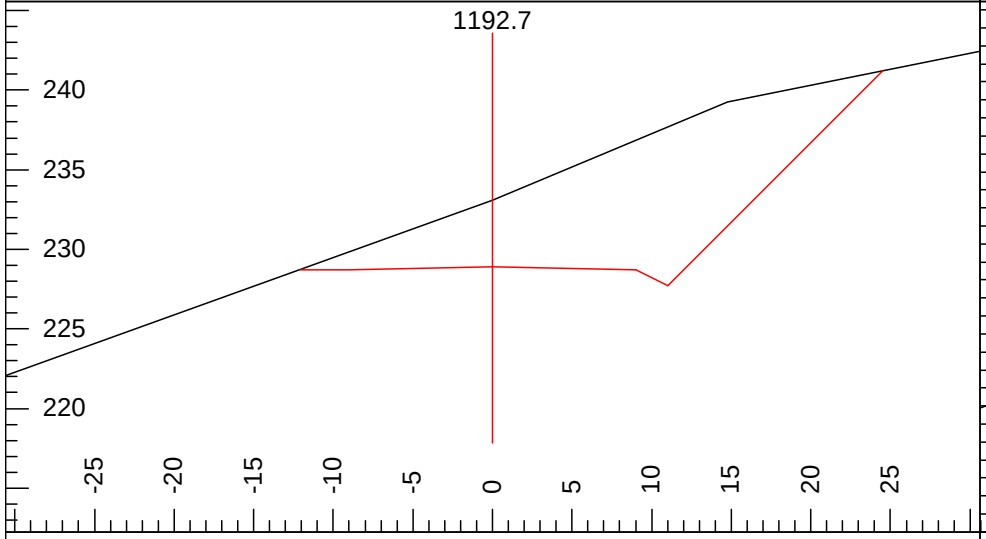
L-Stn:	1042.4	L-Ssl:	-16	F Slope L:	0	Stk L X:	-12.2	
P-Stn:	1042.4	L-Ssr:	15	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.9	Cul DIA:		
Grd.Lst:	12	Super R:	-2	Stk R X:	16.7	Cul Length:		



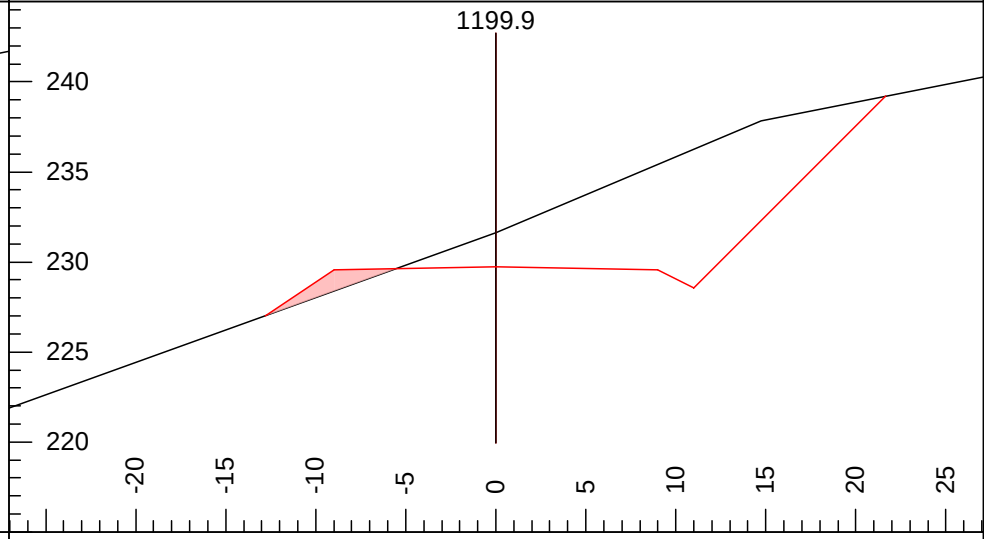
L-Stn:	1116.0	L-Ssl:	-10	F Slope L:	0	Stk L X:	-16.3	
P-Stn:	1116.0	L-Ssr:	15	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.4	Cul DIA:		
Grd.Lst:	11	Super R:	-2	Stk R X:	16.0	Cul Length:		



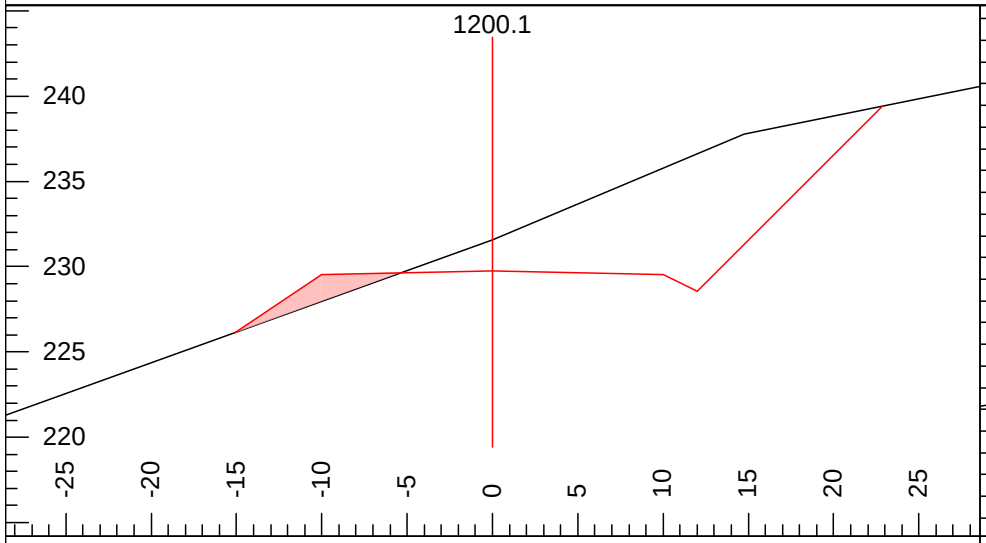
L-Stn:	1143.8	L-Ssl:	-22	F Slope L:	100	Stk L X:	-15.4	
P-Stn:	1143.8	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	6.6	Cul DIA:		
Grd.Lst:	11	Super R:	-2	Stk R X:	23.5	Cul Length:		



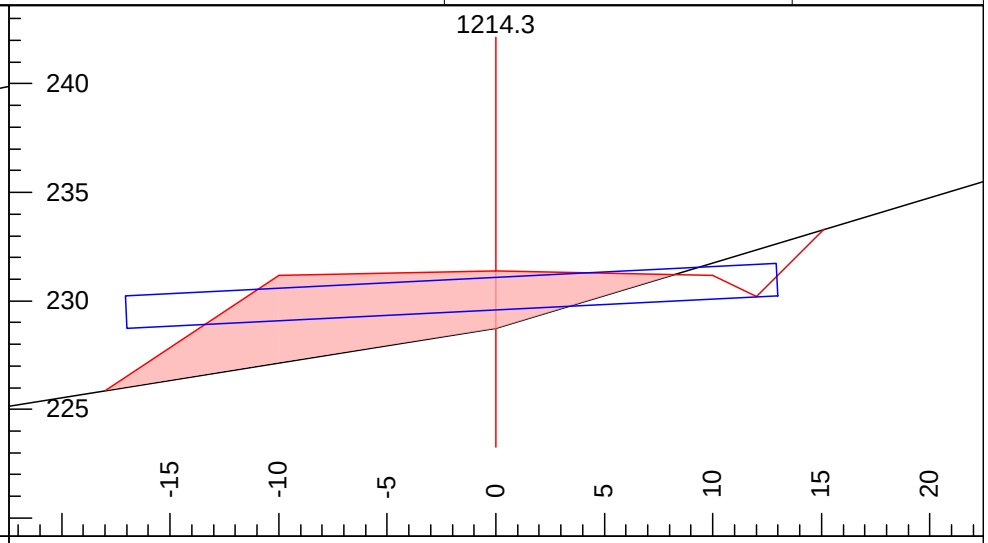
L-Stn:	1192.7	L-Ssl:	-36	F Slope L:	0	Stk L X:	-12.1	
P-Stn:	1192.7	L-Ssr:	42	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	4.2	Cul DIA:		
Grd.Lst:	11	Super R:	-2	Stk R X:	24.5	Cul Length:		



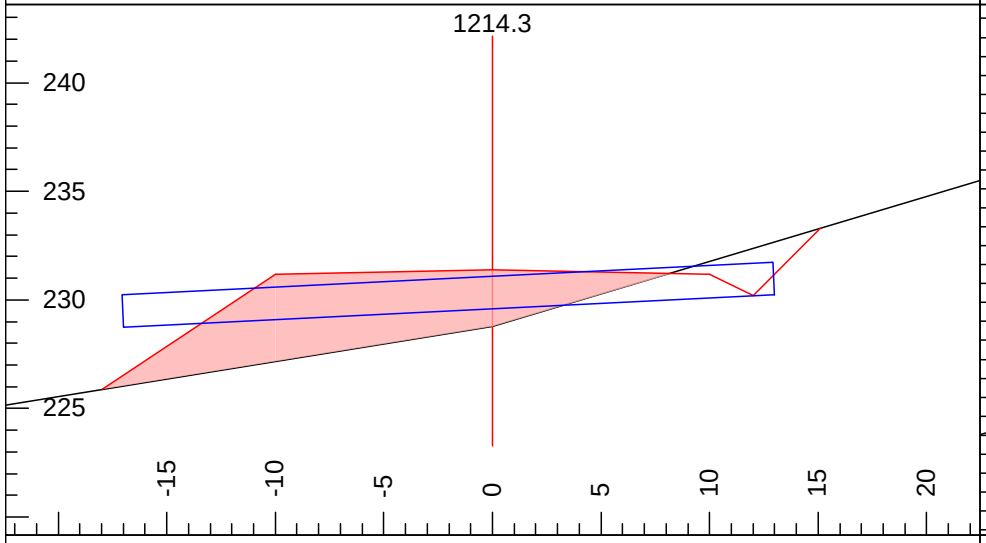
L-Stn:	1199.9	L-Ssl:	-36	F Slope L:	-67	Stk L X:	-12.8	
P-Stn:	1199.9	L-Ssr:	42	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.9	Cul DIA:		
Grd.Lst:	11	Super R:	-2	Stk R X:	21.6	Cul Length:		



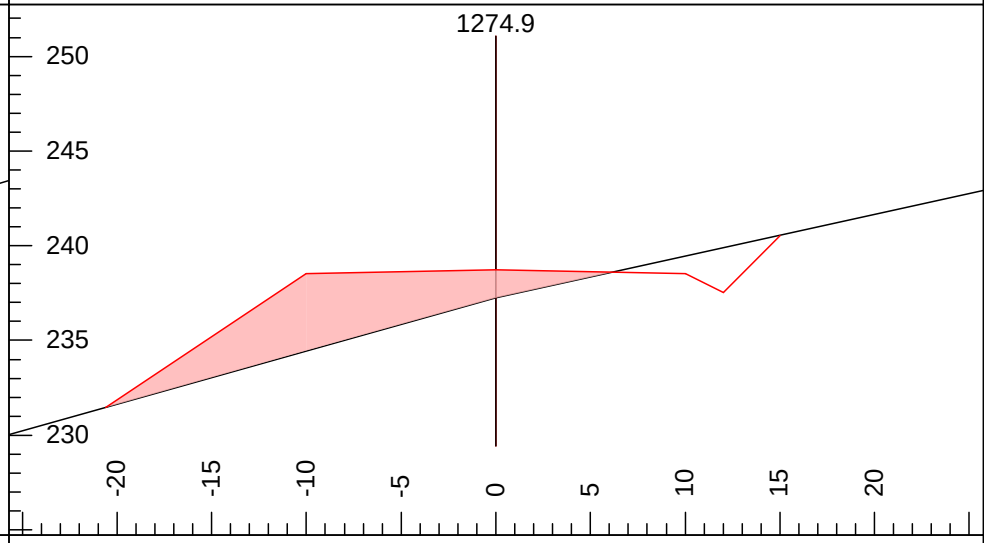
L-Stn:	1200.1	L-Ssl:	-36	F Slope L:	-67	Stk L X:	-15.1		
P-Stn:	1200.1	L-Ssr:	42	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.8	Cul DIA:			
Grd.Lst:	11	Super R:	-2	Stk R X:	22.8	Cul Length:			



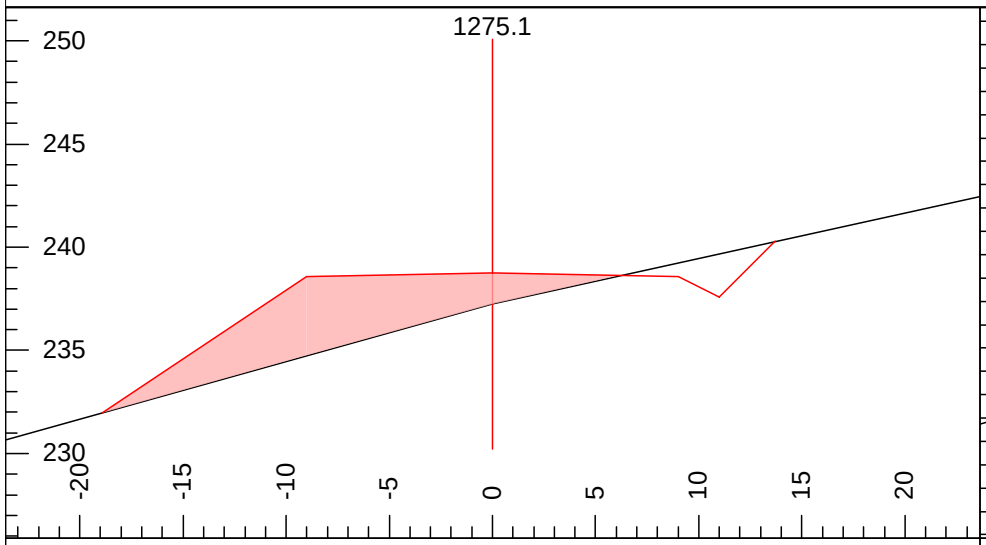
L-Stn:	1214.3	L-Ssl:	-16	F Slope L:	-67	Stk L X:	-18.0		
P-Stn:	1214.3	L-Ssr:	30	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-2.6	Cul DIA:	18in		
Grd.Lst:	11	Super R:	-2	Stk R X:	15.1	Cul Length:	30.0		



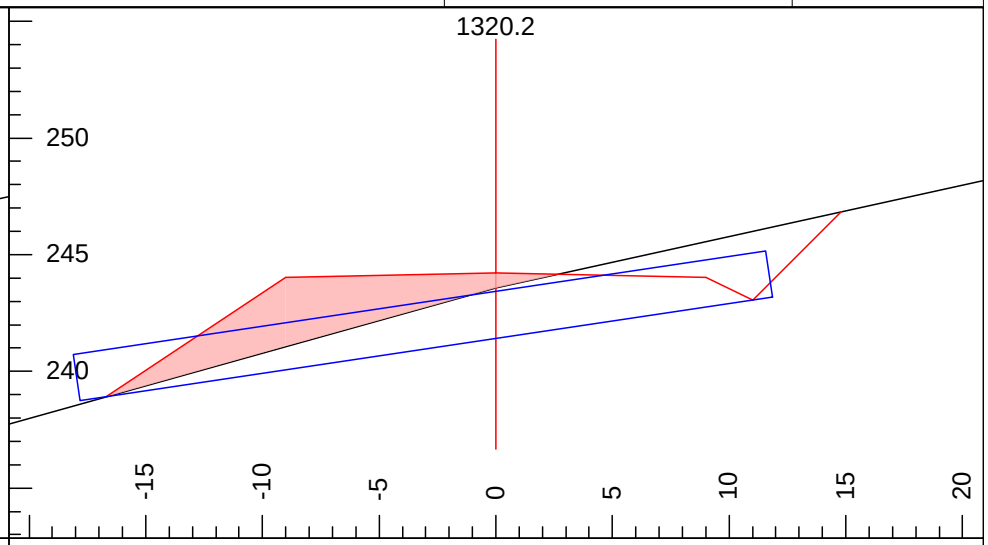
L-Stn:	1214.3	L-Ssl:	-16	F Slope L:	-67	Stk L X:	-18.0		
P-Stn:	1214.3	L-Ssr:	30	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-2.6	Cul DIA:	18in		
Grd.Lst:	12	Super R:	-2	Stk R X:	15.1	Cul Length:	30.0		



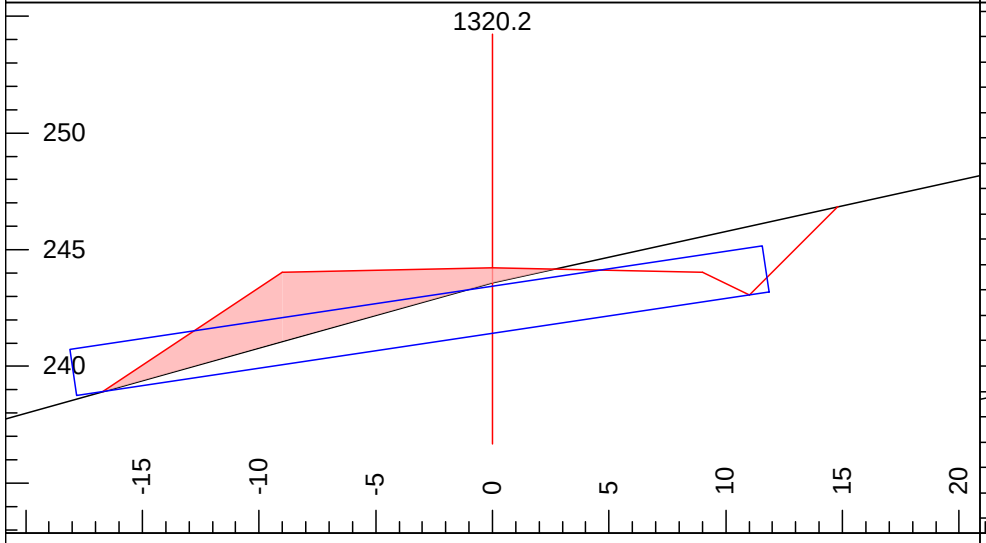
L-Stn:	1274.9	L-Ssl:	-28	F Slope L:	-67	Stk L X:	-20.6		
P-Stn:	1274.9	L-Ssr:	22	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-1.5	Cul DIA:			
Grd.Lst:	12	Super R:	-2	Stk R X:	15.0	Cul Length:			



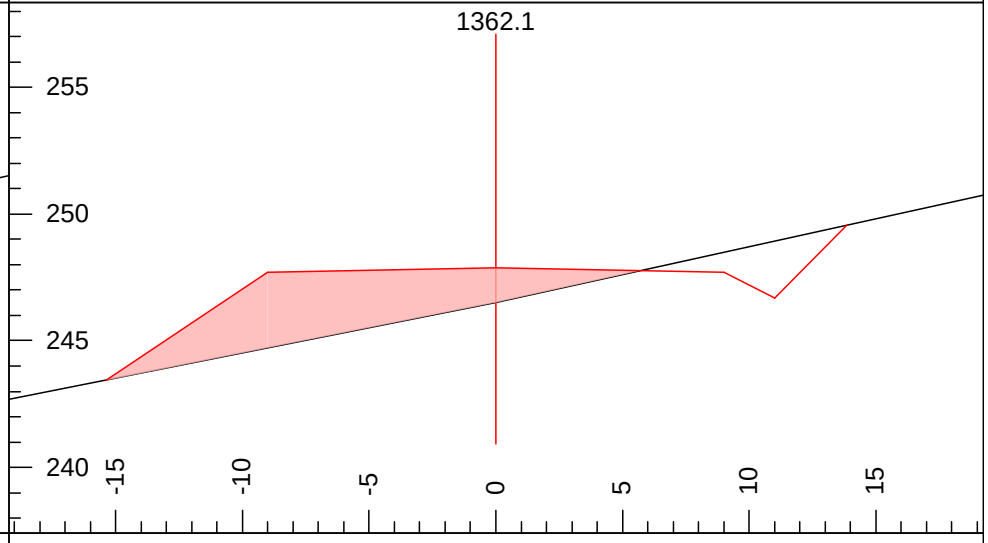
L-Stn:	1275.1	L-Ssl:	-28	F Slope L:	-67	Stk L X:	-18.9		
P-Stn:	1275.1	L-Ssr:	22	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-1.5	Cul DIA:			
Grd.Lst:	12	Super R:	-2	Stk R X:	13.7	Cul Length:			



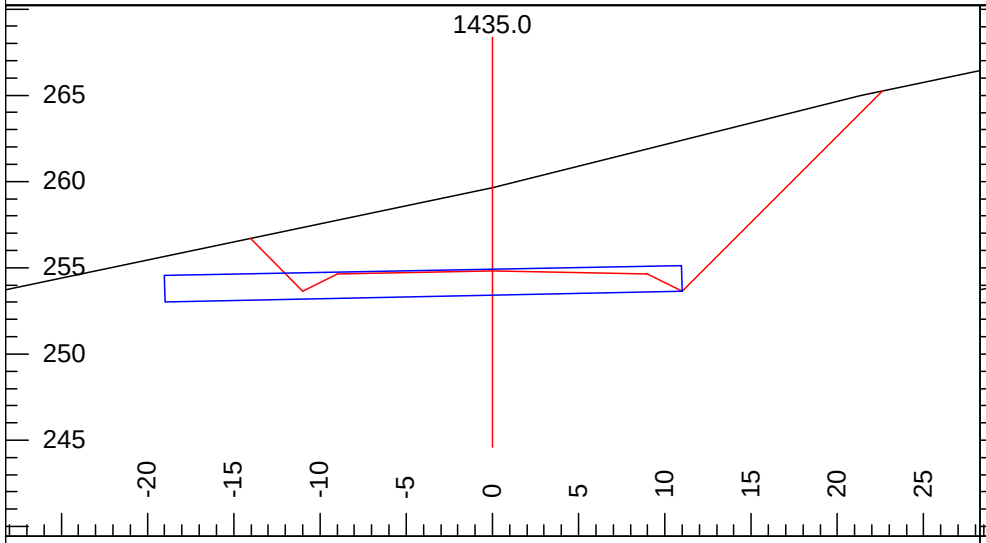
L-Stn:	1320.2	L-Ssl:	-28	F Slope L:	-67	Stk L X:	-16.7		
P-Stn:	1320.2	L-Ssr:	22	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-0.6	Cul DIA:	24in		
Grd.Lst:	12	Super R:	-2	Stk R X:	14.8	Cul Length:	30.0		



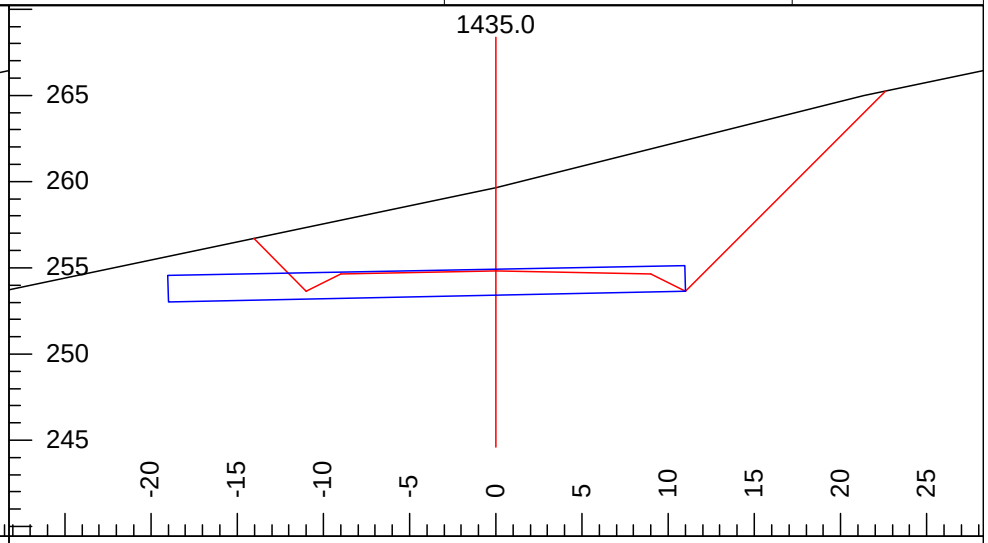
L-Stn:	1320.2	L-Ssl:	-28	F Slope L:	-67	Stk L X:	-16.7		
P-Stn:	1320.2	L-Ssr:	22	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	-0.6	Cul DIA:	24in		
Grd.Lst:	12	Super R:	-2	Stk R X:	14.8	Cul Length:	30.0		



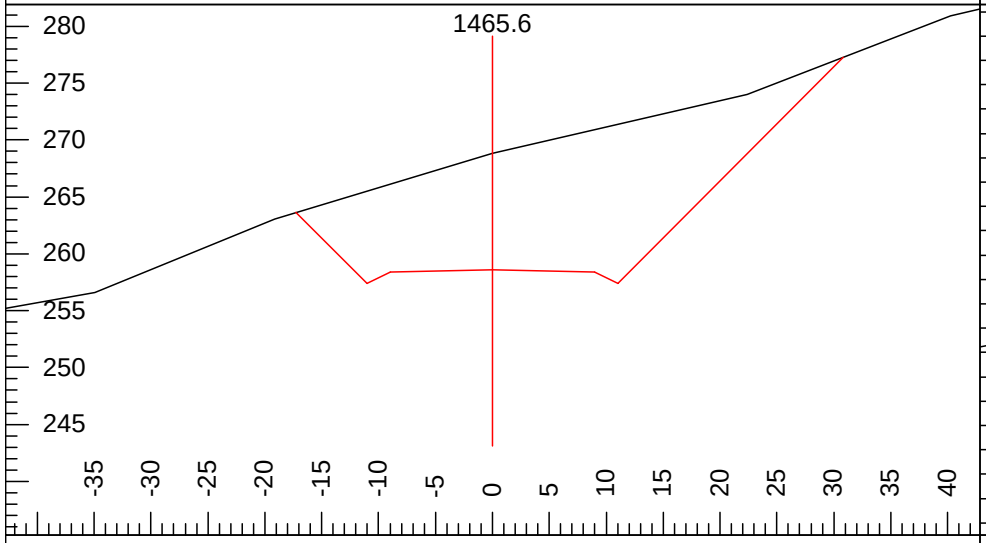
L-Stn:	1362.1	L-Ssl:	-20	F Slope L:	-67	Stk L X:	-15.4		
P-Stn:	1362.1	L-Ssr:	22	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-1.4	Cul DIA:			
Grd.Lst:	9	Super R:	-2	Stk R X:	13.9	Cul Length:			



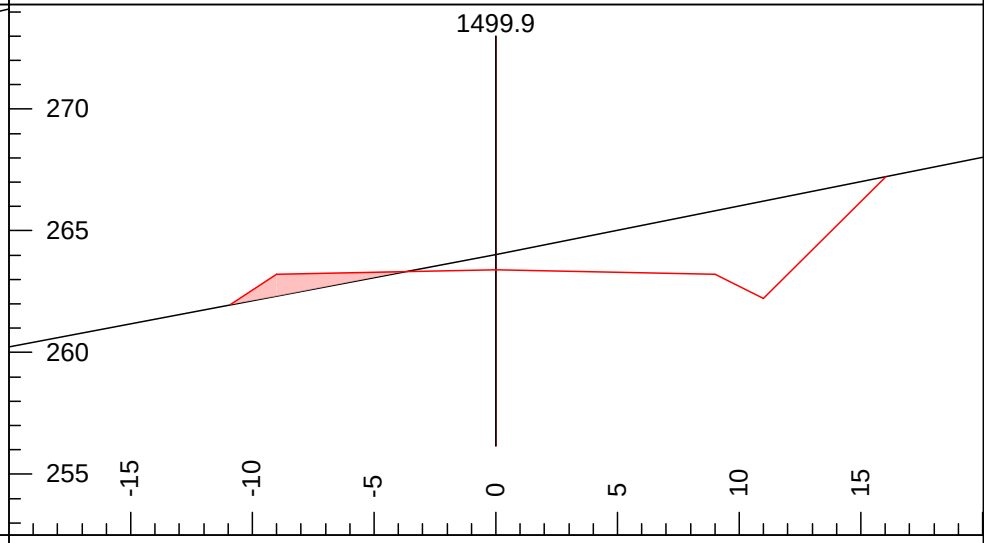
L-Stn:	1435.0	L-Ssl:	-21	F Slope L:	100	Stk L X:	-14.0
P-Stn:	1435.0	L-Ssr:	25	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	4.8	Cul DIA:	18in
Grd.Lst:	10	Super R:	-2	Stk R X:	22.6	Cul Length:	30.0



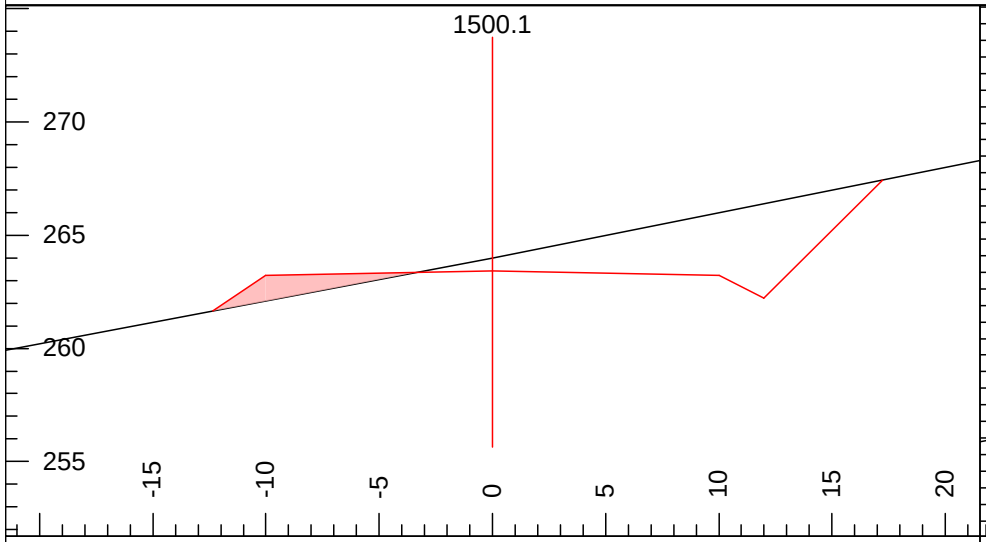
L-Stn:	1435.0	L-Ssl:	-21	F Slope L:	100	Stk L X:	-14.1
P-Stn:	1435.0	L-Ssr:	25	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	4.8	Cul DIA:	18in
Grd.Lst:	12	Super R:	-2	Stk R X:	22.6	Cul Length:	30.0



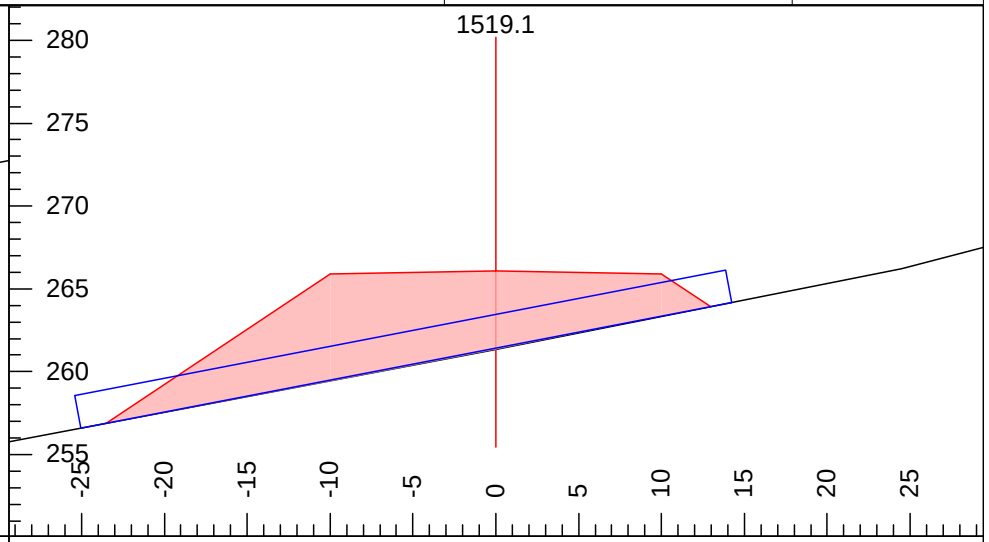
L-Stn:	1465.6	L-Ssl:	-30	F Slope L:	100	Stk L X:	-17.2
P-Stn:	1465.6	L-Ssr:	23	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	10.2	Cul DIA:	
Grd.Lst:	12	Super R:	-2	Stk R X:	30.8	Cul Length:	



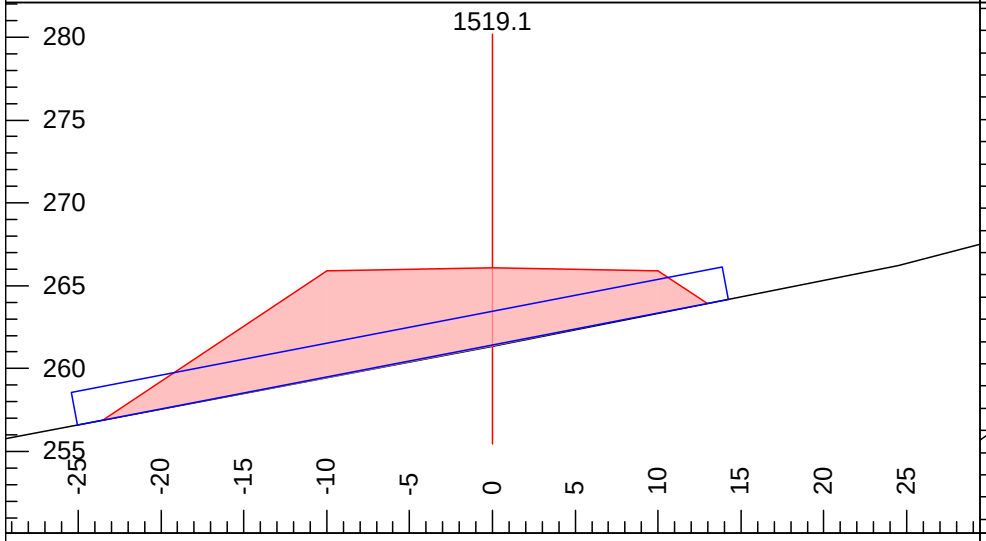
L-Stn:	1499.9	L-Ssl:	-19	F Slope L:	-67	Stk L X:	-10.9
P-Stn:	1499.9	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.6	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	16.0	Cul Length:	



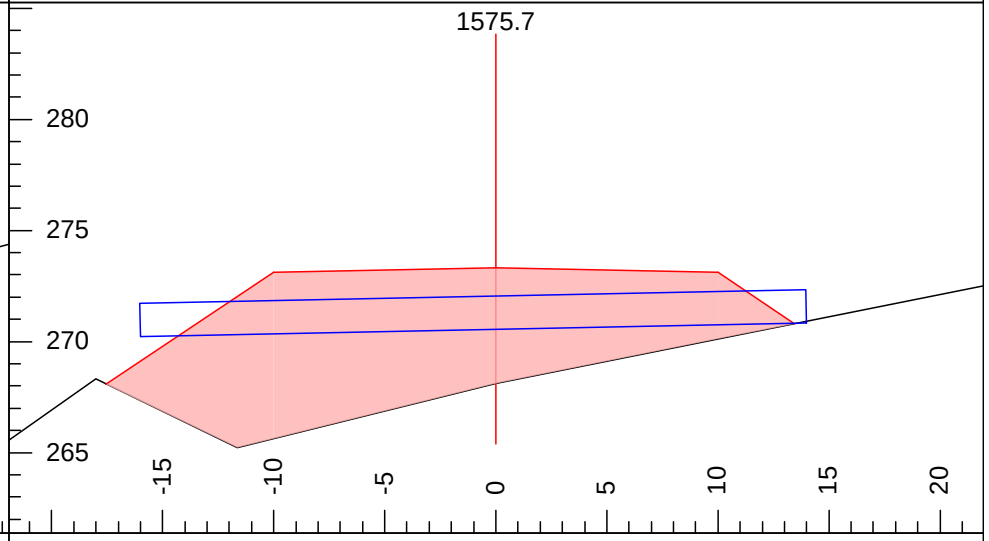
L-Stn:	1500.1	L-Ssl:	-19	F Slope L:	-67	Stk L X:	-12.4		
P-Stn:	1500.1	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.6	Cul DIA:			
Grd.Lst:	14	Super R:	-2	Stk R X:	17.2	Cul Length:			



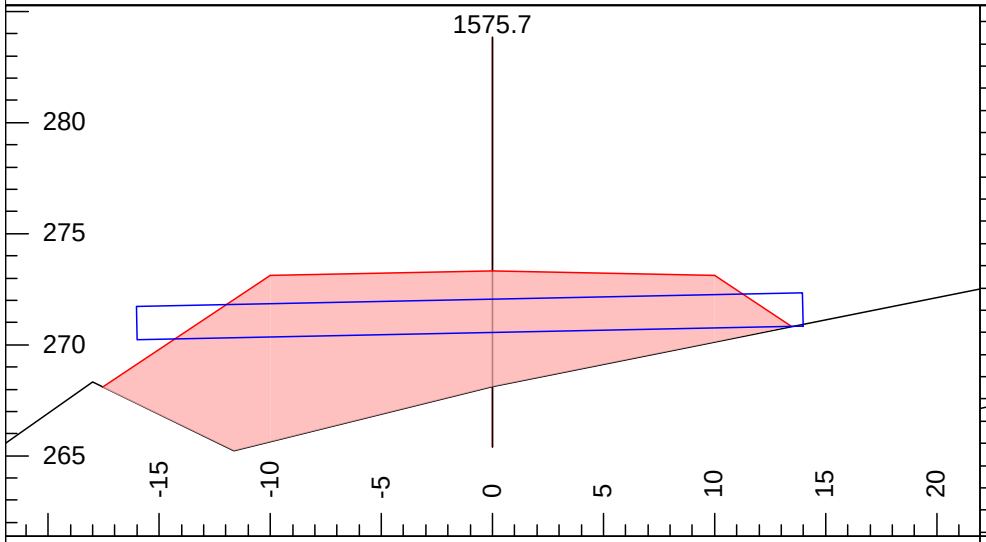
L-Stn:	1519.1	L-Ssl:	-19	F Slope L:	-67	Stk L X:	-23.5		
P-Stn:	1519.1	L-Ssr:	20	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	-4.7	Cul DIA:	24in		
Grd.Lst:	14	Super R:	-2	Stk R X:	12.9	Cul Length:	40.0		



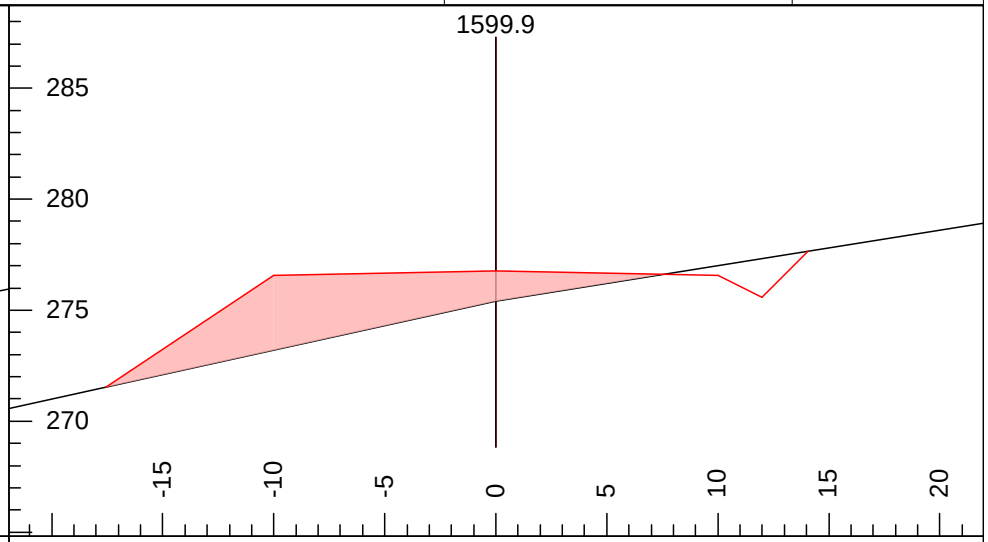
L-Stn:	1519.1	L-Ssl:	-19	F Slope L:	-67	Stk L X:	-23.5		
P-Stn:	1519.1	L-Ssr:	20	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	-4.7	Cul DIA:	24in		
Grd.Lst:	13	Super R:	-2	Stk R X:	12.9	Cul Length:	40.0		



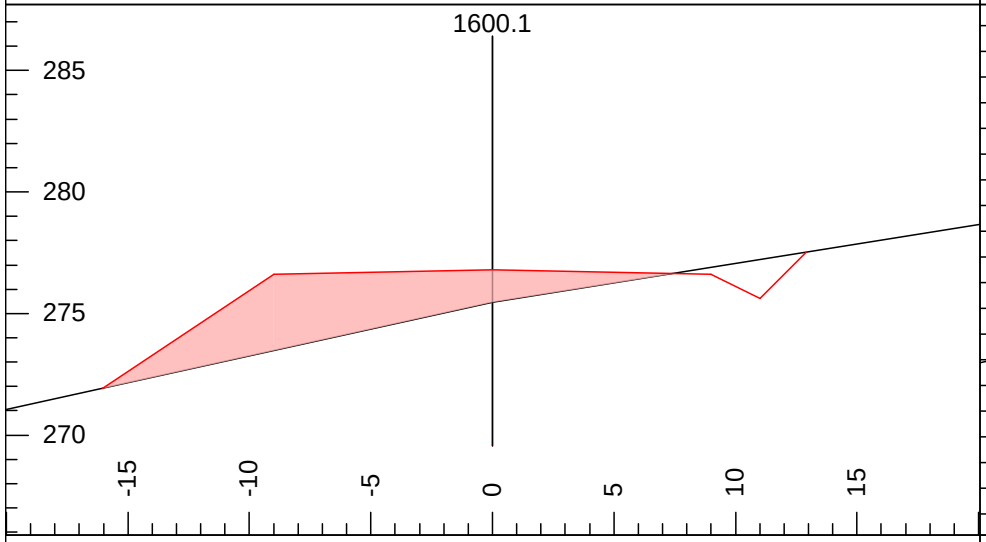
L-Stn:	1575.7	L-Ssl:	-25	F Slope L:	-67	Stk L X:	-17.5		
P-Stn:	1575.7	L-Ssr:	20	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-5.2	Cul DIA:	18in		
Grd.Lst:	13	Super R:	-2	Stk R X:	13.5	Cul Length:	30.0		



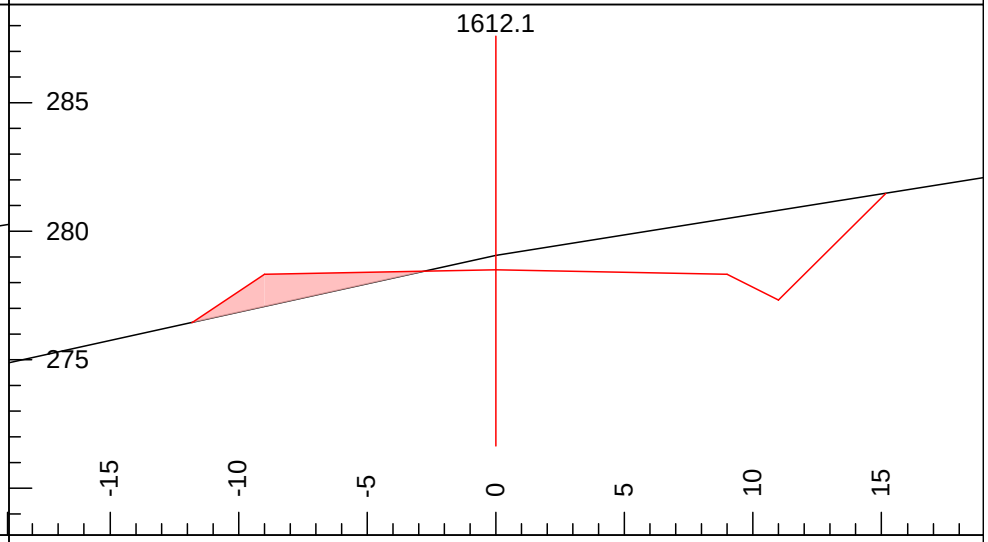
L-Stn:	1575.7	L-Ssl:	-25	F Slope L:	-67	Stk L X:	-17.5
P-Stn:	1575.7	L-Ssr:	20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-5.2	Cul DIA:	18in
Grd.Lst:	14	Super R:	-2	Stk R X:	13.5	Cul Length:	30.0



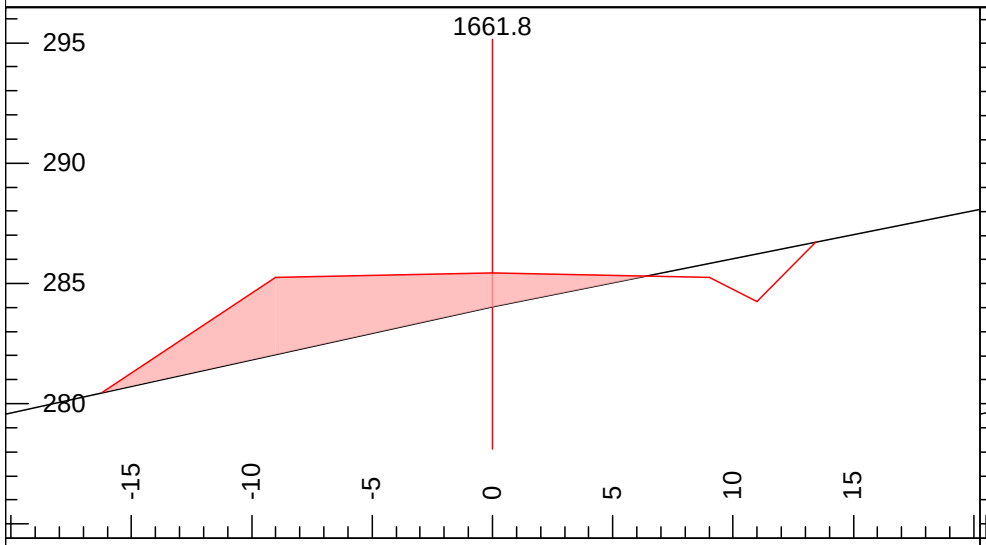
L-Stn:	1599.9	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-17.6
P-Stn:	1599.9	L-Ssr:	16	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.4	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	14.1	Cul Length:	



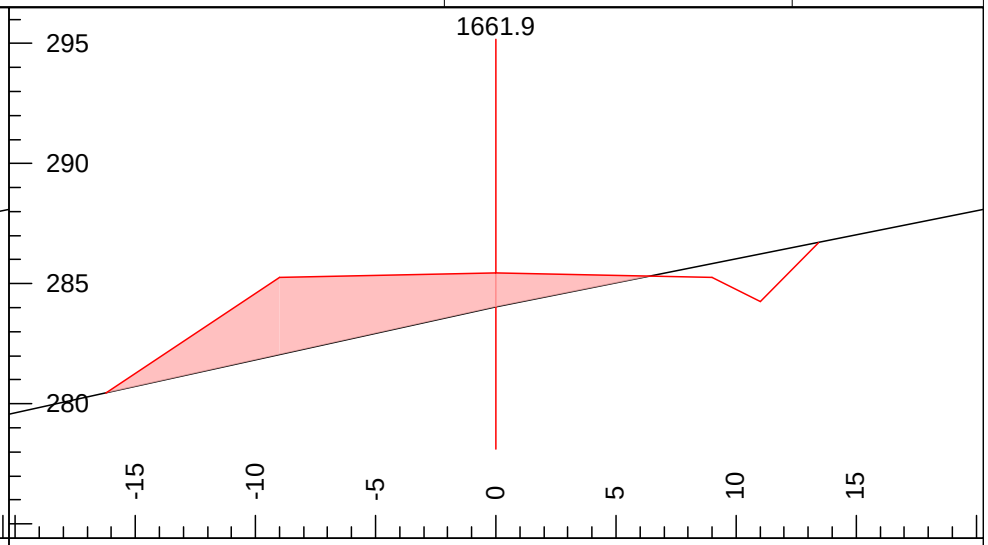
L-Stn:	1600.1	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-16.0
P-Stn:	1600.1	L-Ssr:	16	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.3	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	12.9	Cul Length:	



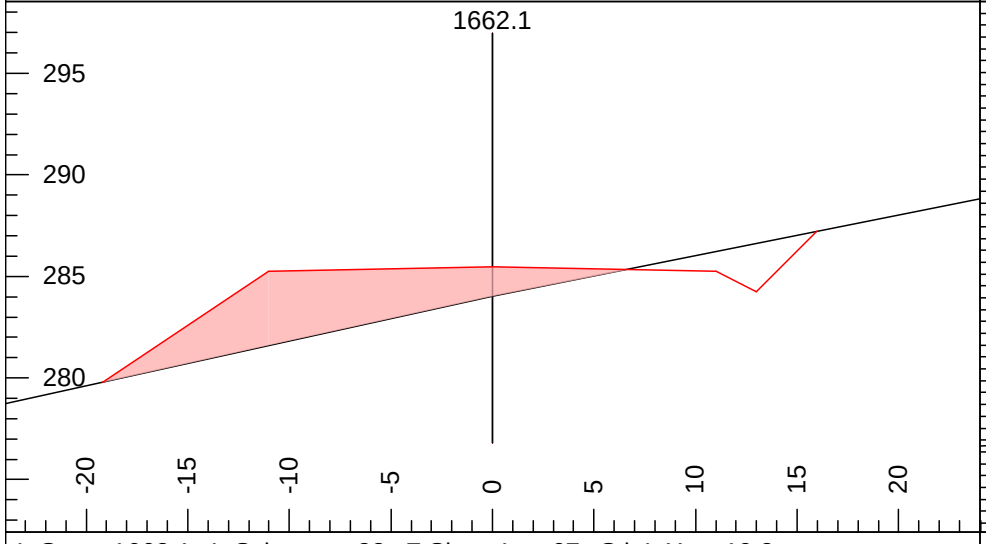
L-Stn:	1612.1	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-11.8
P-Stn:	1612.1	L-Ssr:	16	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.5	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	15.2	Cul Length:	



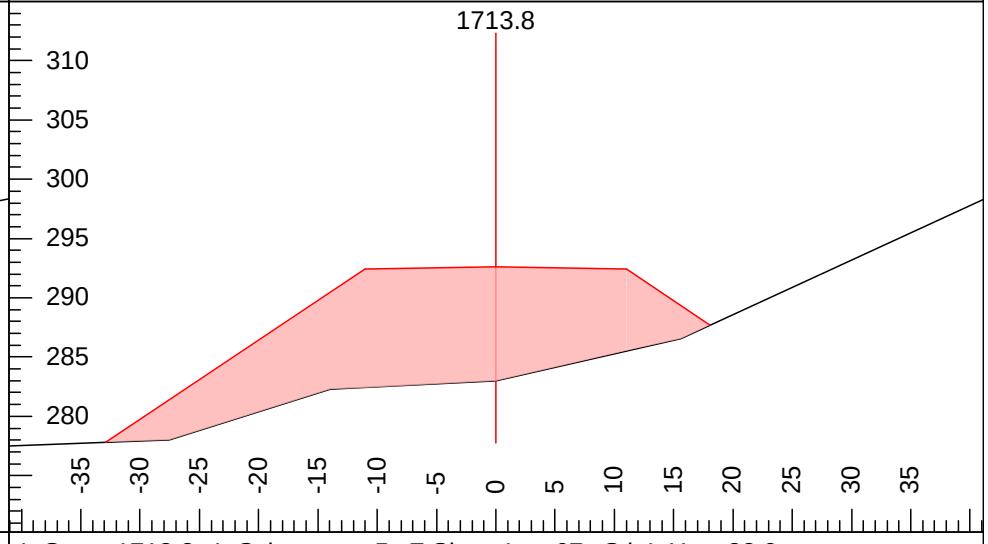
L-Stn:	1661.8	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-16.2
P-Stn:	1661.8	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.4	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	13.5	Cul Length:	



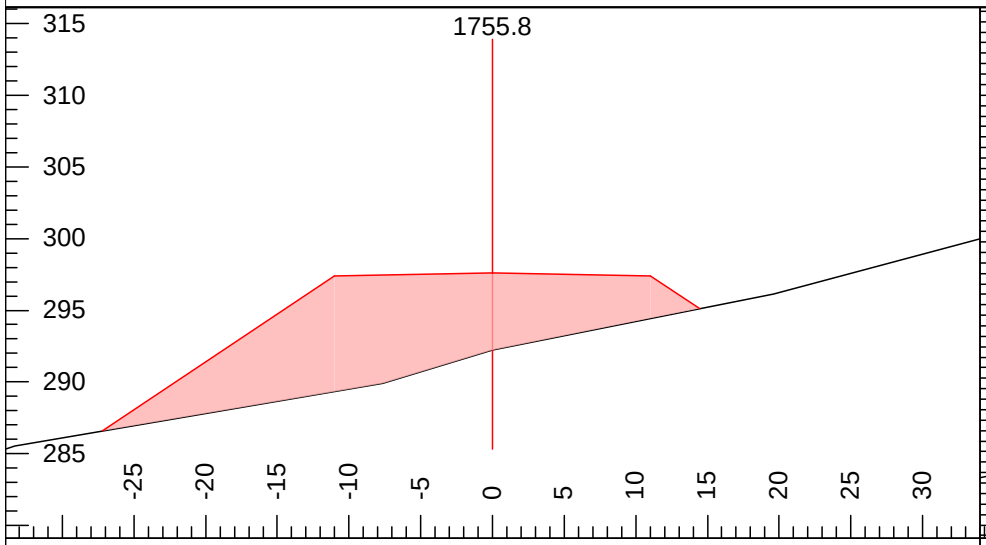
L-Stn:	1661.9	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-16.2
P-Stn:	1661.8	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.4	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	13.4	Cul Length:	



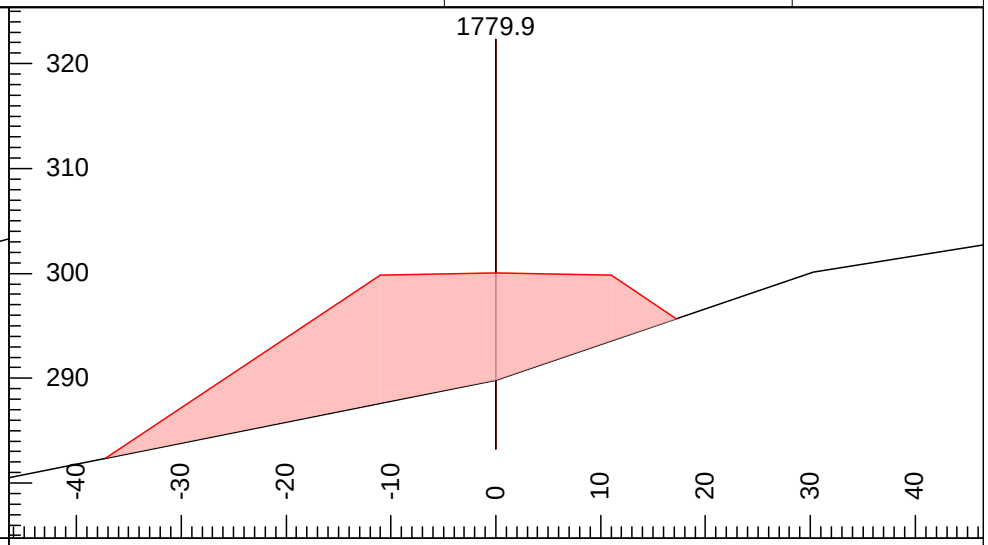
L-Stn:	1662.1	L-Ssl:	-22	F Slope L:	-67	Stk L X:	-19.2
P-Stn:	1662.1	L-Ssr:	20	F Slope R:	100	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.5	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	16.0	Cul Length:	



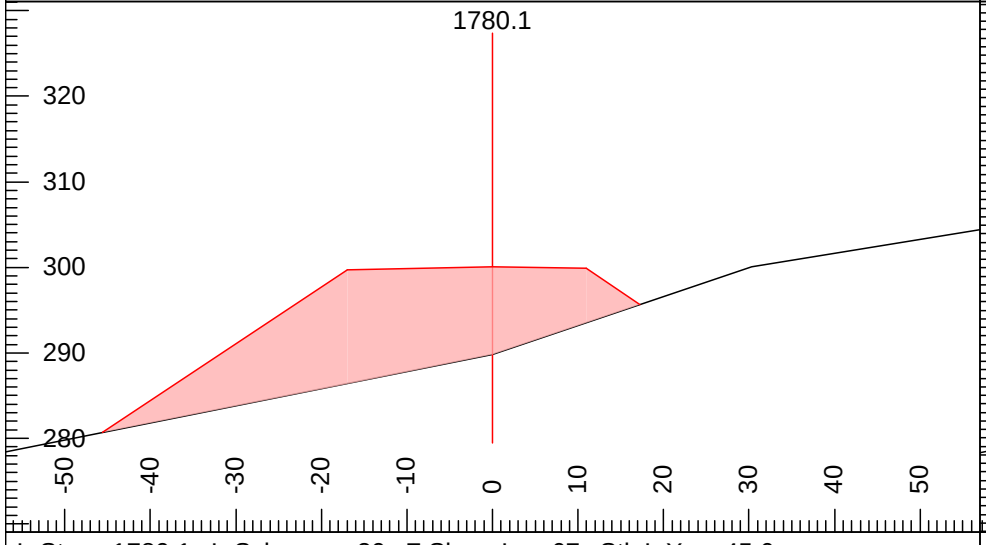
L-Stn:	1713.8	L-Ssl:	-5	F Slope L:	-67	Stk L X:	-32.9
P-Stn:	1713.8	L-Ssr:	23	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	-9.6	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	18.0	Cul Length:	



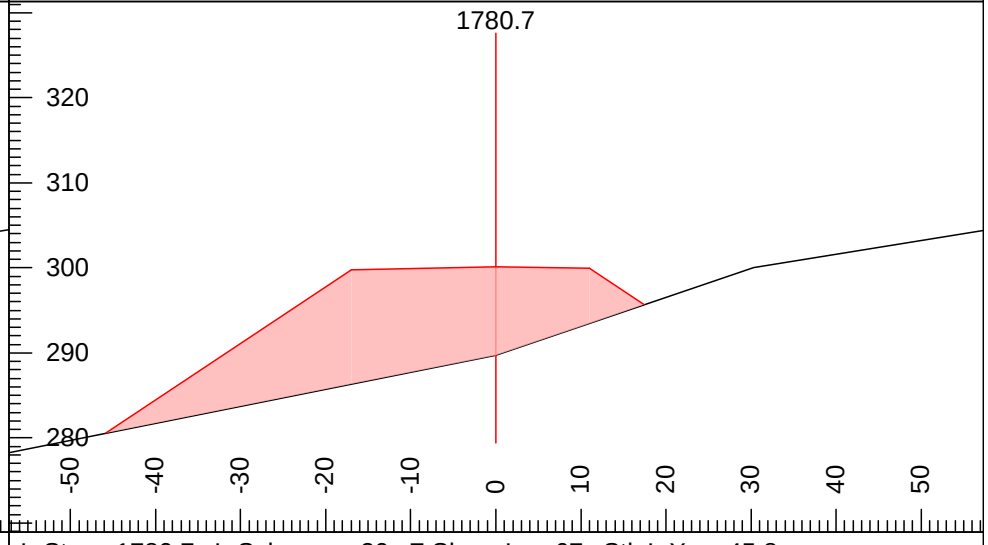
L-Stn:	1755.8	L-Ssl:	-30	F Slope L:	-67	Stk L X:	-27.2		
P-Stn:	1755.8	L-Ssr:	20	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-5.4	Cul DIA:			
Grd.Lst:	12	Super R:	-2	Stk R X:	14.4	Cul Length:			



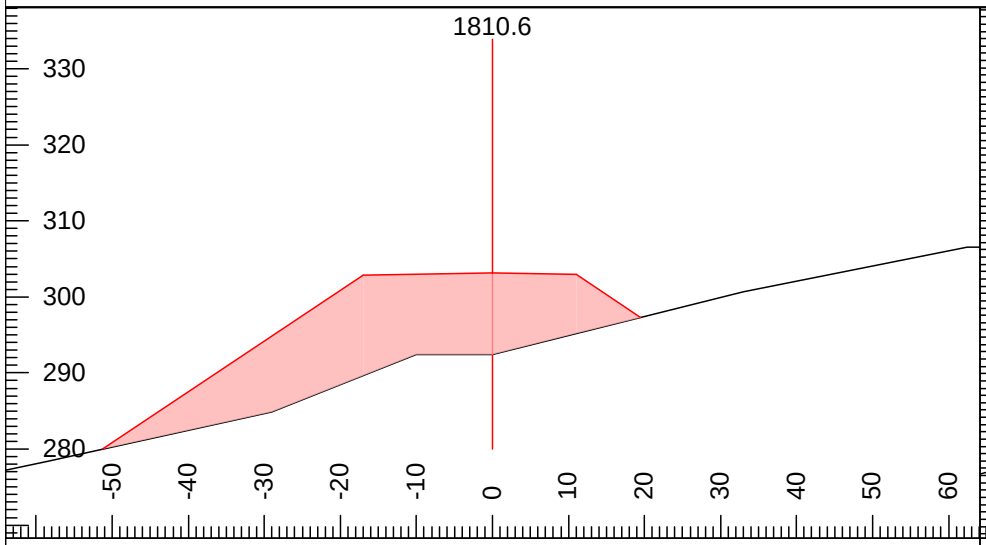
L-Stn:	1779.9	L-Ssl:	-20	F Slope L:	-67	Stk L X:	-37.2		
P-Stn:	1779.9	L-Ssr:	34	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-10.2	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	17.2	Cul Length:			



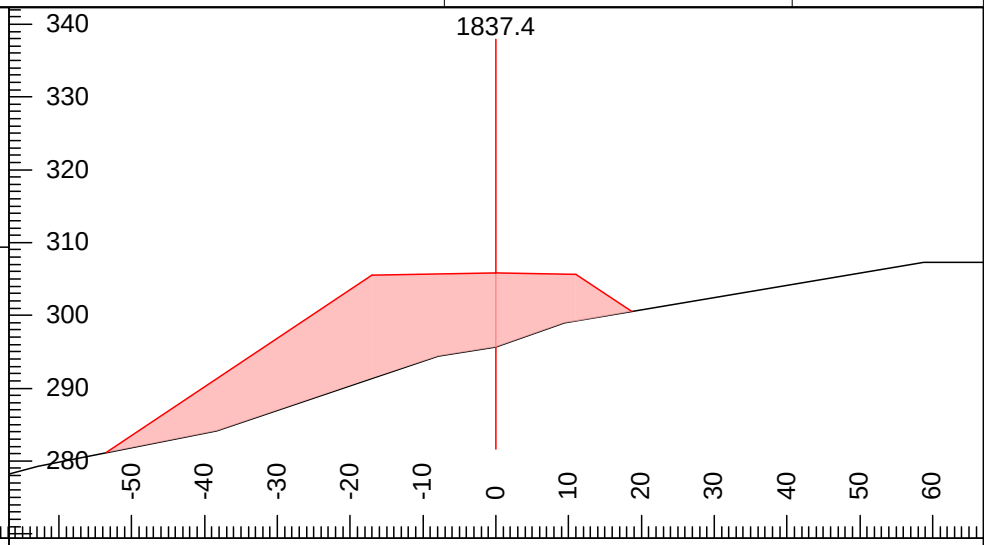
L-Stn:	1780.1	L-Ssl:	-20	F Slope L:	-67	Stk L X:	-45.6		
P-Stn:	1780.1	L-Ssr:	34	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-10.3	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	17.3	Cul Length:			



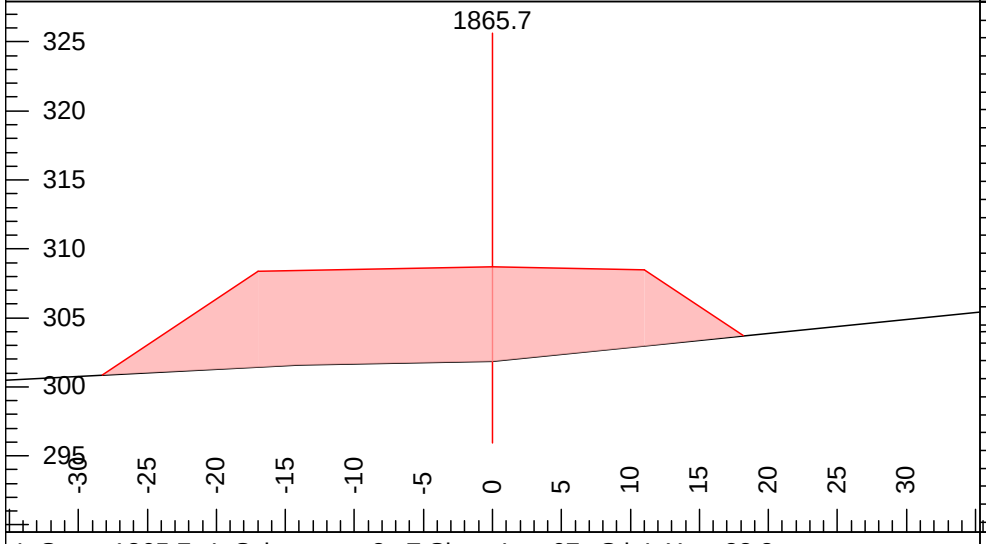
L-Stn:	1780.7	L-Ssl:	-20	F Slope L:	-67	Stk L X:	-45.8		
P-Stn:	1780.7	L-Ssr:	34	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-10.4	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	17.4	Cul Length:			



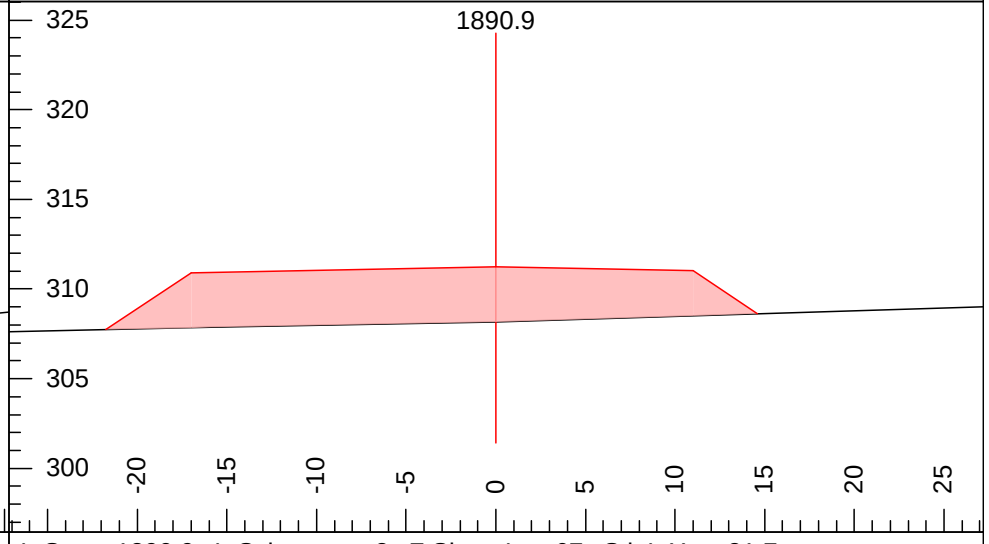
L-Stn:	1810.6	L-Ssl:	0	F Slope L:	-67	Stk L X:	-51.3	
P-Stn:	1810.6	L-Ssr:	25	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-10.7	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	19.5	Cul Length:		



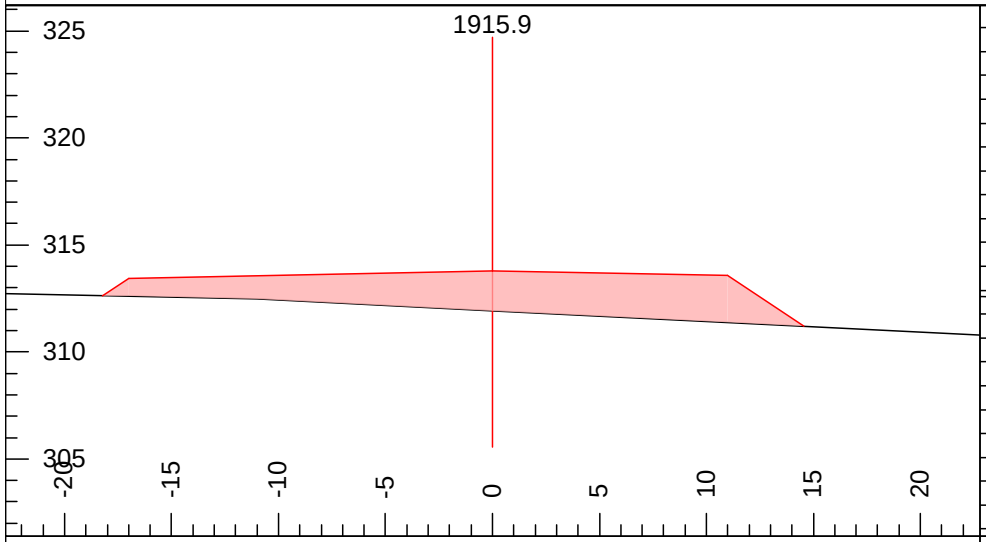
L-Stn:	1837.4	L-Ssl:	-15	F Slope L:	-67	Stk L X:	-53.5	
P-Stn:	1837.4	L-Ssr:	35	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-10.2	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	18.7	Cul Length:		



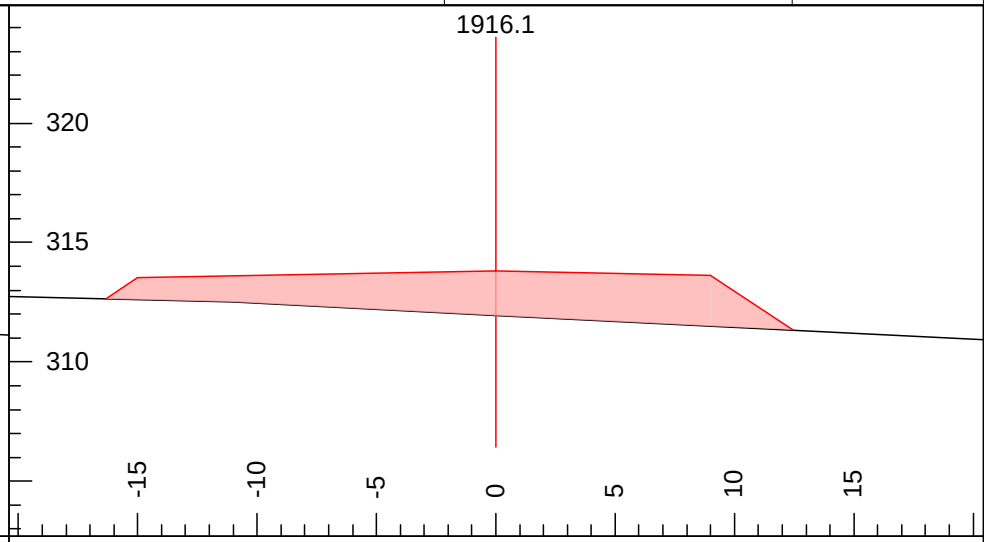
L-Stn:	1865.7	L-Ssl:	-2	F Slope L:	-67	Stk L X:	-28.2	
P-Stn:	1865.7	L-Ssr:	10	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-6.8	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	18.2	Cul Length:		



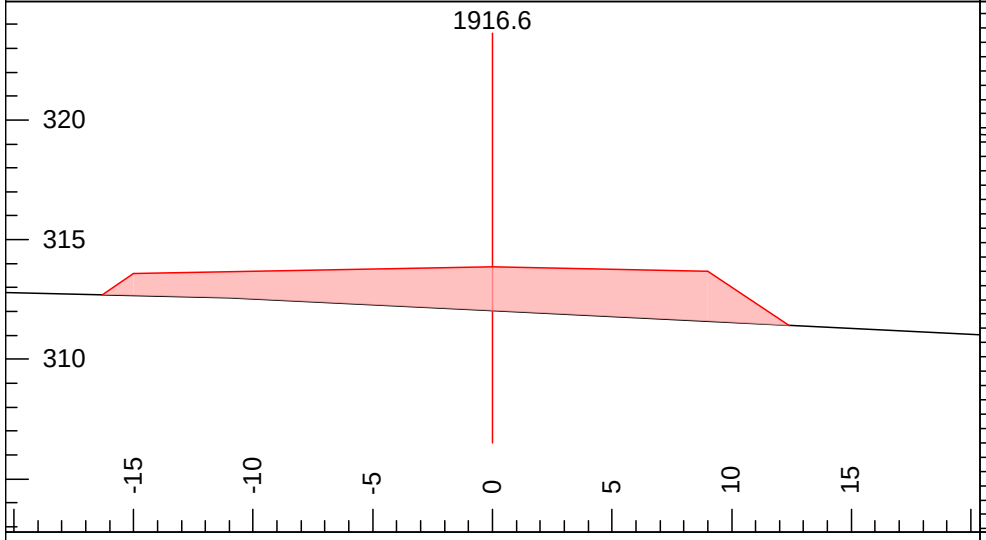
L-Stn:	1890.9	L-Ssl:	-2	F Slope L:	-67	Stk L X:	-21.7	
P-Stn:	1890.9	L-Ssr:	3	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-3.1	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	14.6	Cul Length:		



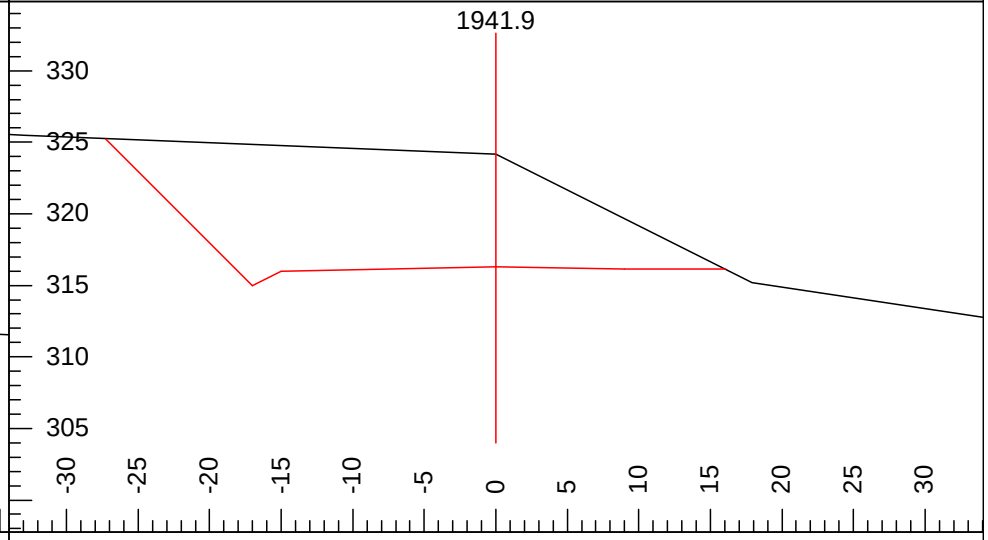
L-Stn:	1915.9	L-Ssl:	5	F Slope L:	-67	Stk L X:	-18.2		
P-Stn:	1915.9	L-Ssr:	-5	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-1.9	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	14.6	Cul Length:			



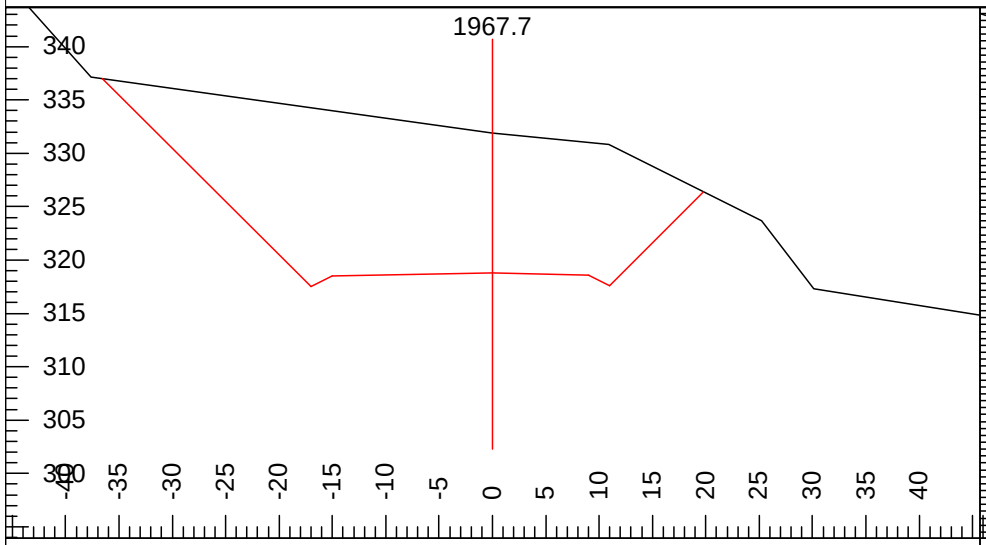
L-Stn:	1916.1	L-Ssl:	5	F Slope L:	-67	Stk L X:	-16.3		
P-Stn:	1916.1	L-Ssr:	-5	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-1.9	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	12.4	Cul Length:			



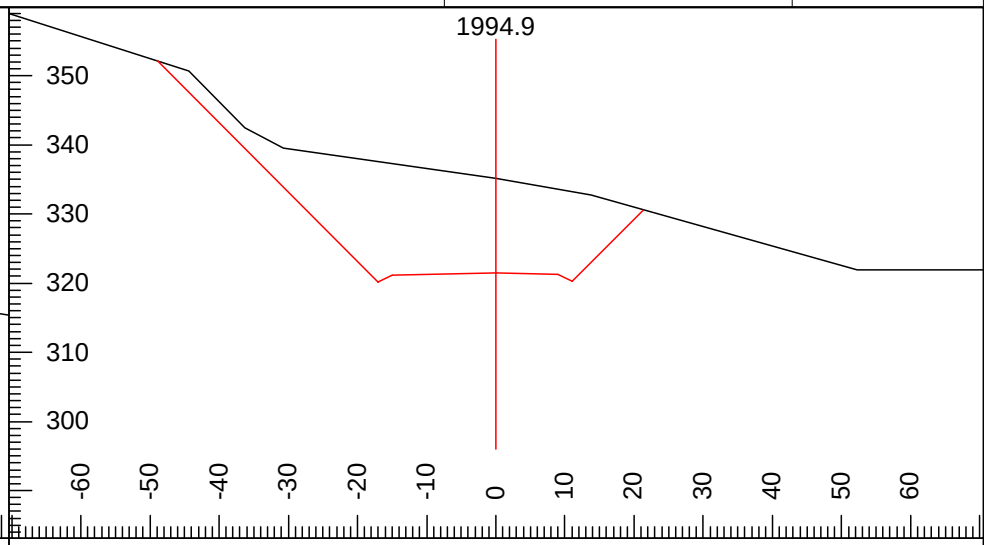
L-Stn:	1916.6	L-Ssl:	5	F Slope L:	-67	Stk L X:	-16.3		
P-Stn:	1916.6	L-Ssr:	-5	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-1.8	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	12.4	Cul Length:			



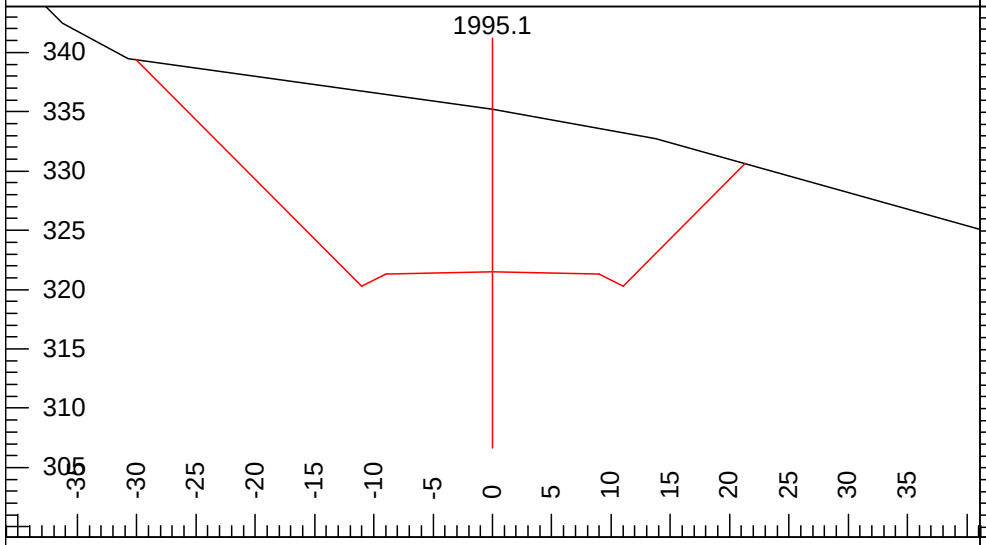
L-Stn:	1941.9	L-Ssl:	4	F Slope L:	100	Stk L X:	-27.2		
P-Stn:	1941.9	L-Ssr:	-50	F Slope R:	0	H. Offset:	0.0		
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	7.9	Cul DIA:			
Grd.Lst:	10	Super R:	-2	Stk R X:	16.1	Cul Length:			



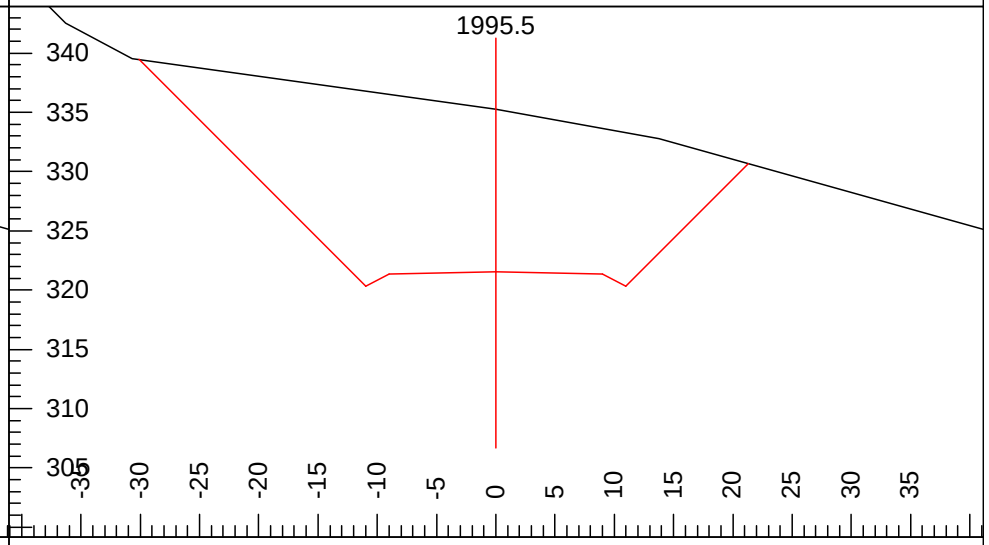
L-Stn:	1967.7	L-Ssl:	14	F Slope L:	100	Stk L X:	-36.5	
P-Stn:	1967.7	L-Ssr:	-10	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	13.1	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	19.8	Cul Length:		



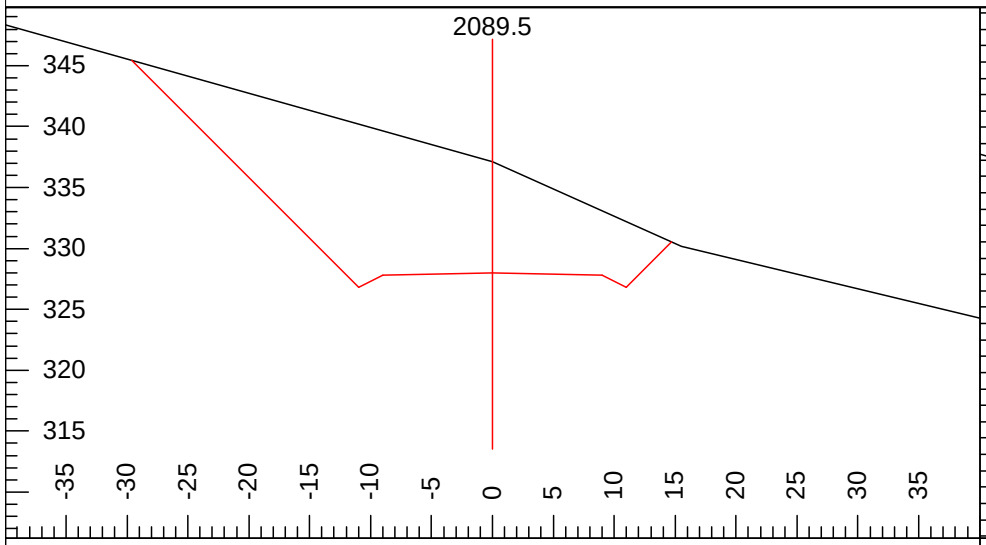
L-Stn:	1994.9	L-Ssl:	14	F Slope L:	100	Stk L X:	-49.0	
P-Stn:	1994.9	L-Ssr:	-18	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	13.7	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	21.3	Cul Length:		



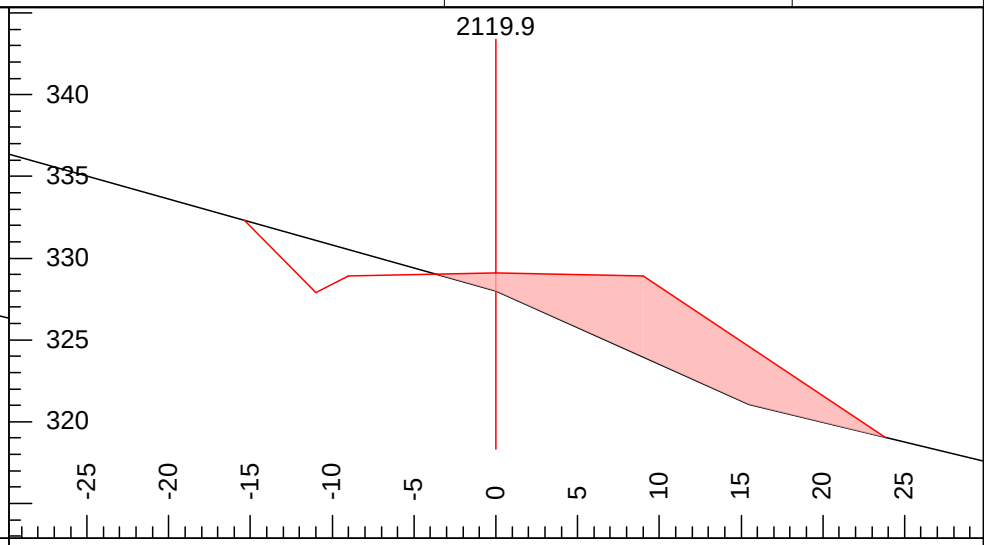
L-Stn:	1995.1	L-Ssl:	14	F Slope L:	100	Stk L X:	-30.1	
P-Stn:	1995.1	L-Ssr:	-18	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	13.7	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	21.3	Cul Length:		



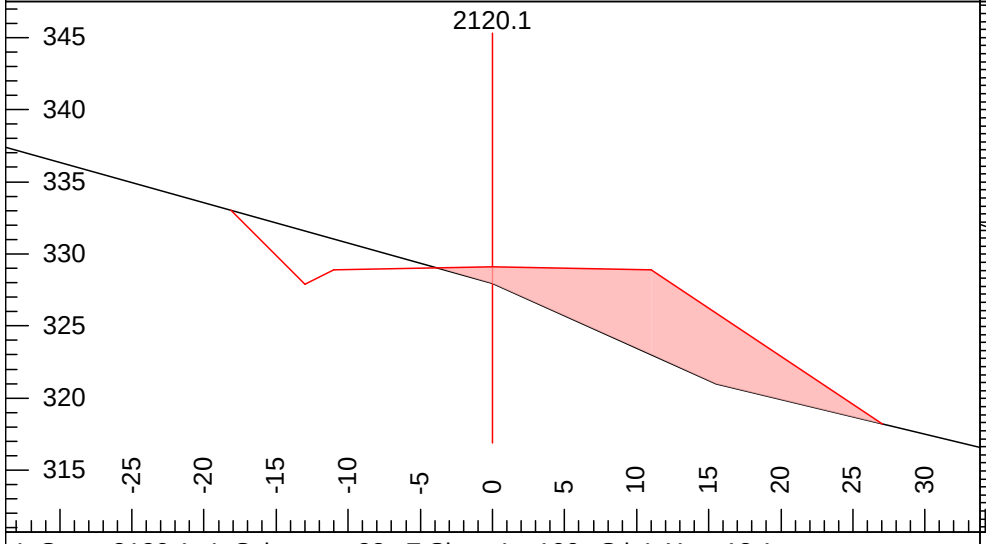
L-Stn:	1995.5	L-Ssl:	14	F Slope L:	100	Stk L X:	-30.1	
P-Stn:	1995.5	L-Ssr:	-18	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	7	Super L:	-2	Cut Dp:	13.7	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	21.3	Cul Length:		



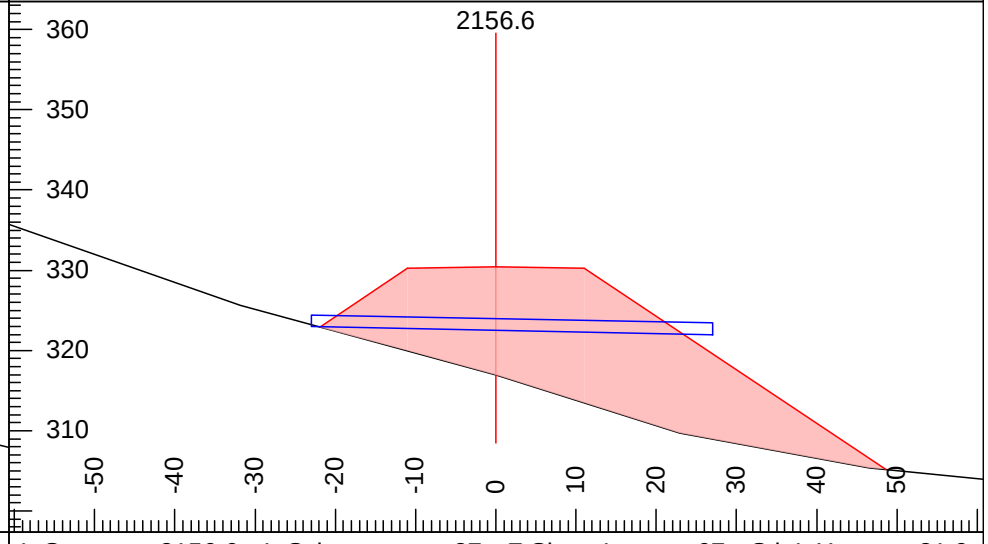
L-Stn:	2089.5	L-Ssl:	28	F Slope L:	100	Stk L X:	-29.6	
P-Stn:	2089.5	L-Ssr:	-45	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	4	Super L:	-2	Cut Dp:	9.1	Cul DIA:		
Grd.Lst:	7	Super R:	-2	Stk R X:	14.7	Cul Length:		



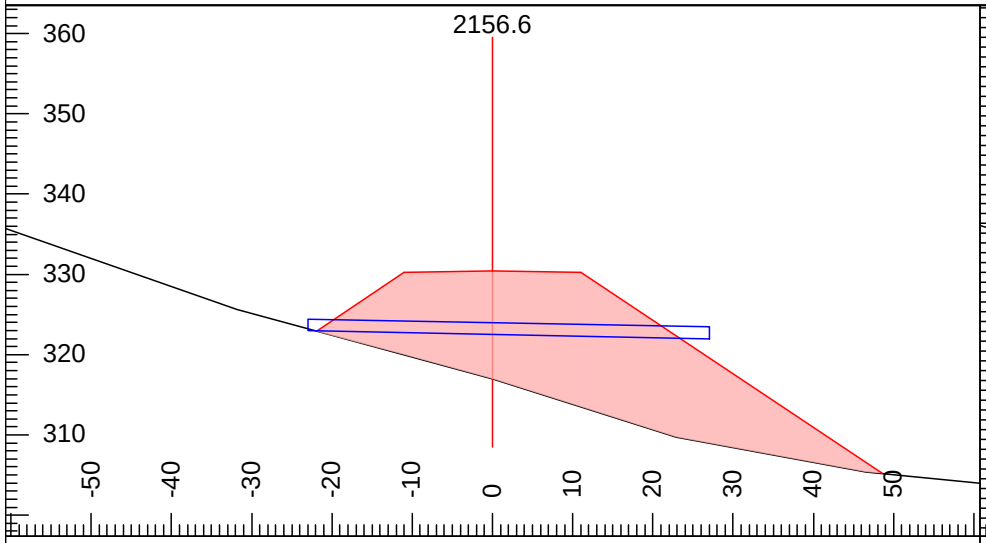
L-Stn:	2119.9	L-Ssl:	28	F Slope L:	100	Stk L X:	-15.4	
P-Stn:	2119.9	L-Ssr:	-45	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	4	Super L:	-2	Cut Dp:	-1.1	Cul DIA:		
Grd.Lst:	4	Super R:	-2	Stk R X:	23.8	Cul Length:		



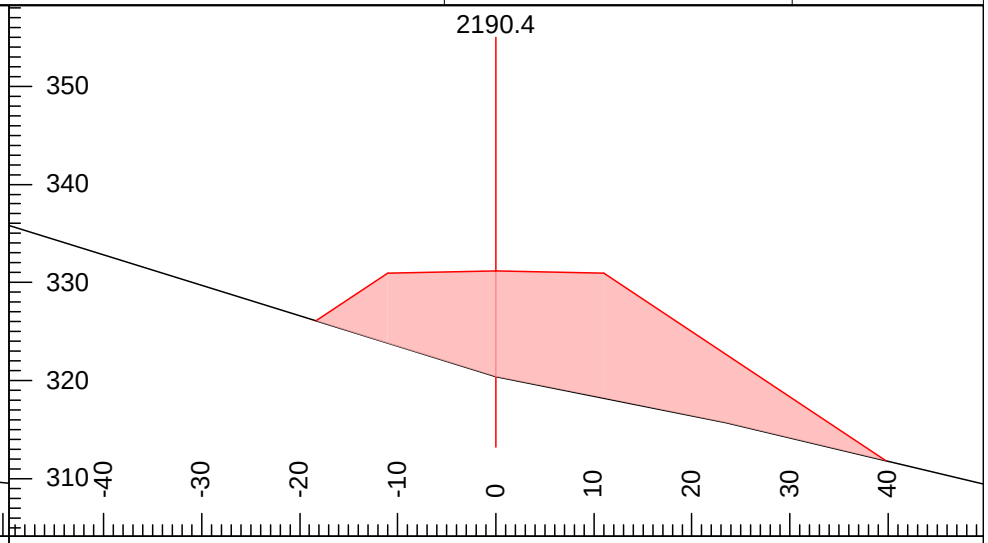
L-Stn:	2120.1	L-Ssl:	28	F Slope L:	100	Stk L X:	-18.1	
P-Stn:	2120.1	L-Ssr:	-45	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	4	Super L:	-2	Cut Dp:	-1.2	Cul DIA:		
Grd.Lst:	4	Super R:	-2	Stk R X:	27.0	Cul Length:		



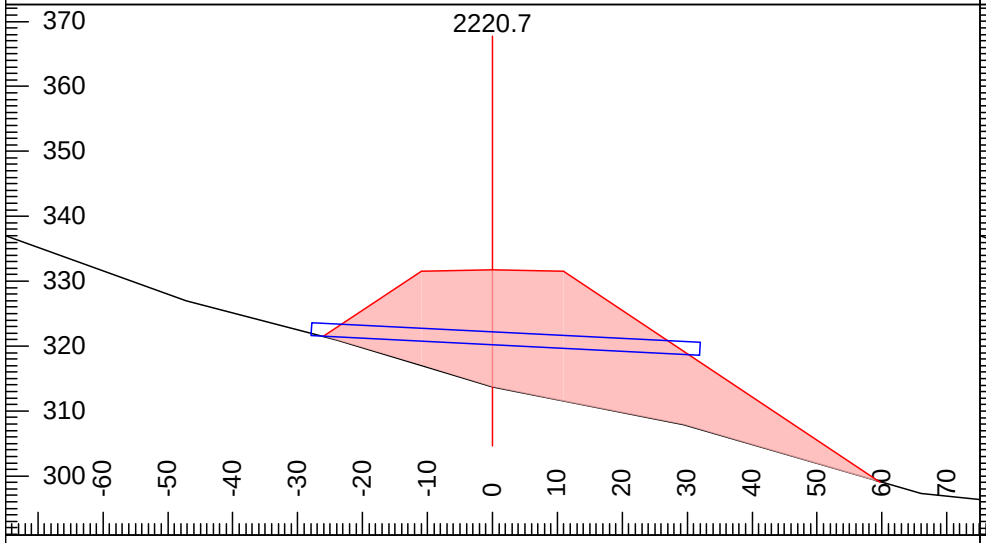
L-Stn:	2156.6	L-Ssl:	27	F Slope L:	-67	Stk L X:	-21.9	
P-Stn:	2156.6	L-Ssr:	-32	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-13.4	Cul DIA:	18in	
Grd.Lst:	4	Super R:	-2	Stk R X:	48.6	Cul Length:	50.0	



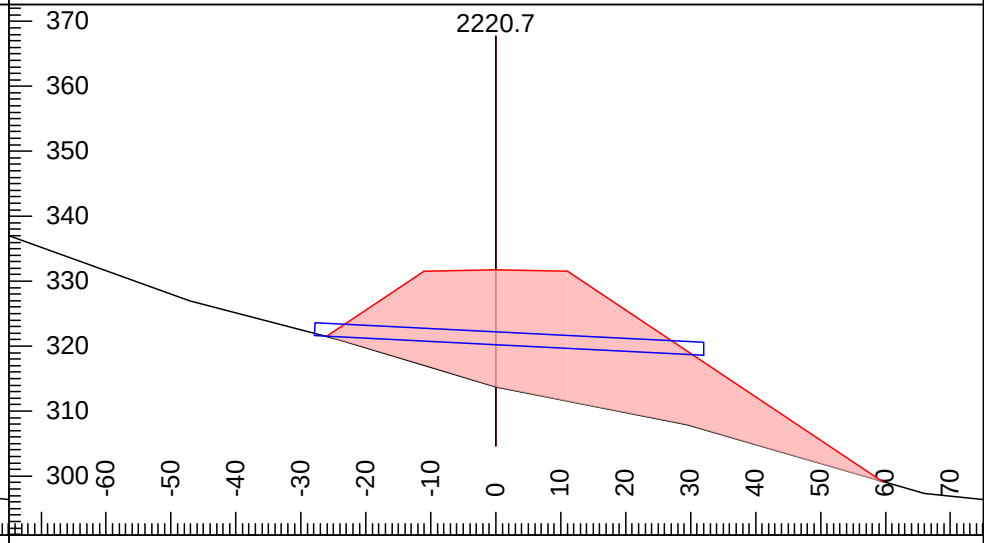
L-Stn:	2156.6	L-Ssl:	27	F Slope L:	-67	Stk L X:	-21.9
P-Stn:	2156.6	L-Ssr:	-32	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-13.4	Cul DIA:	18in
Grd.Lst:	2	Super R:	-2	Stk R X:	48.6	Cul Length:	50.0



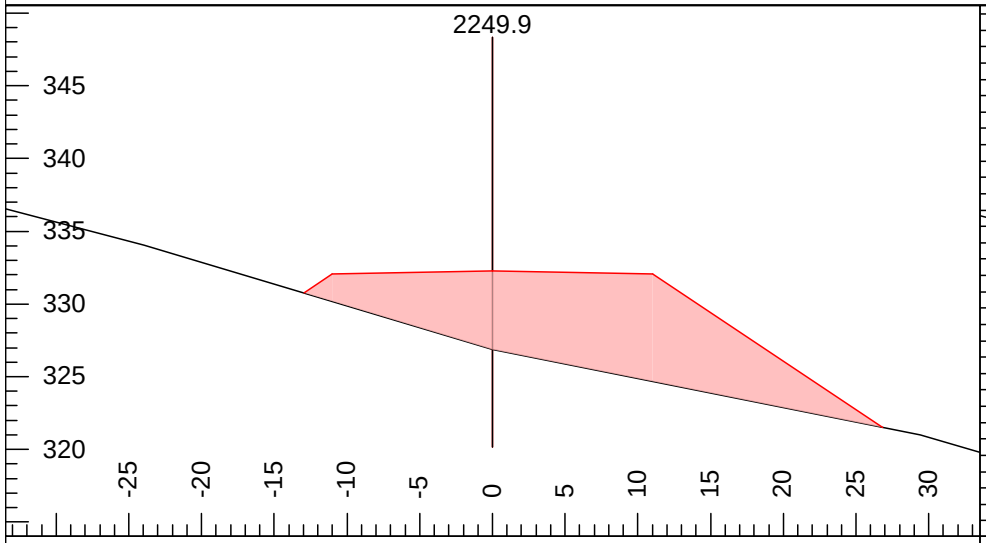
L-Stn:	2190.4	L-Ssl:	31	F Slope L:	-67	Stk L X:	-18.3
P-Stn:	2190.4	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-10.8	Cul DIA:	
Grd.Lst:	2	Super R:	-2	Stk R X:	39.7	Cul Length:	



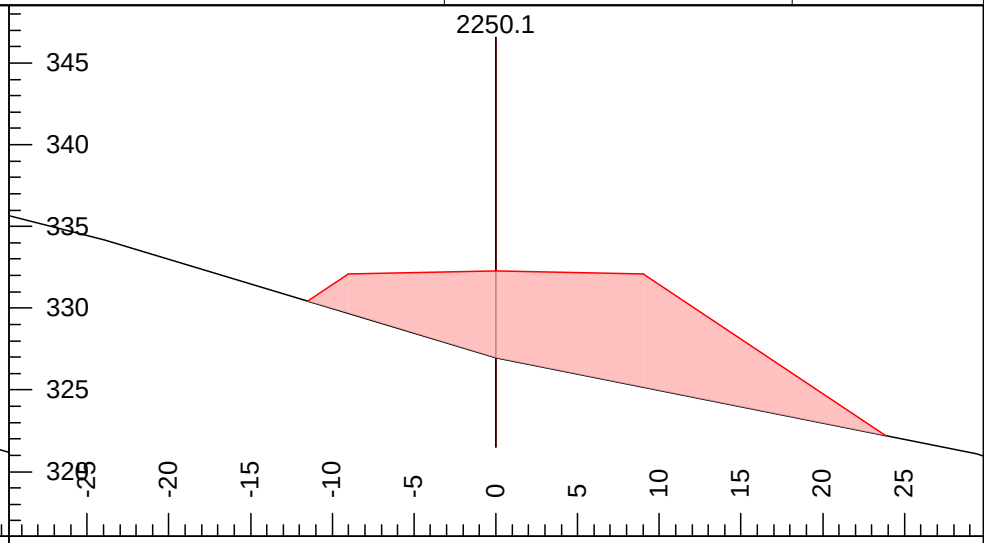
L-Stn:	2220.7	L-Ssl:	30	F Slope L:	-67	Stk L X:	-26.1
P-Stn:	2220.7	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-18.0	Cul DIA:	24in
Grd.Lst:	2	Super R:	-2	Stk R X:	59.7	Cul Length:	60.0



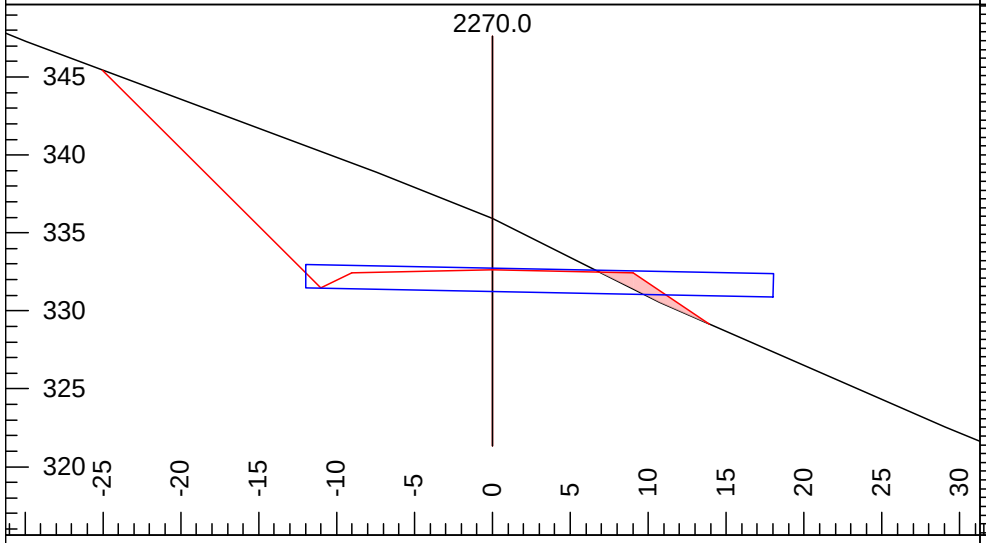
L-Stn:	2220.7	L-Ssl:	30	F Slope L:	-67	Stk L X:	-26.1
P-Stn:	2220.7	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-18.0	Cul DIA:	24in
Grd.Lst:	2	Super R:	-2	Stk R X:	59.7	Cul Length:	60.0



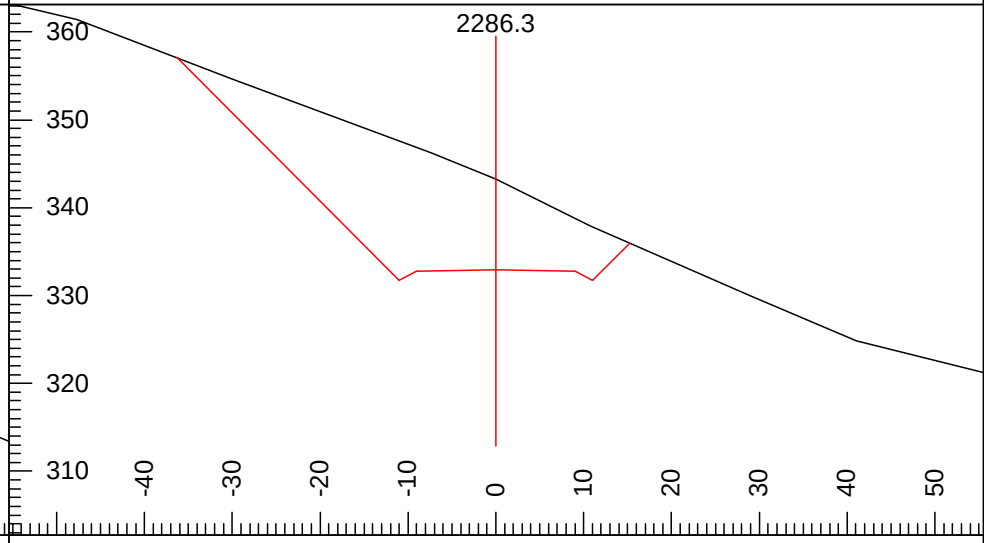
L-Stn:	2249.9	L-Ssl:	30	F Slope L:	-67	Stk L X:	-12.9	
P-Stn:	2249.9	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-5.4	Cul DIA:		
Grd.Lst:	2	Super R:	-2	Stk R X:	26.8	Cul Length:		



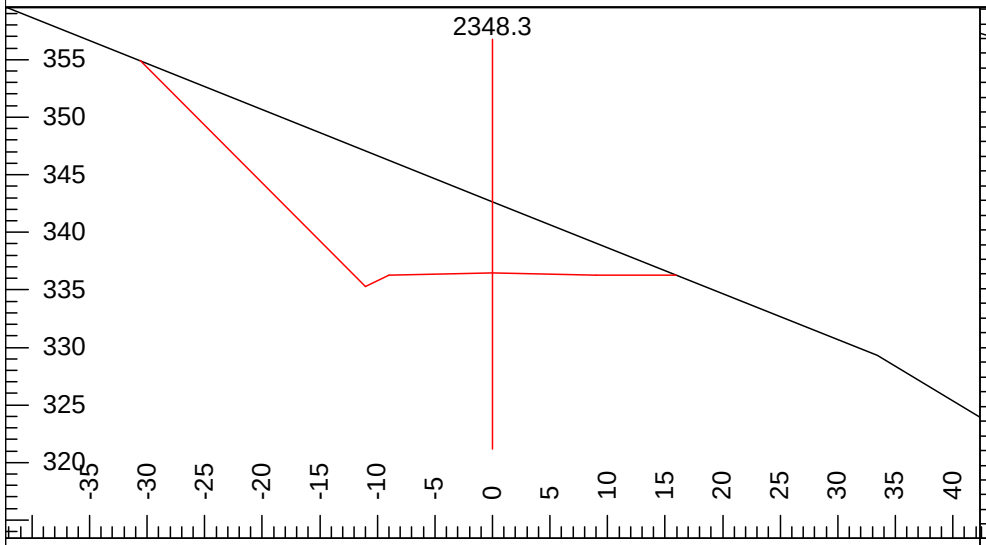
L-Stn:	2250.1	L-Ssl:	30	F Slope L:	-67	Stk L X:	-11.5	
P-Stn:	2250.1	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	-5.3	Cul DIA:		
Grd.Lst:	2	Super R:	-2	Stk R X:	23.8	Cul Length:		



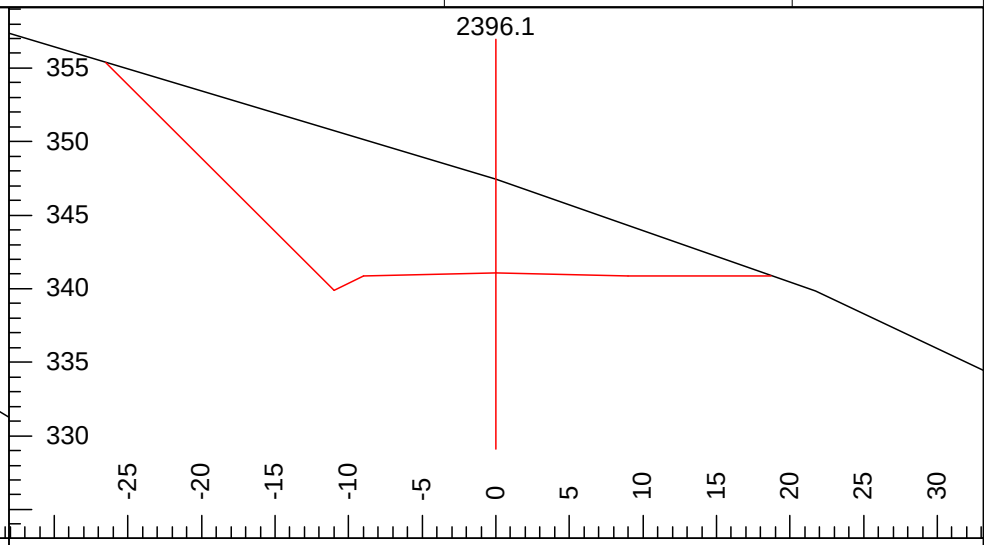
L-Stn:	2270.0	L-Ssl:	40	F Slope L:	100	Stk L X:	-25.0	
P-Stn:	2270.0	L-Ssr:	-50	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	2	Super L:	-2	Cut Dp:	3.3	Cul DIA:	18in	
Grd.Lst:	2	Super R:	-2	Stk R X:	13.9	Cul Length:	30.0	



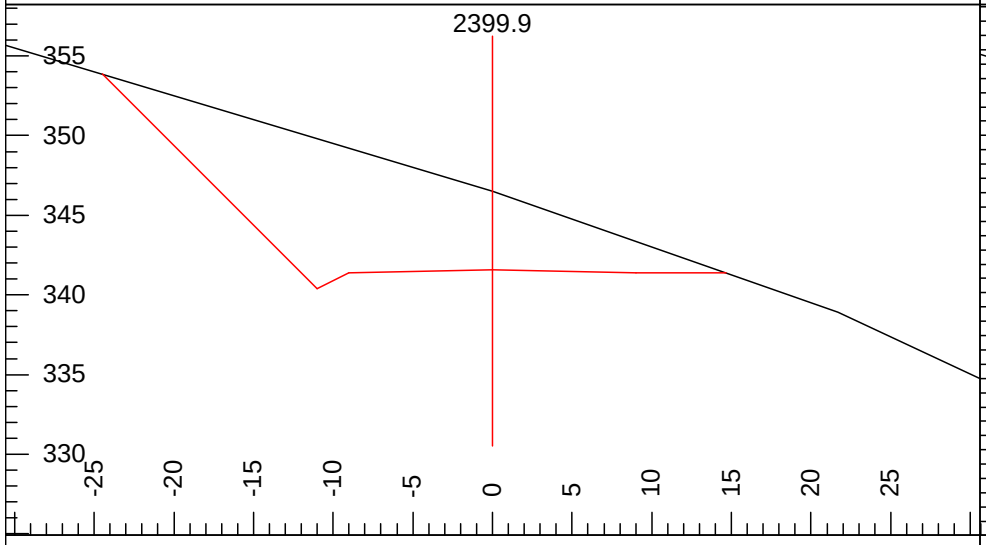
L-Stn:	2286.3	L-Ssl:	40	F Slope L:	100	Stk L X:	-36.3	
P-Stn:	2286.3	L-Ssr:	-50	F Slope R:	100	H. Offset:	0.0	
Grd.Nxt.:	6	Super L:	-2	Cut Dp:	10.4	Cul DIA:		
Grd.Lst:	2	Super R:	-2	Stk R X:	15.2	Cul Length:		



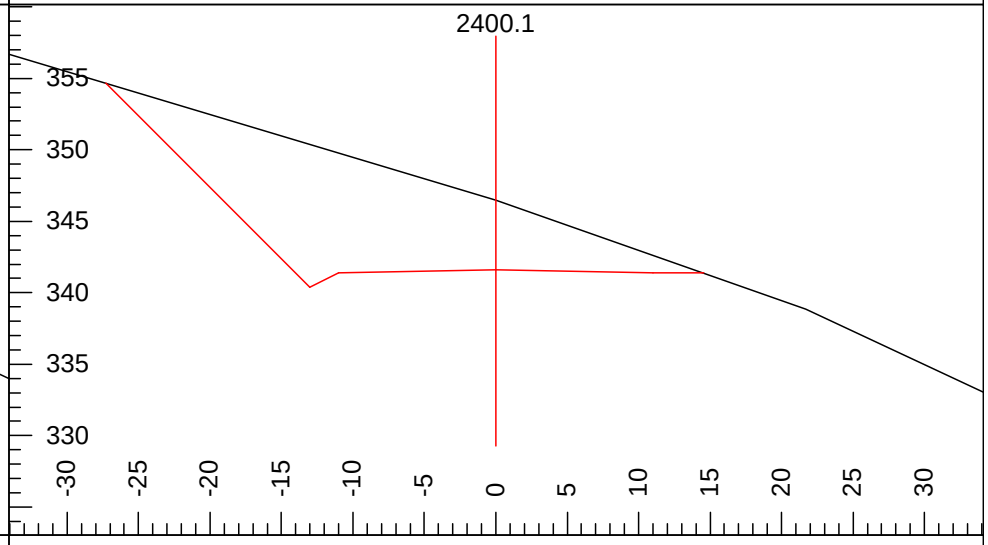
L-Stn:	2348.3	L-Ssl:	40	F Slope L:	100	Stk L X:	-30.6	
P-Stn:	2348.3	L-Ssr:	-40	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	6.2	Cul DIA:		
Grd.Lst:	6	Super R:	-2	Stk R X:	15.9	Cul Length:		



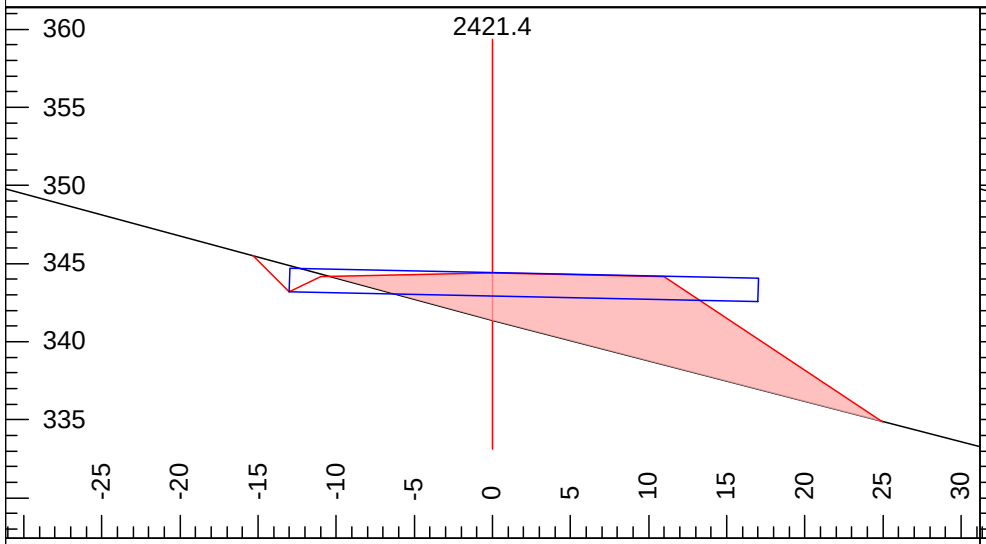
L-Stn:	2396.1	L-Ssl:	30	F Slope L:	100	Stk L X:	-26.5	
P-Stn:	2396.1	L-Ssr:	-35	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	6.4	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	18.7	Cul Length:		



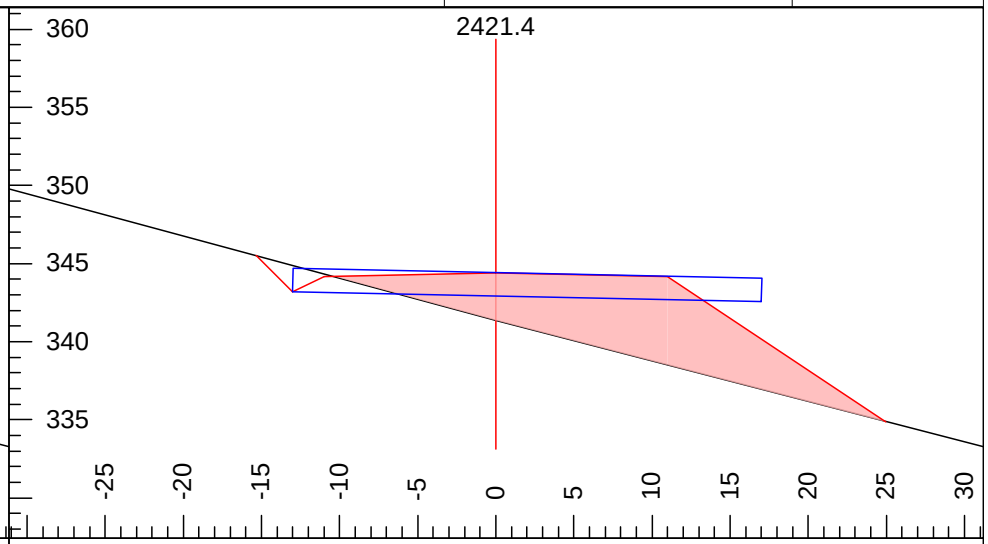
L-Stn:	2399.9	L-Ssl:	30	F Slope L:	100	Stk L X:	-24.5	
P-Stn:	2399.9	L-Ssr:	-35	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	4.9	Cul DIA:		
Grd.Lst:	13	Super R:	-2	Stk R X:	14.6	Cul Length:		



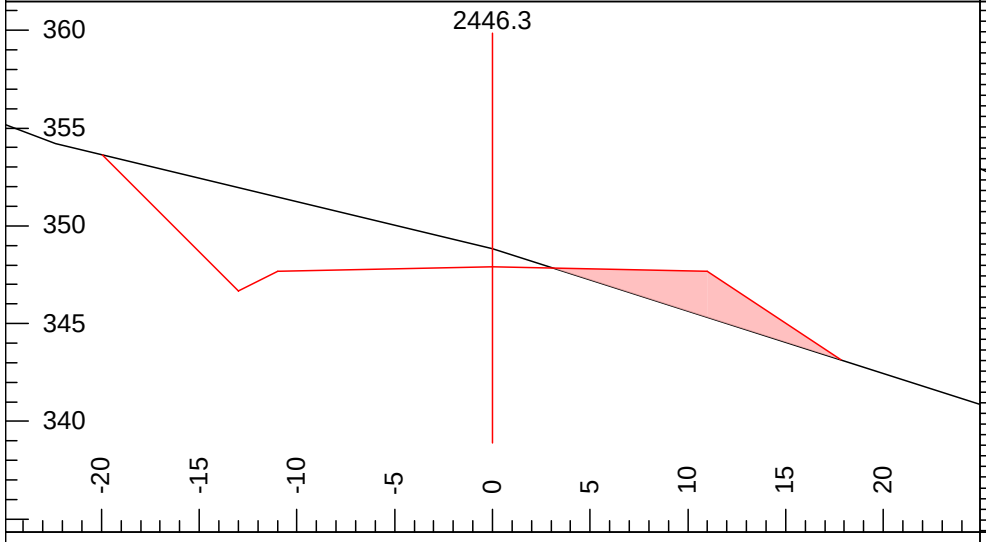
L-Stn:	2400.1	L-Ssl:	30	F Slope L:	100	Stk L X:	-27.3	
P-Stn:	2400.1	L-Ssr:	-35	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	4.9	Cul DIA:		
Grd.Lst:	13	Super R:	-2	Stk R X:	14.5	Cul Length:		



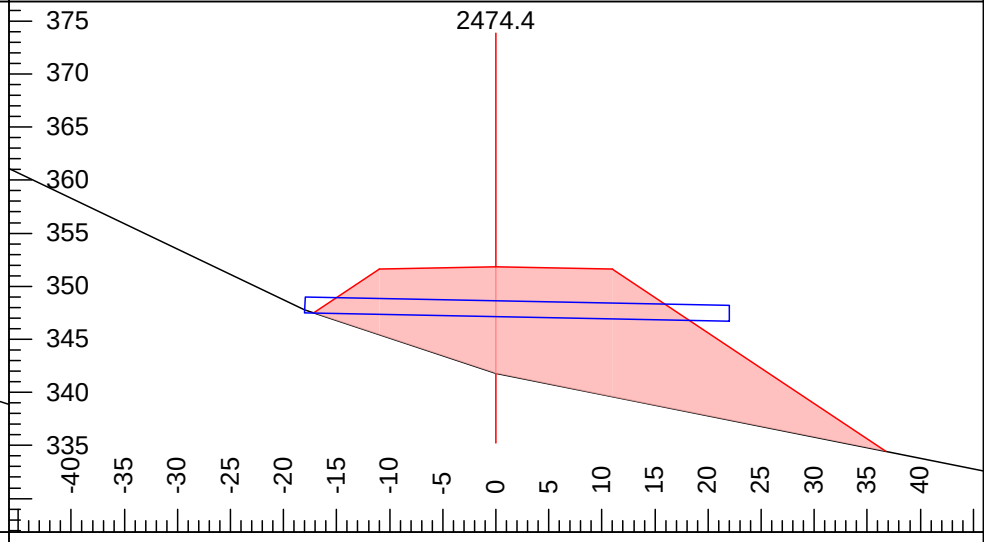
L-Stn:	2421.4	L-Ssl:	27	F Slope L:	100	Stk L X:	-15.3
P-Stn:	2421.4	L-Ssr:	-26	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-3.0	Cul DIA:	18in
Grd.Lst:	13	Super R:	-2	Stk R X:	25.0	Cul Length:	30.0



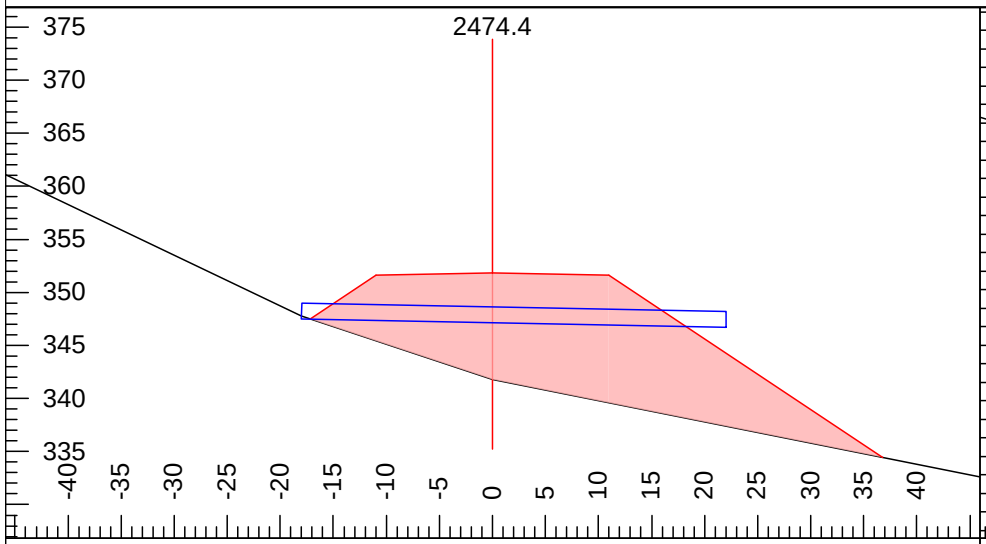
L-Stn:	2421.4	L-Ssl:	27	F Slope L:	100	Stk L X:	-15.3
P-Stn:	2421.4	L-Ssr:	-26	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-3.0	Cul DIA:	18in
Grd.Lst:	14	Super R:	-2	Stk R X:	24.9	Cul Length:	30.0



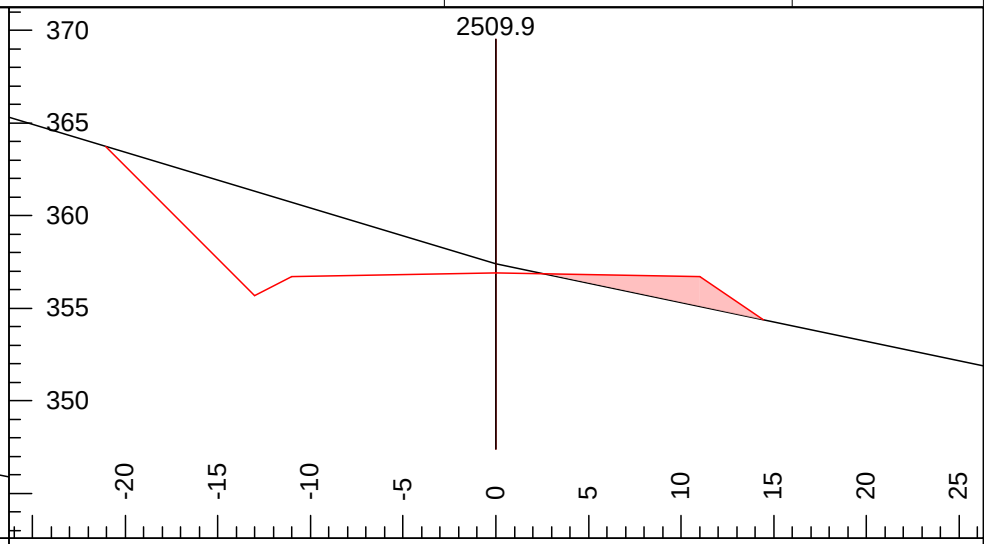
L-Stn:	2446.3	L-Ssl:	24	F Slope L:	100	Stk L X:	-19.9
P-Stn:	2446.3	L-Ssr:	-32	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.9	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	17.8	Cul Length:	



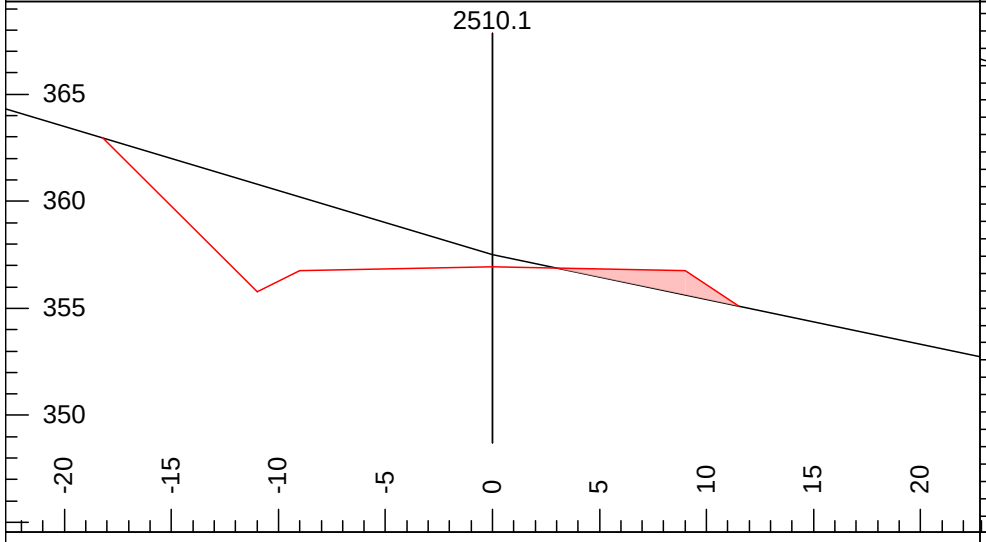
L-Stn:	2474.4	L-Ssl:	33	F Slope L:	-67	Stk L X:	-17.2
P-Stn:	2474.4	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-10.0	Cul DIA:	18in
Grd.Lst:	14	Super R:	-2	Stk R X:	36.7	Cul Length:	40.0



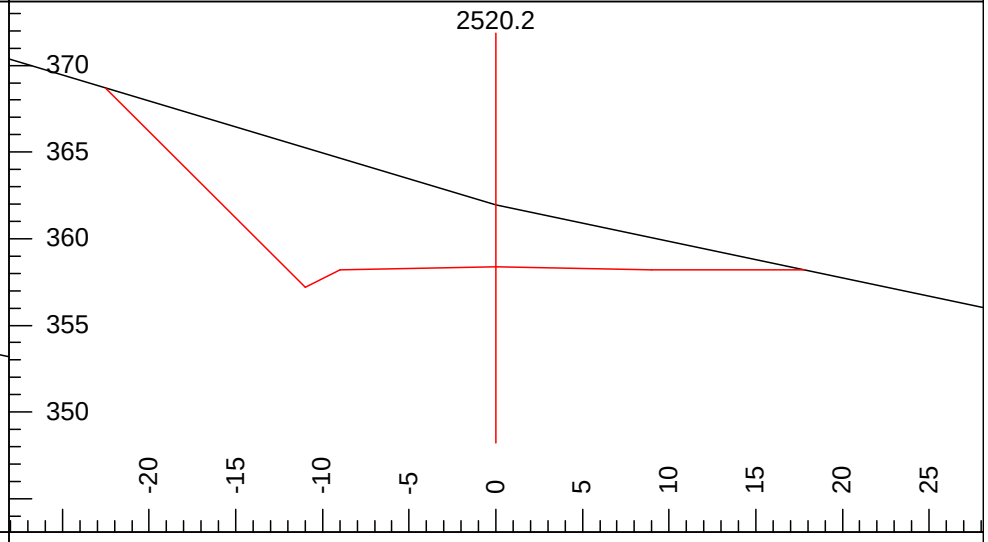
L-Stn:	2474.4	L-Ssl:	33	F Slope L:	-67	Stk L X:	-17.2
P-Stn:	2474.4	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-10.0	Cul DIA:	18in
Grd.Lst:	14	Super R:	-2	Stk R X:	36.7	Cul Length:	40.0



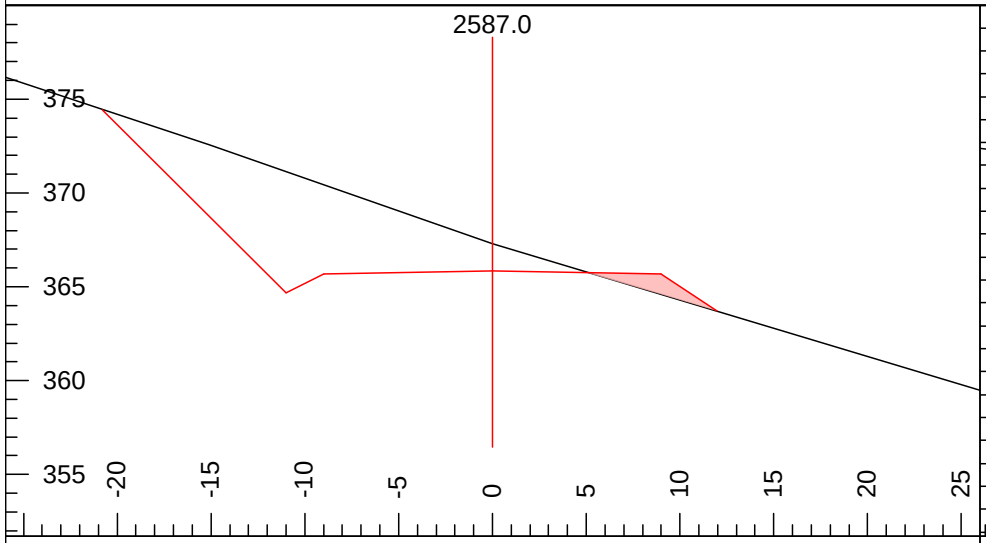
L-Stn:	2509.9	L-Ssl:	30	F Slope L:	100	Stk L X:	-21.0
P-Stn:	2509.9	L-Ssr:	-21	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.5	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	14.5	Cul Length:	



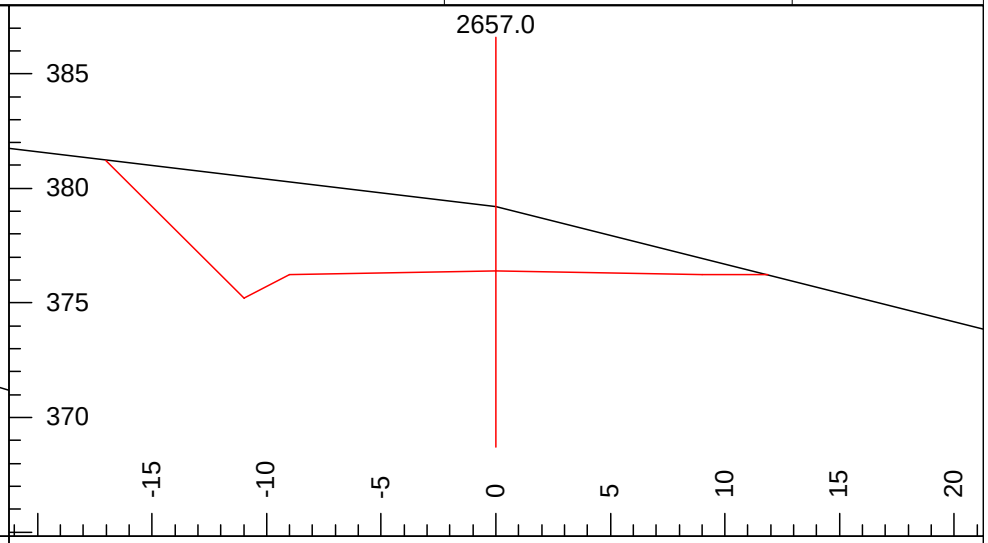
L-Stn:	2510.1	L-Ssl:	30	F Slope L:	100	Stk L X:	-18.2
P-Stn:	2510.1	L-Ssr:	-21	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.6	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	11.5	Cul Length:	



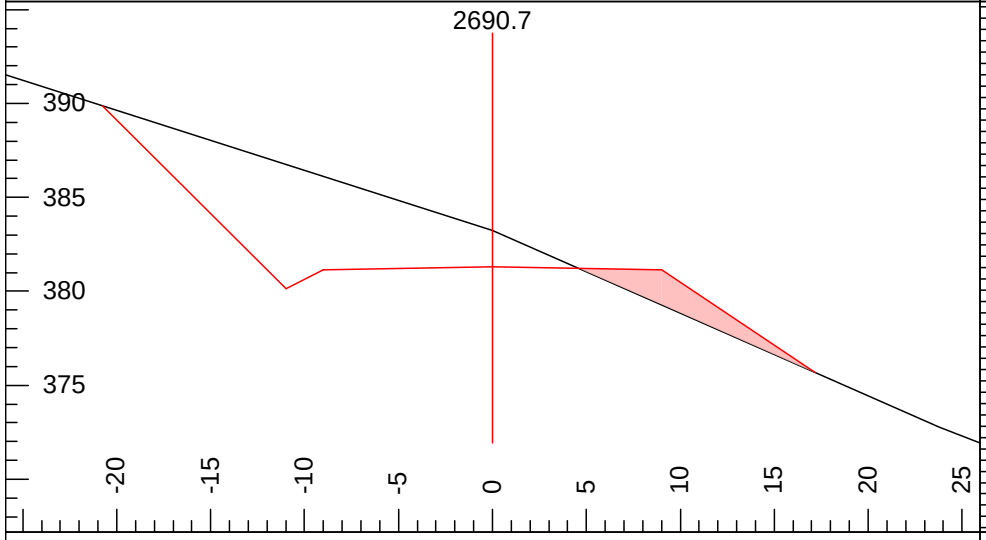
L-Stn:	2520.2	L-Ssl:	30	F Slope L:	100	Stk L X:	-22.5
P-Stn:	2520.2	L-Ssr:	-21	F Slope R:	0	H. Offset:	0.0
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	3.6	Cul DIA:	
Grd.Lst:	14	Super R:	-2	Stk R X:	17.8	Cul Length:	



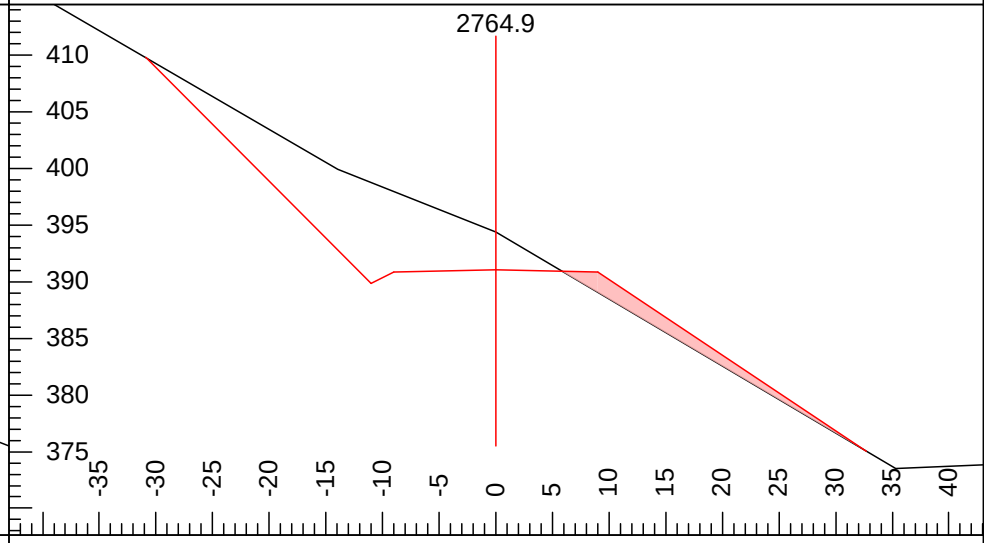
L-Stn:	2587.0	L-Ssl:	35	F Slope L:	100	Stk L X:	-20.8	
P-Stn:	2587.0	L-Ssr:	-30	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	1.4	Cul DIA:		
Grd.Lst:	11	Super R:	-2	Stk R X:	12.0	Cul Length:		



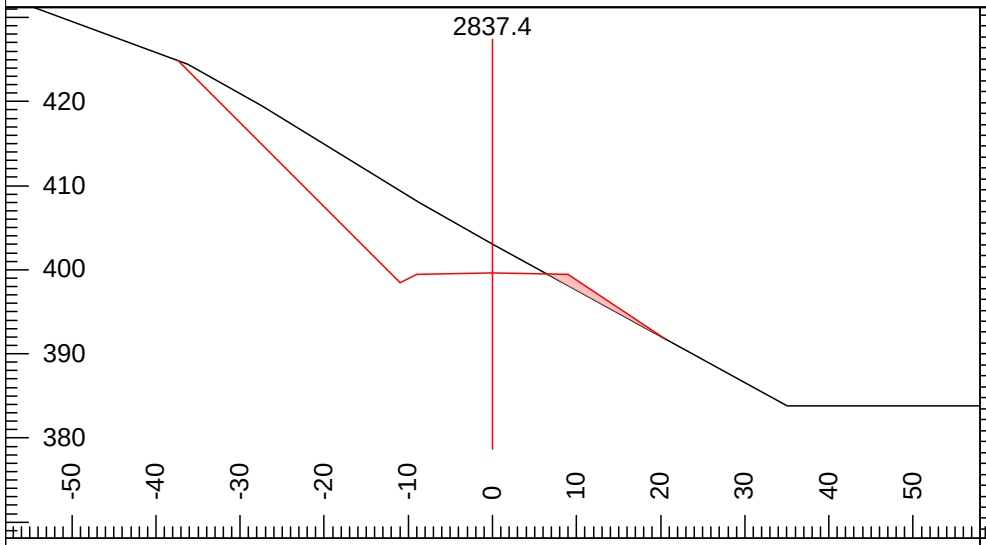
L-Stn:	2657.0	L-Ssl:	12	F Slope L:	100	Stk L X:	-17.0	
P-Stn:	2657.0	L-Ssr:	-25	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	2.8	Cul DIA:		
Grd.Lst:	15	Super R:	-2	Stk R X:	11.9	Cul Length:		



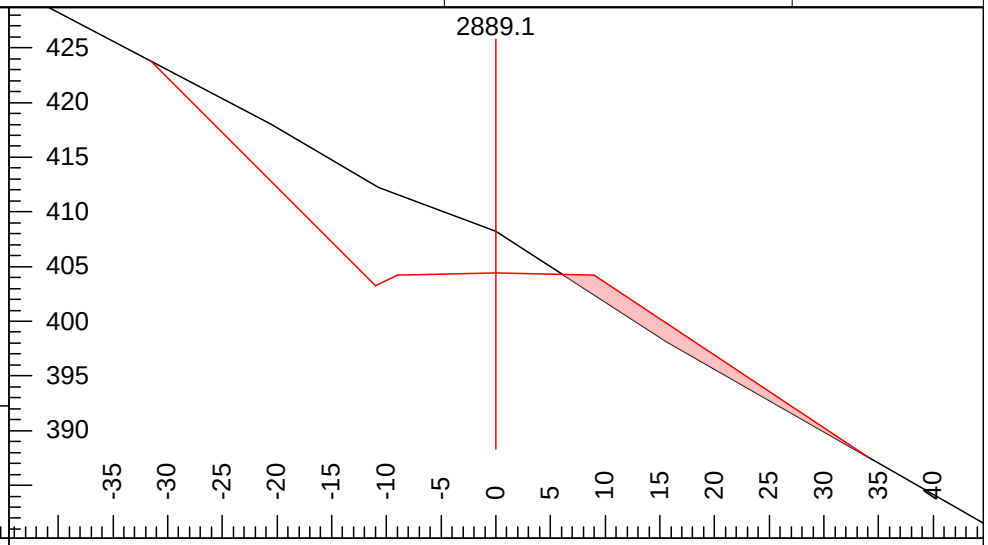
L-Stn:	2690.7	L-Ssl:	32	F Slope L:	100	Stk L X:	-20.7	
P-Stn:	2690.7	L-Ssr:	-44	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	13	Super L:	-2	Cut Dp:	1.9	Cul DIA:		
Grd.Lst:	15	Super R:	-2	Stk R X:	17.2	Cul Length:		



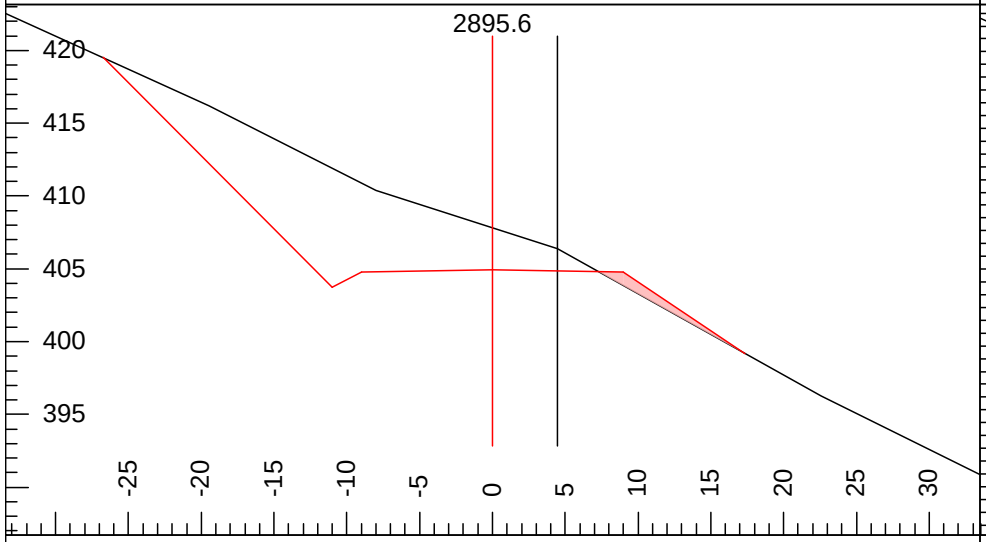
L-Stn:	2764.9	L-Ssl:	40	F Slope L:	100	Stk L X:	-30.9	
P-Stn:	2764.9	L-Ssr:	-59	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	3.3	Cul DIA:		
Grd.Lst:	13	Super R:	-2	Stk R X:	32.7	Cul Length:		



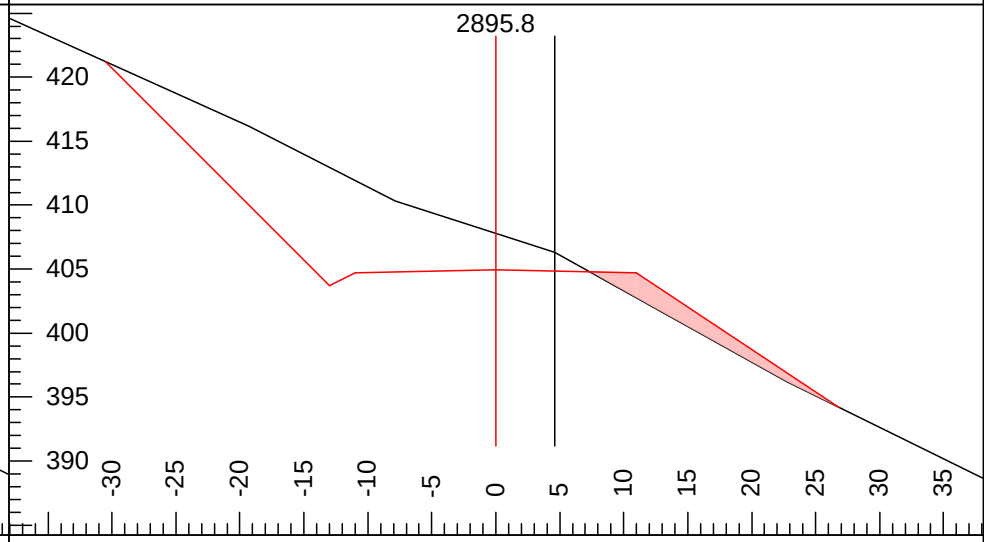
L-Stn:	2837.4	L-Ssl:	57	F Slope L:	100	Stk L X:	-37.4	
P-Stn:	2837.4	L-Ssr:	-55	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	3.4	Cul DIA:		
Grd.Lst:	12	Super R:	-2	Stk R X:	20.5	Cul Length:		



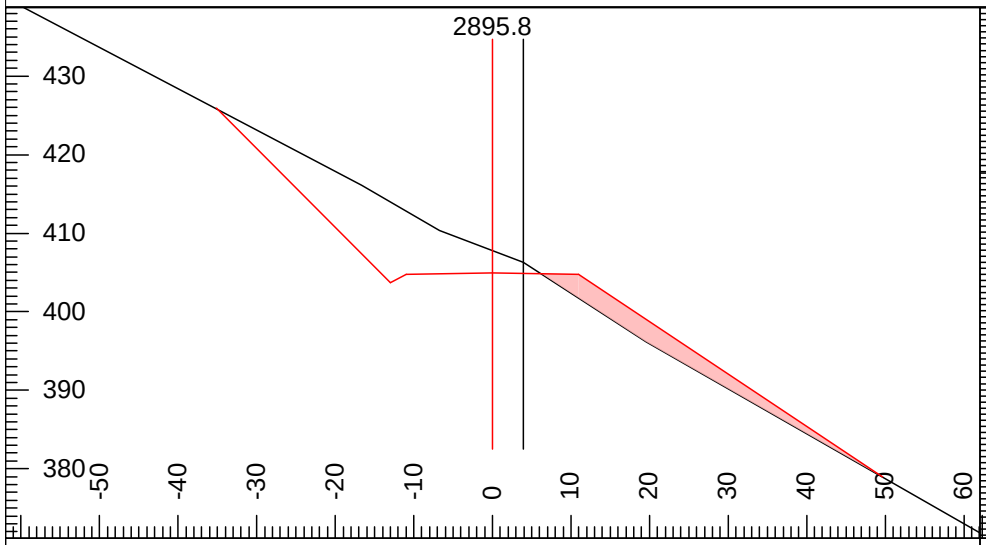
L-Stn:	2889.1	L-Ssl:	37	F Slope L:	100	Stk L X:	-31.6	
P-Stn:	2889.1	L-Ssr:	-65	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	3.8	Cul DIA:		
Grd.Lst:	9	Super R:	-2	Stk R X:	34.0	Cul Length:		



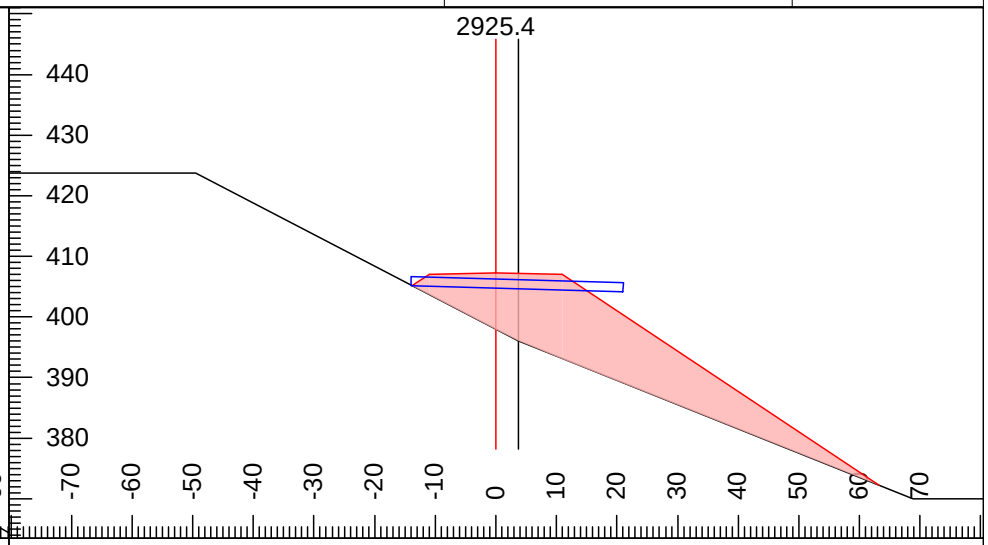
L-Stn:	2895.6	L-Ssl:	32	F Slope L:	100	Stk L X:	-26.8	
P-Stn:	2894.4	L-Ssr:	-32	F Slope R:	-67	H. Offset:	-3.7	
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	2.9	Cul DIA:		
Grd.Lst:	8	Super R:	-2	Stk R X:	17.4	Cul Length:		



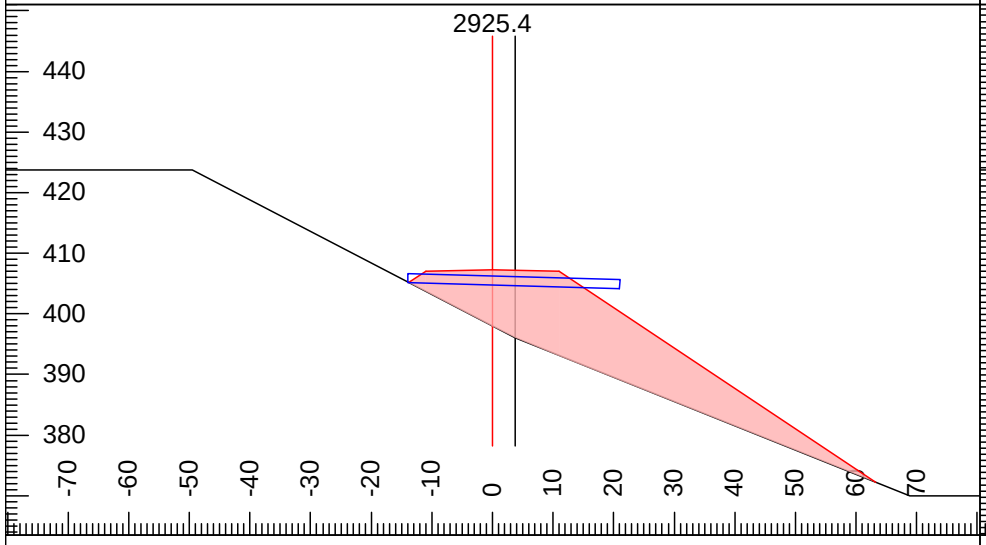
L-Stn:	2895.8	L-Ssl:	32	F Slope L:	100	Stk L X:	-30.5	
P-Stn:	2894.6	L-Ssr:	-32	F Slope R:	-67	H. Offset:	-3.8	
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	2.9	Cul DIA:		
Grd.Lst:	8	Super R:	-2	Stk R X:	26.8	Cul Length:		



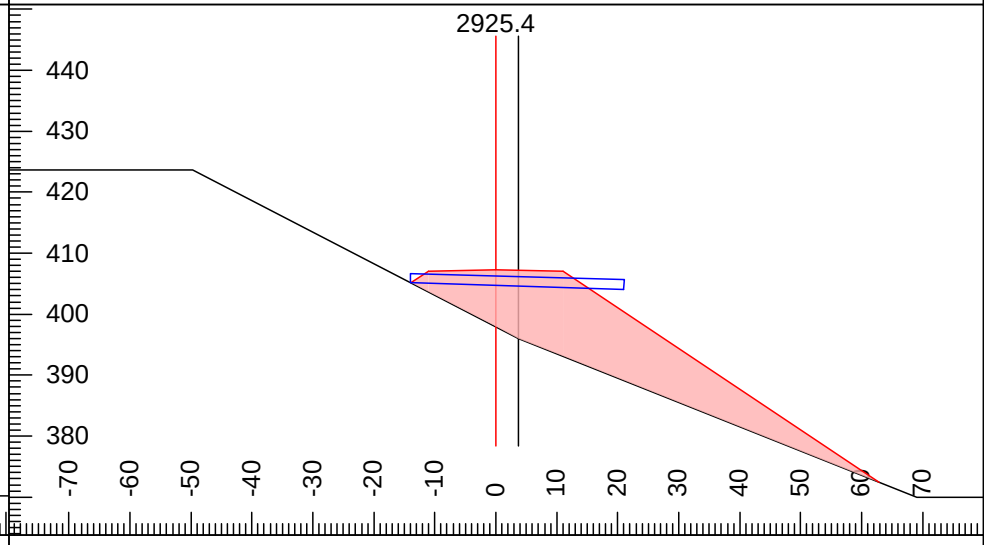
L-Stn:	2895.8	L-Ssl:	37	F Slope L:	100	Stk L X:	-35.2		
P-Stn:	2894.6	L-Ssr:	-37	F Slope R:	-67	H. Offset:	-3.8		
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	2.8	Cul DIA:			
Grd.Lst:	8	Super R:	-2	Stk R X:	49.6	Cul Length:			



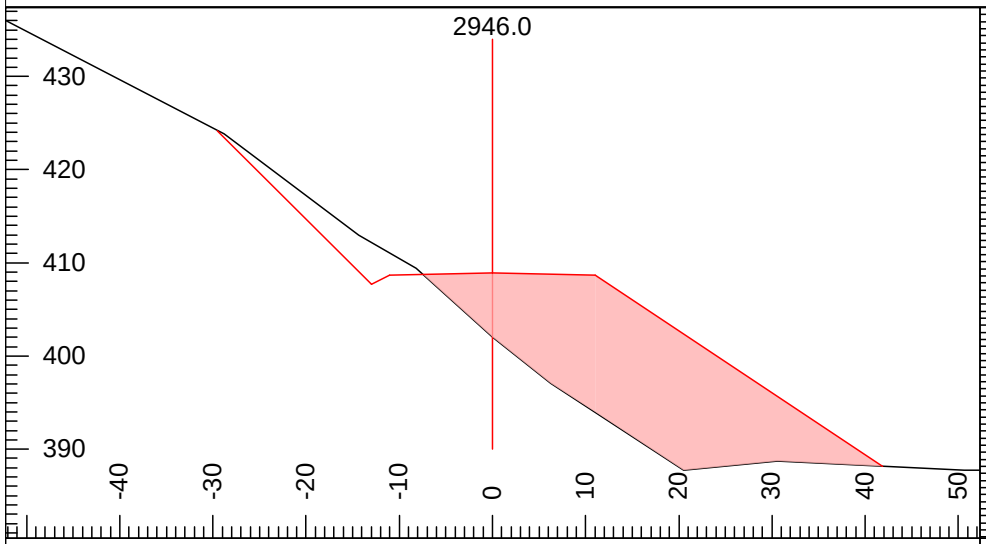
L-Stn:	2925.4	L-Ssl:	52	F Slope L:	-67	Stk L X:	-13.8		
P-Stn:	2924.0	L-Ssr:	-52	F Slope R:	-67	H. Offset:	-3.7		
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	-9.3	Cul DIA:	18in		
Grd.Lst:	8	Super R:	-2	Stk R X:	63.2	Cul Length:	35.0		



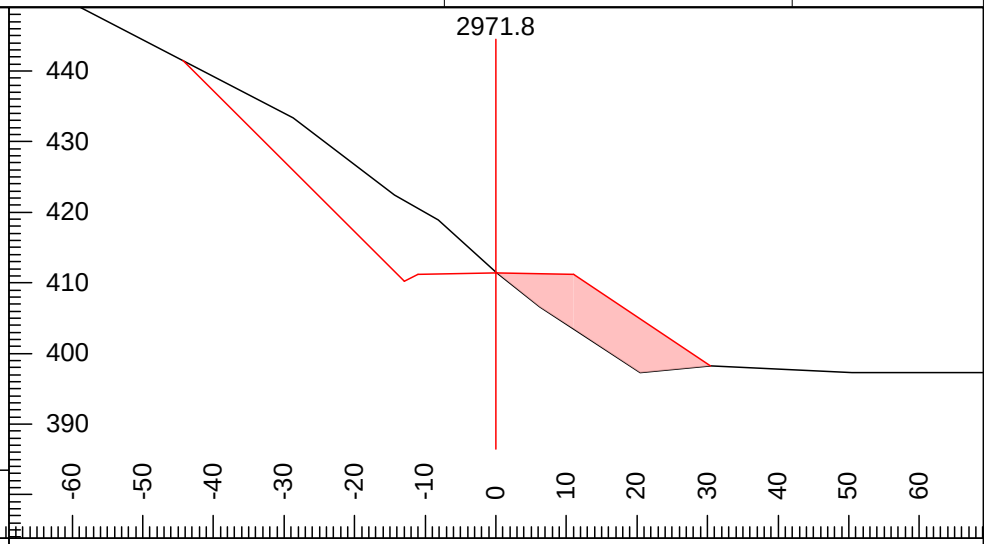
L-Stn:	2925.4	L-Ssl:	52	F Slope L:	-67	Stk L X:	-13.8		
P-Stn:	2924.0	L-Ssr:	-52	F Slope R:	-67	H. Offset:	-3.7		
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	-9.3	Cul DIA:	18in		
Grd.Lst:	8	Super R:	-2	Stk R X:	63.2	Cul Length:	35.0		



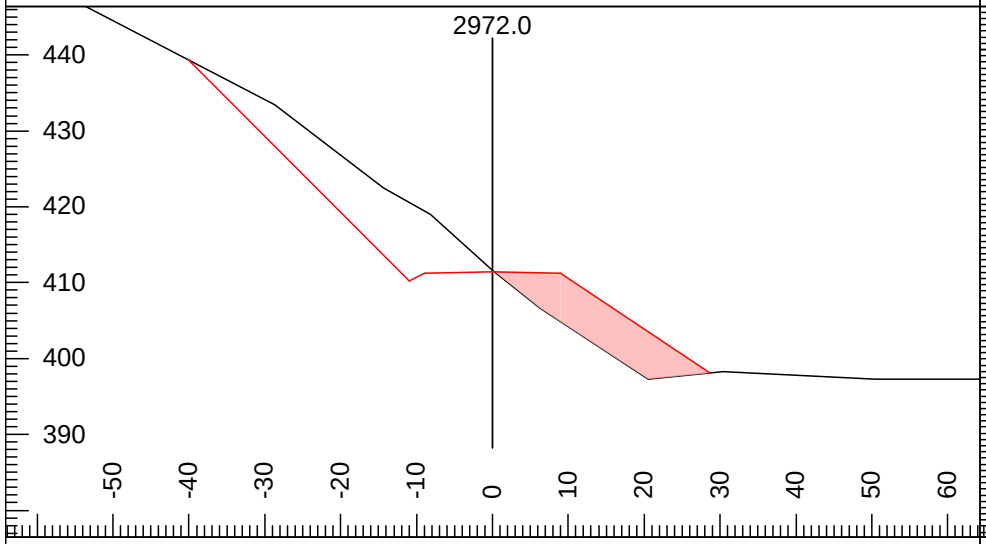
L-Stn:	2925.4	L-Ssl:	52	F Slope L:	-67	Stk L X:	-13.9		
P-Stn:	2924.0	L-Ssr:	-52	F Slope R:	-67	H. Offset:	-3.8		
Grd.Nxt.:	8	Super L:	-2	Cut Dp:	-9.3	Cul DIA:	18in		
Grd.Lst:	8	Super R:	-2	Stk R X:	62.9	Cul Length:	35.0		



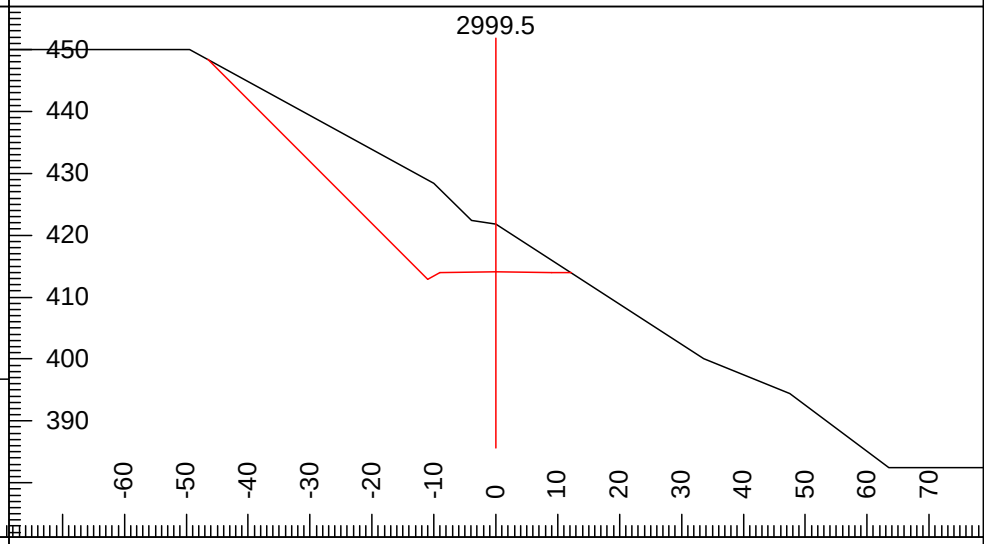
L-Stn:	2946.0	L-Ssl:	90	F Slope L:	100	Stk L X:	-29.5	
P-Stn:	2944.1	L-Ssr:	-80	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-6.9	Cul DIA:		
Grd.Lst:	8	Super R:	-2	Stk R X:	41.8	Cul Length:		



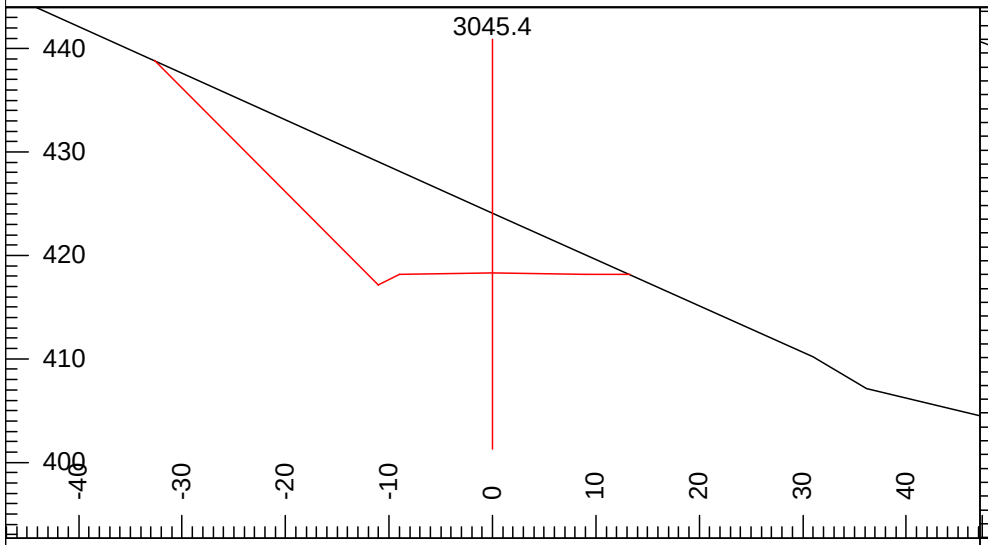
L-Stn:	2971.8	L-Ssl:	90	F Slope L:	100	Stk L X:	-44.3	
P-Stn:	2969.9	L-Ssr:	-80	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	0.2	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	30.4	Cul Length:		



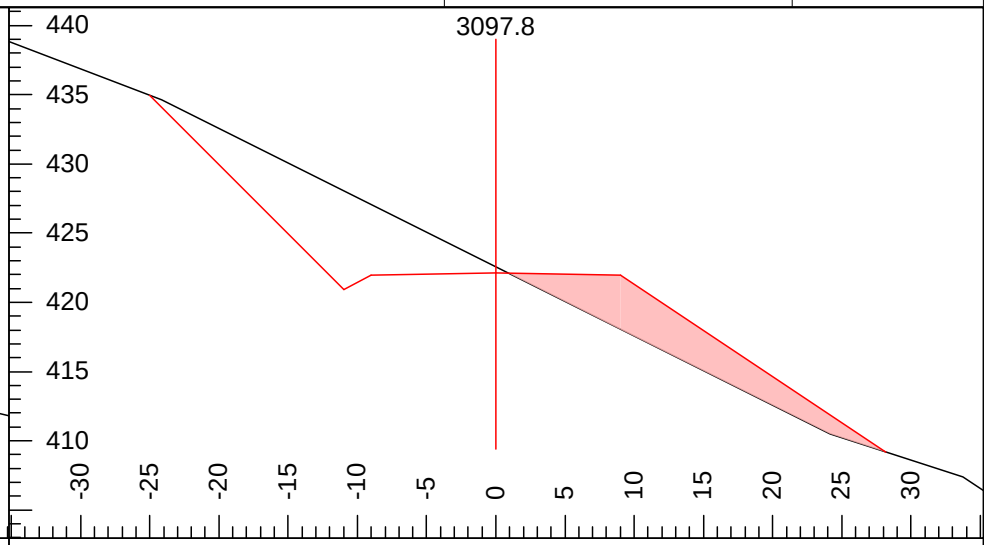
L-Stn:	2972.0	L-Ssl:	90	F Slope L:	100	Stk L X:	-40.2	
P-Stn:	2970.1	L-Ssr:	-80	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	0.2	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	28.7	Cul Length:		



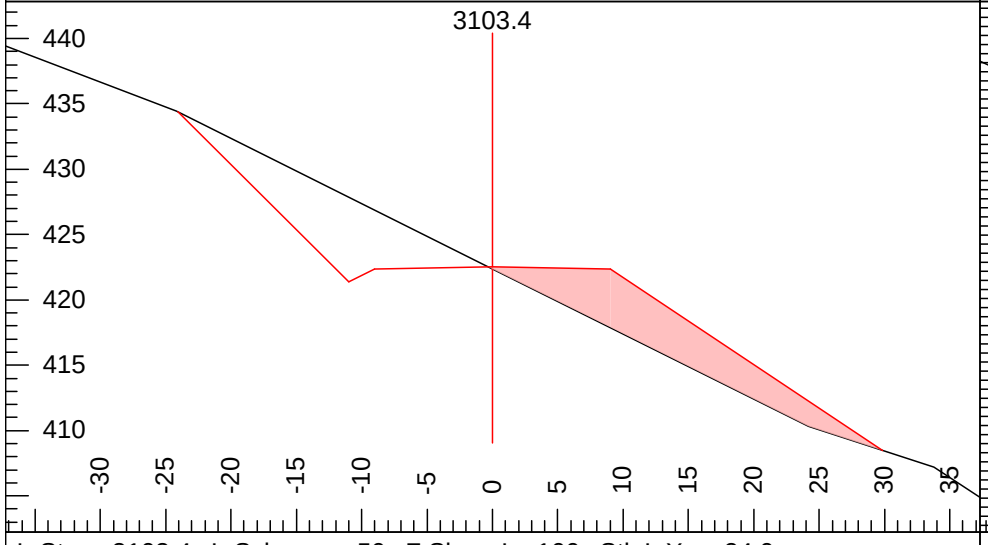
L-Stn:	2999.5	L-Ssl:	16	F Slope L:	100	Stk L X:	-46.5	
P-Stn:	2997.6	L-Ssr:	-65	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	7.7	Cul DIA:		
Grd.Lst:	10	Super R:	-2	Stk R X:	12.2	Cul Length:		



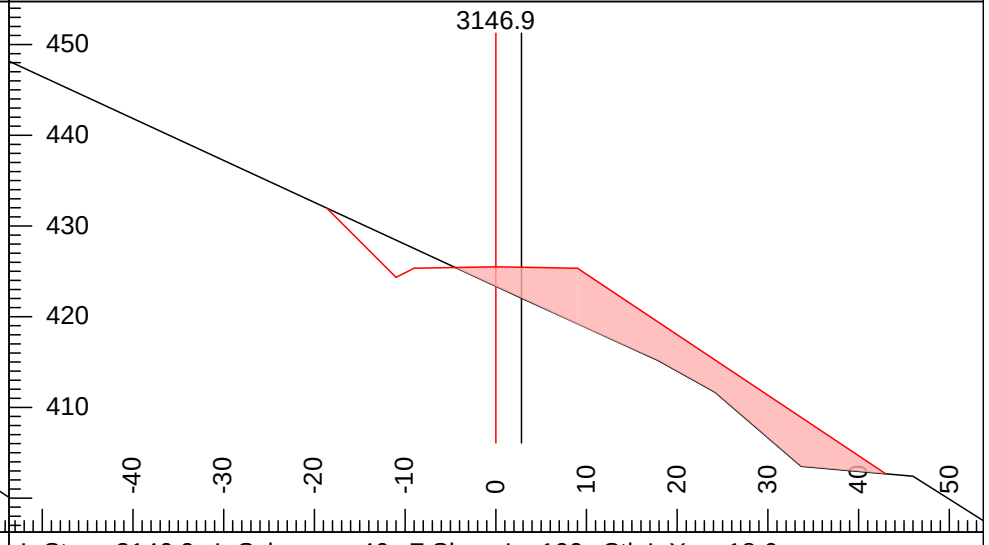
L-Stn:	3045.4	L-Ssl:	45	F Slope L:	100	Stk L X:	-32.7
P-Stn:	3043.6	L-Ssr:	-45	F Slope R:	0	H. Offset:	0.0
Grd.Nxt.:	7	Super L:	-2	Cut Dp:	5.8	Cul DIA:	
Grd.Lst:	9	Super R:	-2	Stk R X:	13.3	Cul Length:	



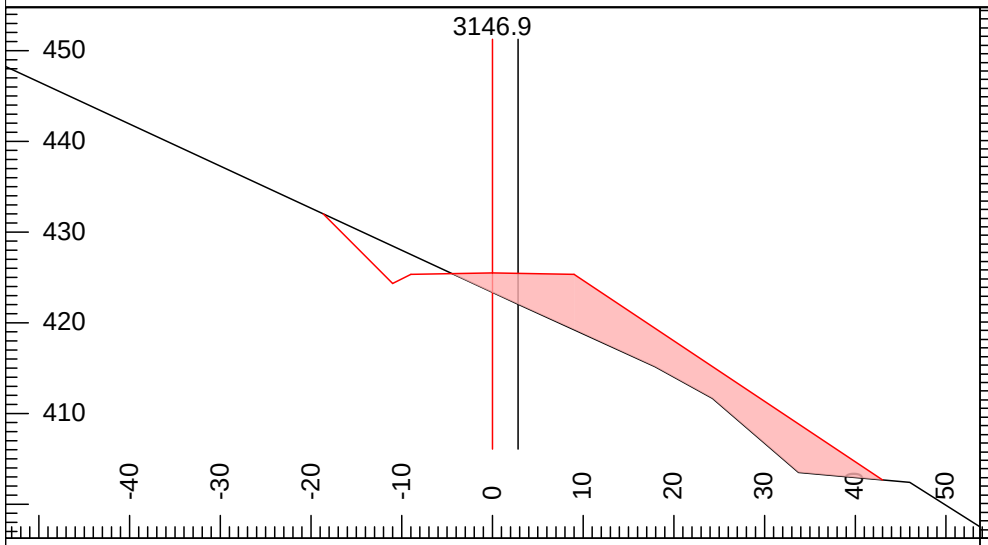
L-Stn:	3097.8	L-Ssl:	50	F Slope L:	100	Stk L X:	-25.0
P-Stn:	3095.9	L-Ssr:	-50	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	7	Super L:	-2	Cut Dp:	0.4	Cul DIA:	
Grd.Lst:	7	Super R:	-2	Stk R X:	28.2	Cul Length:	



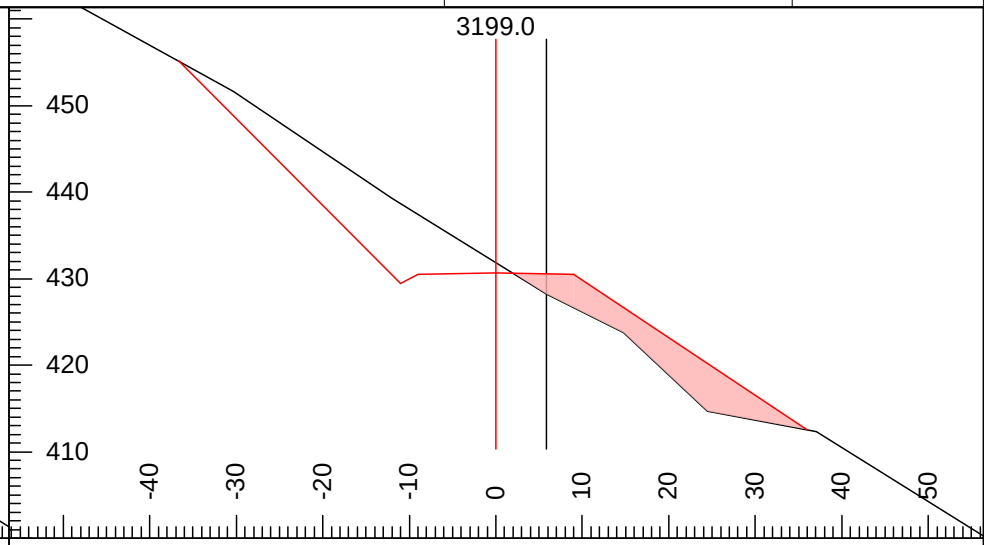
L-Stn:	3103.4	L-Ssl:	50	F Slope L:	100	Stk L X:	-24.0
P-Stn:	3101.5	L-Ssr:	-50	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	7	Super L:	-2	Cut Dp:	-0.2	Cul DIA:	
Grd.Lst:	7	Super R:	-2	Stk R X:	29.8	Cul Length:	



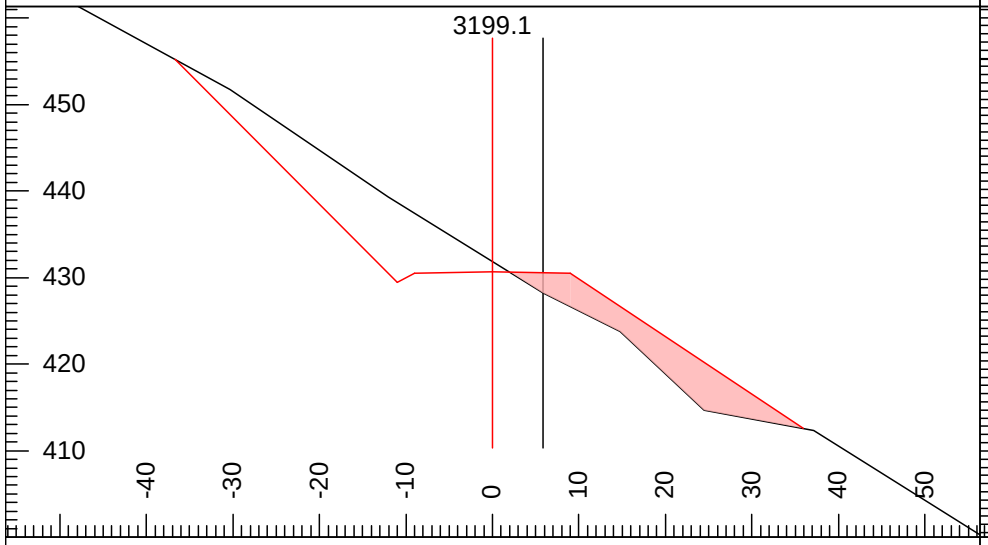
L-Stn:	3146.9	L-Ssl:	46	F Slope L:	100	Stk L X:	-18.6
P-Stn:	3145.5	L-Ssr:	-46	F Slope R:	-67	H. Offset:	-2.8
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-2.2	Cul DIA:	
Grd.Lst:	7	Super R:	-2	Stk R X:	43.0	Cul Length:	



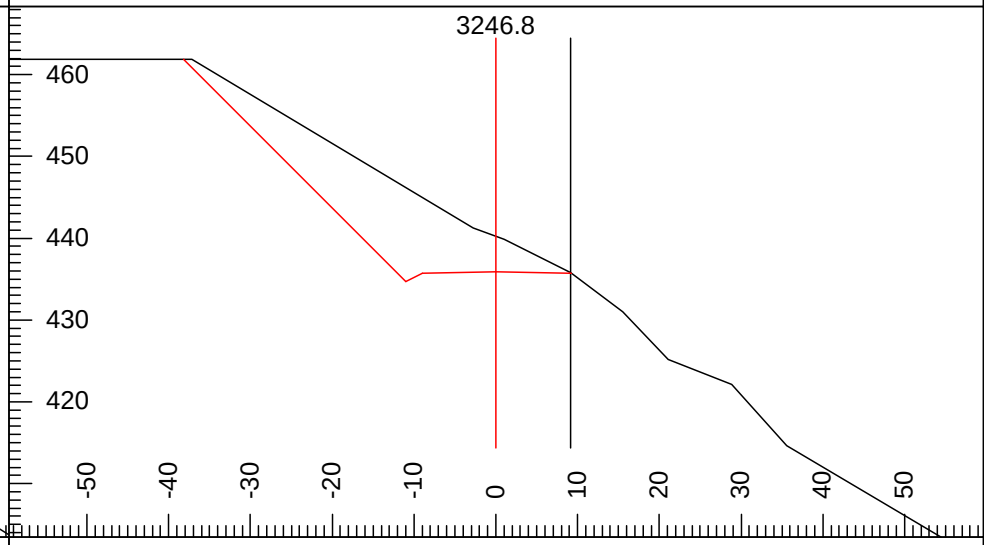
L-Stn:	3146.9	L-Ssl:	46	F Slope L:	100	Stk L X:	-18.7
P-Stn:	3145.5	L-Ssr:	-46	F Slope R:	-67	H. Offset:	-2.8
Grd.Nxt.:	10	Super L:	-2	Cut Dp:	-2.2	Cul DIA:	
Grd.Lst:	10	Super R:	-2	Stk R X:	43.0	Cul Length:	



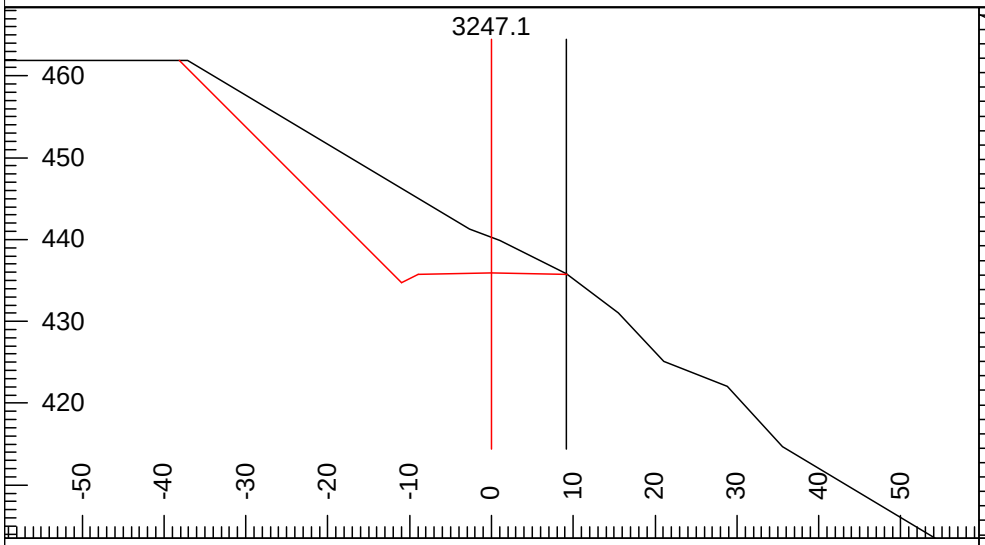
L-Stn:	3199.0	L-Ssl:	62	F Slope L:	100	Stk L X:	-36.7
P-Stn:	3198.1	L-Ssr:	-62	F Slope R:	-67	H. Offset:	-5.8
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.2	Cul DIA:	
Grd.Lst:	10	Super R:	-2	Stk R X:	35.9	Cul Length:	



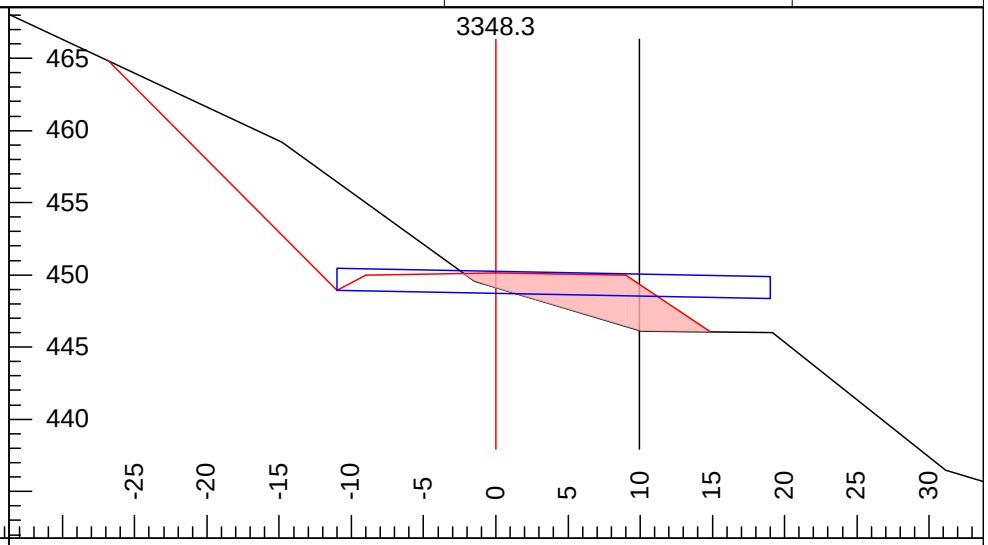
L-Stn:	3199.1	L-Ssl:	62	F Slope L:	100	Stk L X:	-36.7
P-Stn:	3198.1	L-Ssr:	-62	F Slope R:	-67	H. Offset:	-5.8
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	1.2	Cul DIA:	
Grd.Lst:	11	Super R:	-2	Stk R X:	35.9	Cul Length:	



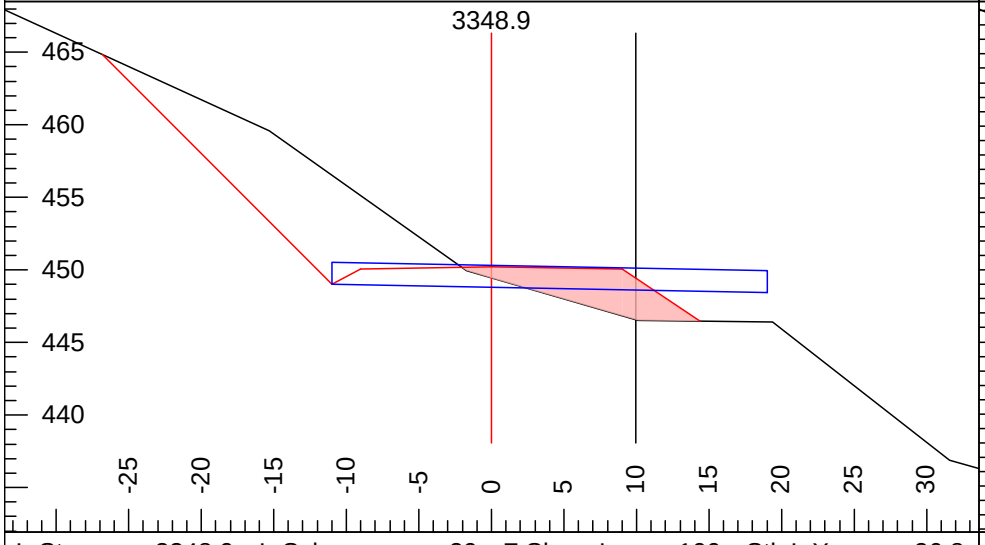
L-Stn:	3246.8	L-Ssl:	37	F Slope L:	100	Stk L X:	-38.1
P-Stn:	3245.5	L-Ssr:	-37	F Slope R:	0	H. Offset:	-9.1
Grd.Nxt.:	11	Super L:	-2	Cut Dp:	4.4	Cul DIA:	
Grd.Lst:	11	Super R:	-2	Stk R X:	9.3	Cul Length:	



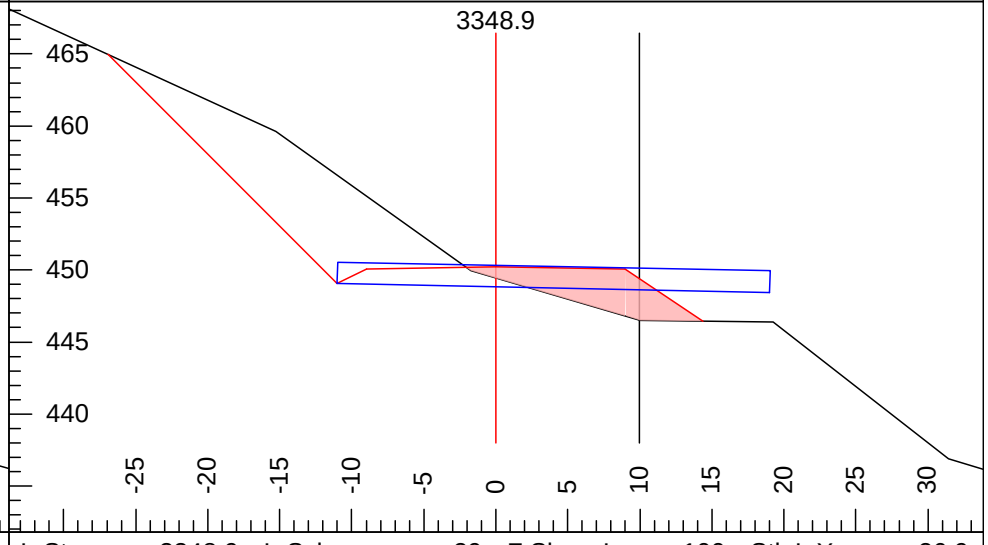
L-Stn:	3247.1	L-Ssl:	37	F Slope L:	100	Stk L X:	-38.1		
P-Stn:	3245.6	L-Ssr:	-37	F Slope R:	0	H. Offset:	-9.1		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	4.3	Cul DIA:			
Grd.Lst:	11	Super R:	-2	Stk R X:	9.3	Cul Length:			



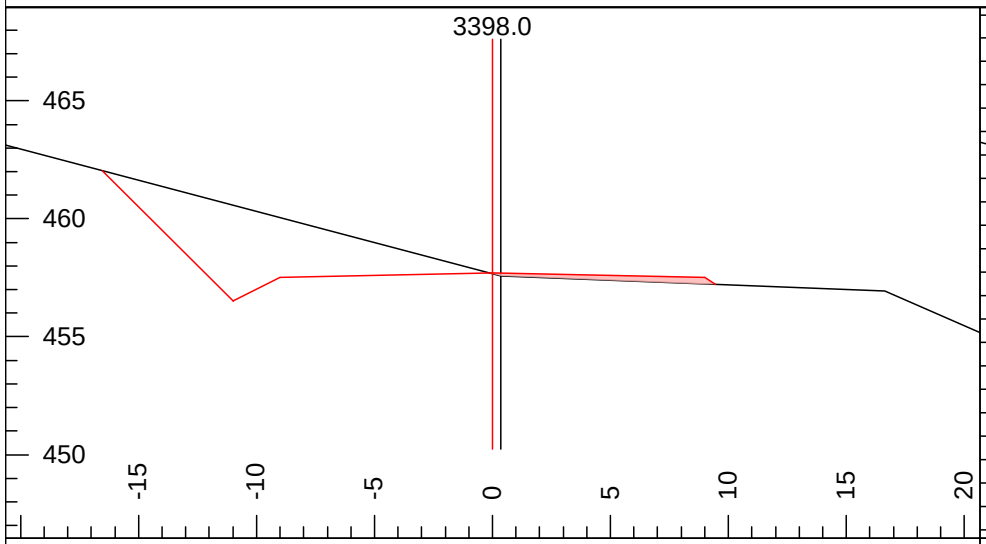
L-Stn:	3348.3	L-Ssl:	30	F Slope L:	100	Stk L X:	-26.9		
P-Stn:	3348.0	L-Ssr:	-30	F Slope R:	-67	H. Offset:	-10.0		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-1.0	Cul DIA:	18in		
Grd.Lst:	14	Super R:	-2	Stk R X:	14.9	Cul Length:	30.0		



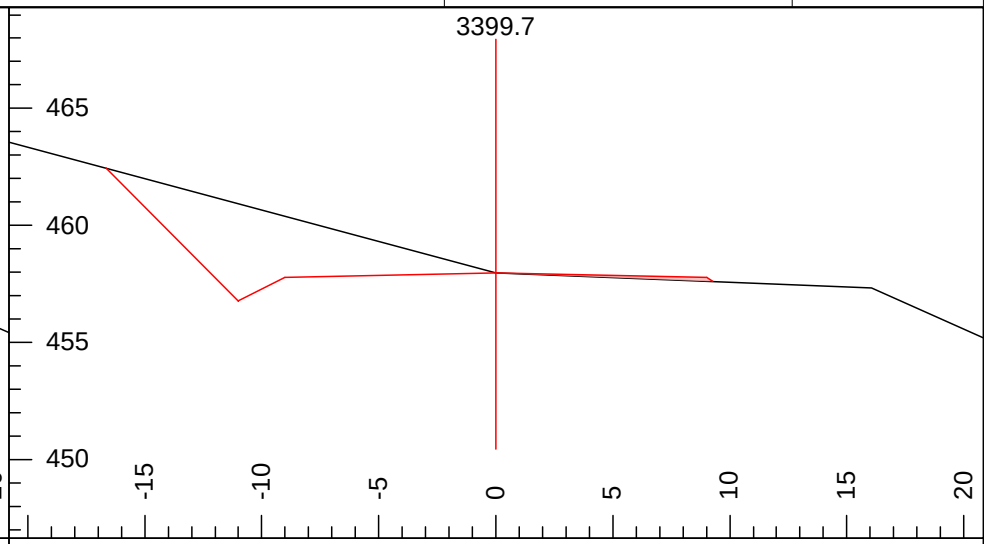
L-Stn:	3348.9	L-Ssl:	29	F Slope L:	100	Stk L X:	-26.8		
P-Stn:	3349.8	L-Ssr:	-29	F Slope R:	-67	H. Offset:	-9.8		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	-0.8	Cul DIA:	18in		
Grd.Lst:	14	Super R:	-2	Stk R X:	14.4	Cul Length:	30.0		



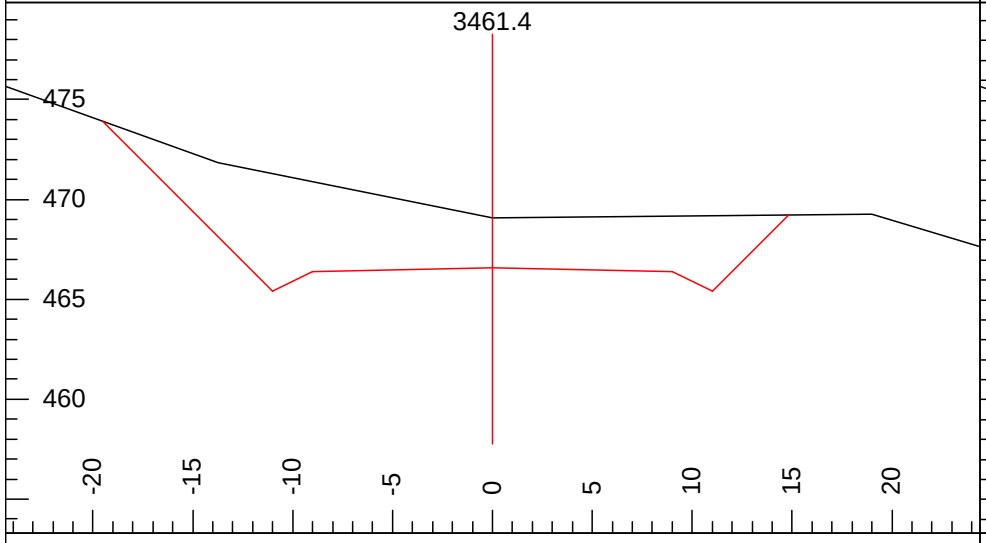
L-Stn:	3348.9	L-Ssl:	29	F Slope L:	100	Stk L X:	-26.9		
P-Stn:	3349.8	L-Ssr:	-29	F Slope R:	-67	H. Offset:	-9.8		
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-0.8	Cul DIA:	18in		
Grd.Lst:	14	Super R:	-2	Stk R X:	14.4	Cul Length:	30.0		



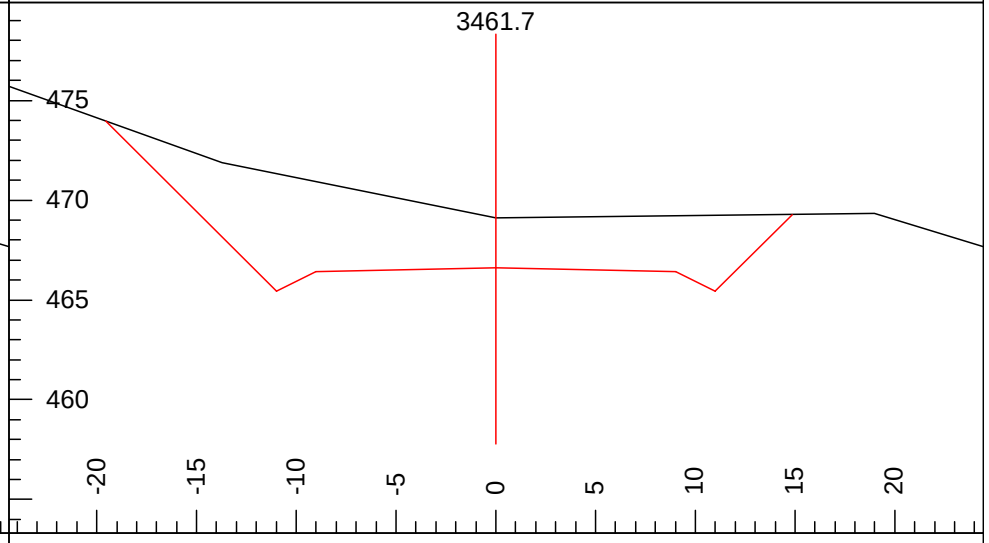
L-Stn:	3398.0	L-Ssl:	26	F Slope L:	100	Stk L X:	-16.5		
P-Stn:	3398.0	L-Ssr:	-26	F Slope R:	-67	H. Offset:	-0.3		
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	0.0	Cul DIA:			
Grd.Lst:	15	Super R:	-2	Stk R X:	9.5	Cul Length:			



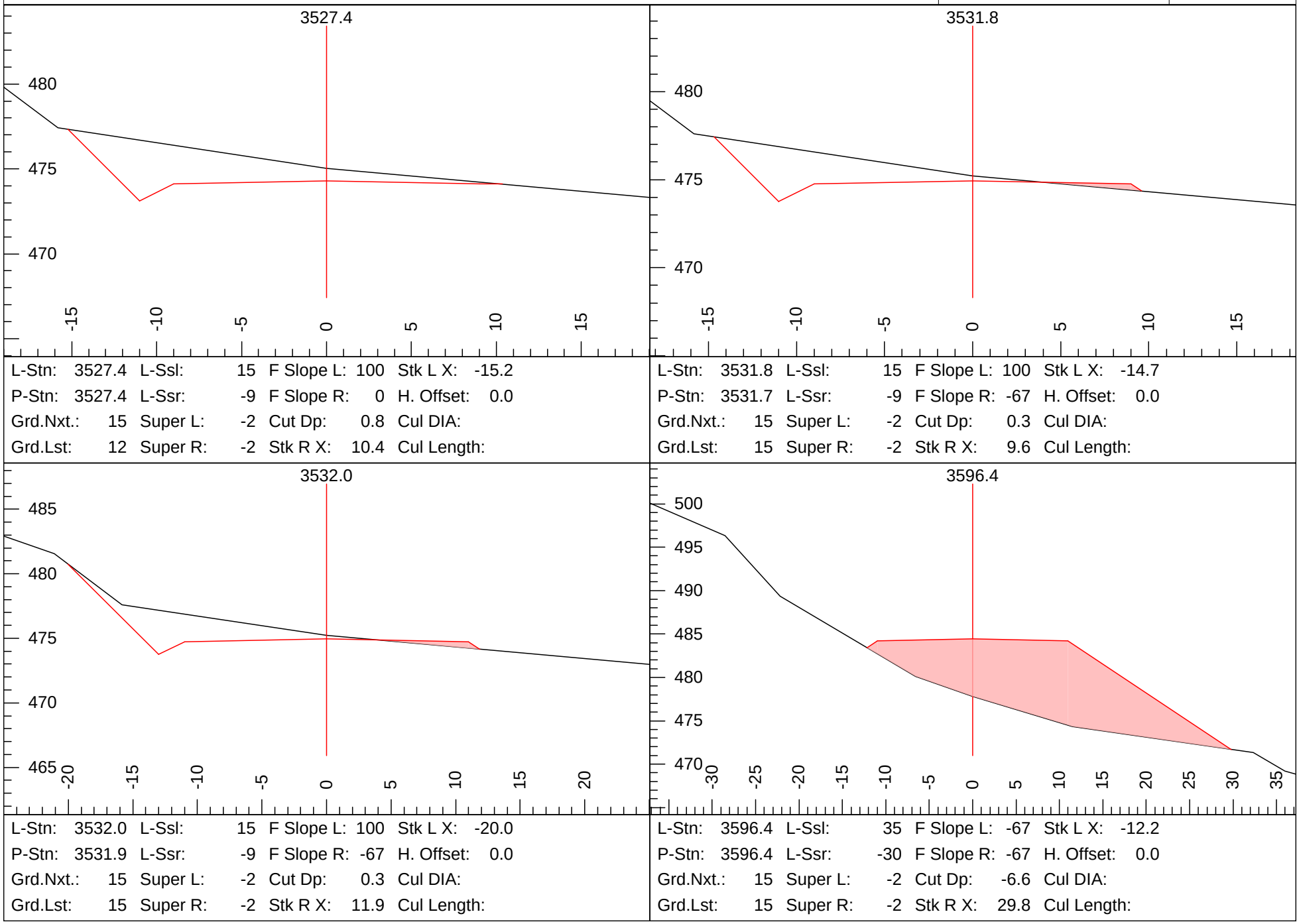
L-Stn:	3399.7	L-Ssl:	27	F Slope L:	100	Stk L X:	-16.7		
P-Stn:	3399.7	L-Ssr:	-4	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	14	Super L:	-2	Cut Dp:	0.0	Cul DIA:			
Grd.Lst:	15	Super R:	-2	Stk R X:	9.3	Cul Length:			



L-Stn:	3461.4	L-Ssl:	20	F Slope L:	100	Stk L X:	-19.5		
P-Stn:	3461.4	L-Ssr:	1	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	2.5	Cul DIA:			
Grd.Lst:	14	Super R:	-2	Stk R X:	14.8	Cul Length:			



L-Stn:	3461.7	L-Ssl:	20	F Slope L:	100	Stk L X:	-19.5		
P-Stn:	3461.7	L-Ssr:	1	F Slope R:	100	H. Offset:	0.0		
Grd.Nxt.:	12	Super L:	-2	Cut Dp:	2.5	Cul DIA:			
Grd.Lst:	12	Super R:	-2	Stk R X:	14.8	Cul Length:			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470
-15
-10
-5
0
5
10
15
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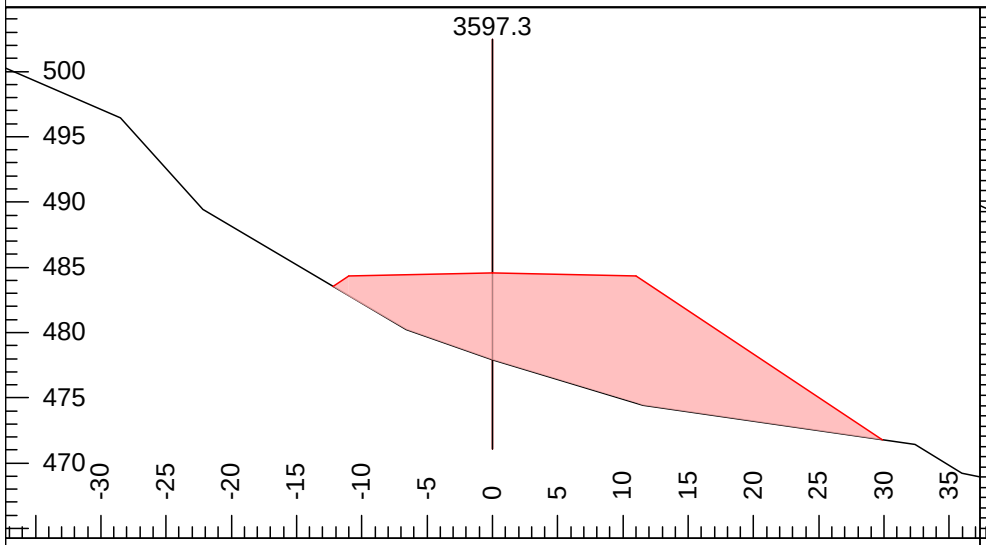
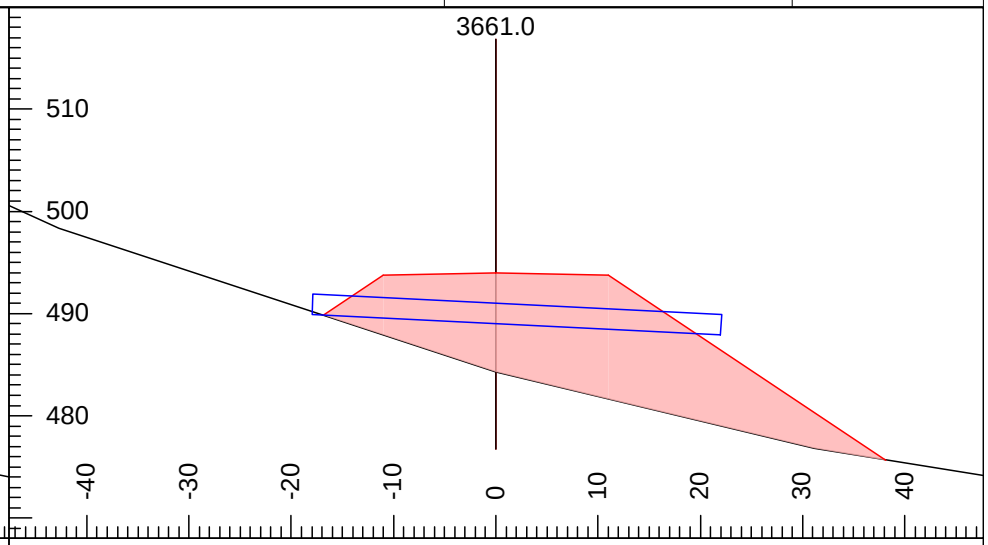
P-Stn: 3527.4 L-Ssr: -9 F Slope R: 0 H. Offset: 0.0
Grd.Nxt.: 15 Super L: -2 Cut Dp: 0.8 Cul DIA:
Grd.Lst: 12 Super R: -2 Stk R X: 10.4 Cul Length:
3531.8
480
475
470
-15
-10
-5
0
5
10
15
L-Stn: 3531.8 L-Ssl: 15 F Slope L: 100 Stk L X: -14.7
P-Stn: 3531.7 L-Ssr: -9 F Slope R: -67 H. Offset: 0.0
Grd.Nxt.: 15 Super L: -2 Cut Dp: 0.3 Cul DIA:
Grd.Lst: 15 Super R: -2 Stk R X: 9.6 Cul Length:
3532.0
485
480
475
470
465
-20
-15
-10
-5
0
5
10
15
20
L-Stn: 3532.0 L-Ssl: 15 F Slope L: 100 Stk L X: -20.0
P-Stn: 3531.9 L-Ssr: -9 F Slope R: -67 H. Offset: 0.0
Grd.Nxt.: 15 Super L: -2 Cut Dp: 0.3 Cul DIA:
Grd.Lst: 15 Super R: -2 Stk R X: 11.9 Cul Length:
3596.4
500
495
490
485
480
475
470
-30
-25
-20
-15
-10
-5
0
5
10
15
20
25
30
35
L-Stn: 3596.4 L-Ssl: 35 F Slope L: -67 Stk L X: -12.2
P-Stn: 3596.4 L-Ssr: -30 F Slope R: -67 H. Offset: 0.0
Grd.Nxt.: 15 Super L: -2 Cut Dp: -6.6 Cul DIA:
Grd.Lst: 15 Super R: -2 Stk R X: 29.8 Cul Length:



L-Stn:	3597.3	L-Ssl:	35	F Slope L:	-67	Stk L X:	-12.2		
P-Stn:	3597.2	L-Ssr:	-30	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-6.7	Cul DIA:			
Grd.Lst:	15	Super R:	-2	Stk R X:	29.9	Cul Length:			



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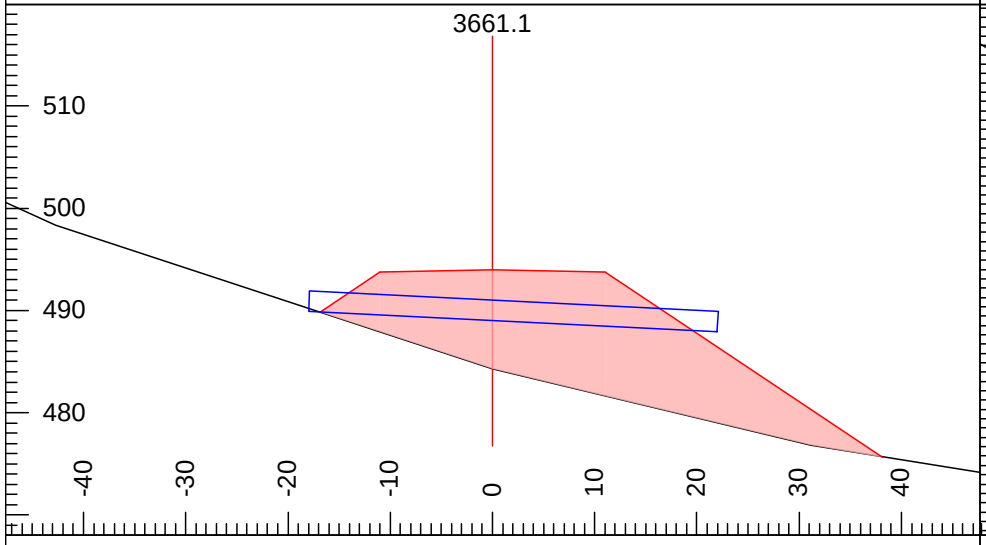
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-9.7	Cul DIA:	24in		
Grd.Lst:	15	Super R:	-2	Stk R X:	38.1	Cul Length:	40.0		



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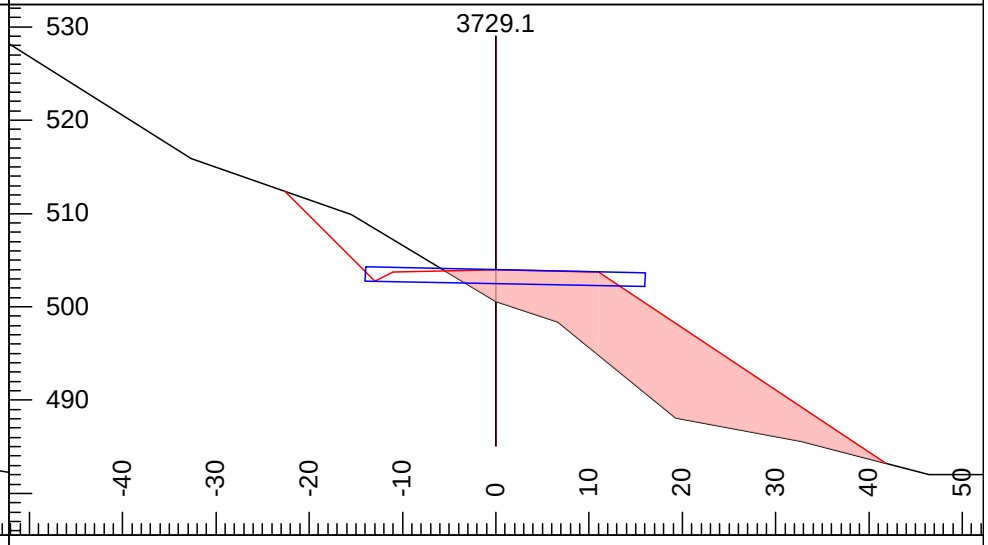
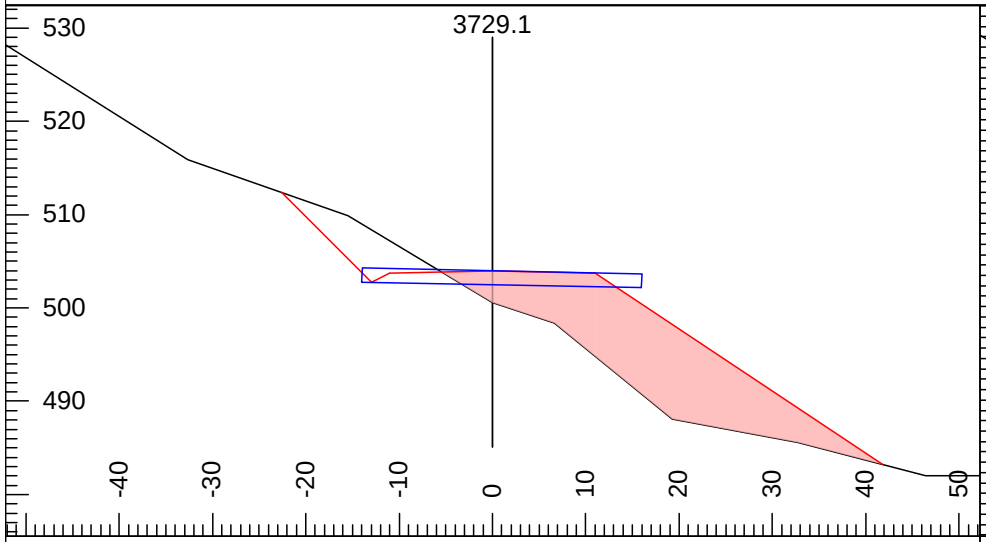
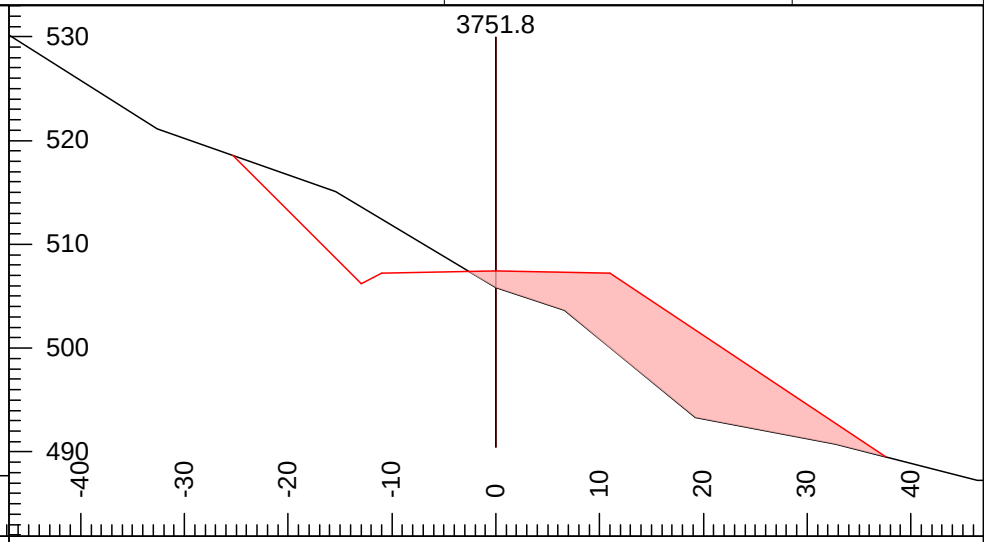
P-Stn:	3661.0	L-Ssr:	-24	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-9.7	Cul DIA:	24in		
Grd.Lst:	15	Super R:	-2	Stk R X:	38.1	Cul Length:	40.0		



L-Stn:	3729.1	L-Ssl:	60	F Slope L:	100	Stk L X:	-22.6		
P-Stn:	3729.1	L-Ssr:	-33	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-3.4	Cul DIA:	18in		
Grd.Lst:	15	Super R:	-2	Stk R X:	41.8	Cul Length:	30.0		



L-Stn:	3729.1	L-Ssl:	60	F Slope L:	100	Stk L X:	-22.6
P-Stn:	3729.1	L-Ssr:	-33	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-3.4	Cul DIA:	18in
Grd.Lst:	15	Super R:	-2	Stk R X:	41.8	Cul Length:	30.0



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P-Stn:	3751.7	L-Ssr:	-33	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-1.6	Cul DIA:	
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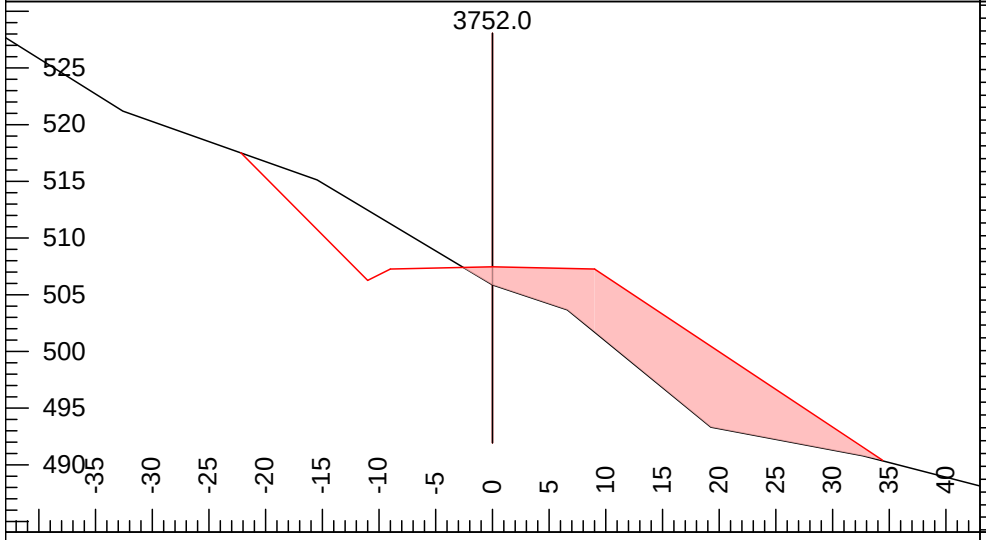

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Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-1.6	Cul DIA:	
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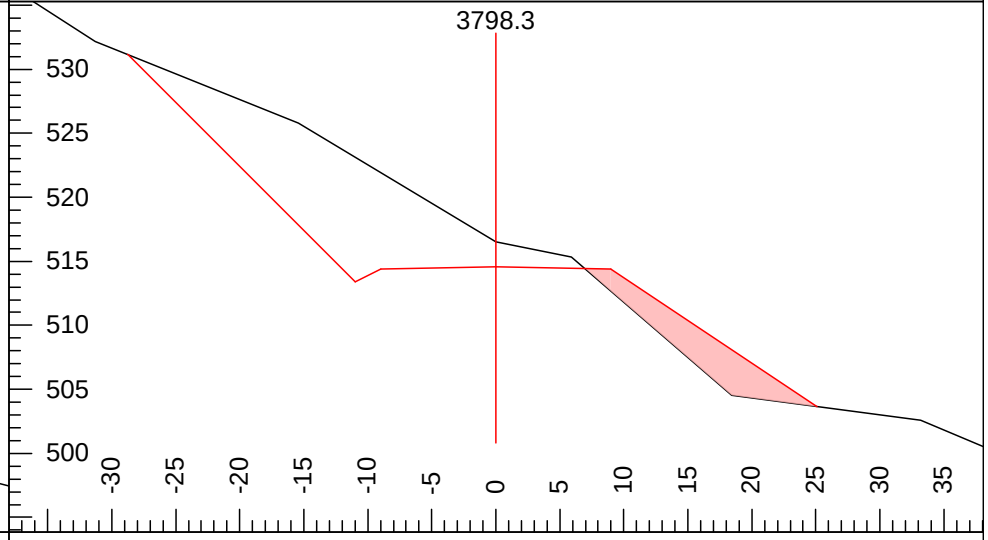

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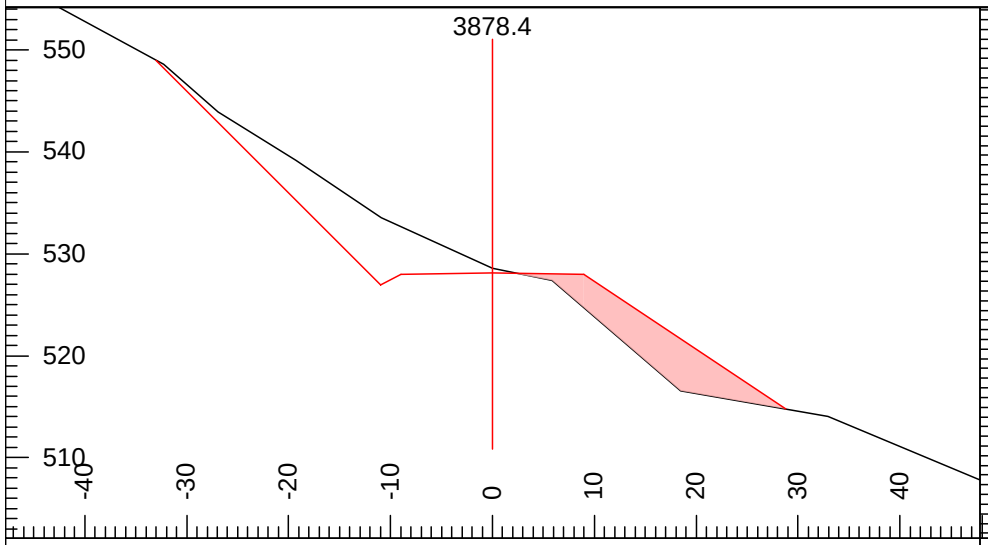
P-Stn:	3798.3	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	2.0	Cul DIA:	
Grd.Lst:	15	Super R:	-2	Stk R X:	25.1	Cul Length:	



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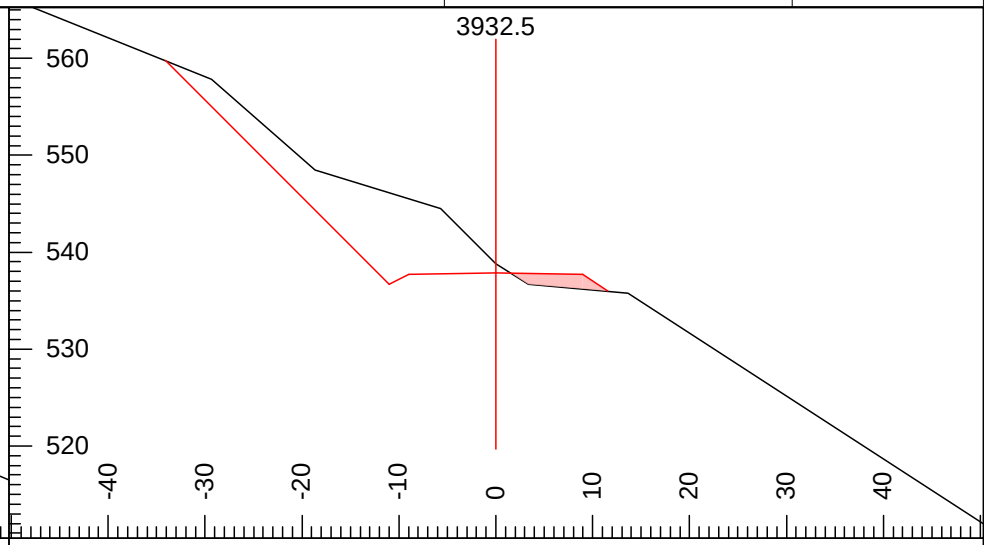
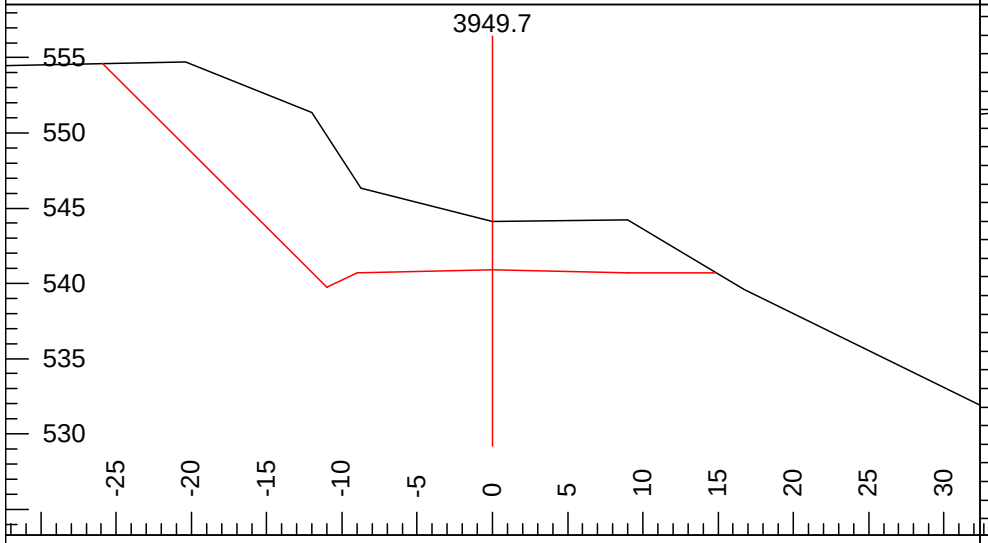
P-Stn:	3878.4	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	18	Super L:	-2	Cut Dp:	0.4	Cul DIA:		
Grd.Lst:	17	Super R:	-2	Stk R X:	28.8	Cul Length:		



L-Stn:	3932.5	L-Ssl:	100	F Slope L:	100	Stk L X:	-34.1	
P-Stn:	3932.4	L-Ssr:	-63	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	18	Super L:	-2	Cut Dp:	0.9	Cul DIA:		
Grd.Lst:	18	Super R:	-2	Stk R X:	11.6	Cul Length:		



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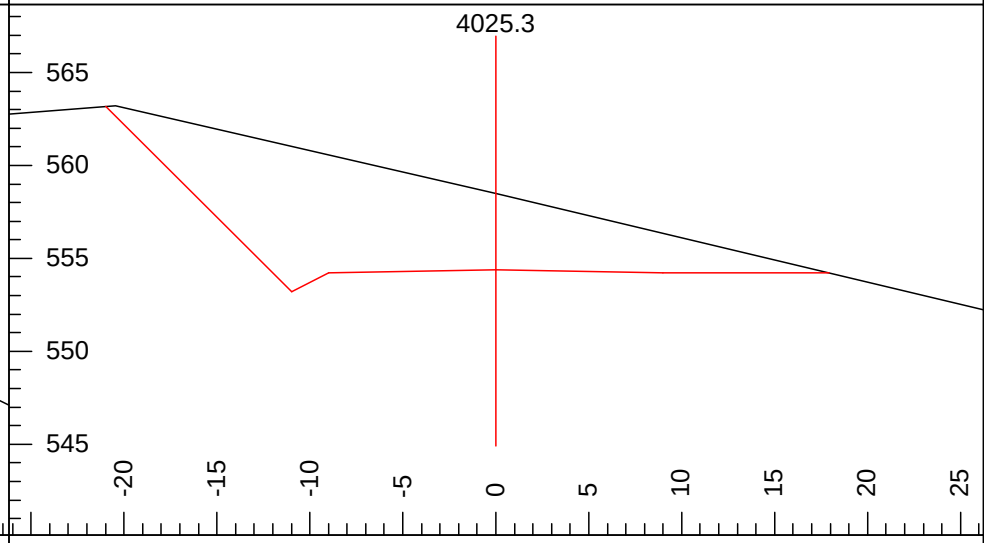
P-Stn:	3949.6	L-Ssr:	1	F Slope R:	0	H. Offset:	0.0	
Grd.Nxt.:	18	Super L:	-2	Cut Dp:	3.2	Cul DIA:		
Grd.Lst:	18	Super R:	-2	Stk R X:	14.8	Cul Length:		



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P-Stn:	4025.3	L-Ssr:	-24	F Slope R:	0	H. Offset:	0.0	
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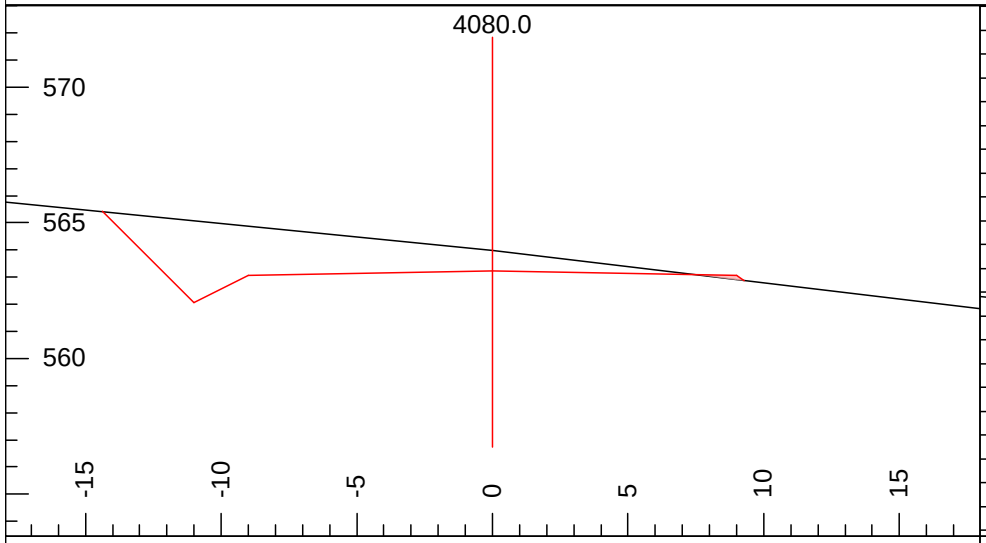
Grd.Lst:	18	Super R:	-2	Stk R X:	17.9	Cul Length:		



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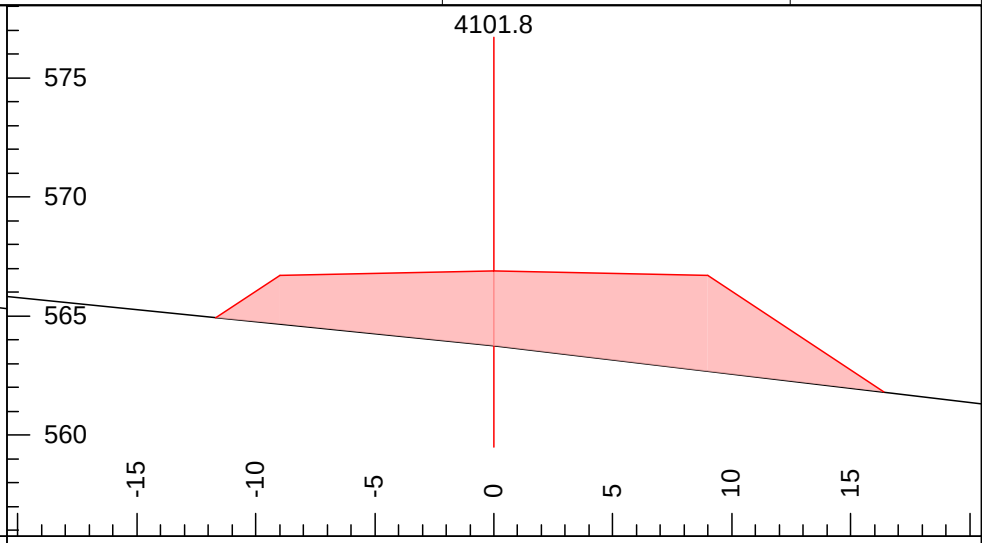
P-Stn:	4080.0	L-Ssr:	-12	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	0.8	Cul DIA:		
Grd.Lst:	16	Super R:	-2	Stk R X:	9.3	Cul Length:		



L-Stn:	4101.8	L-Ssl:	10	F Slope L:	-67	Stk L X:	-11.7	
P-Stn:	4101.7	L-Ssr:	-12	F Slope R:	-67	H. Offset:	0.0	
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	-3.1	Cul DIA:		
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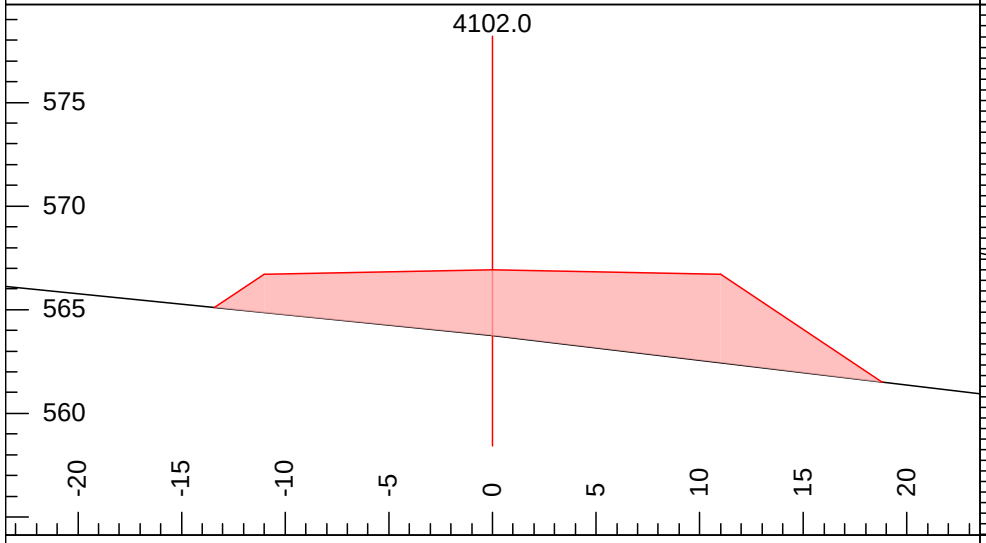

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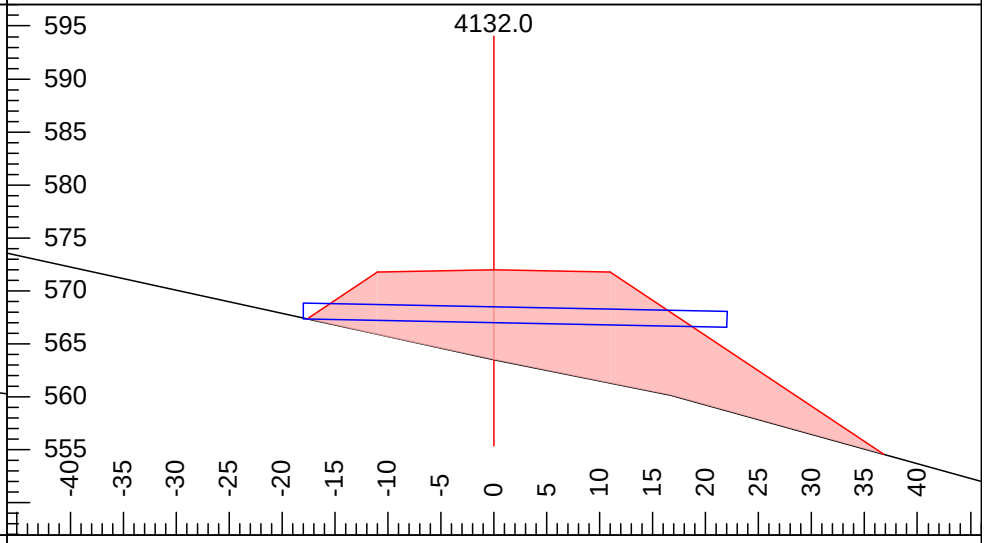
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	-3.2	Cul DIA:		
Grd.Lst:	17	Super R:	-2	Stk R X:	18.8	Cul Length:		



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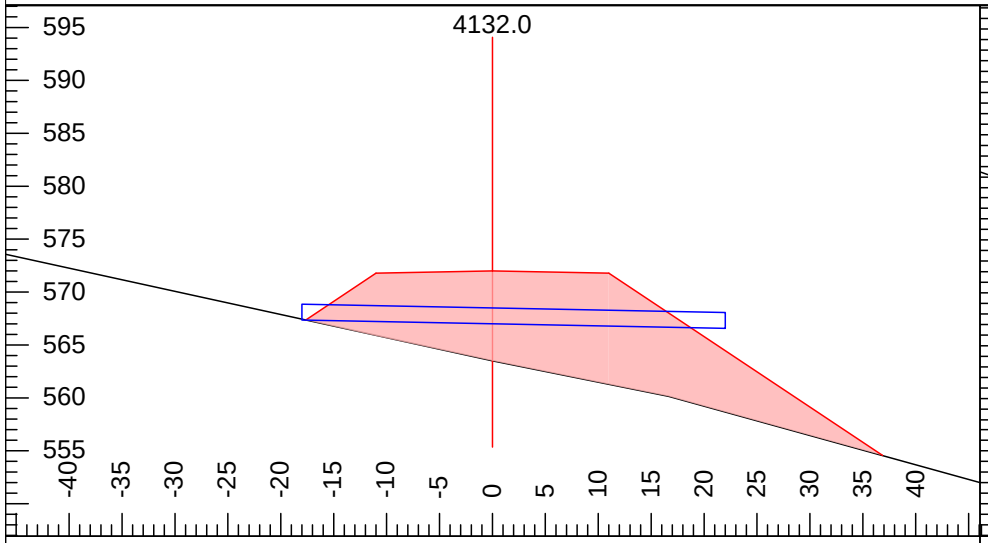
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	-8.5	Cul DIA:	18in	
Grd.Lst:	17	Super R:	-2	Stk R X:	36.8	Cul Length:	40.0	



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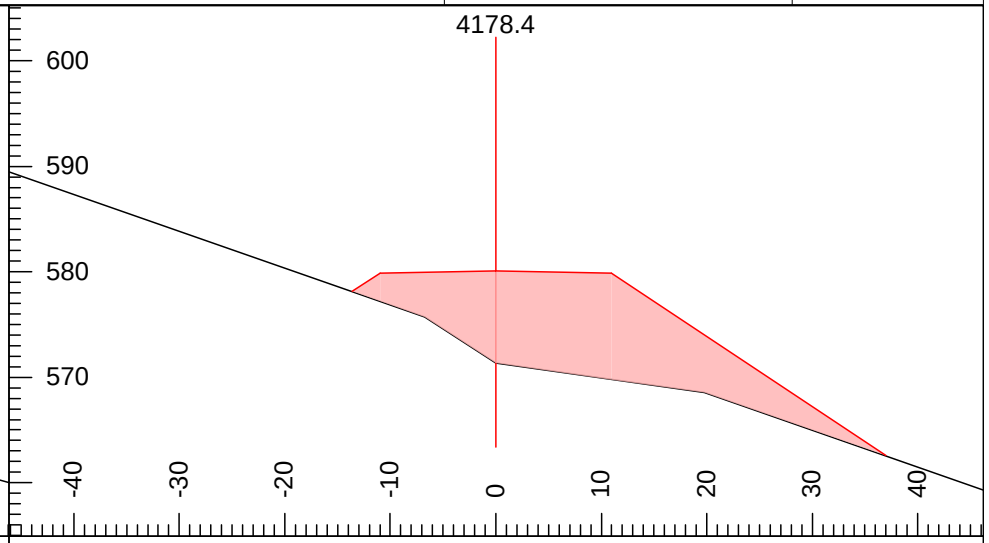
P-Stn:	4132.0	L-Ssr:	-20	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	17	Super L:	-2	Cut Dp:	-8.5	Cul DIA:	18in
Grd.Lst:	17	Super R:	-2	Stk R X:	36.8	Cul Length:	40.0



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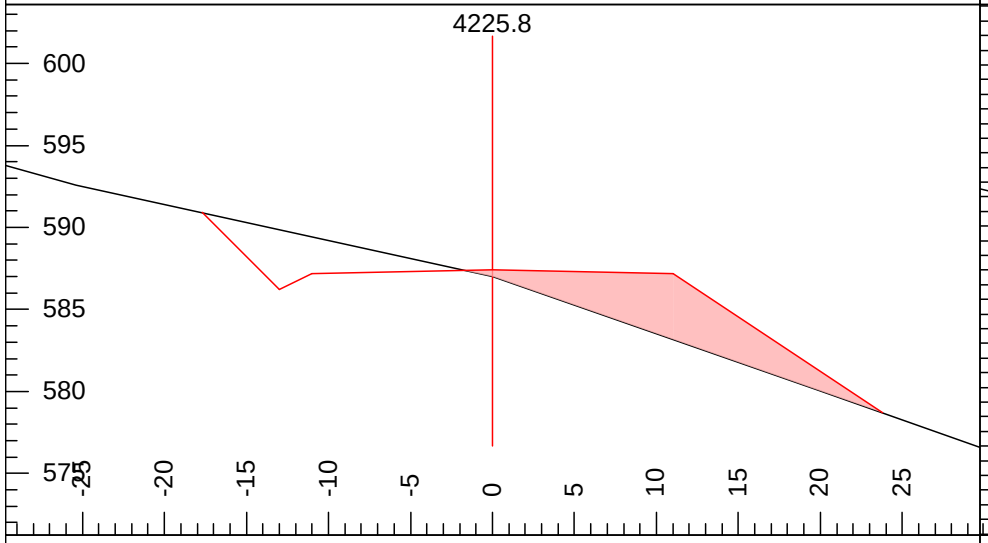
P-Stn:	4178.3	L-Ssr:	-14	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	15	Super L:	-2	Cut Dp:	-8.7	Cul DIA:	
Grd.Lst:	17	Super R:	-2	Stk R X:	37.0	Cul Length:	



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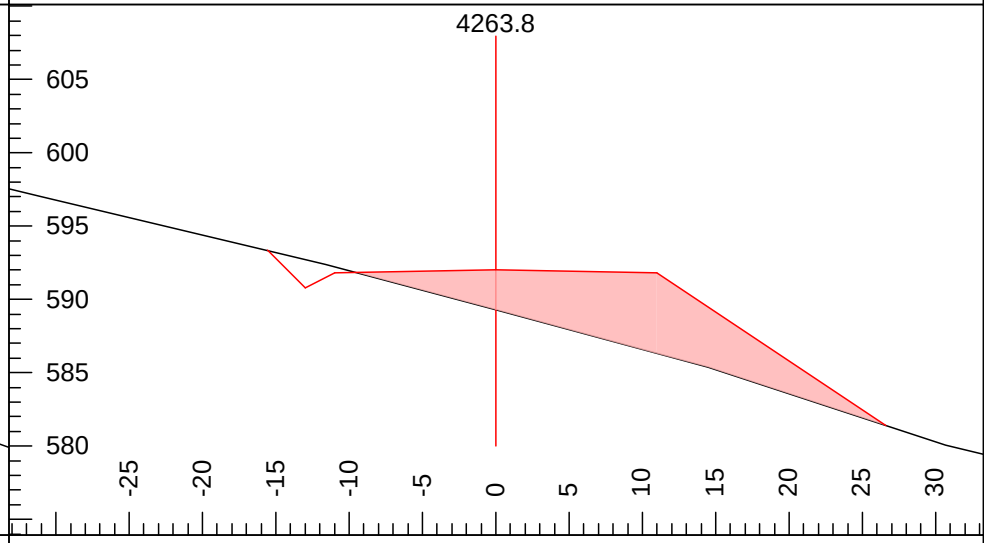
Grd.Lst:	15	Super R:	-2	Stk R X:	23.8	Cul Length:	



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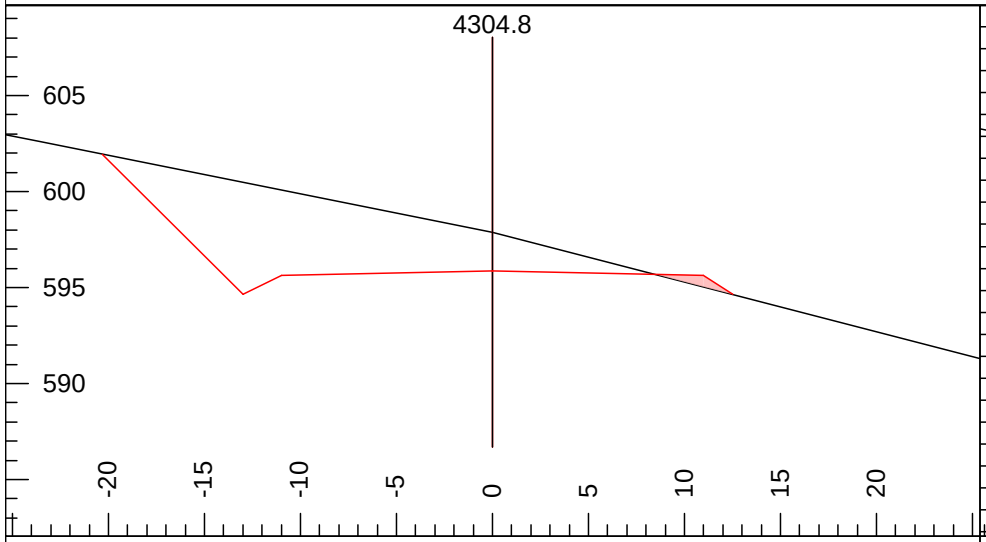
P-Stn:	4263.8	L-Ssr:	-27	F Slope R:	-67	H. Offset:	0.0
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	-2.7	Cul DIA:	
Grd.Lst:	12	Super R:	-2	Stk R X:	26.6	Cul Length:	



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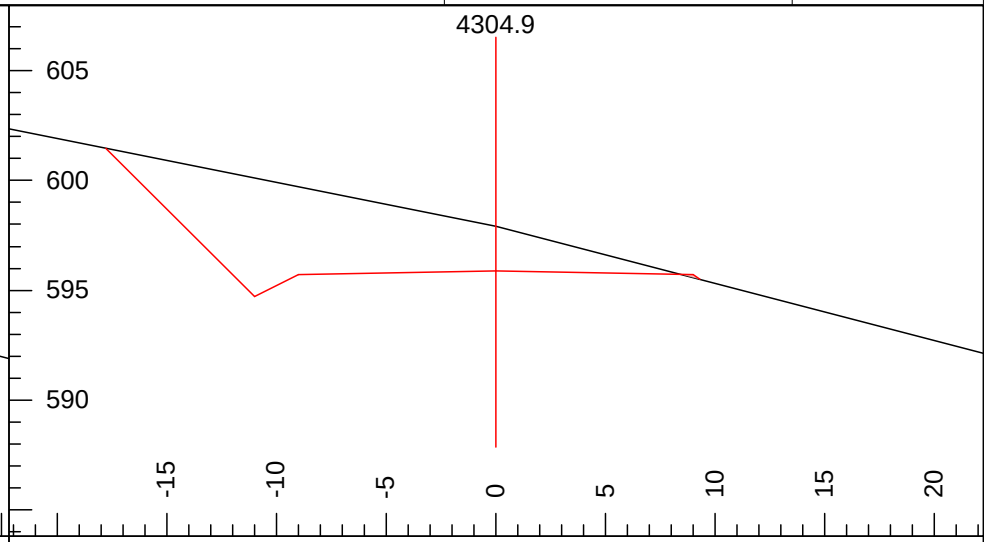
P-Stn:	4304.7	L-Ssr:	-26	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	9	Super L:	-2	Cut Dp:	2.0	Cul DIA:			
Grd.Lst:	9	Super R:	-2	Stk R X:	12.5	Cul Length:			



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P-Stn:	4304.9	L-Ssr:	-26	F Slope R:	-67	H. Offset:	0.0		
Grd.Nxt.:	n/a	Super L:	-2	Cut Dp:	2.0	Cul DIA:			
Grd.Lst:	9	Super R:	-2	Stk R X:	9.3	Cul Length:			

ROADENG Plan	Scale 1:500	P. 1
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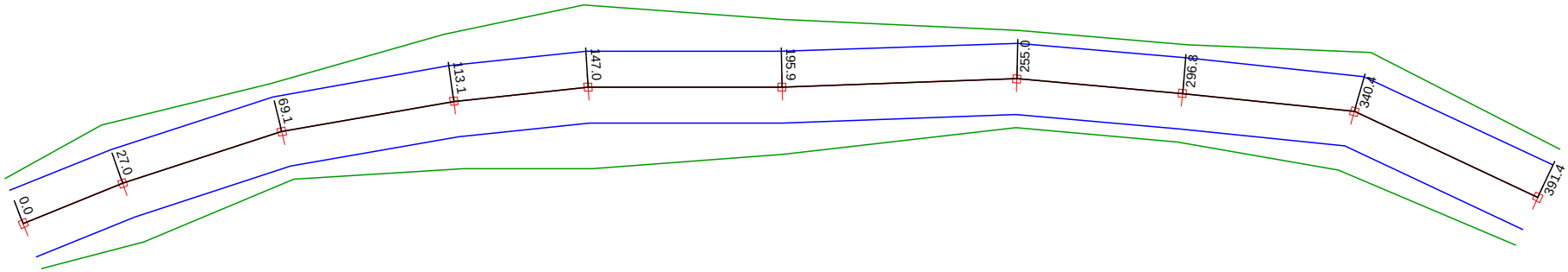

ROADENG Profile	Horz Scale 1:500	P. 1
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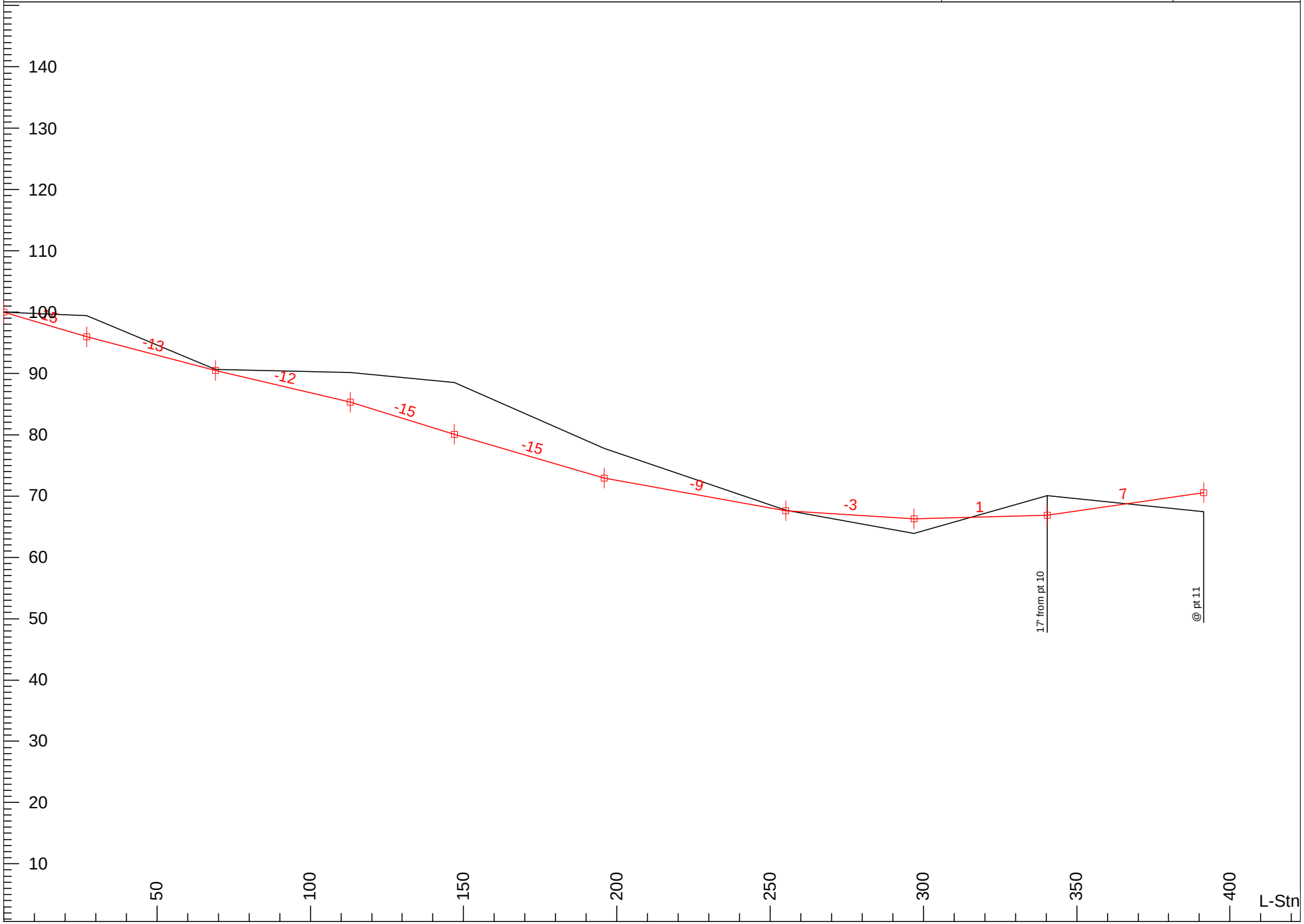

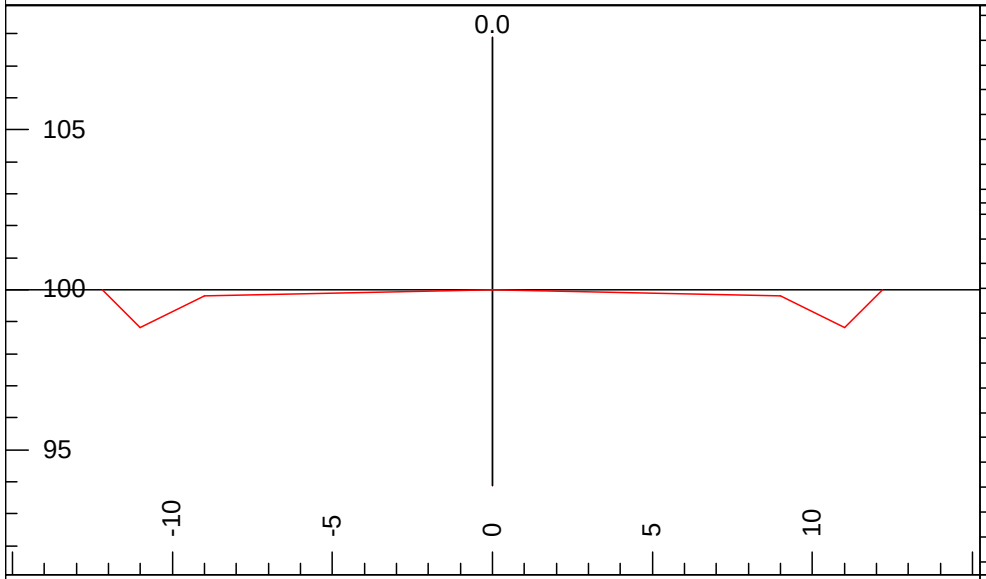

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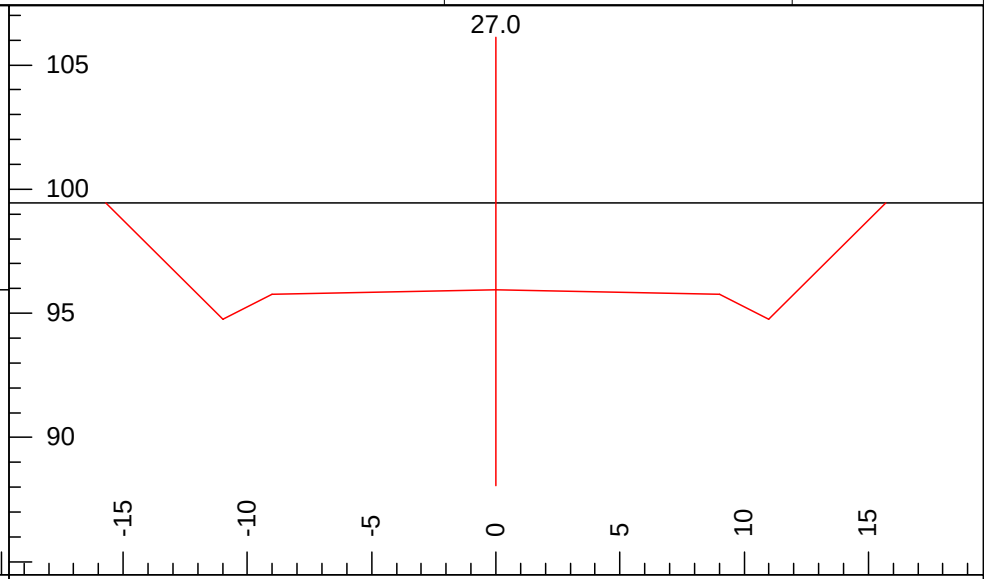
P-Stn:	0.0	L-Ssl:	0	Super R:	-2	Cut Dp:	0.0	Cul DIA:	
Grd.Nxt.:	-15	L-Ssr:	0	F Slope L:	100	Stk R X:	12.2	Cul Length:	



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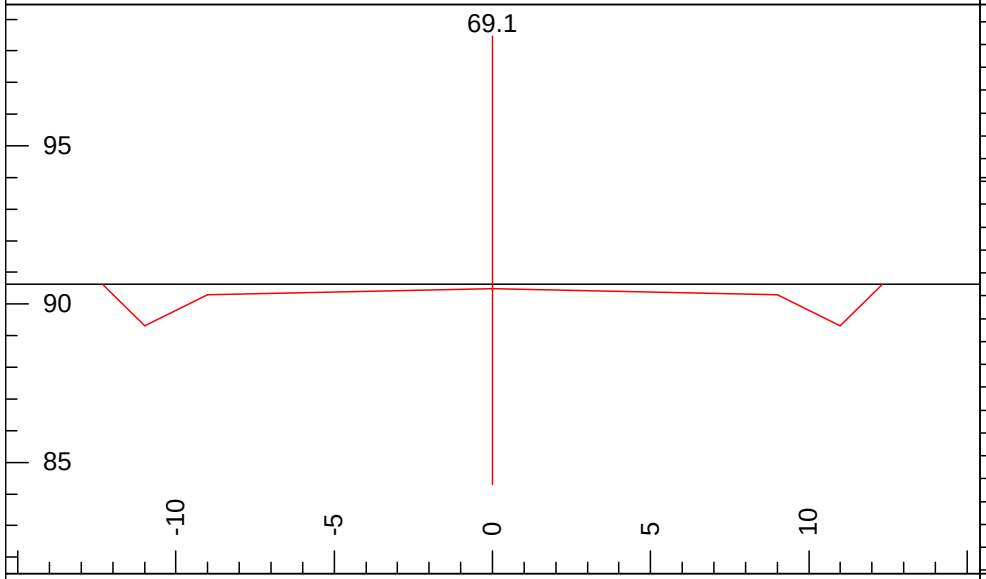
P-Stn:	27.0	L-Ssl:	0	Super R:	-2	Cut Dp:	3.5	Cul DIA:	
Grd.Nxt.:	-13	L-Ssr:	0	F Slope L:	100	Stk R X:	15.7	Cul Length:	



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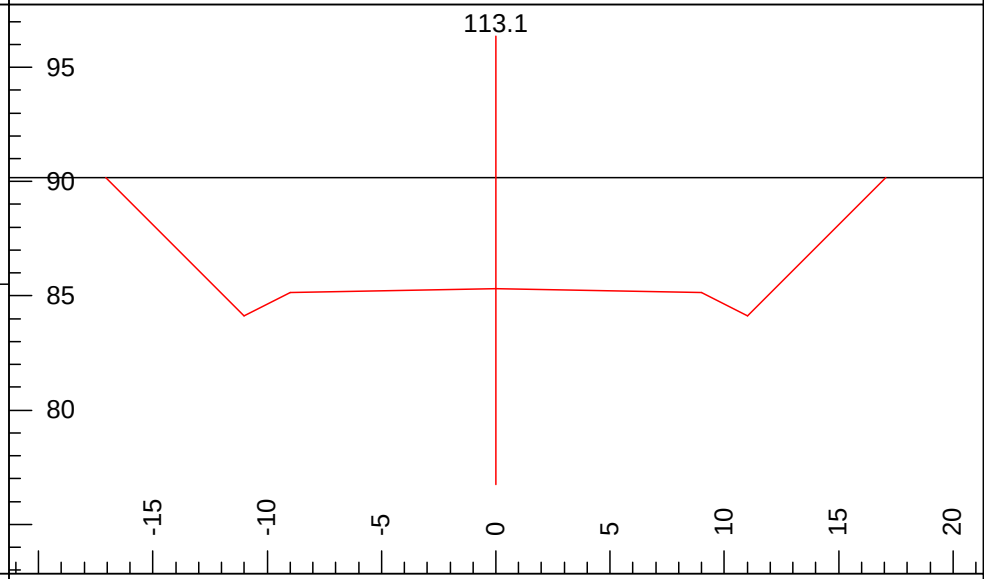
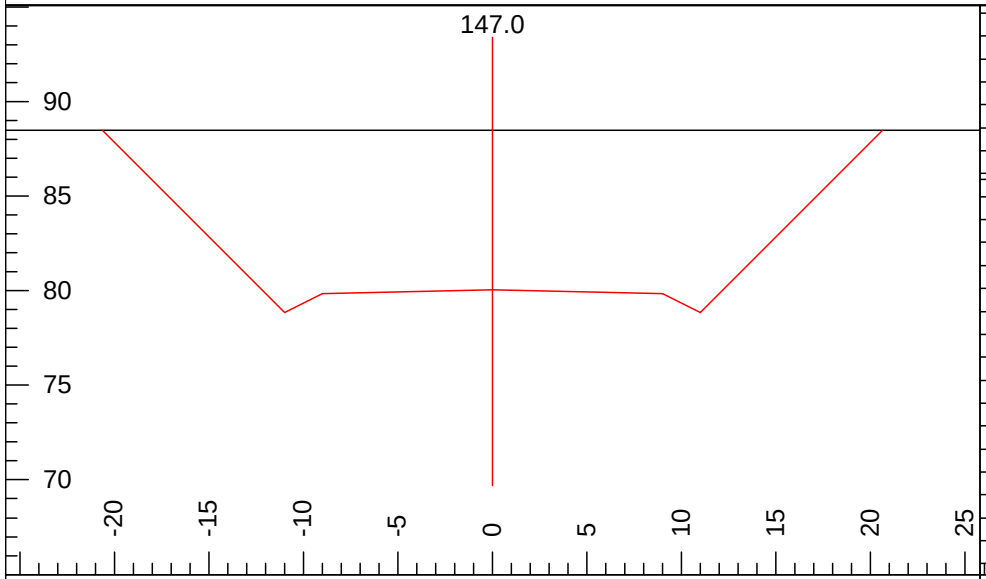
P-Stn:	69.1	L-Ssl:	0	Super R:	-2	Cut Dp:	0.1	Cul DIA:	
Grd.Nxt.:	-12	L-Ssr:	0	F Slope L:	100	Stk R X:	12.3	Cul Length:	



L-Stn:	113.1	Grd.Lst:	-12	Super L:	-2	F Slope R:	100	Stk L X:	-17.1
P-Stn:	113.1	L-Ssl:	0	Super R:	-2	Cut Dp:	4.9	Cul DIA:	
Grd.Nxt.:	-15	L-Ssr:	0	F Slope L:	100	Stk R X:	17.1	Cul Length:	



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P-Stn:	147.0	L-Ssl:	0	Super R:	-2	Cut Dp:	8.4	Cul DIA:	
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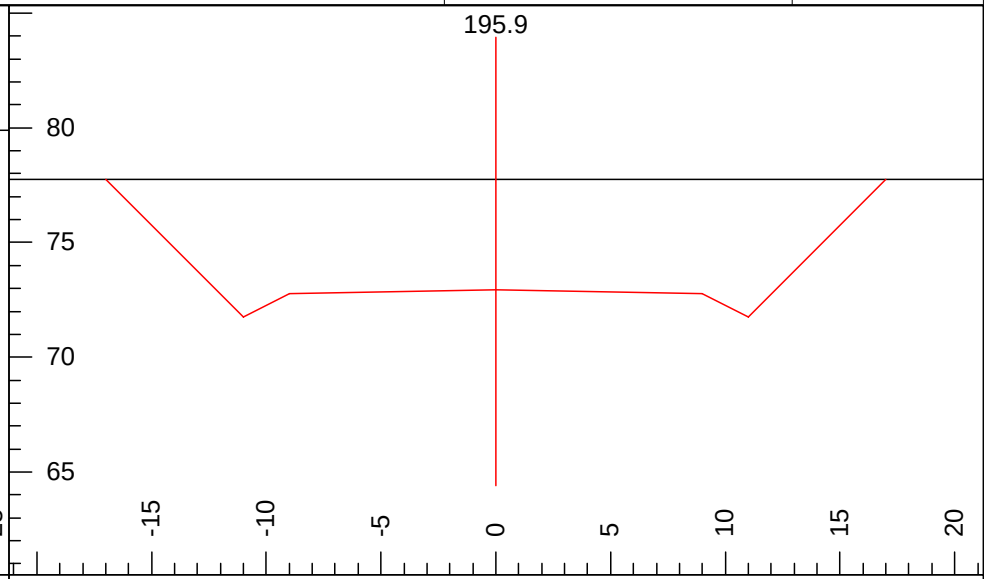

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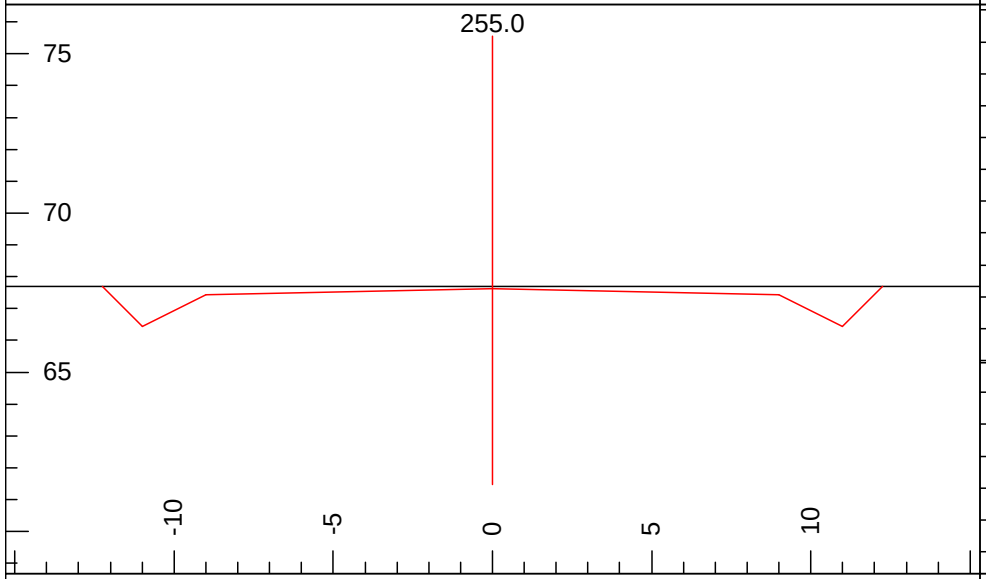
P-Stn:	195.9	L-Ssl:	0	Super R:	-2	Cut Dp:	4.8	Cul DIA:	
Grd.Nxt.:	-9	L-Ssr:	0	F Slope L:	100	Stk R X:	17.0	Cul Length:	



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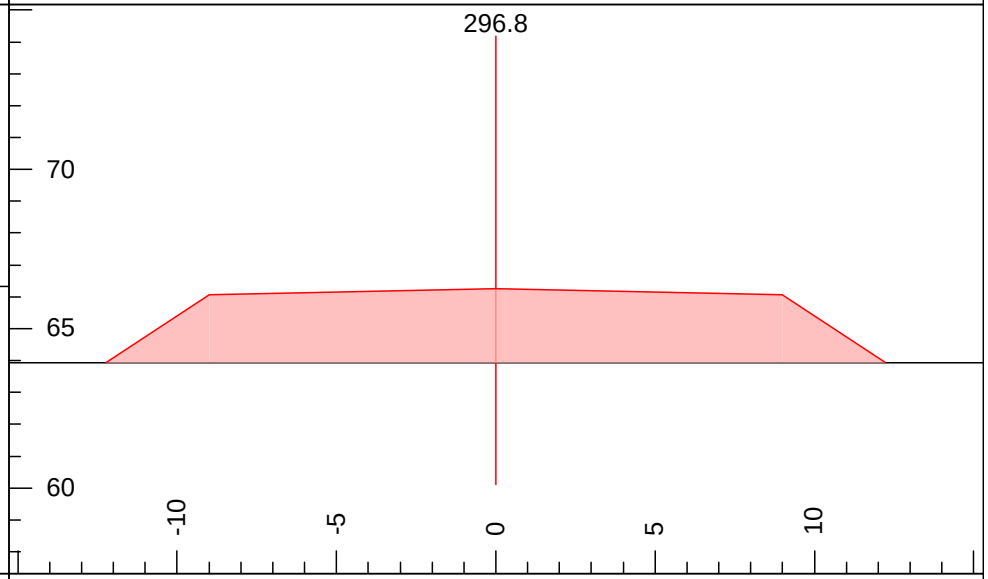
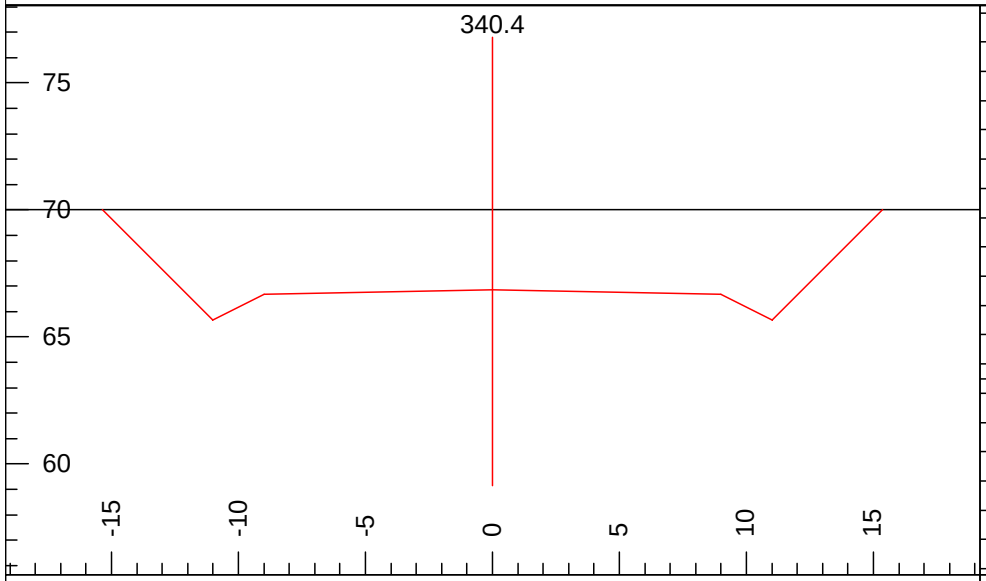
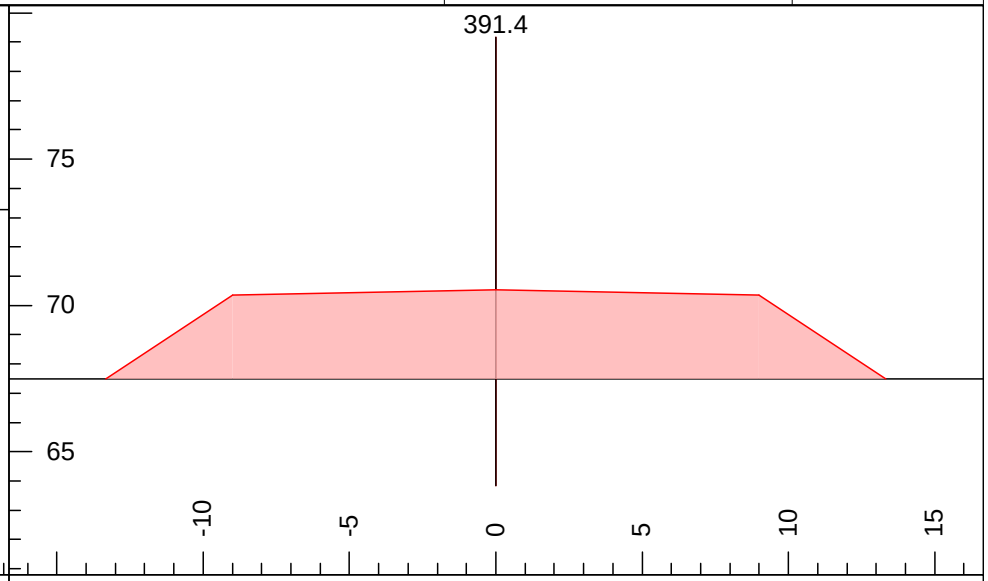
P-Stn:	255.0	L-Ssl:	0	Super R:	-2	Cut Dp:	0.1	Cul DIA:	
Grd.Nxt.:	-3	L-Ssr:	0	F Slope L:	100	Stk R X:	12.2	Cul Length:	



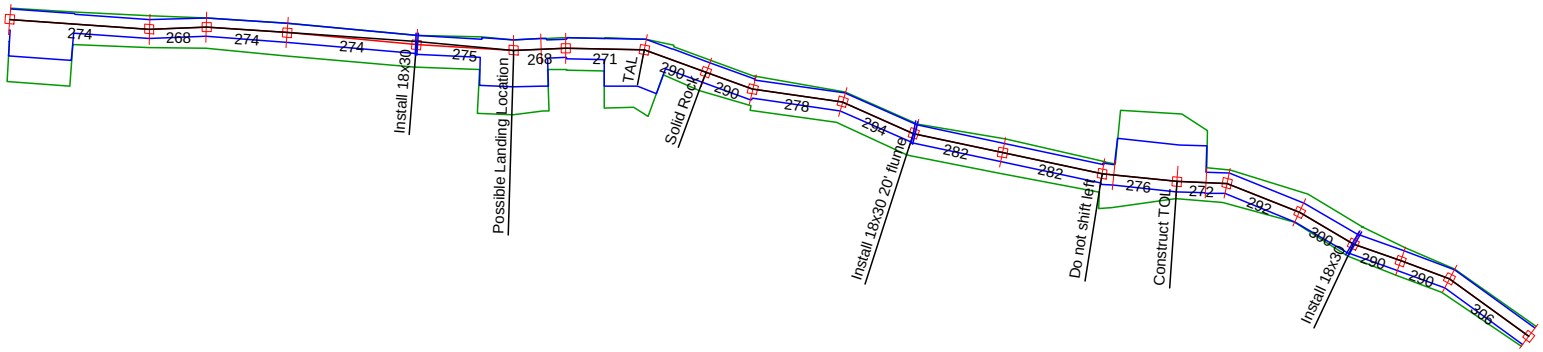
L-Stn:	296.8	Grd.Lst:	-3	Super L:	-2	F Slope R:	-67	Stk L X:	-12.2
P-Stn:	296.8	L-Ssl:	0	Super R:	-2	Cut Dp:	-2.3	Cul DIA:	
Grd.Nxt.:	1	L-Ssr:	0	F Slope L:	-67	Stk R X:	12.2	Cul Length:	



L-Stn:	340.4	Grd.Lst:	1	Super L:	-2	F Slope R:	100	Stk L X:	-15.3
P-Stn:	340.4	L-Ssl:	0	Super R:	-2	Cut Dp:	3.2	Cul DIA:	
Grd.Nxt.:	7	L-Ssr:	0	F Slope L:	100	Stk R X:	15.3	Cul Length:	



L-Stn:	391.4	Grd.Lst:	7	Super L:	-2	F Slope R:	-67	Stk L X:	-13.3
P-Stn:	391.4	L-Ssl:	0	Super R:	-2	Cut Dp:	-3.1	Cul DIA:	
Grd.Nxt.:	n/a	L-Ssr:	0	F Slope L:	-67	Stk R X:	13.3	Cul Length:	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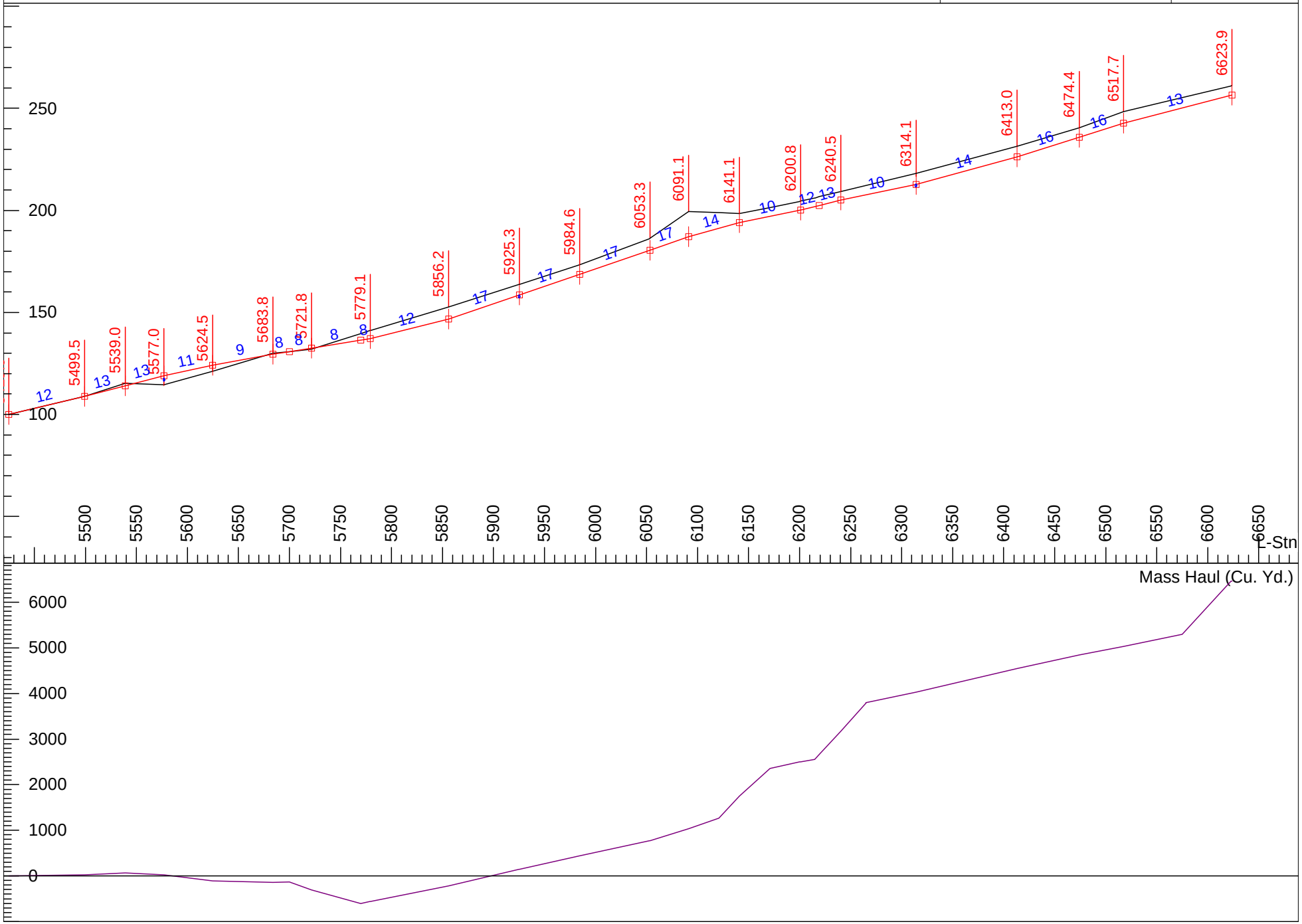
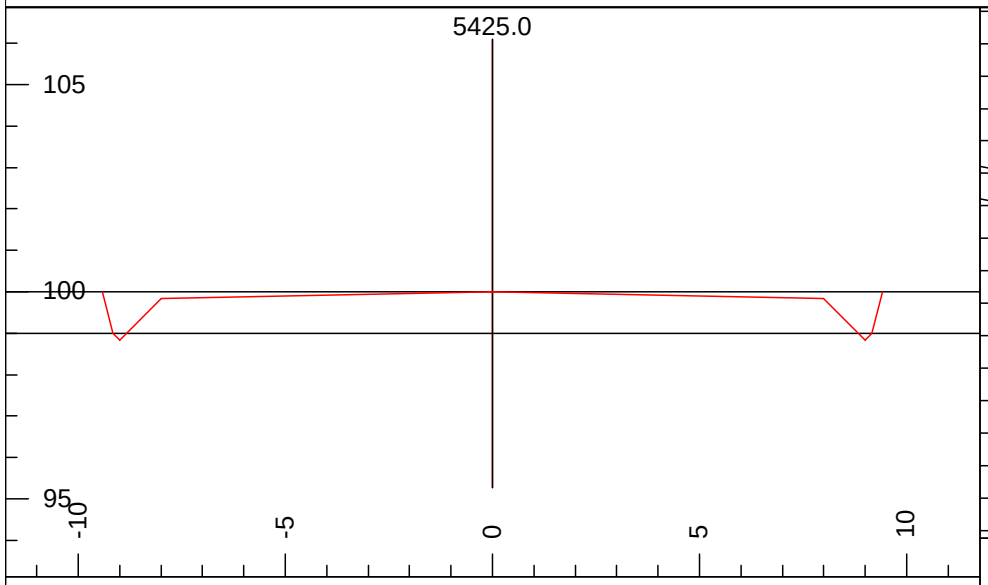
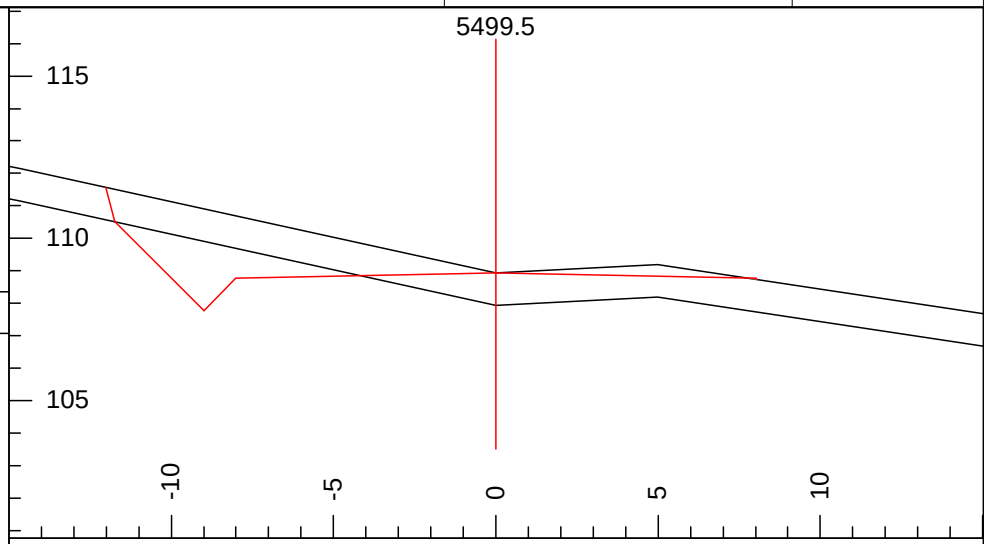
306
Install 18x30
Possible Landing Location
TAL
Solid Rock
Install 18x30 20' flume
Do not shift left
Construct TOH
Install 18x30

ROADENG Profile	Horz Scale 1:1500	P. 1
J:\District_Straits\Engineering\Timber Sales\Road Plans\Deer\Designs\PA-F-2900Design	Vert Scale 1:750	16/01/28

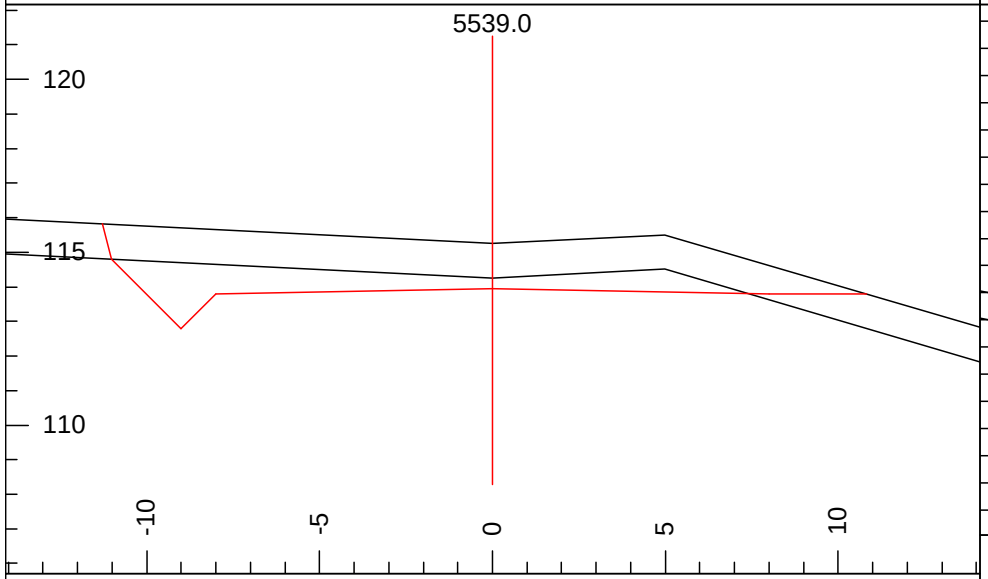




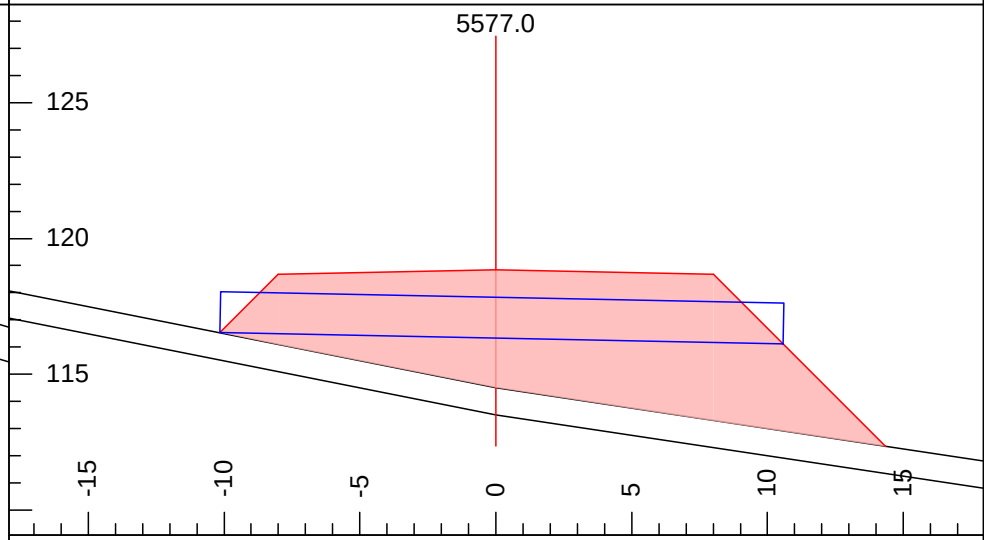
L-Stn:	5425.0	Grd.Lst:	n/a	Cut Dp:	0.0	L-Ssl:	0	Cul Length:	
P-Stn:	5425.0	F Slope L:	400	Clr L X:	-9.4	L-Ssr:	0	Stk R X:	9.4
Grd.Nxt.:	12	F Slope R:	400	Clr R X:	9.4	Cul DIA:		Stk L X:	-9.4



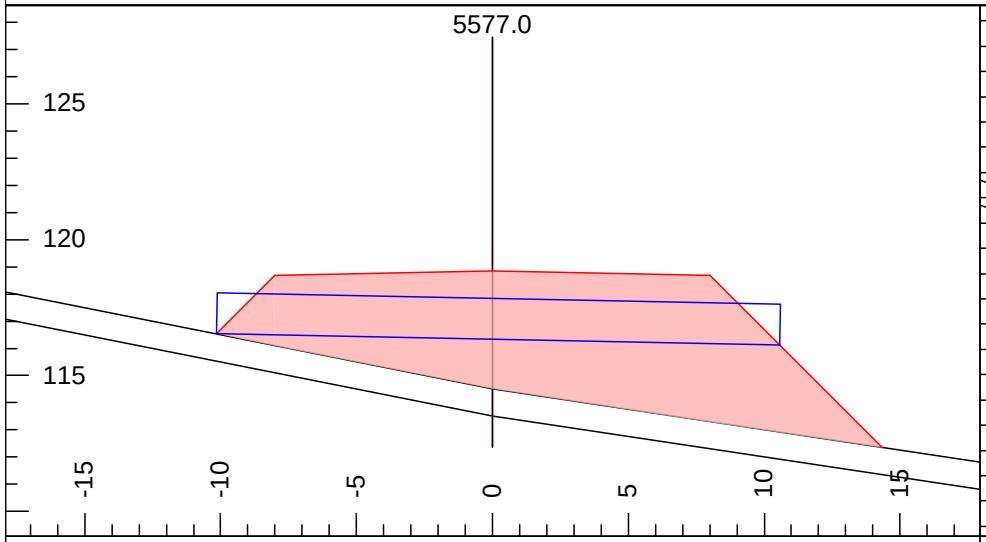
L-Stn:	5499.5	F Slope L:	400	Clr R X:	8.0	Cul Length:			
P-Stn:	5499.5	F Slope R:	-100	L-Ssl:	22	Stk R X:	8.0		
Grd.Nxt.:	13	Cut Dp:	0.0	L-Ssr:	5	Stk L X:	-12.0		
Grd.Lst:	12	Clr L X:	-12.0	Cul DIA:					



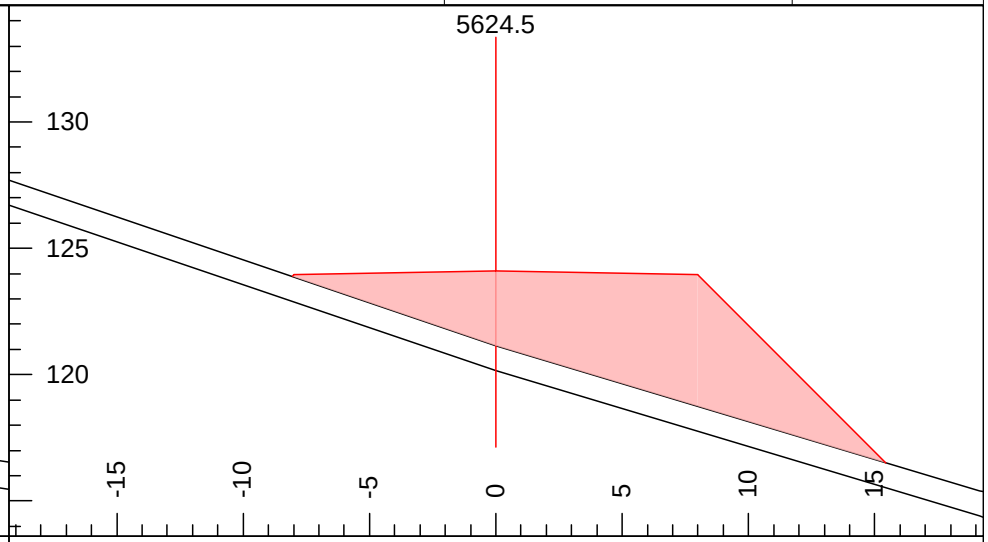
L-Stn:	5539.0	Grd.Lst:	13	Cut Dp:	1.3	L-Ssl:	5	Cul Length:	
P-Stn:	5539.0	F Slope L:	400	Clr L X:	-11.3	L-Ssr:	5	Stk R X:	10.8
Grd.Nxt.:	13	F Slope R:	0	Clr R X:	10.8	Cul DIA:		Stk L X:	-11.3



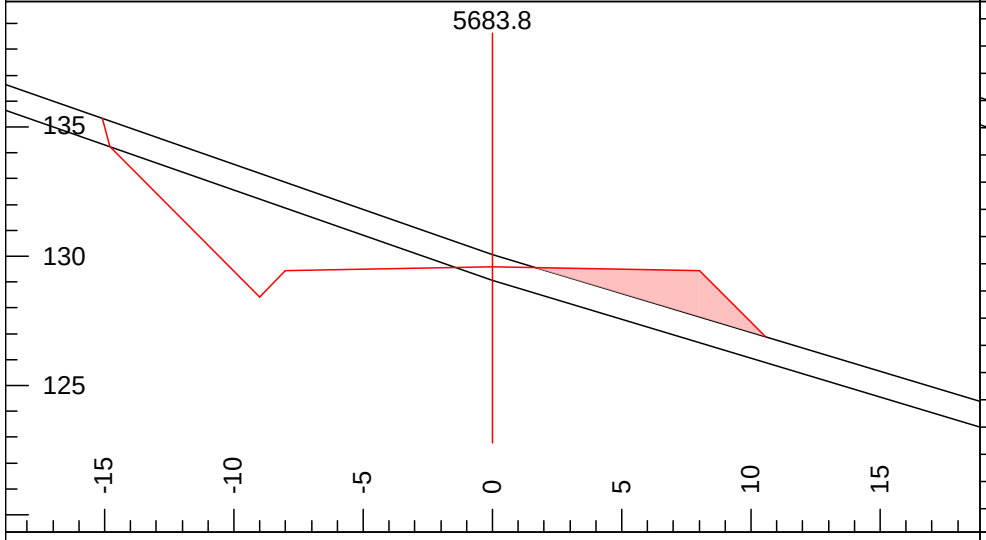
L-Stn:	5577.0	F Slope L:	-100	Clr R X:	14.3	Cul Length:	20.7		
P-Stn:	5577.0	F Slope R:	-100	L-Ssl:	20	Stk R X:	14.3		
Grd.Nxt.:	11	Cut Dp:	-4.4	L-Ssr:	-15	Stk L X:	-10.2		
Grd.Lst:	13	Clr L X:	-10.2	Cul DIA:	18in				



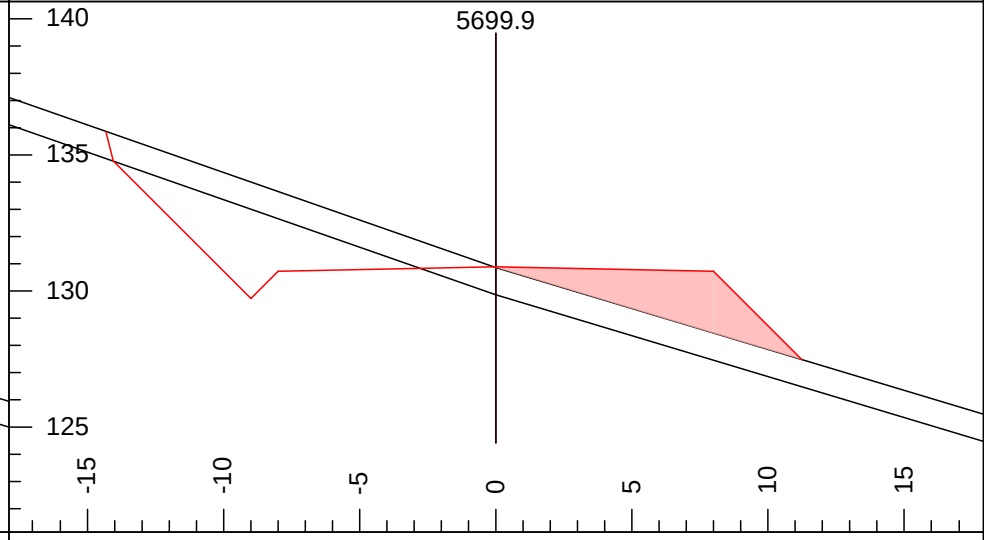
L-Stn:	5577.0	F Slope L:	-100	Clr R X:	14.3	Cul Length:	20.7				
P-Stn:	5577.0	F Slope R:	-100	L-Ssl:	20	Stk R X:	14.3				
Grd.Nxt.:	11	Cut Dp:	-4.3	L-Ssr:	-15	Stk L X:	-10.2				
Grd.Lst:	11	Clr L X:	-10.2	Cul DIA:	18in						



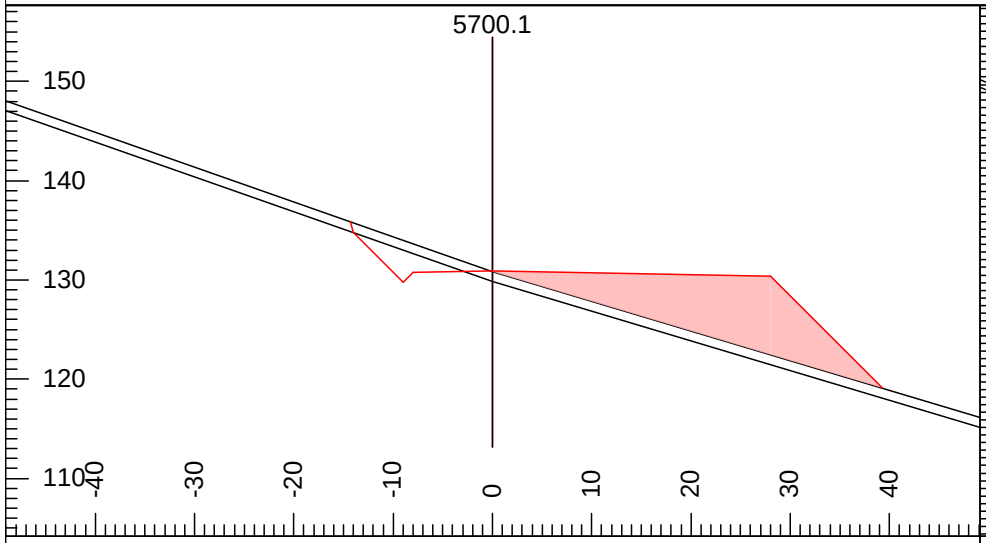
L-Stn:	5624.5	F Slope L:	-100	Clr R X:	15.4	Cul Length:					
P-Stn:	5624.5	F Slope R:	-100	L-Ssl:	34	Stk R X:	15.4				
Grd.Nxt.:	9	Cut Dp:	-3.0	L-Ssr:	-30	Stk L X:	-8.1				
Grd.Lst:	11	Clr L X:	-8.1	Cul DIA:							



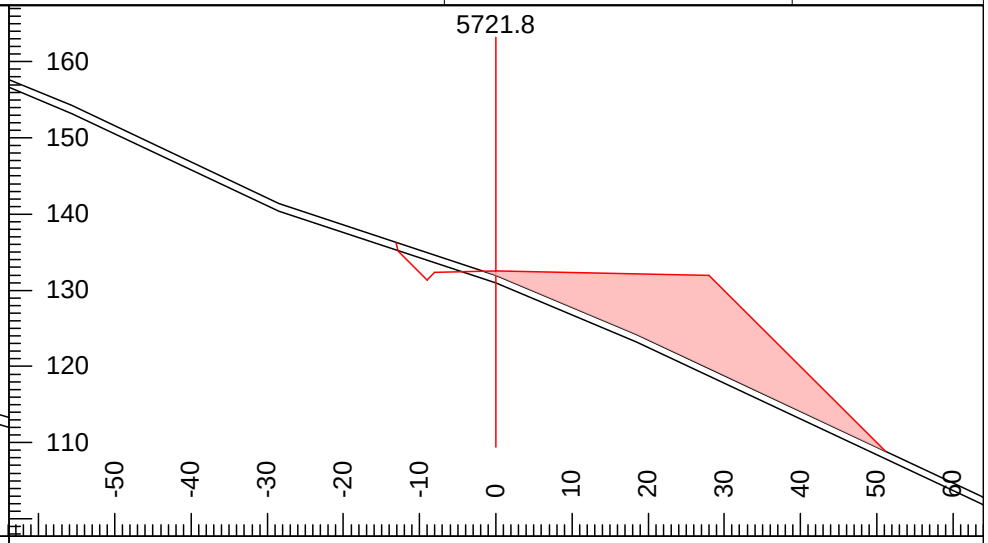
L-Stn:	5683.8	F Slope L:	400	Clr R X:	10.5	Cul Length:					
P-Stn:	5683.8	F Slope R:	-100	L-Ssl:	35	Stk R X:	10.5				
Grd.Nxt.:	8	Cut Dp:	0.5	L-Ssr:	-30	Stk L X:	-15.1				
Grd.Lst:	9	Clr L X:	-15.1	Cul DIA:							



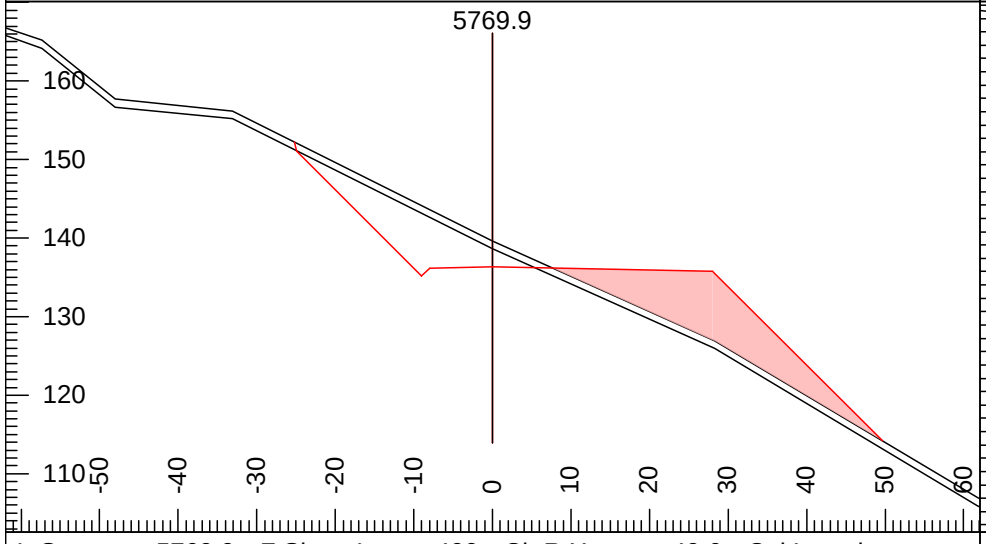
L-Stn:	5699.9	F Slope L:	400	Clr R X:	11.3	Cul Length:					
P-Stn:	5699.9	F Slope R:	-100	L-Ssl:	35	Stk R X:	11.3				
Grd.Nxt.:	8	Cut Dp:	0.0	L-Ssr:	-30	Stk L X:	-14.3				
Grd.Lst:	8	Clr L X:	-14.3	Cul DIA:							



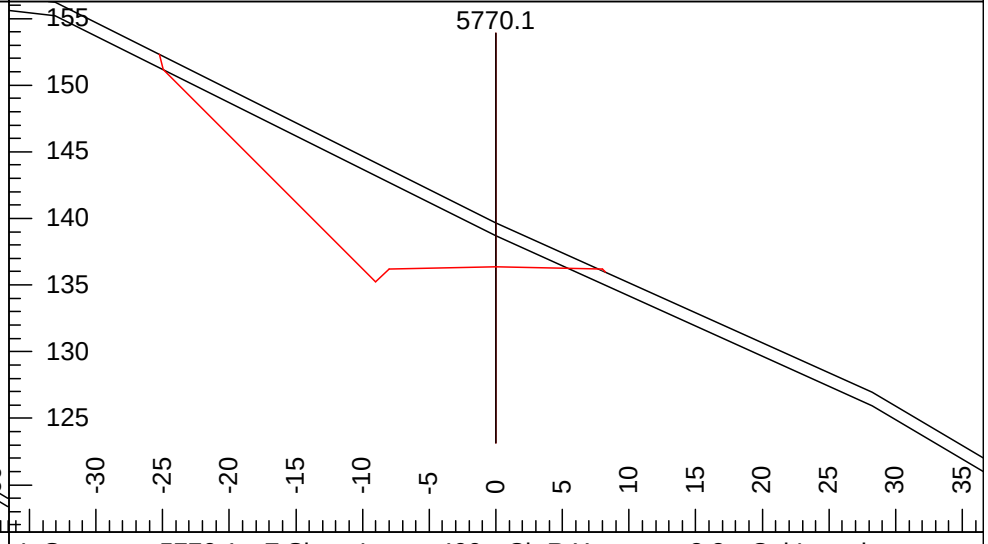
L-Stn:	5700.1	F Slope L:	400	Clr R X:	39.3	Cul Length:	
P-Stn:	5700.1	F Slope R:	-100	L-Ssl:	35	Stk R X:	39.3
Grd.Nxt.:	8	Cut Dp:	0.0	L-Ssr:	-30	Stk L X:	-14.3
Grd.Lst:	8	Clr L X:	-14.3	Cul DIA:			



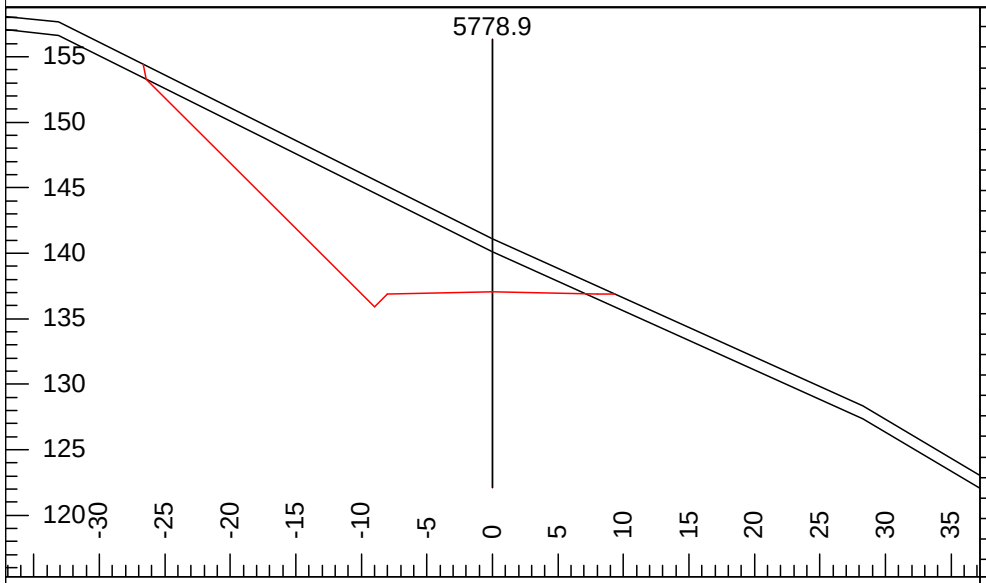
L-Stn:	5721.8	F Slope L:	400	Clr R X:	51.2	Cul Length:	
P-Stn:	5721.8	F Slope R:	-100	L-Ssl:	33	Stk R X:	51.2
Grd.Nxt.:	8	Cut Dp:	-0.6	L-Ssr:	-42	Stk L X:	-13.1
Grd.Lst:	8	Clr L X:	-13.1	Cul DIA:			



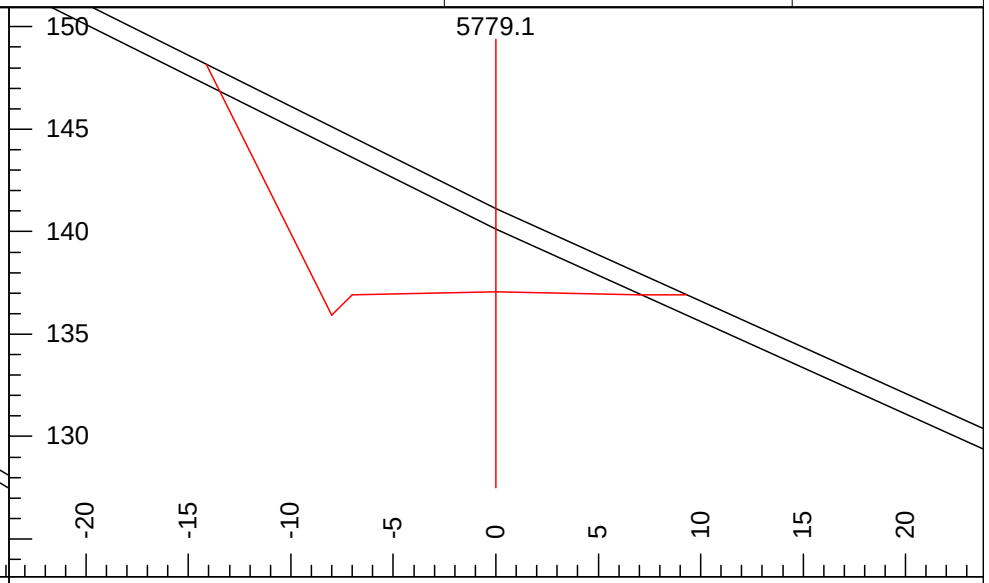
L-Stn:	5769.9	F Slope L:	400	Clr R X:	49.6	Cul Length:	
P-Stn:	5769.9	F Slope R:	-100	L-Ssl:	50	Stk R X:	49.6
Grd.Nxt.:	8	Cut Dp:	3.3	L-Ssr:	-45	Stk L X:	-25.2
Grd.Lst:	8	Clr L X:	-25.2	Cul DIA:			



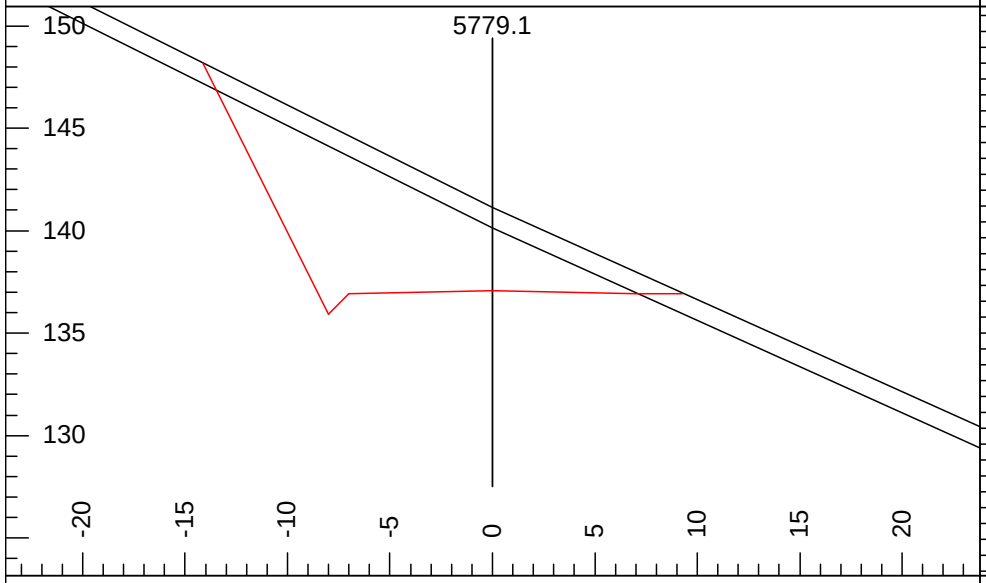
L-Stn:	5770.1	F Slope L:	400	Clr R X:	8.2	Cul Length:	
P-Stn:	5770.1	F Slope R:	-100	L-Ssl:	50	Stk R X:	8.2
Grd.Nxt.:	8	Cut Dp:	3.3	L-Ssr:	-45	Stk L X:	-25.2
Grd.Lst:	8	Clr L X:	-25.2	Cul DIA:			



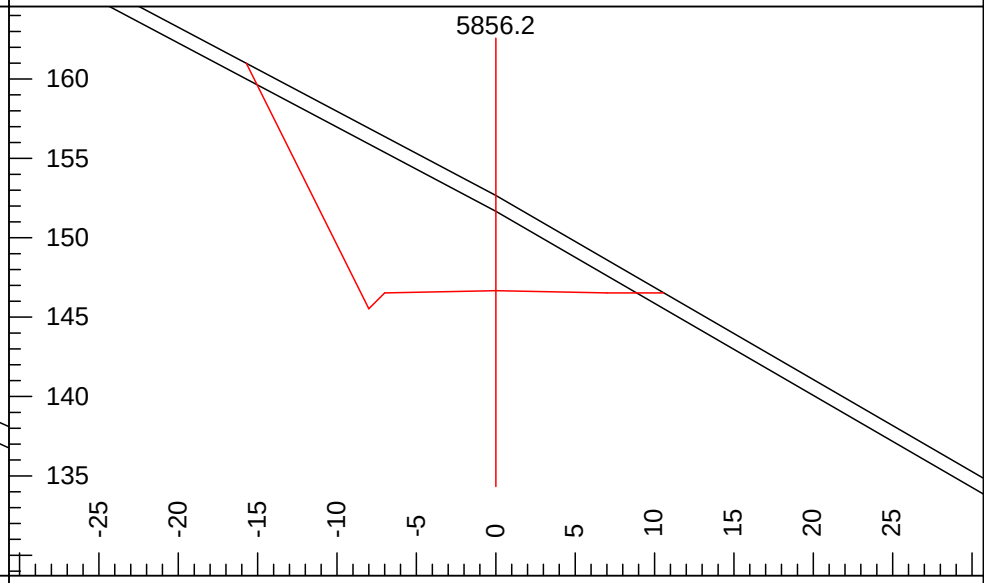
L-Stn:	5778.9	Grd.Lst:	8	Cut Dp:	4.0	L-Ssl:	50	Cul Length:			
P-Stn:	5778.9	F Slope L:	400	Clr L X:	-26.7	L-Ssr:	-45	Stk R X:	9.3		
Grd.Nxt.:	8	F Slope R:	0	Clr R X:	9.3	Cul DIA:		Stk L X:	-26.7		



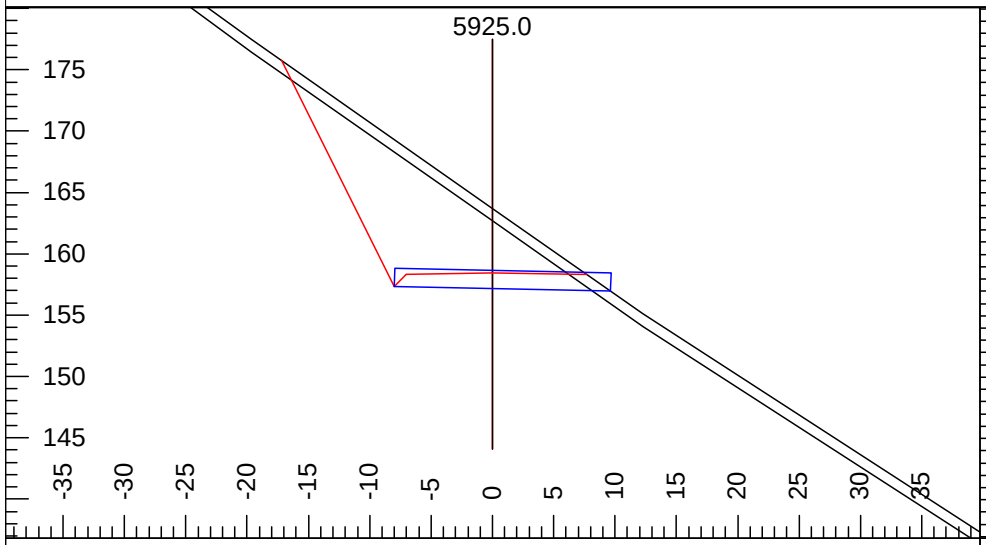
L-Stn:	5779.1	Grd.Lst:	8	Cut Dp:	4.0	L-Ssl:	50	Cul Length:			
P-Stn:	5779.1	F Slope L:	200	Clr L X:	-14.1	L-Ssr:	-45	Stk R X:	9.3		
Grd.Nxt.:	12	F Slope R:	0	Clr R X:	9.3	Cul DIA:		Stk L X:	-14.1		



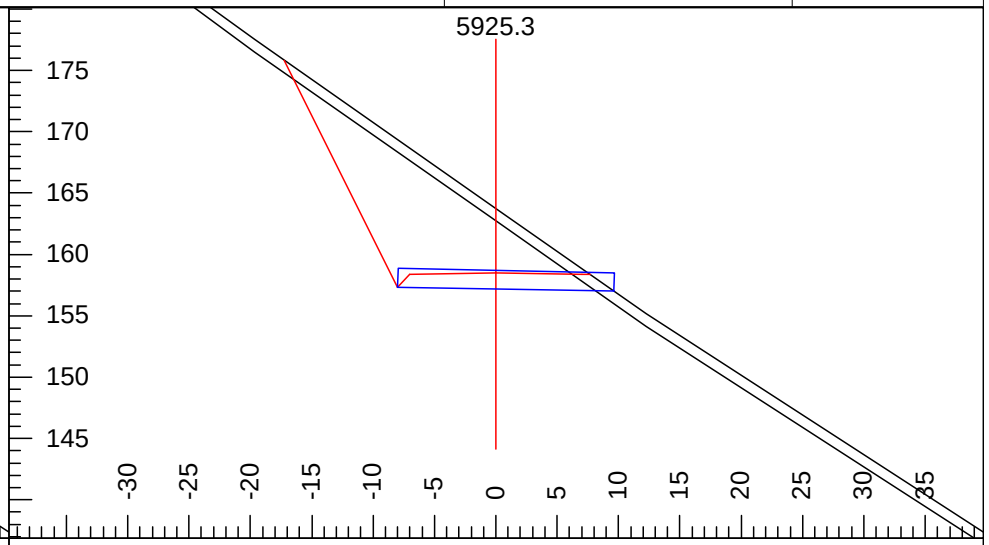
L-Stn:	5779.1	Grd.Lst:	12	Cut Dp:	4.0	L-Ssl:	50	Cul Length:			
P-Stn:	5779.1	F Slope L:	200	Clr L X:	-14.1	L-Ssr:	-45	Stk R X:	9.3		
Grd.Nxt.:	12	F Slope R:	0	Clr R X:	9.3	Cul DIA:		Stk L X:	-14.1		



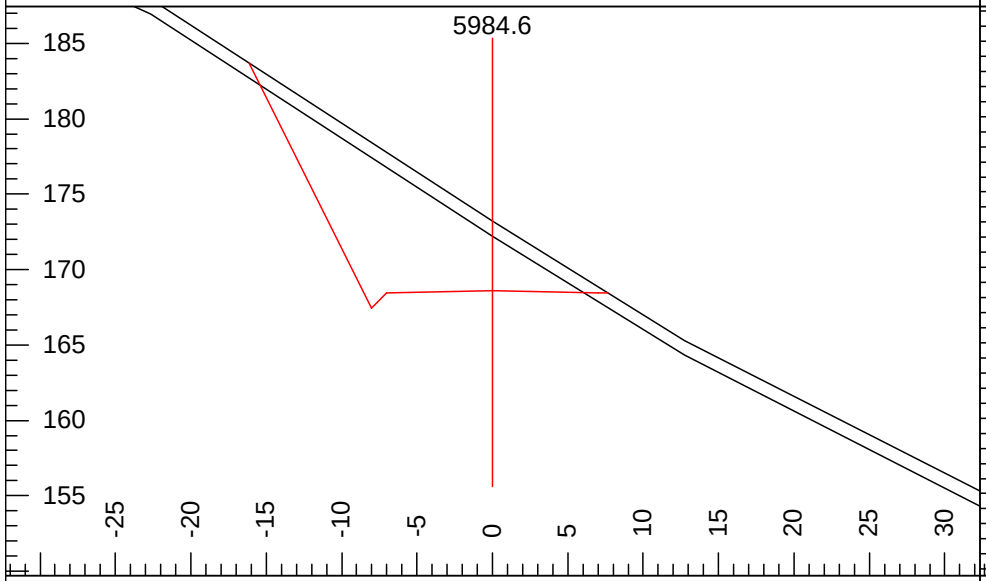
L-Stn:	5856.2	Grd.Lst:	12	Cut Dp:	6.0	L-Ssl:	53	Cul Length:			
P-Stn:	5856.2	F Slope L:	200	Clr L X:	-15.7	L-Ssr:	-58	Stk R X:	10.6		
Grd.Nxt.:	17	F Slope R:	0	Clr R X:	10.6	Cul DIA:		Stk L X:	-15.7		



L-Stn:	5925.0	F Slope L:	200	Clr R X:	7.7	Cul Length:	17.6		
P-Stn:	5925.0	F Slope R:	0	L-Ssl:	70	Stk R X:	7.7		
Grd.Nxt.:	17	Cut Dp:	5.2	L-Ssr:	-70	Stk L X:	-17.2		
Grd.Lst:	17	Clr L X:	-17.2	Cul DIA:	18in				



L-Stn:	5925.3	F Slope L:	200	Clr R X:	7.7	Cul Length:	17.6		
P-Stn:	5925.3	F Slope R:	0	L-Ssl:	70	Stk R X:	7.7		
Grd.Nxt.:	17	Cut Dp:	5.2	L-Ssr:	-70	Stk L X:	-17.2		
Grd.Lst:	17	Clr L X:	-17.2	Cul DIA:	18in				



L-Stn:	5984.6	Grd.Lst:	17	Cut Dp:	4.6	L-Ssl:	65	Cul Length:	
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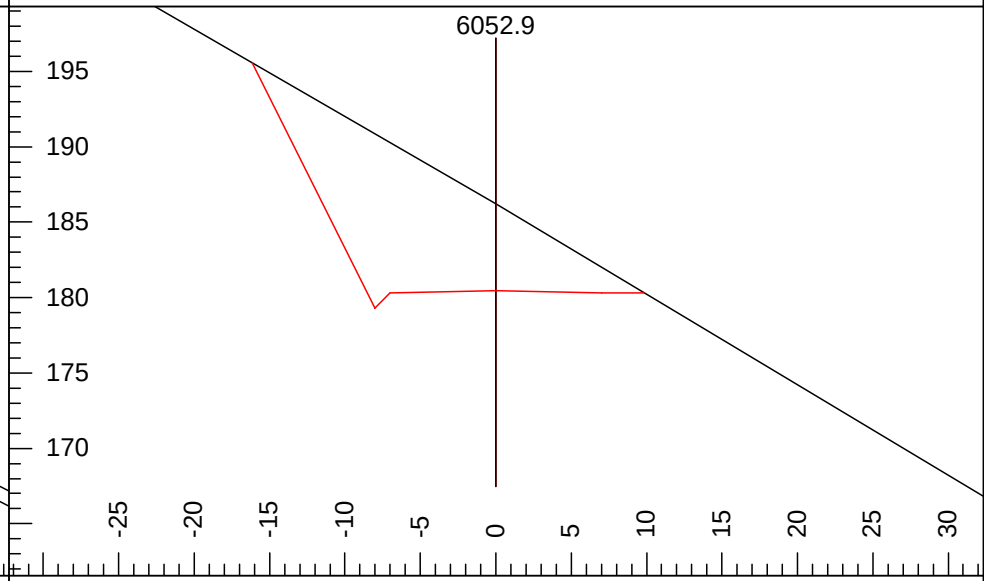
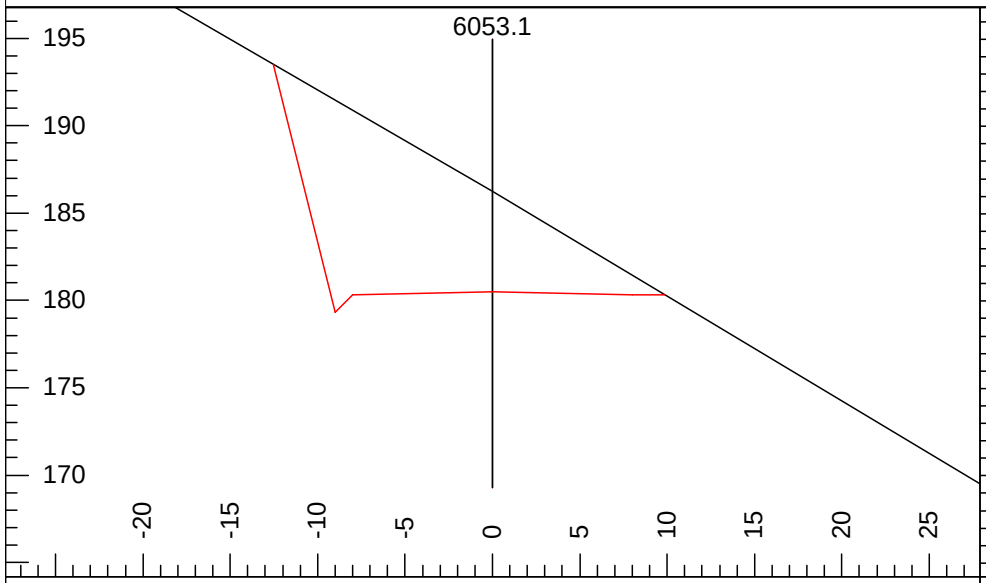
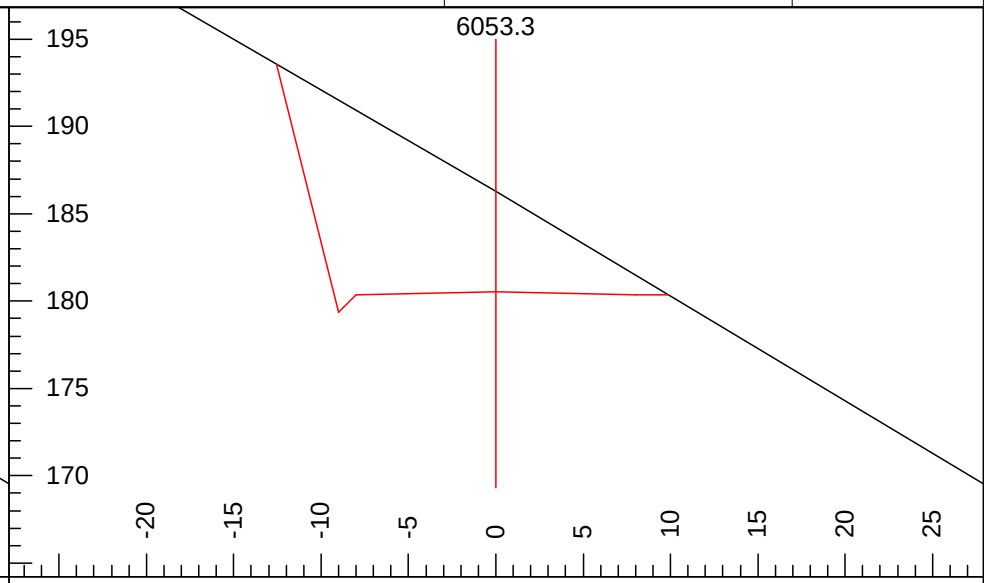
Grd.Nxt.:	17	F Slope R:	0	Clr R X:	7.7	Cul DIA:		Stk L X:	-16.1



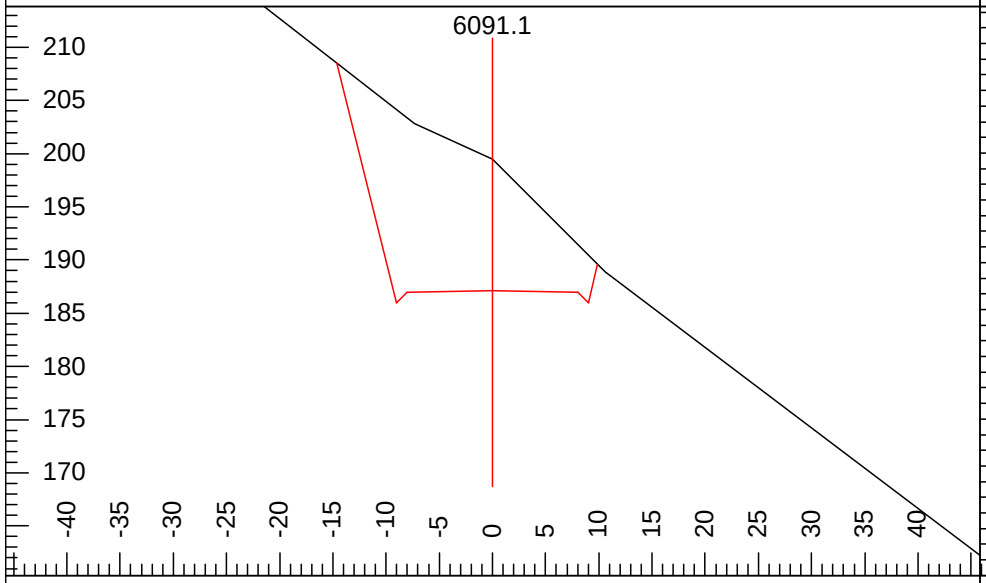
L-Stn:	6052.9	Grd.Lst:	17	Cut Dp:	5.7	L-Ssl:	58	Cul Length:	
P-Stn:	6052.9	F Slope L:	200	Clr L X:	-16.1	L-Ssr:	-60	Stk R X:	9.8
Grd.Nxt.:	17	F Slope R:	0	Clr R X:	9.8	Cul DIA:		Stk L X:	-16.1



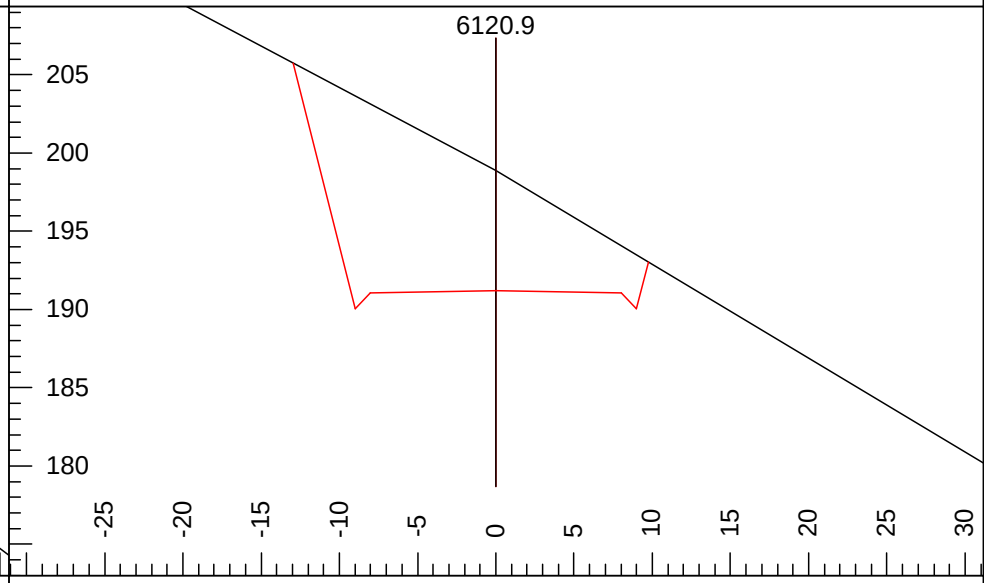
L-Stn:	6053.1	Grd.Lst:	17	Cut Dp:	5.8	L-Ssl:	58	Cul Length:			
P-Stn:	6053.1	F Slope L:	400	Clr L X:	-12.5	L-Ssr:	-60	Stk R X:	9.9		
Grd.Nxt.:	17	F Slope R:	0	Clr R X:	9.9	Cul DIA:		Stk L X:	-12.5		



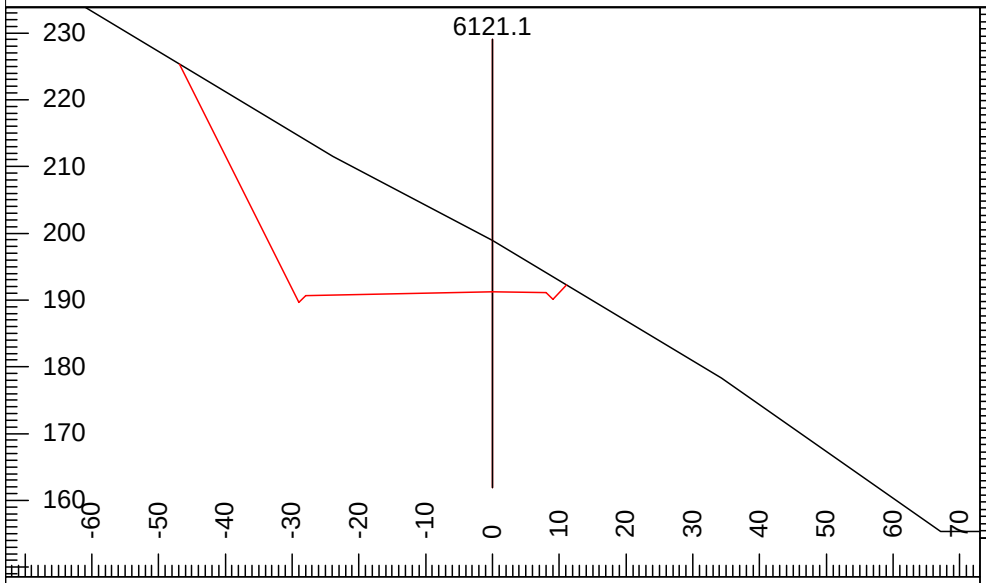
L-Stn:	6053.3	Grd.Lst:	17	Cut Dp:	5.8	L-Ssl:	58	Cul Length:			
P-Stn:	6053.3	F Slope L:	400	Clr L X:	-12.5	L-Ssr:	-60	Stk R X:	9.9		
Grd.Nxt.:	17	F Slope R:	0	Clr R X:	9.9	Cul DIA:		Stk L X:	-12.5		



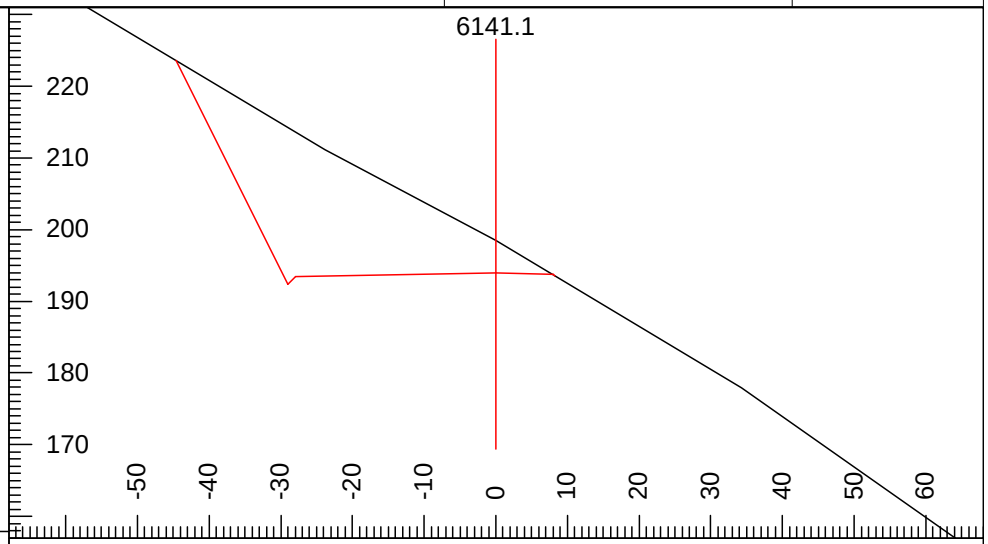
L-Stn:	6091.1	Grd.Lst:	17	Cut Dp:	12.4	L-Ssl:	45	Cul Length:			
P-Stn:	6091.1	F Slope L:	400	Clr L X:	-14.6	L-Ssr:	-100	Stk R X:	9.9		
Grd.Nxt.:	14	F Slope R:	400	Clr R X:	9.9	Cul DIA:		Stk L X:	-14.6		



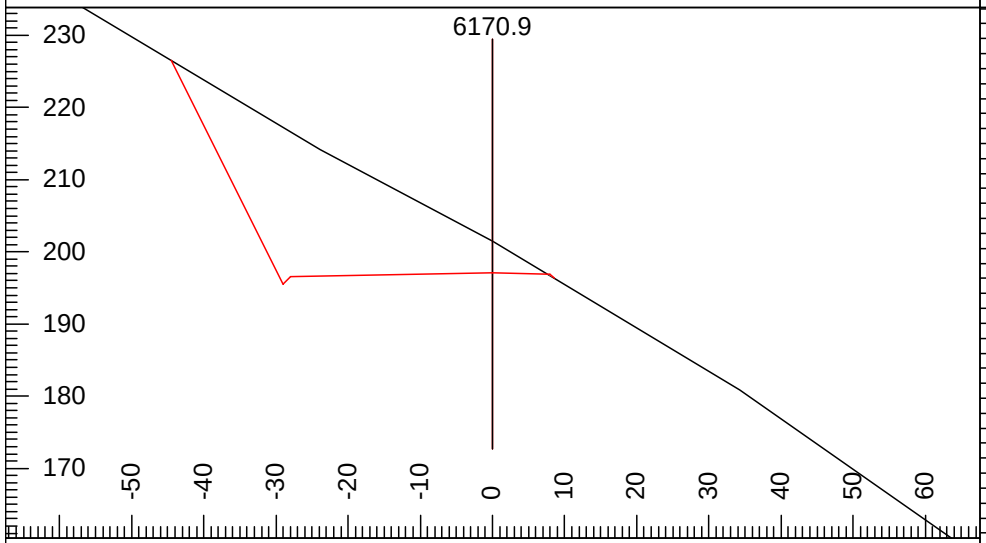
L-Stn:	6120.9	Grd.Lst:	14	Cut Dp:	7.7	L-Ssl:	53	Cul Length:			
P-Stn:	6120.9	F Slope L:	400	Clr L X:	-12.9	L-Ssr:	-60	Stk R X:	9.8		
Grd.Nxt.:	14	F Slope R:	400	Clr R X:	9.8	Cul DIA:		Stk L X:	-12.9		



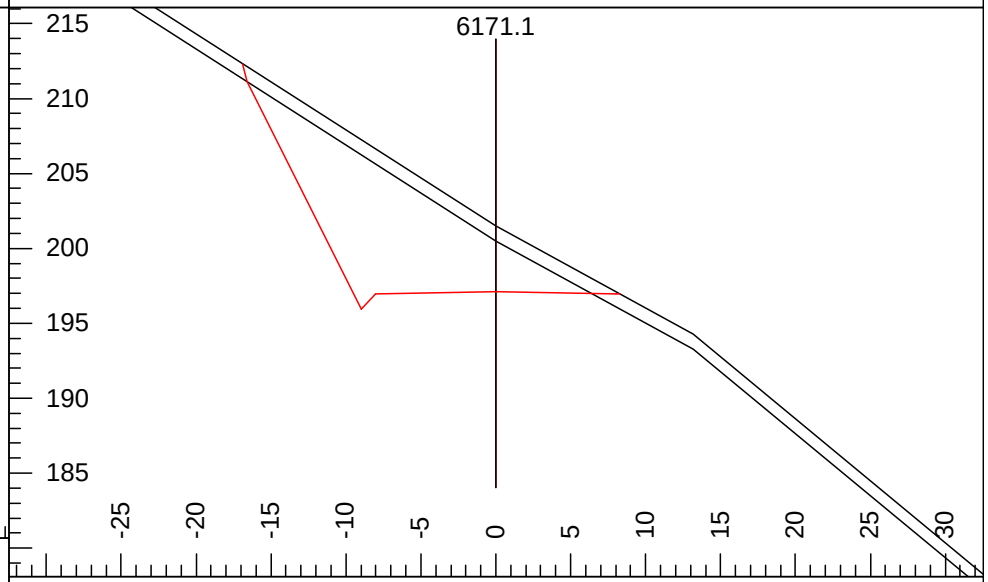
L-Stn:	6121.1	Grd.Lst:	14	Cut Dp:	7.7	L-Ssl:	53	Cul Length:			
P-Stn:	6121.1	F Slope L:	200	Clr L X:	-46.8	L-Ssr:	-60	Stk R X:	11.1		
Grd.Nxt.:	14	F Slope R:	100	Clr R X:	11.1	Cul DIA:		Stk L X:	-46.8		



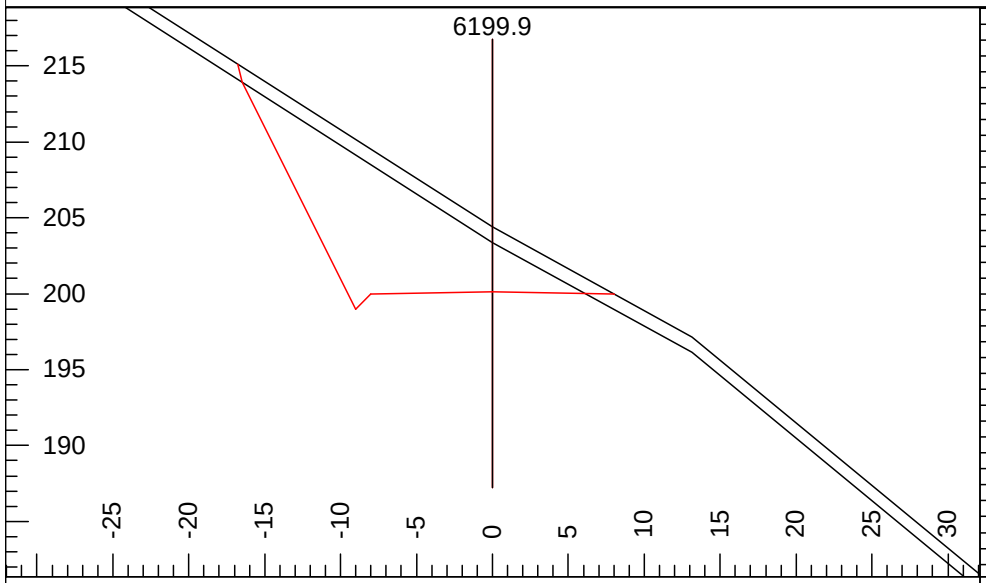
L-Stn:	6141.1	F Slope L:	200	Clr R X:	8.3	Cul Length:					
P-Stn:	6141.1	F Slope R:	-100	L-Ssl:	53	Stk R X:	8.3				
Grd.Nxt.:	10	Cut Dp:	4.5	L-Ssr:	-60	Stk L X:	-44.6				
Grd.Lst:	14	Clr L X:	-44.6	Cul DIA:							



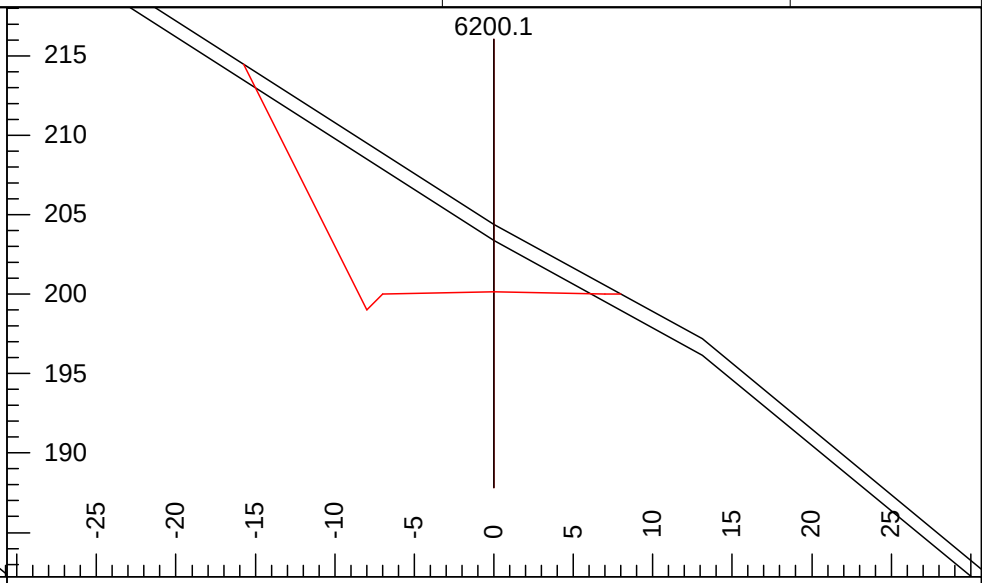
L-Stn:	6170.9	F Slope L:	200	Clr R X:	8.6	Cul Length:					
P-Stn:	6170.9	F Slope R:	-100	L-Ssl:	53	Stk R X:	8.6				
Grd.Nxt.:	10	Cut Dp:	4.4	L-Ssr:	-60	Stk L X:	-44.5				
Grd.Lst:	10	Clr L X:	-44.5	Cul DIA:							



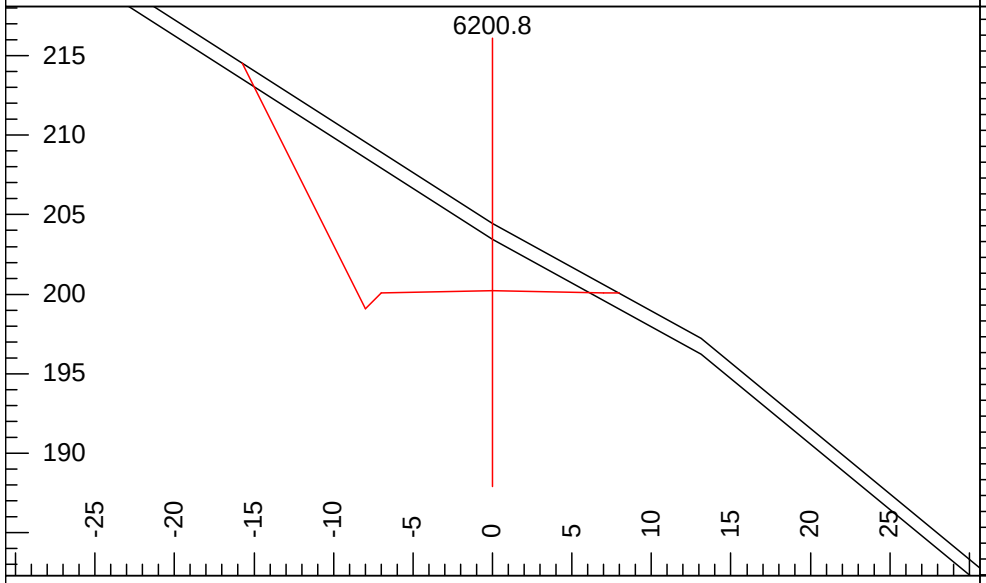
L-Stn:	6171.1	Grd.Lst:	10	Cut Dp:	4.4	L-Ssl:	64	Cul Length:			
P-Stn:	6171.1	F Slope L:	400	Clr L X:	-16.9	L-Ssr:	-55	Stk R X:	8.3		
Grd.Nxt.:	10	F Slope R:	0	Clr R X:	8.3	Cul DIA:		Stk L X:	-16.9		



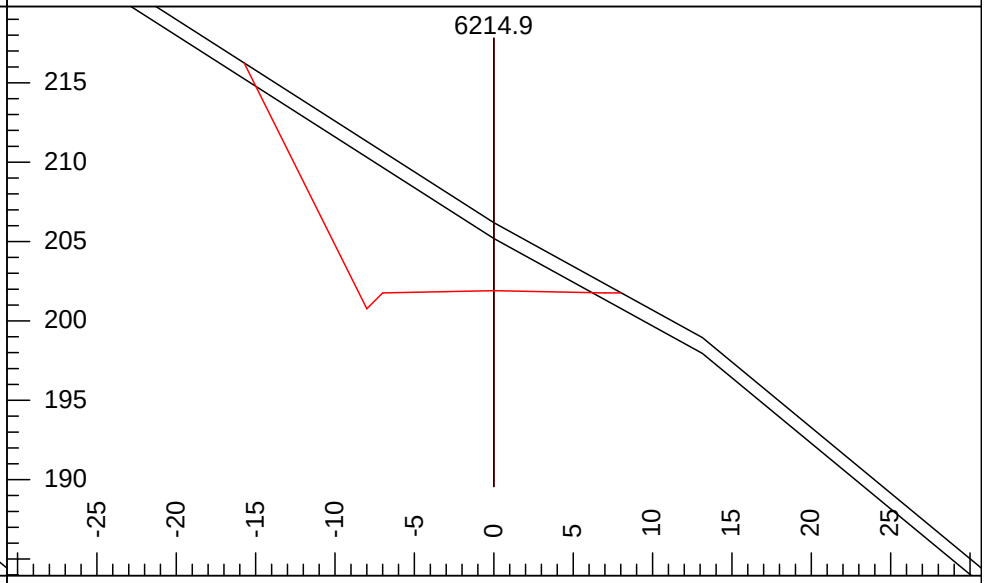
L-Stn:	6199.9	Grd.Lst:	10	Cut Dp:	4.3	L-Ssl:	64	Cul Length:			
P-Stn:	6199.9	F Slope L:	400	Clr L X:	-16.8	L-Ssr:	-55	Stk R X:	8.0		
Grd.Nxt.:	10	F Slope R:	0	Clr R X:	8.0	Cul DIA:		Stk L X:	-16.8		



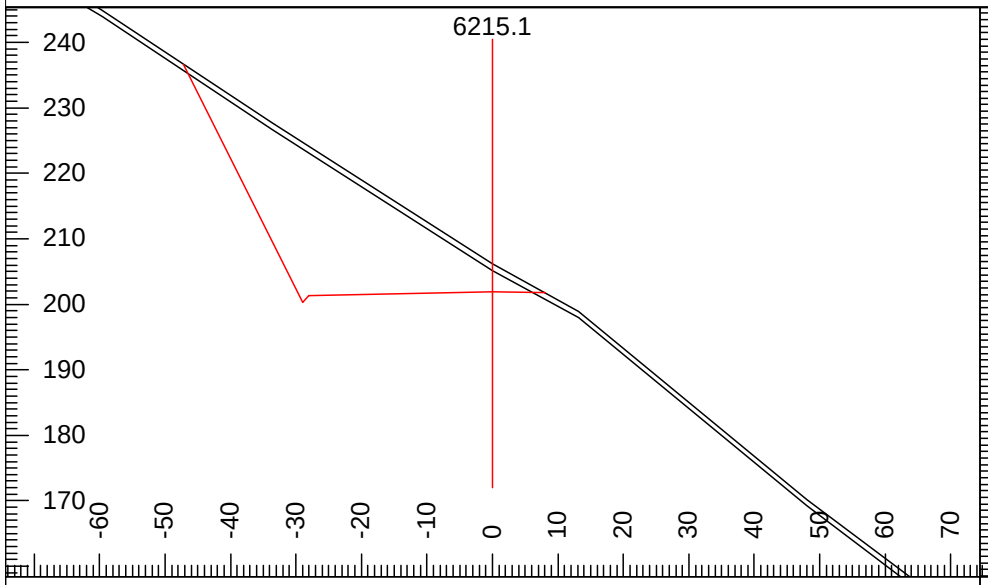
L-Stn:	6200.1	Grd.Lst:	10	Cut Dp:	4.3	L-Ssl:	64	Cul Length:			
P-Stn:	6200.1	F Slope L:	200	Clr L X:	-15.7	L-Ssr:	-55	Stk R X:	8.0		
Grd.Nxt.:	10	F Slope R:	0	Clr R X:	8.0	Cul DIA:		Stk L X:	-15.7		



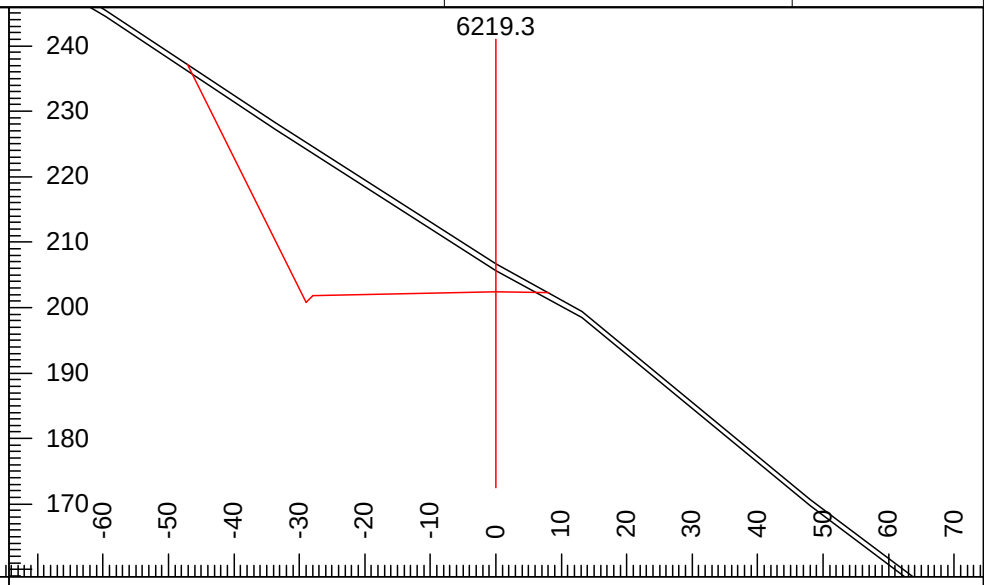
L-Stn:	6200.8	Grd.Lst:	10	Cut Dp:	4.3	L-Ssl:	64	Cul Length:			
P-Stn:	6200.8	F Slope L:	200	Clr L X:	-15.7	L-Ssr:	-55	Stk R X:	8.0		
Grd.Nxt.:	12	F Slope R:	0	Clr R X:	8.0	Cul DIA:		Stk L X:	-15.7		



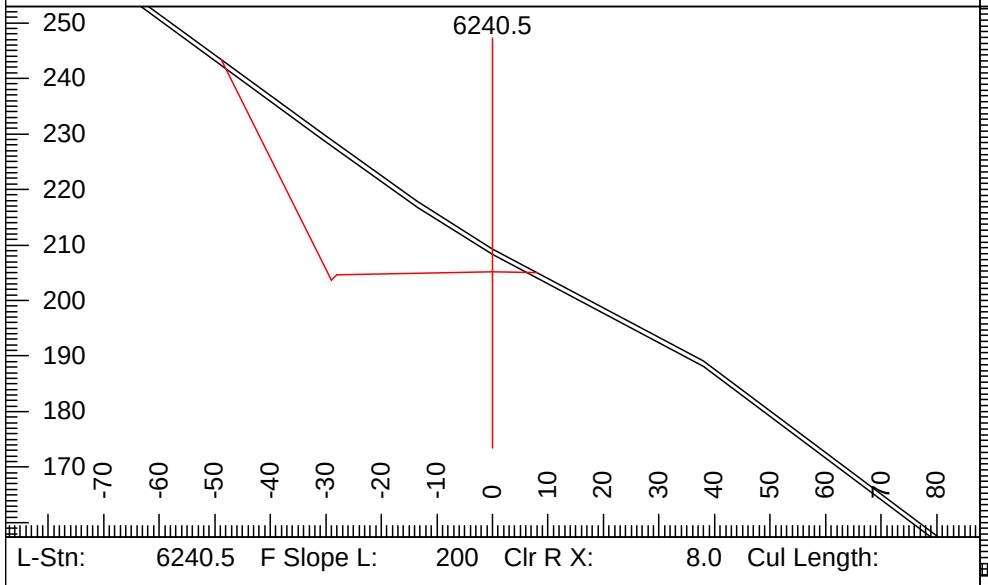
L-Stn:	6214.9	Grd.Lst:	12	Cut Dp:	4.3	L-Ssl:	64	Cul Length:			
P-Stn:	6214.9	F Slope L:	200	Clr L X:	-15.7	L-Ssr:	-55	Stk R X:	8.0		
Grd.Nxt.:	12	F Slope R:	0	Clr R X:	8.0	Cul DIA:		Stk L X:	-15.7		



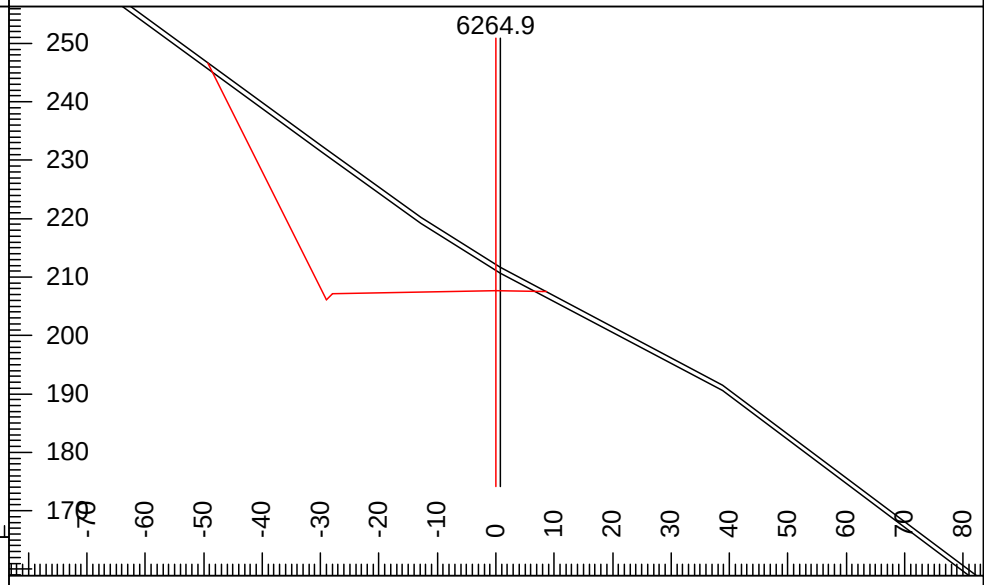
L-Stn:	6215.1	Grd.Lst:	12	Cut Dp:	4.3	L-Ssl:	64	Cul Length:	
P-Stn:	6215.1	F Slope L:	200	Clr L X:	-47.2	L-Ssr:	-55	Stk R X:	8.1
Grd.Nxt.:	12	F Slope R:	0	Clr R X:	8.1	Cul DIA:		Stk L X:	-47.2



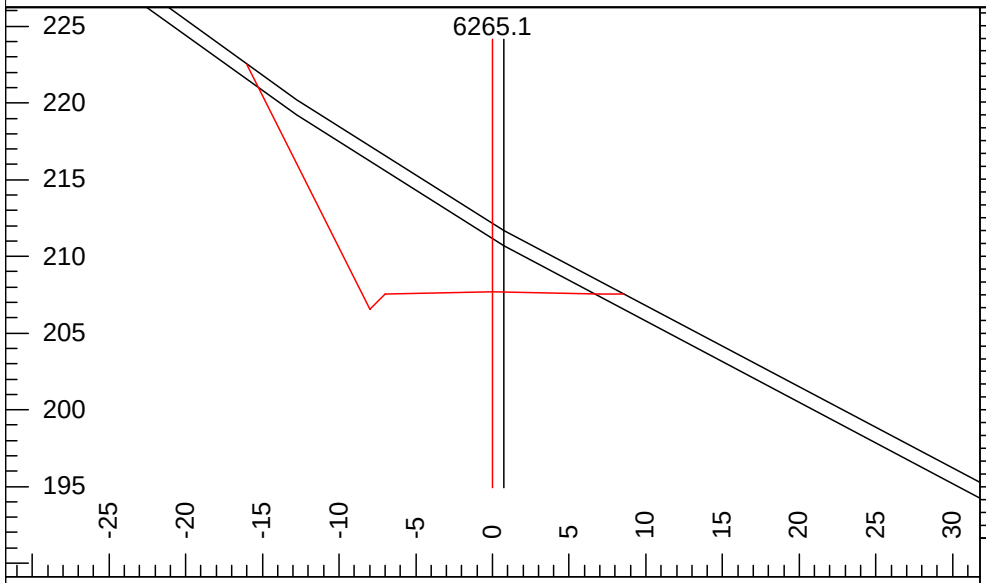
L-Stn:	6219.3	Grd.Lst:	12	Cut Dp:	4.3	L-Ssl:	64	Cul Length:	
P-Stn:	6219.3	F Slope L:	200	Clr L X:	-47.2	L-Ssr:	-55	Stk R X:	8.1
Grd.Nxt.:	13	F Slope R:	0	Clr R X:	8.1	Cul DIA:		Stk L X:	-47.2



L-Stn:	6240.5	F Slope L:	200	Clr R X:	8.0	Cul Length:			
P-Stn:	6240.5	F Slope R:	-100	L-Ssl:	63	Stk R X:	8.0		
Grd.Nxt.:	10	Cut Dp:	4.1	L-Ssr:	-53	Stk L X:	-48.9		
Grd.Lst:	13	Clr L X:	-48.9	Cul DIA:					

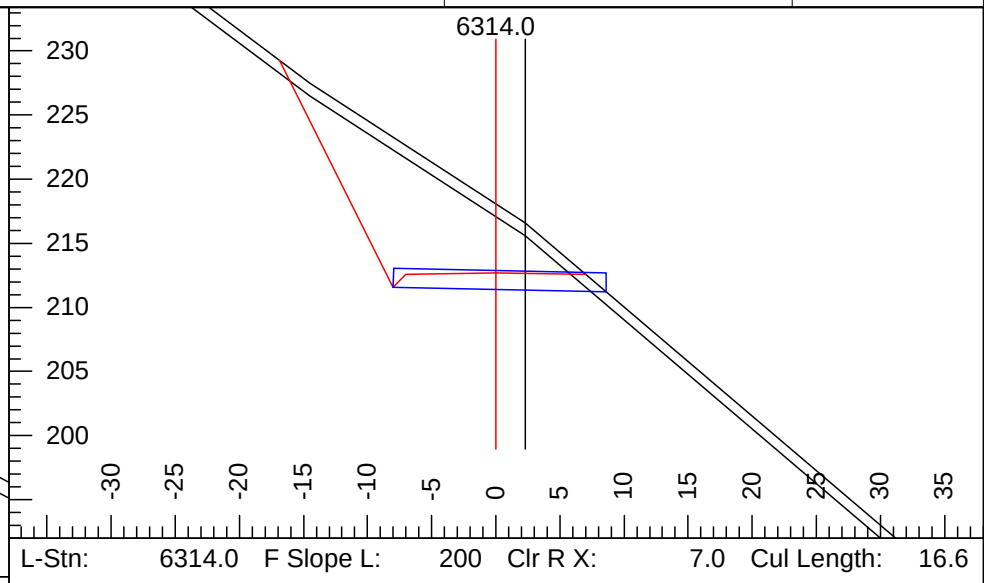


L-Stn:	6264.9	Grd.Lst:	10	Cut Dp:	4.5	L-Ssl:	63	Cul Length:	
P-Stn:	6264.9	F Slope L:	200	Clr L X:	-49.3	L-Ssr:	-63	Stk R X:	8.6
Grd.Nxt.:	10	F Slope R:	0	Clr R X:	8.6	Cul DIA:		Stk L X:	-49.3

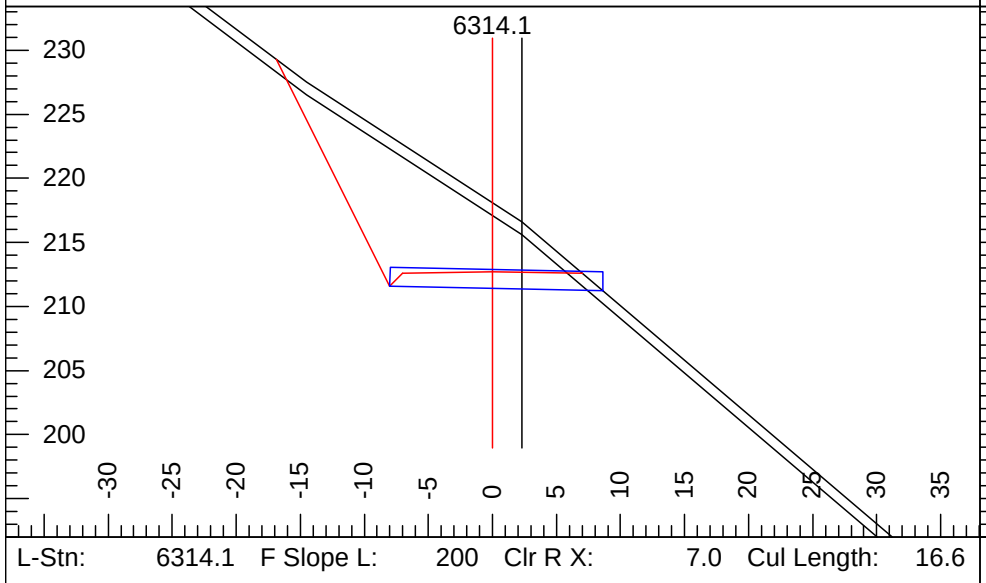


L-Stn:	6265.1	Grd.Lst:	10	Cut Dp:	4.5	L-Ssl:	63
P-Stn:	6265.1	F Slope L:	200	Clr L X:	-16.0	L-Ssr:	-63
Grd.Nxt.:	10	F Slope R:	0	Clr R X:	8.6	Cul DIA:	

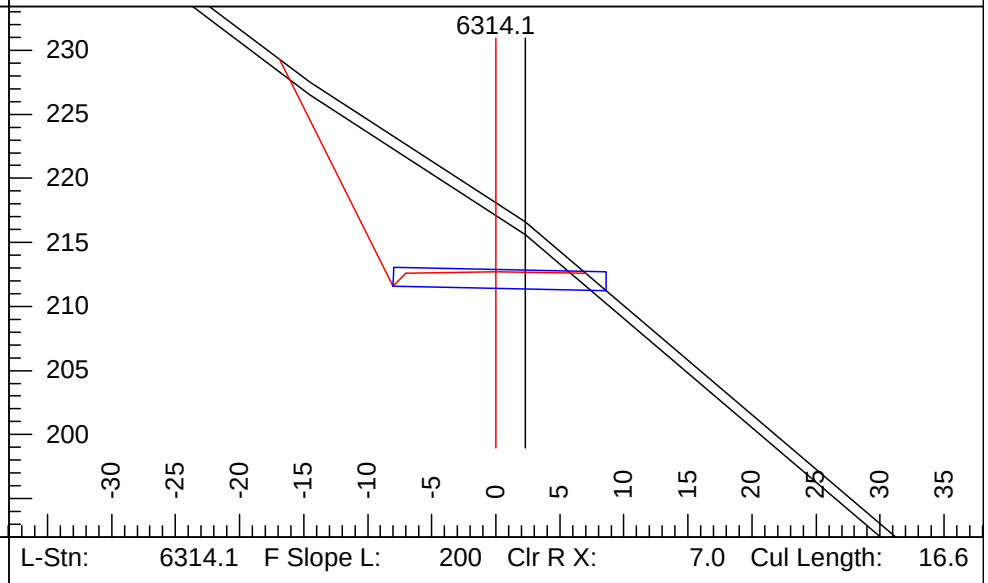
Cul Length:	
Stk R X:	8.6
Stk L X:	-16.0



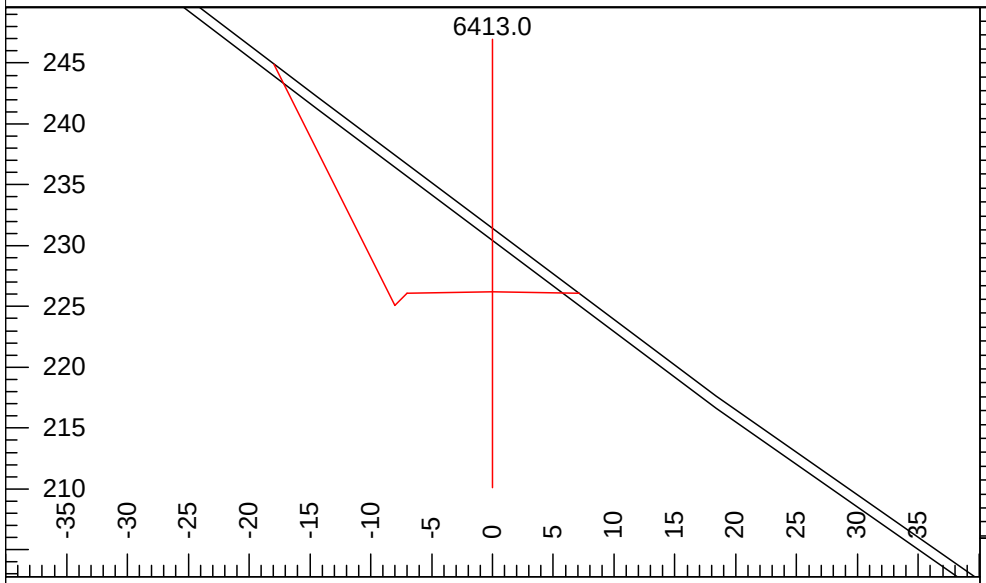
L-Stn:	6314.0	F Slope L:	200	Clr R X:	7.0	Cul Length:	16.6
P-Stn:	6314.0	F Slope R:	0	L-Ssl:	65	Stk R X:	7.0
Grd.Nxt.:	10	Cut Dp:	5.4	L-Ssr:	-65	Stk L X:	-16.8
Grd.Lst:	10	Clr L X:	-16.8	Cul DIA:	18in		



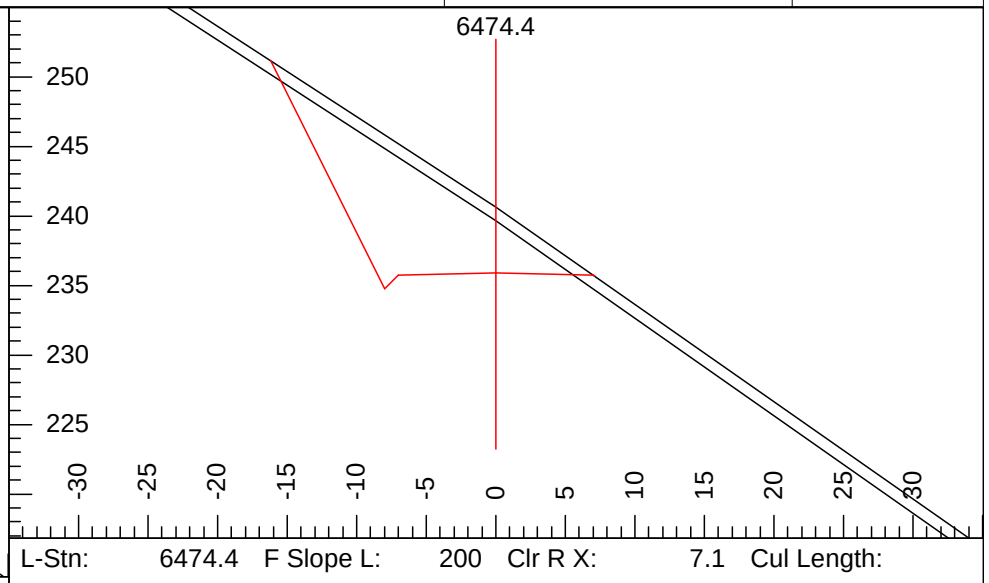
L-Stn:	6314.1	F Slope L:	200	Clr R X:	7.0	Cul Length:	16.6
P-Stn:	6314.1	F Slope R:	0	L-Ssl:	65	Stk R X:	7.0
Grd.Nxt.:	14	Cut Dp:	5.4	L-Ssr:	-65	Stk L X:	-16.9
Grd.Lst:	10	Clr L X:	-16.9	Cul DIA:	18in		



L-Stn:	6314.1	F Slope L:	200	Clr R X:	7.0	Cul Length:	16.6
P-Stn:	6314.1	F Slope R:	0	L-Ssl:	65	Stk R X:	7.0
Grd.Nxt.:	14	Cut Dp:	5.4	L-Ssr:	-65	Stk L X:	-16.9
Grd.Lst:	14	Clr L X:	-16.9	Cul DIA:	18in		



L-Stn:	6413.0	Grd.Lst:	14	Cut Dp:	5.2	L-Ssl:	75	Cul Length:	
P-Stn:	6413.0	F Slope L:	200	Clr L X:	-17.9	L-Ssr:	-75	Stk R X:	7.2
Grd.Nxt.:	16	F Slope R:	0	Clr R X:	7.2	Cul DIA:		Stk L X:	-17.9



L-Stn:	6474.4	F Slope L:	200	Clr R X:	7.1	Cul Length:			
P-Stn:	6474.3	F Slope R:	-100	L-Ssl:	65	Stk R X:	7.1		
Grd.Nxt.:	16	Cut Dp:	4.7	L-Ssr:	-70	Stk L X:	-16.2		
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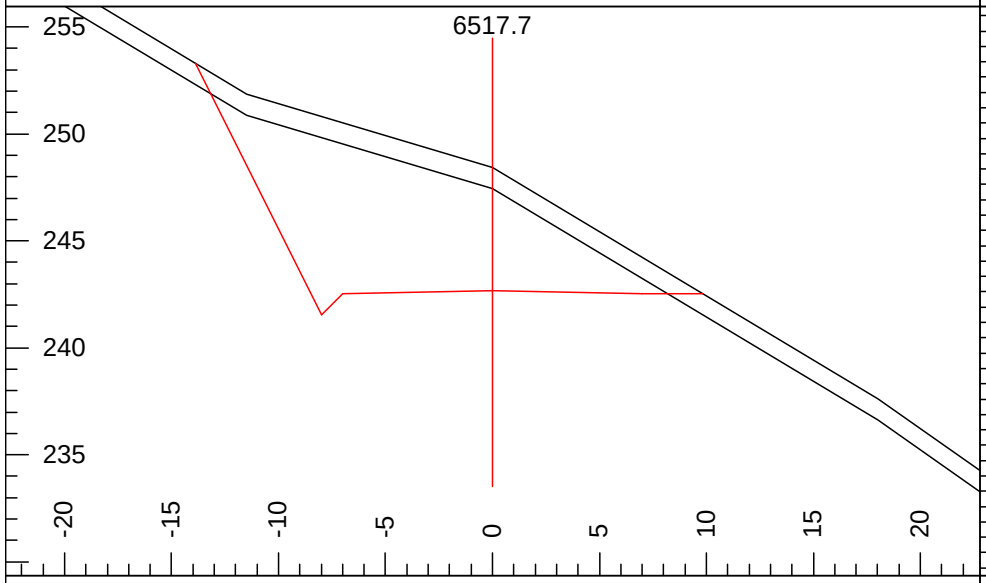
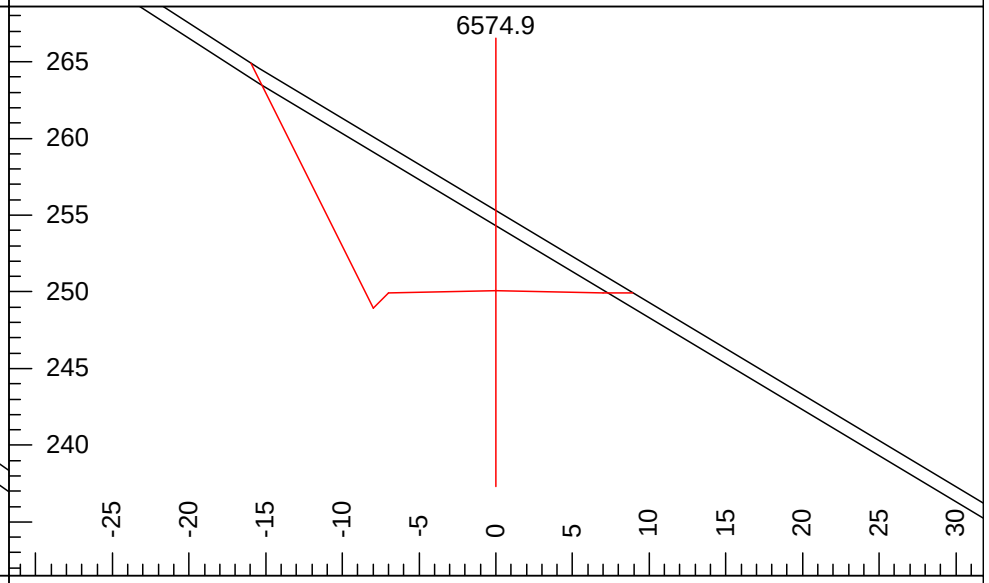


L-Stn:	6517.7	Grd.Lst:	16	Cut Dp:	5.8	L-Ssl:	30	Cul Length:	
P-Stn:	6517.6	F Slope L:	200	Clr L X:	-13.9	L-Ssr:	-60	Stk R X:	9.8
Grd.Nxt.:	13	F Slope R:	0	Clr R X:	9.8	Cul DIA:		Stk L X:	-13.9



L-Stn:	6574.9	Grd.Lst:	13	Cut Dp:	5.2	L-Ssl:	60	Cul Length:	
P-Stn:	6574.9	F Slope L:	200	Clr L X:	-16.0	L-Ssr:	-60	Stk R X:	8.9
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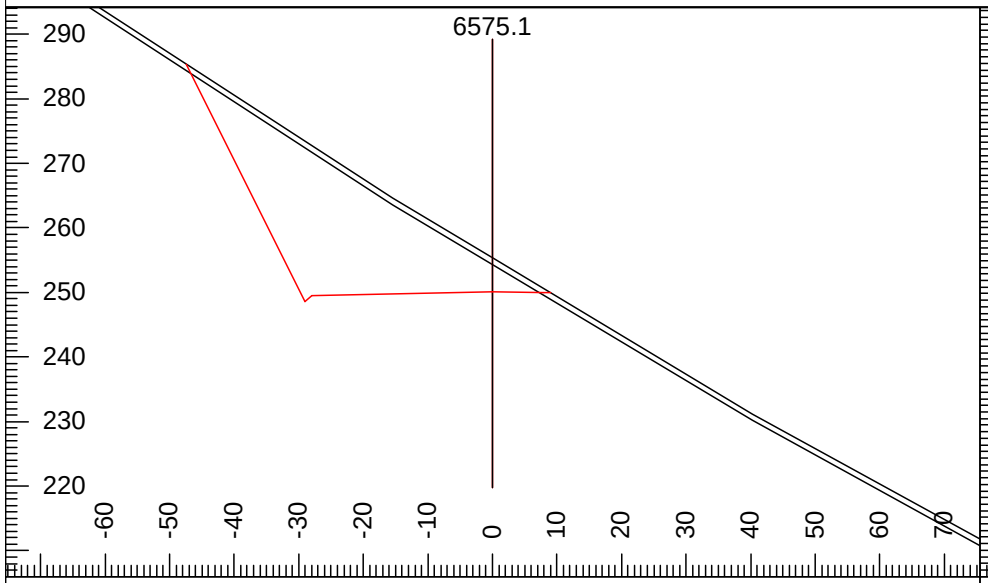

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P-Stn:	6575.1	F Slope L:	200	Clr L X:	-47.4	L-Ssr:	-60	Stk R X:	9.0		
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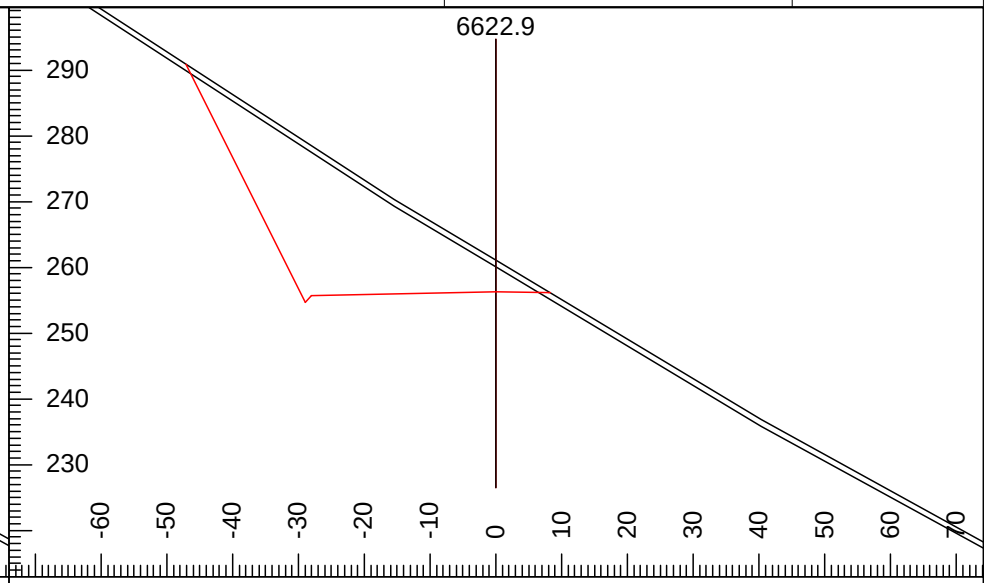
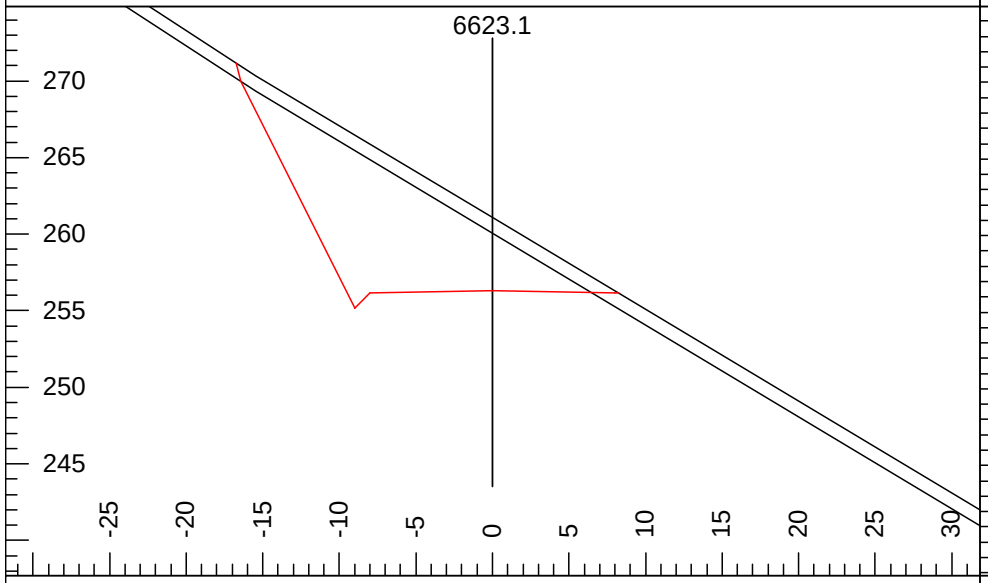
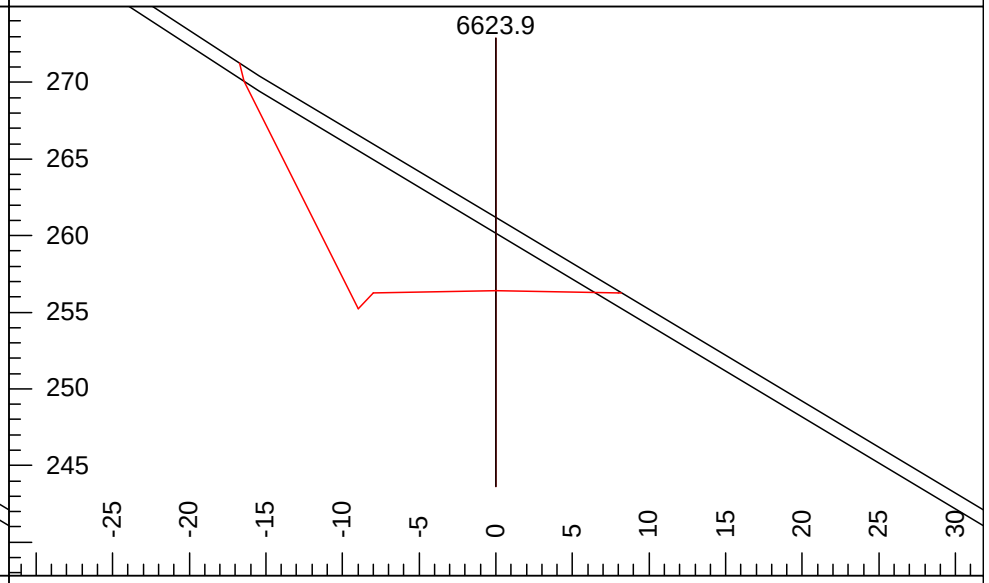


L-Stn:	6622.9	Grd.Lst:	13	Cut Dp:	4.8	L-Ssl:	60	Cul Length:			
P-Stn:	6622.9	F Slope L:	200	Clr L X:	-47.1	L-Ssr:	-60	Stk R X:	8.2		
Grd.Nxt.:	13	F Slope R:	0	Clr R X:	8.2	Cul DIA:		Stk L X:	-47.1		



L-Stn:	6623.1	Grd.Lst:	13	Cut Dp:	4.8	L-Ssl:	60	Cul Length:			
P-Stn:	6623.1	F Slope L:	400	Clr L X:	-16.7	L-Ssr:	-60	Stk R X:	8.2		
Grd.Nxt.:	13	F Slope R:	0	Clr R X:	8.2	Cul DIA:		Stk L X:	-16.7		



L-Stn:	6623.9	Grd.Lst:	13	Cut Dp:	4.8	L-Ssl:	60	Cul Length:			
P-Stn:	6623.9	F Slope L:	400	Clr L X:	-16.7	L-Ssr:	-60	Stk R X:	8.2		
Grd.Nxt.:	n/a	F Slope R:	0	Clr R X:	8.2	Cul DIA:		Stk L X:	-16.7		

SUMMARY - Road Development Costs

REGION: Olympic
DISTRICT: Straits

SALE/PROJECT NAME: Deer CONTRACT #: 30-092347

ROAD NUMBERS:	F-2600, F-2700, F-2860, F-2861, F-2900	F-2800, F-2900	F-2500, F-2600, F-2700, F-2800, F-2900
ROAD STANDARD:	Construction	Reconstruction	Maintenance
NUMBER OF STATIONS:	113+60	16+45	197+23
CLEARING & GRUBBING:	$ 15,408	$ 2,961	-
EXCAVATION AND FILL:	$ 141,568	$ 14,090	-
MISC. MAINTENANCE:	$ 1,416	$ 368	-
ROAD & LANDING ROCK:	$ 196,203	$ 55,251	$ 61,641
CULVERTS AND FLUMES:	$ 26,407	$ 28,310	$ 8,206
STRUCTURES:	-	-	-
ROAD BUILDING & ROCK PIT MOBILIZATION:	$ 3,667	$ 3,667	$ 3,667
TOTAL COSTS:	$ 384,668	$ 104,647	$ 73,514
COST PER STATION w/o Overhead:	$ 3,386	$ 6,362	$373
POST HAUL MAINTENANCE w/o Overhead:	$ 3,662		
POST HAUL & ABANDONMENT MOBILIZATION w/o Overhead:	$1,500		
ABANDONMENT COST w/o Overhead:	$4,649		
Management and Overhead 10%	$57,264		

TOTAL (All Roads): $629,904
SALE VOLUME MBF: 4005
TOTAL $/MBF: $157.28

Compiled by: Tom Barnes Date: 1/1/2016

MOBILIZATION

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD BUILDING EQUIPMENT

Grader	2	@	$	500	each	$	1,000
Dozer (small)	2	@	$	300	each	$	600
Dozer (large)	1	@	$	500	each	$	500
Excavator (large)	2	@	$	500	each	$	1,000
Roller	2	@	$	300	each	$	600
End Dump	5	@	$	100	each	$	500
Tractor Brusher	1	@	$	300	each	$	300
Rock drill	1	@	$	500	each	$	500
ROAD BUILDING EQUIPMENT SUBTOTAL:						$	5,000

ROCK SOURCE EQUIPMENT

Excavator (large)	1	@	$	500	each	$	500
Rock drill	1	@	$	500	each	$	500
Jaw & cone (includes set up)	1	@	$	5,000	each	$	5,000
ROCK SOURCE EQUIPMENT SUBTOTAL:						$	6,000

INITIAL MOBILIZATION TOTAL: $ 11,000

POST HAUL EQUIPMENT

Grader	1	@		500	each	$	500
Loader		@		500	each	$	-
Dozer (small)		@		300	each	$	-
Dozer (large)		@		500	each	$	-
Excavator (small)	2	@		300	each	$	600
Roller	1	@		300	each	$	300
End Dump	1	@		100	each	$	100
POST HAUL & ABANDONMENT						$	1,500

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NAMES: F-2500 Abandonment,F-2900 Decommissioning, Post Haul All Others

ROAD DEACTIVATION, ABANDONMENT, & POST HAUL MAINTENANCE COST

ROAD DEACTIVATION & ABANDONMENT						
Light abandonment	23+00	stations @	$ 87.50	per station	$	2,012.50
light decommissioning	27+87	stations @	$ 87.50	per station	$	2,438.63
Earthen Barricade	2	each @	$ 99.00	per each	$	198.00
				ABANDONMENT COST:	$	4,649.13

POST HAUL MAINTENANCE						
Grass seed (spread by hand)	50	pounds a@	$3.00	per pound	$	150.00
Cleaning Inlets & Outlets	276+28	stations @	$3.96	per station	$	1,094.07
Maintenance grading & compacting	276+28	stations @	$8.75	per station	$	2,418.33
				POST HAUL MAINTENANCE COST	$	3,662.40

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2500

Total road length (feet): 2973

Distance to F-2800 Pit (feet) 9712

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE									
Brushing (light)			29+73	stations @		$16.20	per station	$	481.63
Cleaning Inlets & Outlets			29+73	stations @		$3.96	per station	$	117.73
Maintenance grading & compacting			29+73	stations @		$8.75	per station	$	260.23
							Misc. Maintenance Total	$	859.59
ROCK									
Stripping overburden			150	CY @	$	3.50	per CY	$	525.00
Drill & shoot			150	CY @	$	2.50	per CY	$	375.00
Push rock			150	CY @	$	0.68	per CY	$	102.00
Load crusher			150	CY @	$	1.30	per CY	$	195.00
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			100	CY @	$	4.40	per CY	$	440.00
Crushing (6-INCH JAW RUN ROCK)			50	CY @	$	3.70	per CY	$	185.00
Load dump truck			150	CY @	$	0.83	per CY	$	125.00
Rock haul	Round Trip (feet)	25370	5.9	Hours	$	98.00	per hour	$	576.53
Process/Compacting Ballast (12" Lift)			50	CY @	$	1.23	per CY	$	61.54
Process/Compacting Surfacing (6" Lift)			100	CY @	$	1.86	per CY	$	185.63
							Rock Total	$	2,770.69
							PREHAUL MAINTENANCE TOTAL	$	3,630.28

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2600

Total road length (feet): 3200

Distance to F-2800 Pit (feet) 8130

Average Haul Speed (mph) 20

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

PREHAUL MAINTENANCE

MISC. MAINTENANCE									
Grass seed (spread by hand)			162	pounds @		$3.00	per pound	$	484.85
Brushing (light)			32+00	stations @		$16.20	per station	$	518.40
Cleaning Inlets & Outlets			32+00	stations @		$3.96	per station	$	126.72
Maintenance grading & compacting			32+00	stations @		$8.75	per station	$	280.10
Gate Maintenance			1	each @		$50.00	per each	$	50.00
							Misc. Maintenance Total	$	1,460.07
ROCK									
Stripping overburden			10	CY @	$	3.50	per CY	$	35.00
Drill & shoot			10	CY @	$	2.50	per CY	$	25.00
Push rock			10	CY @	$	0.68	per CY	$	6.80
Load crusher			10	CY @	$	1.30	per CY	$	13.00
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			110	CY @	$	4.40	per CY	$	484.00
Load dump truck			110	CY @	$	0.83	per CY	$	91.67
Rock haul	Round Trip (feet)	22660	5	Hours @	$	98.00	per hour	$	446.92
Process/Compacting Surfacing (6" Lift)			110	CY @	$	1.86	per CY	$	204.19
Light Loose Rip Rap			1	CY @	$	15.00	per CY	$	15.00
Rock haul	Round Trip (feet)	22660	0.1	Hours @	$	98.00	per hour	$	6.77
							Rock Total	$	1,328.35
CULVERTS & FLUMES									
18" Polyethylene, double wall			30	feet @	$	21.93	per foot	$	657.90
							Culvert & Flume Total	$	657.90
							PREHAUL MAINTENANCE TOTAL	$	3,446.32

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2600

Total road length (feet): 1425

Distance to Place Pit (feet) 8130

Average Haul Speed (mph) 25

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING									
Scatter			14.25	stations @	$	180.00	per station	$	2,565.00
							C & G Total	$	2,565.00
EXCAVATION AND FILL									
Construction (balanced, light)			14+25	stations @	$	308.32	per station	$	4,393.53
Landing (medium)			1.00	each @	$	189.52	each	$	189.52
Turnaround			1.00	each @	$	133.10	each	$	133.10
							Excavation Total	$	4,716.15
ROCK									
Stripping overburden			1168	CY @	$	3.50	per CY	$	4,086.25
Drill & shoot			1168	CY @	$	2.50	per CY	$	2,918.75
Push rock			1,168	CY @	$	0.68	per CY	$	793.90
Load crusher			1168	CY @	$	1.30	per CY	$	1,517.75
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			40	CY @	$	4.40	per CY	$	176.00
Crushing (6-INCH JAW RUN ROCK)			1128	CY @	$	3.70	per CY	$	4,171.75
Load dump truck			1168	CY @	$	0.83	per CY	$	972.92
Rock haul	Round Trip (feet)	19110	40	Hours @	$	98.00	per Hour	$	3,944.72
Process/Compacting Ballast (12" Lift)			1128	CY @	$	1.23	per CY	$	1,387.68
Light Loose Rip Rap			4.00	CY @	$	15.00	per CY	$	60.00
Rock haul	Round Trip (feet)	19110	0.14	Hours @	$	98.00	per hour	$	13.52
							Rock Total	$	20,043.23
CULVERTS & FLUMES									
18" Polyethylene, double wall			120	feet @		$21.93	per foot		$2,631.60
							Culvert & Flume Total		$2,631.60
MISC. MAINTENANCE									
Grass seed (spread by hand)			72	pounds @	$	3.00	per pound	$	215.91
							Misc Maintenance Total	$	215.91
							Construction Total	$	30,171.89

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2700

Total road length (feet):	2973
Distance to F-2800 Pit (feet)	9712
Average Haul Speed (mph)	25
Truck Load/Unload Time (minutes)	12
Volume per Truck (CY)	10

PREHAUL MAINTENANCE

MISC. MAINTENANCE

Grass seed (spread by hand)			150	pounds @	$3.00	per pound	$	450.45
Brushing (light)			29+73	stations @	$16.20	per station	$	481.63
Brushing (medium)			29+73	stations @	$40.50	per station	$	1,204.07
Cleaning Inlets & Outlets			29+73	stations @	$3.96	per station	$	117.73
Pull and clean ditch (two sides, scatter)			29+73	stations @	$10.56	per station	$	313.95
Maintenance grading & compacting			29+73	stations @	$8.75	per station	$	260.23
Gate Install			1	each @	$2,000.00	per each	$	2,000.00
						Misc. Maintenance Total	$	4,828.06

ROCK

Stripping overburden			1849	CY @	$ 3.50	per CY	$	6,471.15
Drill & shoot			1849	CY @	$ 2.50	per CY	$	4,622.25
Push rock			1849	CY @	$ 0.68	per CY	$	1,257.25
Load crusher			1849	CY @	$ 1.30	per CY	$	2,403.57
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			720	CY @	$ 4.40	per CY	$	3,168.00
Crushing (6-INCH JAW RUN ROCK)			1129	CY @	$ 3.70	per CY	$	4,176.93
Load dump truck			1849	CY @	$ 0.83	per CY	$	1,540.75
Rock haul	Round Trip (feet)	25370	73	Hours @	$ 98.00	per hour	$	7,106.30
Process/Compacting Ballast (12" Lift)			1129	CY @	$ 1.23	per CY	$	1,389.41
Process/Compacting Surfacing (6" Lift)			720	CY @	$ 1.86	per CY	$	1,336.50
Light Loose Rip Rap			9	CY @	$ 15.00	per CY	$	135.00
Rock haul	Round Trip (feet)	25370	1	Hours @	$ 98.00	per hour	$	72.07
						Rock Total	$	33,679.18

CULVERTS & FLUMES

18" Polyethylene, double wall			220	feet @	$ 21.93	per foot	$	4,824.60
24" Polyethylene, double wall			30	feet @	$ 34.43	per foot	$	1,032.90
						Culvert & Flume Total	$	5,857.50

						PREHAUL MAINTENANCE TOTAL	$	44,364.74

SALE/PROJECT NAME: Deer
CONTRACT #: 30-092347
ROAD NUMBER: F-2700
Total road length (feet): 1227
Distance to F-2800 Pit (feet) 9712
Average Haul Speed (mph) 25
Truck Load/Unload Time (minutes) 12
Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING									
Scatter			12.27	stations @	$	180.00	per station	$	2,208.60
							C & G Total	$	2,208.60
EXCAVATION AND FILL									
Construction (balanced, medium)			12+27	stations @	$	415.47	per station	$	5,097.79
Landing (medium)			2.00	each @	$	189.52	each	$	379.04
Turnaround			3.00	each @	$	133.10	each	$	399.31
							Excavation Total	$	5,876.14
ROCK									
Stripping overburden			1149	CY @	$	3.50	per CY	$	4,021.15
Drill & shoot			1149	CY @	$	2.50	per CY	$	2,872.25
Push rock			1149	CY @	$	0.68	per CY	$	781.25
Load crusher			1149	CY @	$	1.30	per CY	$	1,493.57
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			20	CY @	$	4.40	per CY	$	88.00
Crushing (6-INCH JAW RUN ROCK)			1129	CY @	$	3.70	per CY	$	4,176.93
Load dump truck			1149	CY @	$	0.83	per CY	$	957.42
Rock haul	Round Trip (feet)	21878	42	Hours @	$	98.00	per Hour	$	4,117.97
Process/Compacting Ballast (12" Lift)			1129	CY @	$	1.23	per CY	$	1,389.41
Process/Compacting Surfacing (6" Lift)			20.00	CY @	$	1.86	per CY	$	37.13
Light Loose Rip Rap			2.00	CY @	$	15.00	per CY	$	30.00
Rock haul	Round Trip (feet)	21878	0.07	Hours @	$	98.00	per hour	$	7.17
							Rock Total	$	19,972.24
CULVERTS & FLUMES									
18" Polyethylene, double wall			60	feet @		$21.93	per foot		$1,315.80
							Culvert & Flume Total		$1,315.80
MISC. MAINTENANCE									
Grass seed (spread by hand)			62	pounds @	$	3.00	per pound	$	185.91
							Misc Maintenance Total	$	185.91
							Construction Total	$	29,558.69

SALE/PROJECT NAME: Deer
CONTRACT #: 30-092347
ROAD NUMBER: F-2800
Total road length (feet): 70
Distance to F-2800(feet) 2000
Average Haul Speed (mph) 12
Truck Load/Unload Time (minutes) 12
Volume per Truck (CY) 10

RECONSTRUCTION

CLEARING & GRUBBING								
Scatter			0.70	stations @	$ 180.00	per station	$	126.00
						C & G Total	$	126.00
EXCAVATION AND FILL								
Reconstruction (heavy)			70.00	stations @	$ 172.65	per station	$	120.85
Fill Removal			1540	CY @	$ 3.61	per CY	$	5,551.70
Embankment Compaction			1536	CY @	$ 3.71	per CY	$	5,698.56
						Excavation Total	$	11,371.11
ROCK								
Stripping overburden			824	CY @	$ 3.50	per CY	$	2,884.35
Drill & shoot			824	CY @	$ 2.50	per CY	$	2,060.25
Push rock			824	CY @	$ 0.68	per CY	$	560.39
Load crusher			594	CY @	$ 1.30	per CY	$	772.33
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			513	CY @	$ 4.40	per CY	$	2,257.64
Crushing (6-INCH JAW RUN ROCK)			81	CY @	$ 3.70	per CY	$	299.70
Load dump truck			824	CY @	$ 0.83	per CY	$	686.75
Rock haul	Round Trip (feet)	4140	22	hours @	$ 98.00	per Hour	$	2,142.94
Process/Compacting Ballast (12" Lift)			81	CY @	$ 1.23	per CY	$	99.69
Process/Compacting Surfacing (6" Lift)			37	CY @	$ 1.86	per CY	$	68.87
Light Loose Rip Rap			60	CY @	$ 15.00	per CY	$	900.00
Rock haul	Round Trip (feet)	4140	1.59	hours @	$ 98.00	per hour	$	156.02
2' Minus Engineered Streambed			170	CY @	$ 25.00	per CY	$	4,250.00
Rock haul	Round Trip (feet)	4140	4.51	hours @	$ 98.00	per hour	$	442.06
						Rock Total	$	17,580.99
CULVERTS & FLUMES								
132" Corrugated Metal Pipe			78	feet @	$250.00	per foot		$19,500.00
132" band			3	bands @	$500.00	per band		$1,500.00
						Culvert & Flume Total		$21,000.00
MISC. MAINTENANCE								
Grass seed (spread by hand)			4	pounds @	$ 3.00	per pound	$	10.61
Straw mulching (spread by hand)			0.20	acres @	$ 595.00	per acre	$	119.00
						Misc Maintenance Total	$	129.61
						Reconstruction Total	$	50,207.71

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2800

Total road length (feet):	7400
Distance to F-2800 Pit (feet)	7600
Average Haul Speed (mph)	15
Truck Load/Unload Time (minutes)	12
Volume per Truck (CY)	10

PREHAUL MAINTENANCE

MISC. MAINTENANCE								
Grass seed (spread by hand)			374	pounds @	$3.00	per pound	$	1,121.21
Brushing (medium)			10+50	stations @	$40.50	per station	$	425.25
Cleaning Inlets & Outlets			74+00	stations @	$3.96	per station	$	293.04
Pull and clean ditch (one side, scatter)			74+00	stations @	$5.28	per station	$	390.72
Maintenance grading & compacting			74+00	stations @	$8.75	per station	$	647.74
Gate Maintenance			1	each @	$50.00	per each	$	50.00
						Misc. Maintenance Total	$	2,927.96

ROCK								
Stripping overburden			1119	CY @	$ 3.50	per CY	$	3,916.50
Drill & shoot			1119	CY @	$ 2.50	per CY	$	2,797.50
Push rock			1119	CY @	$ 0.68	per CY	$	760.92
Load crusher			1119	CY @	$ 1.30	per CY	$	1,454.70
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			1119	CY @	$ 4.40	per CY	$	4,923.60
Load dump truck			1119	CY @	$ 0.83	per CY	$	932.50
Rock haul	Round Trip (feet)	30000	65	Hours @	$ 98.00	per hour	$	6,347.10
Process/Compacting Surfacing (6" Lift)			1119	CY @	$ 1.86	per CY	$	2,077.14
Light Loose Rip Rap			3	CY @	$ 15.00	per CY	$	45.00
Rock haul	Round Trip (feet)	30000	0.2	CY @	$ 98.00	per hour	$	21.27
						Rock Total	$	23,276.24

CULVERTS & FLUMES								
18" Polyethylene, double wall			30	feet @	$ 21.93	per foot	$	657.90
24" Polyethylene, double wall			30	feet @	$ 34.43	per foot	$	1,032.90
						Culvert & Flume Total	$	1,690.80

		PREHAUL MAINTENANCE TOTAL	$ 27,895.00

SALE/PROJECT NAME: Deer
CONTRACT #: 30-092347
ROAD NUMBER: F-2860
Total road length (feet): 4305
Distance to F-2800 Pit (feet) 3100
Average Haul Speed (mph) 12
Truck Load/Unload Time (minutes) 12
Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING								
Scatter			43.05	stations @	$ 180.00	per station	$	7,749.00
						C & G Total	$	7,749.00
EXCAVATION AND FILL								
Construction (full bench/end haul, light) < 70% SS			43.05	stations @	$ 2,252.49	per station	$	96,969.60
Landing (medium)			3.00	each @	$ 189.52	each	$	568.56
Turnaround			5.00	each @	$ 133.10	each	$	665.52
						Excavation Total	$	98,203.68
ROCK								
Stripping overburden			6129	CY @	$ 3.50	per CY	$	21,453.08
Drill & shoot			6129	CY @	$ 2.50	per CY	$	15,323.63
Push rock			6129	CY @	$ 0.68	per CY	$	4,168.03
Load crusher			6129	CY @	$ 1.30	per CY	$	7,968.29
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			1741	CY @	$ 4.40	per CY	$	7,658.86
Crushing (6-INCH JAW RUN ROCK)			4389	CY @	$ 3.70	per CY	$	16,238.56
Load dump truck			6129	CY @	$ 0.83	per CY	$	5,107.88
Rock haul	Round Trip (feet)	14810	266	Hours @	$ 98.00	per Hour	$	26,054.38
Process/Compacting Ballast (12" Lift)			4389	CY @	$ 1.23	per CY	$	5,401.57
Process/Compacting Surfacing (6" Lift)			1741	CY @	$ 1.86	per CY	$	3,231.08
Light Loose Rip Rap			43	CY @	$ 15.00	per CY	$	645.00
Rock haul	Round Trip (feet)	14810	2	Hours @	$ 98.00	per hour	$	182.78
						Rock Total	$	113,433.12
CULVERTS & FLUMES								
18" Polyethylene, double wall			500	feet @	$21.93	per foot		$10,965.00
24" Polyethylene, double wall			240	feet @	$34.43	per foot		$8,263.20
24" Flume			45	feet @	$10.00	per foot		$450.00
						Culvert & Flume Total		$19,678.20
MISC. MAINTENANCE								
Grass seed (spread by hand)			217	pounds @	$ 3.00	per pound	$	652.27
Straw mulching (spread by hand)			0.20	acres @	$ 595.00	per acre	$	119.00
						Misc Maintenance Total	$	771.27
						Construction Total	$	239,835.26

SALE/PROJECT NAME: Deer
CONTRACT #: 30-092347
ROAD NUMBER: F-2861
Total road length (feet): 391
Distance to F-2800 Pit (feet) 3000
Average Haul Speed (mph) 12
Truck Load/Unload Time (minutes) 12
Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING									
Scatter			3.91	stations @	$	180.00	per station	$	703.80
							C & G Total	$	703.80
EXCAVATION AND FILL									
Construction (balanced, medium)			3.91	stations @	$	415.47	per station	$	1,624.48
							Excavation Total	$	1,624.48
ROCK									
Stripping overburden			452	CY @	$	3.50	per CY	$	1,581.41
Drill & shoot			452	CY @	$	2.50	per CY	$	1,129.58
Push rock			452	CY @	$	0.68	per CY	$	307.24
Load crusher			452	CY @	$	1.30	per CY	$	587.38
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			139	CY @	$	4.40	per CY	$	611.73
Crushing (6-INCH JAW RUN ROCK)			313	CY @	$	3.70	per CY	$	1,157.36
Load dump truck			452	CY @	$	0.83	per CY	$	376.53
Rock haul	Round Trip (feet)	6782	14	Hours @	$	98.00	per hour	$	1,359.55
Process/Compacting Ballast (12" Lift)			312.80	CY @	$	1.23	per CY	$	384.98
Process/Compacting Surfacing (6" Lift)			139.03	CY @	$	1.86	per CY	$	258.07
Light Loose Rip Rap			1.00	CY @	$	15.00	per CY	$	15.00
Rock haul	Round Trip (feet)	6782	0.03	Hours @	$	98.00	per hour	$	3.01
							Rock Total	$	7,771.84
CULVERTS & FLUMES									
18" Polyethylene, double wall			30	feet @		$21.93	per foot		$657.90
							Culvert & Flume Total		$657.90
MISC. MAINTENANCE									
Grass seed (spread by hand)			20	pounds @	$	3.00	per pound	$	59.24
							Misc Maintenance Total	$	59.24
							Construction Total	$	10,817.26

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2900

Total road length (feet):	3850
Distance to F-2800 Pit (feet)	9800
Average Haul Speed (mph)	20
Truck Load/Unload Time (minutes)	12
Volume per Truck (CY)	10

PREHAUL MAINTENANCE

MISC. MAINTENANCE									
Cleaning Inlets & Outlets			38+50	stations @		$3.96	per station	$	152.46
Maintenance grading & compacting			38+50	stations @		$8.75	per station	$	337.00
Gate Maintenance			1	each @		$50.00	per each	$	50.00
							Misc. Maintenance Total	$	539.46
ROCK									
Stripping overburden			30	CY @	$	3.50	per CY	$	105.00
Drill & shoot			30	CY @	$	2.50	per CY	$	75.00
Push rock			30	CY @	$	0.68	per CY	$	20.40
Load crusher			30	CY @	$	1.30	per CY	$	39.00
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			30	CY @	$	4.40	per CY	$	132.00
Load dump truck			30	CY @	$	0.83	per CY	$	25.00
Rock haul	Round Trip (feet)	27300	1	Hours @	$	98.00	per hour	$	134.81
Process/Compacting Surfacing (6" Lift)			30	CY @	$	1.86	per CY	$	55.69
							Rock Total	$	586.89
							PREHAUL MAINTENANCE TOTAL	$	1,126.35

SALE/PROJECT NAME: Deer
CONTRACT #: 30-092347
ROAD NUMBER: F-2900
Total road length (feet): 1575
Distance to F-2800 Pit (feet) 13500
Average Haul Speed (mph) 15
Truck Load/Unload Time (minutes) 12
Volume per Truck (CY) 10

RECONSTRUCTION

CLEARING & GRUBBING								
Scatter			15.75	stations @	$ 180.00	per station	$	2,835.00
						C & G Total	$	2,835.00
EXCAVATION AND FILL								
Reconstruction (heavy)			15.75	stations @	$ 172.65	per station	$	2,719.20
						Excavation Total	$	2,719.20
ROCK								
Stripping overburden			1880	CY @	$ 3.50	per CY	$	6,580.00
Drill & shoot			1880	CY @	$ 2.50	per CY	$	4,700.00
Push rock			1,880	CY @	$ 0.68	per CY	$	1,278.40
Load crusher			1880	CY @	$ 1.30	per CY	$	2,444.00
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			620	CY @	$ 4.40	per CY	$	2,728.00
Crushing (6-INCH JAW RUN ROCK)			1260	CY @	$ 3.70	per CY	$	4,662.00
Load dump truck			1880.00	CY @	$ 0.83	per CY	$	1,566.67
Rock haul	Round Trip (feet)	30150	109	Hours @	$ 98.00	per Hour	$	10,698.48
Process/Compacting Ballast (12" Lift)			1260.00	CY @	$ 1.23	per CY	$	1,550.76
Process/Compacting Surfacing (6" Lift)			620.00	CY @	$ 1.86	per CY	$	1,150.88
Light Loose Rip Rap			15.00	CY @	$ 15.00	per CY	$	225.00
Rock haul	Round Trip (feet)	30150	0.87	Hours @	$ 98.00	per hour	$	85.36
						Rock Total	$	37,669.54
CULVERTS & FLUMES								
18" Polyethylene, double wall			120	feet @	$21.93	per foot		$2,631.60
24" Polyethylene, double wall			40	feet @	$34.43	per foot		$1,377.20
42" Polyethylene, double wall			45	feet @	$71.69	per foot		$3,226.05
42" band			1	band @	$75.13	per band		$75.13
						Culvert & Flume Total		$7,309.98
MISC. MAINTENANCE								
Grass seed (spread by hand)			80	pounds @	$ 3.00	per pound	$	238.64
Straw mulching (spread by hand)				acres @	$ 595.00	per acre	$	-
						Misc Maintenance Total	$	238.64
						Reconstruction Total	$	48,053.16

SALE/PROJECT NAME: Deer

CONTRACT #: 30-092347

ROAD NUMBER: F-2900

Total road length (feet): 1212

Distance to F-2800 Pit (feet) 15100

Average Haul Speed (mph) 15

Truck Load/Unload Time (minutes) 12

Volume per Truck (CY) 10

CONSTRUCTION

CLEARING & GRUBBING								
Scatter			12.12	stations @	$ 180.00	per station	$	2,181.60
						C & G Total	$	2,181.60
EXCAVATION AND FILL								
Construction (full bench/end haul, light) < 70% SS			12.12	stations @	$ 2,252.49	per station	$	27,300.15
Landing (medium)			5.00	each @	$ 189.52	each	$	947.60
Turnaround			3.00	each @	$ 133.10	each	$	399.31
Drill & shoot			1000	CY @	$ 2.50	per CY	$	2,500.00
						Excavation Total	$	31,147.06
ROCK								
Stripping overburden			1740	CY @	$ 3.50	per CY	$	6,090.00
Drill & shoot			1740	CY @	$ 2.50	per CY	$	4,350.00
Push rock			1,740	CY @	$ 0.68	per CY	$	1,183.20
Load crusher			1740	CY @	$ 1.30	per CY	$	2,262.00
Crushing (1 1/2-INCH MINUS CRUSHED ROCK)			430	CY @	$ 4.40	per CY	$	1,892.00
Crushing (6-INCH JAW RUN ROCK)			1310	CY @	$ 3.70	per CY	$	4,847.00
Load dump truck			1740.00	CY @	$ 0.83	per CY	$	1,450.00
Rock haul	Round Trip (feet)	32624	106	Hours @	$ 98.00	per Hour	$	10,434.45
Process/Compacting Ballast (12" Lift)			1310.00	CY @	$ 1.23	per CY	$	1,612.30
Process/Compacting Surfacing (6" Lift)			430.00	CY @	$ 1.86	per CY	$	798.19
Light Loose Rip Rap			3.00	CY @	$ 15.00	per CY	$	45.00
Rock haul	Round Trip (feet)	32624	0.18	hours @	$ 98.00	per hour	$	17.99
						Rock Total	$	34,982.12
CULVERTS & FLUMES								
18" Polyethylene, double wall			90	feet @	$21.93	per foot		$1,973.70
18" Flume			20	each @	$7.50	per foot		$150.00
						Culvert & Flume Total		$2,123.70
MISC. MAINTENANCE								
Grass seed (spread by hand)			61	pounds @	$ 3.00	per pound	$	183.64
						Misc Maintenance Total	$	183.64
						Construction Total	$	70,618.12