



**TIMBER NOTICE OF SALE**

**SALE NAME:** HOOSIER VRH & VDT

**AGREEMENT NO:** 30-093569

**AUCTION:** November 16, 2016 starting at 10:00 a.m., **COUNTY:** Skagit  
Northwest Region Office, Sedro Woolley, WA

**SALE LOCATION:** Sale located approximately 3 miles north of Hamilton, WA.

**PRODUCTS SOLD  
AND SALE AREA:**

All timber bounded by white timber sale boundary tags and the MJ-ML and MJ-16 roads, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

All timber bounded by white timber sale boundary tags and the MJ-ML Road, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #2.

All timber bounded by white timber sale boundary tags and the MJ-3507 Road, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #3.

All timber bounded by white timber sale boundary tags, property lines and the MJ-ML, MJ-41 and SK-28 roads, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #4.

All timber as described for removal in Schedule B in the RMZ/WMZ Thinning areas, beyond blue special management tags and up to the white timber sale boundary tags in Units #1, #2, #3 and #4.

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed, except as described for removal in Schedule B.

All trees within 20 feet of the center line of the existing portion of the MJ-24 Road.

The above described products on part(s) of Sections 2 all in Township 35 North, Range 6 East, Sections 26, 33, 34, 35 and 36 all in Township 36 North, Range 6 East, W.M., containing 226 acres, more or less.

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



TIMBER NOTICE OF SALE

ESTIMATED SALE VOLUMES AND QUALITY:

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

MINIMUM BID: \$295.8/MBF (est. value \$1,635,000.00) BID METHOD: Sealed Bids

PERFORMANCE SECURITY: \$100,000.00 SALE TYPE: MBF Scale

EXPIRATION DATE: March 31, 2019 ALLOCATION: Export Restricted

BIDDABLE SPECIES: Douglas fir

BID DEPOSIT: \$163,500.00 or Bid Bond. Said deposit shall constitute an opening bid at the appraised price.

HARVEST METHOD: Cable; cable, shovel, tracked forwarder or tracked skidder on sustained slopes 40% or less. Falling and Yarding will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator (THIS PERTAINS TO GROUND-BASED EQUIPMENT ONLY) to reduce soil damage and erosion.

Additional restrictions apply, see Remarks section below.

ROADS: 27.67 stations of required construction. 71.01 stations of optional construction. 20.72 stations of road to be abandoned if built. 568.78 stations of required pre-haul maintenance. Installation of a 26-foot log stringer bridge. See Road Plan.

Rock may be obtained from the following source(s) on State land at no charge to the Purchaser: Section 2 Rock Pit at station 17.93 of the MJ-03 Road. Extra Innings Pit at station 22+12 of the MJ-51 Road.

Development of existing rock sources will involve drilling, shooting, and processing rock to generate riprap and gravel pit run rock.

An estimated total quantity of rock needed for this proposal: 490 cubic yards of riprap and 14,490 cubic yards of gravel pit run rock.

Additional restrictions apply, see Remarks section below.

Road construction, pre-haul maintenance, road abandonment, and the hauling of rock will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation. The hauling of forest products will not be permitted from November 1 to March 31 unless authorized in writing by the Contract Administrator to reduce soil damage and siltation.

ACREAGE DETERMINATION



## TIMBER NOTICE OF SALE

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**CRUISE METHOD:** Acres determined by GPS traverse. 311.9 acres gross. 76.5 acres deducted for RMZ/WMZ areas, 6.2 acres deducted for green tree retention clumps, 1.7 acres deducted for existing roads and 1.1 acres deducted for new right of way. 226.4 acres net. Cruised using variable plot method. Expansion factor used is 40.00 and 46.94. Sighting height is 4.5 feet. A total of 156 plots were taken.

Shapefiles of units are available upon request.

**FEES:** \$98,157.50 is due on day of sale. \$9.00 per MBF is due upon removal. These are in addition to the bid price.

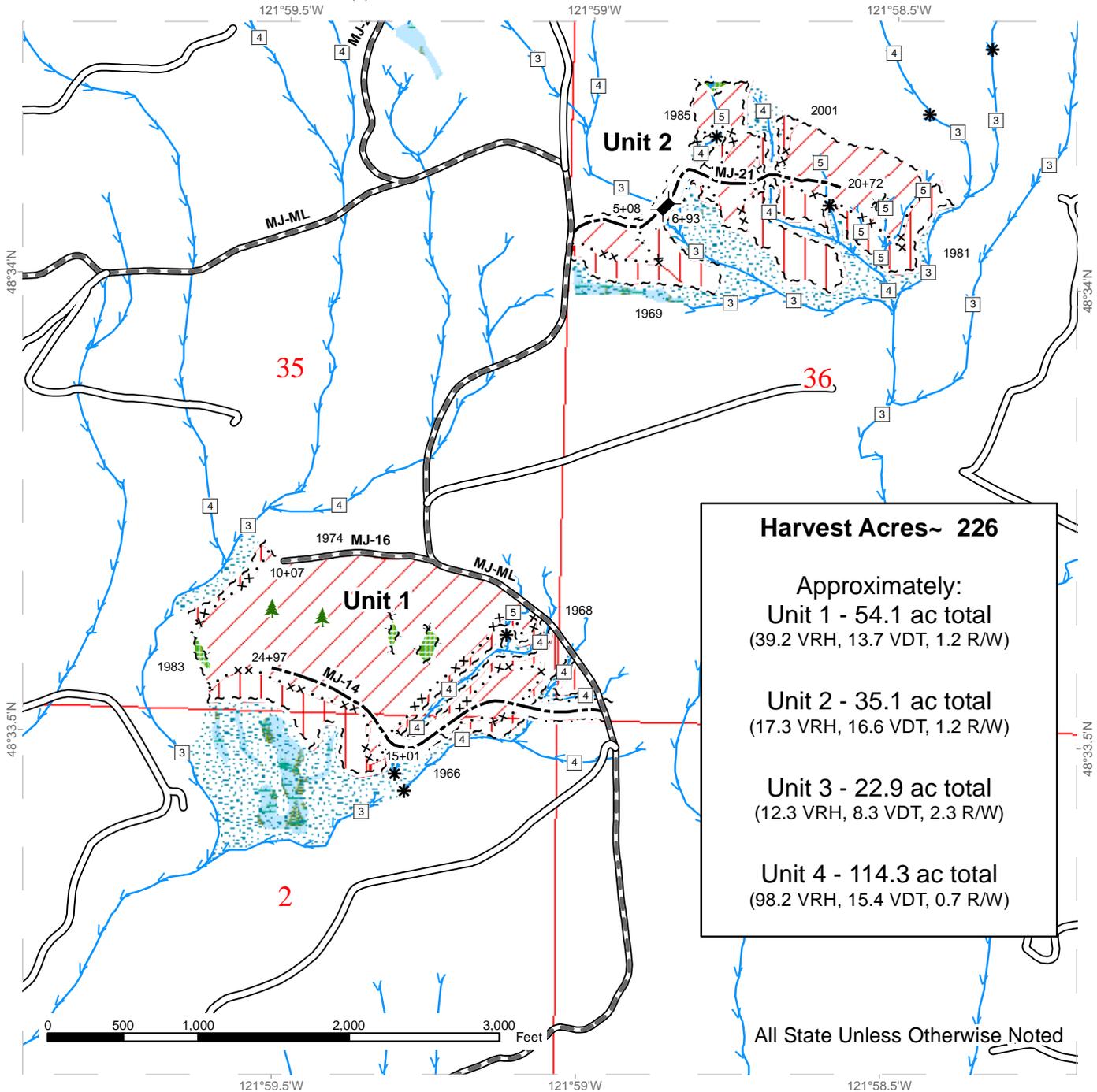
**SPECIAL REMARKS:** 1. Road building and abandonment and rock/timber haul east of station 5+08 of the MJ-21 Road must be completed between June 1 and September 30 of the same year. All timber harvest activities occurring east of the temporary bridge at station 6+93 of the MJ-21 Road must also be completed between the dates listed above.

2. Cutting and yarding in RMZ/WMZ Thinning areas shall not be permitted during the bark slippage season unless authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions. If permission is granted to operate during the bark slippage season the Purchaser shall be required to provide a plan outlining mitigation measure.

# TIMBER SALE MAP

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



**Harvest Acres~ 226**

Approximately:

Unit 1 - 54.1 ac total  
 (39.2 VRH, 13.7 VDT, 1.2 R/W)

Unit 2 - 35.1 ac total  
 (17.3 VRH, 16.6 VDT, 1.2 R/W)

Unit 3 - 22.9 ac total  
 (12.3 VRH, 8.3 VDT, 2.3 R/W)

Unit 4 - 114.3 ac total  
 (98.2 VRH, 15.4 VDT, 0.7 R/W)

All State Unless Otherwise Noted

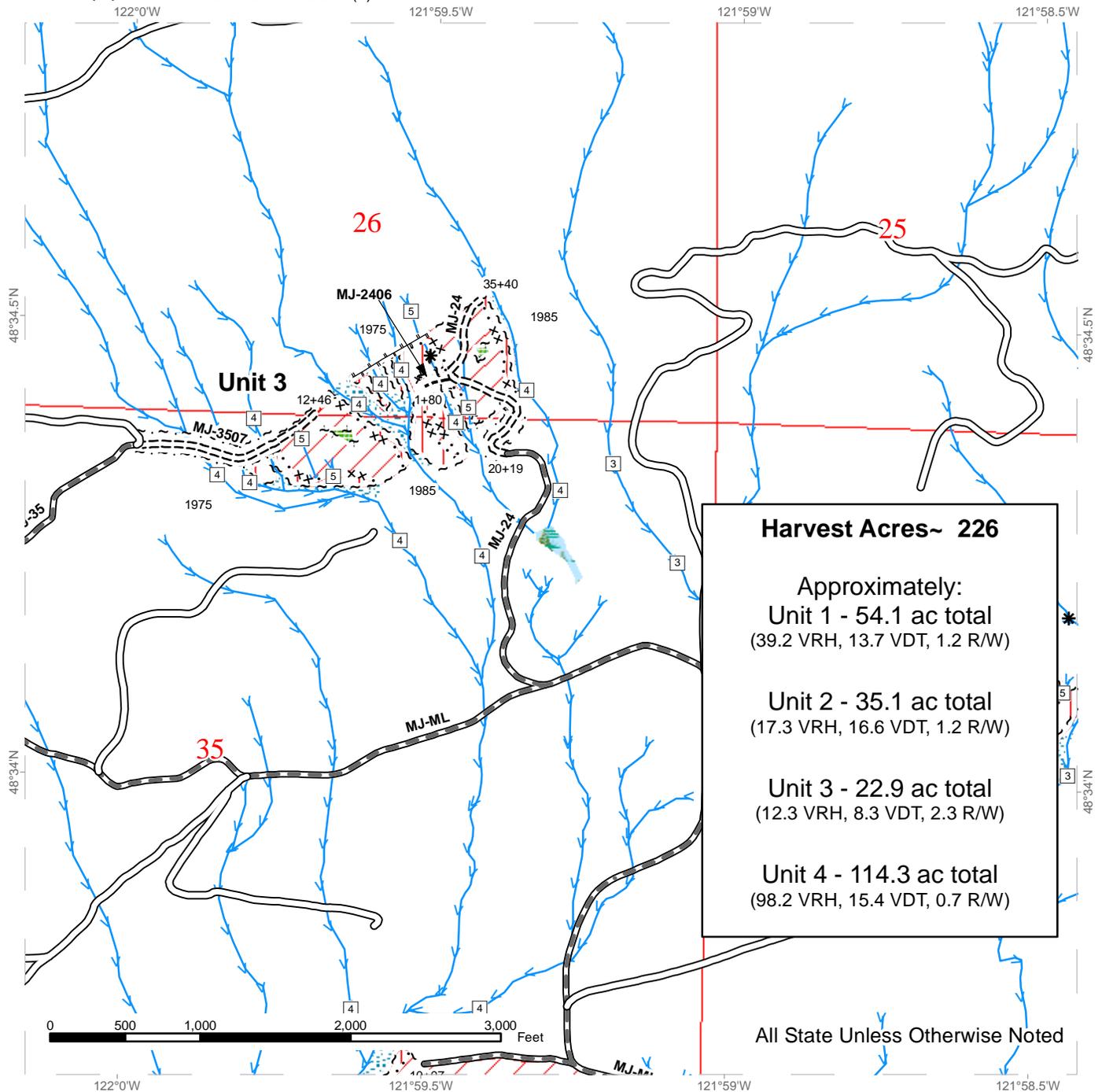
Variable Retention Harvest	Sale Boundary Tags	Optional Construction
RMZ Thinning	Special Mgmt Area	Existing Roads
Leave Tree Area	Leave Tree Tags	Required Pre-Haul Maintenance
Forested Wetland	Right of Way Tags	Stream Type
No-cut RMZ/WMZ	Timber Type Change	Stream Type Break
	Streams	Leave Trees
		Bridge Installation



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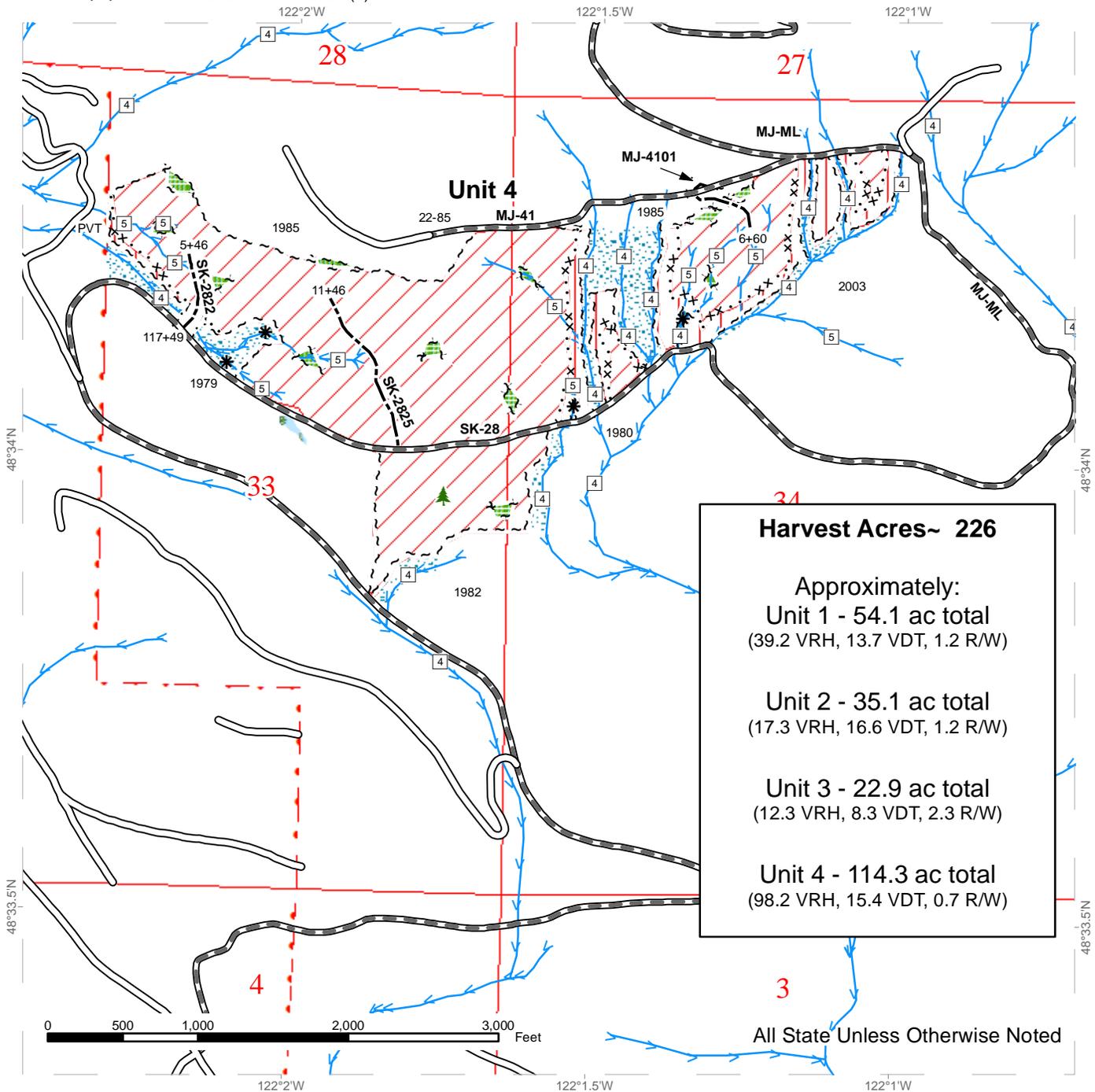


	Variable Retention Harvest		Sale Boundary Tags		Optional Construction
	RMZ Thinning		Special Mgmt Area		Existing Roads
	Leave Tree Area		Leave Tree Tags		Required Pre-Haul Maintenance
	Forested Wetland		Right of Way Tags		Required Construction
	No-cut RMZ/WMZ		Timber Type Change		Designated Skid Trail
	Streams		Streams		Stream Type
					Stream Type Break
					Bridge Installation

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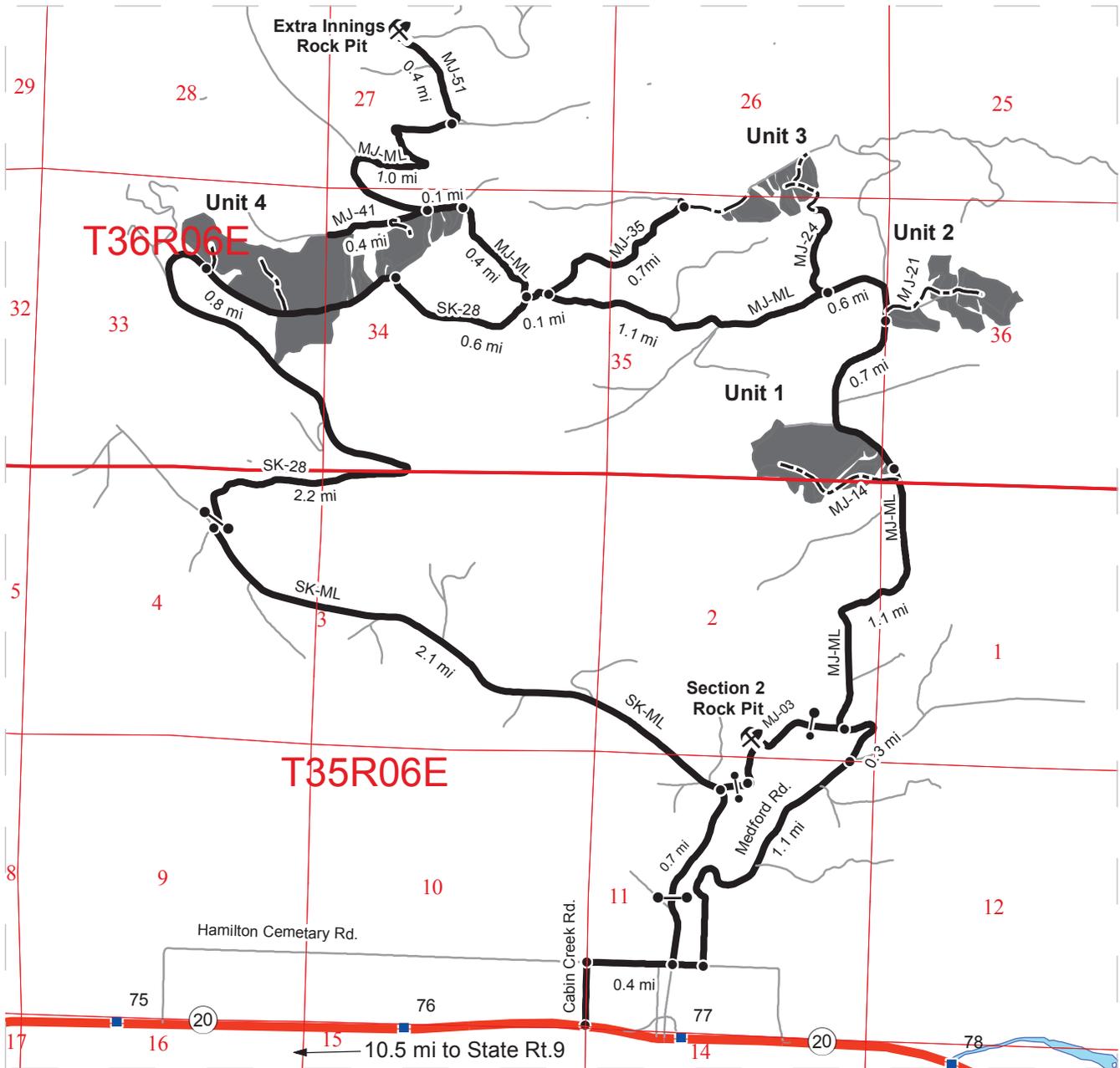
All State Unless Otherwise Noted

Variable Retention Harvest	Sale Boundary Tags	Optional Construction
RMZ Thinning	Special Mgmt Area	Existing Roads
Leave Tree Area	Leave Tree Tags	Required Pre-Haul Maintenance
Forested Wetland	Right of Way Tags	Stream Type
No-cut RMZ/WMZ	Timber Type Change	Stream Type Break
	Streams	Leave Trees

# DRIVING MAP

SALE NAME: HOOSIER  
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 TOWNSHIP(S): T36R06E, T35R06E  
 TRUST(S): State Forest Transfer(1)

REGION: Northwest Region  
 COUNTY(S): SKAGIT  
 ELEVATION RGE: 579-1288



1 inch = 3,000 feet

- Timber Sale Unit
- Highways
- Haul Route
- Other Road
- New Construction
- Milepost Markers
- Distance Indicator

### Driving Directions (from Medford Road)

#### Harvest Units

From the intersection of Hwy 20 and Cabin Creek Rd, head north on Cabin Creek Rd to Hamilton Cemetery Rd. Turn right onto Hamilton Cemetery Rd and proceed for 0.4 mi. Turn left onto Medford Rd and continue for 1.1 mi. At the recreation site parking area veer left onto the MJ-ML. Travel north on the MJ-ML for 1.4 mi. to Unit 1 on the left. Continue north on the MJ-ML to Unit 2 on the right and the start of an abandoned grade/road location to walk into Unit 2. Continue on the MJ-ML for 0.6 mi to MJ-24 on the right. The southern side of Unit 3 can be accessed by following new R/W construction at the end of MJ-24. Continue on the MJ-ML 1.1 mi. MJ-35 is on the right. An abandoned grade is on MJ-35 that accesses the north side of Unit 3. From the MJ-ML / MJ-35 intersection continue 0.6 mi to MJ-41 and the north side of Unit 4.

#### Rock Pits

From the beginning of the MJ-ML travel 0.3 mi to the MJ-03 on your left. Turn onto the MJ-03 and proceed to the Section 2 pit.

From the intersection of the MJ-ML and the MJ-41 proceed on the MJ-ML for 1 mi to the intersection of the MJ-ML and the MJ-51. Turn left onto the MJ-51, and travel north for 0.4 mi to the Extra Innings pit.



**STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES**

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

**Export Restricted MBF Scale AGREEMENT NO. 30-093569**

**SALE NAME: HOOSIER VRH & VDT**

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

Section G: General Terms

G-001 Definitions

The following definitions apply throughout this contract;

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

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

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

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

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

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

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

#### G-010 Products Sold and Sale Area

Purchaser was the successful bidder on November 16, 2016 and the sale was confirmed on \_\_\_\_\_. The State, as owner, agrees to sell to Purchaser, and Purchaser agrees to purchase, cut, and remove the following forest products: All timber bounded by white timber sale boundary tags and the MJ-ML and MJ-16 roads, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #1.

All timber bounded by white timber sale boundary tags and the MJ-ML Road, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #2.

All timber bounded by white timber sale boundary tags and the MJ-3507 Road, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #3.

All timber bounded by white timber sale boundary tags, property lines and the MJ-ML, MJ-41 and SK-28 roads, except forest products tagged out by yellow leave tree area tags, forest products tagged out by blue special management tags, trees marked with blue paint on the bole and root collar and cedar snags, preexisting dead and down cedar trees and cedar logs in Unit #4.

All timber as described for removal in Schedule B in the RMZ/WMZ Thinning areas, beyond blue special management tags and up to the white timber sale boundary tags in Units #1, #2, #3 and #4.

All timber bounded by orange right of way tags, except that title to the timber within the right of way tags is not conveyed to the Purchaser unless the road segment is actually constructed, except as described for removal in Schedule B.

All trees within 20 feet of the center line of the existing portion of the MJ-24 Road.

The above described products, located on approximately 226 acres on part(s) of Section 2 in Township 35 North, Range 6 East, Sections 26, 33, 34, 35, and 36 all in Township 36 North, Range 6 East W.M. in Skagit County(s) as shown on the attached timber sale map and as designated on the sale area.

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

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

G-020 Inspection By Purchaser

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

G-025 Schedules

The following attached schedules are hereby incorporated by reference:

Schedule	Title
A	NW Ground-Based Equip Specifications (Rev 2/11/16)
B	Thinning Prescription

G-030 Contract Term

Purchaser shall remove the forest products conveyed and complete all work required by this contract prior to March 31, 2019.

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-050 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 contract value based on the contract payment rate and advertised volume.

For the second extension, not to exceed 1 year, payment of at least 90 percent of the contract value based on the contract payment rate base and advertised volume.

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 timber value of the contract.

To determine the unpaid portion of the contract, multiply the contract payment rate for each item by the remaining volume for each item based on the volumes from the Timber Notice of Sale. In addition, all cash deposits that can be used for timber payments, except the initial deposit, will be deducted from the unpaid portion of the contract.

- e. Payment of \$30.00 per acre per annum for the acres on which an operating release has not been issued in the VRH Variable Retention Harvest (VRH)

areas. Payment of \$3.00 per acre per annum for the acres on which an operating release has not been issued in RMZ/WMZ Variable Density Thinning areas.

- 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-090 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, added forest products become a part of this contract and shall be paid for at the same rate and manner as other forest products under this contract.

**G-100 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 shall be paid for at the same rate and manner as other forest products under this contract.

**G-105 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 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 same rate and manner as other forest products under this contract.

**G-110 Title and Risk of Loss**

Title to the forest products conveyed passes at confirmation of the sale. Purchaser bears the risk of loss of or damage to and has an insurable interest in the forest products in this contract from the time of confirmation of the sale of forest products. In the event of loss of or damage to the forest products after passage of title, whether the cause is foreseeable or unforeseeable, the forest products shall be paid for by Purchaser. Breach of this contract shall have no effect on this provision. Title to the forest products not removed from the sale area within the period specified in this contract shall revert to the State as provided in RCW 79.15.100.

**G-116 Sustainable Forestry Initiative® (SFI) Certification**

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

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

**G-120 Responsibility for Work**

All work, equipment, and materials necessary to perform this contract shall be the responsibility of Purchaser. Any damage to improvements, except as provided in

clause G-121 or unless the State issues an operating release pursuant to clause G-280, shall be repaired promptly to the satisfaction of the State and at Purchaser's expense.

#### G-121 Exceptions

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

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

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

1. Failure of (a) required improvements or roads designated in clause C-050, or (b) required or optional construction completed to the point that authorization to haul has been issued;
2. Caused by a single event from forces beyond the control of Purchaser, its employees, agents, or invitees, including independent contractors; and
3. Includes, but is not limited to natural disasters such as earthquakes, volcanic eruptions, landslides, and floods.

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

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

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

#### G-140 Indemnity

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

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

#### G-150 Insurance

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

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

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

1. Insurers subject to Chapter 48.18 RCW (admitted and regulated by the Insurance Commissioner): The insurer shall give the State 45 days advance notice of cancellation or non-renewal. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.
2. Insurers subject to Chapter 48.15 RCW (surplus lines): The State shall be given 20 days advance notice of cancellation. If cancellation is due to non-payment of premium, the State shall be given 10 days advance notice of cancellation.

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

Purchaser shall include all subcontractors as insured under all required insurance policies, or shall furnish separate certificates of insurance and endorsements for each

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

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

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

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

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

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

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

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

Workers' Compensation Coverage. Purchaser shall comply with all State of Washington workers' compensation statutes and regulations. Workers' compensation coverage shall be provided for all employees of Purchaser and employees of any

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

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

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

#### G-160 Agents

The State's rights and duties will be exercised by the Region Manager at Sedro Woolley, 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; MJ-ML. MJ-03, MJ-14, MJ-16, MJ-21, MJ-24, MJ-2406, MJ-35, MJ-3507, MJ-41, MJ-4101, MJ-51, SK-ML, SK-28, SK-2822, and SK-2825. 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 MJ-ML, MJ-35, SK-ML and SK-28 roads, unless authority is granted in writing by the Contract Administrator.

G-380 Road Easement and Road Use Permit Requirements

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

Easements with:

Scott Paper Company; #55-000003; dated May 27, 1960.

Scott Paper Company; #55-000833; dated February 7, 1973.

Crown Pacific Limited Partnership; #55-002669; dated May 7, 1997.

Cutting Line Agreement with:

Sierra Pacific Holding Co., dated July 28, 2016.

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:

DATA MISSING

## Section P: Payments and Securities

## P-010 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 the 'Payment for Forest Products' clause, 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-021 Payment for Forest Products

Purchaser agrees to pay the following rates per MBF Scribner net log scale for forest products conveyed and cut or removed from the sale area plus \$98,157.50 on day of sale and \$9.00 per MBF upon removal in fees. Fees collected shall be retained by the state unless the contract is adjusted via the G-066 clause.

## DATA MISSING

Species that are conveyed but are not listed in the table above shall be paid for at a rate to be determined by the State.

Utility logs, special cull and peelable cull logs of all species, included on loads of logs that are required to be removed and scaled per clause H-150 will be paid for on an adjusted gross scale basis at the rate of \$20.00 per MBF plus fees.

## P-027 Payment for Removal of Optional Forest Products

Purchaser agrees to pay the rate of \$2.00 per ton for forest products approved for removal from the sale area under clause H-157.

## P-040 Weighing and Scaling Costs

Purchaser agrees to pay for all scaling and weighing costs for logs and other products sold under this contract. Purchaser also agrees to pay for all costs associated with the transmission and reporting of scale or weight data.

## 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-070 Payment for Products: Damage, Theft, Loss or Mismatch

Forest products included in this agreement which are destroyed, damaged, stolen, lost, or mismatched shall be paid for by Purchaser on demand of the State. The rates contained in clause P-021 shall apply.

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 L: Log Definitions and Accountability

L-010 Forest Products Conveyed

Forest products conveyed are all logs or parts of logs described by the 'Products Sold and Sale Area' (G-010) clause meeting the removal requirements listed in the 'Required Removal of Forest Products' (H-150) clause.

L-020 Short Logs - Peeler Blocks

Logs or parts of logs which are removed from the sale area that fail to meet the minimum gross length requirements shall be scaled and graded as short logs or peeler blocks. Such material shall be paid for at the forest products rates specified in this contract.

**L-040 Utility Logs**

Utility logs are logs that meet the minimum utility log standards as described by the log scaling rules applicable for this contract.

**L-060 Load Tickets**

Purchaser shall complete and use load tickets as directed by the Contract Administrator and, if required, use other identification as directed by the State to ensure accounting of forest products removed from the sale area. A load ticket must be fixed, as designated by the Contract Administrator, to each truck and trailer load prior to leaving the landing.

Purchaser shall account for all load tickets issued by the Contract Administrator. The State may treat load tickets not accounted for as lost forest products. All costs associated with computing the billings for lost loads shall be borne by Purchaser.

**L-071 Log and Load Reporting Service**

This contract requires the use of a State approved third party Log and Load Reporting Service (LLRS). Purchaser shall ensure log volume measurement data and/or load and weight data is received by the LLRS within of logs being measured or weighed. Purchaser agrees to pay the LLRS for log and load data supplied to the State.

If during the term of this contract, the State discontinues use of the LLRS, the State will notify the Purchaser in writing and the Purchaser will then be responsible to send log scale and/or weight information to the State.

**L-080 Scaling Rules**

Determination of volume and grade of any forest products shall be conducted by a state approved third party scaling organization and in accordance with the Westside log scaling and grading rules and Scribner Volume Table, revised July 1, 1972, contained in the Northwest Log Rules Eastside and Westside Log Scaling Handbook (developed and produced by the Northwest Log Rules Advisory Group) and in effect on the date of confirmation of this contract.

Special scaling specifications shall be noted on the State's Brand Designation form which is hereby incorporated to this contract by reference.

**L-110 State Approval of Log Scaling and Weighing Locations**

Forest Product measurement and weighing facilities required by this contract must be approved by the State. Forest products sold under the contract which require log scaling shall be scaled, measured, or counted by a State approved third party log scaling organization. Forest products sold under the contract which require weighing shall be weighed at a location that meets Washington State Department of Agriculture approval.

Prior to forest products being hauled, the Contract Administrator must authorize in writing the use of State approved measurement and/or weighing facilities that are at or en-route to final destinations. Forest products from this sale shall be measured or weighed at facilities, which are currently approved for use by the State and are

currently authorized for this sale. The State reserves the right to verify load volume and weights with State employees or contractors at the State's own expense. The State reserves the right to revoke the authorization of previously approved measurement locations.

L-120 Long Log Taper Distribution

Forest products over 40 feet long plus trim shall be segment scaled and the lower segment diameters shall be determined using actual taper. In order to utilize taper rules for determining segment diameters for poles and pilings greater than 40 feet in length plus trim, Purchaser must request use of a Pole and Piling Scaling Specification Agreement on file in the region office. Approval for usage of a special Pole and Piling Scaling Specification Agreement may be granted at the sole discretion of the State.

Following State approval for usage of the Pole and Piling Scaling Specification Agreement, the Brand Designation form shall be amended to incorporate the long log taper rules. The volume reported by the scaling organization for forest products over 40 feet plus trim will be expanded by 5 percent and the additional 5 percent volume shall be billed to the purchaser at the contract rate.

L-130 Conversion Factors

Forest products removed from the sale area that are not measured in units specified in the 'Payment for Forest Products' clause of this contract shall be converted to board feet using Department of Natural Resources' standard conversion factors.

Section H: Harvesting Operations

H-010 Cutting and Yarding Schedule

Falling and Yarding will not be permitted from November 1 to March 31 BY GROUND-BASED EQUIPMENT unless authorized in writing by the Contract Administrator.

H-011 Certification of Fallers and Yarder Operators

All persons engaged in the felling and yarding of timber must receive certification in writing from the Contract Administrator. Certification may be revoked when the Contract Administrator determines that non-compliance of leave tree selection criteria or cut tree selection criteria is occurring, or excessive damage to leave trees or skid trails is occurring.

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

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

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

H-012 Leave Tree Damage Definition

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

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

- a. A leave tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A leave tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A leave tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

#### H-013 Reserve Tree Damage Definition

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

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

- a. A reserve tree has one or more scars on its trunk exposing the cambium layer, which in total exceeds 144 square inches.
- b. A reserve tree top is broken or the live crown ratio is reduced below 30 percent.
- c. A reserve tree has more than 1/3 of the circumference of its root system injured such that the cambium layer is exposed.

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

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

#### H-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 4 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-018 Temporary Stream Crossings

A temporary stream crossing is required to access isolated thinning units in the middle of Unit 3.

Purchaser shall comply with the following during the yarding operation:

- a. Adhere to the approved Hydraulic Permit Application (HPA) or Forest Practice Application (FPA) with approved hydraulic project work, if required,

amend a current FPA or obtain a new FPA prior to commencing any new stream crossing construction.

- b. Location of the temporary stream crossing must be approved by the Contract Administrator.
- c. A temporary stream crossing shall not exceed 15 feet in width, including rub trees.
- d. Purchaser shall suspend operations during periods of wet weather when a high potential for sediment delivery into typed waters may occur.
- e. Temporary stream crossings shall be removed at the time of completion of yarding as required by the Contract Administrator.

Two type 4 stream crossings are required and their installation locations are restricted to the old grade on the north end of the unit along the required skid trail depicted on the timber sale map. Crossing structures must be approved in writing 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-025 Timing Requirements for Timber Removal

All red alder must be removed within 14 days of being felled.

H-030 Timber Falling

Trees shall be felled and logs shall be bucked to obtain the greatest practicable utilization of forest products and other valuable materials conveyed.

H-035 Fall Trees Into Sale Area

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

H-040 Purchaser Harvest Plan

Purchaser shall, as part of the plan of operations, prepare an acceptable harvest plan for Unit 2. The plan shall address the road construction and abandonment, bridge installation/removal and timber harvest timing as restricted in Clause H-141, which are part(s) of this contract. The harvest plan shall be approved by the Contract Administrator prior to beginning the harvest operation. Purchaser shall not deviate from the harvest plan without prior written approval by the Contract Administrator.

H-050 Rub Trees

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

**H-052 Branding and Painting**

Forest products shall be branded with a brand furnished by the State prior to removal from the landing. All purchased timber shall be branded in a manner that meets the requirements of WAC 240-15-030(2)(a)(i). All timber purchased under a contract designated as export restricted shall also be painted in a manner that meets the requirements of WAC 240-15-030(2)(a)(ii).

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

**H-080 Snags Not to be Felled**

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

**H-110 Stump Height**

Trees shall be cut as close to the ground as practicable. Stump height shall not exceed 12 inches in height measured on the uphill side, or 2 inches above the root collar, whichever is higher.

**H-120 Harvesting Equipment**

Forest products sold under this contract shall be felled by chainsaw and yarded by cable; felled by chainsaw or feller-buncher and yarded by cable, shovel, tracked forwarder or tracked skidder on sustained slopes 40% or less, 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-130 Hauling Schedule**

The hauling of forest products will not be permitted on any road from November 1 to March 31 unless authorized in writing by the Contract Administrator .

**H-140 Special Harvest Requirements**

Purchaser shall accomplish the following during the harvest operations:

- A. An on-site pre-work meeting shall be scheduled with the Contract Administrator, which shall include the operator and fallers, prior to commencement of any activities on site.
- B. A copy of the timber sale map and contract shall be present on site during active operations.
- C. The Purchaser's authorized site representative(s) shall be present on site every day in which operations occur.

- D. Exposed mineral soils created by falling or yarding operations with the potential to deliver sediment to any watercourse must be mulched, water-barred and/or grass seeded prior to October 1 or concurrent with operations between October 1 and March 31.
- E. Temporary log crossings that protect stream bank integrity are required for typed water crossings during yarding or road construction operations and must be approved in writing by the Contract Administrator. Structures shall be limited to crossing points approved in writing by the Contract Administrator. Streambeds and banks shall be protected by the use of log puncheon or other approved structures at these crossing points and removed upon the completion of yarding activities.
- F. All black cottonwood in the harvest area must be felled and yarded to a landing or girdled and left standing.
- G. The H-035 is only applicable to the west end of Unit 4 where the timber sale bordered private property.
- H. Cutting and yarding in Units 1 and 4 shall not be permitted during the bark slippage season unless authorized in writing by the Contract Administrator. This season is estimated to run from April 1 to July 15 but may vary depending on weather conditions. If permission is granted to operate during the bark slippage season the purchaser shall be required to provide a plan outlining mitigation measure.

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

H-141 Additional Harvest Requirements

Purchaser shall accomplish the following during the harvest operations:

- A. Road building and abandonment and rock/timber haul east of station 5+08 of the MJ-21 Road must be completed between June 1 and September 30 of the same year. All timber harvest activities occurring east of the temporary bridge at station 6+93 of the MJ-21 Road must also be completed between the dates listed above.

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

H-150 Required Removal of Forest Products

Purchaser shall remove from the sale area and present for scaling or weighing all forest products conveyed in the G-010 clause that meet the following minimum dimensions:

Species	Net bd ft	Log length (ft)	Log dib
All species	10	12	5

The State may treat failure to remove forest products left on the sale area that meet the above specifications as a breach of this contract. At the State's option, forest products that meet the above specifications and are left on the sale area may be scaled for volume or measured and converted to weight by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling, measuring and computing the billing will be borne by the Purchaser.

H-157 Optional Removal of Forest Products Not Designated

If in the course of operations, Purchaser decides to remove forest products that are below the minimum designated removal specifications per the 'Required Removal of Forest Products' (H-150), the payment rates in clause P-027 shall apply.

Forest products designated as optional shall be decked separately from forest products designated as required for removal. Prior to removal from the sale area, optional forest products as described in this clause must be inspected and approved by the Contract Administrator. Optional forest products may not be mixed with forest products that are required for removal by this contract and shall be removed from the sale area in separate truck loads using load tickets specified by the Contract Administrator.

All material removed under this clause is subject to the same log and load accountability rules as defined in the Log Definitions and Accountability section of this contract. Purchaser shall follow the payment procedures as required in the P-052 clause and will submit a separate summary report for all forest products removed from the sale area under the authority of this clause.

H-160 Mismatch

Mismatch is defined as forest products remaining on the sale area that would have met the specifications in clause H-150 if bucking lengths had been varied to include such products.

The State may treat mismatch as a breach of this contract. At the State's option, forest products that are left on the sale area may be scaled for volume by the State or a third party scaling organization and billed to Purchaser at the contract payment rate. All costs associated with scaling and computing the billing will be borne by Purchaser.

H-170 Utility Log Removal

All utility logs shall be yarded concurrently with the yarding of other logs and shall be removed from the sale area.

H-180 Removal of Specialized Forest Products or Firewood

Prior to the removal of conveyed specialized forest products or firewood from the sale area, Purchaser and the State shall agree in writing to the method of accounting for/and removal of such products.

H-190 Completion of Settings

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

H-220 Protection of Residual or Adjacent Trees

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

Section C: Construction and Maintenance

C-040 Road Plan

Road construction and associated work provisions of the Road Plan for this sale, dated 5/25/2016 are hereby made a part of this contract.

C-050 Purchaser Road Maintenance and Repair

Purchaser shall perform work at their own expense on the MJ-14, MJ-16, MJ-21, MJ-24, MJ-2406, MJ-35, MJ-3507, MJ-41, MJ-4101, SK-2822, and SK-2825 roads. All work shall be completed to the specifications detailed in the Road Plan.

C-060 Designated Road Maintainer

If required by the State, Purchaser shall perform maintenance and replacement work as directed by the Contract Administrator on the MJ-ML, MJ-03, MJ-51, SK-ML, and SK-28 roads. Purchaser shall furnish a statement in a form satisfactory to the State showing the costs incurred while performing this work. Costs shall be based on the rates set forth in the State current Equipment Rate Schedule on file at the region and Olympia offices. The State shall reimburse Purchaser for said costs within 30 days of receipt and approval of the statement.

C-130 Dust Abatement

Purchaser shall abate dust on the MJ-ML 0+00 to 14+55 from May 1 to September 31.

Section S: Site Preparation and Protection

S-001 Emergency Response Plan

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

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

S-010 Fire Hazardous Conditions

Purchaser acknowledges that operations under this Contract may increase the risk of fire. Purchaser shall conduct all operations under this agreement following the

requirements of WAC 332-24-005 and WAC 332-24-405 and further agrees to use the highest degree of care to prevent uncontrolled fires from starting.

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

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

**S-030 Landing Debris Clean Up**

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

**S-035 Logging Debris Clean Up**

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

**S-050 Cessation of Operations for Low Humidity**

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

**S-060 Pump Truck or Pump Trailer**

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

**S-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-010 Liquidated Damages

The clauses in the DAMAGES section of this contract provide for payments by Purchaser to the State for certain breaches of the terms of this contract. These payments are agreed to as liquidated damages and not as penalties. They are reasonable estimates of anticipated harm to the State 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.

D-020 Failure to Remove Forest Products

Purchaser's failure to remove all or part of the forest products sold in this agreement prior to the expiration of the contract term results in substantial injury to the State. The value of the forest products sold at the time of breach is not readily ascertainable. Purchaser's failure to perform disrupts the State's management plans, the actual cost of which is difficult to assess. A resale involves additional time and expense and is not an adequate remedy. Therefore, Purchaser agrees to pay the State as liquidated damages a sum calculated using the following formula:

$$LD = .35V-ID-P+C+A$$

Where:

LD = Liquidated Damage value.

V = The unremoved value at the date of breach of contract. The value is determined by subtracting the removal volume to date from the State's cruise volume multiplied by the contract bid rates.

ID = Initial Deposit paid at date of contract that has not been applied to timber payments.

P = Advance payments received but not yet applied to specific contract requirements.

C = Charges assessed for contract requirements completed prior to breach of contract but not paid for.

A = Administrative Fee = \$2,500.00.

The above formula reflects the Purchaser's forfeiture of the initial deposit in accordance with clause P-010 by deducting the initial deposit from the amount owed. In no event shall the liquidated damages be less than zero. Interest on the liquidated damage is

owed from the date of breach until final payment, calculated using the following formula:  $\text{Interest} = r \times \text{LD} \times N$ .

Where:

r = daily equivalent of an annual interest at current interest rate as established by WAC 332-100-030.

LD = Liquidated damage value.

N = Number of days from date of breach to date payment is received.

D-030 Inadequate Log Accountability

Removal of forest products from the sale area without adequate branding and/or valid load tickets attached to the load and scaling forest products in a location other than the facility approved by the State can result in substantial injury to the State. Failure to properly account for loads and scaling and/or weighing information can result in loss to the State. The potential loss from not having proper branding, ticketing, scaling and/or weighing location and accountability is not readily ascertainable. Purchaser's failure to perform results in a loss of log weight and scale accountability, increases the potential for unauthorized removal of forest products, and increases the State's administration costs, the actual costs of which are difficult to assess.

Enforcement actions for unauthorized removal of forest products for each improperly branded load, improperly ticketed load, lost or unaccounted for tickets, or use of a facility not authorized for this sale or improper submission of scaling data are impractical, expensive, time consuming and are not an adequate remedy. Therefore, Purchaser agrees to pay the State, as liquidated damages, a sum of \$100 each time a load of logs does not have branding as required in the contract, \$250 each time a load of logs does not have a load ticket as required by the contract, \$250 each time a load ticket has not been filled out as required by the plan of operations, \$250 each time a load is weighed or scaled at a location not approved as required under this contract, \$250 each time a log ticket summary report is not submitted properly, and if a third party Log and Load Reporting Service is required, \$250 each time scaling or weight data is not properly submitted to the Log and Load Reporting Service per clause L-071, and \$250 each time a ticket is either lost or otherwise unaccounted for.

D-040 Leave Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-012, Leave Tree Damage Definition, the trees damaged result in substantial injury to the State. The value of the damaged leave trees at the time of the breach is not readily ascertainable. Therefore, Purchaser agrees to pay the State as liquidated damages at the rate of \$50.00 per tree for all damaged trees in the RMZ/WMZ Variable Density Thinning areas.

D-041 Reserve Tree Excessive Damage

When Purchaser's operations exceed the damage limits set forth in clause H-013, Reserve Tree Damage Definition, and when the Contract Administrator determines that a suitable replacement for a damaged reserve tree is not possible, the damaged trees

result in substantial injury to the State. The value of the damaged reserve trees at the time of the breach is not readily ascertainable. Therefore, the Purchaser agrees to pay the State as liquidated damages at the rate of \$1,000.00 per tree for all damaged reserve trees that are not replaced in the Variable Retention Harvest area.

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

STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

\_\_\_\_\_  
Purchaser

\_\_\_\_\_  
Jean Fike  
Northwest Region Manager

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Address:

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

STATE OF \_\_\_\_\_ )

COUNTY OF \_\_\_\_\_ )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me personally appeared \_\_\_\_\_

\_\_\_\_\_ to me known to be the \_\_\_\_\_ of the corporation that executed the within and foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of the corporation, for the uses and purposes therein mentioned, and on oath stated that (he/she was) (they were) authorized to execute said instrument.

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

\_\_\_\_\_  
Notary Public in and for the State of

\_\_\_\_\_  
My appointment expires \_\_\_\_\_

**Schedule A**  
**NW Ground-Based Equip Specifications (Rev 2/11/16)**

The following types of equipment are considered ground-based equipment: feller-buncher, processor, forwarder, skidder and shovel.

SHOVEL is defined as a low ground pressure track-mounted machine with hydraulic boom and grapple capable of picking up one end of the largest log 25 feet from the center of the machine.

LOG PROCESSOR/DE-LIMBER is defined as a mobile machine with a hydraulic boom capable of simultaneously bucking, delimiting and/or debarking and chipping whole trees while sitting stationary at the landing.

FELLER-BUNCHER/HARVESTER is defined as a track mounted machine with hydraulic boom and cutter head capable of felling, bucking, limbing, and decking logs in one operation.

FORWARDER is defined as a track or rubber tire machine used for transporting logs to a landing by use of a bunk with self loading boom in which logs are carried free of the ground.

RUBBER-TIRED SKIDDER is defined as a skidder mounted on rubber tires used to drag logs to a landing. Logs are generally pulled in groups of six or less, with one end on the ground.

TRACKED SKIDDER is defined as any tracked tractor or skidder, fixed or articulated, used to drag logs to landings. Logs are generally pulled in groups of six or less, with one end on the ground.

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

**FOR ALL YARDING:**

Equipment will remain at least 30 feet from all water courses or areas of wet/soft soils, except as necessary to cross at approved locations. Water course crossing structures must be approved by the Contract Administrator.

Logging debris created by the operation will be removed from water courses concurrently with yarding.

**WHEN SHOVEL YARDING IS AUTHORIZED:**

S1. When yarding and loading operations are occurring simultaneously, an additional shovel will be required for loading to avoid extra trips to the landing.

S2. Shovel yarding will not be allowed to create ruts or soil puddling. Shovel routes should be dispersed to prevent creation of definable trails.

S3. Within shovel logged areas, to facilitate proper reforestation, logging debris will be dispersed as necessary to create clear, plantable spots at approximately a 11 foot x 11 foot spacing. Planting spots will be created concurrently with yarding.

LOG PROCESSORS will be allowed within the sale area only under one of the following conditions:

1. No tops or limbs will be allowed to accumulate on any landings, and all tops and limbs will be re-distributed into the unit, to the satisfaction of the Contract Administrator, and will provide for plantable spots every 11 feet by 11 feet.
2. Harvester must provide a written slash treatment plan, acceptable to the Contract Administrator, to address the additional slash accumulation. The Slash Treatment Plan will be a part of the Plan of Operations.

**Schedule B**  
**Thinning Prescription**

Hoosier Variable Density Thinning (VDT) Units:

**DESCRIPTION:**

These special management units begin at blue special management unit boundary tags with pink ribbon and are bounded by white timber sale boundary tags with pink ribbon, and existing and/or newly constructed road. Some VDT units begin at orange right-of-way tags and orange flashers areas beyond orange tags are bounded by white timber sale boundary tags. Trees marked with orange or blue tags may be cut in the areas described above provided they are eligible for harvest under the take prescription described below. Please refer to the Schedule B Addendum Maps.

**PRESCRIPTION:**

Douglas fir stems 8 to 16 inches at dbh and all red alder stems are eligible for harvest. Only those trees eligible for harvest that can be felled and yarded without inflicting damage (as defined in Clause H-012) to non-take trees may be harvested.

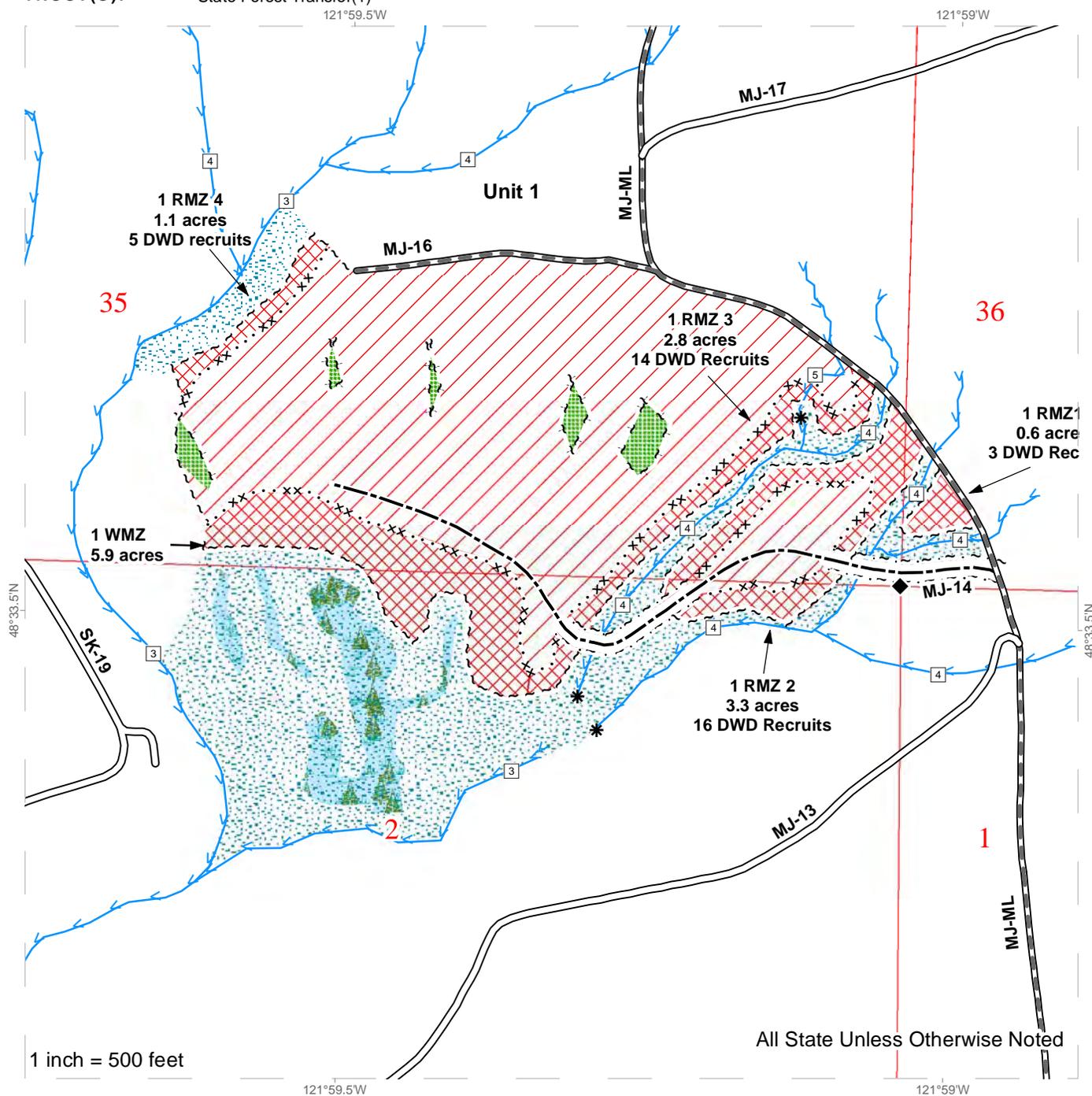
**OTHER REQUIREMENTS:**

Within the special management units associated with RMZs, five of the largest designated take trees per acre must be felled towards the buffered creek to serve as downed woody debris (DWD) recruitment. These selected DWD recruitment trees must be evenly distributed throughout the RMZ. WMZ are exempt from this DWD recruitment requirement. See the attached "Schedule B Addendum Map" for the required number of DWD recruits per sub-unit.

# Schedule B Addendum Map (1/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



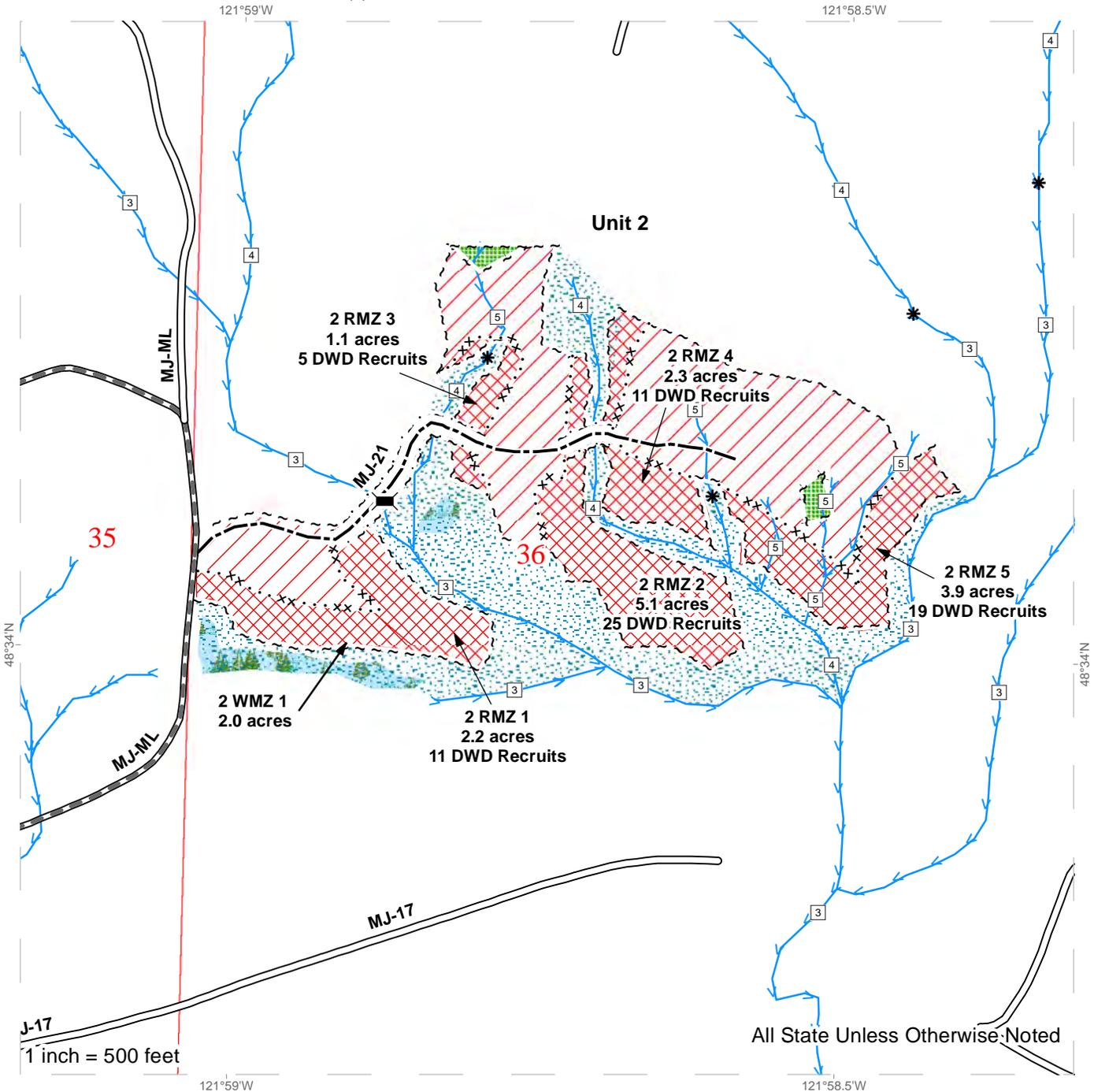
Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Optional Construction	Special Mgmt Area
Leave Tree Area	Existing Roads	Leave Tree Tags
Riparian Mgt Zone	Streams	Right of Way Tags
Forested Wetland	Stream Type	
	Stream Type Break	
	Monumented Corners	



# Schedule B Addendum Map (2/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



All State Unless Otherwise Noted

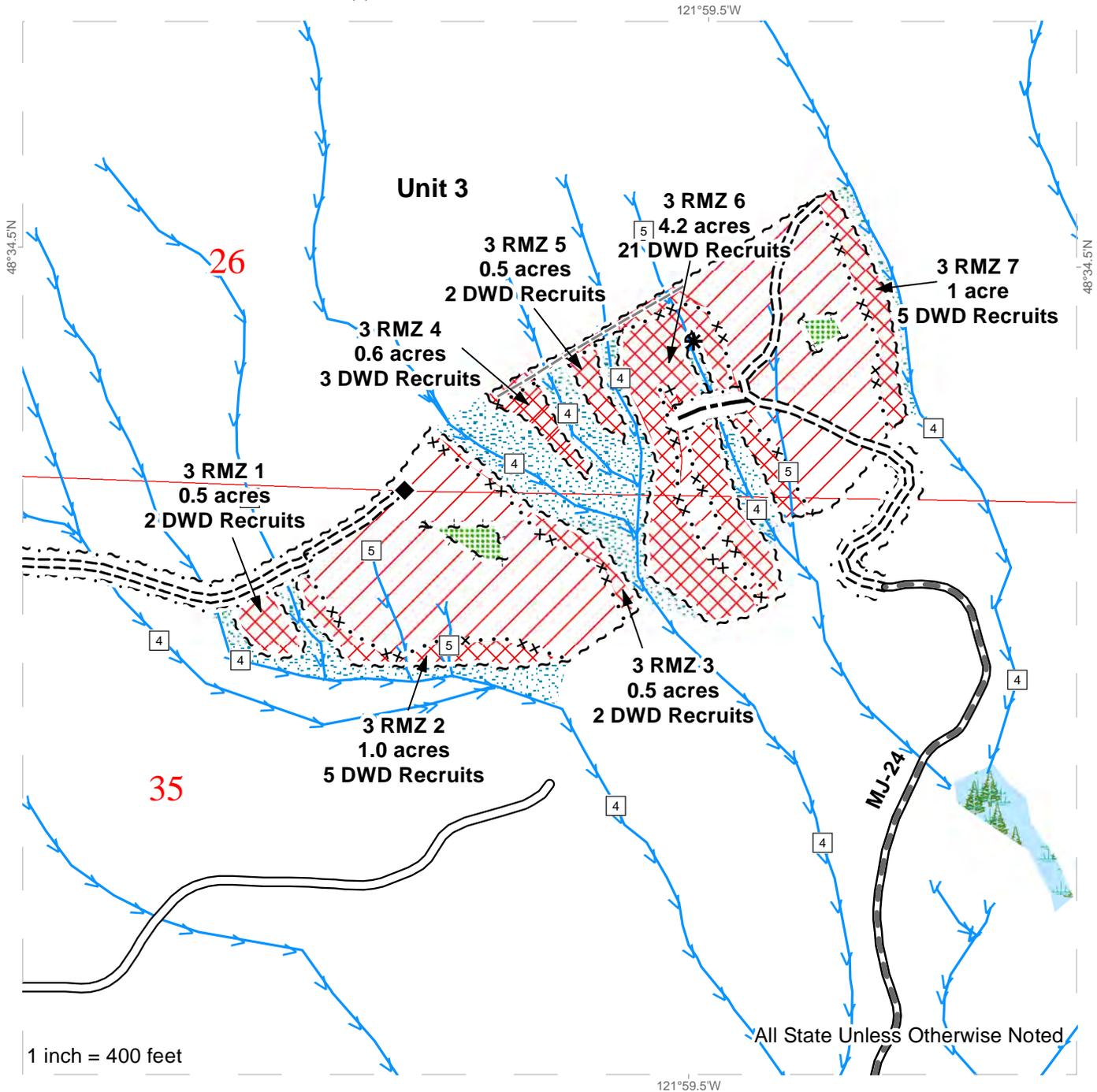
	Variable Retention Harvest		Required Pre-Haul Maintenance		Stream Type
	Variable Density Thinning		Optional Construction		Stream Type Break
	Leave Tree Area		Existing Roads		Sale Boundary Tags
	Riparian Mgt Zone		Streams		Special Mgmt Area
	Forested Wetland				Leave Tree Tags
					Right of Way Tags
					Bridge Installation



# Schedule B Addendum Map (3/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



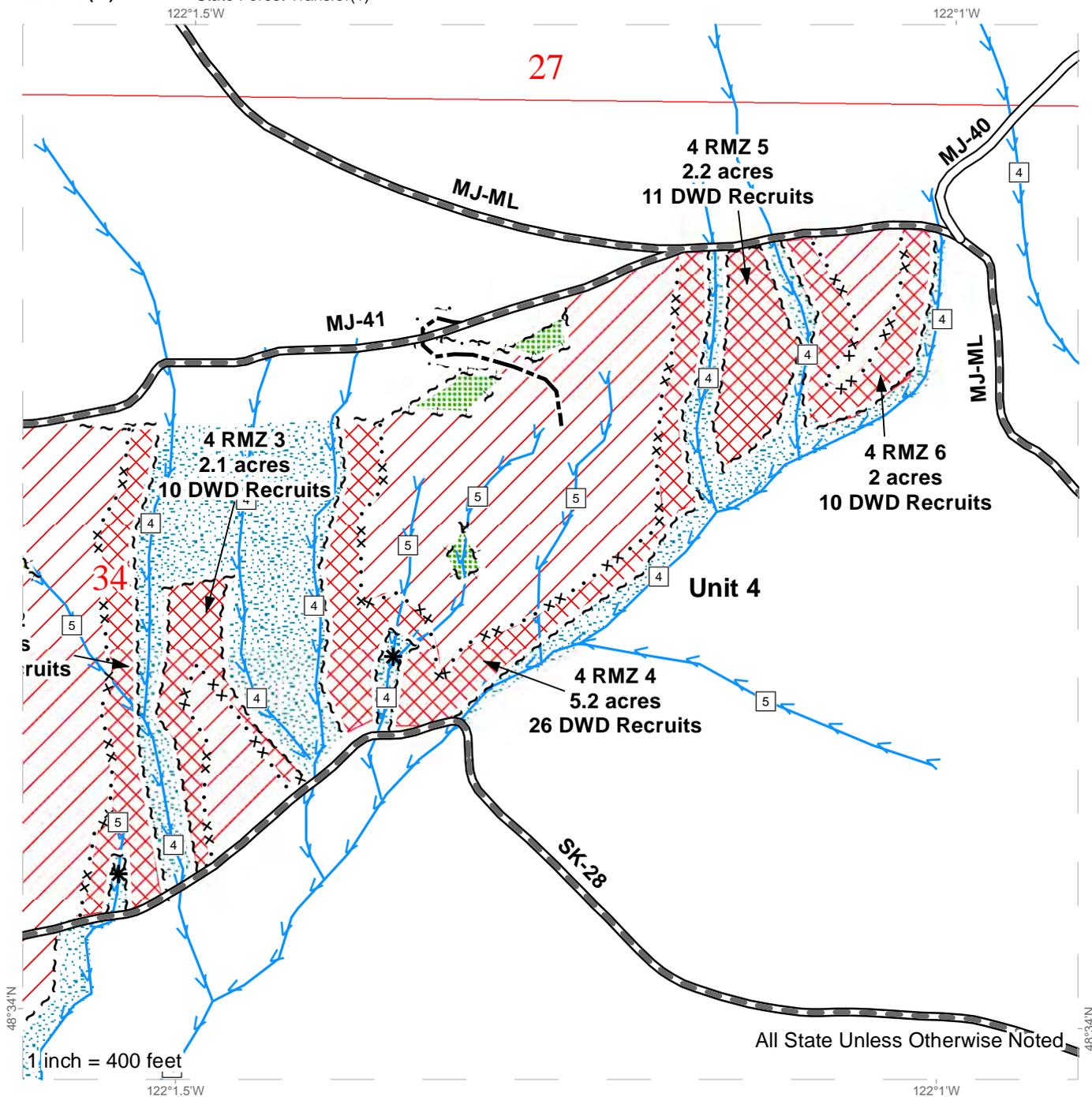
	Variable Retention Harvest		Required Pre-Haul Maintenance		Stream Type
	Variable Density Thinning		Required Construction		Stream Type Break
	Leave Tree Area		Designated Skid Trail		Monumented Corners
	Riparian Mgt Zone		Optional Construction		Sale Boundary Tags
	Forested Wetland		Existing Roads		Special Mgmt Area
	Streams		Streams		Leave Tree Tags
					Right of Way Tags



# Schedule B Addendum Map (4/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



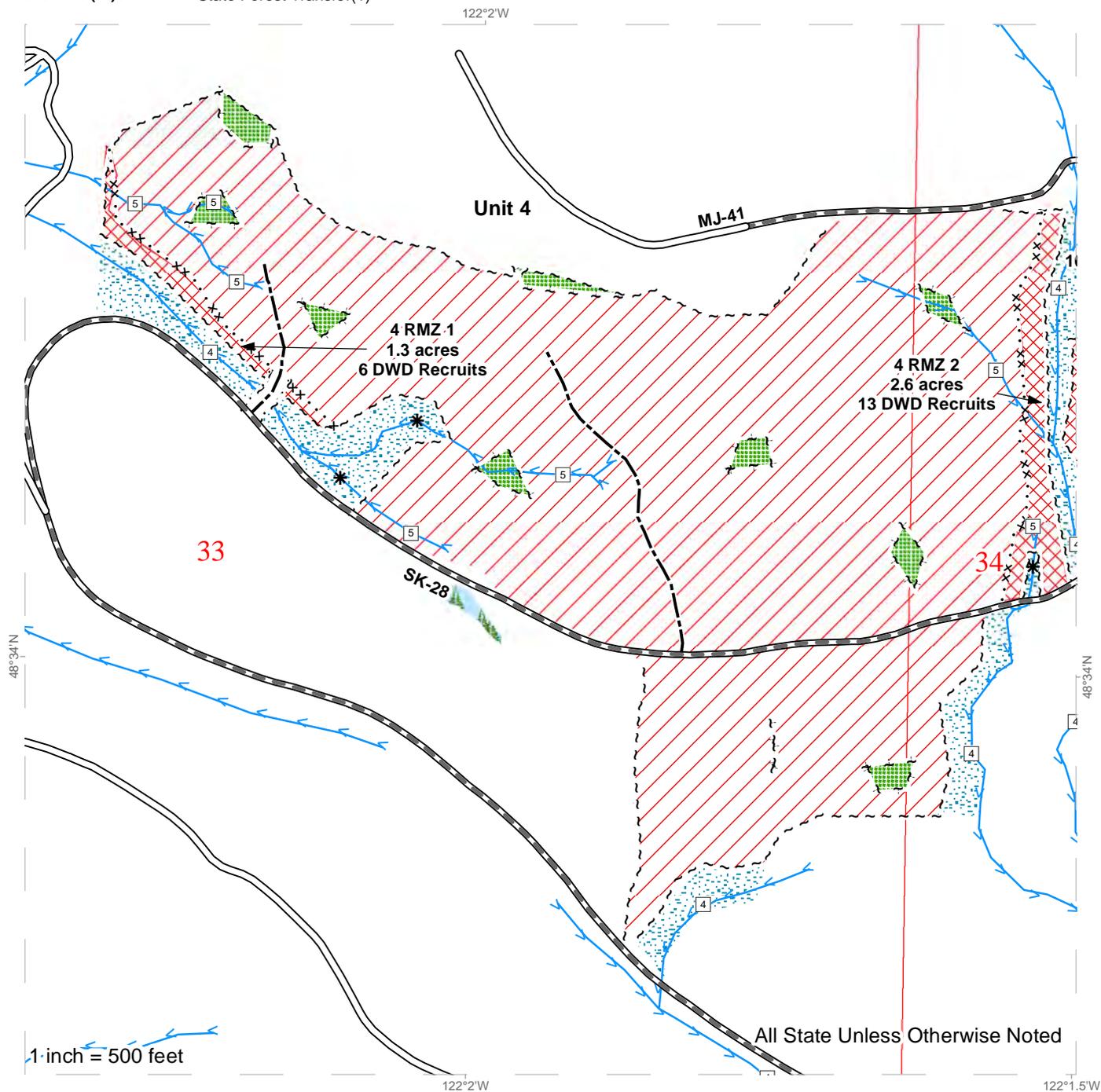
Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Optional Construction	Special Mgmt Area
Leave Tree Area	Existing Roads	Leave Tree Tags
Riparian Mgt Zone	Streams	Right of Way Tags
Stream Type	Stream Type Break	



# Schedule B Addendum Map (5/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Optional Construction	Special Mgmt Area
Leave Tree Area	Existing Roads	Leave Tree Tags
Riparian Mgt Zone	Streams	Right of Way Tags
Forested Wetland	Stream Type	
	Stream Type Break	





## WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

### FOREST EXCISE TAX ROAD SUMMARY SHEET

**Region:**

**Timber Sale Name:**

**Application Number:**

#### EXCISE TAX APPLICABLE ACTIVITIES

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

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

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

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

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

#### EXCISE TAX EXEMPT ACTIVITIES

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

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

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

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

(Revised 6/13)

## PRE-CRUISE NARRATIVE

Sale Name: <b>Hoosier VRH and VDT</b>	Region: <b>Northwest</b>
Agreement #: <b>30-093569</b>	District: <b>Baker</b>
Contact Forester: <b>Stephen Morgan</b> Phone / Location: <b>(360) 815-7133 / Deming</b>	County(s): <b>Skagit</b>
Alternate Contact: <b>Kyle Galloway</b> Phone / Location: <b>(360) 853-5100 / Deming</b>	Other information: <a href="#">Click here to enter text.</a>

Type of Sale: <b>MBF Scale</b>	
Harvest System: <b>Ground based</b> <a href="#">Click here to enter text.</a>	100%

### UNIT ACREAGES AND METHOD OF DETERMINATION:

Unit # Harvest R/W or RMZ WMZ	Legal Description <small>(Enter only one legal for each unit)</small> Sec/Twp/Rng	Grant or Trust	Gross Proposal Acres	Deductions from Gross Acres (No harvest acres)				Net Harvest Acres	Acreage Determination  <small>(List method and error of closure if applicable)</small>
				No-cut RMZ/ WMZ Acres	Leave Tree Acres	Existing Road Acres	Other Acres <small>(describe)</small>		
1 VRH	Sect 35 of T36N R06E	01	40.7	-	1.5	-	-	39.2	GPS (Garmin)
1 RMZ	Sect 35 of T36N R06E	01	17.7	9.6	-	-	0.3 <small>(new R/W)</small>	7.8	GPS (Garmin)
1 WMZ	Sect 2 of T35N R06E	01	25.5	19.6	-	-	-	5.9	GPS (Garmin)
1 ROW	Sect 35 of T36N R06E	01	1.2	-	-	-	-	1.2	1075' x 50'
2 VRH	Sect 36 of T36N R06E	01	17.9	-	0.6	-	-	17.3	GPS (Garmin)
2 RMZ	Sect 36 of T36N R06E	01	33	17.9	-	-	0.5 <small>(new R/W)</small>	14.6	GPS (Garmin)
2 WMZ	Sect 36 of T36N R06E	01	3.8	-1.5	-	-	-	2	GPS (Garmin)
2 ROW	Sect 36 of T36N R06E	01	1.2	-	-	-	-	1.2	890' x 60'
3 VRH	Sect 35 of T36N R06E	01	12.8	-	0.5	-	-	12.3	GPS (Garmin)
3 RMZ	Sect 35 of T36N R06E	01	15.1	6.6	-	-	0.2 <small>(new R/W)</small>	8.3	GPS (Garmin)
3 ROW	Sect 35 of T36N R06E	01	2.3	-	-	-	-	2.3	1370' x 60'
4 VRH	Sect 33 of T36N R06E	01	106.5	-3	3.6	1.7	-	98.2	GPS (Garmin)
4 RMZ	Sect 34 of T36N R04E	01	33.8	18.3	-	-	0.1 <small>(new R/W)</small>	15.4	GPS (Garmin)
4 ROW	Sect 34 of T36N R06 E	01	0.7	-	-	-	-	0.7	515' x 60'
<b>TOTAL ACRES</b>			311.9	76.5	6.2	1.7	1.1	226.4	

**HARVEST PLAN AND SPECIAL CONDITIONS:**

Unit #	Harvest Prescription: (Leave, take, paint color, tags, flagging etc.)	Special Management areas:	Other conditions (# leave trees, etc.)
1 VRH	Harvest all timber bounded by white timber sale boundary (TSB) tags, blue special management (SM) tags, The MJ-ML, and the MJ-16; except for forest products bounded by yellow leave tree tags, and trees marked with blue paint on the bole and root collar.	See RMZ and WMZ harvest units below	This unit is made up of two sub-units. See the detailed acreage sheet for sub-unit acres. 293 leave trees have been marked for retention in five leave tree areas. An additional 35 scattered trees have been individually marked for retention.
1 RMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines, on and beyond the orange right-of-way tag lines and bounded by white timber sale boundary tags and the MJ-ML.	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder. Five of the larger take trees per acre must be felled into the creek and left for downed wood.	This unit is made up of four sub-units. See the detailed acreage sheet for sub-unit acres.
1 WMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines and bounded by white timber sale boundary tags.	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder.	This unit is located along the southern boundary of the harvest area.
1 ROW	Harvest all timber bounded by orange right-of-way tags.	N/A	Acreage for this unit is the total of 3 right-of-way segments associated with the reconstruction of the MJ-14
2 VRH	Harvest all timber bounded by white TSB tags, blue SM tags, and the MJ-ML; except for forest products bounded by yellow leave tree tags, trees marked with blue paint on the bole and root collar.	See RMZ and WMZ harvest units below	This unit is made up of three sub-units. See the detailed acreage sheet for sub-unit acres. 94 leave trees have been marked for retention in two leave tree areas. An additional 50 scattered trees have been individually marked for

			retention.
2 RMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines, on and beyond the orange right-of-way tags and bounded by white timber sale boundary tags.	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder. Five of the take trees per acre must be felled into the creek and left for downed wood.	This unit is made up of five sub-units. See the detailed acreage sheet for sub-unit acres.
2 WMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines and bounded by white timber sale boundary tags and the MJ-ML.	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder.	This unit is located on the south edge of Unit 2A
2 ROW	Harvest all timber bounded by orange right-of-way tags.	N/A	Acreage for this unit is the total of two right-of-way segments associated with the construction of MJ-21
3 VRH	Harvest all timber bounded by white TSB tags and/or blue SM tags; except for forest products bounded by yellow leave tree tags, trees marked with blue paint on the bole and root collar.	See RMZ harvest unit below.	This unit is made up of three sub-units. See the detailed acreage sheet for sub-unit acres. 89 leave trees have been marked for retention in two leave tree areas. An additional 13 scattered trees have been individually marked for retention.
3 RMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines, on and beyond the orange right-of-way tags and bounded by white timber sale boundary and the MJ-3507	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder. Five of the take trees per acre must be felled into the creek and left for downed wood.	This unit is made up of seven sub-units. See the detailed acreage sheet for sub-unit acres.
3 ROW	Harvest all timber bounded by orange right-of-way tags and timber described by the take prescription.	Take Prescription: Harvest all timber within 20' of center line along the existing portion of the MJ-24.	Acreage for this unit consists of three right of way segments. One segment for the reconstruction of MJ-3507, one segment for

			the construction of MJ-24, and one segment for the construction of MJ-2406
4 VRH	Harvest all timber bounded by white TSB tags, blue SM tags, the MJ-ML, the MJ-41, and the SK-28; except for forest products bounded by yellow leave tree tags, trees marked with blue paint on the bole and root collar.	See RMZ harvest unit below.	This unit is made up of four sub-units. See the detailed acreage sheet for sub-unit acres. 826 leave trees have been marked for retention in 13 leave tree areas. An additional 27 scattered trees have been individually marked for retention.
4 RMZ	Harvest all timber described by the take prescription on and beyond the blue special management tag lines and bounded by white TSB tags, the MJ-ML, the MJ-41, and the SK-28.	Take Prescription: Harvest Douglas fir stems 8-16" at DBH; harvest all red alder. Five of the take trees per acre must be felled into the creek and left for downed wood.	This unit is made up of six sub-units. See the detailed acreage sheet for sub-unit acres.
4 ROW	Harvest all timber bounded by orange right-of-way tags.	N/A	Acreage for this unit is a right of way segment on the MJ-4101, and the SK-2822.

**OTHER PRE-CRUISE INFORMATION:**

Unit #	Primary, secondary Species / Estimated Volume (MBF)	Access information (Gates, locks, etc.)	Photos, traverse maps required
1 VRH	DF / 850 mbf	These sub-units are accessible via the MJ-14 (to be reconstructed) and the MJ-16. See attached driving map and directions.	See attached traverse maps.
1 RMZ	DF / 55 mbf	These sub-units are accessible via the MJ-ML, MJ-14 (to be reconstructed) and the MJ-16.	See attached traverse maps.
1 WMZ	DF / 25 mbf	This unit is located along an abandoned section of the MJ-14 (not to be reconstructed).	See attached traverse maps.
1 ROW	DF / 3 mbf	This unit is associated with reconstruction of the MJ-14 and begins at the junction with the MJ-ML.	See attached traverse maps.
2 VRH	DF / 350 mbf	These sub-units are accessible via the MJ-21 (to be reconstructed) and the MJ-ML. See	See attached traverse maps.

		attached driving map and directions.	
2 RMZ	DF / 60 mbf	These sub-units are accessible via the MJ-21 (to be reconstructed).	See attached traverse maps.
2 WMZ	DF / 10 mbf	This unit begins at the MJ-ML	See attached traverse maps.
2 ROW	DF / 10 mbf	This unit is associated with new and reconstruction of the MJ-21 and begins at the junction with the MJ-ML.	See attached traverse maps.
3 VRH	DF / 240 mbf	The west end of this unit will be access the portion of the MJ-3507 to be reconstructed. The east end of this unit will be accessed by the extension of the MJ-24 that is to be constructed. See attached driving map and directions.	See attached traverse maps.
3 RMZ	DF / 55 mbf	See above. A designated a skid trail will access sub-units 4, 5 and 6.	See attached traverse maps.
3 ROW	DF / 20 mbf	This unit is associated with reconstruction of the MJ-3507 and new construction of the MJ-24 and MJ-2406.	See attached traverse maps.
4 VRH	DF / 2,000 mbf	The northern portion of this unit is accessible by the MJ-ML and the MJ-41. The southern portion is accessible by the SK-28. See attached driving map and directions.	See attached traverse maps.
4 RMZ	DF / 75 mbf	See above.	See attached traverse maps.
4 ROW	DF / 2 mbf	This unit is associated with new construction of the MJ-4101 and the SK-2822	See attached traverse maps.
TOTAL MBF	3755 mbf		

**REMARKS:**

Harvest unit traverse points are marked with lime green ribbon labeled with the corresponding GPS point. New road construction is marked at center lines with wooden stakes and orange. Reconstruction is marked with orange ribbon at center line.

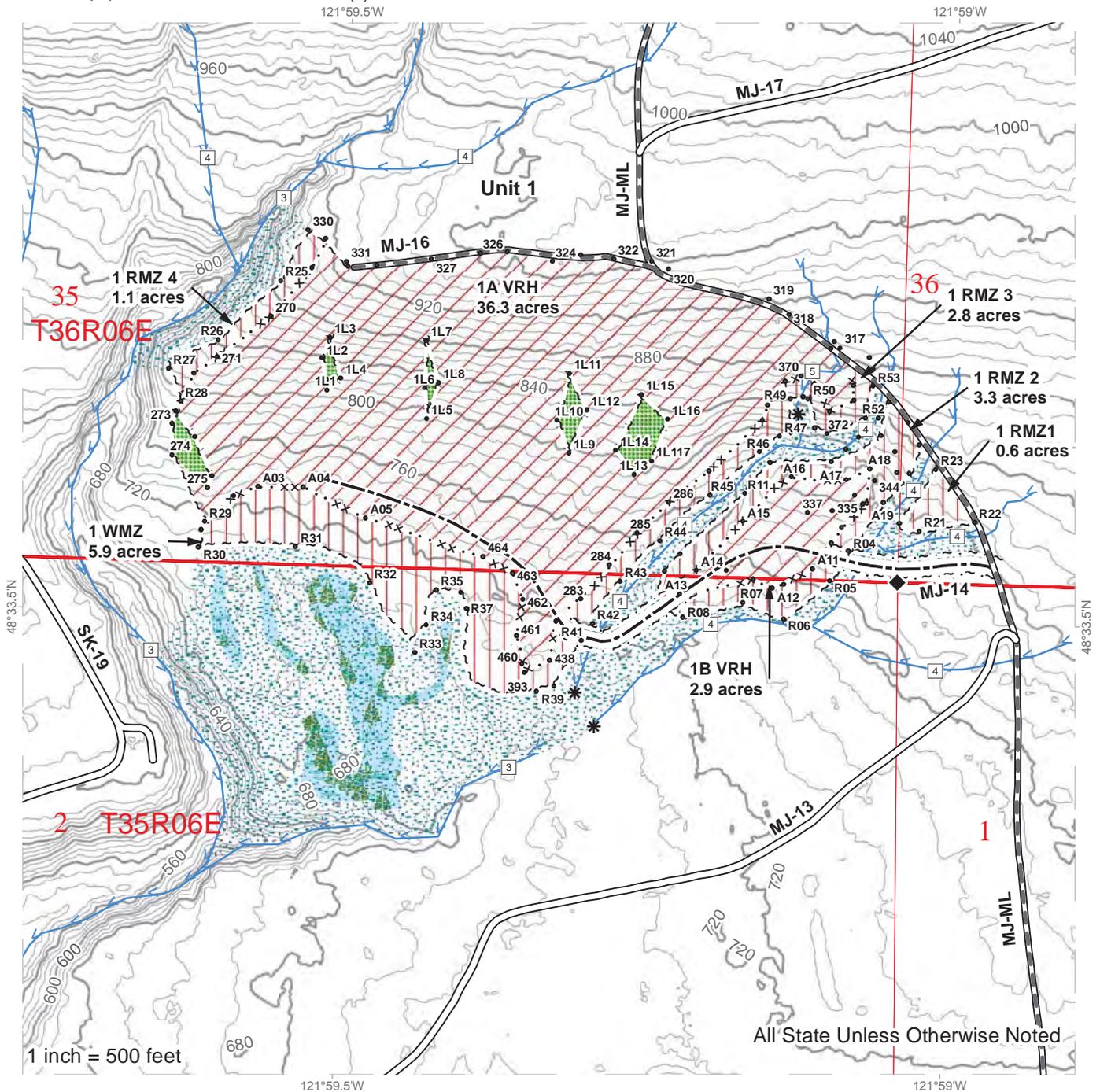
The entire harvest area is made up of previously thinned Douglas-fir plantations ranging from 48 to 31 years old growing on relatively high site ground. No pathogens, pest problems or areas of widespread defect are immediate apparent. The RMZ and WMZ thinning prescription may result in highly variable levels of extraction across the units.

Prepared By: Stephen Morgan Date: 04/30/2016	Title: Pre-sales Forester	CC:
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# TRAVERSE MAP (1/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



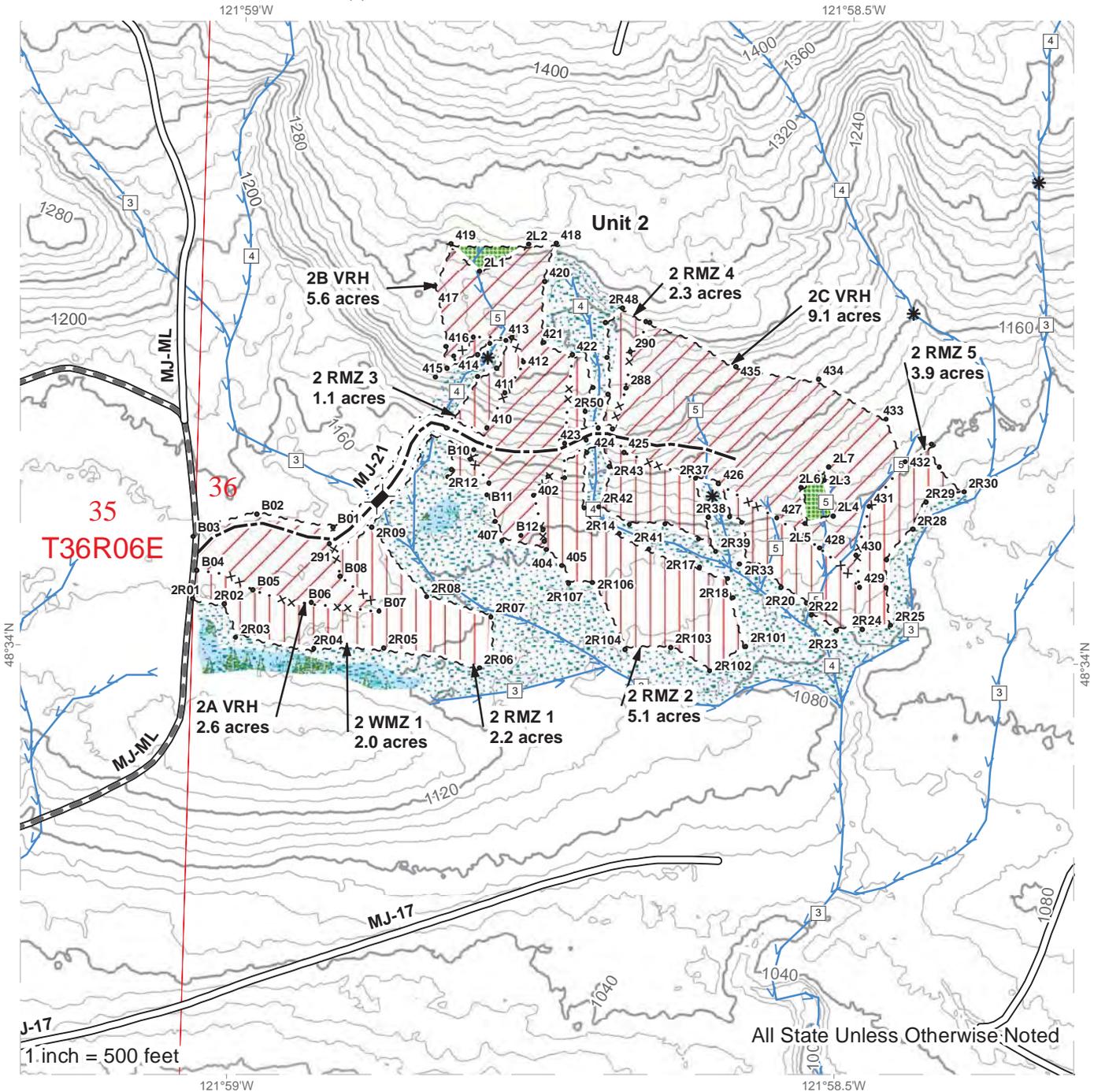
	Variable Retention Harvest		Required Pre-Haul Maintenance		Sale Boundary Tags
	Variable Density Thinning		Optional Construction		Special Mgmt Area
	Leave Tree Area		Existing Roads		Leave Tree Tags
	No Cut RMZ / WMZ		Streams		Right of Way Tags
	Forested Wetland		Stream Type		Property Line
			Stream Type Break		
			Monumented Corners		



# TRAVERSE MAP (2/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



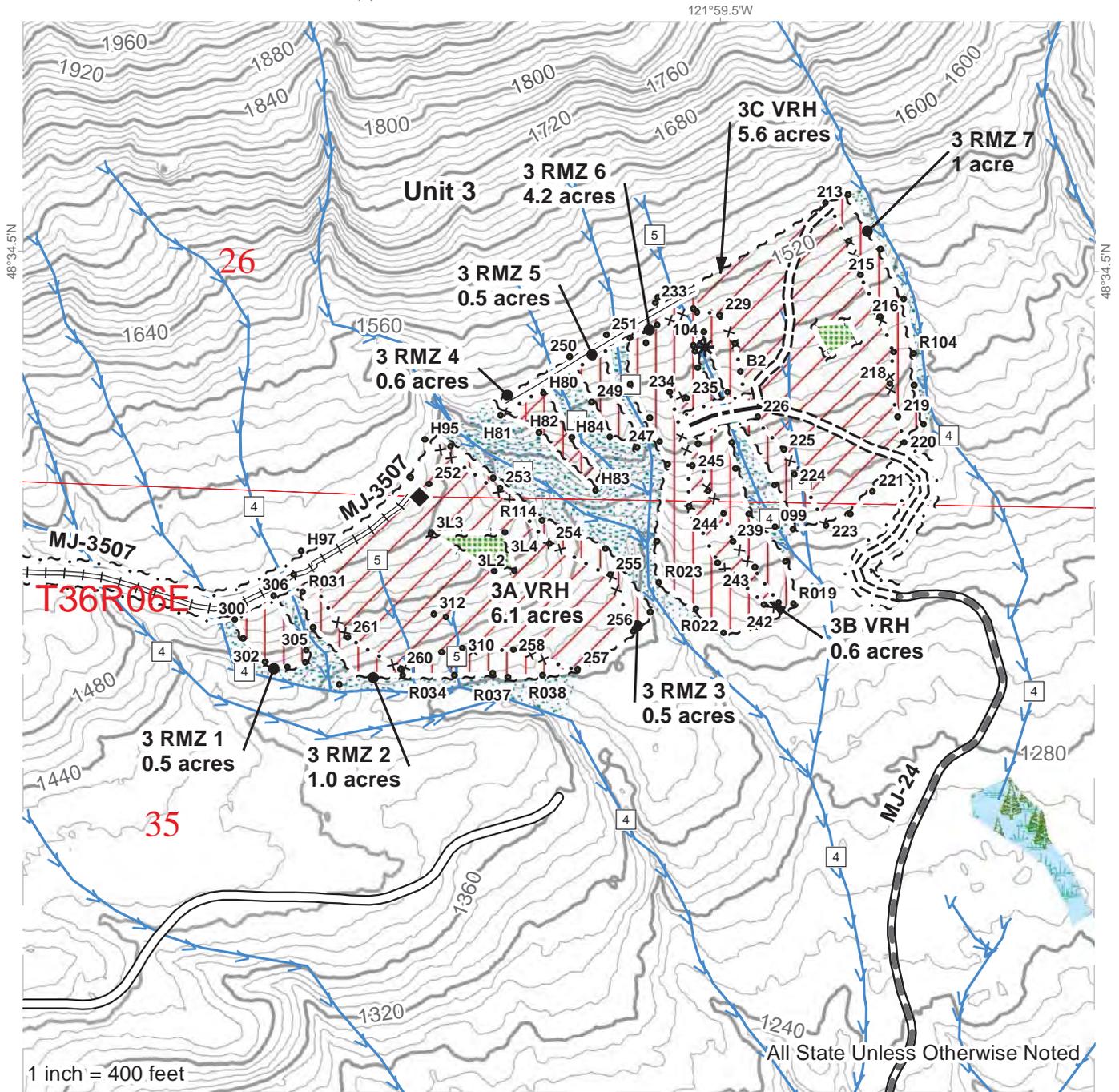
Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Optional Construction	Special Mgmt Area
Leave Tree Area	Existing Roads	Leave Tree Tags
No Cut RMZ / WMZ	Streams	Right of Way Tags
Forested Wetland	Stream Type	Property Line
	Stream Type Break	



# TRAVERSE MAP (3/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



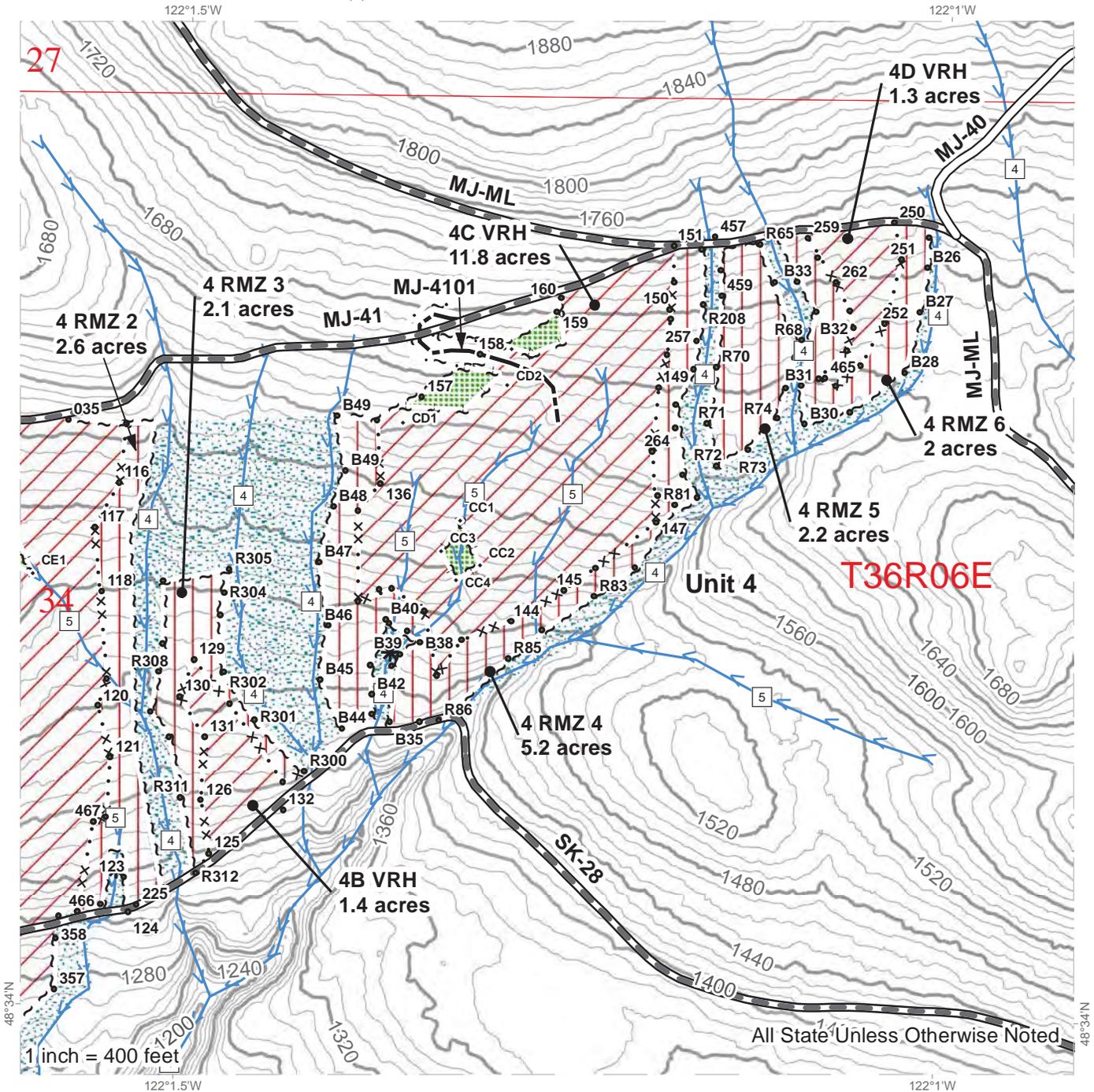
Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Required Construction	Special Mgmt Area
Leave Tree Area	Required Reconstruction	Leave Tree Tags
No Cut RMZ / WMZ	Optional Construction	Right of Way Tags
Forested Wetland	Designated Skid Trail	Property Line
	Existing Roads	
	Streams	
	Stream Type	
	Stream Type Break	
	Monumented Corners	



# TRAVERSE MAP (4/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



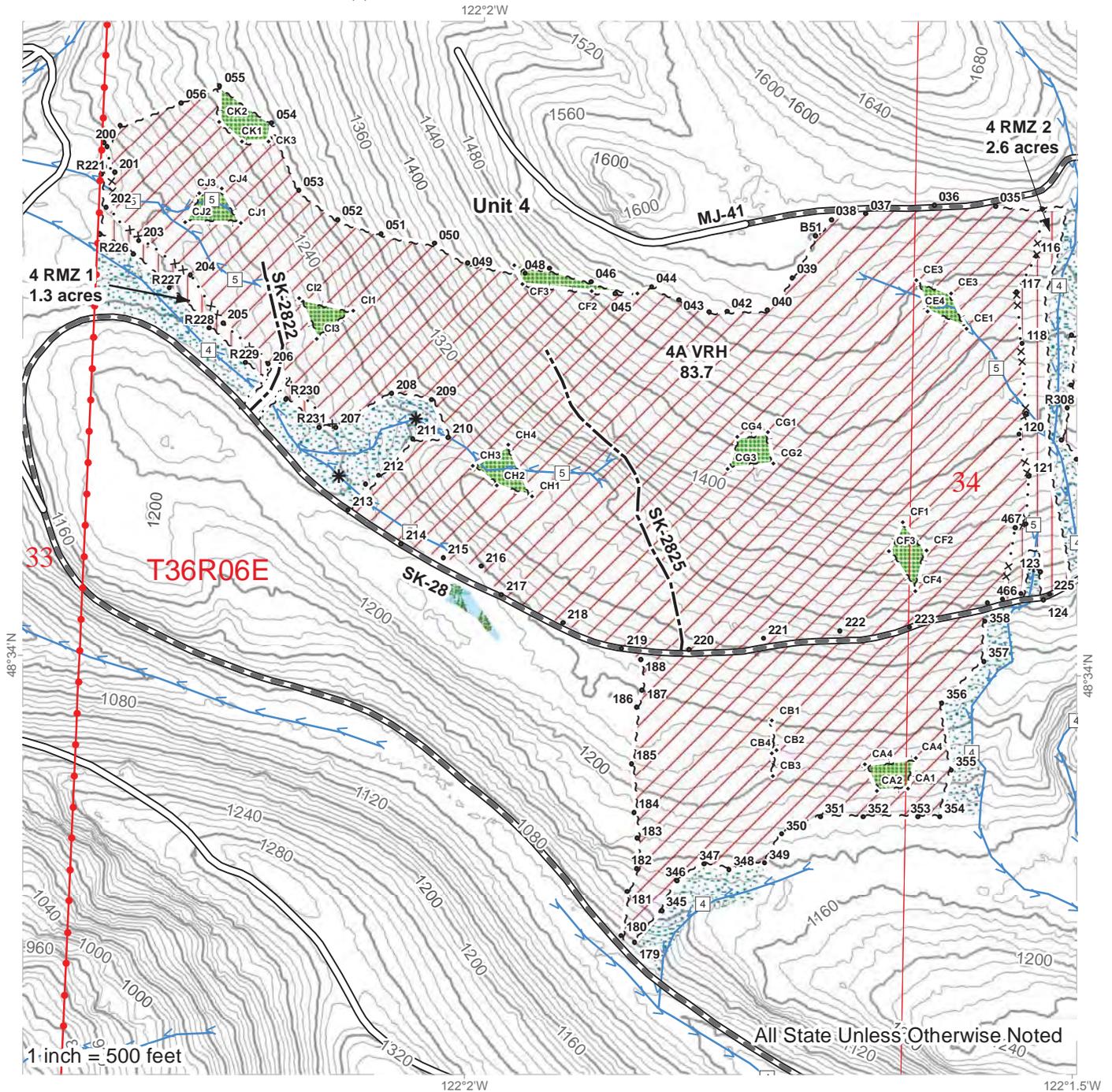
Variable Retention Harvest	Required Pre-Haul Maintenance	Sale Boundary Tags
Variable Density Thinning	Optional Construction	Special Mgmt Area
Leave Tree Area	Existing Roads	Leave Tree Tags
No Cut RMZ / WMZ	Streams	Right of Way Tags
	Stream Type	Property Line
	Stream Type Break	



# TRAVERSE MAP (5/5)

**SALE NAME:** HOOSIER  
**AGREEMENT #:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



	Variable Retention Harvest		Required Pre-Haul Maintenance		Sale Boundary Tags
	Variable Density Thinning		Optional Construction		Special Mgmt Area
	Leave Tree Area		Existing Roads		Leave Tree Tags
	No Cut RMZ / WMZ		Streams		Right of Way Tags
	Forested Wetland		Stream Type		Property Line
			Stream Type Break		



## Cruise Narrative

<b>Sale Name:</b> Hoosier VRH and VDT	<b>Region:</b> Northwest
<b>Agree. #:</b> 30-093569	<b>District:</b> Baker
<b>Lead cruiser:</b> Matt Llobet	<b>Completion date:</b> 8-2-16
<b>Other cruisers on sale:</b> JM, DS,RF	

**Unit acreage specifications:**

Unit #	Cruised acres	Cruised acres agree with sale acres? Yes/No	If acres do not agree explain why.
1	56.5	No	Combined units 1 & 2
2	110.5	No	Combined units 3 & 4
Thin	54.0	No	Combined RMZ Thin & WMZ Thin
ROW	5.4	No	Combined ROW 1,2,3,4
Total	226.4	Yes	

**Unit cruise specifications:**

Unit #	Sample type (VP, FP, ITS,100%)	Expansion factor (BAF, full/half)	Sighting height (4.5 ft, 16 ft.)	Grid size (Plot spacing or % of area)	Plot ratio (cruise:count)	Total number of plots
1	V.P.	46.94 BAF	4.5'	250' x 250'	1:1	33
2	V.P.	46.94 BAF	4.5'	225' x 225'	1:2	85
Thin	V.P.	46.94 BAF	4.5'	1plot/2.16ac	Cruise All	25
ROW	V.P.	40.00 BAF	4.5'	1plot/.41ac	Cruise All	13

**Sale/Cruise Description:**

<b>Minor species cruise intensity:</b>	N/A					
<b>Minimum cruise spec:</b>	Minimum DBH 8 inches, 10 Net Board feet, Minimum Top Diameter 5 inches or 40% of 16-foot form point					
<b>Avg ring count by sp:</b>	<b>DF =</b>	N/A	<b>WH =</b>	N/A	<b>SS =</b>	N/A
<b>Leave/take tree description:</b>	<p><b>Variable Retention Harvest-</b> Harvest all timber bounded by white timber sale boundary tags, blue special management tags, (see Schedule B); except for forest products bounded by yellow leave tree tags, and trees marked with blue paint on the bole and root collar.</p> <p><b>Variable Density Thin-</b> See Schedule B</p> <p><b>ROW-</b> Harvest all timber bounded by orange right-of-way tags and timber</p>					

	described by the take prescription.
<b>Other conditions:</b>	

**Field observations:**

All timber was graded in variable log lengths with the Scaling Bureaus Westside/Northwest log rules. The utility wood was given a board ft. volume. Hoosier timber sale consists of 100% ground base logging. Hoosier consists of a uniform Douglas fir timber type throughout the sale. The Douglas fir has an average diameter of 17 inches with an average bole height of 77 feet.

**Prepared By:** Matt Llobet

**Title:** Forest Check Cruiser 1

**Species, Sort Grade - Board Foot Volumes (Project)**

T36N R06E S35 Ty00U1 THRU T36N R06E S35 TyTHIN	<b>Project: HOOSIER</b> <b>Acres 226.40</b>	<b>Page 1</b> <b>Date 8/9/2016</b> <b>Time 4:46:07PM</b>
------------------------------------------------------	------------------------------------------------	----------------------------------------------------------------

S Spp	So T	Gr rt ad	% Net BdFt	Bd. Ft. per Acre Def% Gross Net			Total Net MBF	Percent of Net Board Foot Volume								Average Log				Logs Per /Acre
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft	CF/ Lf	
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	D	2S	41	6.8	10,772	10,045	2,274			90	10		1	1	98	40	14	252	1.69	39.9
DF	D	3S	48	4.4	12,243	11,706	2,650		100				0	1	99	39	8	104	0.78	112.1
DF	D	4S	9	4.3	2,396	2,292	519	90	10			12	22	20	45	29	5	30	0.32	75.7
DF	D	UT	2	10.7	277	248	56	55	7	37		41	51		7	23	6	33	0.34	7.6
<b>DF</b>	<b>Totals</b>		99	5.4	25,687	24,290	5,499	9	49	38	4	2	3	3	92	36	8	103	0.82	235.3
RC	D	3S	42	5.4	8	8	2		54	46					100	36	8	84	1.17	.1
RC	D	4S	58		10	10	2	94	6			94	6			19	5	20	0.38	.5
<b>RC</b>	<b>Totals</b>		0	2.4	18	18	4	54	27	19		54	4		43	22	6	30	0.58	.6
RA	D	4S	84	18.3	46	37	8	66	34				45		55	32	6	32	0.41	1.2
RA	D	UT	16		7	7	2	100						100		32	5	35	0.22	.2
<b>RA</b>	<b>Totals</b>		0	15.8	53	44	10	71	29				38	16	46	32	5	33	0.39	1.4
WH	D	2S	62		45	45	10			100					100	36	15	320	2.06	.1
WH	D	3S	12	14.3	10	8	2		100					100		32	8	60	0.79	.1
WH	D	4S	26		18	18	4	100					100			23	5	20	0.29	.9
<b>WH</b>	<b>Totals</b>		0	1.9	73	72	16	26	12	63			26	12	63	26	7	60	0.65	1.2
<b>Totals</b>				5.4	25,831	24,424	5,530	9	49	38	4	2	3	3	92	35	8	102	0.82	238.4

TC PSTATS		PROJECT STATISTICS							PAGE	1		
		PROJECT HOOSIER							DATE	8/9/2016		
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt		
36N	06E	35	HOOSIER	00U1	THR	226.40	156	678	S	W		
36N	06E	35	HOOSIER	THIN								
			PLOTS	TREES	TREES PER PLOT	ESTIMATED TOTAL TREES	PERCENT SAMPLE TREES					
TOTAL			156	678	4.3							
CRUISE			81	320	4.0	27,687	1.2					
DBH COUNT												
REFOREST												
COUNT			71	358	5.0							
BLANKS			4									
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			310	119.6	17.2	77	46.6	193.2	25,687	24,290	6,883	6,875
R ALDER			5	1.2	10.9	47	0.2	.7	53	44	17	17
WR CEDAR			3	.5	12.4	30	0.1	.4	18	18	8	8
WHEMLOCK			2	1.1	11.9	38	0.2	.8	73	72	20	20
<b>TOTAL</b>			<b>320</b>	<b>122.3</b>	<b>17.1</b>	<b>77</b>	<b>47.2</b>	<b>195.1</b>	<b>25,831</b>	<b>24,424</b>	<b>6,927</b>	<b>6,919</b>
CONFIDENCE LIMITS OF THE SAMPLE												
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR												
CL	68.1	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10			
DOUG FIR			58.0	3.3	240	248	257					
R ALDER			59.9	29.8	37	52	67					
WR CEDAR			89.2	61.7	37	97	156					
WHEMLOCK			127.3	119.2		200	438					
<b>TOTAL</b>			<b>59.7</b>	<b>3.3</b>	<b>235</b>	<b>243</b>	<b>252</b>	<b>142</b>	<b>73</b>	<b>36</b>		
CL	68.1	COEFF	TREES/ACRE					# OF PLOTS REQ.		INF. POP.		
SD:	1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10			
DOUG FIR			61.4	4.9	114	120	125					
R ALDER			799.6	64.0	0	1	2					
WR CEDAR			1046.3	83.7	0	0	1					
WHEMLOCK			928.5	74.3	0	1	2					
<b>TOTAL</b>			<b>59.4</b>	<b>4.7</b>	<b>116</b>	<b>122</b>	<b>128</b>	<b>141</b>	<b>72</b>	<b>35</b>		
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			53.5	4.3	185	193	201					
R ALDER			809.4	64.7	0	1	1					
WR CEDAR			918.3	73.5	0	0	1					
WHEMLOCK			928.5	74.3	0	1	1					
<b>TOTAL</b>			<b>52.3</b>	<b>4.2</b>	<b>187</b>	<b>195</b>	<b>203</b>	<b>109</b>	<b>56</b>	<b>27</b>		
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			58.1	4.6	23,161	24,290	25,420					
R ALDER			762.2	61.0	17	44	71					
WR CEDAR			883.1	70.6	5	18	30					
WHEMLOCK			928.5	74.3	18	72	125					
<b>TOTAL</b>			<b>57.4</b>	<b>4.6</b>	<b>23,303</b>	<b>24,424</b>	<b>25,545</b>	<b>131</b>	<b>67</b>	<b>33</b>		
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					120	126	132					
R ALDER			752.0	60.2	23	60	96					
WR CEDAR			891.5	71.3	13	43	73					

TC PSTATS		PROJECT STATISTICS							PAGE	2
		PROJECT HOOSIER							DATE	8/9/2016
TWP	RGE	SC	TRACT	TYPE		ACRES	PLOTS	TREES	CuFt	BdFt
36N	06E	35	HOOSIER	00U1	THR	226.40	156	678	S	W
36N	06E	35	HOOSIER	THIN						
CL	68.1		COEFF	V BAR/ACRE			# OF PLOTS REQ.		INF. POP.	
SD:	.00		VAR.	S.E.%	LOW	AVG	HIGH	5	7	10
WHEMLOCK			829.3	66.3	23	88	154			
<b>TOTAL</b>			<i>57.0</i>	<i>4.6</i>	<i>119</i>	<i>125</i>	<i>131</i>	<i>130</i>	<i>66</i>	<i>32</i>

<b>T36N R06E S35 T00U1</b>		<b>T36N R06E S35 T00U1</b>
<b>Twp Rge Sec Tract Type Acres Plots Sample Trees CuFt</b>		<b>BdFt</b>
<b>36N 06E 35 HOOSIER 00U1 56.50 33 86 S</b>		<b>W</b>

S Spp	So T	Gr rt ad	%	Bd. Ft. per Acre				Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre
									Log Scale Dia.				Log Length				Ln	Dia	Bd	
				Def%	Gross	Net	4-5		6-11	12-16	17+	12-20	21-30	31-35	36-99	Ft	In	Ft	Lf	
DF	DM	2S	41	6.9	13,312	12,391	700		89	11		1	2	97	39	14	249	1.62	49.8	
DF	DM	3S	49	4.4	14,981	14,320	809		100					100	39	9	104	0.74	137.4	
DF	DM	4S	9	5.9	2,934	2,760	156	84	16		22	15	22	41	27	5	29	0.32	96.5	
DF	DM	UT	1		74	74	4		100					100	40	7	70	0.59	1.1	
<b>DF</b>	<b>Totals</b>		100	5.6	31,301	29,546	1,669	8	50	38	4	2	2	3	93	35	8	104	0.80	284.8
<b>Type Totals</b>				5.6	31,301	29,546	1,669	8	50	38	4	2	2	3	93	35	8	104	0.80	284.8

<b>T36N R06E S35 T00U2</b>										<b>T36N R06E S35 T00U2</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
<b>36N</b>	<b>06E</b>	<b>35</b>	<b>HOOSIER</b>	<b>00U2</b>	<b>110.50</b>	<b>85</b>	<b>157</b>	<b>S</b>	<b>W</b>					

S Twp	So Rge	Gr Sec	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
								Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf
								4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF	DM	2S	46	6.7	15,082	14,078	1,556		91	9		1	1	98	40	13	253	1.72	55.7	
DF	DM	3S	45	4.1	14,206	13,621	1,505		100			0	1	99	39	8	105	0.80	129.8	
DF	DM	4S	7	3.0	2,383	2,311	255	93	7			7	24	16	53	30	5	32	0.33	73.2
DF	DM	UT	2	14.6	415	354	39	47		53		53	47		22	7	36	0.37	9.7	
<b>DF</b>	<b>Totals</b>		<b>99</b>	<b>5.4</b>	<b>32,087</b>	<b>30,365</b>	<b>3,355</b>	<b>8</b>	<b>45</b>	<b>43</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>94</b>	<b>36</b>	<b>9</b>	<b>113</b>	<b>0.89</b>	<b>268.5</b>
WH	DM	2S	62		92	92	10		100					100	36	15	320	2.06	.3	
WH	DM	3S	12	14.3	20	17	2		100					100	32	8	60	0.79	.3	
WH	DM	4S	26		38	38	4	100					100		23	5	20	0.29	1.9	
<b>WH</b>	<b>Totals</b>		<b>0</b>	<b>1.9</b>	<b>149</b>	<b>147</b>	<b>16</b>	<b>26</b>	<b>12</b>	<b>63</b>			<b>26</b>	<b>12</b>	<b>63</b>	<b>26</b>	<b>7</b>	<b>60</b>	<b>0.65</b>	<b>2.4</b>
RC	DM	4S	100		17	17	2	100					100		20	5	20	0.40	.8	
<b>RC</b>	<b>Totals</b>		<b>0</b>		<b>17</b>	<b>17</b>	<b>2</b>	<b>100</b>					<b>100</b>		<b>20</b>	<b>5</b>	<b>20</b>	<b>0.40</b>	<b>.8</b>	
<b>Type Totals</b>				<b>5.3</b>	<b>32,253</b>	<b>30,528</b>	<b>3,373</b>	<b>8</b>	<b>45</b>	<b>43</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>2</b>	<b>94</b>	<b>36</b>	<b>9</b>	<b>112</b>	<b>0.89</b>	<b>271.7</b>

<b>T36N R06E S35 T0ROW</b>										<b>T36N R06E S35 T0ROW</b>				
<b>Twp</b>	<b>Rge</b>	<b>Sec</b>	<b>Tract</b>	<b>Type</b>	<b>Acres</b>	<b>Plots</b>	<b>Sample Trees</b>	<b>CuFt</b>	<b>BdFt</b>					
<b>36N</b>	<b>06E</b>	<b>35</b>	<b>HOOSIER</b>	<b>0ROW</b>	<b>5.40</b>	<b>13</b>	<b>38</b>	<b>S</b>	<b>W</b>					

Spp	S T	So rt	Gr ad	% Net BdFt	Bd. Ft. per Acre			Total Net MBF	Percent Net Board Foot Volume								Average Log			Logs Per /Acre	
									Log Scale Dia.				Log Length				Ln Ft	Dia In	Bd Ft		CF/ Lf
									4-5	6-11	12-16	17+	12-20	21-30	31-35	36-99					
DF		DM	2S	33	8.5	3,707	3,393	18			79	21				100	40	14	262	1.82	12.9
DF		DM	3S	48	5.8	5,277	4,971	27		100					3	97	39	8	88	0.71	56.2
DF		DM	4S	18	1.0	1,802	1,785	10	96	4			29	28	12	30	25	5	27	0.30	66.6
DF		DM	UT	1		92	92	0	100							100	16	5	16	0.24	5.8
<b>DF</b>	<b>Totals</b>			<b>88</b>	<b>5.9</b>	<b>10,878</b>	<b>10,240</b>	<b>55</b>	<b>18</b>	<b>49</b>	<b>26</b>	<b>7</b>	<b>6</b>	<b>5</b>	<b>4</b>	<b>85</b>	<b>32</b>	<b>7</b>	<b>72</b>	<b>0.68</b>	<b>141.6</b>
RA		DM	4S	70	8.3	770	706	4	25	75					100		26	6	35	0.45	19.9
RA		DM	UT	30		297	297	2	100						100		32	5	35	0.22	8.6
<b>RA</b>	<b>Totals</b>			<b>9</b>	<b>6.0</b>	<b>1,066</b>	<b>1,002</b>	<b>5</b>	<b>47</b>	<b>53</b>				<b>70</b>	<b>30</b>		<b>28</b>	<b>6</b>	<b>35</b>	<b>0.37</b>	<b>28.5</b>
RC		DM	3S	78	5.4	335	317	2		54	46				100		36	8	84	1.17	3.8
RC		DM	4S	22		85	85	0	68	32			68	32			17	5	22	0.29	3.8
<b>RC</b>	<b>Totals</b>			<b>3</b>	<b>4.3</b>	<b>420</b>	<b>402</b>	<b>2</b>	<b>14</b>	<b>50</b>	<b>36</b>		<b>14</b>	<b>7</b>	<b>79</b>		<b>26</b>	<b>7</b>	<b>53</b>	<b>0.89</b>	<b>7.6</b>
<b>Type Totals</b>					<b>5.8</b>	<b>12,364</b>	<b>11,644</b>	<b>63</b>	<b>20</b>	<b>50</b>	<b>24</b>	<b>6</b>	<b>6</b>	<b>11</b>	<b>6</b>	<b>78</b>	<b>31</b>	<b>7</b>	<b>66</b>	<b>0.64</b>	<b>177.7</b>



TC TSTATS				<b>STATISTICS</b>				PAGE	1	
				<b>PROJECT HOOSIER</b>				DATE	8/9/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
36N	06E	35	HOOSIER	00U1	56.50	33	155	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL		33	155	4.7						
CRUISE		17	86	5.1	7,530		1.1			
DBH COUNT										
REFOREST										
COUNT		16	69	4.3						
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	86	133.3	17.4	81	52.6	219.1	31,301	29,546	8,037	8,038
<b>TOTAL</b>	<b>86</b>	<b>133.3</b>	<b>17.4</b>	<b>81</b>	<b>52.6</b>	<b>219.1</b>	<b>31,301</b>	<b>29,546</b>	<b>8,037</b>	<b>8,038</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	55.3	6.0	263	280	297					
<b>TOTAL</b>	<b>55.3</b>	<b>6.0</b>	<b>263</b>	<b>280</b>	<b>297</b>	<b>122</b>	<b>62</b>	<b>30</b>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	45.9	8.0	123	133	144					
<b>TOTAL</b>	<b>45.9</b>	<b>8.0</b>	<b>123</b>	<b>133</b>	<b>144</b>	<b>84</b>	<b>43</b>	<b>21</b>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	36.6	6.4	205	219	233					
<b>TOTAL</b>	<b>36.6</b>	<b>6.4</b>	<b>205</b>	<b>219</b>	<b>233</b>	<b>53</b>	<b>27</b>	<b>13</b>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	39.1	6.8	27,538	29,546	31,553					
<b>TOTAL</b>	<b>39.1</b>	<b>6.8</b>	<b>27,538</b>	<b>29,546</b>	<b>31,553</b>	<b>61</b>	<b>31</b>	<b>15</b>		
CL: 68.1 %	COEFF	<b>V-BAR/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR			126	135	144					
<b>TOTAL</b>	<b>166.3</b>	<b>28.9</b>	<b>126</b>	<b>135</b>	<b>144</b>	<b>1,104</b>	<b>563</b>	<b>276</b>		

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				HOOSIER				DATE	8/9/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
36N	06E	35	HOOSIER	00U2	110.50	85	446	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	85	446	5.2							
CRUISE	30	157	5.2	15,524		1.0				
DBH COUNT										
REFOREST										
COUNT	55	289	5.3							
BLANKS										
100 %										
<b>STAND SUMMARY</b>										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	154	137.5	18.0	79	57.5	244.1	32,087	30,365	8,750	8,732
WHEMLOCK	2	2.2	11.9	38	0.5	1.7	149	147	41	41
WR CEDAR	1	.8	11.0	24	0.2	.6	17	17	7	7
<b>TOTAL</b>	<i>157</i>	<i>140.5</i>	<i>17.9</i>	<i>78</i>	<i>58.2</i>	<i>246.3</i>	<i>32,253</i>	<i>30,528</i>	<i>8,797</i>	<i>8,780</i>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	<b>SAMPLE TREES - BF</b>					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	48.3	3.9	262	272	283					
WHEMLOCK	127.3	119.2		200	438					
WR CEDAR										
<b>TOTAL</b>	<i>49.6</i>	<i>4.0</i>	<i>259</i>	<i>270</i>	<i>281</i>	<i>98</i>	<i>50</i>	<i>25</i>		
CL: 68.1 %	COEFF	<b>TREES/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	40.3	4.4	131	137	144					
WHEMLOCK	683.9	74.1	1	2	4					
WR CEDAR	922.0	99.9	0	1	2					
<b>TOTAL</b>	<i>39.6</i>	<i>4.3</i>	<i>134</i>	<i>140</i>	<i>147</i>	<i>63</i>	<i>32</i>	<i>16</i>		
CL: 68.1 %	COEFF	<b>BASAL AREA/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	32.7	3.5	235	244	253					
WHEMLOCK	683.9	74.1	0	2	3					
WR CEDAR	922.0	99.9	0	1	1					
<b>TOTAL</b>	<i>31.8</i>	<i>3.4</i>	<i>238</i>	<i>246</i>	<i>255</i>	<i>40</i>	<i>21</i>	<i>10</i>		
CL: 68.1 %	COEFF	<b>NET BF/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	34.0	3.7	29,247	30,365	31,482					
WHEMLOCK	683.9	74.1	38	147	255					
WR CEDAR	922.0	99.9	0	17	33					
<b>TOTAL</b>	<i>33.3</i>	<i>3.6</i>	<i>29,427</i>	<i>30,528</i>	<i>31,629</i>	<i>44</i>	<i>23</i>	<i>11</i>		
CL: 68.1 %	COEFF	<b>V-BAR/ACRE</b>					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR			120	124	129					
WHEMLOCK	610.0	66.1	23	88	154					
WR CEDAR	922.0	99.9	0	30	61					
<b>TOTAL</b>	<i>285.3</i>	<i>30.9</i>	<i>119</i>	<i>124</i>	<i>128</i>	<i>3,249</i>	<i>1,658</i>	<i>812</i>		

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				HOOSIER				DATE	8/9/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
36N	06E	35	HOOSIER	ORO	5.40	13	38	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES	TREES			
TOTAL	13	38	2.9							
CRUISE	13	38	2.9	605		6.3				
DBH COUNT										
REFOREST										
COUNT										
BLANKS										
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	32	88.4	14.3	61	26.0	98.5	10,878	10,240	3,021	3,022
R ALDER	4	19.9	10.6	53	3.8	12.3	1,066	1,002	296	296
WR CEDAR	2	3.8	17.3	58	1.5	6.2	420	402	178	178
<b>TOTAL</b>	<b>38</b>	<b>112.1</b>	<b>13.8</b>	<b>59</b>	<b>31.4</b>	<b>116.9</b>	<b>12,364</b>	<b>11,644</b>	<b>3,496</b>	<b>3,496</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	82.4	14.6	166	195	223					
R ALDER	57.5	32.8	39	58	76					
WR CEDAR	57.6	54.0	62	135	208					
<b>TOTAL</b>	<b>87.0</b>	<b>14.1</b>	<b>152</b>	<b>177</b>	<b>202</b>	<b>302</b>	<b>154</b>	<b>76</b>		
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	109.1	31.5	61	88	116					
R ALDER	212.6	61.3	8	20	32					
WR CEDAR	360.6	103.9		4	8					
<b>TOTAL</b>	<b>76.4</b>	<b>22.0</b>	<b>87</b>	<b>112</b>	<b>137</b>	<b>252</b>	<b>129</b>	<b>63</b>		
CL: 68.1 %	COEFF	BASAL AREA/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	78.9	22.7	76	98	121					
R ALDER	204.9	59.1	5	12	20					
WR CEDAR	360.6	103.9		6	13					
<b>TOTAL</b>	<b>60.0</b>	<b>17.3</b>	<b>97</b>	<b>117</b>	<b>137</b>	<b>156</b>	<b>79</b>	<b>39</b>		
CL: 68.1 %	COEFF	NET BF/ACRE					# OF PLOTS REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	86.0	24.8	7,701	10,240	12,779					
R ALDER	262.2	75.6	245	1,002	1,760					
WR CEDAR	360.6	103.9		402	819					
<b>TOTAL</b>	<b>77.1</b>	<b>22.2</b>	<b>9,057</b>	<b>11,644</b>	<b>14,232</b>	<b>257</b>	<b>131</b>	<b>64</b>		
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	86.0	24.8	78	104	130					
R ALDER	262.2	75.6	20	81	143					
WR CEDAR	360.6	103.9		65	133					
<b>TOTAL</b>	<b>77.1</b>	<b>22.2</b>	<b>77</b>	<b>100</b>	<b>122</b>	<b>257</b>	<b>131</b>	<b>64</b>		

TC TSTATS				STATISTICS				PAGE	1	
PROJECT				HOOSIER				DATE	8/9/2016	
TWP	RGE	SECT	TRACT	TYPE	ACRES	PLOTS	TREES	CuFt	BdFt	
36N	06E	35	HOOSIER	THIN	54.00	25	39	S	W	
				TREES	ESTIMATED	PERCENT				
				PER PLOT	TOTAL	SAMPLE				
				PLOTS	TREES	TREES				
TOTAL	25	39	1.6							
CRUISE	21	39	1.9	4,027			1.0			
DBH COUNT										
REFOREST										
COUNT										
BLANKS	4									
100 %										
STAND SUMMARY										
	SAMPLE	TREES	AVG	BOLE	REL	BASAL	GROSS	NET	GROSS	NET
	TREES	/ACRE	DBH	LEN	DEN	AREA	BF/AC	BF/AC	CF/AC	CF/AC
DOUG FIR	38	71.7	13.5	68	19.4	71.3	8,198	7,767	2,243	2,243
R ALDER	1	2.8	11.0	43	0.6	1.9	114	85	41	41
<b>TOTAL</b>	<b>39</b>	<b>74.6</b>	<b>13.4</b>	<b>67</b>	<b>20.0</b>	<b>73.2</b>	<b>8,312</b>	<b>7,852</b>	<b>2,283</b>	<b>2,283</b>
CONFIDENCE LIMITS OF THE SAMPLE										
68.1 TIMES OUT OF 100 THE VOLUME WILL BE WITHIN THE SAMPLE ERROR										
CL: 68.1 %	COEFF	SAMPLE TREES - BF					# OF TREES REQ.		INF. POP.	
SD: 1.0	VAR.%	S.E.%	LOW	AVG	HIGH	5	7	10		
DOUG FIR	39.7	6.4	118	126	134					
R ALDER										
<b>TOTAL</b>	<b>41.8</b>	<b>6.7</b>	<b>115</b>	<b>124</b>	<b>132</b>	<b>70</b>	<b>36</b>	<b>17</b>		
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	102.3	20.9	57	72	87					
R ALDER	500.0	102.0		3	6					
<b>TOTAL</b>	<b>98.2</b>	<b>20.0</b>	<b>60</b>	<b>75</b>	<b>89</b>	<b>401</b>	<b>204</b>	<b>100</b>		
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	85.2	17.4	59	71	84					
R ALDER	500.0	102.0		2	4					
<b>TOTAL</b>	<b>82.9</b>	<b>16.9</b>	<b>61</b>	<b>73</b>	<b>86</b>	<b>286</b>	<b>146</b>	<b>71</b>		
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	102.0	20.8	6,152	7,767	9,382					
R ALDER	500.0	102.0		85	172					
<b>TOTAL</b>	<b>100.6</b>	<b>20.5</b>	<b>6,242</b>	<b>7,852</b>	<b>9,463</b>	<b>421</b>	<b>215</b>	<b>105</b>		
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	102.0	20.8	86	109	131					
R ALDER	500.0	102.0		45	92					
<b>TOTAL</b>	<b>100.6</b>	<b>20.5</b>	<b>85</b>	<b>107</b>	<b>129</b>	<b>421</b>	<b>215</b>	<b>105</b>		

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

T36N R06E S35 Ty00U1	56.5
T36N R06E S35 Ty00U2	110.5
T36N R06E S35 TyTHI	54.0

**Project HOOSIER**  
**Acres 226.40**

**Page No 1**  
**Date: 8/9/2016**  
**Time 4:46:08PM**

Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
DOUG FIR	27,074	53,274	44,412	57.49	29.22	0.83	15,583	15,565	5,816	5,499
WHEMLOCK	239	271	145	18.94	16.72	0.64	45	45	17	16
R ALDER	261	307	105	14.56	12.37	0.39	38	38	12	10
WR CEDAR	113	133	40	15.04	12.74	0.58	17	17	4	4
<b>Totals</b>	<b>27,687</b>	<b>53,985</b>	<b>44,701</b>	<b>56.58</b>	<b>29.02</b>	<b>0.82</b>	<b>15,683</b>	<b>15,665</b>	<b>5,848</b>	<b>5,530</b>

Wood Type Species	Total	Total	Total	Net Cubic Ft/		CF/ LF	Total CCF		Total MBF	
	Trees	Logs	Tons	Tree	Log		Gross	Net	Gross	Net
C	27,426	53,678	44,597	56.98	29.11	0.82	15,645	15,627	5,836	5,520
H	261	307	105	14.56	12.37	0.39	38	38	12	10
<b>Totals</b>	<b>27,687</b>	<b>53,985</b>	<b>44,701</b>	<b>56.58</b>	<b>29.02</b>	<b>0.82</b>	<b>15,683</b>	<b>15,665</b>	<b>5,848</b>	<b>5,530</b>



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

FPA/N No: 2815314

Effective Date: 8/19/2016

Expiration Date: 8/19/2019

**Forest Practices Application/Notification  
 Notice of Decision**

Shut Down Zone: 656, 658

EARR Tax Credit:  Eligible  Non-eligible

Reference: **Hoosier**

**DECISION:**

- NOTIFICATION Operations shall not begin before the effective date.
- APPROVED This Forest Practices Application is subject to the conditions listed below.
- DISAPPROVED This Forest Practices Application is disapproved for the reasons listed below.
- CLOSED Applicant has withdrawn FPA/N.

**FPA/N CLASSIFICATION**

**Number of Years Granted on Multi-Year Request**

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

**Conditions on Approval / Reasons for Disapproval**

Issued By: Stacie Heiner *BHA*

Region: Northwest

Title: Skagit Forest Practice Forester

Date: 8/19/2016

Copies to:  Landowner, Timber Owner and Operator

Issued in Person:  Landowner,  Timber Owner  Operator By: *Be [Signature]*

**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.eluho.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  
Northwest Region  
919 N Township Street  
Sedro-Woolley, WA 98284

**Other Applicable Laws**

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

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

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

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

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

Use the "Notice of Transfer of Approved Forest Practices Application/Notification" form. This form is available at region offices and on the Forest Practices Division 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 Sedro-Woolley, WA, postage paid, a true and accurate copy of the attached document. Notice of Decision FPA #\_2815\_\_\_\_\_

\_\_\_\_ Braelyn Hamilton \_\_\_\_\_  
(Printed name)

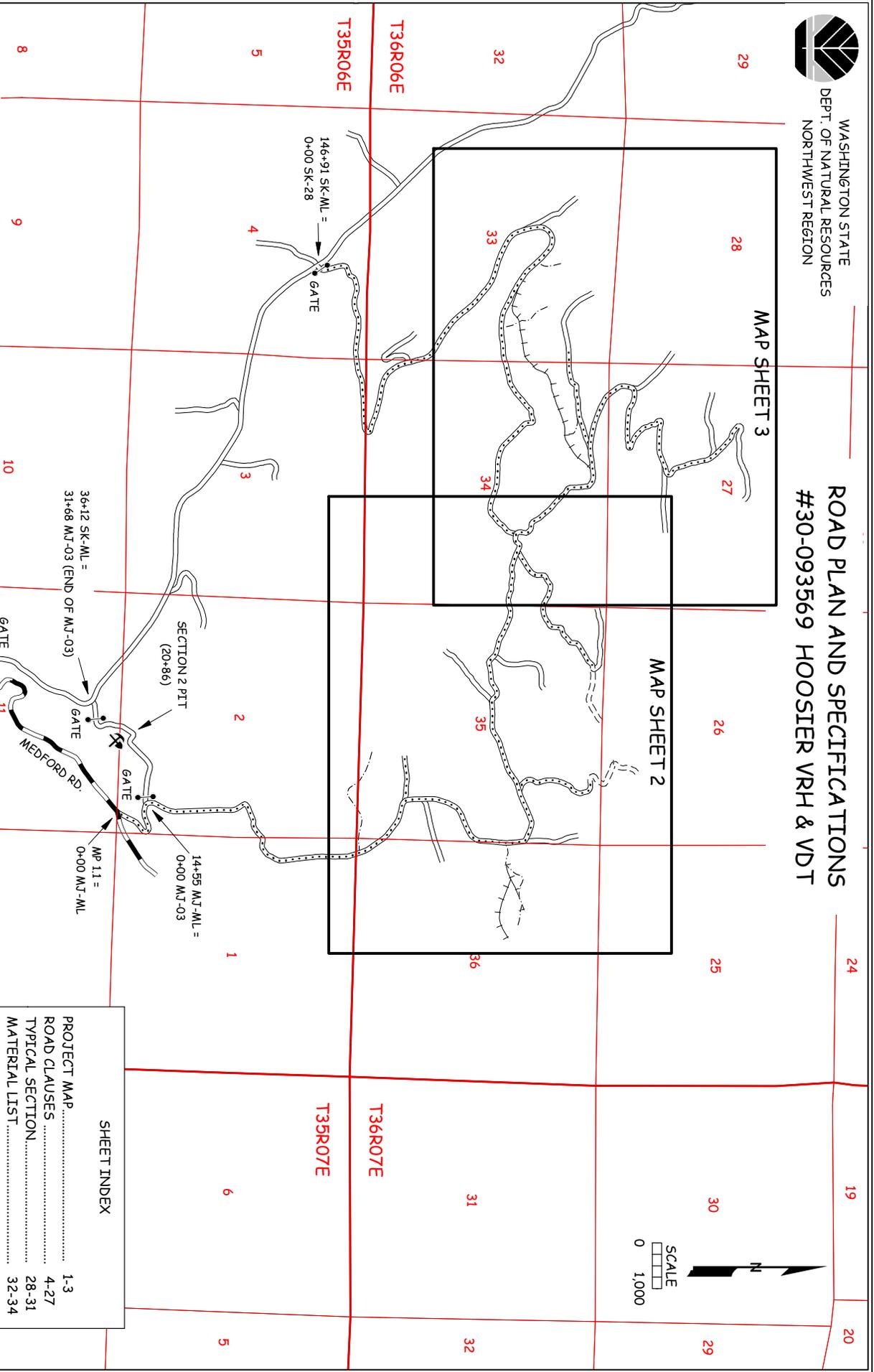
\_\_\_\_\_  
(Signature)



# ROAD PLAN AND SPECIFICATIONS #30-093569 HOOSIER VRH & VDT



SCALE  
0 1,000



**LEGEND**

PRE-HAUL MAINTENANCE	---
REQUIRED CONSTRUCTION	---
OPTIONAL RECONSTRUCTION	---
OPTIONAL RECONSTRUCTION	-----

**SHEET INDEX**

PROJECT MAP.....	1-3
ROAD CLAUSES.....	4-27
TYPICAL SECTION.....	28-31
MATERIAL LIST.....	32-34
FARMS.....	35-36
SPECIAL DETAILS.....	37-41
STANDARD DETAILS.....	42

DESIGNED BY CARLSON	REVIEWED BY ZYLSTRA 6/7/2016	APPROVED BY FIKE 6/15/2016	PLAN DATE 5/12/2014	SHEET 1 OF 42
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# MAP SHEET 2

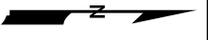
27

26

25

0 1,000

SCALE



12+46

1+80

29+62 M.J.-24 =  
0+00 M.J.-2406

35+40

20+19

35+16 M.J.-35 =  
0+00 M.J.-3507

M.J.-35

M.J.-35

M.J.-ML

5K-28

M.J.-35

184+16 M.J.-ML =  
0+00 M.J.-35

34

T36R06E

35

M.J.-ML

M.J.-24

128+19 M.J.-ML =  
0+00 M.J.-24

112+07 M.J.-ML =  
0+00 M.J.-21

36

ORPHAN ROADS

20+72

5+08

M.J.-21

10+07

M.J.-16

85+86 M.J.-ML =  
0+00 M.J.-16

24+97

M.J.-14

69+96 M.J.-ML =  
0+00 M.J.-14

T35R06E

3

2

1

M.J.-ML

# MAP SHEET 3

28

EXTRA INNINGS PIT  
(22+12)

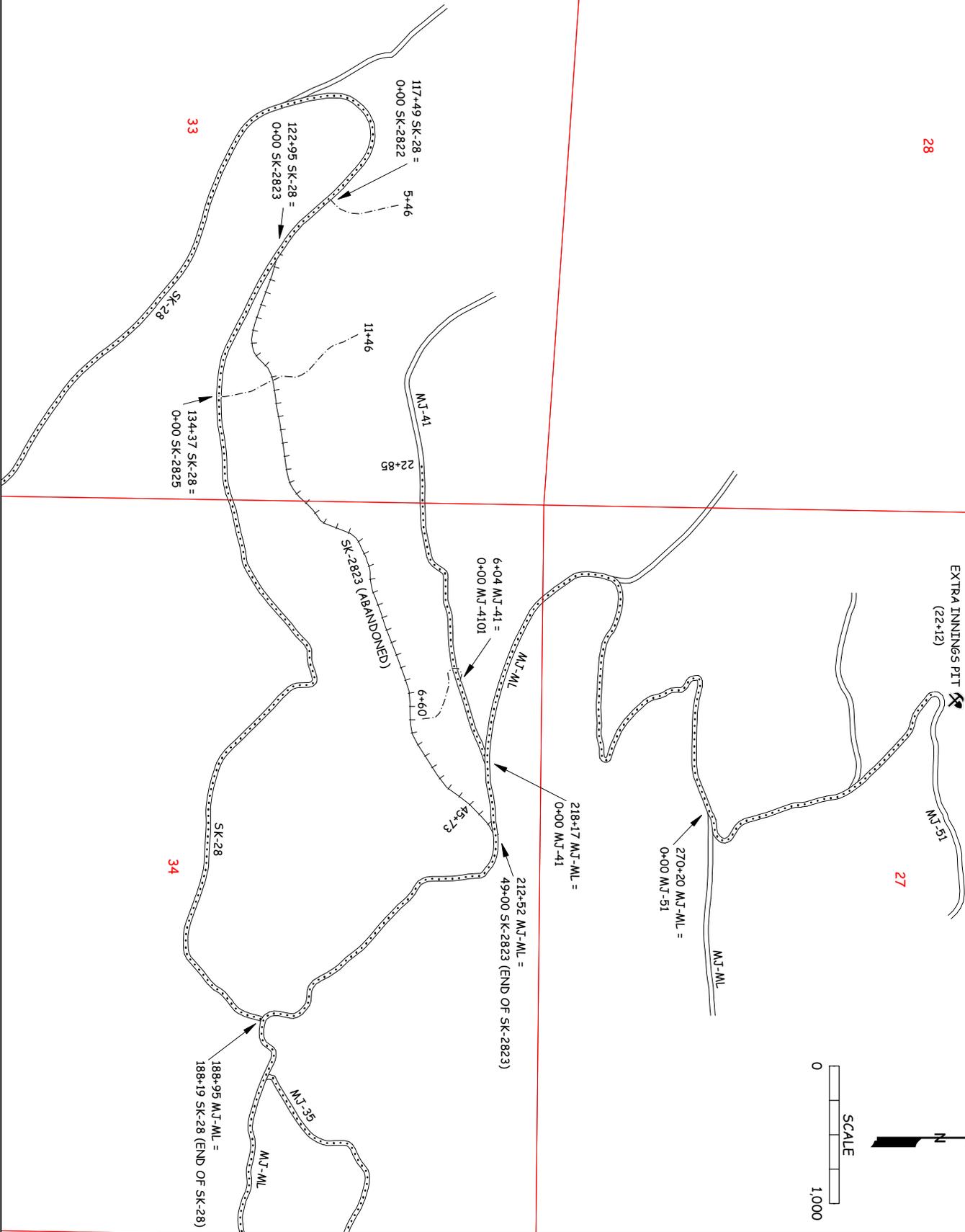
27



T36R06E

33

34



STATE OF WASHINGTON  
DEPARTMENT OF NATURAL RESOURCES

HOOSIER VRH & VDT TIMBER SALE ROAD PLAN  
SKAGIT COUNTY  
HAMILTON UNIT BAKER DISTRICT

AGREEMENT NO.: 30-093569

STAFF ENGINEER: CARLSON

DATE: MAY 25, 2016

SECTION 0 – SCOPE OF PROJECT

**0-1 ROAD PLAN SCOPE**

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

**0-2 REQUIRED ROADS**

The specified work on the following roads is required.

<u>Road</u>	<u>Stations</u>	<u>Type</u>
MJ-ML	0+00 to 270+20	PRE-HAUL
MJ-16	0+00 to 10+07	PRE-HAUL
MJ-24	0+00 to 20+19	PRE-HAUL
MJ-24	20+19 to 35+40	CONSTRUCTION
MJ-35	0+00 to 35+16	PRE-HAUL
MJ-3507 <b>A</b>	0+00 to 12+46	CONSTRUCTION
MJ-41	0+00 to 22+85	PRE-HAUL
MJ-51	0+00 to 22+12	PRE-HAUL
SK-28	0+00 to 188+19	PRE-HAUL

**A** Construction is on an abandoned grade.

**0-3 OPTIONAL ROADS**

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

<u>Road</u>	<u>Stations</u>	<u>Type</u>
MJ-14 <b>B</b>	0+00 to 24+97	CONSTRUCTION
MJ-21 <b>C</b>	0+00 to 20+72	CONSTRUCTION
MJ-2406	0+00 to 1+80	CONSTRUCTION
MJ-4101	0+00 to 6+60	CONSTRUCTION
SK-2822	0+00 to 5+46	CONSTRUCTION
SK-2825	0+00 to 11+46	CONSTRUCTION

**B** Construction from 0+00 to 15+01 is on an abandoned grade.

**C** Construction from 0+00 to 5+08 is on an orphan grade. See sheet 36 for further details regarding construction of the MJ-21 road.

**0-4 CONSTRUCTION**

Construction includes, but is not limited to clearing, grubbing, excavation and embankment to sub-grade, landing and turnout construction, culvert installation, log stringer bridge installation, and application of gravel pit run rock; and as specified below.

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
MJ-4101	0+00 to 1+97	Construction involves switchback construction off of the MJ-41. Excavated material from the switchback construction shall be pushed onto the embankment slope of the MJ-41 so trucks can swing out and have an acceptable turn radius onto the MJ-4101.

**0-6 PRE-HAUL MAINTENANCE**

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

<u>Road</u>	<u>Stations</u>	<u>Requirements</u>
MJ-ML	0+00 to 270+20	Grading.
MJ-16	0+00 to 10+07	Brushing, blading, shaping, and ditching the road surface, culvert installation, and gravel pit run application.
MJ-24	0+00 to 20+19	Brushing, blading, shaping, and ditching the road surface, right-of-way clearing (20 ft. either side of centerline), grubbing (per TYPICAL SECTION), culvert installation, silt fence installation, and gravel pit run application.
MJ-35	0+00 to 35+16	Brushing, blading, shaping, and ditching the road surface, sediment trap construction, and gravel pit run application.
MJ-41	0+00 to 22+85	Brushing, blading, shaping, and ditching the road surface, culvert installation, and gravel pit run application.
MJ-51	0+00 to 22+12	Grading.
SK-28	0+00 to 188+19	Brushing, grading, culvert installation, and silt fence installation.

**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 shall develop existing rock sources. Rock source development will involve drilling, shooting, and processing rock to generate riprap and gravel pit run. Work for developing rock sources is listed in Section 6 ROCK AND SURFACING.

**0-13 STRUCTURES**

Purchaser shall provide and install a log stringer bridge. Requirements for this structure are 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 the submitted plan.

**1-2 UNFORESEEN CONDITIONS**

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

**1-3 ROAD DIMENSIONS**

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

**1-4 ROAD TOLERANCES**

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

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

**1-6 ORDER OF PRECEDENCE**

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

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

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

**1-8 REPAIR OR REPLACEMENT OF DAMAGED MATERIALS**

Purchaser shall repair or replace all materials, roadway infrastructure, and road components damaged during road work or operation activities. The Contract Administrator will direct repairs and replacements. Repairs to structural materials must be made in accordance with the manufacturer’s recommendation.

**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.

**1-18 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 any hauling other than timber cut on the right-of-way, without written approval from the Contract Administrator.

**1-25 ACTIVITY TIMING RESTRICTION**

The specified activities are not allowed during the listed closure periods unless authorized in writing by the Contract Administrator.

<u>Road</u>	<u>Activity</u>	<u>Closure Period</u>
All roads except portions of the MJ-21	All activities	November 1 through March 31
MJ-21 (Sta. 5+08 to 20+72)	All activities	November 1 through May 31

**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:

- 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 Contract Administrator upon request. If damage occurs while plowing, further permission to plow may be revoked by the Contract Administrator.

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.

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

On the following roads, Purchaser shall use a grader to shape the existing surface before hauling.

<u>Road</u>	<u>Stations</u>
MJ-ML	0+00 to 270+20
MJ-16	0+00 to 10+07
MJ-24	0+00 to 20+19
MJ-35	0+00 to 35+16
MJ-41	0+00 to 22+85
MJ-51	0+00 to 22+12
SK-28	0+00 to 188+19

**2-6 CLEANING CULVERTS**

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

<u>Road</u>	<u>Stations</u>
MJ-16	0+00 to 10+07
MJ-24	0+00 to 20+19
MJ-35	0+00 to 35+16
MJ-41	0+00 to 22+85
SK-28	0+00 to 188+19

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

On the following roads, Purchaser shall clean ditches, headwalls, and catchbasins. Work must be completed before application of rock and must be done in accordance with the TYPICAL SECTION. Pulling ditch material across the road or mixing in with the road surface is not allowed.

<u>Road</u>	<u>Stations</u>
MJ-16	0+00 to 10+07
MJ-24	0+00 to 20+19
MJ-35	0+00 to 35+16
MJ-41	0+00 to 22+85
SK-28	0+00 to 188+19

## SECTION 3 – CLEARING, GRUBBING, AND DISPOSAL

### 3-1 BRUSHING

On the following roads, Purchaser shall cut vegetative material up to 3 inches in diameter, including limbs, as shown on the BRUSHING DETAIL. Brushing must be achieved by mechanical cutting of brush, trees, and branches. Root systems and stumps of cut vegetation may not be disturbed unless directed by the Contract Administrator. Purchaser shall remove brushing debris from the road surface, ditchlines, and culvert inlets and outlets.

<u>Road</u>	<u>Stations</u>
MJ-16	0+00 to 10+07
MJ-24	0+00 to 20+19
MJ-35	0+00 to 35+16
MJ-41	0+00 to 22+85
SK-28	0+00 to 188+19

### 3-5 CLEARING

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

### 3-8 PROHIBITED DECKING AREAS

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

- Within the grubbing limits.
- Within 50 feet of any stream.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- On slopes greater than 40%.
- 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. Grubbing must be completed before starting excavation and embankment.

### 3-20 ORGANIC DEBRIS DEFINITION

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

### **3-21 DISPOSAL COMPLETION**

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

### **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 permits.
- On embankments.
- On road subgrades, or excavation and embankment slopes.
- On slopes greater than 40%.
- Within the operational area for cable landings where debris may shift or roll.
- On locations where brush can fall into the ditch or onto the road surface.
- Against standing timber.

### **3-24 BURYING ORGANIC DEBRIS RESTRICTED**

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

### **3-25 SCATTERING ORGANIC DEBRIS**

Purchaser shall scatter organic debris outside of the clearing limits in natural openings unless otherwise detailed in this road plan.

## **SECTION 4 – EXCAVATION**

### **4-2 PIONEERING**

Pioneering may not extend past construction that will be completed during the current construction season. Pioneering may not extend more than 500 feet beyond completed construction unless approved in writing by the Contract Administrator. In addition, the following actions must be taken as pioneering progresses:

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

**4-3 ROAD GRADE AND ALIGNMENT STANDARDS**

Purchaser shall follow these standards for road grade and alignment:

- Grade and alignment must have smooth continuity, without abrupt changes in direction.
- Maximum grades may not exceed 18 percent favorable and 15 percent adverse.
- Minimum curve radius is 50 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%.
- Maximum favorable grades for switchbacks is 12%.
- Maximum transition grades entering and leaving switchbacks is a 5% grade change.
- Transition grades required to meet switchback grade limitations must be constructed on the tangents preceding and departing from the switchbacks.

**4-5 CUT SLOPE RATIO**

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

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

**4-6 EMBANKMENT SLOPE RATIO**

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

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

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

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

**4-8 CURVE WIDENING**

The minimum widening placed on the inside of curves is:

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

**4-9 EMBANKMENT WIDENING**

The minimum embankment widening is:

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

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

**4-21 TURNOUTS**

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.

**4-25 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.

**4-28 DITCH DRAINAGE**

Ditches must drain to cross-drain culverts or ditchouts.

**4-29 DITCHOUTS**

On the following road, Purchaser shall construct ditchouts as identified. 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. L or R denotes ditchout left or ditchout right.

<u>Road</u>	<u>Stations</u>	<u>L or R</u>
MJ-24	3+75	L
MJ-24	5+17	R
MJ-24	10+05	R
MJ-24	14+43	R
MJ-24	21+65	L
MJ-24	24+39	R

**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 50% if the waste material is compacted and free of organic debris. On side slopes greater than 50%, 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.

**4-38 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.
- In locations that interfere with the construction of the road prism.
- In locations that impede drainage.
- Against standing timber.
- Outside the clearing limits.

**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.

**4-60 FILL COMPACTION**

Purchaser shall compact all embankment and waste material by routing equipment over the entire width of each lift.

**4-61 SUBGRADE COMPACTION**

Purchaser shall compact constructed subgrades by routing equipment over the entire width.

SECTION 5 – DRAINAGE

**5-5 CULVERTS**

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

**5-6 USED CULVERT MATERIAL**

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

<u>Road</u>
MJ-21

**5-11 UNUSED MATERIALS STATE PROPERTY**

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

**5-15 CULVERT INSTALLATION**

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

**5-16 APPROVAL FOR LARGER CULVERT INSTALLATION**

Purchaser shall obtain written approval from the Contract Administrator for the installation of culverts 36 inches in diameter and over before backfilling.

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

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

**5-18 CULVERT DEPTH OF COVER**

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

**5-25 CATCH BASINS**

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

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

Purchaser shall construct headwalls in accordance with the CULVERT AND DRAINAGE SPECIFICATION DETAIL at all cross drain culverts. Rock used for headwalls must weigh at least 50 pounds. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets. Rock may not restrict the flow of water into culvert inlets or catch basins. No placement by end dumping or dropping of rock is allowed.

**5-27 ARMORING FOR STREAM CROSSING CULVERTS**

At the following culverts, Purchaser shall place heavy loose riprap in conjunction with construction of the embankment. Rock must be placed on shoulders, slopes, and around culvert inlets and outlets or as directed by the Contract Administrator. Rock may not restrict the flow of water into culvert inlets or catch basins. Placement must be by zero-drop-height method only. No placement by end dumping or dropping of rock is allowed. Heavy loose riprap must meet the specifications in Clause 6-51 HEAVY LOOSE RIP RAP.

<u>Road</u>	<u>Station</u>
MJ-14	4+88
MJ-14	14+17
MJ-21	10+57
MJ-21	15+83
MJ-21	19+67
MJ-24	25+56
MJ-24	28+75
MJ-2406	0+60
MJ-3507	3+88
MJ-3507	6+88
MJ-3507	8+92
SK-2822	0+65

SECTION 6 – ROCK AND SURFACING

**6-2 ROCK SOURCE ON STATE LAND**

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS LIST may be obtained from the following sources on state land at no charge to the Purchaser. Purchaser shall obtain written approval from the Contract Administrator for the use of material from any other source. If other operators are using, or desire to use the rock sources, a joint operating plan must be developed. All parties shall follow this plan.

<u>Source</u>	<u>Location</u>	<u>Rock Type</u>
Section 2 pit	Sta. 17+93 of the MJ-03 road	gravel pit run rock
Extra Innings pit	Sta. 22+12 of the MJ-51 road	riprap

**6-5 ROCK FROM COMMERCIAL SOURCE**

Rock used in accordance with the quantities on the TYPICAL SECTION and MATERIALS 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.

**6-11 ROCK SOURCE DEVELOPMENT PLAN BY PURCHASER**

Purchaser shall conduct rock source development and use at the following sources, in accordance with a written ROCK SOURCE DEVELOPMENT PLAN to be prepared by the Purchaser. The plan is subject to written approval by the Contract Administrator before any rock source operations. Upon completion of operations, the rock source must be left in the condition specified in the ROCK SOURCE DEVELOPMENT PLAN, and approved in writing by the Contract Administrator.

<u>Source</u>
Section 2 pit
Extra Innings pit

Rock source development plans prepared by the Purchaser must show the following information:

- Rock source location.
- Rock source overview showing access roads, development areas, stockpile locations, waste areas, and floor drainage.
- Rock source profiles showing development areas, bench locations including widths, and wall faces including heights.

**6-12 ROCK SOURCE SPECIFICATIONS**

Rock sources must be in accordance with the following:

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

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

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

**6-20 ROCK GRADATION TYPES**

Purchaser shall provide rock in accordance with the types and amounts listed in the TYPICAL SECTION and MATERIALS LIST. Rock must meet the following specifications for gradation and uniform quality when placed in hauling vehicles or during manufacture and placement into a stockpile. The exact point of evaluation for conformance to specifications will be determined by the Contract Administrator.

**6-41 PIT RUN ROCK**

No more than 20 percent of the rock may be larger than 4 inches in any dimension and no rock may be larger than 8 inches in any dimension. Gravel pit run rock may not contain more than 5 percent by weight of organic debris, dirt, and trash. Rock may require processing to meet this specification.

**6-50 LIGHT LOOSE RIP RAP**

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

<u>At Least/Not More Than</u>	<u>Weight Range</u>
20% / 90%	300 lbs. to 1 ton
80% / --	50 lbs. to ½ ton
10% / 20%	50 lbs. max

**6-51 HEAVY 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. Heavy loose riprap must be free of rock fines, soil, organic debris or other extraneous material, and must meet the following requirements:

<u>At Least/Not More Than</u>	<u>Weight Range</u>	<u>Size Range</u>
30% / 90%	1 ton to 3 ton	36" - 54"
70% / 90%	500 lbs. to 1 ½ ton	24" - 42"
10% / 30%	50 lbs. max	3" - 8"

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

Measurement of specified rock depths, are defined as the compacted depths using the compaction methods required in this road plan. Estimated quantities specified in the TYPICAL SECTION 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.

**6-70 APPROVAL BEFORE ROCK APPLICATION**

Purchaser shall obtain written approval from the Contract Administrator for culvert installation, ditch construction, ditch reconstruction, headwall construction, headwall reconstruction, subgrade shape, and compaction before rock application.

**6-71 ROCK APPLICATION**

Purchaser shall apply rock in accordance with the specifications and quantities shown on the TYPICAL SECTION. Rock must be spread, shaped, and compacted full width concurrent with rock hauling operations. Road surfaces must be compacted in accordance with the TYPICAL SECTION by routing equipment over the entire width.

**6-73 ROCK FOR WIDENED PORTIONS**

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

## SECTION 7 – STRUCTURES

### 7-45 PURCHASER SUPPLIED BRIDGE

Purchaser shall provide, and construct each bridge listed below. Refer to design sheets 38 and 39 for details.

Road	Station	Length (ft.)	W.B.S.R. <sup>1</sup> (ft.)	Type
MJ-21	6+93 to 7+19	26	14	Log stringer

<sup>1</sup>W.B.S.R. = Width between shear rails.

### 7-50 TEMPORARY LOG BRIDGE CONSTRUCTION

Purchaser shall construct a temporary bridge in accordance with this plan. Refer to LOG STRINGER BRIDGE INSTALLATION DETAILS design sheet and sheets 38 and 39 for details. Douglas fir, western hemlock, and western red cedar timber for the manufacture of stringers and cribbing is available from within the sale area. Purchaser may salvage logs upon completion of road use.

## SECTION 8 – EROSION CONTROL

### 8-1 SEDIMENT CONTROL STRUCTURES

On the following roads, Purchaser shall install sediment control structures:

<u>Road</u>	<u>Stations</u>	<u>Comments</u>
MJ-ML	107+50 to 110+00	Install silt fence along both sides of road.
MJ-14	4+38 to 4+88	Install silt fence along right side of road.
MJ-14	11+47 to 14+17	Install silt fence along right side of road.
MJ-24	14+68 to 15+18	Install silt fence along right side of road.
MJ-2406	0+60	Construct sediment trap in ditchline prior to Type 4 stream crossing.
MJ-35	22+23	Construct sediment trap in near side ditchline prior to Type 4 stream crossing.
MJ-35	23+15	Construct sediment trap in both ditchlines prior to Type 4 stream crossing.
MJ-3507	6+88	Construct sediment trap in far side ditchline prior to Type 4 stream crossing.
SK-28	11+46 to 13+26	Install silt fence along left side of road.
SK-28	121+70 to 124+70	Install silt fence along right side of road.
SK-2822	0+60	Construct sediment trap in both far side ditchlines prior to Type 4 stream crossing.

**8-2 PROTECTION FOR EXPOSED SOIL**

Purchaser shall provide and evenly spread a 3-inch layer of straw to all exposed soils within 25 feet of a stream or wetland. Soils must be covered before the first anticipated storm event.

**8-15 REVEGETATION**

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

**8-16 REVEGETATION SUPPLY**

The Purchaser shall provide the required grass seed and fertilizer.

**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 if revegetation occurs between July 1 and March 31. The protective cover may consist of dispersed straw, jute matting, or clear plastic sheets. The protective cover requirement may be waived in writing by the Contract Administrator if Purchaser is able to demonstrate a revegetation plan that will result in the establishment of a uniform dense crop (at least 50% coverage) of 3-inch tall grass by October 31.

**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 and fertilizer 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 seed and fertilizer 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.

<u>Kind and Variety of Seed in Mixture</u>	<u>% by Weight</u>
Creeping Red Fescue	50
Elf Perennial Rye Grass	25
Highland Colonial Bentgrass	15
White Clover	10
Inert and Other Crop	0.5

**8-27 FERTILIZER**

Purchaser shall evenly spread the fertilizer listed below on all exposed soil inside the grubbing limits at a rate of 200 pounds per acre of exposed soil. Fertilizer must meet the following specifications:

<u>Chemical Component</u>	<u>% by Weight</u>
Nitrogen	16
Phosphorous	16
Potassium	16
Sulphur	3
Inerts	49

SECTION 9 – POST-HAUL ROAD WORK

**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.

<u>Road</u>	<u>Stations</u>	<u>Additional Requirements</u>
MJ-03	0+00 to 31+68	Post-haul grading

**9-10 LANDING DRAINAGE**

Purchaser shall provide for drainage of the landing surface.

**9-12 LANDING EMBANKMENT REMOVAL**

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

**9-21 ROAD ABANDONMENT**

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

<u>Road</u>	<u>Stations</u>	<u>Comment</u>
MJ-21	0+00 to 20+72	Sta. 5+08 to 20+72 must be abandoned by September 30 of the year built.

## 9-22 ABANDONMENT

- Remove all ditch relief culverts. The resulting slopes must be 1:1 or flatter. Place and compact the removed fill material in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Remove all culverts in natural drainages. The resulting slopes must be 1½:1 or flatter. Strive to match the existing native stream bank gradient. The natural streambed width must be re-established. Place and compact the removed fill material in a location that will not erode into any Type 1 through 5 waters or wetlands.
- Transport all removed culverts off site. All removed culverts are the property of the Purchaser.
- Construct non-drivable waterbars at natural drainage points and at a spacing that will produce a vertical drop of no more than 20 feet between waterbars and with a maximum horizontal spacing of 400 feet.
- 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.
- Inslope or outslope the road as appropriate.
- Remove bridges and other structures.
- Pull back unstable fill that has potential of failing and entering any Type 1 through 5 waters or wetlands. Place and compact removed material in a stable location.
- Remove berms except as designed.
- Block the road by constructing an aggressive barrier of dense interlocked large woody debris (logs, stumps, root wads, etc.) so that four wheel highway vehicles cannot pass the point of abandonment. Typical barrier dimensions are 10 feet high by 20 feet deep, spanning the entire road prism from top of cutslope to toe of fillslope. Long term effectiveness is the primary objective. If necessary construct a vehicular turn-around near the point of abandonment.
- Apply grass seed to all exposed soils resulting from the abandonment work and in accordance with Section 8 EROSION CONTROL

## SECTION 10 MATERIALS

### 10-6 GEOTEXTILE FOR TEMPORARY SILT FENCE

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

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

### 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).

### 10-17 CORRUGATED PLASTIC CULVERT

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

### 10-21 METAL BAND

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

### 10-22 PLASTIC BAND

Plastic coupling and end bands must meet the AASHTO specification designated for the culvert. Only fittings supplied or recommended by the culvert manufacturer may be used.

### 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.

<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>
18"	16 (0.064")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
24" to 48"	14 (0.079")	2 <sup>2</sup> / <sub>3</sub> " X 1/2"
54" to 96"	14 (0.079")	3" X 1"

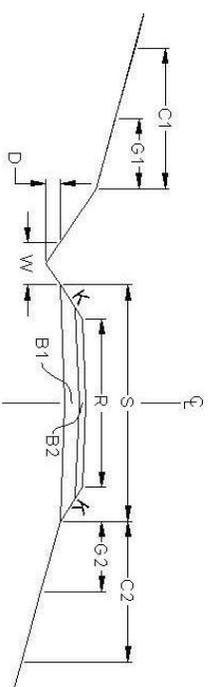
SECTION 11 SPECIAL NOTES

**11-1 SK-2823 STREAM ALIGNMENT WORK**

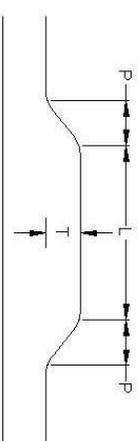
The SK-2823 road is channeling water away from its native stream channel at station 45+73. Purchaser shall track down with an excavator from station 49+00 (end of the SK-2823) and construct a four foot wide channel across the abandoned road.

ROAD #	MJ-ML	MJ-14 A	MJ-14	MJ-16
REQUIRED / OPTIONAL	REQUIRED	OPTIONAL	OPTIONAL	REQUIRED
CONSTRUCT / RECONSTRUCT	PRE-HAUL	CONSTRUCT	CONSTRUCT	PRE-HAUL
TOLERANCE CLASS (A/B/C)	C	C	C	C
STATION / MP TO	0+00	0+00	15+01	0+00
STATION / MP	270+20	15+01	24+97	10+07
ROAD WIDTH	R	12	12	12
CROWN (INCHES @ C/L)		3	3	3
DITCH WIDTH	W	3	3	3
DITCH DEPTH	D	1	1	1
TURNOUT LENGTH	L	50	25	50
TURNOUT WIDTH	T	10	10	10
TURNOUT TAPER	P	25	25	25
GRUBBING	G1	--	5	5
	G2	--	5	--
CLEARING	C1	--	10	10
	C2	--	10	--
ROCK FILL SLOPE	K:1	--	1½	1½
❖ BALLAST DEPTH	B1	--	9	18
❖ CUBIC YARDS / STATION		--	57	124
➤ TOTAL CY BALLAST		--	855	1235
❖ SURFACING DEPTH	B2	--	--	--
❖ CUBIC YARDS / STATION		--	--	--
➤ TOTAL CY SURFACING		--	--	--
➤ TOTAL CUBIC YARDS		--	855	1235
SUBGRADE WIDTH	S	--	14.25	16.5
BRUSH CUT (Y/N)		--	N	N
BLADE, SHAPE, & DITCH (Y/N)		Y	N	N

### TYPICAL SECTION



### TURNOUT DETAIL (PLAN VIEW)



### SYMBOL NOTES

- ❖ Specified Rock Depth is FINISHED COMPACTED DEPTH in inches.
  - Specified Rock Quantity is LOOSE MEASURE (Truck Cubic Yards) needed to accomplish specified FINISHED COMPACTED DEPTH. Rock quantities include volume for turnouts, curve widening and landings.
  - ❖ Construction is on an abandoned grade.
  - B Construction from is on an orphan grade.
  - C Includes 300 CY for fill in culvert installation at sta. 3+88.
  - D 20 CY over each culvert installation.
- TOTAL GRAVEL PIT RUN = 14490 CY  
TOTAL RIPRAP = 490 CY

ROAD #	MJ-21 B	MJ-21	MJ-21	MJ-21	MJ-24	MJ-24	MJ-2406
REQUIRED / OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL	REQUIRED	REQUIRED	OPTIONAL
CONSTRUCT / RECONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	CONSTRUCT	PRE-HAUL	CONSTRUCT	CONSTRUCT
TOLERANCE CLASS (A/B/C)	C	C	A	C	C	C	C
STATION / MP TO	0+00	5+08	6+93	7+19	7+19	0+00	20+19
STATION / MP	5+08	6+93	7+19	20+72	20+19	35+40	1+80
ROAD WIDTH	R 12	12	14	12	12	12	12
CROWN (INCHES @ C/L)	3	3	3	3	3	3	3
DITCH WIDTH	W 2	2		2	3	3	3
DITCH DEPTH	D 1	1		1	1	1	1
TURNOUT LENGTH	L 25	25		25	50	50	25
TURNOUT WIDTH	T 10	10		10	10	10	10
TURNOUT TAPER	P 25	25		25	25	25	25
GRUBBING	G1 5	5		5	5	5	5
	G2 5	5		5	5	5	5
CLEARING	C1 10	10		10	10	10	10
	C2 10	10		10	10	10	10
ROCK FILLSLOPE	K:1 1½	1½		1½	1½	1½	1½
❖ BALLAST DEPTH	B1 12	18	6	18	9	18	18
CUBIC YARDS / STATION	78	124	34	124	57	124	124
➤ TOTAL CY BALLAST	395	230	10	1680	1150	1885	225
❖ SURFACING DEPTH	B2 --	--	--	--	--	--	--
CUBIC YARDS / STATION	--	--	--	--	--	--	--
➤ TOTAL CY SURFACING	--	--	--	--	--	--	--
➤ TOTAL CUBIC YARDS	395	230	10	1680	1150	1885	225
SUBGRADE WIDTH	S 15.0	16.5	--	16.5	14.25	16.5	16.5
BRUSHCUT (Y/N)	N	N	--	N	Y	N	N
BLADE, SHAPE, & DITCH (Y/N)	N	N	--	N	Y	N	N

26 ft. SPAN  
LOG STRINGER BRIDGE

ROAD #	MI-35	MI-3507 A	MI-41	MI-4101	MI-51	SK-28	SK-2822
REQUIRED / OPTIONAL	REQUIRED	REQUIRED	REQUIRED	OPTIONAL	REQUIRED	REQUIRED	OPTIONAL
CONSTRUCT / RECONSTRUCT	PRE-HAUL	CONSTRUCT	PRE-HAUL	CONSTRUCT	PRE-HAUL	PRE-HAUL	CONSTRUCT
TOLERANCE CLASS (A/B/C)	C	C	C	C	C	C	C
STATION / MP TO	0+00	0+00	0+00	0+00	0+00	0+00	0+00
STATION / MP	35+16	12+46	22+85	6+60	22+12	188+19	5+46
ROAD WIDTH	R 12	12	12	12	12	12	12
CROWN (INCHES @ C/L)	3	3	3	3	3	3	3
DITCH WIDTH	W 3	3	3	3	3	3	3
DITCH DEPTH	D 1	1	1	1	1	1	1
TURNOUT LENGTH	L 50	50	50	25	50	50	25
TURNOUT WIDTH	T 10	10	10	10	10	10	10
TURNOUT TAPER	P 25	25	25	25	25	25	25
GRUBBING	G1 --	5	--	5	--	--	5
	G2 --	5	--	5	--	--	5
CLEARING	C1 --	10	--	10	--	--	10
	C2 --	10	--	10	--	--	10
ROCK FILLSLOPE	K:1 1½	1½	1½	1½	--	1½	1½
❖ BALLAST DEPTH	B1 6	12	6	18	--	6	18
CUBIC YARDS / STATION	37	78	37	124	--	37	124
➤ TOTAL CY BALLAST	1300	970	845	820	--	120	675
❖ SURFACING DEPTH	B2 --	--	--	--	--	--	--
CUBIC YARDS / STATION	--	--	--	--	--	--	--
➤ TOTAL CY SURFACING	--	--	--	--	--	--	--
➤ TOTAL CUBIC YARDS	1300	1270 C	845	820	--	120 D	675
SUBGRADE WIDTH	S 13.5	15.0	13.5	16.5	--	13.5	16.5
BRUSHCUT (Y/N)	Y	N	Y	N	N	Y	N
BLADE, SHAPE, & DITCH (Y/N)	Y	N	Y	N	Y	Y	N

ROAD #		SK-2825							
REQUIRED / OPTIONAL		OPTIONAL							
CONSTRUCT / RECONSTRUCT		CONSTRUCT							
TOLERANCE CLASS (A/B/C)		C							
STATION / MP TO		0+00							
STATION / MP		11+46							
ROAD WIDTH	R	12							
CROWN (INCHES @ C/L)		3							
DITCH WIDTH	W	3							
DITCH DEPTH	D	1							
TURNOUT LENGTH	L	25							
TURNOUT WIDTH	T	10							
TURNOUT TAPER	P	25							
GRUBBING	G1	5							
	G2	5							
CLEARING	C1	10							
	C2	10							
ROCK FILL SLOPE	K:1	1½							
❖ BALLAST DEPTH	B1	18							
CUBIC YARDS / STATION		124							
➤ TOTAL CY BALLAST		1420							
❖ SURFACING DEPTH	B2	--							
CUBIC YARDS / STATION		--							
➤ TOTAL CY SURFACING		--							
➤ TOTAL CUBIC YARDS		1420							
SUBGRADE WIDTH	S	16.5							
BRUSH CUT (Y/N)		N							
BLADE, SHAPE, & DITCH (Y/N)		N							

## MATERIALS LIST

LOCATION		CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS												
													DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE				
MJ-14	4+88	30	40	XX			5	8	H/L	NT	C	<p style="text-align: center;"><b>Note:</b> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><b>Diameter</b></td> <td style="text-align: center;"><b>Gage</b></td> <td style="text-align: center;"><b>Corrugation</b></td> </tr> <tr> <td style="text-align: center;">18"</td> <td style="text-align: center;">16</td> <td style="text-align: center;">2 2/3" x 1 1/2"</td> </tr> <tr> <td style="text-align: center;">24" - 48"</td> <td style="text-align: center;">14</td> <td style="text-align: center;">2 2/3" x 1 1/2"</td> </tr> <tr> <td style="text-align: center;">54" - 96"</td> <td style="text-align: center;">14</td> <td style="text-align: center;">3" x 1"</td> </tr> </table>	<b>Diameter</b>	<b>Gage</b>	<b>Corrugation</b>	18"	16	2 2/3" x 1 1/2"	24" - 48"	14	2 2/3" x 1 1/2"	54" - 96"	14	3" x 1"
<b>Diameter</b>	<b>Gage</b>	<b>Corrugation</b>																						
18"	16	2 2/3" x 1 1/2"																						
24" - 48"	14	2 2/3" x 1 1/2"																						
54" - 96"	14	3" x 1"																						
MJ-14	8+45	18	30	PD			2	3	L	NT	C													
MJ-14	10+13	18	30	PD			2	3	L	NT	C													
MJ-14	14+17	30	40	XX			5	8	H/L	NT	C													
MJ-14	15+01	18	30	PD			2	3	L	NT	C													
MJ-14	16+71	18	30	PD			2	3	L	NT	C													
MJ-14	17+78	18	30	PD			2	3	L	NT	C													
MJ-14	20+56	18	30	PD			2	3	L	NT	C													
MJ-14	23+84	18	36	PD			2	3	L	NT	C													
MJ-21	0+25	18	50	XX			2	3	L	NT	C													
MJ-21	5+08	18	30	XX			2	3	L	NT	C													
MJ-21	6+59	18	30	XX			2	3	L	NT	C													
MJ-21	6+93 to 7+19	26 ft. span log stringer bridge					--	--	--	--	A													
MJ-21	8+31	18	30	XX			2	3	L	NT	C													
MJ-21	10+57	30	36	XX			5	8	H/L	NT	C													
MJ-21	11+12	18	36	XX			2	3	L	NT	C													
MJ-21	15+83	30	36	XX			5	8	H/L	NT	C													
MJ-21	16+35	18	40	XX			2	3	L	NT	C													
MJ-21	19+15	18	30	XX			2	3	L	NT	C													
MJ-21	19+67	24	40	XX			2	3	L	NT	C													

GM – Galvanized Metal PS – Polyethylene Pipe Single Wall PD – Polyethylene Pipe Dual Wall AM – Aluminized Metal C – Concrete XX – PD or GM  
 H – Heavy Loose Riprap L – Light Loose Riprap SR – Shot Rock NT – Native (Bank Run) QS – Quarry Spalls

## MATERIALS LIST

LOCATION	STATION	CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS												
		DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE															
MJ-24	5+07	18	30	PD			2	3	L	NT	C	<p style="text-align: center;"><b>Note:</b> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;"><u>Diameter</u></td> <td style="text-align: center;"><u>Gage</u></td> <td style="text-align: center;"><u>Corrugation</u></td> </tr> <tr> <td style="text-align: center;">18"</td> <td style="text-align: center;">16</td> <td style="text-align: center;">2 2/3" x 1/2"</td> </tr> <tr> <td style="text-align: center;">24" - 48"</td> <td style="text-align: center;">14</td> <td style="text-align: center;">2 2/3" x 1/2"</td> </tr> <tr> <td style="text-align: center;">54" - 96"</td> <td style="text-align: center;">14</td> <td style="text-align: center;">3" x 1"</td> </tr> </table>	<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>	18"	16	2 2/3" x 1/2"	24" - 48"	14	2 2/3" x 1/2"	54" - 96"	14	3" x 1"
<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>																						
18"	16	2 2/3" x 1/2"																						
24" - 48"	14	2 2/3" x 1/2"																						
54" - 96"	14	3" x 1"																						
MJ-24	10+05	18	30	PD			2	3	L	NT	C													
MJ-24	18+26	18	30	PD			2	3	L	NT	C													
MJ-24	25+56	24	30	PD			3	5	H/L	NT	C													
MJ-24	26+42	18	30	PD			2	3	L	NT	C													
MJ-24	28+75	24	40	PD			3	5	H/L	NT	C													
MJ-24	32+71	18	30	PD			2	3	L	NT	C													
MJ-24	34+66	18	30	PD			2	3	L	NT	C													
MJ-2406	0+60	30	40	PD			3	5	H/L	NT	C													
MJ-3507	3+88	72	54	GM			70	100	H/L	*	C	Type 4 stream. *Fill material shall be gravel imported from the Section 2 pit (approximately 300 cubic yards).												
MJ-3507	6+17	18	30	PD			2	3	L	NT	C	Type 4 stream												
MJ-3507	6+88	30	36	XX			5	8	H/L	NT	C	Type 4 stream												
MJ-3507	8+92	30	40	XX			5	8	H/L	NT	C	Type 4 stream												
MJ-3507	9+42	18	30	PD			2	3	L	NT	C													
MJ-3507	10+69	18	30	PD			2	3	L	NT	C													
MJ-41	3+55	18	30	PD			2	3	L	NT	C													

GM – Galvanized Metal    PS – Polyethylene Pipe Single Wall    PD – Polyethylene Pipe Dual Wall    AM – Aluminized Metal    C – Concrete    XX – PD or GM  
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**MATERIALS LIST**

LOCATION	STATION	CULVERT			DWNSPT		RIPRAP			FILL TYPE	TOLERANCE	REMARKS												
		DIAMETER	LENGTH	TYPE	LENGTH	TYPE	INLET	OUTLET	TYPE															
MJ-41	8+38	18	30	PD			2	3	L	NT	C	<p align="center"><b>Note:</b> Galvanized metal culverts shall conform to the following specifications for gage and corrugation as a function of the diameter:</p> <table border="0"> <tr> <td><u>Diameter</u></td> <td><u>Gage</u></td> <td><u>Corrugation</u></td> </tr> <tr> <td>18"</td> <td>16</td> <td>2 2/3" x 1/2"</td> </tr> <tr> <td>24" - 48"</td> <td>14</td> <td>2 2/3" x 1/2"</td> </tr> <tr> <td>54" - 96"</td> <td>14</td> <td>3" x 1"</td> </tr> </table>	<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>	18"	16	2 2/3" x 1/2"	24" - 48"	14	2 2/3" x 1/2"	54" - 96"	14	3" x 1"
<u>Diameter</u>	<u>Gage</u>	<u>Corrugation</u>																						
18"	16	2 2/3" x 1/2"																						
24" - 48"	14	2 2/3" x 1/2"																						
54" - 96"	14	3" x 1"																						
MJ-41	10+35	18	30	PD			2	3	L	NT	C													
MJ-41	18+25	18	30	PD			2	3	L	NT	C													
MJ-4101	3+18	18	30	PD			2	3	L	NT	C													
MJ-4101	5+23	18	30	PD			2	3	L	NT	C													
SK-28	54+16	18	30	PD			2	3	L	NT	C													
SK-28	61+93	18	30	PD			2	3	L	NT	C													
SK-28	134+62	18	30	PD			2	3	L	NT	C													
SK-28	146+36	18	30	PD			2	3	L	NT	C													
SK-28	164+08	18	30	PD			2	3	L	NT	C													
SK-28	172+87	18	30	PD			2	3	L	NT	C													
SK-2822	0+65	30	36	GM			5	8	H/L	NT	C	Type 4 stream												
SK-2822	1+98	18	30	PD			2	3	L	NT	C													
SK-2822	3+91	18	30	PD			2	3	L	NT	C													
SK-2825	2+95	18	30	PD			2	3	L	NT	C													
SK-2825	5+42	18	40	PD			2	3	L	NT	C													
SK-2825	9+43	18	30	PD			2	3	L	NT	C													

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## FOREST ACCESS ROAD MAINTENANCE SPECIFICATIONS

### Cuts and Fills

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

### Surface

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

### Drainage

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

### Preventative Maintenance

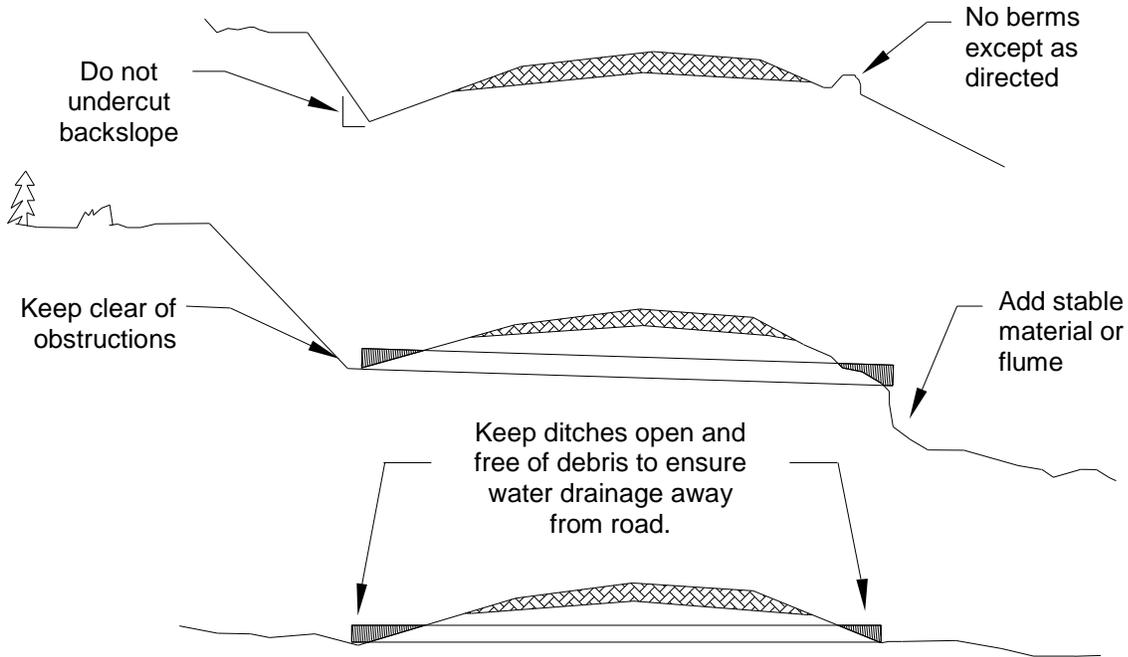
- Perform preventative maintenance work to safeguard against storm damage, such as blading to ensure correct runoff, ditch and culvert cleaning, and waterbar maintenance.

**Termination of Use or End of Season**

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

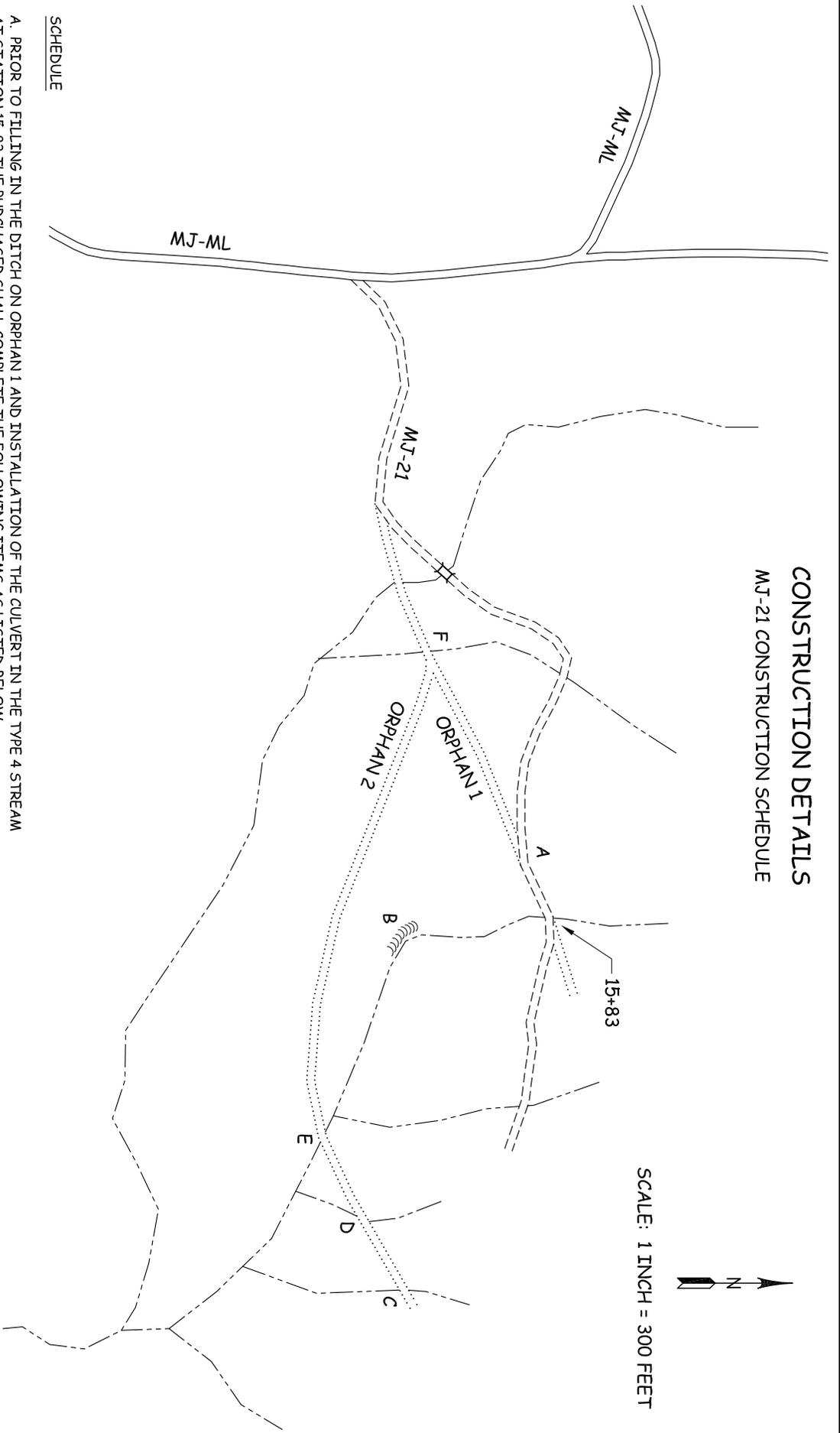
**Debris**

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



# CONSTRUCTION DETAILS

## MJ-21 CONSTRUCTION SCHEDULE



**SCHEDULE**

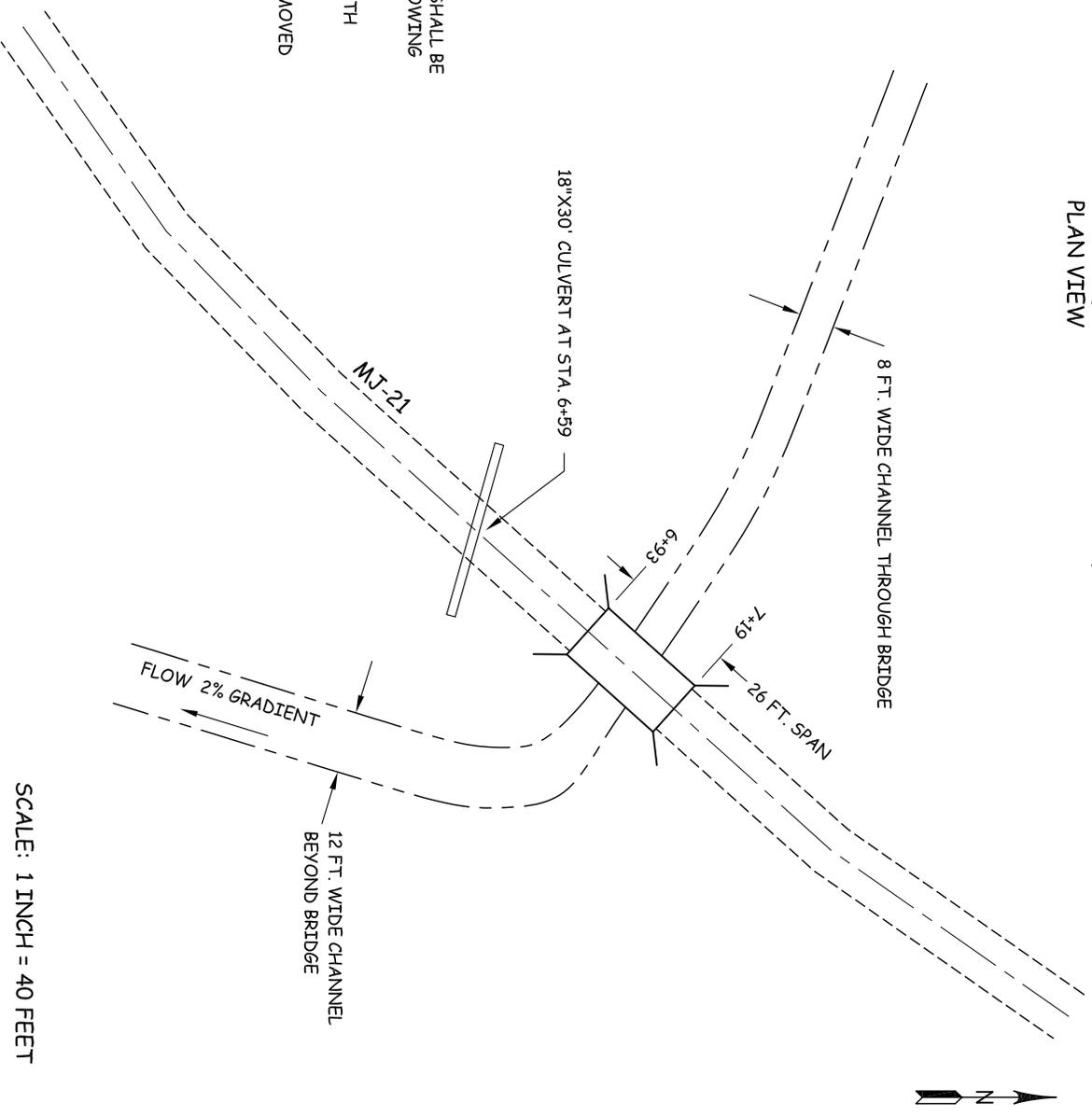
- A. PRIOR TO FILLING IN THE DITCH ON ORPHAN 1 AND INSTALLATION OF THE CULVERT IN THE TYPE 4 STREAM AT STATION 15+83 THE PURCHASER SHALL COMPLETE THE FOLLOWING ITEMS AS LISTED BELOW.
- B. TRAVEL DOWN ORPHAN 1 AND EXCAVATE OUT A FOUR FOOT WIDE STREAM CHANNEL WHERE THE NEW TYPE 3 STREAM LOCATION IS FLAGGED. EXCAVATED MATERIAL SHALL BE PLACED TO BERM THE DOWNHILL EDGE (APPROXIMATELY 75 FEET).
- C. EXCAVATE OUT A TWO FOOT WIDE CHANNEL IN TYPE 5 STREAM ACROSS THE ORPHAN GRADE.
- D. EXCAVATE OUT A TWO FOOT WIDE CHANNEL IN TYPE 5 STREAM ACROSS THE ORPHAN GRADE.
- E. EXCAVATE OUT A SIX FOOT WIDE CHANNEL IN FUTURE TYPE 3 STREAM ACROSS THE ORPHAN GRADE. EXCAVATED MATERIAL SHALL BE PLACED NORTH OF THE CROSSING TO FUNNEL FLOW TO THE OPENING.
- F. REMOVE EXISTING CULVERT AND EXCAVATE A FOUR FOOT WIDE CHANNEL IN TYPE 3 STREAM.

CONTRACT #	PROJECT	SHEET
93569	HOOSTER VRH & VDT	37 OF 42

# CONSTRUCTION DETAILS

## MJ-21 LOG STRINGER BRIDGE (STATION 6+93 TO 7+19)

### PLAN VIEW



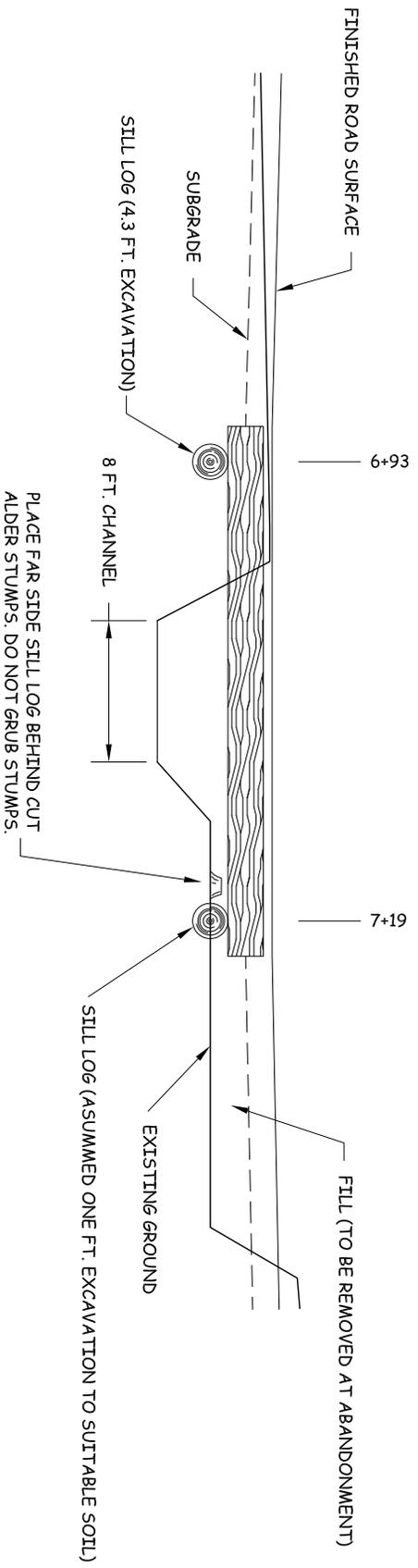
**CONSTRUCTION NOTES:**

- THE LOG STRINGER BRIDGE SHALL BE INSTALLED AND REMOVED BETWEEN JUNE 1 AND SEPTEMBER 30 OF THE YEAR BUILT.
- NO RIPRAP SHALL BE USED TO ARMOR THE STREAM CHANNEL.
- NO CROSSING OF EQUIPMENT SHALL BE ALLOWED PRIOR TO CONSTRUCTION OF THE BRIDGE.
- ALL EXPOSED SOIL WITHIN 25 FEET OF THE STREAM CHANNEL SHALL BE COVERED WITH A 3-INCH LAYER OF STRAW IMMEDIATELY FOLLOWING COMPLETION OF THE BRIDGE.
- THE LOG STRINGER BRIDGE SHALL BE BUILT IN ACCORDANCE WITH SHEET 40, "LOG STRINGER BRIDGE INSTALLATION DETAILS."
- ALL FILL MATERIAL PLACED ON THE FAR APPROACH SHALL BE REMOVED DURING ABANDONMENT.

SCALE: 1 INCH = 40 FEET

CONTRACT # 30-093569	PROJECT HOOSIER VRH & VDT	SHEET 38 OF 42
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**CONSTRUCTION DETAILS**  
**MJ-21 LOG STRINGER BRIDGE (STATION 6+93 TO 7+19)**  
**PROFILE VIEW**

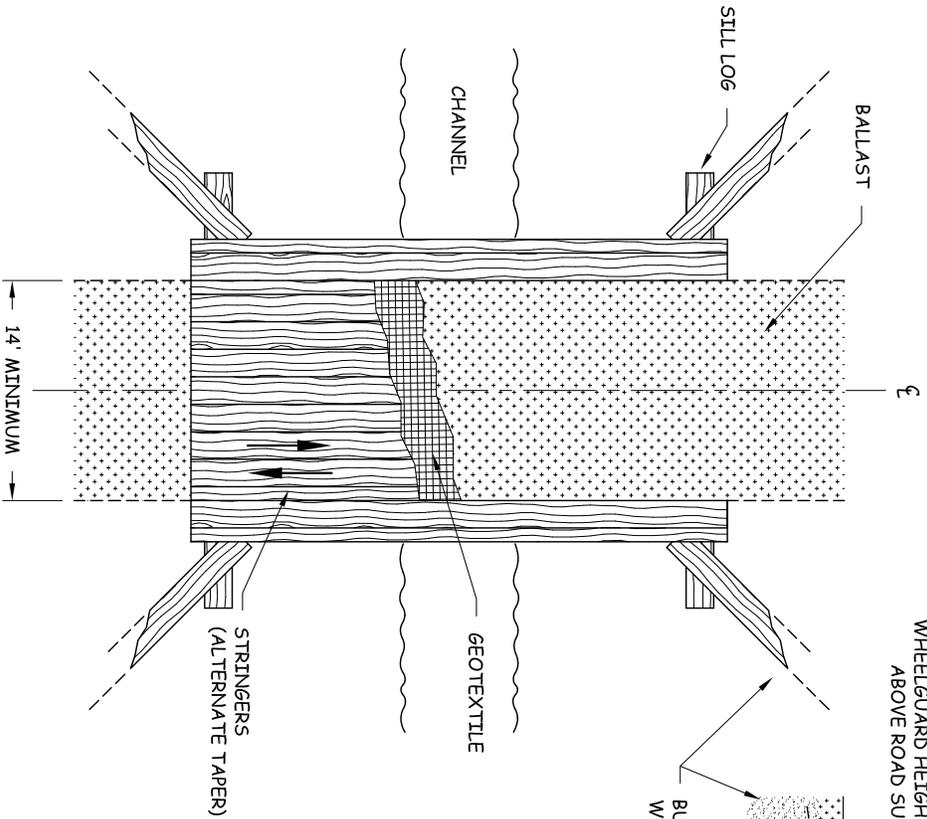


SCALE: 1 INCH = 10 FEET

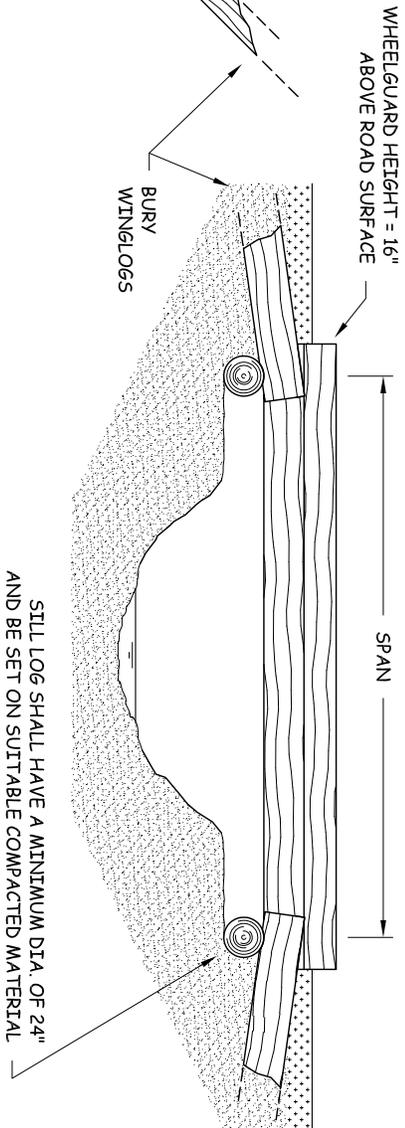
CONTRACT # 30-093569	PROJECT HOOSIER VRH & VDT	SHEET 39 OF 42
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# LOG STRINGER BRIDGE INSTALLATION DETAILS

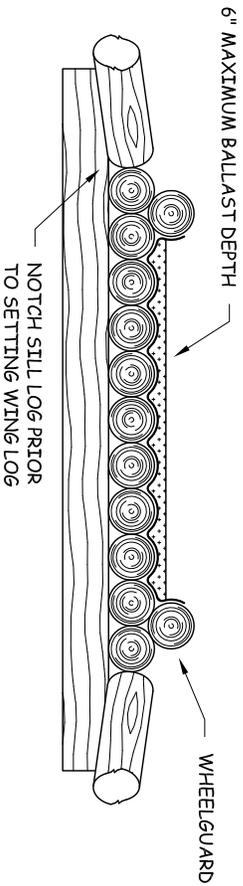
PLAN VIEW



PROFILE VIEW



END VIEW



**NOTES:**

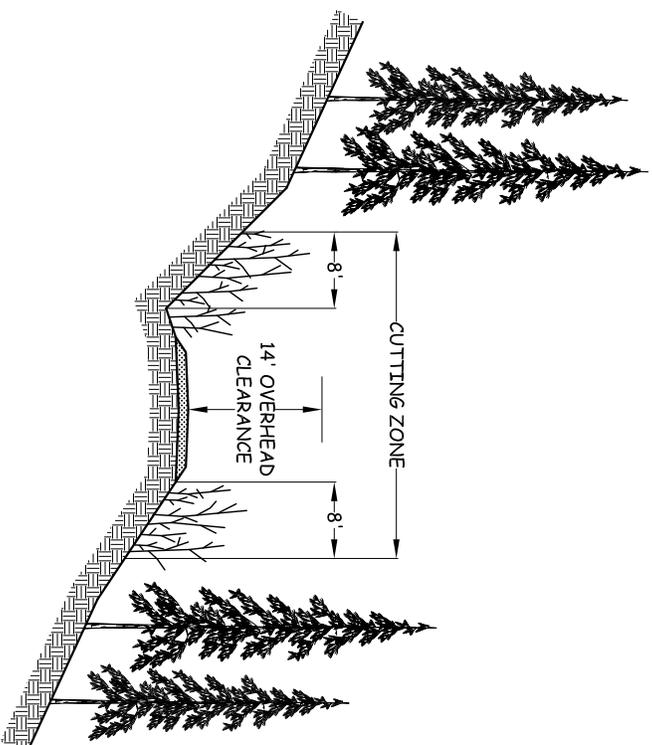
ALL MATERIALS SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR.  
 ANY DESIGN CHANGES SHALL BE APPROVED BY THE CONTRACT ADMINISTRATOR.  
 STRINGERS AND WHEELGUARDS SHALL BE LASHED TOGETHER WITH 7/8" WIRE ROPE NEAR EACH END OF THE STRUCTURE.  
 WING LOGS SHALL BE LASHED TO STILL LOG AND STRINGERS WITH 7/8" WIRE ROPE AT EACH END OF STRUCTURE.  
 ALL BARK SHALL BE PEELED FROM LOGS PRIOR TO CONSTRUCTION.

DOUGLAS-FIR	WESTERN HEMLOCK	WESTERN RED CEDAR	MIDSPAN MINIMUM DIAMETER
28'	24'	22'	20"
32'	28'	26"	22"
36'	32'	28"	24"
38'	34'	32"	26"
42'	38"	34"	27"
46'	40'	38"	29"
48'	44"	40"	31"
52'	46"	42"	33"
56'	50"	46"	35"
60'	52"	48"	37"

DRAWINGS NOT TO SCALE

CONTRACT #	PROJECT	SHEET
30-093569	HOOSTER VEH & VOT	49 OF 42

# ROAD BRUSHING DETAILS



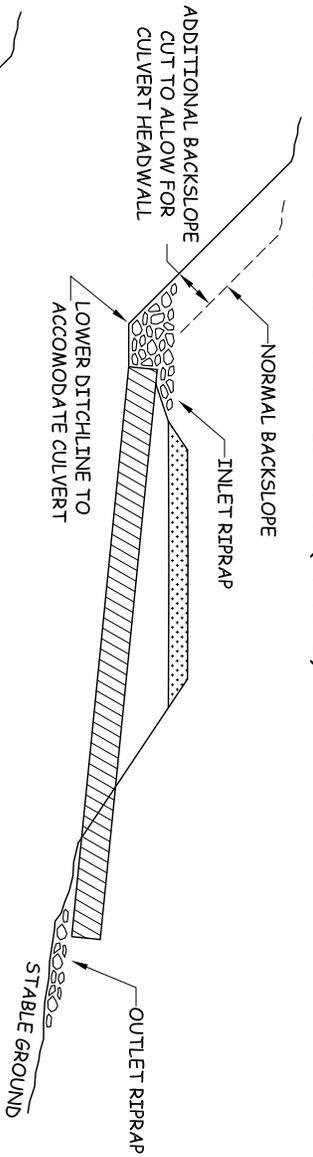
## SPECIFICATIONS

- BRUSH SHALL BE CUT ON THE ROAD SURFACE AND 8 ft. BACK FROM ROAD DITCH AND OUTSIDE EDGE OF RUNNING SURFACE.
- ON THE INSIDE OF SWITCHBACKS AND TIGHT CURVES, BRUSH SHALL BE CUT BACK 16 ft. FOR VISIBILITY.
- ON TRUCK TURNOUTS, BRUSH SHALL BE CUT 8 ft. BACK FROM OUTSIDE EDGE.
- BRUSH SHALL BE CUT TO PROVIDE AN OVERHEAD CLEARANCE OF 14 ft. ABOVE THE ROAD RUNNING SURFACE.
- BRUSH SHALL BE CUT TO WITHIN 6 in. OF THE GROUND.
- SLASH SHALL BE REMOVED FROM CUT SLOPES ABOVE THE ROAD AND SCATTERED ON EMBANKMENT SLOPES.
- DITCHES SHALL BE CLEARED OF WOODY DEBRIS.
- CULVERT INLETS AND OUTLETS SHALL BE CLEANED A MINIMUM DISTANCE OF TWO PIPE DIAMETERS AWAY.

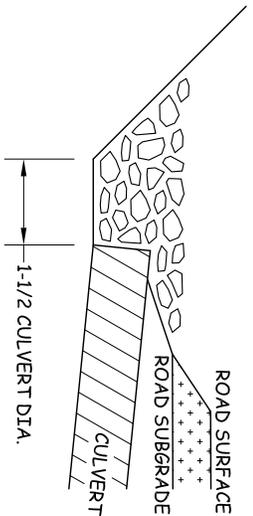
CONTRACT #	PROJECT	SHEET
30-093569	HOOSTER VRH & VDT	41 OF 42

# CULVERT AND DRAINAGE SPECIFICATIONS

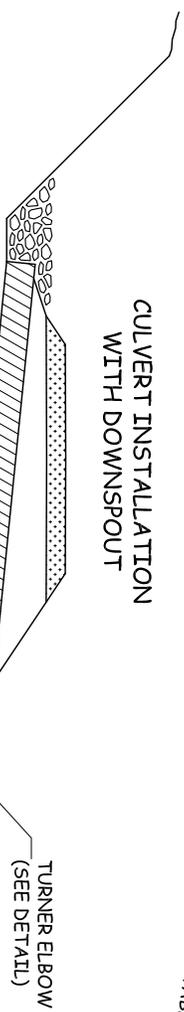
CULVERT INSTALLATION (TYPICAL)



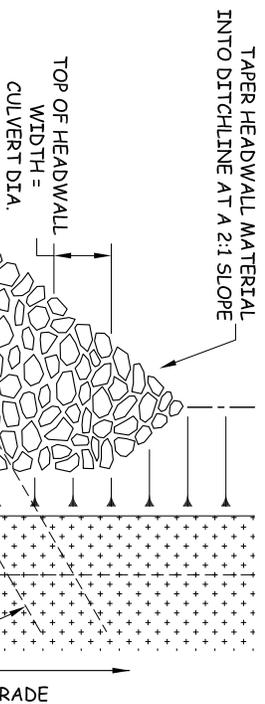
CULVERT HEADWALL - SECTION VIEW



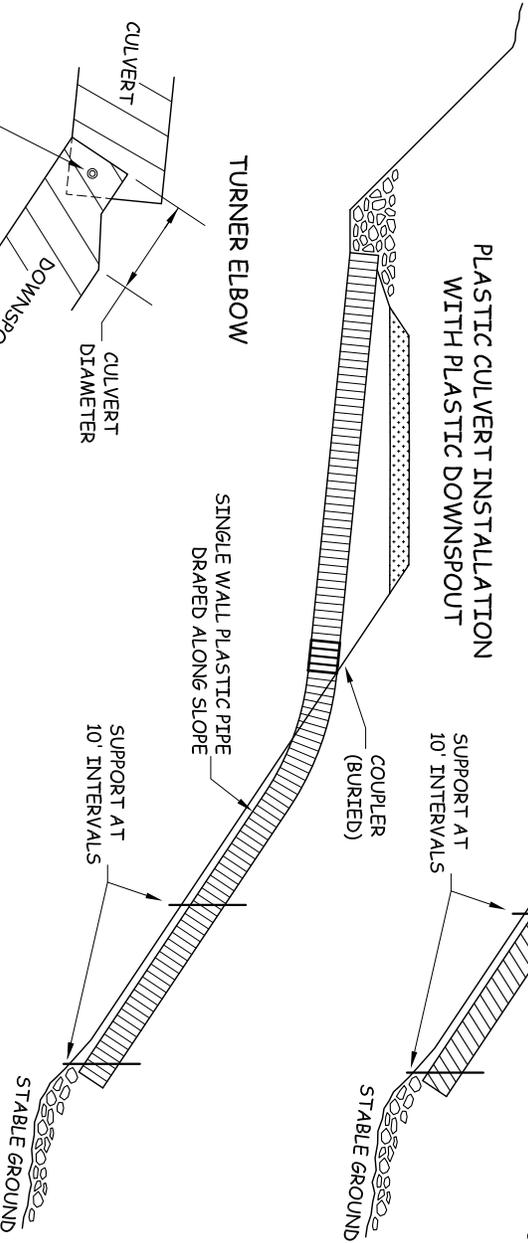
CULVERT INSTALLATION WITH DOWNSPOUT



CULVERT HEADWALL - PLAN VIEW

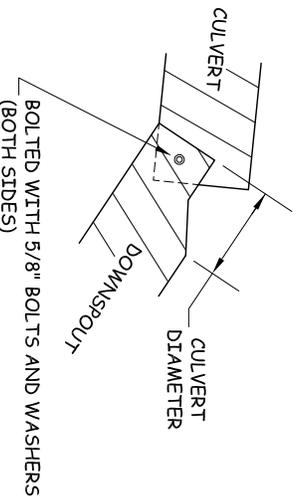


PLASTIC CULVERT INSTALLATION WITH PLASTIC DOWNSPOUT



**HEADWALL NOTE:**

HEADWALL TO BE CONSTRUCTED OF IMPERVIOUS MATERIAL THAT WILL RESIST EROSION AND ARMORED WITH RIPRAP QUANTITY SPECIFIED IN ROAD PLAN.



CONTRACT #  
30-093569

PROJECT  
HOOSTER VRH & VDT

SHEET  
42 OF 42

# SUMMARY - Road Development Costs

REGION: NW  
DISTRICT: Baker

SALE/PROJECT NAME: Hoosier VRH & VDT

CONTRACT #: 30-093569

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ROAD NUMBERS:	MJ-14, MJ-21, MJ-24, MJ-24, MJ-2406, MJ-4101, SK-2822, SK-2825	CC-ML	-
ROAD STANDARD:	Construction	Pre-Haul/Post Haul	
NUMBER OF STATIONS:	98.68	568.78	
CLEARING & GRUBBING:	-	-	
EXCAVATION AND FILL:	\$61,320	\$25,212	All other costs
MISC. MAINTENANCE:			
ROAD ROCK:	\$93,021	\$34,408	
ROCK STOCKPILE PROD:	-	-	
CULVERTS AND FLUMES:	\$22,252	\$3,549	
STRUCTURES:	-	-	
MOBILIZATION:	-	-	Amortized into other c
TOTAL COSTS:	\$176,593	\$63,169	
COST PER STATION:	\$1,790	\$111	
ROAD DEACTIVATION & ABANDONMENT COSTS:		\$2,486	

**TOTAL (All Roads) = \$242,248**  
**SALE VOLUME MBF = 3755**  
**TOTAL \$/MBF = \$65**

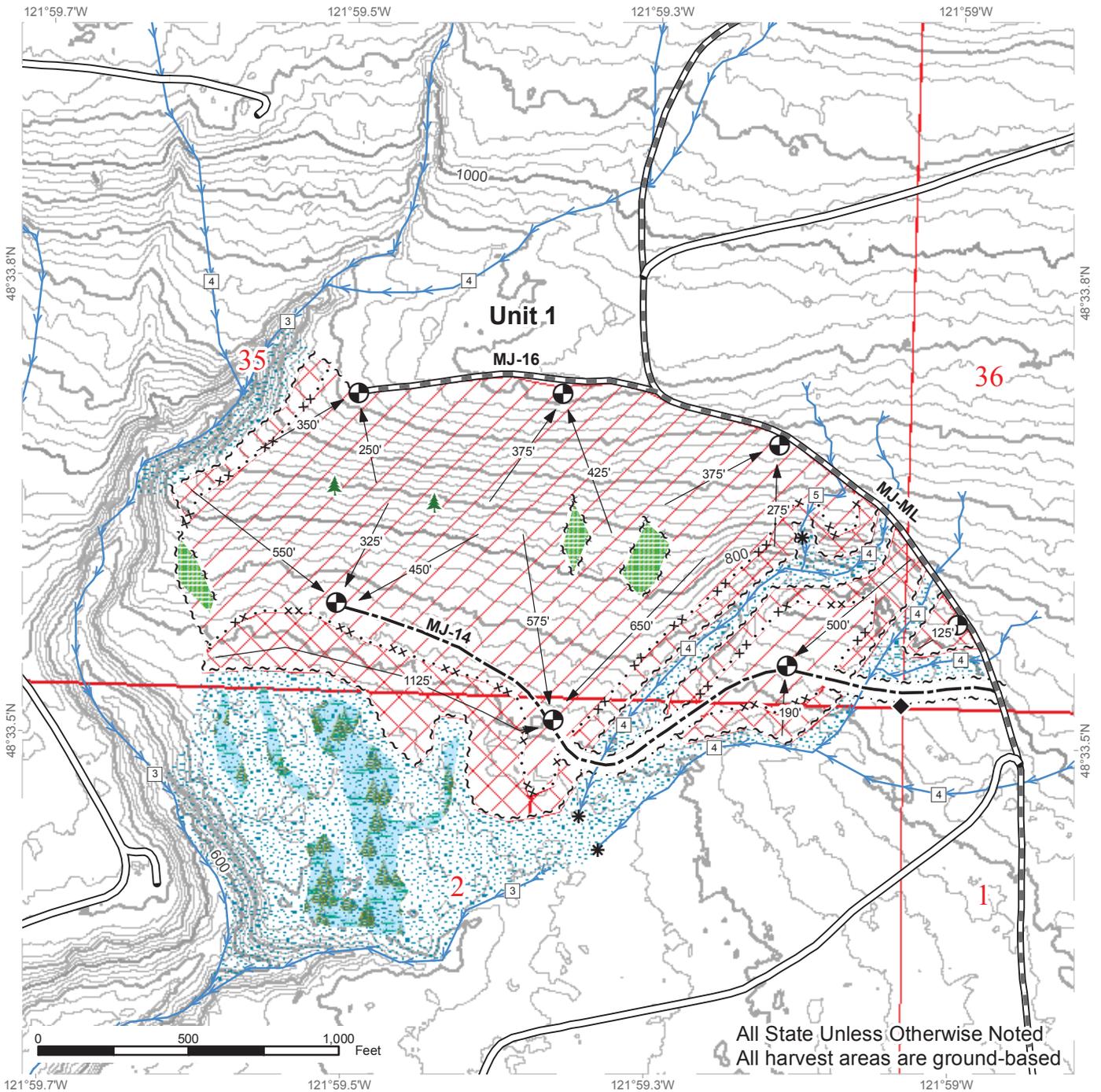
Compiled by: Carlson

Date: 6/5/16

# LOGGING PLAN MAP

**SALE NAME:** HOOSIER  
**AGREEMENT#:** 93569  
**TOWNSHIP(S):** T36R06E, T35R06E  
**TRUST(S):** State Forest Transfer(1)

**REGION:** Northwest Region  
**COUNTY(S):** SKAGIT  
**ELEVATION RGE:** 579-1288



All State Unless Otherwise Noted  
 All harvest areas are ground-based

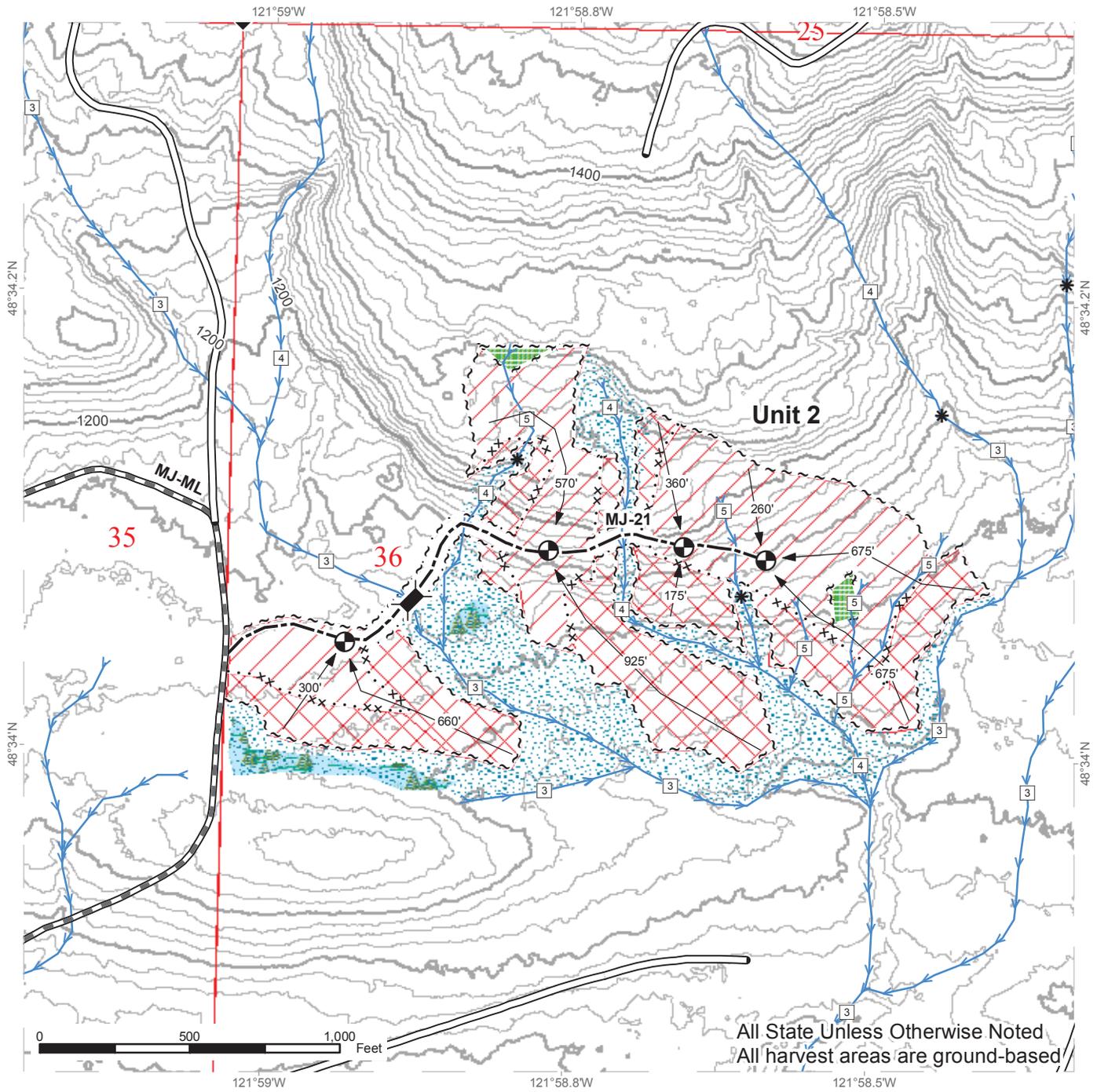
	Variable Retention Harvest		Existing Roads		Streams
	RMZ/WMZ Thinning		Required Pre-Haul Maintenance		Stream Type
	Forested Wetland		Optional Construction		Stream Type Break
	Leave Tree Area				Sale Boundary Tags
	Riparian Mgt Zone				Special Mgmt Area
					Leave Tree Tags
					Right of Way Tags



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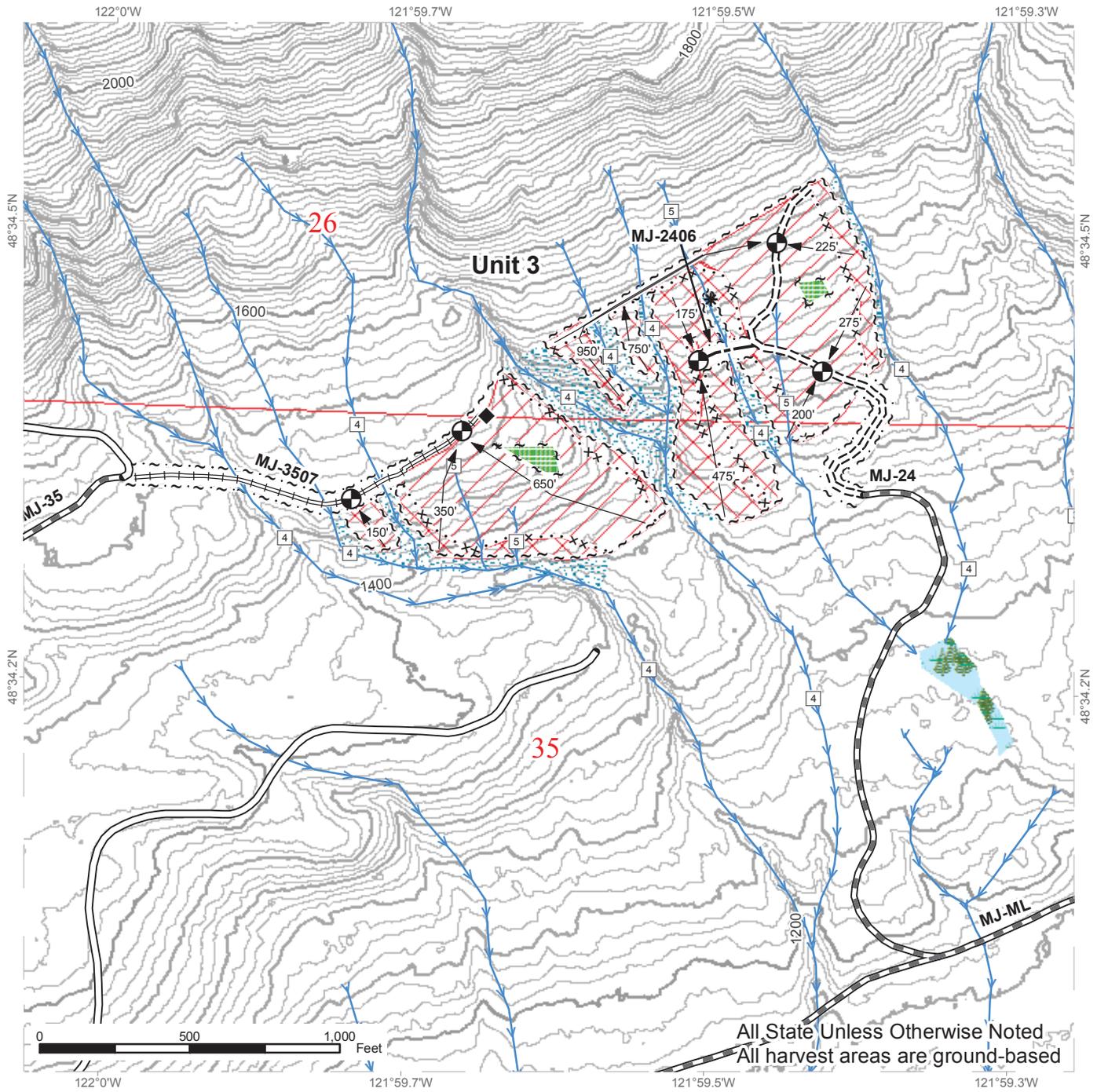
Variable Retention Harvest	Existing Roads	Streams
RMZ/WMZ Thinning	Required Pre-Haul Maintenance	Stream Type
Forested Wetland	Optional Construction	Stream Type Break
Leave Tree Area		Sale Boundary Tags
Riparian Mgt Zone		Special Mgmt Area
		Leave Tree Tags
		Right of Way Tags



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SALE NAME: HOOSIER  
 AGREEMENT#: 93569  
 TOWNSHIP(S): T36R06E, T35R06E  
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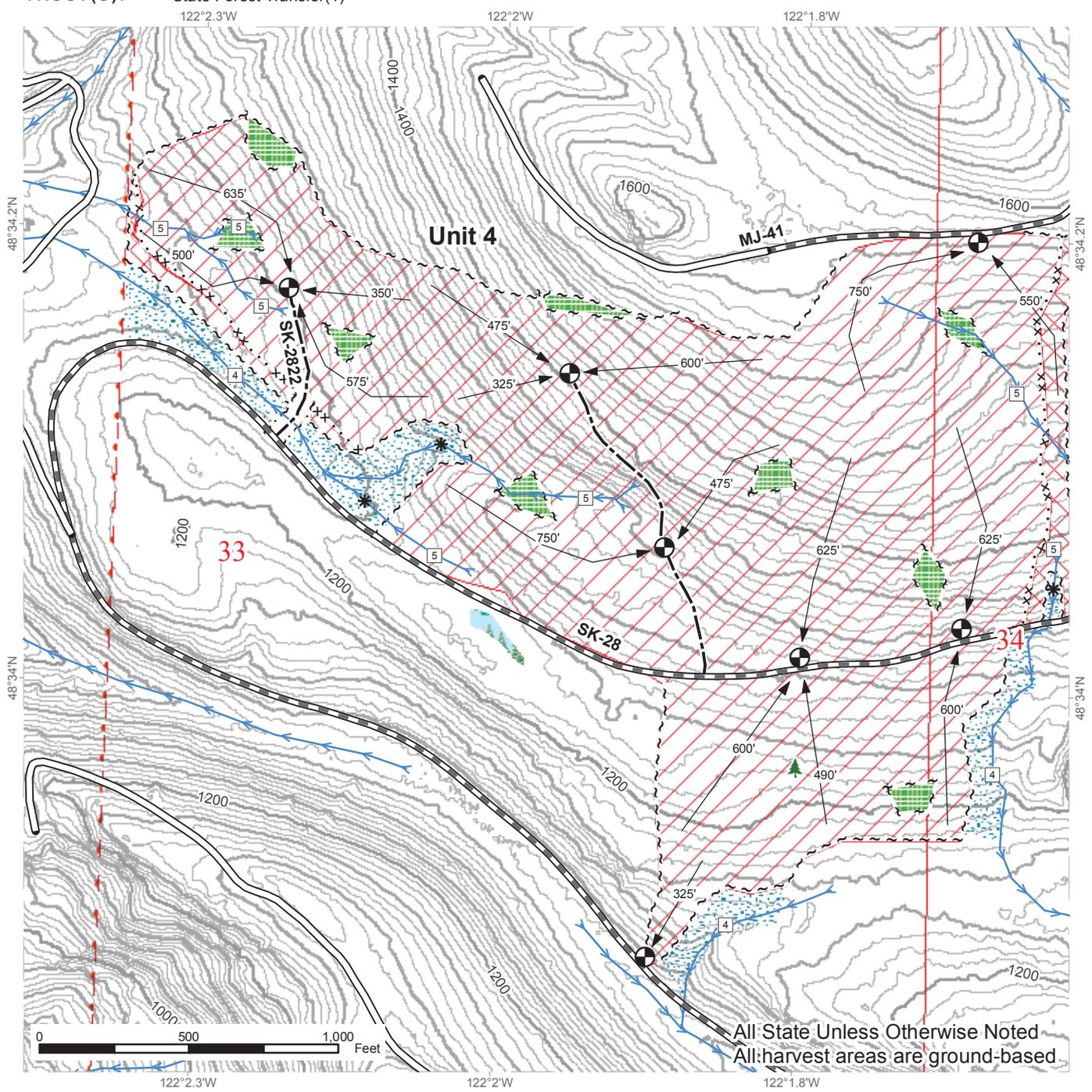
Variable Retention Harvest	Existing Roads	Streams
RMZ/WMZ Thinning	Required Pre-Haul Maintenance	Stream Type
Forested Wetland	Required Construction	Stream Type Break
Leave Tree Area	Required Reconstruction	Sale Boundary Tags
Riparian Mgt Zone	Optional Construction	Special Mgmt Area
	Designated Skid Trail	Leave Tree Tags
		Right of Way Tags



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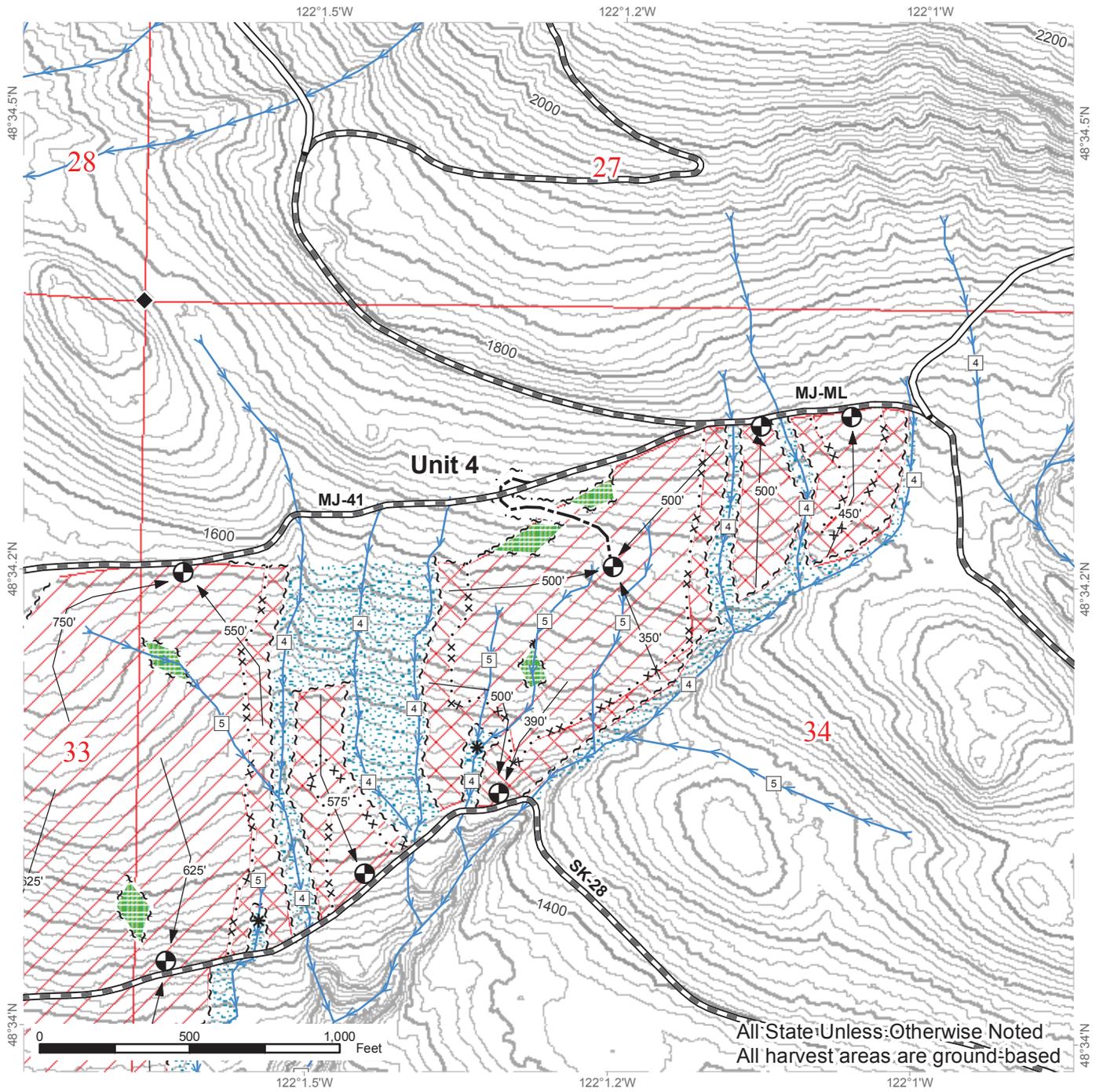
	Variable Retention Harvest		Existing Roads		Streams
	RMZ/WMZ Thinning		Required Pre-Haul Maintenance		Stream Type
	Forested Wetland		Optional Construction		Stream Type Break
	Leave Tree Area				Sale Boundary Tags
	Riparian Mgt Zone				Special Mgmt Area
					Leave Tree Tags
					Right of Way Tags



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	Variable Retention Harvest		Existing Roads		Streams
	RMZ/WMZ Thinning		Required Pre-Haul Maintenance		Stream Type
	Leave Tree Area		Optional Construction		Stream Type Break
	Riparian Mgt Zone				Sale Boundary Tags
					Special Mgmt Area
					Leave Tree Tags
					Right of Way Tags

