Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS

EXHIBIT B
TIMBER SALE OPERATIONS PLAN

(See page 2 for instructions)

Date Received by State: _____

(1) Contract Number: FG-341-2026-W01235-01

(2) Sale Name: Jordan-Lyda

(3) Contract Expiration Date: 10/31/2028

(4) Purchaser Name: _____

(5) State Brand Information (Complete)

(6) State Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(7) Purchaser Representatives:

Name	Circle One	Phone No.	Cell No.	Alt Phone
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			
	Logging Projects All			

(8) Name of Subcontractors and Start Dates:

Project No.	Subcontractor Name.	Start Date	Completion Date	Cell No.	Alt Phone

	Subcontractor Name.	Start Date	Cell No.	Alt Phone
FELLING				
YARDING				

(9) Comments:

_____

_____

_____

(10) Operations Map: Attach a copy of timber sale Exhibit A or other suitable map which plainly shows the items listed on the instruction sheet.

Oregon Department of Forestry
2600 State St Salem OR 97310

PART III: EXHIBITS

EXHIBIT B
INSTRUCTION SHEET FOR OPERATIONS PLAN

SUBMIT ONE COPY OF PLAN TO STATE

Operations shall be limited to the work shown in the plan until a revised plan or supplemental plan is submitted covering additional work. Compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act including without limitation PURCHASER'S independent obligation to avoid take of a T&E species and PURCHASER'S obligation to comply with terms and conditions of any incidental take Permit(s) that include required minimization and mitigation measures in any applicable Habitat Conservation Plan. If STATE has prepared a required Forest Practices Act (FPA) "Written Plan" for operations, PURCHASER shall comply with all provisions of the Written Plan.

Explanation of Item No.(from Page 1)

(5) All sales require you to use a brand furnished by STATE. If the State brand has not been assigned when the plan is submitted, it will be furnished and assigned later. Complete drawing. If more than one brand is assigned to the sale, complete both drawings.

(6) The contract requires you to have a designated representative available on the sale area or work location who is authorized to receive in your behalf any notice or instruction given by STATE and to take action in regard to performance under the contract. If logging and project work is widely separated, a representative is required for each.

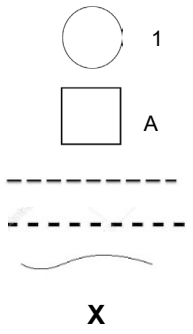
(7) The STATE representative will be designated when your plan is approved and is the person who will inspect and issue instructions regarding performance.

(8) Show names of subcontractors to be used for any or all phases of the operations. If subcontractors are not Known, or are changed later, give notification to the STATE representative prior to commencement of work by subcontractor.

(9) Show projected dates for commencement of both projects and logging. If projected dates need to be changed at a later date, notification must be given to the STATE representative by supplemental plan or otherwise, prior to commencement of such operations.

(10) The STATE representative will furnish extra copies of Exhibit A of the contract for your use in preparing the operations map. The map shall use the following legend and show:

1. Landing locations, approximate setting boundaries, and probable sequence of logging the settings. Number the settings in sequence.
2. Locations of spur roads planned for construction, other than required by the timber sale contract. Provide spur road specifications
3. Locations of proposed tractor yarding roads. Show if and how marked on the ground.
4. Locations of temporary stream crossings.
5. List the sequence of performing project work.
6. Location of rock sources - attach pit development plans.



Cable Landing, with numbers for sequence.

Tractor Landing with alphabetical sequence.

Approximate setting boundary.

Spur truck roads.

Tractor yarding roads.

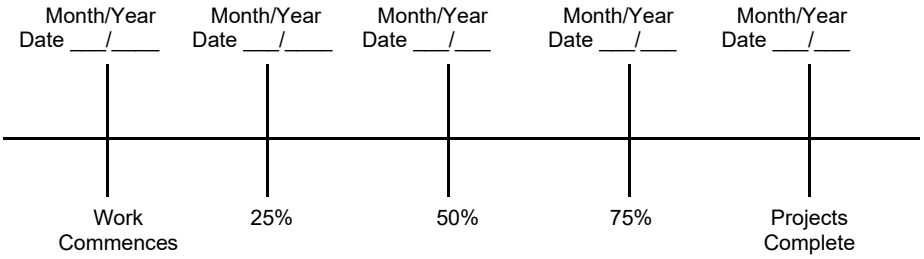
Temporary stream crossings.

Oregon Department of Forestry
2600 State St Salem OR 97310
PART III: EXHIBITS
EXHIBIT B
OPERATIONS PLAN

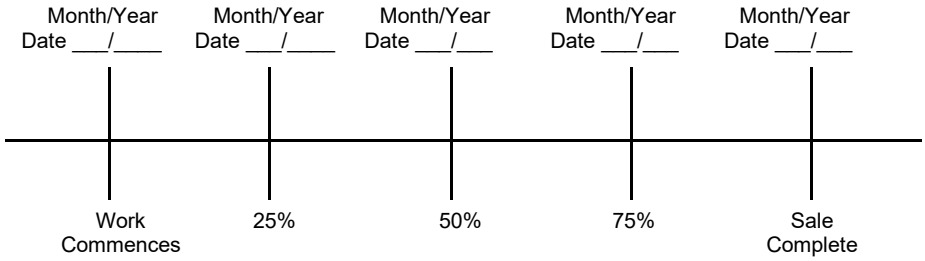
Completion Timeline

Indicate on the appropriate timeline below, the dates by which you plan to complete the work as required under this contract. The purpose of this section is to develop a plan that will ensure you complete the work as required, and meet the interim completion date(s) and contract expiration date. This plan is incorporated and made a part of the contract. When, in the opinion of STATE, operations are not commencing in a manner that meets the intent of this plan, you may be placed in violation of contract and your operations suspended until an amended plan is submitted and approved by STATE.

Projects



Harvest & Other Requirements



The Federal Endangered Species Act (ESA) prohibits a person from taking any federally listed threatened or endangered species. Taking under the federal ESA may include alteration of habitat. STATE's approval of this plan does not certify that PURCHASER's operation under the plan is lawful under the federal ESA or that the plan is consistent with the terms and conditions of any applicable incidental take Permit(s) including any required minimization and mitigation measures proposed in the applicable Habitat Conservation Plan. As provided in the timber sale contract, PURCHASER's must comply with all applicable state, federal, and local laws, including without limitation any Permit(s) issued thereunder.

PURCHASER's compliance with this plan is not in lieu of compliance with any federal requirements related to the federal Endangered Species Act.

APPROVED; Date: _____

STATE OF OREGON - DEPARTMENT OF FORESTRY

_____

Title _____

SUBMITTED BY:
PURCHASER

_____

Title _____

Oregon Department of Forestry

EXHIBIT C - SAWMILL GRADE (WESTSIDE SCALE)
SCALING INSTRUCTIONS - LOCATION APPROVAL - BRAND INFORMATION
Forest Grove - NWOA

(1) ORIGINAL REGISTRATION ☐ Date _____
REVISION NUMBER 000 ☐ Date _____
CANCELLATION ☐ Date _____

(2) TO: _____
(Third Party Scaling Organization)

(3) FROM: Forest Grove Phone (503) 357-2191
(State Forestry District)
Address: 801 GALES CRK RD
FOREST GROVE,OR 97116-1199

(4) PURCHASER: _____
Mailing Address: _____

Phone Number: _____

(5) **MINIMUM SCALING SPECIFICATIONS**	
SPECIES	MINIMUM NET VOLUME
Conifers	10
Hardwoods	10

*Apply minimum volume test to whole logs over 40' Westside

(6) WESTSIDE SCALE:
Use Region 6 actual taper rule. Logs over 40'.

	YES	NO
(7) Weight Scale Sample	☐	☑

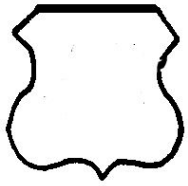
(8) **APPROVED SCALING LOCATIONS** (as shown on the ODF Approved Locations web-site)	**Species**	**Yard**	**Truck**	**Weight**

(9) **SALE NAME:** Jordan-Lyda
COUNTY: Tillamook

(10) **STATE CONTRACT NUMBER:**
FG-341-2026-W01235-01

(11) STATE BRAND REGISTRATION NUMBER:

(12) **STATE BRAND INFORMATION:**



(13) PAINT REQUIRED: YES ☑
COLOR: Orange

(14) **SPECIAL REQUESTS** (Check applicable)

PEELABLE CULL (all species).....	☑
NO DEDUCTIONS ALLOWED FOR MECHANICAL DAMAGE.....	☑
ADD-BACK VOLUME - Deductions due to delay...	☑

OTHER :

(15) **REMARKS:**

"Mule Trains"
1. Loads are required to have load tickets for each set of bunks.
2. If truck and pup are to be weighed, weigh and process separately for gross and tare weights.

Operator's Name (Optional inclusion by District): _____

(16) SIGNATURES:

_____
Purchaser or Authorized Representative Date

_____
State Forester Representative Date

_____
State Forester Representative PRINT NAME

Notify the District within one hour when branding or painting is inadequate for quick identification, the receipts are missing, not correctly or completely filled out, and/or when logs presented for scaling are impossible to scale accurately.
General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - SAWMILL GRADE
INSTRUCTIONS FOR EXHIBIT C
Forest Grove - NWOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2) Designate Third Party Scaling Organization (TPSO).

Columbia River Log Scaling & Grading Bureau
P.O.Box 7002, Eugene, OR 97401
Phone: (541) 342-6007 Fax: (541) 342-2631
Email: services@crls.com

Pacific Rim Log Scaling Bureau, Inc.
8288 28th Court North East, Lacey, WA 98516
Phone: (360) 528-8710 Fax: (360) 528-8718
Email: office@prlsb.com

Mountain Western Log Scaling & Grading Bureau
2560 NW Medical Park Drive, OR 97471
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mountainwestern.com

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.com

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
Email: info@nwlogscalers.com

(3) State District office, address and phone.

(4) Enter Purchaser's business name, address, and phone number as it appears on the Contract.

(5) Minimum Scaling Specifications.

(6) Westside - Region 6 actual taper segment scale. Check Yes or No. Special Service Rules on file with TPSO. See: Segment Scaling and Grading of Long Logs - All Species - State Forestry Department Scaling Practices (Westside).

(7) Weight Scale Sample - Check box if sale is to be a Weight Scale Sample. All specifies for handling, scaling and processing will be attached or explained in the Remarks section item (15).

(8) Show scaling locations only applicable to TPSO. Location name should appear as it does on the ODF Approved Scaling Location web site: https://apps.odf.oregon.gov/Divisions/management/asset_management/scalinglocation.asp Locations with scaling and processing directions specific to their location should be on a separate form. Species should be identified if not capable of receiving "all" species. Check appropriate box for either: yard, truck scale, or weight. Refer to the web site listed above for the locations approval status.

(9) Enter sale name and county.

(10) Enter sale Contract number.

(11) Enter Oregon's State Brand Registry Number (**REQUIRED**).

(12) Show brand assigned to timber sale. One brand only. If more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section item (15).

(13) Check yes for Paint Required and designate "Orange" for color. Non required removal volumes may sometimes require blue paint.

(14) Special Requests. These are requests that will be applied to ODF timber sales. All boxes applicable to the timber sales designated in the Exhibit C form must be "marked". If "Other" is indicated, it must contain a description and any necessary comments.

(15) Use this space to designate any weight scale sample instructions or any other explanations to clarify scaling, processing and/or mailing requirements. If additional scaling locations are approved, revise original or current form showing all (old and new) locations. Check REVISION box at top of form and explain under remarks. Route as indicated.

(16) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
PROCESSING INSTRUCTIONS - LOCATION APPROVAL
BRAND INFORMATION

Forest Grove, NWOA

(1) ORIGINAL REGISTRATION ☐ Date _____

REVISION NUMBER 000 ☐ Date _____

CANCELLATION ☐ Date _____

(2) TO: _____

(Approved Pulp Processing Facility)

(3) FROM: Forest Grove Phone (503) 357-2191
(State Forestry District)

Address: 801 GALES CRK RD

FOREST GROVE,OR 97116-1199

(4) PURCHASER: _____

(5) Scaling Bureau **(TPSO)** Processing Weight receipts:

Mailing Address: _____

_____

Phone Number: _____

(6) **STATE Definition of Approved Pulp Sort:**

- Top portion of the tree (tops).
- All logs with a diameter (Big End) greater than 8 inches marked with blue paint.

(7) PULP FACILITY PROCESSING INSTRUCTIONS:

- Pulp loads shall be weighed in lieu of scaling.
- One Ton = 2000 lbs (Short Ton).
- Pulp loads shall have a yellow Log Load Receipt attached.
- Gross weight and truck tare weight for each load shall be machine printed on the weight receipt.
- Weigher shall sign the weight receipt.
- Weigher shall record the Log Load Receipt number on the weight receipt.
- Weigher shall attach the Weight receipt to the Log Load Receipt and mail them weekly to the TPSO processing the Weight receipt.

(8) TPSO PROCESSING INSTRUCTIONS

- Submit data files daily (or each day of activity).
- Mail or deliver scale tickets weekly to ODF Headquarters in Salem.

(9) **SALE NAME:** Jordan-Lyda

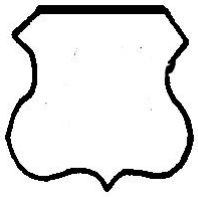
COUNTY: Tillamook

(10) **STATE CONTRACT NUMBER:**

FG-341-2026-W01235-01

(11) STATE BRAND REGISTRATION NUMBER: _____

(12) STATE BRAND INFORMATION:



(13) **REMARKS:**

"Mule Trains"

1. Loads are required to have load tickets for each set of bunks.
2. Truck and pup are to be weighed and processed separately for gross and tare weights.

Operator's Name (Optional inclusion by District):

(14) SIGNATURES:

Purchaser or Authorized Representative Date

State Forester Representative Date

State Forester Representative PRINT NAME

Notify the District within one hour when branding is inadequate for quick identification, the logs are marked with orange paint, the receipts are missing, not correctly or completely filled out, and/or logs do not meet the specifications of the STATE definition of Approved Pulp Sort.

General Distribution: TPSO, Approved Scaling Locations and Purchaser.

Oregon Department of Forestry
EXHIBIT C - PULP SORT
INSTRUCTIONS FOR EXHIBIT C

Forest Grove, NWOA

(1) Check appropriate box. REVISION NUMBER requires comments. CANCELLATION requires logging and hauling to be complete, recall branding hammers.

(2) Approved Pulp Processing Facility. Write in as written in the Approved Log Delivery Location
https://apps.odf.oregon.gov/Divisions/management/asset_management/scalinglocation.asp

(3) State District office, address and phone.

(4) Enter Purchaser's business name, address, and phone number as it appears on the Contract.

(5) Third Party Scaling Organization that will be processing the weight tickets, mailing address, and phone number.

Columbia River Log Scaling & Grading Bureau
P.O.Box 7002, Eugene, OR 97401
Phone: (541) 342-6007 Fax: (541) 342-2631
Email: services@crls.com

Pacific Rim Log Scaling Bureau, Inc.
8288 28th Court North East, Lacey, WA 98516
Phone: (360) 528-8710 Fax: (360) 528-8718
Email: office@prlsb.com

Mountain Western Log Scaling & Grading Bureau
2560 NW Medical Park Drive, Roseburg, OR 97471
Phone: (541) 673-5571 Fax: (541) 672-6381
Email: info@mountainwestern.com

Yamhill Log Scaling & Grading Bureau
P.O.Box 709, Forest Grove, OR 97116
Phone: (503) 359-4474 Fax: (503) 359-4476
Email: yamhilllog@frontier.com

Northwest Log Scalers Inc.
6137 NE 63rd St, Vancouver, WA, 98661
Phone: (360) 553-7212 ext. 4 Fax:(360) 553-7213
Email: info@nwlogscalers.com

(6) Big end of log is not to exceed 2 inches greater than the minimum removal specifications in the contract. Example: Minimum removal specifications 6 inches and 20 board feet, then the Big end of log not to exceed 8 inches. When conifer and hardwood removal specifications are different, use the smaller removal diameter to determine this specification.

(9) Enter sale name and county.

(10) Enter sale Contract number.

(11) Enter Oregon's State Brand Registry Number **(REQUIRED).**

(12) Show brand assigned to timber sale. One brand only, if more than one brand is assigned to the sale: (1) make a separate form for each brand and (2) on each form, explain and show other brand(s) in the Remarks section Item (13).

(13) Use this section to list any special instructions or the reason for any revisions in section item (1).

(14) Require purchaser to sign and date completed form in addition to State Forester Representative, sign and print name on the form. Signatures not required on revisions.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SUBGRADE WIDTH	SURFACED WIDTH	POINT TO POINT	STATION TO STATION	DRAINAGE
Match Existing	Match Existing	A to B	0+00 to 273+15	Ditch
Match Existing	Match Existing	B to C	0+00 to 29+20	Ditch
Match Existing	Match Existing	D to E	0+00 to 49+45	Ditch
Match Existing	Match Existing	F to G	0+00 to 17+70	Ditch
16 feet	12 feet	G to H	0+00 to 14+00	Ditch
16 feet	12 feet	I to J	0+00 to 12+25	Ditch
Match Existing	Match Existing	K to L	0+00 to 28+45	Ditch
16 feet	12 feet	L to M	0+00 to 11+60	Ditch
16 feet	12 feet	N to O	0+00 to 18+55	Ditch
16 feet	12 feet	P to Q	0+00 to 8+05	Ditch
16 feet	12 feet	R to S	0+00 to 4+00	Ditch

CLEARING. This work shall consist of clearing, removing, and disposing of all trees, Snags, Down Timber, brush, surface objects, and protruding obstructions within the clearing limits. All danger trees, leaners, and Snags outside the clearing limits which could fall and hit the road shall be felled.

CLEARING CLASSIFICATION.

New Construction - Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 5 feet out from the toe of the fill slope, or as directed by STATE.

Improvement - The “Road Brushing Specifications" in Exhibit H shall apply. Where clearing limits have not been marked, the clearing limits shall extend 5 feet back of the top of the cutslope and 10 feet out from the toe of the fill slope, or as directed by STATE.

GRUBBING. This work shall consist of the removal or digging out of stumps and protruding objects. All stumps shall be completely removed within the limits of required grubbing. Stumps overhanging cutslopes shall be removed.

GRUBBING CLASSIFICATION.

New construction - from the top of the cutslope to the toe of the fill.

Improvements and reconstructions - 4 feet back from the shoulder of the subgrade or ditch, whichever is widest, or as marked in the field.

CLEARING AND GRUBBING DISPOSAL. Clearing and grubbing debris shall not be placed or permitted to remain in or under any road embankment sections. Clearing and grubbing debris shall be left in a stable location, and not left lodged against standing trees. Clearing and grubbing debris may be scattered through openings in the timber outside of the cleared right-of-way, except for the following areas where debris shall be fully contained and hauled to a designated waste area:

- Where end-haul is required
- On side slopes exceeding 55 percent
- On unstable areas
- In any stream channel or where material may enter the stream channel.

Clearing, grubbing, and associated disposal shall be completed prior to subgrade approval.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

EXCAVATION. Excavation and grading shall not be done when weather and/or ground conditions are such that damage will result to existing subgrade or cause excessive erosion.

Excavation shall conform to STATE-specified lines, grades, dimensions, and plans when provided.

Excavated materials shall not be placed within an RCA.

Unless road plans show otherwise, all roads shall be on a balanced cross section, except when the slope is over 50 percent, the road shall be on full bench for the width specified.

Suitable excavated material shall be used for the formation of fills, shoulders, and drainage structure backfills. Embankment materials shall be free of woody debris, brush, muck, sod, frozen material, and other deleterious materials.

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Sidecast shall not be placed where it will enter a stream course. Leaving sidecast below the road is only permissible if specifically allowed in “Full Bench and End Haul Requirements” in this Exhibit.

ROAD WIDTH LIMITATIONS. PURCHASER shall obtain advance written approval from STATE to construct the road to a greater width than specified. Extra subgrade width shall be required for:

Fill Widening. Add to each fill shoulder 1 foot for fills 3 feet to 6 feet high; 2 feet for fills over 6 feet high.

Curve Widening. Widen the inside shoulder of all curves as specified in the plans or as follows: 400 divided by the radius of the curve equals the amount of extra width.

DRAINAGE. Drainage features shall be in place as soon as possible during construction and prior to October 1 annually. Drainage features shall include:

Subgrade. Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent as shown on the “Forest Road Specifications” table in this Exhibit.

Ditch. Construct "V" shaped ditch 3 feet wide and to a depth of 1 foot below subgrade.

Ditchouts. Construct ditchouts to drain away from subgrade at locations marked in the field or as directed by STATE.

TURNOUTS. Increase roadbed width an additional 8 feet for both subgrade and surfacing. Length shall be at least 25 feet, plus 25-foot approaches at each end. Location: Intervisible but not greater than 750 feet apart.

SLOPES. Top of cutslope shall be rounded.	Cutslopes	Fill Slopes
Solid Rock	Vertical to ¼ :1	
Fractured Rock	¼:1	
Soil - side slopes 50% and over	½:1	1½:1
Soil - side slopes less than 50%	¾:1	1½:1

LANDINGS. Landings shall be constructed (as posted in the field,) no less than 50 feet wide and no more than 70 feet wide unless otherwise stated or approved by STATE. Surface is to be outsloped or crowned for drainage with general grade no more than 3 percent. Surface as shown in the “Road Surfacing” table in this Exhibit, with 2 feet of subgrade extending out from base of the surfacing.

TURNAROUNDS. Increase subgrade width an additional 20 feet for a length of 20 feet at locations marked in the field.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Bank Slough Removal. Excavate all bank slough. Bank slough material shall not be pulled across existing surfacing rock. Excavated material, including woody debris shall be loaded and hauled to designated waste areas and shall be accomplished with the use of an excavator and dump truck.

Berm Construction. Construct berm on outside edge of road to allow surface water to drain away from the road at locations specified in this Exhibit. Completed berm shall have a base 18 inches wide and a height of 8 inches. Berm shall be constructed from 1½”-0 Crushed Rock.

Culvert Replacement, Culvert Installation. Existing culvert geometry shall be modified to provide for optimum drainage and culvert performance. Modifications may include, skewing the culvert and/or installing the culvert at gradients equal to or exceeding the drainage (or ditch) gradient. Where culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. Unsuitable backfill material shall be hauled to designated Waste Areas as marked in the field and/or designated on Exhibit A. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this Exhibit.

Drainage Ditches. Restore or construct ditch lines, including ditch outs, as directed by STATE. Clean out all culvert inlets and outlets for a 10-foot radius. Re-establish or construct culvert sediment basins. Excavated material shall be hauled to designated Waste Areas as marked in the field and/or designated on Exhibit A. Ditch line armor shall be 8 inches deep of 3”-0 crushed rock. No ditches shall drain into Live Streams, continue ditches over culverts or end ditches within one foot of live culverts.

Ditch Armoring. Where rock is specified for ditch armor, rock shall be machine placed and tamped covering the entire ditch at 8 inches deep.

Energy Dissipator Construction. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with the “Energy Dissipater Exhibit”.

Erosion Control. Install erosion control measures in all areas which have the potential, as determined by STATE, to deliver sediment to Waters of the State. Install bio bags, silt fence, or straw bales for erosion control in project areas and ditch lines where sedimentation or erosion is possible, as directed by STATE. Each Bio-bag shall be installed with a minimum of two wooden stakes.

Excavated Materials. All surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. No excavated material shall be wasted or remain within Riparian Conservation Areas (RCA).

Fill Reconstruction & Fill Removal. Where fill reconstruction or Live Stream culvert replacement is specified, fills shall be excavated to natural stream course levels. All woody debris encountered during fill excavation shall be removed. Fill reconstruction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Unsuitable backfill material shall be hauled to the designated waste areas as marked in the field and/or designated on Exhibit A. Backfill materials shall be hauled in where necessary.

Fill Armor. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill.

Material Storing and Staging. No materials shall be stored or staged within the boundaries of any riparian conservation area or equipment restriction zone. To include dirt, soil, aggregate and fuel stored in fuel cans, transfer tanks, vehicles or equipment. Staging areas must be constructed in a manner so that to be hydrologically disconnected from the stream. Culverts, logs for stream enhancement and erosion control supplies may be stored within the boundaries.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Operating around Utility Lines. When operating around buried utility lines on segments A to B and Jordan Cutoff Road north of Point K. Operator shall locate all utility lines prior to any excavation work and utilize a vacuum truck to prevent damage to lines. Purchaser will be responsible for any damage caused to existing utility lines. Purchaser shall notify South Fork Prison Camp before beginning of work and immediately if any damage occurs.

Seasonal Winterization. All unsurfaced roads or unfinished subgrades shall be blocked from vehicular traffic and waterbarred in accordance with the Waterbar and Tank Trap specifications in this contract. Areas of bare soil that have the potential to deliver sediment shall have grass seed and mulch placed in accordance to the Seeding and Mulch specification in this contract. All seasonal winterization shall be completed prior to October 1, annually and as directed by STATE.

Settling Ponds. Construct settling ponds as directed by STATE. Excavated material shall be hauled to designated Waste Areas, as marked in the field and/or designated on Exhibit A. Waste materials shall be sloped and compacted for drainage. Settling pond dimensions shall be a finished top dimension of 4.5 feet by 4.5 feet, bottom dimension of 3 feet by three feet and 3 feet in depth or as directed by STATE. Backslopes shall be ¾:1.

Sidecast Pullback. Excavate/pullback all previously sidecast materials below the road. Developed slopes shall be pulled back to a 1½:1 slope or to natural ground contours. The beginning position for sidecast pullback shall be no greater than 20 feet vertical distance from the existing road surface. Sidecast material remaining greater than 20 feet below the road shall be tapered and sloped for drainage.

Sod Removal. Remove/ separate sod from crushed rock surfacing as directed by STATE. Sod material shall be scattered in stable locations through openings in the timber outside of the cleared right-of-way. In areas where sod cannot be scattered in a stable location, material shall be end hauled to designated waste areas as shown in Exhibit A, or other stable locations as directed by STATE.

Stream Bank Armor. Where stream bank armor is called for, rock shall be placed along stream bank starting at the low water mark and built up. 36”-24” Riprap shall be embedded for a minimum of 1 foot, as directed by STATE.

Tree and Stump Removal. The following information pertains to segment A to B. Remove all trees and stumps marked with blue paint. Trees and stumps removed between stations 6+05 to 10+15, 35+10 to 37+40, 40+20 to 43 +05, 114+90 to 115+20, 159+65 to 160+45 and station 65+85 shall be felled/scattered within the RCA and placed outside of the clearing limits. Trees and stumps removed between stations 75+00 to 81+30 shall be placed on road segment V1 to V2.

Subgrade Preparation and Application of Surfacing Rock.

(a) Complete culvert installations, drainage ditches, fill construction, ditchouts, settling ponds, and other specified work prior to the application of surfacing rock.
(b) Cut out all potholes and/or washboard sections from the existing surfacing and apply any required subgrade reinforcement or spot rock.
(c) Process, grade and mix, the existing surface. Provide for a crown, outslope, or inslope of 4 to 6 percent, and compact in accordance to the “Compaction and Processing Requirements” in this exhibit.
(d) Upon completion of above required work, apply, process, and compact surfacing rock in accordance with this exhibit

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B	0+00	Point A. South Fork Road. *Buried utility lines in ditch on right. Utility line locate will be needed prior to the beginning of improvement. A temporary crossing structure shall be on site and accessible to the equipment operator during culvert replacements between 0+00 and 73+50. ☐ Begin road improvement ☐ Crown road. ☐ Construct ditch on left and right. ☐ Improve junction. ☐ Haul all waste material to Waste Area No. 2.
	0+70	☐ Install Culvert No. 1 (18” x 50’) as cross drain. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Construct ditchout at outlet. ☐ Construct 12 settling ponds, 3 on each side of the inlet and outlet. ☐ Haul all waste material to Waste Area No. 2.
	1+20	Existing culvert. ☐ Install markers at inlet and outlet.
	1+80	Vault 051802.
	3+40	☐ End ditch on left. ☐ Improve turnout on left ☐ Continue ditch on right.
	4+15	Vault 051803.
	4+90	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 2 (18” x 40’) as cross drain. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	6+05	☐ Retain historical stump on left. ☐ Begin road widening to reestablish ditch on right. ☐ Begin cutslope layback. ☐ Haul all woody debris to Waste Area No. 1. ☐ Haul all waste material to Waste Area No. 2.
	10+15	☐ End road widening. ☐ End cutslope layback.
	10+20	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 3 (18” x 40’) as cross drain. ☐ Place 4 blocking boulders as inlet protection. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Construct 6 settling ponds, 3 on each side of inlet. ☐ Haul all waste material to Waste Area No. 2.
	11+90	Vault 051700. ☐ Improve turnout on left.
	12+95	☐ Maintain Rec sign on left.
	13+05	☐ Construct ditch on left. ☐ Haul all waste material to Waste Area No. 2.
	15+30	☐ Improve turnout on left.
	19+40	☐ End ditch on left.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	19+65	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 4 (18” x 60’) as cross drain. ☐ Clean ditchout and 2 settling ponds. ☐ Place 4 blocking boulders as inlet protection. ☐ Haul all waste material to Waste Area No. 2.
	20+30	Vault 068600. Spring flows from cutslope behind vault. ☐ Install Culvert No. 11 (24” x 30’). ☐ Construct ditch over culvert inlet.
	25+45	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 5 (18” x 40’) as cross drain. ☐ Construct 6 settling ponds, 3 on each side of the inlet. ☐ Reconstruct 3 settling ponds on right side of outlet. ☐ Remove existing ditchout channel on left side of outlet. ☐ Haul all waste material to Waste Area No. 2.
	26+40	0.5 mile marker on right.
	26+90	☐ Retain historical stump on left. ☐ Place woody debris at Waste Area No. 1 on right. ☐ Block Waste Area No. 1 with 8 boulders after completion of project work.
	28+60	Vault 066501. ☐ Move woody debris on left side of road and place on bare soil on right.
	29+90	☐ Improve turnout on right.
	30+50	Beginning of bridge. Buried utility lines on right. Lines cross road. ☐ End ditch on right. ☐ Clean bridge. ☐ Construct 3 settling ponds on right. ☐ Maintain negative slope away from bridge. ☐ Haul all waste material to Waste Area No. 2.
	31+30	End bridge. Buried utility lines on left and right. Remaining utility lines cross road before 35+10. ☐ Begin ditch construction on left. ☐ Maintain negative slope away from bridge. ☐ Place woody debris on right. ☐ Clean 3 settling ponds on left. ☐ Haul all waste material to Waste Area No. 2.
	32+20	☐ Improve turnout on left.
	33+00	☐ Construct ditchout on left. ☐ Construct 3 settling ponds on left. ☐ Haul all waste material to Waste Area No. 2.
	34+00	Vault 066500.
	34+60	☐ Install Culvert No. 6 (18” x 40’) as cross drain. ☐ Construct 3 settling ponds at outlet. ☐ Haul all waste material to Waste Area No. 2.
	35+10	☐ Begin cutslope layback on left. ☐ Begin road widening on left to reestablish ditch. ☐ Begin sidecast pullback on right. ☐ Begin rock berm on right. ☐ Haul all woody debris to Waste Are No. 1. ☐ Haul all waste material to Waste Area No. 2.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	36+85	☐ Place 72cy of riprap as stream bank armor on right.
	37+40	☐ End cutslope layback. ☐ End road widening. ☐ End sidecast pullback. ☐ End stream bank armor. ☐ End rock berm on right. ☐ Haul all woody debris to Waste Area No. 1. ☐ Haul all waste material to Waste Area No. 2.
	38+20	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Haul all waste material to Waste Area No. 2.
	38+35	Live Stream. ☐ Install Culvert No. 7 (24” x 50’). ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Construct ditch across culvert ensuring ditch drains to Culvert No. 6 at 34+60. ☐ Haul all waste material to Waste Area No. 2.
	39+55	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Haul all waste material to Waste Area No. 2.
	40+10	☐ Install Culvert No. 8 (24” x 40’). ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	40+20	☐ Install Culvert No. 60 (18” x 30’) as disconnect. ☐ Begin road widening to reestablish ditch. ☐ Begin cutslope layback. ☐ Haul all woody debris to Waste Area No. 1. ☐ Haul all waste material to Waste Area No. 2.
	42+45	☐ Begin ditch construction on right. ☐ Haul all waste material to Waste Area No. 2.
	43+05	☐ End road widening. ☐ End cutslope layback.
	43+75	Vault 066300.
	44+85	☐ Place 48cy of riprap as stream bank armor on right. ☐ Continue ditch on right. ☐ Haul all waste material to Waste Area No. 2.
	46+25	☐ End ditch on right.
	46+70	Existing culvert. ☐ Clean inlet and outlet. ☐ Replace marker. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Remove half round. ☐ Haul all waste material to Waste Area No. 2.
	47+80	☐ Install Culvert No. 9 (18” x 40’) as cross drain. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	48+10	Existing culvert. ☐ Remove existing culvert and half round. ☐ Haul all waste material to Waste Area No. 2.
	49+60	☐ Improve turnout on right.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	49+80	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 10 (24" x 50'). ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Construct ditch over culvert inlet and outlet. ☐ Begin ditch construction on right. ☐ Haul all waste material to Waste Area No. 2.
	52+30	Existing culvert. ☐ End ditch on right.
	52+75	Vault 067200.
	53+70	☐ Improve turnout on right.
	54+90	1 mile marker on right. Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 12 (24" x 40') ☐ Reestablish ditch on right. ☐ Construct ditch over culvert inlet and outlet. ☐ Haul all waste material to Waste Area No. 2.
	57+25	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 13 (18" x 40') as cross drain. ☐ Construct 3 settling ponds at outlet. ☐ Haul all waste material to Waste Area No. 2.
	59+20	☐ Install Culvert No. 14 (18" x 40') as cross drain. ☐ Replace blocking boulders in ditch on left. ☐ Begin ditch reconstruction on left. ☐ Haul all waste material to Waste Area No. 2.
	59+40	Vault 066101.
	60+20	☐ End ditch on right.
	60+25	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 15 (18" x 40') as cross drain. ☐ Improve turnout on right. ☐ Haul all waste material to Waste Area No. 2.
	61+30	☐ Begin rock berm on right.
	61+80	☐ End boulders on left. ☐ End ditch reconstruction on left. ☐ Haul all waste to Waste Area No. 2.
	65+85	Existing culvert. ☐ Remove existing culvert. ☐ Construct drainage basin on left. ☐ Place 4 blocking boulders as drainage basin protection. ☐ Haul all waste material to Waste Area No. 2.
	65+95	Vault 077800.
	67+25	☐ Construct drainage basin on left. ☐ Place 4 blocking boulders as drainage basin protection. ☐ Haul all waste to Waste Area No. 2.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	67+90	Existing culvert. ☐ Remove existing culvert. ☐ End rock berm on right. ☐ Haul all waste material to Waste Area No. 2.
	69+50	Live stream. Existing culvert. ☐ Remove existing culvert ☐ Install Culvert No. 16 (24” x 40’). ☐ Construct ditch across culvert inlet. ☐ Begin double ditch on left to ensure springs drain into Culvert No. 16 and surface runoff drains to drainage basin at 67+25. ☐ Haul all waste material to Waste Area No. 2.
	71+30	☐ End double ditch.
	71+80	Existing culvert. ☐ Clean inlet and outlet. ☐ Install marker. ☐ Haul all waste material to Waste Area No. 2.
	72+40	Vault 078801.
	73+10	☐ Install Culvert No. 17 (18” x 40’) as cross drain. ☐ Haul all waste material to Waste Area No. 2.
	73+50	Junction with South Fork Prison Camp on right. Buried utility lines cross road and continue to South Fork Prison Camp. ☐ Improve junction. ☐ Remove angle iron on right.
	74+30	Vault 078802. ☐ Improve small turnout on left.
	74+60	Live Stream. (Spring) ☐ Install Culvert No. 18 (24” x 40’). Skew culvert to ensure outlet is between camp signs. ☐ Construct ditch across culvert ensuring ditch drains to Culvert No. 17 at 73+10. ☐ Haul all waste material to Waste Area No. 2.
	74+80	☐ Install Culvert No. 61 (18” x 40’) as disconnect. ☐ Haul all waste material to Waste Area No. 2.
	75+20	Point V1. Junction with V1 to V2 on right. Existing culvert. ☐ Begin road realignment to left. ☐ Remove existing culvert.
	76+05	1.5 mile marker.
	77+30	☐ Reinstall gate removed from V1 to V2, according to specifications in Exhibit G. ☐ Replace 6 boulders around reinstalled gate posts for gate protection. ☐ Vacate remaining powerline access road to Culvert No. 19 at 79+10.
	79+10	Live Stream. Existing culvert. ☐ Install Culvert No. 19 (24” x 40’). ☐ Place 72cy of riprap as energy dissipator at outlet. Riprap shall connect to South Fork Wilson River. ☐ Relocate and surface powerline access road if undermined from road realignment, as directed by STATE. ☐ Haul all waste material to Waste Area No. 2.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	81+30	Point V2. Junction with V1 to V2 on right. ☐ End road realignment. ☐ Install Culvert No. 20 (18" x 40') as cross drain. ☐ Haul all waste material to Waste Area No. 2.
	82+90	Live Stream. Existing culvert. ☐ Remove existing culvert ☐ Install Culvert No. 21 (24" x 40'). ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Construct ditch over culvert and ensure drainage to Culvert No. 20. ☐ Haul all waste material to Waste Area No. 2.
	83+75	Existing culvert. ☐ Clean inlet and outlet. ☐ Replace marker. ☐ Haul all waste material to Waste Area No. 2.
	84+60	☐ Improve turnout on right.
	87+40	Junction with powerline access road on left. ☐ Improve access road for 50'.
	87+50	☐ Install Culvert No. 22 (18" x 30') as cross drain. ☐ Haul all waste material to Waste Area No. 2.
	88+90	Live Stream. Existing culvert. ☐ Place 12 cy of riprap as inlet armor. ☐ Construct 6 settling ponds, 3 on each side of inlet. ☐ Haul all waste material to Waste Area No. 2.
	89+35	Existing culvert. ☐ Remove existing culvert. ☐ Haul all waste material to Waste Area No. 2.
	89+65	☐ Install Culvert No. 23 (18" x 40') as disconnect. ☐ Remove uninstalled culvert over bank on right. ☐ Haul all waste material to Waste Area No. 2.
	89+85	☐ Improve turnout on right. ☐ Vacate and block powerline access road on left for 60'.
	94+00	☐ Improve turnout on right.
	98+25	Junction with powerline access road. ☐ Improve access road for 50' to gate.
	98+55	☐ Begin free draining fill construction. ☐ Install Culvert No. 24 (18" x 30') as cross drain. ☐ Haul all waste material to Waste Area No. 2.
	98+80	Existing culvert. ☐ Remove existing culvert and half round. ☐ Haul all waste material to Waste Area No. 2.
	99+15	Junction with powerline access road on right. ☐ Remove OHV trail sign and uninstalled culvert 315' down powerline access road. ☐ Maintain road access.
	99+75	☐ Improve turnout on right.
	100+30	Existing culvert. ☐ Remove existing culvert. ☐ Haul all waste material to Waste Area No. 2.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	100+60	☐ End free draining fill. ☐ Install Culvert No. 25 (18” x 30’) as a cross drain. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	103+45	☐ 2 mile marker on left.
	103+55	☐ Improve turnout on right.
	104+50	☐ End crown. ☐ Begin outslope to right.
	105+75	Live Stream. Existing culvert.
	107+30	Existing culvert. ☐ Clean inlet and outlet. ☐ Replace marker. ☐ End outslope, begin crown with ditch on left. ☐ Haul all waste material to Waste Area No. 2.
	114+90	☐ Begin road widening on right. ☐ Haul all woody material to Waste Area No. 1. ☐ Haul all waste material to Waste Area No. 2.
	115+20	☐ End road widening.
	117+15	Point V3. Junction with V3 to V4 on right. Junction with OHV trail / powerline access road on left. ☐ Maintain trail / road access on left. ☐ Remove uninstalled culvert on left. ☐ Install Culvert No. 26 (18” x 30’) as cross drain. ☐ Remove existing culvert 50’ uphill on OHV trail / powerline access road. ☐ Install Culvert No. 27 (40” x 30’) 50’ uphill on OHV trail / powerline access road. ☐ Haul all waste material to Waste Area No. 2.
	117+40	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 28 (18” x 30’) as disconnect. ☐ Haul all waste material to Waste Area No. 2.
	117+95	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 29 (40” x 40’). ☐ Construct 6 settling ponds, 3 on each side of inlet. ☐ Remove uninstalled culvert on right. ☐ Haul all waste material to Waste Area No. 2.
	120+85	Live Stream. (Spring) ☐ Install Culvert No. 30 (24” x 40’). ☐ Install 6 settling ponds, 3 on the left side of inlet and outlet. ☐ Haul all waste material to Waste Area No. 2.
	123+30	Existing culvert. ☐ Install marker.
	124+80	☐ Construct ditchout on right. ☐ Improve turnout on right. ☐ Haul all waste material to Waste Area No. 2.
	129+20	2.5 mile marker on right.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	129+45	Existing culvert. ☐ Clean inlet and outlet. ☐ Replace marker. ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	131+90	☐ Improve turnout on right.
	134+85	☐ Improve turnout on right.
	135+30	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 31 (42” x 50’). ☐ Construct ditch over culvert inlet. ☐ Install 12cy riprap as inlet armor. ☐ Install 12cy riprap as energy dissipator at outlet. ☐ Haul all waste material to Waste Area No. 2.
	136+20	☐ End ditch on left.
	136+90	Existing culvert. ☐ Install marker.
	137+05	Junction with Stage Road on left.
	137+15	Existing culvert. ☐ Install marker.
	138+45	Beginning of bridge. ☐ Clean bridge. ☐ End crown. ☐ Maintain approach slope of -2% away from bridge. ☐ Haul all waste material to Waste Area No. 2.
	138+90	End of bridge. ☐ Maintain approach slope of -2% away from bridge.
	142+50	Junction with Lyda Camp on left and right.
	146+60	Junction with C-Line Road on right. ☐ Continue improvement right onto C-Line Road.
	153+15	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 32 (18” x 40’) as a cross drain. ☐ Haul all waste to Waste Area No. 2.
	157+10	3 mile marker on right.
	158+40	☐ Begin rock berm on left.
	158+45	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 33 (24” x 30’). ☐ Reestablish ditch on left. ☐ Haul all waste to Waste Area No. 2.
	159+65	☐ Begin cutslope layback. ☐ Begin road widening on left to reestablish ditch.
	160+45	☐ End cutslope layback. ☐ End road widening.
	161+35	☐ End rock berm on left. ☐ End ditch.
	161+45	☐ Existing culvert.
	167+00	Junction with OHV trail on left. ☐ Maintain trail access.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
A to B Cont.	170+55	Existing culvert. ☐ Install marker.
	177+70	Junction with OHV trail on left. ☐ Maintain trail access.
	184+90	3.5 mile marker on right.
	194+05	Junction with OHV trail on left. ☐ Maintain trail access.
	207+70	4 mile marker on right.
	217+05	Live Stream. Existing culvert. ☐ Install marker.
	231+05	Junction with Lyda Road on right. ☐ Continue improvement right onto Lyda Road.
	231+60	Live Stream. Existing culvert.
	232+05	Existing culvert. ☐ Clean inlet and outlet. ☐ Haul all waste to Waste Area No. 2.
	234+40	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 34 (30” x 40’). ☐ Haul all waste to Waste Area No. 2.
	235+30	Existing culvert. ☐ Remove half round. ☐ Place 12cy riprap as energy dissipator at outlet.
	236+00	Junction with OHV trail on left. ☐ Maintain trail access.
	239+15	Waste Area No. 2 on right.
	239+25	Point D. Junction with D to E on right.
	254+15	Existing culvert. ☐ Clean inlet and outlet. ☐ Remove half round. ☐ Place 12cy of riprap as energy dissipator at outlet.
	257+80	0.5 mile marker on left. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 35 (18” x 30’) as cross drain. ☐ Place 12cy of riprap as energy dissipator at outlet.
	265+85	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 36 (18” x 30’) as cross drain.
END	273+15	Point B. Junction with B to C on right. ☐ End road improvement.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
B to C	0+00	Point B. Junction with A to B. Junction with Lyda Road on left. ☐ Begin road improvement. ☐ Crown road. ☐ Clean or construct ditch. ☐ Begin roadside brushing.
	4+20	Existing culvert. ☐ Remove existing culvert. ☐ Install culvert No. 37 (18” x 30’) as cross drain.
	7+30	☐ Begin ditch reconstruction on left.
	10+20	Yellow gate.
	14+10	Point P. Junction with P to Q on right.
	16+00	☐ End ditch on left.
	17+95	☐ Construct roadside landing on right.
	20+05	Live Stream. Existing culvert.
	21+35	☐ Remove stump on right.
	24+05	☐ Construct roadside landing on right.
	25+75	☐ Junction with Waste Area No. 3 on left.
	26+00	☐ Remove uninstalled metal culvert on left.
END	29+20	Point C. Point V5. Junction with historic road on left. ☐ End road improvement. ☐ End brushing.

Segment	Station	Work Description
D to E	0+00	Point D. Junction with A to B (Lyda Road). ☐ Begin road improvement. ☐ Crown road. ☐ Clean or construct ditch. ☐ Begin roadside brushing.
	0+75	Yellow gate.
	4+75	Point R. Junction with R to S on left.
	8+10	☐ Reestablish ditch on left and right.
	8+75	☐ End ditch on left and right.
	9+10	Existing culvert. ☐ Replace marker. ☐ Trim outlet.
	10+30	Existing culvert. ☐ Clean inlet and outlet. ☐ Remove half round.
	12+55	Junction on left and right. ☐ Continue road improvement on D to E.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS:

Segment	Station	Work Description
D to E Cont.	18+60	Existing culvert. ☐ Clean inlet and outlet.
	22+50	Existing culvert. ☐ Clean inlet and outlet.
	22+85	Point F. Junction with F to G on left.
	26+70	☐ End brushing. ☐ Begin clearing and grubbing. ☐ Reestablish ditch on left.
	31+95	☐ Improve roadside landing on left.
	33+70	☐ End ditch on left.
	38+90	☐ Improve roadside landing on left. ☐ Reestablish ditch on left.
	40+95	☐ End ditch on left.
	42+30	☐ Reestablish ditch on left.
	44+00	☐ End ditch on left.
	47+10	☐ Improve turnaround on left.
END	49+45	Point E. ☐ End road improvement. ☐ Improve landing.

Segment	Station	Work Description
F to G	0+00	Point F. Junction with D to E. ☐ Begin road improvement ☐ Crown road. ☐ Clean or construct ditch.
	7+95	Existing culvert. ☐ Clean inlet and outlet.
	9+60	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 38 (18” x 30’) as cross drain.
	10+70	Existing culvert. ☐ Clean inlet and outlet.
	14+40	☐ Install Culvert No. 39 (18” x 30’) as cross drain.
	14+50	Point I. Junction with I to J on left.
	15+90	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 40 (18” x 30’) as cross drain.
END	17+70	Point G. Junction with G to H. ☐ End road improvement. ☐ Improve landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS

Segment	Station	Work Description
K to L	0+00	Point K. Point V6. Junction with South Fork spring box ahead on right. *Buried utility lines in ditch on right. Locate will be needed prior to the beginning of improvement. ☐ Begin road improvement. ☐ Crown road. ☐ Clean or construct ditch.
	0+25	☐ Improve spring box turnout on right. ☐ Do not disturb spring box.
	1+55	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 41 (36” x 40’). ☐ Construct 9 settling ponds, three on each side of inlet, and 3 on right side of outlet. ☐ Haul all waste to Waste Area No. 4.
	3+65	Point H. Junction with G to H on right.
	4+00	Waste Area No. 4 on right.
	10+25	☐ Begin ditch construction on left.
	10+85	☐ End ditch construction on left.
	10+90	Existing culvert. ☐ Clean inlet and outlet. ☐ Install marker. ☐ Begin rock berm on left and right. ☐ Haul all waste material to Waste Area No. 4.
	11+75	Live Stream. Existing culvert.
	13+65	Live Stream. ☐ Install Culvert No. 42 (24” x 40’). Install 100’ uphill of culvert tag in the field. ☐ Reestablish stream channel to facilitate adequate flow through culvert No. 42. ☐ Haul all waste material to Waste Area No. 4.
	14+25	☐ End rock berm on left and right.
	17+40	☐ Install Culvert No. 43 (18” x 50’) as a disconnect. Install culvert 20’ uphill of culvert tag in the field. ☐ Haul all waste to Waste Area No. 4.
	19+00	Live Stream. Existing culvert. ☐ Construct 6 settling ponds, 3 on right side of inlet and 3 on right side of outlet. ☐ Haul all waste to Waste Area No. 4.
	19+85	Spring box on right. ☐ Do not disturb spring box.
	24+45	☐ Install Culvert No. 44 (18” x 40’) as disconnect with ditchout at outlet. ☐ Haul all waste to Waste Area No. 4.
	25+45	Live Stream. Existing culvert. ☐ Install 6 settling ponds, 3 on right side inlet and 3 on right side of outlet. ☐ Place 12cy riprap as energy dissipator at outlet. ☐ Haul all waste to Waste Area No. 4.
END	28+45	Point L. Junction with L to M on right. ☐ End road improvement.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD IMPROVEMENT, SURFACE ROCK REPLACEMENT AND MAINTENANCE INSTRUCTIONS

Segment	Station	Work Description
P to Q	0+00	Point P. Junction with B to C. Existing culvert. ☐ Begin road improvement. ☐ Crown road. ☐ Construct ditch. ☐ Begin road widening on left. ☐ Remove existing culvert. ☐ Install Culvert No. 45 (18” x 40’) as cross drain.
	1+15	☐ Install Culvert No. 46 (18” x 30’) as disconnect. ☐ Construct 45’ ditchout at outlet of disconnect.
	1+55	☐ Remove uninstalled metal culvert on left.
	1+95	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 47 (42” x 50’). ☐ Construct ditch on left and right over culvert and ensure drainage to Culvert No. 46. ☐ Haul all waste to Waste Area No. 3.
	2+65	☐ Begin drift back to station 1+55 to maintain grade ≤ 5%.
	2+80	☐ Construct turnaround on left.
	2+90	☐ Install Culvert No. 48 (18” x 30’) as disconnect.
	5+25	Existing culvert. ☐ Remove existing culvert. ☐ Install Culvert No. 49 (18” x 30’) as cross drain.
END	8+05	Point Q. Junction with dirt spur ahead on right. ☐ End road improvement. ☐ End road widening. ☐ Maintain access with dirt spur. ☐ Improve roadside landing on left.

Segment	Station	Work Description
Point T	-	Point T. Live Stream. Existing culvert. *Buried utility lines in ditch on right. Locate will be needed prior to the beginning of improvement. ☐ Remove existing culvert. ☐ Install Culvert No. 59 (24” x 50’). ☐ Place 12cy of riprap as energy dissipator at outlet. ☐ Haul all waste to Waste Area No. 4.

Segment	Station	Work Description
Point U	-	Point U. Live Stream. Existing culvert. *Buried utility lines in ditch on right. Locate will be needed prior to the beginning of improvement. ☐ Construct 3 rock ditch filters on right side of inlet.

Segment	Station	Work Description
Point V	-	Point V. Live Stream. Existing culvert. *Buried utility lines in ditch on right. Locate will be needed prior to the beginning of improvement. ☐ Construct 3 rock ditch filters on right side of inlet.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

GENERAL ROAD CONSTRUCTION INSTRUCTIONS:

Excavated Materials. Excavated materials shall be utilized for road construction and hauled in where required. All surplus excavation materials shall be hauled to the waste areas as marked in the field and/or designated on Exhibit A. Surplus excavated materials and waste materials shall be sloped and compacted for drainage.

Drainage Ditches. Construct ditchlines, including ditchouts, as directed by STATE. Cutslopes of ditchlines and ditchouts shall not exceed a 1:1 slope. Construct culvert sediment basins. Waste materials from drainage ditches and sediment basins shall be placed in nearby waste areas and uniformly sloped and compacted for drainage, as directed by STATE.

Culvert Installation. Fill construction backfill shall consist of select materials and may be obtained from borrow pits, as directed by STATE. Backfill materials shall be hauled in where necessary and thoroughly compacted in accordance with this exhibit. Culvert installation shall mee the requirements of the “Culvert Specifications Exhibit”.

Energy Dissipator Construction. Where rock is used for an energy dissipator, rock shall be placed below the culvert outlet and embedded for a minimum of 3 feet, in accordance with the “Energy Dissipater Exhibit”.

Fill Armor. Where rock is specified for fill armor, rock shall be machine placed and tamped at a 1½:1 slope, beginning at the toe of the fill.

Settling Ponds. Construct settling ponds for erosion control in project areas and ditchlines where sedimentation or erosion is possible as directed by STATE. Excavated material shall be hauled to the designated waste areas designated on Exhibit A. Waste materials shall be sloped and compacted for drainage. Settling pond dimensions shall be a finished length of 3 feet, width of 3 feet, depth of 3 feet and 3 feet apart, or as directed by STATE.

Erosion Control. Install erosion control measures in all areas which have the potential, as determined by STATE, to deliver sediment to Waters of the State. Install bio bags, silt fence, or straw bales for erosion control in project areas and ditch lines where sedimentation or erosion is possible, as directed by STATE. Each Bio-bag shall be installed with a minimum of two wooden stakes.

Material Storing and Staging. No materials shall be stored or staged within the boundaries of any riparian conservation area or equipment restriction zone. To include dirt, soil, aggregate and fuel stored in fuel cans, transfer tanks, vehicles or equipment. Staging areas must be constructed in a manner so that to be hydrologically disconnected from the stream. Culverts, logs for stream enhancement and erosion control supplies may be stored within the boundaries.

Seasonal Winterization. All unsurfaced roads or unfinished subgrades shall be blocked from vehicular traffic and waterbarred in accordance to the Waterbar and Tank Trap specifications in this contract. Areas of bare soil that have the potential to deliver sediment shall have grass seed and mulch placed in accordance to the Seeding and Mulch specification in this contract. All seasonal winterization shall be completed prior to October 1, annually and as directed by STATE.

Subgrade Preparation and Application of Surfacing Rock.

(a) Complete culvert installations, drainage ditches, fill construction, ditchouts, (settling ponds,) (subgrade reinforcement) and other specified work prior to the application of surfacing rock.
(b) Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent.
(c) Upon completion and approval by STATE of above required work, apply, process, and compact surfacing rock in accordance with specifications in the “Compaction and Processing Requirements” in this exhibit.
(d) Final road surface shall be crowned, outsloped, or insloped at 4 to 6 percent, to the depth specified in the “Rock Table” in this exhibit.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Segment	Station	Work Description
G to H	0+00	Point G. ☐ Begin road construction. ☐ Crown road. ☐ Construct ditch. ☐ Begin drift to maintain grade ≤ 13%.
	9+65	☐ Install Culvert No. 50 (18” x 30’) as cross drain.
END	14+00	Point H. Junction with K to L. ☐ Install Culvert No. 51 (18” x 40’) as cross drain. ☐ End drift. ☐ End road construction.

Segment	Station	Work Description
I to J	0+00	Point I. Junction with F to G. ☐ Begin road construction. ☐ Crown road. ☐ Construct ditch.
	7+50	☐ Construct turnaround on left.
	8+00	☐ Construct roadside landing on left.
	8+80	☐ Begin drift.
	9+50	☐ End drift.
END	12+25	Point J. Junction with old road grade on left and right. ☐ End road construction.

Segment	Station	Work Description
L to M	0+00	Point L. Junction with Jordan Cutoff Road. ☐ Begin road construction. ☐ Crown road. ☐ Construct ditch. ☐ Install Culvert No. 52 (18” x 40’) as cross drain. ☐ Begin adverse drift to maintain grade ≤ 12%. ☐ All trees marked with blue paint shall remain within the RCA.
	3+80	☐ End adverse drift. ☐ Construct roadside landing on left.
	4+65	☐ Install Culvert No. 53 (18” x 30’) as cross drain.
	5+50	☐ Begin drift.
	6+55	☐ Install Culvert No. 54 (18” x 50’) as cross drain.
	7+30	☐ End drift.
	8+15	Point N. Junction with N to O on right. ☐ Continue road construction on L to M.
	8+25	☐ Install Culvert No. 55 (18” x 30’) as cross drain.
	9+80	☐ Junction with 130’ approach to landing on left.
END	11+60	Point M. ☐ End road construction. ☐ Construct landing.

EXHIBIT D

FOREST ROAD SPECIFICATIONS

SPECIFIC ROAD CONSTRUCTION INSTRUCTIONS:

Segment	Station	Work Description
N to O	0+00	Point N. Junction with L to M. ☐ Begin road construction. ☐ Crown road. ☐ Construct ditch.
	2+00	☐ Begin drift.
	3+40	☐ Install Culvert No. 56 (18” x 60’) as cross drain.
	3+90	☐ End drift.
	5+25	☐ Install Culvert No. 57 (18” x 40’) as cross drain.
	5+70	☐ Construct roadside landing on left.
	6+00	☐ Install Culvert No. 58 (18” x 40’) as cross drain.
	14+00	☐ Construct roadside landing on left.
	16+75	☐ Construct turnaround on right.
END	18+55	Point O. ☐ End road construction. ☐ Construct landing.

Segment	Station	Work Description
R to S	0+00	Point R. Junction with D to E. ☐ Begin road construction. ☐ Crown road. ☐ Construct ditch.
	3+50	☐ Construct turnaround on left.
END	4+00	Point S. ☐ End road construction. ☐ Construct landing.

EXHIBIT D

WASTE AREA AND END-HAUL REQUIREMENTS

Waste Area Location

- Waste Areas shall be located outside of all RCAs and ERZs.
- Waste Areas shall be hydrologically disconnected from Live Streams.
- Shall be located as shown on Exhibit A, as marked in the field or as approved by STATE.
- Setback from slope break shall be a minimum of 20 feet horizontal measurement.

Waste Area Treatment

- Deposit at waste area, spread evenly, compact, and provide adequate drainage.
- Pile woody debris separate from other waste material.
- Mulch and seed all waste areas in accordance with Exhibit K.

Full Bench and End-Haul Area - General Requirements

Sidecast includes any road generated excess excavation material which is not essential as part of the road prism, is not compacted, and is below the roadway. Material shall not be sidecast unless specified above.

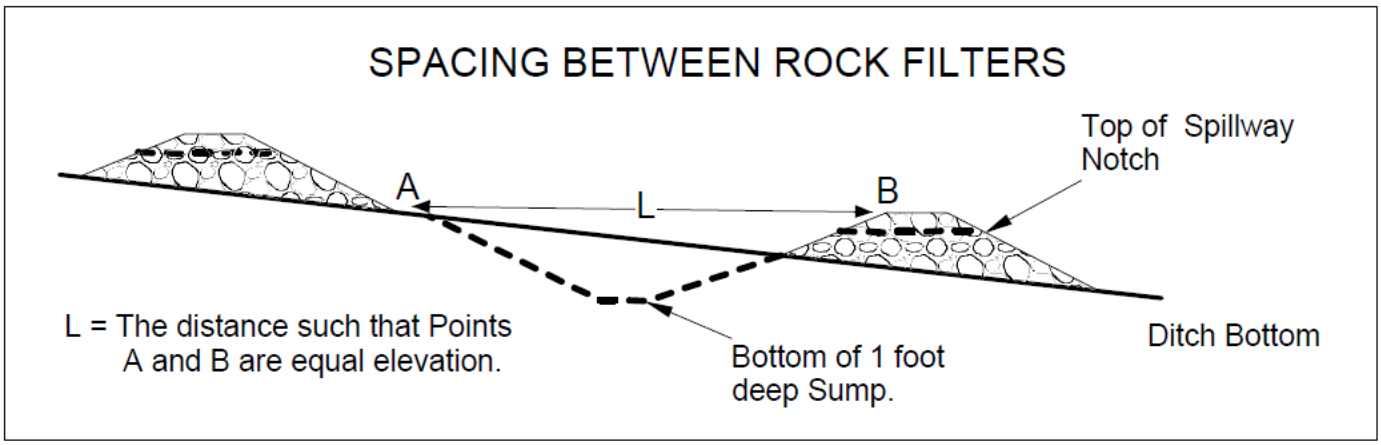
Containment/Sidecast

- Full: No excavated material remains below the road.

Any amount of material exceeding the containment requirements shall be removed by whatever means necessary and end-hauled to a designated waste area.

EXHIBIT D

TYPICAL ROCK DITCH FILTER



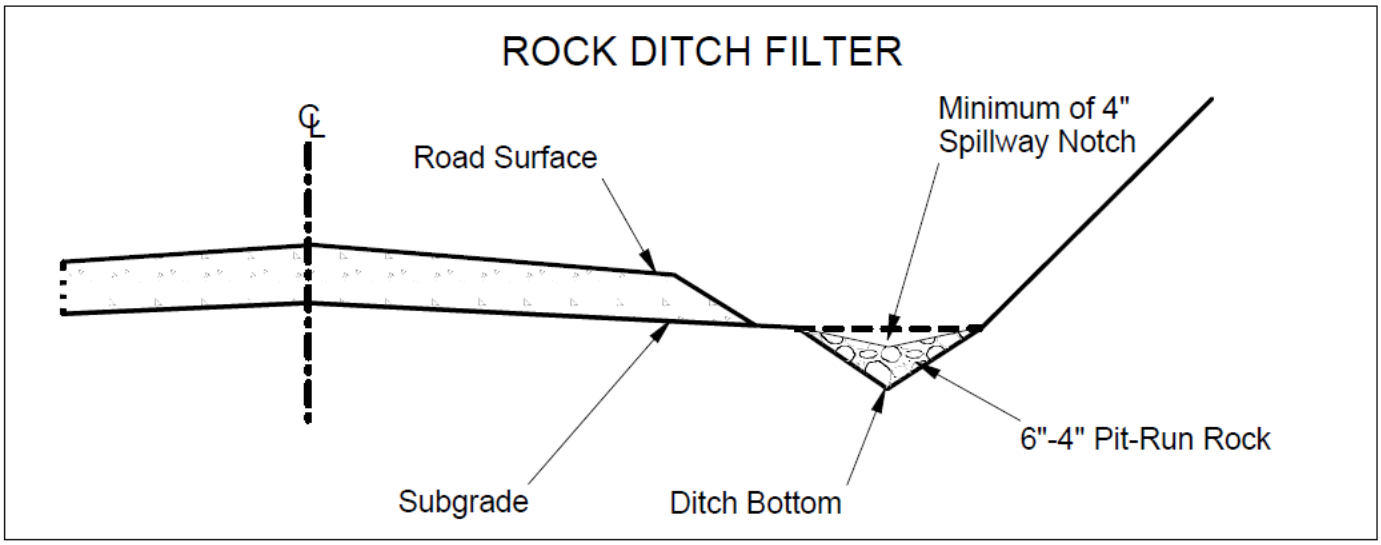


EXHIBIT D

ROCK TABLE

ROAD SEGMENT: A to B				Sta. to Sta. 0+00 to 273+15				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culverts Nos. 1-36, 60 & 61	Varies	Culvert	24	Culverts	39	936
Energy Dissipator	24" – 12" Riprap	Culvert Nos. 1, 2, 3, 7, 8, 9, 10, 19, 21, 25, 31, 35, & Culverts at stations 46+70, 129+45, 235+30, & 254+15	Varies	Culvert	Varies	Culverts	16	252
Free Drain Fill	24" – 12" Riprap	98+55 to 100+60	Varies	Fill	370	Fills	1	370
Inlet Armor	24" – 12" Riprap	88+90, 135+30	Varies	Culvert	12	Culverts	1	24
Stream Bank Armor	36" – 24" Riprap	36+85 to 37+40, & 44+85	Varies	Bank	Varies	Banks	2	120
Boulders	36" – 24" Riprap	10+20, 19+65, 26+90, 65+85, 67+25	Varies	Boulder	1	Boulders	24	24
Surfacing Rock	1 ½"-0 Crushed	0+00 to 81+30	6	Station	65	Stations	81.3	5,285
Surfacing Rock	3" – 0 Crushed	0+00 to 81+30	6	Station	65	Stations	81.3	5,285
Surfacing Rock	1 ½"-0 Crushed	98+55 to 100+60	6	Station	65	Stations	2.05	133
Surfacing Rock	3" – 0 Crushed	98+55 to 100+60	6	Station	65	Stations	2.05	133
Surfacing Rock	1 ½"-0 Crushed	81+30 to 98+55, 100+60 to 138+45	4	Station	39	Stations	55.10	2,149
Powerline Access Road Surfacing Rock	3" – 0 Crushed	79+10 to 81+30, 87+40 & 98+25	6	Station	26	Stations	3.2	83
Rock Berm	1 ½"-0 Crushed	35+10 to 37+40, 61+30 to 67+90, 158+40 to 161+35	12	Station	Varies	Stations	11.85	42
Surfacing Rock	1 ½"-0 Crushed	114+90 to 115+20, 158+40 to 161+35	Varies	Station	-	Stations	-	72
Curve Widening Rock	1 ½"-0 Crushed	60+20	12	Station	24	Stations	1	24
Junction	1 ½"-0 Crushed	Point A, 73+50	12	Junction	48	Junctions	2	96
Junction	1 ½"-0 Crushed	87+40, 98+25, 99+15, 137+05	4	Junction	12	Junctions	4	48
Turnout	1 ½"-0 Crushed	0+00 to 81+30	12	Turnout	29	Turnouts	8	232
Turnout	1 ½"-0 Crushed	81+30 to 138+50	4	Turnout	10	Turnouts	9	90
Stump Removal Fill	3" – 0 Crushed	A to B	Varies	Stump	24	Stumps	17	408
Total Rock for Road Segment:								15,806

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: B to C				Sta. to Sta. 0+00 to 29+20				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert No. 37	Varies	Culvert	24	Culverts	1	24
Surfacing Rock	3" – 0 Crushed	B to C	6	Station	31	Stations	29.2	905
Junction	3" – 0 Crushed	Point B	6	Junction	12	Junctions	1	12
Turnout	3" – 0 Crushed	B to C	6	Turnout	14	Turnouts	1	14
Stump Removal Fill	3" – 0 Crushed	21+35	Varies	Stump	24	Stumps	1	24
Roadside Landing	3" – 0 Crushed	17+95 & 24+05	6	Landing	95	Landings	2	190
Total Rock for Road Segment:								1,169

ROAD SEGMENT: D to E				Sta. to Sta. 0+00 to 49+45				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Surfacing Rock	3" – 0 Crushed	D to E	6	Station	31	Stations	49.45	1,533
Junction	3" – 0 Crushed	Point D & 12+55	6	Junction	12	Junctions	2	24
Turnaround	3" – 0 Crushed	47+10	6	Turnaround	2	Turnarounds	10	20
Roadside Landing	3" – 0 Crushed	31+95 & 38+90	6	Landing	47	Landings	2	94
Landing 50'	3" – 0 Crushed	Point E	6	Landing	47	Landings	1	47
Total Rock for Road Segment:								1,718

ROAD SEGMENT: F to G				Sta. to Sta. 0+00 to 17+70				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert Nos. 38-40	6	Culvert	24	Culverts	3	72
Surfacing Rock	3" – 0 Crushed	F to G	6	Station	31	Stations	17.7	549
Junction	3" – 0 Crushed	Point F	6	Junction	12	Junction	1	12
Landing 50'	3" – 0 Crushed	Point G	6	Landing	47	Landings	1	47
Total Rock for Road Segment:								680

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: G to H				Sta. to Sta. 0+00 to 14+00				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert No. 51	6	Culvert	24	Culverts	1	24
Base Rock	3" – 0 Crushed	G to H	12	Station	65	Stations	14	910
Junction	3" – 0 Crushed	Point G & Point H	12	Junction	24	Junctions	2	48
Turnout	3" – 0 Crushed	G to H	12	Turnout	29	Turnouts	2	58
Total Rock for Road Segment:								1,040

ROAD SEGMENT: I to J				Sta. to Sta. 0+00 to 12+25				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Base Rock	3" – 0 Crushed	0+00 to 12+25	12	Station	65	Stations	12.25	796
Junction	3" – 0 Crushed	Point I & Point J	12	Junction	24	Junctions	2	48
Turnaround	3" – 0 Crushed	7+50	12	Turnaround	20	Turnarounds	1	20
Roadside Landing	3" – 0 Crushed	8+00	12	Landing	95	Landings	1	95
Total Rock for Road Segment:								959

ROAD SEGMENT: K to L				Sta. to Sta. 0+00 to 28+45				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert Nos. 41-44	Varies	Culvert	24	Culverts	4	96
Energy Dissipator	24"-12" Riprap	25+45	Varies	Culvert	12	Culverts	1	12
Surfacing Rock	3" – 0 Crushed	K to L	6	Station	31	Stations	28.45	882
Rock Berm	1 ½"-0 Crushed	10+90 to 14+25	12	Station	Varies	Stations	3.35	24
Turnout (Large)	3" – 0 Crushed	0+25	6	Turnout	47	Turnouts	1	47
Turnout	3" – 0 Crushed	K to L	6	Turnout	14	Turnouts	4	56
Total Rock for Road Segment:								1,117

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: L to M				Sta. to Sta. 0+00 to 11+60				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert No. 52	Varies	Culvert	24	Culverts	1	24
Base Rock	3" – 0 Crushed	L to M	12	Station	65	Stations	11.6	754
Junction	3" – 0 Crushed	Point L & 9+80	12	Junction	24	Junctions	2	48
Turnout	3" – 0 Crushed	L to M	12	Turnout	29	Turnouts	2	58
Approach to Landing	3" – 0 Crushed	9+80	12	Station	65	Stations	1.3	85
Roadside Landing	3" – 0 Crushed	3+80	12	Landing	95	Landings	1	95
Landing 50'	3" – 0 Crushed	11+60	12	Landing	95	Landings	2	190
Total Rock for Road Segment:								1,254

ROAD SEGMENT: N to O				Sta. to Sta. 0+00 to 18+55				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Base Rock	3" – 0 Crushed	N to O	12	Station	65	Stations	18.55	1,206
Junction	3" – 0 Crushed	Point N	12	Junction	24	Junctions	1	24
Turnout	3" – 0 Crushed	N to O	12	Turnout	29	Turnouts	2	58
Turnaround	3" – 0 Crushed	16+75	12	Turnaround	20	Turnarounds	1	20
Roadside Landing	3" – 0 Crushed	5+70 & 14+00	12	Landing	95	Landings	2	190
Landing 70'	3" – 0 Crushed	Point O	12	Landing	180	Landings	1	180
Total Rock for Road Segment:								1,678

ROAD SEGMENT: P to Q				Sta. to Sta. 0+00 to 8+05				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½"-0 Crushed	Culvert Nos. 45-49	Varies	Culvert	24	Culverts	5	120
Base Rock	3" – 0 Crushed	P to Q	12	Station	65	Stations	8.05	523
Junction	3" – 0 Crushed	Point P	12	Junction	24	Junctions	1	24
Turnaround	3" – 0 Crushed	2+80	12	Turnaround	20	Turnarounds	1	20
Landing 50'	3" – 0 Crushed	Point Q	12	Landing	95	Landings	1	95
Total Rock for Road Segment:								782

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: R to S				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	0+00 to 4+00				
				Volume (CY) Per		Number of		
Base Rock	3” – 0 Crushed	R to S	12	Station	65	Stations	4.00	260
Junction	3” – 0 Crushed	Point R	12	Junction	24	Junctions	1	24
Turnaround	3” – 0 Crushed	3+50	12	Turnaround	20	Turnarounds	1	20
Landing 50’	3” – 0 Crushed	Point S	12	Landing	95	Landings	1	95
Total Rock for Road Segment:								399

ROAD SEGMENT: Point T				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	-				
				Volume (CY) Per		Number of		
Culvert Bedding /Backfill	1 ½”-0 Crushed	Culvert No. 59	Varies	Culvert	24	Culverts	1	24
Energy Dissipator	24”-12” Riprap	Culvert No. 59	Varies	Culvert	12	Culverts	1	12
Total Rock for Road Segment:								36

ROAD SEGMENT: Point U				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	-				
				Volume (CY) Per		Number of		
Rock Ditch Filter	1 ½”-0 Crushed	Point U	Varies	Station	10	Station	1	10
Total Rock for Road Segment:								10

ROAD SEGMENT: Point V				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	-				
				Volume (CY) Per		Number of		
Rock Ditch Filter	1 ½”-0 Crushed	Point V	Varies	Station	10	Station	1	10
Total Rock for Road Segment:								10

ROAD SEGMENT: V1 to V2				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	0+00 to 5+25				
				Volume (CY) Per		Number of		
Stream Bank Armor	36” – 24” Riprap	2+65	Varies	Bank	48	Banks	1	48
Total Rock for Road Segment:								48

EXHIBIT D

ROCK TABLE

ROAD SEGMENT: V5 to V6				Sta. to Sta.				TOTAL VOLUME (CY)
Application	Rock Size and Type	Location	Depth of Rock (inches)	0+00 to 7+20				
				Volume (CY) Per		Number of		
Stream Bank Armor	36” – 24” Riprap	2+65	Varies	Bank	192	Banks	1	192
Total Rock for Road Segment:								192

TOTAL ROCK	3”-0 Crushed	1 ½”-0 Crushed	24” – 12” Riprap	36” – 24” Riprap
26,898 CY	16,309 CY	9,535 CY	670 CY	384 CY

Roads shall be uniformly graded, shaped and approved by STATE prior to rocking.

Total rock cubic yard volumes are rounded to the whole yard.

EXHIBIT D

ROCK ACCOUNTABILITY

PURCHASER shall obtain subgrade approval from STATE prior to rocking. Rocking shall be limited to periods when weather conditions are acceptable to STATE and when sediment will not enter streams. Additional surfacing needed because of construction season or construction practice is not included in the preceding road surfacing table and shall be furnished at PURCHASER expense.

Rock accountability shall be determined by the following methods, as directed by STATE. STATE shall be given 24 hours' notice prior to rocking.

Depth Measurement. Rock shall be spread and compacted according to the depths specified in Exhibit D. Truck measure volumes are given but shall not limit the amount of rock spread.

Depth shall be determined in the most compacted area of the surface cross section. The depth of compacted aggregates shall not vary more than 1 inch from the depth specified in the "Road Surfacing" table in Exhibit D. The average depth for each road segment shall be the specified depth or greater. If additional rock is required because of insufficient depth, the locations and volumes to be added shall be determined by STATE.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

Rock haul and processing between stations 0+00 to 73+50 will need to be completed as rock is being hauled and placed. To maintain adequate access in and out of South Fork Road, the grader equipment will need to process the hauled rock as it is placed.

Moisture Content: Compaction must take place when moisture content of the materials being compacted is favorable for effective compaction as determined by STATE.

Compaction Pass: A pass is defined as traveling a road section forward and then backward over that same section.

Subgrade. Subgrade surfaces of the road segments listed below shall be graded and compacted prior to rocking. Compaction shall be accomplished by traveling all surfaces from shoulder to shoulder until the surface is smooth and hard and visible deformation ceases. At least 3 passes shall be made over the entire width and length of the road. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Subgrade shall be crowned, outsloped, or insloped at 4 to 6 percent as specified in the “Forest Roads Specifications” table in Exhibit D.

ROAD SEGMENT	SUBGRADE COMPACTION OPTIONS
All road segments that require rock surfacing	Vibratory Roller
All road segments that require subgrade reinforcement rock	Vibratory Grid Roller or a combination of Vibratory Roller and Dozer

Fills. Embankments and fills shall be placed in (approximately) horizontal layers not more than 8 inches in depth. Each layer shall be separately, and thoroughly, compacted. Compaction equipment shall be operated over the entire width of each layer until visible deformation of the layers ceases. At least 3 passes shall be made over the entire width and length of each layer.

Placing individual rocks or boulders with more depth than the allowed layer thickness shall be permitted, provided the embankment will accommodate them. Such rocks and boulders shall be at least 6 inches below the subgrade. They shall be carefully distributed, and the voids filled with finer material, forming a dense and compacted mass. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

ROAD SEGMENT	FILL COMPACTION OPTIONS
All road segments	Vibratory Roller, Vibratory Hand-Operated, Backhoe-Mounted Tamper, or Dozer

Crushed Rock. The rock shall be uniformly mixed and spread in layers on the approved roadbed. Each layer of crushed rock shall be moistened or dried to uniform moisture content suitable for maximum compaction and compacted in layers not to exceed 6 inches in depth. When more than 1 layer is required, each shall be shaped, compacted, and approved by STATE before the succeeding layer is placed. Any irregularities or depressions that develop during compaction of the top layer shall be corrected by loosening the material at these places and adding or removing material until the surface is smooth and uniform. Each layer shall be compacted with a minimum of 3 passes over the entire width and length of the road until the surface is smooth and hard and visible deformation ceases. Compaction shall be accomplished by using one or more of the approved equipment options listed below:

Rock shall be compacted and processed during the same project period it is spread, unless otherwise approved in writing by STATE.

Rock shall be crowned, outsloped, or insloped at 4 to 6 percent as specified in the “Forest Roads Specifications” table in Exhibit D.

EXHIBIT D

COMPACTION AND PROCESSING REQUIREMENTS

ROAD SEGMENT	CRUSHED ROCK COMPACTION OPTIONS
All road segments requiring crushed rock	Vibratory Roller

COMPACTION EQUIPMENT OPTIONS

Vibratory Rollers. The drum shall have a smooth surface, a diameter not less than 48 inches, a width not less than 58 inches, and a turning radius of 15 feet or less. Vibration frequency shall be regulated in steps to 1400, 1500, and 1600 VPM, corresponding to engine speeds of 1575, 1690, and 1800 RPM. The centrifugal force developed shall be 7 tons at 1600 VPM. It shall be activated by a power unit of not less than 25 horsepower. The vibratory roller shall be self-propelled and operated at speeds ranging from 0.9 miles to 1.8 miles per hour, as directed by STATE.

Vibratory Hand-Operated or Backhoe-Mounted Tamper. Vibratory hand-held or hydraulic tampers shall be used for compaction of backfill materials around culverts. The tamper shoe dimensions shall be a minimum of 10" X 13" and capable of a centrifugal force of 2,250 pounds.

Vibratory Grid Compactors. The roller shall have a grid surface and have an operating weight of 32,000 pounds or more. The rock shall be worked with a grader weighing at least 20,000 pounds during the grid rolling process. All rock shall come in contact with the vibratory grid compactor.

Dozer. A dozer/track-type tractor weighing a minimum of 45,000 pounds as directed by STATE shall be operated so that the entire surface comes in contact with the tracks.

EXHIBIT E

CULVERT SPECIFICATIONS

All culverts and drainage structures shall be installed as soon as possible and before October 1 annually.

A temporary crossing structure will be required during removal and installation of culverts on South Fork Road, between stations 0+00 to 73+50, to accommodate emergency vehicle traffic and elongated wait times.

All culvert materials shall be furnished and installed by PURCHASER, unless otherwise specified in the Contract.

Uninstalled culverts shall become property of the STATE. PURCHASER will deliver surplus culverts to the district office as directed by STATE.

Culverts 36 inches in diameter and smaller shall be constructed of corrugated polyethylene. Culverts larger than 36 inches in diameter shall be constructed of corrugated aluminized Type 2 steel. Polyethylene culverts shall be double-walled and meet the requirements of AASHTO M-294-11, Type S, or ASTM F2648.

Joining shall be done with bands of like material and corrugations. Manufacturers' instructions shall be followed for prefabricated pipe assembly. Polyethylene joints shall be made with split couplings, corrugated to engage the culvert corrugations, and shall engage a minimum of 4 corrugations, 2 on each side of the culvert joint.

The STATE Representative shall determine final culvert locations and stake the locations in the field prior to installation.

Culverts in live streams shall be installed with the inlet and outlet on grade with the stream bottom, unless otherwise specified in writing.

Cross Drain Culverts

Cross drain culverts on road grades in excess of 3 percent shall be skewed at least 30 degrees from perpendicular to the road centerline, except that cross drain culverts at the low point of dips in roads shall not be skewed. Cross drains shall be skewed to fit the required culvert length to the road prism.

Cross drain culverts shall be installed at a slope steeper than the incoming ditch grade, but not less than 3 percent or greater than 10 percent.

Disconnect Culverts

The culvert inlet shall be located as close to the channel that it is disconnecting, while the culvert outlet shall be located as far from the channel as possible; discharge culvert outflow on the forest floor, allowing for filtration before the water enters the disconnected channel.

The foundation and trench walls for all culverts shall be free from logs, stumps, limbs, stones, and other objects which would dent or damage the culvert. The culvert trench shall be excavated 3 culvert diameters wide to permit compaction and working on each side of the culvert. Tamping shall be done in 6-inch lifts, 1 culvert diameter each side of the culvert. Bedrock shall be excavated as required to provide a uniform foundation for the full length of the culvert.

A bedding of crushed rock, as specified, shall be placed to provide a wide band of support and to transmit the load from above evenly over the entire length of the culvert for all live stream culverts and all culverts on road improvement segments.

Backfill shall consist of crushed rock on improvement segments and job-excavated soil free of stumps, limbs, rocks, or other objects which would damage the culvert on new construction segments.

All surplus material generated by culverts installed within 35’ of a Type-N or within 120’ of a Type-F stream shall be end-hauled to a designated waste area.

EXHIBIT E

CULVERT SPECIFICATIONS

Minimum height of cover over top of culvert to subgrade when road is to be rocked shall be as follows: 12" for culverts 18” to 36” and 18” for culverts 42” to 96”. Minimum vertical cover for other designs shall be as specified by STATE.

Lengths of individual culvert sections shall be not less than 10 feet, unless otherwise provided for in special instructions. The shortest culvert section length shall be placed at the inlet end.

The ends of each culvert shall be free of logs and debris which would restrict the free flow of water.

The intake end of cross drain and disconnect culverts shall be provided with a sediment catching basin 3 feet in diameter at the bottom. The outlet end of any culvert which would allow water to erode embankment soil shall be provided with an energy dissipator, half round, or other approved slope protection device. Construct lead-off ditches away from culvert outlets where the slope gradients restrict the free flow of water.

Culverts 36 inches in diameter or larger shall have 1:1 step beveled inlets.

Compaction by tamping utilizing a Vibratory Hand-Operated or Backhoe-Mounted Tamper is required for all stream crossing culverts and culverts on improvement sections.

All culverts scheduled for replacement shall become property of the PURCHASER and be removed from STATE land in the same project period in which replacement occurred. Damaged culvert inlets and/or outlets shall be repaired by opening them with a hydraulic jack or cutting off the culvert end to allow for free passage of water at peak flow levels.

The intake ends of culverts in fills less than 3 feet to the top of the culvert shall be marked by driving steel posts within 6 inches of the downgrade side. Posts shall be painted with a rust-resistant paint and be a minimum of 5 feet long, with the spade driven 2 feet into the ground. Install a culvert marker at each existing culvert that is missing a marker that could be reached by a grader blade.

Energy Dissipators and Settling Ponds shall be installed within 72 hours of culvert installation, unless otherwise approved in writing by STATE. Steel posts used with half round installation shall be painted with rust preventative paint.

A manufacturer's certification that the product was manufactured, tested, and supplied in accordance with this specification shall be furnished to STATE upon request.

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
1	18	50	A to B	0+70
2	18	40	A to B	4+90
3	18	40	A to B	10+20
4	18	60	A to B	19+65
5	18	40	A to B	25+45
6	18	40	A to B	34+60
7	24	50	A to B	38+35
8	24	40	A to B	40+10
9	18	40	A to B	47+80
10	24	50	A to B	49+80
11	24	30	A to B	20+30
12	24	40	A to B	54+90
13	18	40	A to B	57+25
14	18	40	A to B	59+20
15	18	40	A to B	60+25
16	24	40	A to B	69+50
17	18	40	A to B	73+10
18	24	40	A to B	74+60
19	24	40	A to B	79+10
20	18	40	A to B	81+30
21	24	40	A to B	82+90
22	18	30	A to B	87+50
23	18	40	A to B	89+65
24	18	30	A to B	98+55
25	18	30	A to B	100+60
26	18	30	A to B	117+15
27	40	30	A to B	117+15
28	18	30	A to B	117+40
29	40	40	A to B	117+95
30	24	40	A to B	120+85
31	42	50	A to B	135+30

EXHIBIT E

CULVERT LIST

CULVERT NO.	DIAMETER (Inches)	LENGTH (Feet)	ROAD SEGMENT POINT TO POINT	STATION
32	18	40	A to B	153+15
33	24	30	A to B	158+45
34	30	40	A to B	234+40
35	18	30	A to B	257+80
36	18	30	A to B	265+85
37	18	30	B to C	4+20
38	18	30	F to G	9+60
39	18	30	F to G	14+40
40	18	30	F to G	15+90
41	36	40	K to L	1+55
42	24	40	K to L	13+65
43	18	50	K to L	17+40
44	18	40	K to L	24+45
45	18	40	P to Q	0+00
46	18	30	P to Q	1+15
47	42	50	P to Q	1+95
48	18	30	P to Q	2+90
49	18	30	P to Q	5+25
50	18	30	G to H	9+65
51	18	40	G to H	14+00
52	18	40	L to M	0+00
53	18	30	L to M	4+65
54	18	50	L to M	6+55
55	18	30	L to M	8+25
56	18	60	N to O	3+40
57	18	40	N to O	5+25
58	18	40	N to O	6+00
59	24	50	Point T	-
60	18	30	A to B	40+20
61	18	40	A to B	74+80

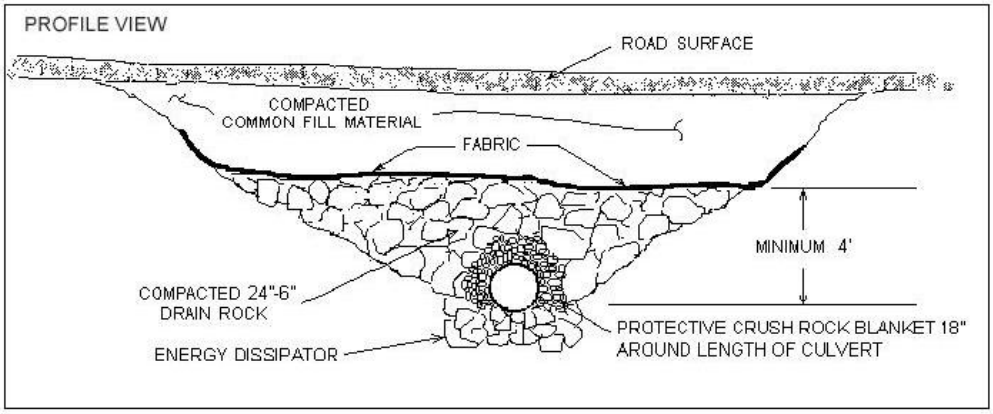
EXHIBIT E

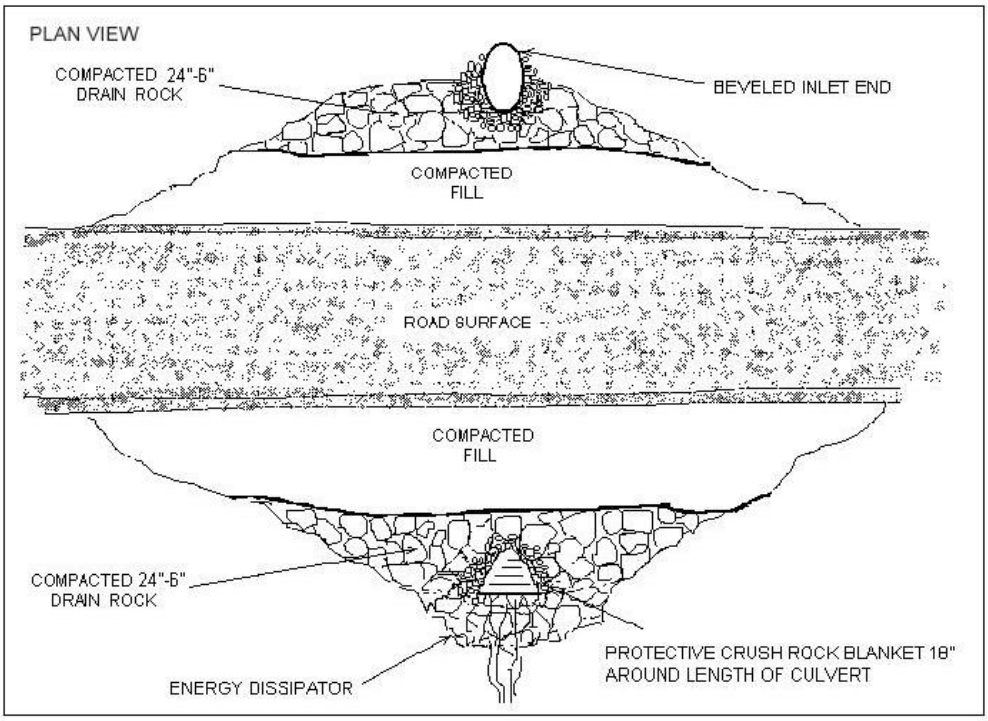
CULVERT LIST

TOTAL LENGTHS BY DIAMETER					
18 INCH	**24 INCH**	**30 INCH**	**36 INCH**	**40 INCH**	**42 INCH**
1570’	530’	40’	40’	70’	100’

EXHIBIT E

TYPICAL FREE DRAIN FILL AND
DRAINAGE GEOTEXTILE SPECIFICATIONS





Drainage Geotextile Specifications:
Nonwoven drainage geotextile fabric designed for subsurface drain purposes which meets or exceeds the following requirements:

		Test Method	Properties
(a)	Water Flow Rate	ASTM D 4491	(*85) gal/min/ft^2
(b)	Water Permeability	ASTM D 4491	(*0.30) cm/sec
(c)	Grab Tensile Strength	ASTM D 4632	250 lb
(d)	Mullen Burst Test	ASTM D 3766	460 lb
(e)	Mass	ASTM D 4533	10 oz/yd^2
(f)	Thickness	ASTM D 5199	100 mills
(g)	UV Resistance	ASTM D 4355 Xenon Arc	70% retained

EXHIBIT E

EMBEDDED ENERGY DISSIPATOR

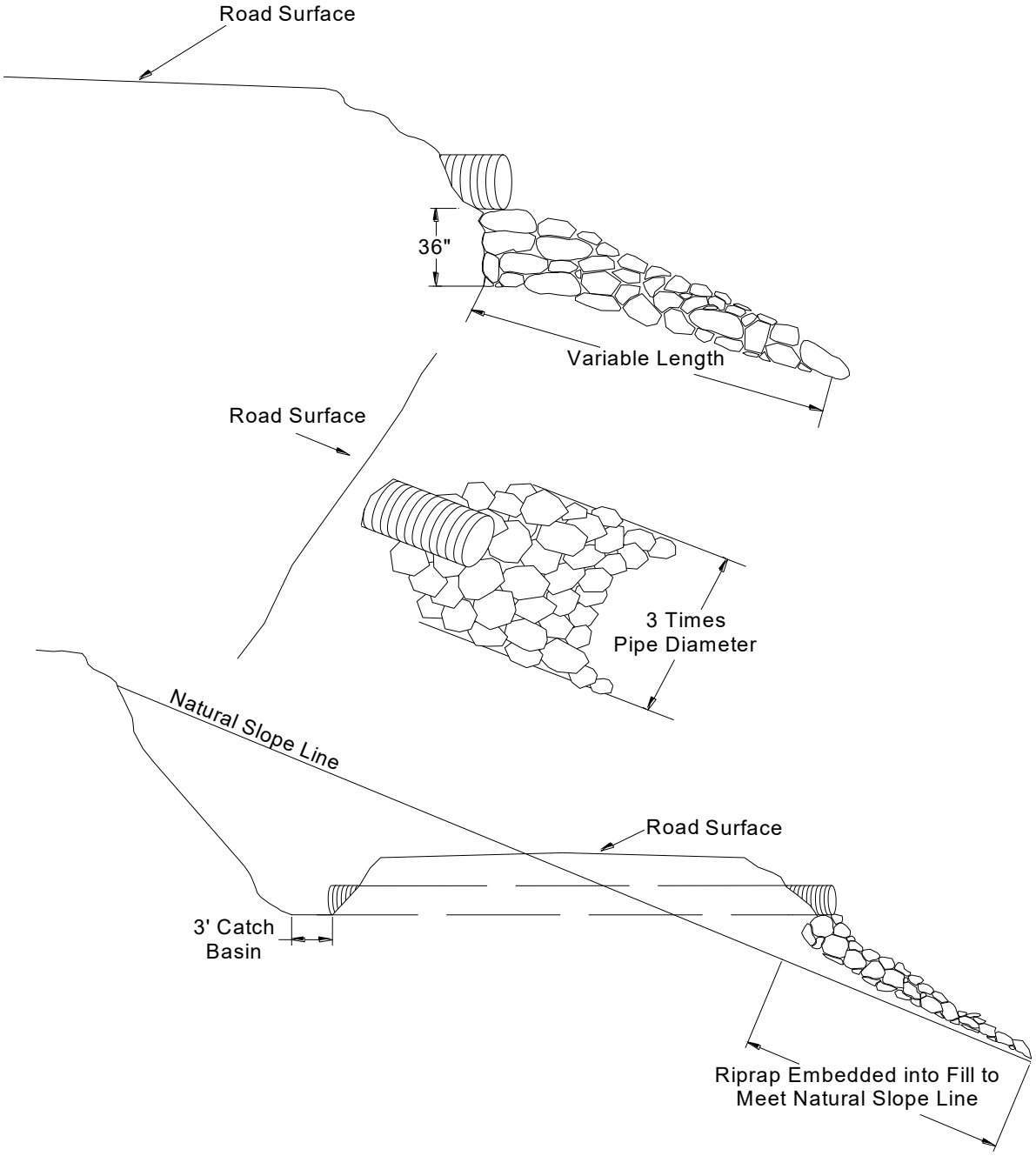


EXHIBIT F

ROCK QUARRY DEVELOPMENT AND USE

1. PURCHASER shall prepare a written development plan for the quarry area. The plan shall be submitted to STATE for approval prior to conducting any operation in quarry area. The plan shall include, but not be limited to:
   (a) Location of benches and roads to benches.
   (b) Disposal site for woody debris, overburden and reject material.
   (c) Time lines for rock quarry use.
   (d) Erosion Control measures.

2. PURCHASER shall schedule and coordinate quarry and stockpile usage with other existing or planned activity requiring quarry or stockpile usage. PURCHASER shall notify STATE 5 days prior to the start of quarry development activities.

3. The STATE shall be notified 24 hours prior to the beginning of blasting operations. Working days shall be defined as Monday through Friday, 7:00 a.m. to 4:30 p.m.

4. Purchaser shall identify a Blaster in Charge (BIC) for all blasting operations. The BIC will be qualified by experience to oversee all phases of the blasting operations. The BIC shall provide direct supervision at all times when blasting and explosives handling activities are occurring on STATE LANDS.

5. Controlled blasting techniques shall be utilized for any blasting operations, and shall be accomplished using timing devices, delayed charges, low intensity shots, or other suitable means to contain as much material as possible within the quarry development area. Each shot shall also have a “tattle-tale” end cap so that it is known if all charges were detonated. The CONTRACTOR shall detonate or remove all non-detonated explosives from STATE LANDS. PURCHASER shall maintain a comprehensive blasting log that contains all pertinent data for all blasting operations. The blasting log shall be submitted to the STATE after the completion of all blasting activity. The blasting log is intended for STATE record keeping purposes only.

6. Overburden shall be removed for a distance of 20 feet beyond the developed rock source. All overburden and reject material shall be hauled to the designated waste area as directed by STATE.

7. PURCHASER shall conduct the operations relative to the disposal of waste material in such manner that sediment, rock, or debris shall not be washed, conveyed, or otherwise deposited in any stream.

8. Benches shall be maintained/constructed at intervals of 40 feet or less in height and shall be a minimum of 20 feet in width. Any gravel or talus slopes shall be left with a working face at an angle of 60 percent or less. There shall be a minimum of one bench with an access road to it. Said bench shall be easily accessible with tractors.

9. Quarry face shall be developed in a uniform manner. All quarry backslopes shall be left in a stable condition.

10. Oversized material that is produced shall be piled in a designated area adjacent to the pit. It shall not be wasted.

11. The quarry site shall be left in a condition free from overburden and debris. Access roads to the quarry, and the quarry floor, shall be cleared at the termination of use. Unused shot rock material that is produced shall be piled in the vicinity of the quarry as directed by STATE.

12. The quarry floor shall be developed to provide for drainage away from the quarry. All quarry and stockpile site drainage ditches shall be maintained. Ditches, culverts, waterbars and other direct conveyances of water from the quarry or stockpile site(s) shall be constructed to drain to the forest floor in locations that will provide filtration. Quarry access roads shall be cleared and blocked upon completion of quarry use as directed by STATE.

13. Proper winterization and storm-water control measures such as waterbarring, drainage, utilization of filter bales, mulching and/or blocking access shall be constructed and maintained to protect the watershed and Project Work, as directed by STATE.

EXHIBIT F

CRUSHED ROCK SPECIFICATIONS

Materials. The material shall be fragments of rock crushed to the required size. The material shall be free from vegetation and lumps of clay.

STATE may require screening and/or rejecting of materials utilized for production of crushed rock for the purpose of removing excess fine material. Excess fines are present, when greater than 5 percent of a total rock sample weight, passes a #200 sieve. Rock crushing shall be limited to periods when weather conditions are acceptable to STATE.

Quality and Grading Requirements. The base material shall be rock. River gravel shall not be used. Crushed rock shall meet the grading requirements that follow:

Hardness - Aggregate Hardness - Test Method AASHTO T 96: 30% Maximum

Durability – Test Method ODOT TM 208

Passing No. 20 Sieve: 30% Maximum

For the purpose of crushing rock specified under the projects in Section 2610, “Project Work,” PURCHASER shall utilize a two-stage jaw rock crusher, or equivalent, unless otherwise approved by STATE.

The rock crusher shall be calibrated to produce rock as specified in this exhibit. Prior to the commencement of production crushing, PURCHASER shall sample, test, and provide rock test results meeting STATE specifications. STATE may then sample and test crushed rock for approval to proceed. PURCHASER shall take one sample of each 2,000 cubic yards of crushed rock material produced thereafter, using approved AASHTO sampling procedures. PURCHASER shall submit samples to a certified laboratory or shall perform testing for gradation requirements using AASHTO T 11 and AASHTO T 27 testing procedures. Prior to testing, each sample shall be split, making one-half of the sample, with proper identification, available for testing by STATE. Each sample and the results of PURCHASER testing shall be made available to STATE within 24 hours of sampling. Any rock crushed prior to STATE approval to proceed shall not be credited to the required rock quantity. Any subsequent rock tests not meeting STATE specifications shall be reason for rejection of that portion of crushed rock produced after that test and shall not be credited to the required rock quantity. STATE may sample the crushed rock at any time during the operation. Results of STATE’s tests shall prevail over all other test results.

CRUSHED ROCK & RIPRAP ROCK SPECIFICATIONS

Grading Requirements

For 1½"-0”	Passing	2" sieve	100%
	Passing	1½" sieve	90-100%
	Passing	3/4" sieve	60-90%
	Passing	1/4" sieve	30-50%
	Passing	No. 10 sieve	15-30%
	Passing	No. 40 sieve	7-15%
For 3”-0”	Passing	4" sieve	100%
	Passing	3" sieve	90-100%
	Passing	1½" sieve	60-90%
	Passing	3/4" sieve	40-50%
	Passing	1/4" sieve	20-30%
	Passing	No. 10 sieve	5-15%

The referenced sieve shall have square openings as set forth in AASHTO M 92, Woven Cloth Series. The determinations of size and gradation shall be as set forth in AASHTO T 27.

EXHIBIT F

CRUSHED ROCK & RIPRAP ROCK SPECIFICATIONS

For 24”-12” Riprap A minimum of 50 percent of the material shall measure a minimum of 24 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

For 36”-24” Riprap A minimum of 50 percent of the material shall measure a minimum of 36 inches, measured in one dimension. Material shall be clean, well graded, and free of 2"-0" fines.

For Riprap Control of gradation shall be by visual inspection by STATE.

EXHIBIT G

FOREST ROAD GATE INSTALLATION

GATE REMOVAL:

Remove existing gate from posts by removing the upper lock ring.

Remove the post and all existing concrete. All concrete will become property of the Contractor and shall be removed from State Land.

Gate and hinge post will be reused and reinstalled, a new lock post will be installed and set in concrete for ease of proper gate alignment.

GATE RESTORATION AND SPECIFICATIONS:

If gate is damaged, the repaired shall be repainted with a rust resistant primer coat and a topcoat of a rust resistant paint. Gates shall be painted “Safety Red”. Gate shall have the message, “CLOSED DUE TO FIRE DANGER”, painted in 3” tall, stenciled white letters, centered on both sides of the gate arm.

Prior to painting, gate and posts shall be cleaned and free of oil and debris.

Two 2” x 18” red and white reflective tape pieces shall be placed on both sides of the gate arm.

GATE INSTALLATION AND SPECIFICATIONS

The gate shall be installed to the design provided within this exhibit.

Gate arm shall be 20’ long.

The hinge post shall be installed on the north side of the road with the lock post installed on the south side.

Excavated post holes shall be inspected and approved by STATE before placing of the concrete.

Gate shall be able to swing freely, in both directions, open, close and lock with ease after installation and curing of the concrete.

All field welds shall be inspected and approved by STATE.

All bare metal, welds, scrapes, cuts or grind marks shall be cleaned and painted to the specifications stated above in this exhibit.

EXHIBIT G

FOREST ROAD GATE SPECIFICATIONS

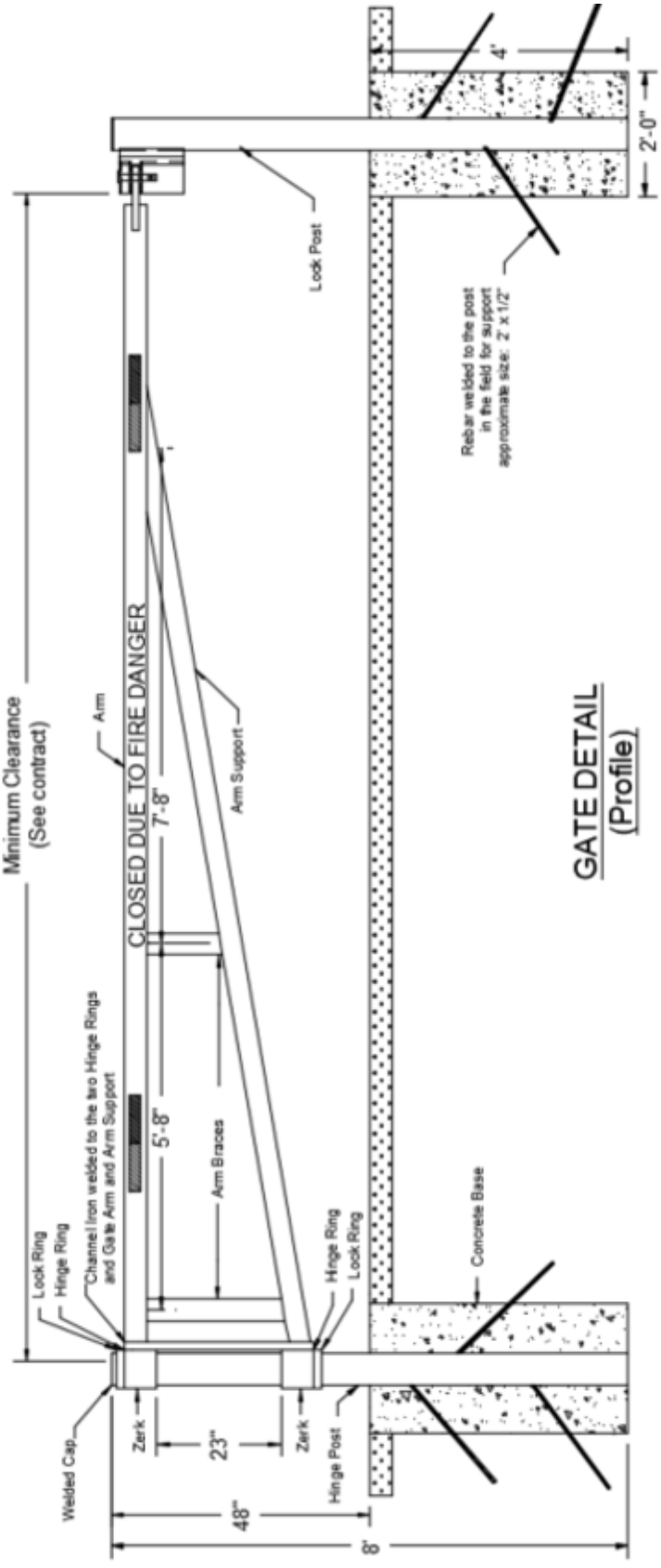


EXHIBIT H

ROAD BRUSHING SPECIFICATIONS

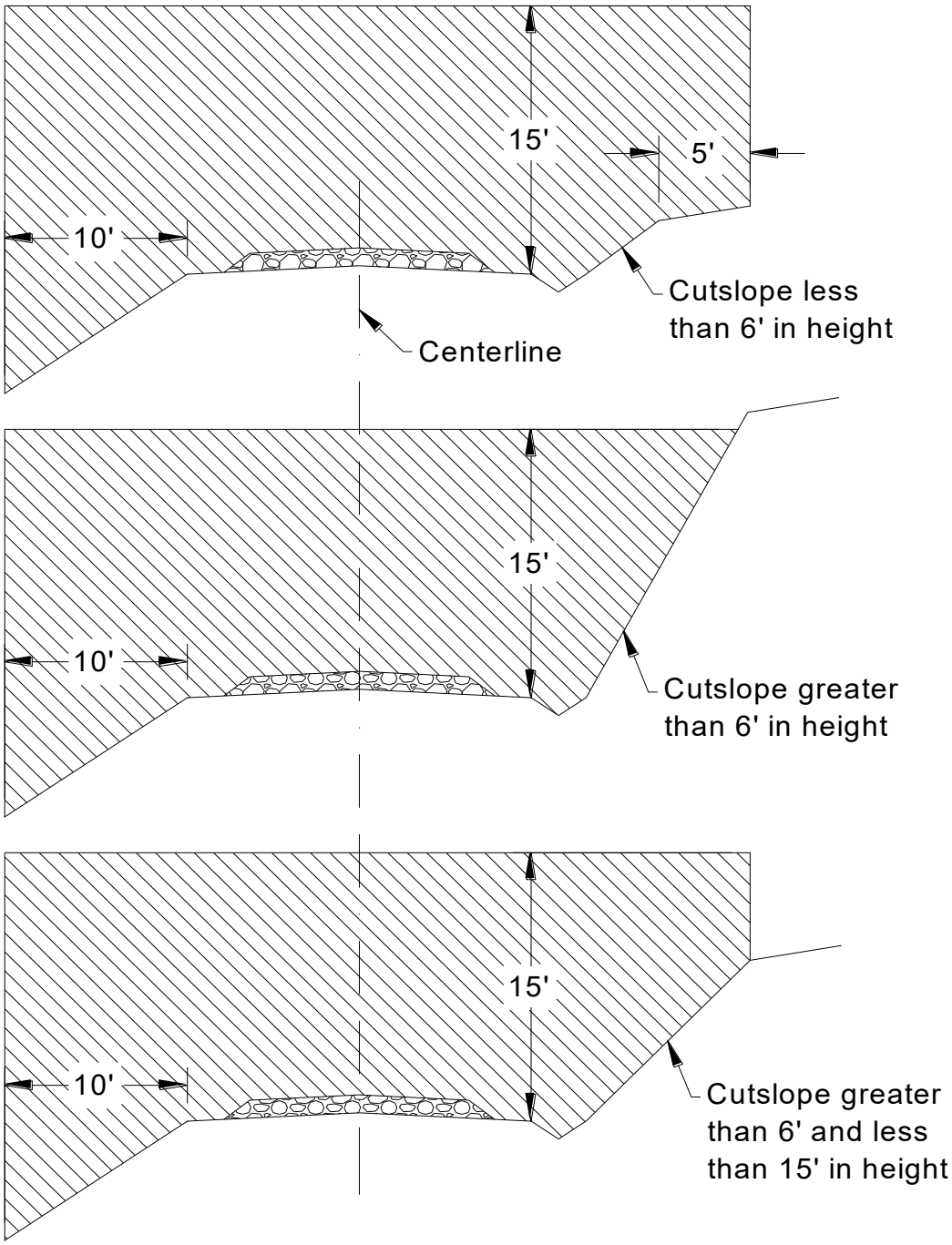


EXHIBIT H

ROAD BRUSHING SPECIFICATIONS

REQUIREMENTS

The minimum height of clearing shall be 15 feet from the road surface, and the minimum width of clearing on the down slope side of the road shall be 10 feet horizontal distance. The minimum width of brushing on the cut slope side of the road shall be dictated by the height of the cut slope as indicated in the three drawings above.

Brush and trees shall be cut to a maximum height of 6 inches above the ground surface or obstructions such as rocks or existing stumps.

Debris resulting from the brushing operation shall be removed from the roadway, cut slope, ditches, water courses, culvert inlets and outlets and sediment catching basins. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

Trees larger than 6 inches in diameter at stump height, located within clearing limits but outside of the ditch line or shoulder, shall not be cut down, but shall be limbed for road visibility. Planted or established conifers, located within brushing limits but outside of the ditch line or shoulder, shall not be cut down, but shall be limbed for road visibility unless otherwise directed by STATE.

Existing debris on the roadway, cut slope, ditch line, or catch basin shall be removed and treated. Debris shall be mulched or scattered downslope from the road or placed in other stable locations. Large non-merchantable debris, 6 inches or larger in diameter, shall be mulched or cut into lengths 6 feet or less to facilitate rapid decay, unless otherwise approved by STATE.

Merchantable blown down trees encountered shall be bucked in lengths as directed by STATE, and placed in locations acceptable to STATE, or pushed out of the road prism.

When spur roads to be brushed end with a Landing, the Landing is to be brushed as directed by STATE.

Brushing operations shall be completed before road improvement: road grading or surfacing of rock within the project area. If damages occur to the road surface outside of project area PURCHASER may be required to repair damages as directed by STATE.

DAMAGES

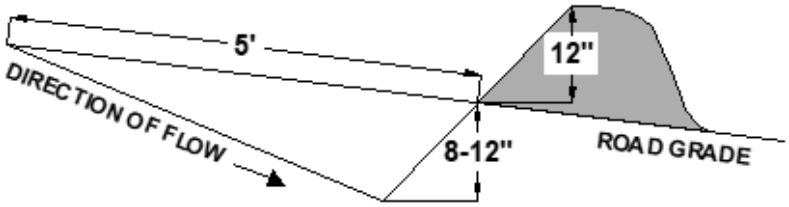
Culverts, Culvert Markers, Culvert Tags, Road Markers, Mile Markers, Point Signs, Timber Sale Boundary Tags, Project Point Signs, OHV Signs and Gates damaged, destroyed or displaced during brushing operations shall be repaired or replaced by PURCHASHER or as directed by STATE.

EXHIBIT I

WATERBAR SPECIFICATIONS

PROFILE

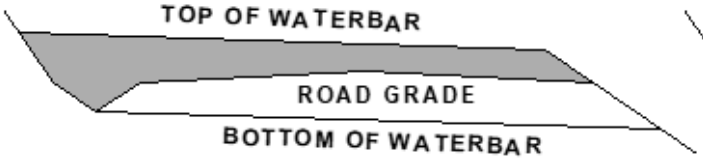
DITCHED AND OUTSLOPED



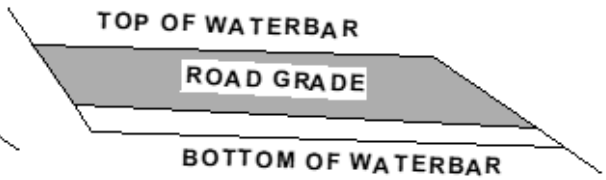
SPACING OF WATERBARS	
ROAD GRADE	DISTANCE
< 6 %	400'
6 - 10 %	200'
11 - 15 %	150'
> 15 %	100'

CROSS SECTION

DITCHED



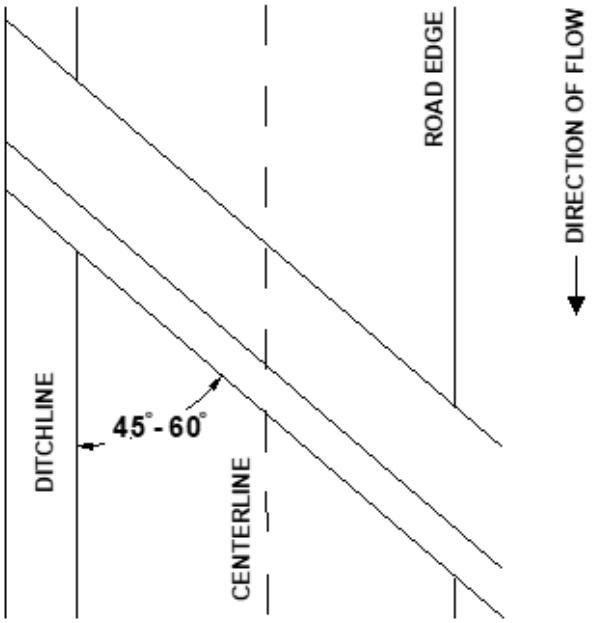
OUTSLOPED



CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%.

PLAN VIEW

DITCHED



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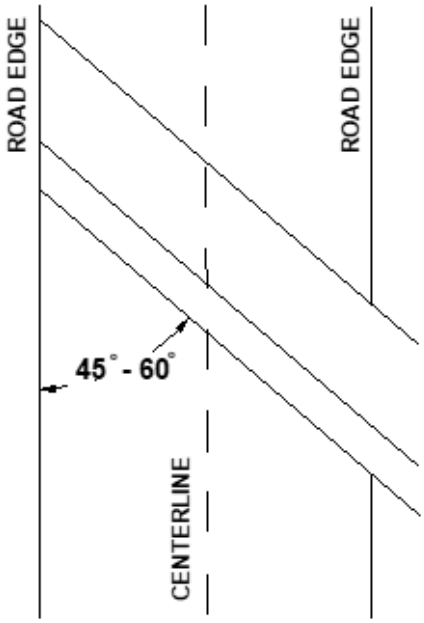
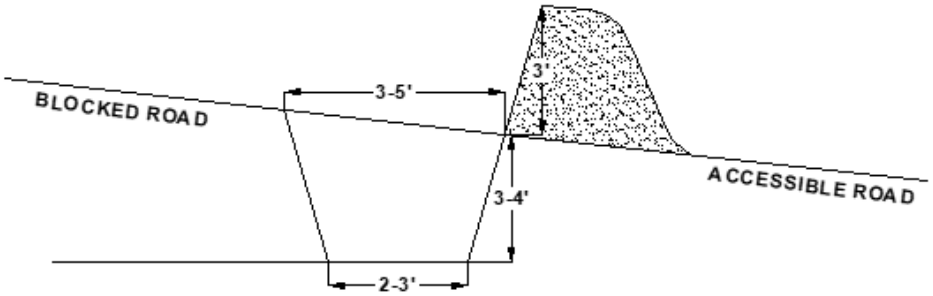


EXHIBIT I

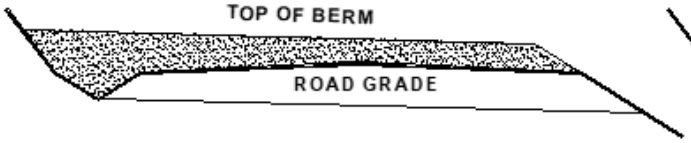
TANK TRAP SPECIFICATIONS

PROFILE
DITCHED AND OUTSLOPED



CROSS SECTION

DITCHED



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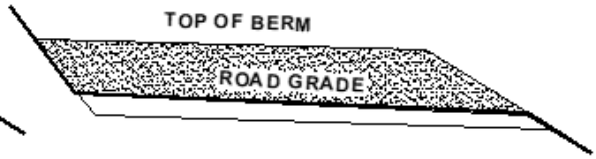
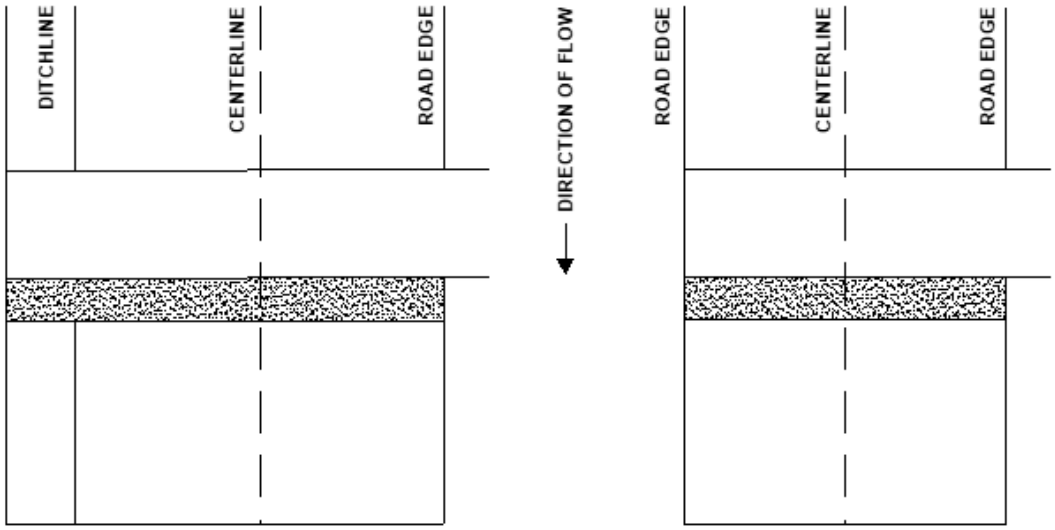


CONSTRUCT DITCHOUT THRU ANY EXISTING BERM.
CROSS DRAINAGE GRADIENT MINIMUM 3%

PLAN VIEW

DITCHED

OUTSLOPED



It should be sloped to drain with a relief ditch through the down slope edge of the road. The trench shall be behind the berm for approaching traffic.

EXHIBIT J

ROAD VACATING SPECIFICATIONS

PURCHASER shall vacate road between the following points: V1 to V2, V3 to V4 and V5 to V6.

Specific objectives for this project include:

Surface removal. Rip road surface to a depth of 12”

Sidecast Pullback. Excavate/pullback previously sidecast materials below the road at designated locations. Developed slopes shall be pulled back to a 1½:1 slope or to natural ground contours. The beginning position for sidecast pullback shall be no greater than 20 feet vertical distance from the existing road surface, in accordance with this exhibit. Sidecast material remaining greater than 20 feet below the road shall be tapered and sloped for drainage.

Outslope Road. Outslope road to restore natural contours or establish a minimum of 10 percent slope for drainage at designated locations. If the road grade exceeds 10 percent, outslope of the road shall be 2 percent greater than the road grade.

Woody Debris. Woody debris shall be placed on the surface of pullback/fill material.

Block Roads. Use excavated material from fill removals, boulders to block roads from vehicle access, as directed by STATE.

Erosion Control. Erosion control shall be completed in a progressive manner. Grass seed and straw mulch shall be applied for every 500 feet of road vacated, prior to continuing work.

Equipment. A minimum 1½ cubic yard, track mounted excavator shall be used for all excavation, culvert removal, streambed preparation, road blocking, and waterbarring, unless otherwise approved in writing by STATE.

Fill Removal and Stream Channel Development. Remove fills to the natural stream course levels. Stream channels shall be excavated/developed to specified widths. Developed stream banks shall be sloped at natural contours or no steeper than 2:1, as directed by STATE. Do not place excavated material within a riparian management area. Stream widening shall be done from the same side of the stream as the equipment. Equipment shall not cross into the stream at any time and must be hauled across stream channel by method of STATE approval beforehand.

Culvert Removal. Remove drainage structures and culverts. Removed culverts shall be hauled to an approved refuse site off of STATE land.

Dry Conditions. All work shall be performed during dry conditions acceptable to STATE.

Support, including transport, other equipment, replacements, supplies, maintenance, and repairs, shall be furnished as required to complete the project and shall be furnished without cost to STATE, other than as agreed under the contract terms.

EXHIBIT J

ROAD VACATING SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

Segment	Station	Work Description
V1 to V2	0+00	Point V1. Junction with A to B. ☐ Begin road surface ripping. ☐ Construct tank trap. ☐ Retain all trees within the vacate prism.
	0+25	Existing culvert. ☐ Remove existing culvert.
	0+55	Existing culvert. ☐ Remove existing culvert.
	0+85	1.5 mile marker on right. ☐ Begin sidecast pull back. ☐ Outslope road.
	0+95	☐ Remove existing gate.
	2+65	☐ Place 48cy of riprap as stream bank armor on right.
End	5+25	Point V2. Junction with A to B ☐ End sidecast pullback. ☐ End outslope. ☐ Construct tank trap. ☐ End road vacating.

Segment	Station	Work Description
V3 to V4	0+00	Point V3. Junction with A to B. ☐ Begin road surface ripping. ☐ Remove existing OHV sign. ☐ Construct large tank trap.
	4+05	Existing culvert. ☐ Remove three existing culverts and fill material. ☐ Restore stream bank width to 4 feet. ☐ Excavate fill to natural contours to ensure slope stability.
End	4+65	Point V4. ☐ End road surface ripping and removal. ☐ Construct tank trap. ☐ Construct large tank trap on the stream side of the large stump. ☐ Rip and block flat open area. ☐ End road vacating.

Segment	Station	Work Description
V5 to V6	0+00	Point V5. Point C. Junction with historic road on left. Begin road vacating. ☐ Begin road surface ripping. ☐ Construct tank trap.
	2+00	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Restore stream bank width to 2 feet. ☐ Excavate fill to natural contours to ensure slope stability. ☐ Equipment shall not cross into the stream at any time and must be hauled around stream channel by method of STATE approval beforehand. ☐ End haul all excavated material to Waste Area No. 3.

EXHIBIT J

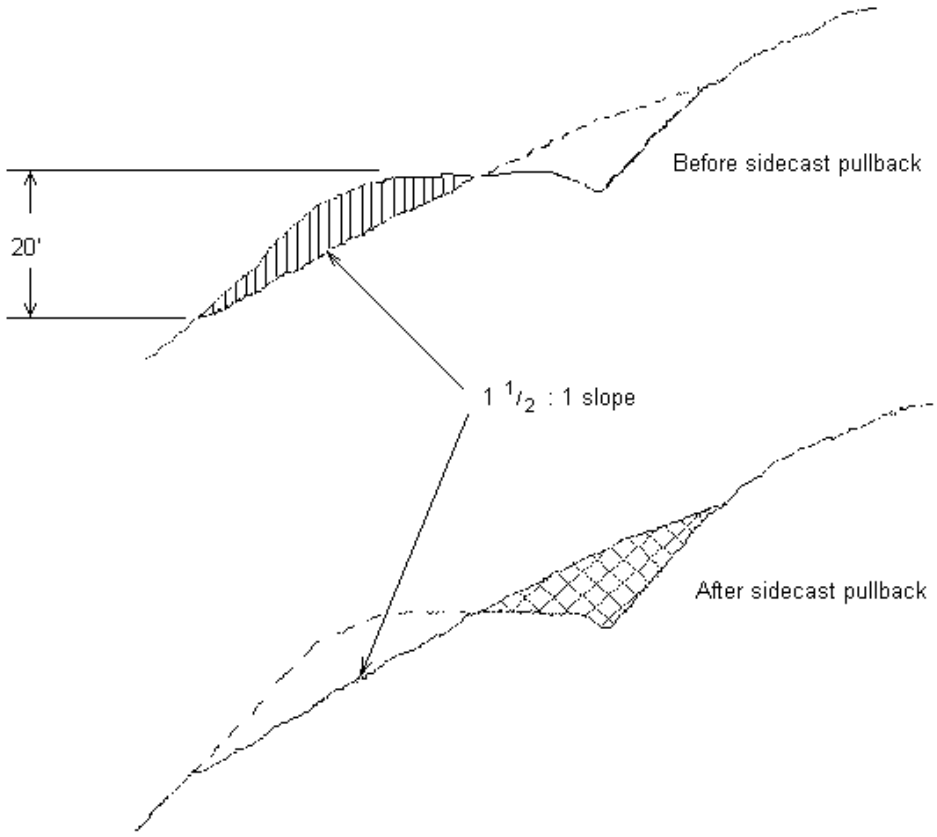
ROAD VACATING SPECIFICATIONS

SPECIFIC INSTRUCTIONS/SPECIFICATIONS:

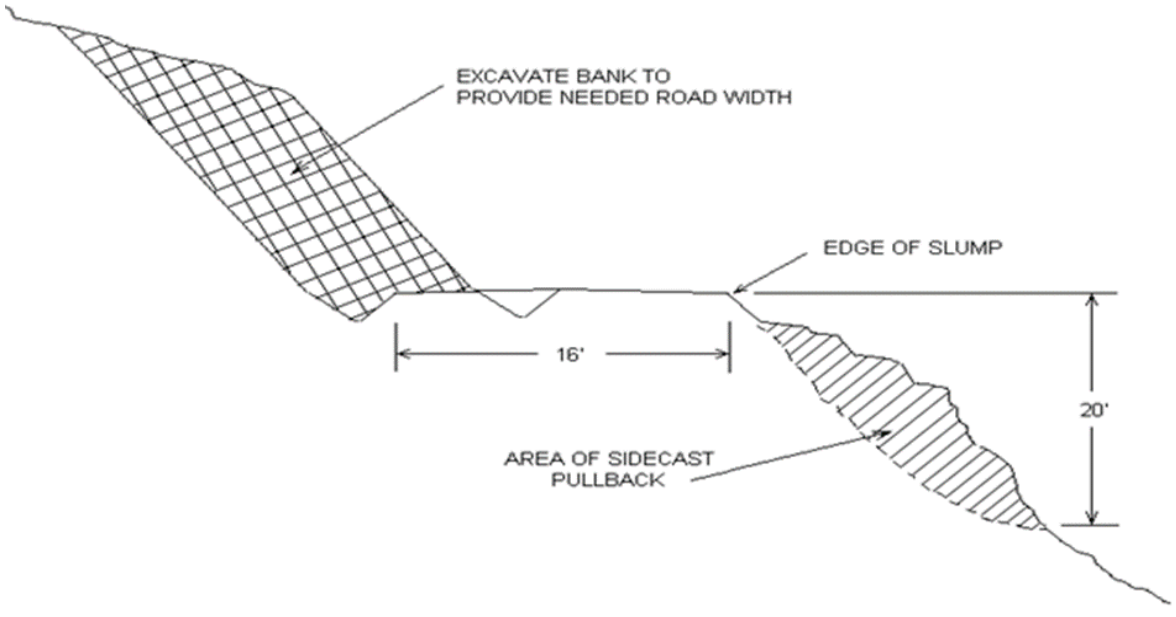
V5 to V6 Cont.	3+10	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Restore stream bank width to 10 feet. ☐ Excavate fill to natural contours to ensure slope stability. ☐ Equipment shall not cross into the stream at any time and must be hauled around stream channel by method of STATE approval beforehand. ☐ Begin sidecast pullback. ☐ End haul all excavated material to Waste Area No. 4.
	6+75	Live Stream. Existing culvert. ☐ Remove existing culvert. ☐ Restore stream bank width to 10 feet. ☐ Excavate fill to natural contours to ensure slope stability. ☐ Use existing riprap from culvert outlet to armor streambank. ☐ Equipment shall not cross into the stream at any time and must be hauled around stream channel by method of STATE approval beforehand. ☐ End haul all excavated material to Waste Area No. 4.
End	7+20	Point V6. Point K. Large turnout with spring box ahead on right. ☐ Do not disturb junction or spring box. ☐ End sidecast pullback. ☐ End road vacating.

EXHIBIT J

TYPICAL CROSS SECTION VIEW OF ROAD VACATING SIDECAST PULLBACK



TYPICAL CROSS SECTION VIEW OF SIDECAST PULLBACK AND ROAD REALIGNMENT



(No Scale)

EXHIBIT K

SEEDING AND MULCHING

This work shall consist of preparing seedbeds and furnishing and placing required native seed, fertilizer, and straw mulch. Straw mulch shall consist of straw that is free of noxious weeds. Apply seed and fertilizer to all waste areas, and bare soils resulting from Project Nos. 1, and 2, and 3. Apply straw mulch to all bare soils within 100' of streams resulting from Project Nos. 1, 2, and 3 and to all waste areas.

Seeding Seasons. Seeding shall be performed only from March 1 through June 15 and August 15 through October 1. Seeding materials shall not be applied during windy weather or when the ground is excessively wet or frozen. Areas of disturbed soil shall be seeded by the end of the project period in which work was started. PURCHASER shall notify STATE within 24 hours of seeding and fertilizer application.

APPLICATION METHODS FOR SEED AND FERTILIZER

Dry Method. Mechanical seeders, seed drills, landscape seeders, cultipacker seeders, fertilizer spreaders, or other approved mechanical seeding equipment shall be used to apply the seed and fertilizer in the amounts and mixtures specified. Hand-operated seeding devices may be used when seed and fertilizer are applied in dry form.

APPLICATION RATES FOR SEED AND FERTILIZER

Native Grass Seed. Listed grass seed below shall be applied at specific broadcast rates that coincide with grass seed selected by purchaser in accordance with the table below. The seed mixture shall be approved by STATE or comprised of at least three of the following and sufficiently mixed before application:

Native Grass Species	lbs	Coverage Ft^2	Broadcast Rate lbs/acre
Barley Meadow	1	1740	50-62.5
Bentgrass Spike	1	43560	2-2.5
Bluegrass Pine	1	21780	2-2.5
Brome Alaska	1	1980	2-2.5
Brome California	1	1740	50-62.5
Brome Columbia	1	1980	44-55
Fescue Native Red	1	2200	20-25
Fescue Roemers	1	3630	24-30
Fescue sand	1	3110	28-35
Fescue Western	1	2900	15
Hairgrass Slender	1	7260	12-15
Hairgrass Tufted	1	10890	8-10
Junegrass Prairie	1	43560	2-2.5
Lemmons Needlegrass	1	2900	30-37.5
Oatgrass California	1	1240	70-87.5
Sloughgrass American	1	4355	20-25
Wheatgrass Slender	1	2180	20
Wildrye Blue	1	2175	40-50

Fertilizer: Chemical analysis shall be 16-20-0 and shall be applied at the rate of 200 pounds per acre. Fertilizer shall not be applied within 100 feet of streams.

Mulching Period. Straw mulch shall be applied within 24 hours of spreading grass seed and fertilizer.

EXHIBIT K

SEEDING AND MULCHING

APPLICATION RATES FOR MULCH

Place straw mulch to a reasonably uniform thickness of 1½ to 2½ inches. This rate requires between 2 and 3 tons of dry mulch per acre.

Application Locations:

Road Segment	Location
A to B	Waste Area No. 2
A to B	Culvert Nos. 1-36, 60 & 61
A to B	Cutslope Layback & Road Widening: 6+05 to 10+15, 35+10 to 37+40, 40+20 to 43+05, 114+90 to 115+20, and 156+65 to 160+45
A to B	Ditch Construction: 0+00 to 3+40, 13+05 to 19+40, 42+45 to 46+25, 49+80 to 52+30, 54+90 to 60+20, 59+20 to 61+80, 69+50 to 71+30, 115+00 to 117+15, 158+45 to 161+35
B to C	Waste Area No. 3
K to L	Culvert Nos. 41-44
P to Q	Culvert Nos. 46-48
K to L	Waste Area No. 4
L to M	Culvert No. 52
Point T	Culvert No. 59
V1 to V2	0+00 to 5+25
V3 to V4	0+00 to 4+65
V5 to V6	0+00 to 7+20

EXHIBIT L

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Description of Work to be Done

Areas designated for work under the contract shall be treated according to the specifications given below:

Clearing - brush, logging Slash, and other debris shall be cleared from planting sites and piled in windrows or piles, so that 80 percent or more of the soil organic layer is exposed. All woody vegetation other than trees is defined as brush in this exhibit. Stumps, however, shall be placed separately, in small clumps for wildlife.

In-Unit Piles - shall be located at least 75 feet apart and shall be no more than 75 feet long. Piles shall be located inside the sale area designated for piling and shall be more than 50 feet from any cutting edge, standing tree, or existing road. Logs that do not meet Section 2045 Log Removal requirements, chunks larger than 12 inches diameter, and stumps shall be left scattered in the Unit for wildlife habitat away from roads and landings.

Pile Construction - all landing piles, and in-unit piles greater than 9 feet by 9 feet by 9 feet, shall have no smaller than a 200 square feet of polyethylene plastic sheeting or enough to cover 50% of the pile. Start the pile with good burnable material such as conifer limbs and chunks, 6 to 8 feet high, add plastic, and complete the pile with Slash on the plastic. Debris that contains a log segment at least 3 inches in diameter at the small end and at least 10 feet in length shall be decked separately from smaller debris and hauled as Pulp.

Protective Measures - shall comply with Oregon Forest Practice Rules issued per ORS 527.610 to 527.992. Examples of protective measures are: (1) waterbarring tractor trails where necessary to prevent runoff toward streams; (2) not windrowing in streams or streamways; and (3) leaving Stream Buffers along designated streams.

Work specifications may be modified or waived only upon written notice from STATE.

EXHIBIT L

SPECIFICATIONS FOR BRUSH AND SLASH SHOVEL PILING

Equipment Type, Equipment Operation, and Conduct of Work

The specifications given below are requirements for equipment type, equipment operation, and conduct of work under the contract.

Shovel - shall be a track-mounted machine with a ground-pressure rating of not more than 6.8 PSI and a net horsepower of 85 or more. The machine shall be capable of a minimum horizontal reach of 26 feet and a minimum vertical reach of 16 feet.

- Log Loader – shovel: Grapple with rake attachment shall be a hydraulically controlled, with a 360-degree continuous rotation, and tooth length on rake arm shall be greater than 14 inches long, unless otherwise approved in writing by STATE.

Equipment	Rate	Acres	Appraised Value
Log Loader	$250 / acre	25	$6,250

Operator - must be experienced in operating similar equipment on land clearing operations, be able to operate the equipment proficiently, and pile the debris on the area as directed by STATE.

Support - including transport, other equipment, replacements, supplies, maintenance, and repairs shall be furnished as required to complete work; and shall be furnished without cost to STATE, other than as agreed under the contract terms.

Work Scheduling - work shall be accomplished only during dry weather conditions, and started within 14 calendar days after completion of yarding activities on the Timber Sale Area. Operations shall provide for continual operation until contract work is completed, unless interrupted by poor weather, fire closures, or other uncontrollable circumstances. Equipment breakdowns shall be repaired without undue delay, and provision shall be made for replacement of equipment to prevent prolonged delays. Piling operation shall not be allowed when operations might damage sites or affect stream flows. Any exception to these instructions must be authorized in writing by STATE.

STATE Representative - shall provide directions for the conduct of work according to specifications.