

FOREST SERVICE --- REGION SIX
WILLAMETTE NATIONAL FOREST
McKENZIE RIVER RANGER DISTRICT
 LANE COUNTY, OREGON

PLANS FOR PROPOSED

RIDER TIMBER SALE
 ROADS

<u>ROAD NO.</u>	<u>LENGTH</u>	<u>CONST./RECONST.</u>
2643	10.72	RECONST.
2643470	2.10	RECONST.
2643485	1.33	RECONST.

Total Miles 14.15

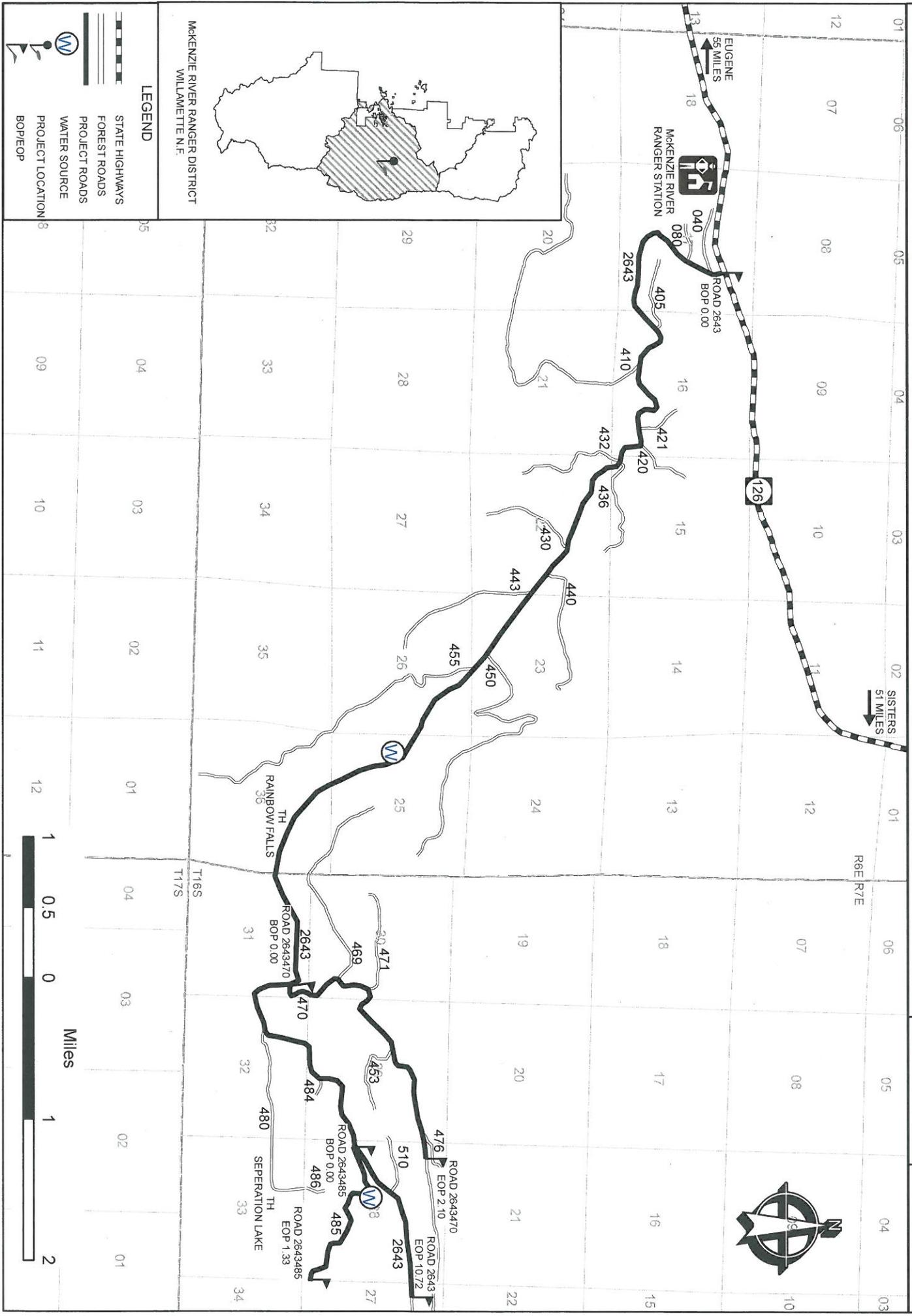
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Design Team:		
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Name		Date
Reviewed by:		
<i>Jake Langum</i>		11/15/2012
Name		Date
Reviewed by:		
<i>Ken Robertson</i>	Assistant Dev. Engineer	11/16/2012
Name	Assistant Dev. Engineer	Date
Recommended by:		
<i>George W. Smith</i>	Assistant Zone Engineer	11-16-2012
Name	Assistant Zone Engineer	Date
Approved by:		
<i>[Signature]</i>	Forest Engineer	11/20/12
Name	Forest Engineer	Date
<i>Jimmy J. Bell</i>	District Ranger	11/16/12
Name	District Ranger	Date

RIDER TIMBER SALE VICINITY MAP

SHEET 2

TOTAL SHEETS 24



MCKENZIE RIVER RANGER DISTRICT
WILLAMETTE N.F.

LEGEND

- STATE HIGHWAYS
- FOREST ROADS
- PROJECT ROADS
- WATER SOURCE
- PROJECT LOCATION
- BOP/EOP



GENERAL NOTES

- 1) Remove all berms created from roadway reconditioning or ditch reconstruction to allow for drainage of water. All safety berms are designated to remain.
- 2) Do not undercut backslopes when cleaning and/or reconstructing ditchlines.
under pay items 20479 or 30359.
- 3) Salvage existing aggregate during culvert replacement; use as backfill material.
- 4) Recondition or reconstruct turnouts and curve widening the same as the basic roadbed.
Quantities listed in the estimate of quantities include turnouts and curve widening.
- 5) See FSSS 107.02 **Protection and Restoration of Property and Landscape** and Timber Sale provisions for restrictions/mitigations related to this project.
- 6) Designated disposal sites are identified on reconstruction summary sheets. Layer place, smooth and shape to drain excess or unsuitable excavation materials. Additional disposal sites may be identified during construction if the need arises. No other disposal sites will be used, unless designated in advance by the Contracting Officer. Cost for disposal site shaping is indirect to the listed pay items under Sections 204 and 303.
- 7) Maintain all construction staking on the project, until final inspection and acceptance.
- 8) Replace culverts when stream channels are dry or during instream work period. Dewatering will be deleted if there is no water in the stream when the work is done.
- 9) Spread Government furnished straw over disturbed soil at all culvert installations, disposal areas and other exposed soil, excluding ditches. Cover areas completely. Straw is stored at the Horse Creek Work Center, located off Horse Creek road. Contact the CO to arrange for pick up.
- 10) Road 2643 - match the road surface elevation of all fill and/or culvert repair sites before leaving project site. Maintain road surface elevation at repair sites until placement of asphalt is completed. Excess aggregate used to temporarily match surrounding asphalt Quantities include temporary transition rock for asphalt cutouts. surface elevation, excavated prior to asphalt placement, will be used as shoulder rock as designated by CO. Quantities for temporary transition rock for asphalt cutouts is included in pay item 32450.
- 11) Submit a written Erosion Control / Dewatering Plan for approval 14 days prior to beginning culvert replacement. Refer to FSSS 157.02 for additional requirements. Dewatering is included under Pay item 15755.
- 12) Provide class A construction tolerance for Road 2643 and class D for all other roads.
- 13) Set culvert reference stakes prior to excavation and removal of all culverts shown on the Drainage Listing Sheet as "# match existing" installation. Set a culvert reference stake on the centerline of the culvert 10 feet from each end or beyond the clearing limit, whichever is greater.
Record the following on culvert reference stakes: Mile point, actual stake distance from culvert inlet and outlet and existing culvert diameter.

Rider Timber Sale

ESTIMATE OF QUANTITIES				
ROAD NUMBER			2643	
SEGMENT				
PROJECT LENGTH (Miles)			10.72	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
15101	Mobilization	Lump sum	All	Includes equipment washing, temporary traffic control, and fire protection measures.
15755	Erosion control & pollution prevention	Each	1	Includes dewatering for culvert replacement.
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	10.72	Scatter existing woody debris or blowdown (located within the roadway) outside the brushing limits or as directed by CO.
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	23	Fell and leave.
20302	Removal of culvert inlet/outlet	Foot	15	disposal method (a).
20304	Removal of old asphalt	Lump Sum	All	disposal method (a).
20358	Removal of old culvert, disposal method (a)	Each	5	Includes corrugated metal and concrete culverts.
20419A	Drainage excavation, type culvert inlet/outlet ditch	Foot*	365	
20479	Drainage excavation, type roadway ditch	Mile	0.33	
25101	Placed riprap, class 2	Cubic Yard *	1	Commercial Source.
30311	Road reconditioning, surfacing, compaction method E	Mile	3.01	
32222	Pit run maximum size 3", compaction method B	Cubic Yard *	15	Commercial Source.
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard *	300	Commercial Source. Submit gradations meeting the specified requirements for FS grading T or ODOT 3/4 inch minus, for approval. Quantities include temporary transition rock for asphalt cutouts.
40451	ODOT 3/8- inch dense graded HMAc, level I, asphalt cement PG 64 - 22	Ton	25	Sand seal all joints. Commercial Source.
43007	Skin patch hot asphalt concrete mixture	Ton	65	ODOT 3/8- inch dense graded HMAc, level I, asphalt cement PG 64 - 22. Placement of glass grid is indirect to this pay item.
60256	18-inch corrugated steel pipe, 0.064-inch thickness, method B	Foot	11	Includes bands and hardware where applicable

Rider Timber Sale

ESTIMATE OF QUANTITIES				
ROAD NUMBER			2643	
SEGMENT				
PROJECT LENGTH (Miles)			10.72	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
60276A	18-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	76	Staking of culverts is an indirect cost to this pay item. Includes bands and hardware where applicable
60276B	24-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	78	Staking of culverts is an indirect cost to this pay item. Includes bands and hardware where applicable
60708	Cleaning culverts in place	Each	9	
60710	Reconditioning drainage structures, culvert inlet or outlet	Each	3	
62509	Mulching, dry method	Lump sum	1	Government furnished, treat all exposed soil, at culvert installation sites and disposal sites. Includes mulching of entire project area.
* Designates Contract Quantities				

Rider Timber Sale

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2643470	
		SEGMENT		
		PROJECT LENGTH (Miles)	2.10	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
15755	Erosion control & pollution prevention	Each	1	Includes dewatering for culvert replacement.
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	2.10	Scatter existing woody debris or blowdown (located within the roadway) outside the brushing limits or as directed by CO.
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	3	
20358	Removal of old culvert, disposal method (a)	Each	2	
20419	Drainage excavation, type culvert inlet/outlet ditch	Foot*	50	
30359	Roadway reconditioning, compaction method E	Mile	2.10	
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard *	160	Commercial Source. Submit gradations meeting the specified requirements for FS grading T or ODOT 3/4 inch minus, for approval.
60276A	18-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	28	Staking of culverts is an indirect cost to this pay item.
60708	Cleaning culverts in place	Each	1	
* Designates Contract Quantities				

Rider Timber Sale

ESTIMATE OF QUANTITIES				
ROAD NUMBER			2643485	
SEGMENT				
PROJECT LENGTH (Miles)			1.33	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	1.33	Scatter existing woody debris or blowdown (located within the roadway) outside the brushing limits or as directed by CO.
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	2	Fell and leave.
20358	Removal of old culvert, disposal method (a)	Each	2	
20419B	Drainage excavation, type leadoff ditch	Foot*	50	
20420A	Drainage excavation, type water bar	Each	6	
20420B	Drainage excavation, type rolling dip	Each	2	
25101	Placed riprap, class 2	Cubic Yard *	6	Commercial Source.
30359	Roadway reconditioning, compaction method E	Mile	1.33	
32222	Pit run maximum size 3", compaction method B	Cubic Yard *	100	Commercial Source. Quantities included an additional 25 cubic yards to be placed, when ordered by the CO. Remaining quantities not ordered for placement by the CO will be deleted.
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard *	40	Commercial Source. Submit gradations meeting the specified requirements for FS grading T or ODOT 3/4 inch minus, for approval.
60710	Reconditioning drainage structures, culvert inlet or outlet	Each	2	
* Designates Contract Quantities				

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
0.00	Reference: Intersection with Road Hwy 126. Begin Project Begin clearing. Scatter existing woody debris or blowdown (located within the roadway, including ditches) outside the brushing limits or as specified by CO. Place 52' long x 2" depth asphalt skin patch, match existing road width (53' wide at highway intersection and 24' wide at end of patch). Feather asphalt to surrounding surfaces.	20103 43007
0.01	Existing culvert. Reconstruct outlet ditch, 15 feet.	20419A
0.03	Reference: Intersection with powerline road, left.	
0.08	Reference: Intersection with Road 2643040, right.	
0.20	Existing culvert. Reconstruct outlet ditch, 10'.	20419A
0.28	Reference: Intersection with Road 2643080, right.	
0.42	Begin reconstructing ditch, left.	20479
0.44	Existing culvert. Reconstruct outlet ditch, 15'. End reconstructing ditch, left.	20419A
0.62	Begin reconstructing ditch, left.	20479
0.70	Existing culvert. Reconstruct outlet ditch, 10 feet. End reconstructing ditch, left.	20419A
0.80	Place 4' wide x 34' long x 1" depth asphalt skin patch, right side of road. Feather asphalt to surrounding surfaces.	43007
0.94	Existing culvert. Reconstruct outlet ditch, 15 feet.	20419A
1.16	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
1.18	Begin reconstructing ditch, left.	20479
1.20	End reconstructing ditch, left.	

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
1.23	Sawcut existing asphalt surfacing and remove Remove existing culvert. Install new 18" x 44' culvert. Raise culvert inlet 6". Place crushed aggregate over culvert replacement, 6" deep. (5cy) Place asphalt patch over culvert replacement, 3" deep.	20304 20358 60276A 32450 40451
1.42	Reference: Intersection with Road 2643405, left	
1.44	Reference: Disposal area, right.	
1.46	Begin reconstructing ditch, left.	20479
1.49	Reference: Intersection with Road 2643401, left.	
1.52	End reconstructing ditch, left.	
1.58	Replace existing culvert and repair existing dip in roadway. ASPHALT REPAIR TOTAL LENGTH 122', AS MARKED BY CO. Sawcut existing asphalt surfacing and remove for a length of 52 feet x full road width. Rebuild road grade to a 5% outslope by placing aggregate to a 8" minimum depth. Place 3 inch asphalt full depth patch, 16' average width x 52' long. Beyond full depth patch place aggregate on top of existing asphalt as needed to build up existing road grade. Place 19' average width x 70' long x 3" depth asphalt skin patch. Butt beginning of skin patch to upper end of full depth patch. Taper end of skin patch flush with the surrounding surface. CULVERT REPLACEMENT Remove existing culvert. Raise culvert inlet 6". Install new 24" x 30' culvert. Place crushed aggregate over culvert replacement, 6" deep. (5cy) Place 1 CY class 2 riprap at outlet as energy dissipator.	20304 32450 40451 32450 43007 20358 60276B 32450 25101
1.70	Existing culvert asphalt patch Prelevel existing depressions with asphalt and feather to surrounding surfaces. Place Government furnished glass grid perpendicular to centerline of road. Place 6' wide x 13.5' long x 1.5" depth asphalt skin patch. Feather asphalt to surrounding surfaces	43007 43007
1.77	Reference: Intersection with Road 2643410, right.	
1.94	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
2.06	Reference: Disposal area, right.	

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
2.26	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
2.38	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 15 feet. Removal of log is indirect to this pay item.	60708 20419A
2.40	Reference: Intersection with Road 2643421, left.	
2.50	Existing dip in roadway Place 11' wide x 11' long x 2" depth asphalt skin patch. Feather asphalt to surrounding surfaces	43007
2.51	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
2.52	Reference: Intersection with Road 2643420, left.	
2.66	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
2.74	Reference: Intersection with Road 2643432, right.	
2.52	Reference: Intersection with Road 2643436, left.	
2.85	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 30 feet.	60708 20419A
2.93	Existing culvert. Repair (jack open) culvert inlet; straighten and reform circular opening.	60710
3.00	Reference: MP 3	
3.06	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
3.21	Sawcut existing asphalt surfacing and remove Remove 4' from existing culvert outlet. Install new 18" X 8' steel culvert to outlet end. Place crushed aggregate over culvert replacement, 6" deep. Place asphalt patch over culvert replacement, 3" deep. Reconstruct damaged fillslope, place 5 CY pit run material and shape to match existing slope.	20304 20302 60256 32450 40451 32222

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
3.38	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
3.50	Existing culvert asphalt patch Prelevel existing depressions with asphalt and feather to surrounding surfaces. Place Government furnished glas grid perpindicular to centerline of road. Place 8' wide x 15' long x 1.5" depth asphalt skin patch. Feather asphalt to surrounding surfaces	43007 43007
3.52	Reference: Intersection with Road 2643430, right.	
3.74	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
3.79	Reference: Intersection with Road 2643440, left.	
3.84	Sawcut existing asphalt surfacing and remove Remove existing culvert. Install new 18" x 32' culvert. Raise culvert inlet 6" Place crushed aggregate over culvert replacement, 6" deep. (5cy) Place asphalt patch over culvet replacement, 3" deep. Reconstruct outlet ditch, 25 feet.	20304 20358 60276A 32450 40451 20419A
3.95	Reference: Intersection with Road 2643443, right.	
4.00	Place asphalt pothole patch and repair asphalt edge. Fill pothole 1' wide x 1' long x 2" depth. Place asphalt along broken edge 1' long x 0.5' wide x 3" depth.	43007
4.04	Reference: Disposal area, right.	
4.10	Existing culvert. Repair (jack open) culvert inlet; straighten and reform circular opening. Reconstruct outlet ditch, 15 feet.	60710 20419A
4.18	Remove 3' from existing culvert outlet. Install new 18" X 3' steel culvert to outlet end.	20302 60256
4.34	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 10 feet.	60708 20419A
4.51	Reference: Intersection with Road 2643450, left.	
4.63	Reference: Intersection with Road 2643455, right.	

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
4.79	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
4.82	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
5.11	Existing culvert. Reconstruct outlet ditch, 15 feet. Reference: Disposal area, right.	20419A
5.45	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
5.46	Reference: Intersection with water source (W2101), right.	
5.54	Existing dip in roadway Place 12.5' wide x 20' long x 3" depth asphalt skin patch. Feather asphalt to surrounding surfaces	43007
5.64	Reference: Intersection with spur, right.	
5.87	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
6.28	Reference: Intersection with Rainbow Falls Trailhead, right.	
6.55	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
6.72	Existing dip in roadway Place 6.5' wide x 8' long x 2" depth asphalt skin patch. Feather asphalt to surrounding surfaces	43007
6.96	Existing culvert. Reconstruct outlet ditch, 10 feet.	20419A
7.23	Existing culvert. Remove 8' from existing culvert outlet. Reconstruct outlet ditch, 10 feet.	20302 20419A
7.49	Reference: Intersection with spur, right.	
7.62	Existing culvert. Reconstruct inlet ditch, 10 feet. Use existing access road, beyond culvert crossing. Place logs and/or woody debris across road to disguise entrance when leaving, as specified by CO.	20419A

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
7.68	Reference: Intersection with Road 2643470, left. Repair pothole at road intersection left, place 5 CY crushed aggregate; blend to adjacent road surfaces.	32450
7.70	Sawcut existing asphalt surfacing and remove. Remove existing culvert. Dewater culvert installation site. Install new 24" x 48' culvert. Raise culvert 6" and shift inlet upstream 1'. Place crushed aggregate over culvert replacement, 6" deep. (5cy) Place asphalt patch over culvet replacement, 3" deep.	20304 20358 15755 60276B 32450 40451
7.71	End of asphalt surface Begin reconditioning existing roadbed. Scarify a minimum of 1 " below the depth of all existing potholes, corrugations or surface irregularities. Begin placing 200 CY of crushed aggregate, spot surfacing at locations specified by CO. Blend to adjacent road surfaces to provide a smooth transition. See sheet 18 of 24.	30311 32450
8.03	Existing culvert. Reconstruct outlet ditch, 10 feet. Begin reconstructing ditch, left.	20419A 20479
8.18	End reconstructing ditch, left.	
8.23	Reference: Intersection with Road 2643480, right.	
8.57	Existing culvert with minimal cover. Repair (jack open) culvert inlet; straighten and reform circular opening. Place 20 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	60710
8.65	Reference: Intersection with spur, left. Disposal area.	
8.72	Existing culvert. Reconstruct outlet ditch, 20 feet.	20419A
8.86	Reference: Intersection with Road 2643484 right.	
9.45	Reference: Intersection with Road 2643485 right.	
9.94	Reference: Intersection with Road 2643510 left.	
9.97	Reference: Disposal area, right.	

RECONSTRUCTION SUMMARY
ROAD 2643

Milepost	Reference Point or Work Required	Pay Item
10.10	Remove existing culvert. Backfill pipebed with pit run material. Place 10 CY crushed aggregate spot surfacing over removal site; blend to adjacent road surfaces to provide a smooth transition.	20358 32222 32450
10.14	Reference: Intersection with Road 2643489 right.	
10.72	End of Project. End all reconstruction.	
DANGER TREE REMOVAL LIST		
1.06	Remove 2 danger trees, right.	20253
2.49	Remove 1 danger tree, right.	20253
3.42	Remove 1 danger tree, left.	20253
3.50	Remove 3 danger trees, left and 1 danger tree, right.	20253
5.71	Remove 2 danger trees, left.	20253
5.76	Remove 1 danger tree, right.	20253
5.86	Remove 1 danger tree, left and 1 danger tree, right.	20253
6.33	Remove 1 danger tree, right.	20253
7.03	Remove 2 danger trees, left.	20253
8.65	Remove 1 danger tree, left.	20253
8.87	Remove 1 danger tree, left.	20253
NOTE:	Remove 5 danger trees (to be field identified)	20253

RECONSTRUCTION SUMMARY
ROAD 2643470

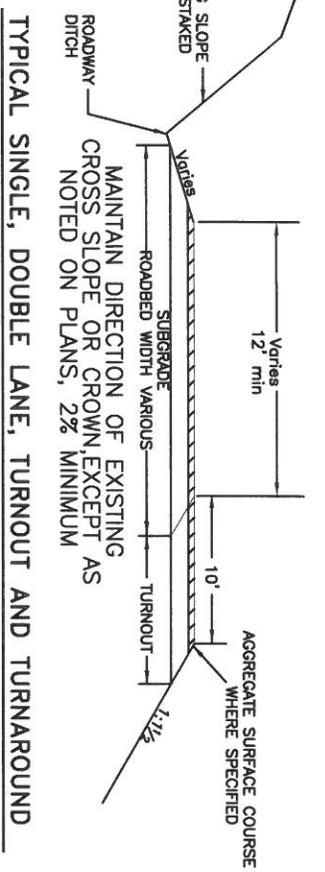
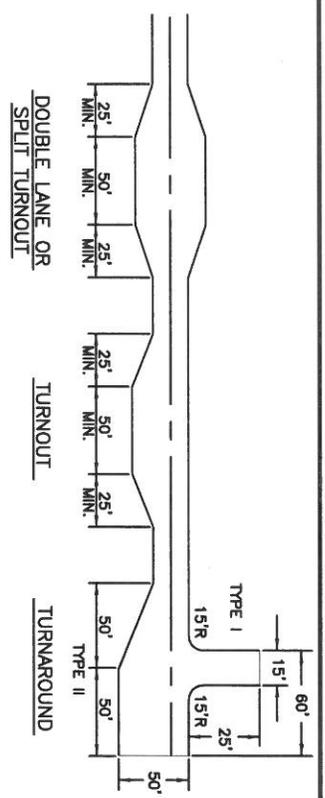
Milepost	Reference Point or Work Required	Pay Item
0.00	Reference: Intersection with Road 2643. Begin Project Begin clearing. Begin reconditioning of roadway. Scarify a minimum of 1 " below the depth of all existing potholes, corrugations or surface irregularities. Haul material from the cleaning of culvert, inlets and outlets to disposal sites. Begin placing 150 CY of crushed aggregate, spot surfacing at locations specified by CO. Blend to adjacent road surfaces to provide a smooth transition. See sheet 18 of 24.	20103 30359 32450
0.45	Reference: Intersection with Road 2643469, left.	
0.60	Reference: Intersection with Road 2643471, left.	
1.23	Remove existing culvert. Install new 18" x 28' culvert. Dewater culvert installation site, and/or prevent erosion and pollution. Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	20358 60276A 15755 32450
1.27	Reference: Intersection with Road 2643453, right. Remove existing culvert in ditch line, reshape ditch to match existing.	20358
1.38	Existing culvert. Flush culvert, remove all foreign material from inside barrel. Reconstruct outlet ditch, 50 feet.	60708 20419
1.41	Reference: Disposal site, left	
1.97	Reference: Intersection with Road 2643476, left.	
2.10	End of Project. End all reconstruction.	
	DANGER TREE REMOVAL LIST	
1.84	Remove 1 danger trees, right.	20253
NOTE:	Remove 2 danger trees (to be field identified)	20253

RECONSTRUCTION SUMMARY
ROAD 2643485

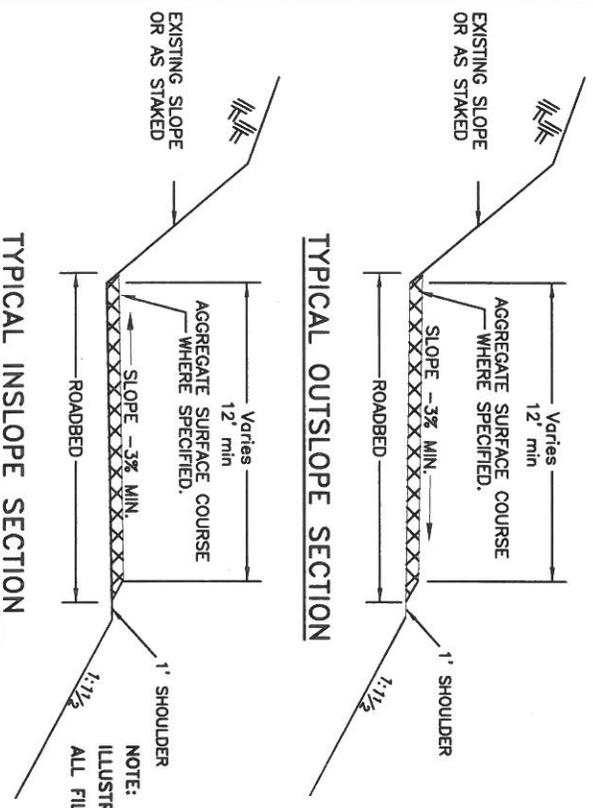
Milepost	Reference Point or Work Required	Pay Item
0.00	Reference: Intersection with Road 2643. Begin Project Begin clearing. Begin reconditioning of roadway. Scarify a minimum of 1 " below the depth of all existing potholes, corrugations or surface irregularities. Reincorporate existing excavated material into roadbed at existing waterbars identified for removal. Grubbing and disposal of all stumps and root masses within the road bed is required unless otherwise noted in the work description. Haul material from the cleaning of culvert, inlets and outlets to disposal sites, located on Road 2643.	20103 30359
0.30	Reference: Existing road closure gate.	
0.34	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material.	20420A 32222
0.36	Reconstruct 50' leadoff ditch, left side.	20419B
0.38	Existing culvert (W2106) Repair (jack open) culvert inlet; straighten and reform circular opening. Remove waterbar, place 10 CY crushed aggregate and backfill existing water bar; blend remaining aggregate to adjacent road surfaces to provide a smooth transition.	60710 32450
0.43	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material.	20420A 32222
0.60	Existing culvert with minimal cover. Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	32450
0.72	Existing culvert. Repair (jack open) culvert inlet; straighten and reform circular opening. Remove waterbar, place 10 CY crushed aggregate and backfill existing water bar; blend remaining aggregate to adjacent road surfaces to provide a smooth transition.	60710 32450
0.75	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material. Change in roadbed surfacing, end surfacing blading.	20420A 32222
0.87	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material.	20420A 32222
0.95	Reference: Intersection with old spur, right.	
1.02	Remove existing culvert. Construct rolling dip, see sheet 22 of 24. Armor bottom of rolling dip with pitrun material. Construct splash apron. (3CY)	20358 20420B 32222 25101

RECONSTRUCTION SUMMARY
ROAD 2643485

1.08	Remove existing culvert. Construct rolling dip, see sheet 22 of 24. Armor bottom of rolling dip with pitrun material. Construct splash apron.(3CY)	20358 20420B 32222 25101
1.10	Remove waterbar, place 10 CY crushed aggregate and backfill existing water bar; blend remaining aggregate to adjacent road surfaces to provide a smooth transition.	32450
1.13	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material.	20420A 32222
1.23	Reconstruct existing waterbar to dimensions shown on sheet 22 of 24 Armor bottom of waterbar with pitrun material.	20420A 32222
1.33	End of Project. End all reconstruction.	
	DANGER TREE REMOVAL LIST	
NOTE:	Remove 2 danger trees (to be field identified)	20253

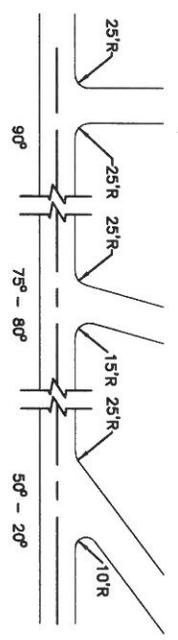


TYPICAL SINGLE, DOUBLE LANE, TURNOUT AND TURNAROUND

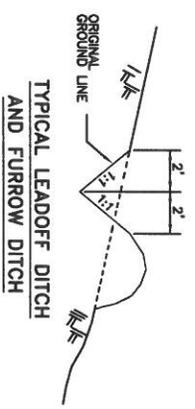
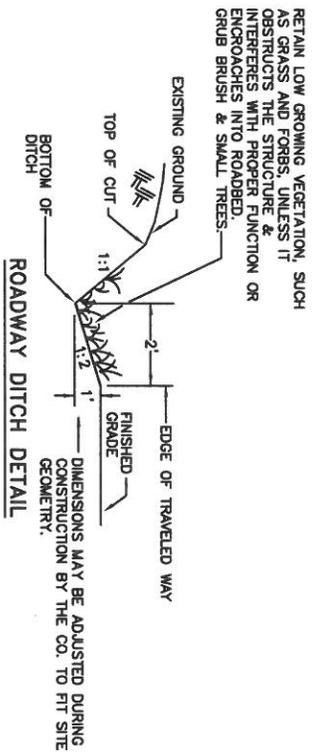


TYPICAL INSLOPE SECTION

NOTE:
ILLUSTRATED SLOPE RATIO = RISE:RUN (WHERE RISE = 1)
ALL FILL SLOPES TO BE 1:1 1/2 UNLESS NOTED OTHERWISE



TYPICAL INTERSECTION



AGGREGATE SURFACE COURSE

ROAD NO.	GRADATION SECTION	TYPICAL M.P. LOCATION	DEPTH	TRAVELED WAY WIDTH	ROCK SLOPE	
2643	As Approved	C	7.71 - 10.72	3"	12'	1:2
2643470	As Approved	C	0.00 - 2.10	3"	12'	1:2
2643485	As Approved	C	0.00 - 1.33	3"	12'	1:2

See Reconstruction Summaries for culvert installation spot surfacing locations

TYPICAL SECTIONS

STATE	PROJECT	SHEET NUMBER	TOTAL SHEETS
OREGON	WILLAMETTE RIDER TIMBER SALE	18	24

NOT TO SCALE

DRAINAGE LISTING

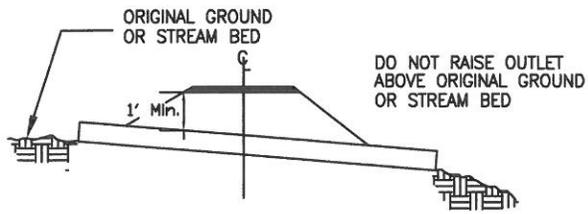
ROAD NO.	FEET	Remove EACH	As Built	Date	DIMENSION		Inlet channel or Catch Basin	Installation Details				REMARKS	
					SIZE	THICK		Outlet Ditch	TYPE	SKEW	GRADE		C.Y.
2643	+	-	M.P.		in.	in.		Feet		Deg	%	Riprap	
<u>Mile Point</u>													
0.01								15					
0.20								10					
0.44								15					
0.70								10					
0.94								15					
1.16								10					Flush culvert.
1.23	44	1			18	0.064			3	#	3% min		Raise culvert inlet 6".
1.58	30	1			24	0.064			3	#	3% min	1	Raise culvert inlet 6". Class 2 riprap.
1.94								10					Flush culvert.
2.26								10					Flush culvert.
2.38								15					Flush culvert.
2.51								10					Flush culvert.
2.66								10					Flush culvert.
2.85								30					Flush culvert.
2.93													Repair culvert inlet; reform circular opening.
3.06								10					
3.21	8	1			18	0.064			3	#	#		Remove 4 feet and replace 8 feet of outlet end.
3.38								10					Flush culvert.
3.74								10					
3.84	32	1			18	0.064		25	3	#	3% min		Raise culvert inlet 6"
4.10								15					Repair culvert inlet; reform circular opening.
4.18	3	1			18	0.064			3	#	#		Remove and replace 3 feet of outlet end.
4.34								10					Flush culvert.
4.79								10					
4.82								10					
5.11								15					
5.45								10					
5.87								10					
6.55								10					
6.96								10					
7.23		1						10					Remove 8 feet from outlet end.
7.62							10						Use existing access road.
7.70	48	1			24	0.064			1	#	#		Raise entire culvert 6". Shift inlet 1 foot up stream. Dewater site.
8.03								10					
8.57													Repair culvert inlet; reform circular opening.
8.72								20					
10.10		1											Backfill pipebed.

DRAINAGE LISTING

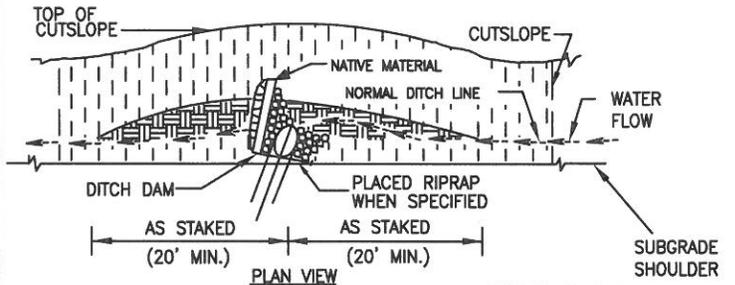
ROAD NO.	FEET	Remove EACH	As Built	Date	DIMENSION		Installation Details						REMARKS
					SIZE	THICK	Inlet channel or Catch Basin	Outlet Ditch	TYPE	SKEW	GRADE	C. Y.	
2643	+	-	M.P.	FEET	in.	in.		Feet		Deg	%	Riprap	
2643470													
<u>Mile Point</u>													
1.23	28	1			18	0.064			3	#	#		Dewater site.
1.27		1											Remove existing culvert, reshape ditch to match existing.
1.38								50					Flush culvert.
2643485													
<u>Mile Point</u>													
0.34													Reconstruct water bar. See Sheet 22.
0.38													Repair culvert inlet; reform circular opening.
0.43													Reconstruct water bar. See Sheet 22.
0.72													Repair culvert inlet; reform circular opening.
0.75													Reconstruct water bar. See Sheet 22.
0.87													Reconstruct water bar. See Sheet 22.
1.02		1										3	Construct rolling drain dip; armor outlet. See Sheet 22.
1.08		1											Construct rolling drain dip; armor outlet. See Sheet 22.
1.13													Reconstruct water bar. See Sheet 22.
1.23													Reconstruct water bar. See Sheet 22.
# Match Existing			Rec. = Reconstruct.										

THE ABOVE INSTALLATIONS TO INCLUDE CONNECTING BANDS. ALL MATERIAL SHALL BE ALUMINIZED STEEL.

NOTE: Standard pipe corrugation will be 2-2/3" x 1/2" unless otherwise noted. Bevel pipe ends 1v:1 1/2h, where indicated. Some culvert installations listed above may require additional excavation below grade line.

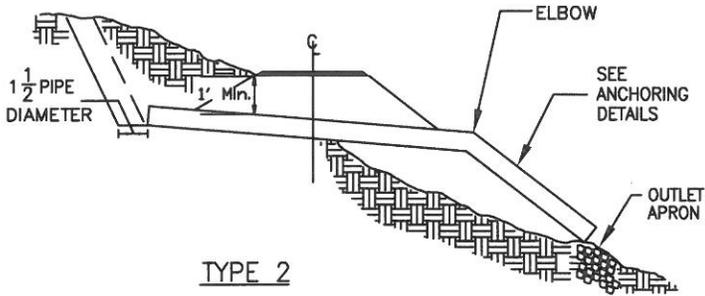


TYPE 1

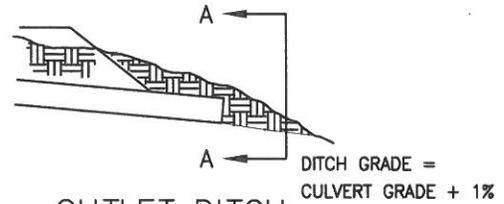


TYPE 2, 3, & 4
CULVERT INSTALLATION

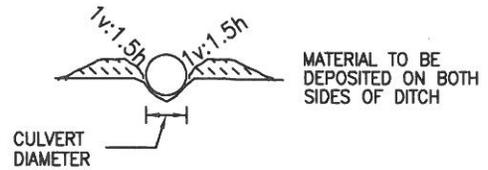
CATCHBASIN DETAIL



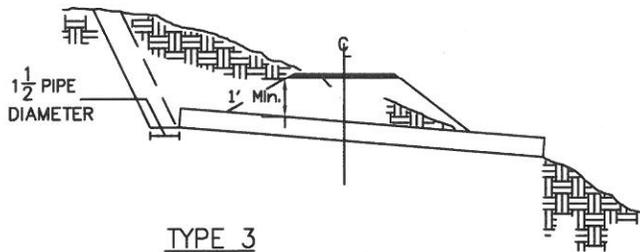
TYPE 2



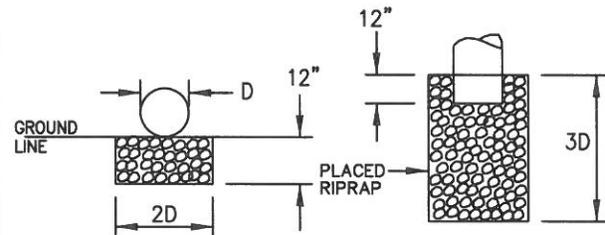
OUTLET DITCH



SECTION A-A

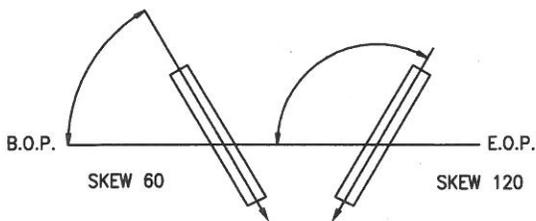


TYPE 3

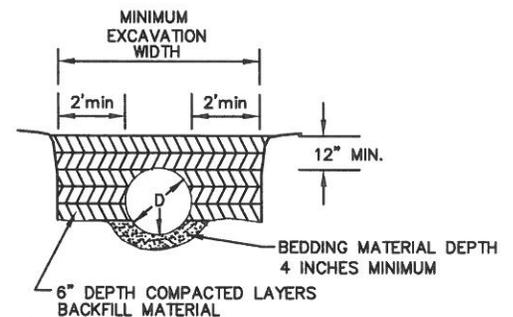


CONSTRUCT APRON SURFACE WITH PROTRUDING RIPRAP FOR VELOCITY BREAK.

ENERGY DISSIPATOR



SKEW DIAGRAM



TYPICAL BEDDING AND BACKFILL DETAIL

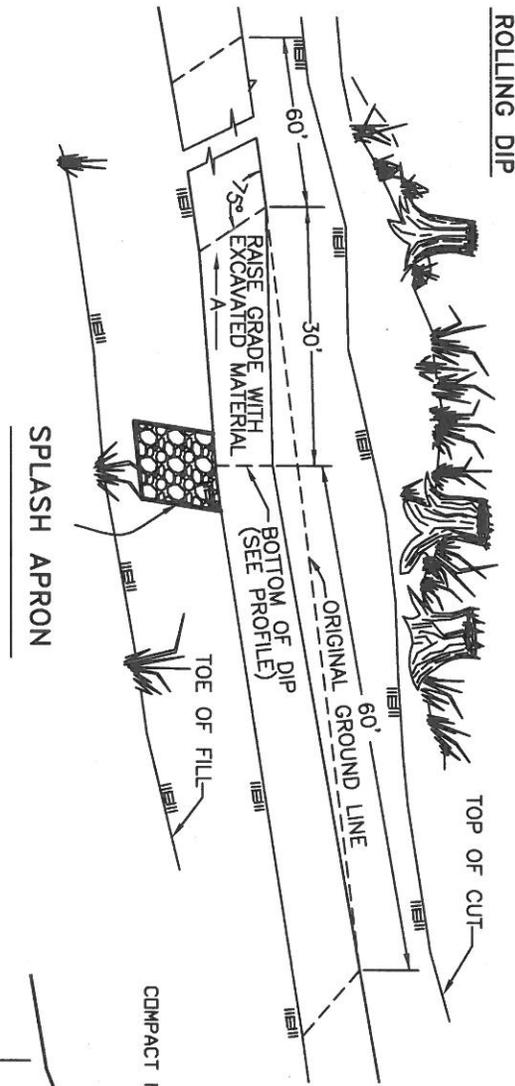
NOT TO SCALE

DRAINAGE DETAIL

B.O.P.= BEGINNING OF PROJECT
E.O.P.= END OF PROJECT

STATE	FOREST	PROJECT	SHEET NUMBER	TOTAL SHEETS
OREGON	WILLAMETTE	RIDER TIMBER SALE	21	24

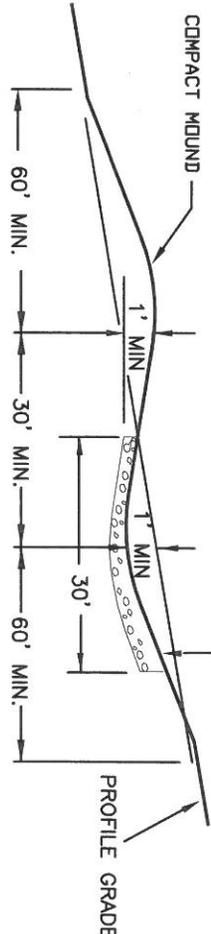
ROLLING DIP



DESIGNED GRADE	GRADIENT A
0%-8%	+2%
8%-10%	-1%
10%-12%	-3%

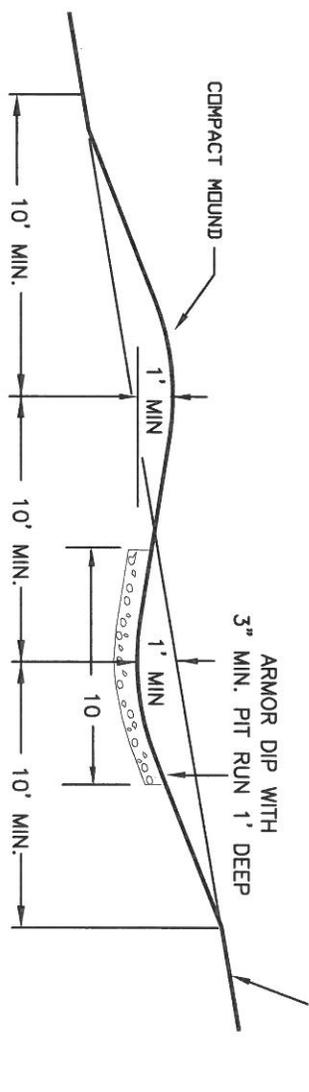
ROLLING DIP

PROFILE

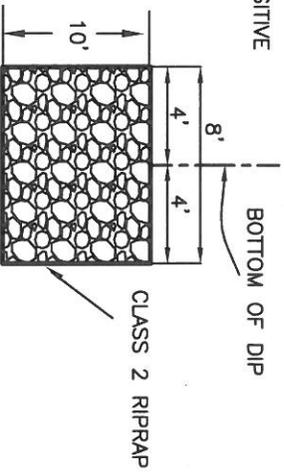


WATER BAR

PROFILE



SPLASH APRON DETAIL

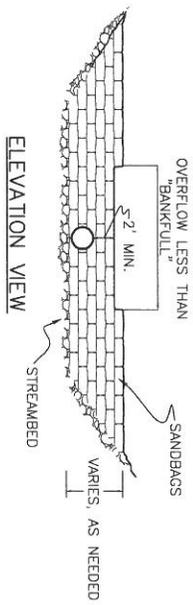


1. OUTSLOPE ENTIRE LENGTH OF DIP 5 TO 7 PERCENT.
2. CONSTRUCT DIP TO THE DIMENSIONS SHOWN PRIOR TO PLACEMENT OF AGGREGATE COURSE, WHEN SHOWN ON THE SCHEDULE OF ITEMS.
3. CONSTRUCTION TOLERANCE FOR GRADIENT A IS $\pm 1\%$
4. PLACE SPLASH APRON AT A MATCHING ELEVATION WITH THE LOW EDGE OF DIP, SO IT WILL NOT TRAP WATER IN THE DIP.
5. SKEW WATER BARS AT A 30 TO 60 DEGREE ANGLE FROM ROAD CENTERLINE.
6. PROVIDE A SMOOTH TRANSITION BETWEEN BOTTOM OF DIP/WATER BAR AND EXISTING DITCH TO ENSURE POSITIVE DRAINAGE.

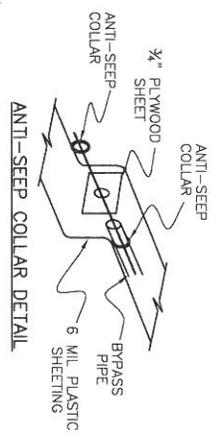
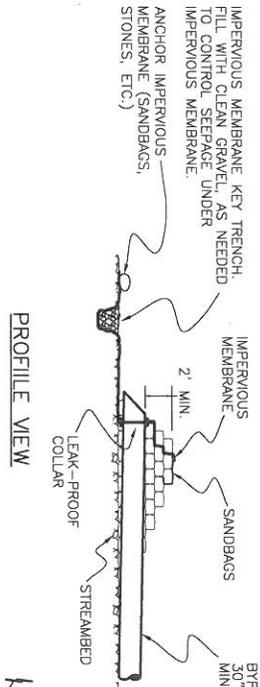
NOT TO SCALE

ROLLING DIP AND WATERBAR DETAIL

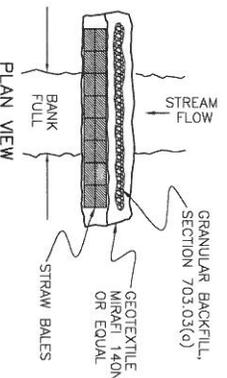
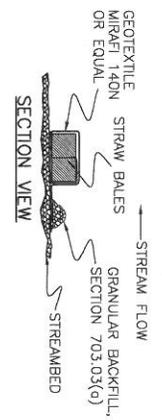
STATE	PROJECT	SHEET NUMBER	TOTAL SHEETS
OREGON	FOREST WILLAMETTE RIDER TIMBER SALE	22	24



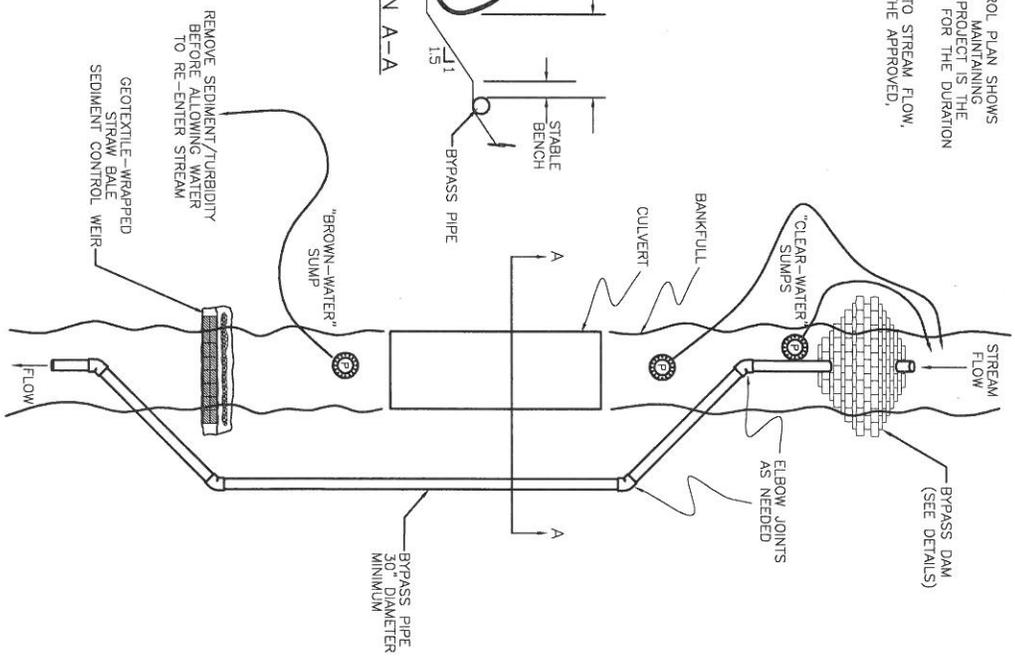
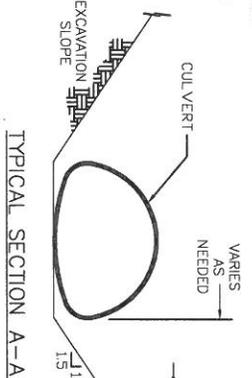
NOTES:
 THE DEWATERING & SEDIMENT CONTROL PLAN SHOWS THE MINIMUM ACCEPTABLE CRITERIA. MAINTAINING CLEAN WATER DOWNSTREAM OF THE PROJECT IS THE RESPONSIBILITY OF THE CONTRACTOR FOR THE DURATION OF THE PROJECT.
 MAINTAIN PUMPING CAPACITY EQUAL TO STREAM FLOW, UNTIL THE STREAM IS FLOWING ON THE APPROVED, FINISHED STREAMBED.



SANDBAG BYPASS DAM DETAILS



GEOTEXTILE-WRAPPED STRAW BALE SEDIMENT CONTROL WEIR

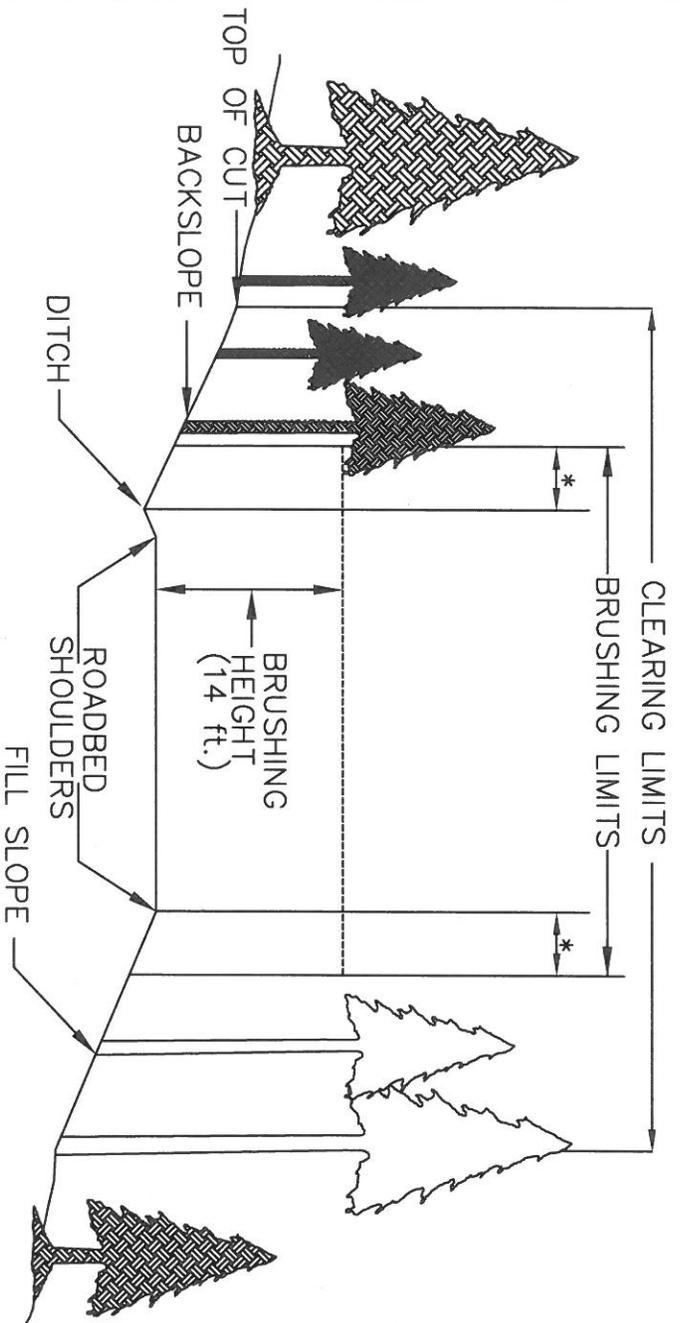


BYPASS TYPICAL PLAN VIEW

DEWATERING PLAN TYPICAL

NOT TO SCALE

STATE	FOREST	PROJECT	SHEET NUMBER	TOTAL SHEETS
OREGON	WILLAMETTE	RIDER TIMBER SALE	23	24



N.T.S.

NOTES

1. Remove all vegetative growth inside the brushing limits, from the shoulders of the road or the bottom of the ditch, to a maximum height of 6 inches above ground surfaces.
2. Leave trees larger than 6 inches in diameter (when measured 6 inches above the ground) within the brushing limits, that are beyond the bottom of the ditch and beyond the hinge point on the fill slope.
3. Trim limbs on remaining trees from ground level to a clearing height limit of 14 feet above the travelway surface.
4. Grub areas designated in reconstruction summaries.

BRUSHING LIMITS		
ROAD NO.	M.P. LOCATION OR STATION	*BRUSHING WIDTH
2643	0.00 to 7.71	6'
2643	7.71 to 10.72	4'
2643470	0.00 to 2.10	4'
2643485	0.00 to 1.33	3'

CLEARING TYPICAL

STATE	FOREST	PROJECT	SHEET NUMBER	TOTAL SHEETS
OREGON	WILLAMETTE	RIDER TIMBER SALE	24	24