

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST SERVICE --- REGION SIX

WILLAMETTE NATIONAL FOREST

McKENZIE RIVER RANGER DISTRICT

LANE COUNTY, OREGON

PLANS FOR
W TIMBER SALE

ROADS

<u>ROAD NO.</u>	<u>LENGTH</u>	<u>CONST./RECONST.</u>
2600275	0.52	RECONST.
2600280	2.20	RECONST.
2633700	0.44	RECONST.
2633704	0.72	RECONST.
2633706	0.93	RECONST.
Total Miles		4.81

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Design Team:

Starr Sullivan & Brandon Green

Date

Reviewed by:

Mike Larman

11/30/15

Reviewing Engineer / Mike Larman

Date

Reviewed by:

Jeff Caswell

30 Nov 2015

Development Engineer / Jeff Caswell

Date

Recommended by:

Scott Ferre

12/1/15

Zone Engineer / Scott Ferre

Date

Approved by:

Darren Lemon

11/30/2015

Forest Engineer / Darren Lemon

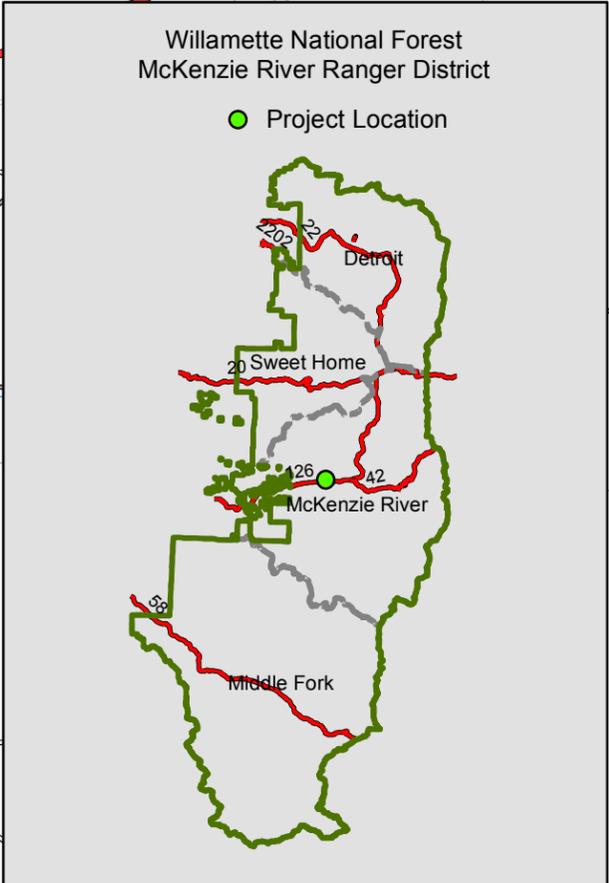
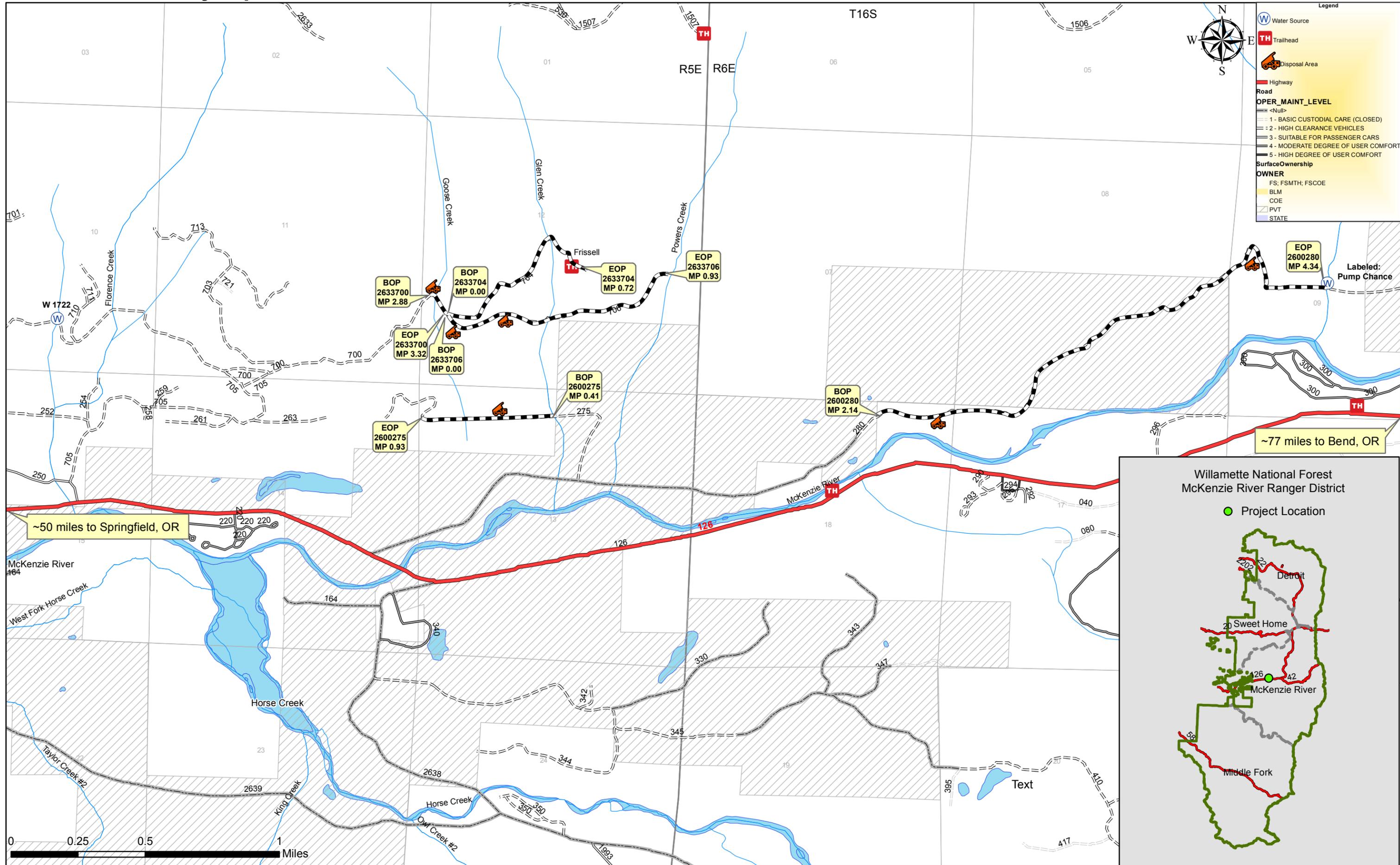
Date

Terry Baker

12/2/2015

District Ranger / Terry Baker

Date



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) Road reconditioning includes cleaning of all culvert inlets/outlets.
- 3) Salvage existing aggregate during culvert replacement; use as backfill or bedding 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, 209, 212 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 weed free straw over disturbed soil at all culvert installations, disposal areas and other exposed soil, excluding ditches. Cover areas completely.
- 10) Submit a written Erosion Control for approval 21 days prior to beginning culvert replacement. Refer to FSSS 157.03 for additional requirements.
- 11) Provide class D construction tolerance for all roads.
- 12) 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 post, actual stake distance from culvert inlet and outlet and existing culvert diameter. Staking of culverts is an indirect cost to items 60276.

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2600275	
		SEGMENT	0.41-0.93	
		PROJECT LENGTH (Miles)	0.52	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
20304	Removal of corrugated metal pipes and timber bridge.	Lump Sum	All	Disposal method A for metal pipes, J for timber bridge.
21201	Linear grading	Mile	0.52	Scatter clearing debris or as specified by CO. Utilize excavation from item 60803 and source located on FS road 2650 M.P. 0.30 as needed for borrow material. Excess and unsuitable excavation disposal method J.
60803	Paved waterway, type 5	Each	2	Excavation disposal method J.
* Designates Contract Quantities				

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2600280	
		SEGMENT	2.14-4.34	
		PROJECT LENGTH (Miles)	2.20	
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	3	Includes dewatering for culvert replacement.
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	2.20	Scatter existing woody debris or blowdown (located within the roadway) outside the clearing limits or as specified by CO.
20207	Removal of individual trees, disposal of tops and limbs (f), logs (f), stumps (f)	Each	24	
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	107	Fell and leave.
20302	Removal of culvert inlet/outlet	Foot	1	Disposal method (a)
20358	Removal of corrugated metal pipe, disposal method (a)	Each	8	
20419A	Drainage excavation, type culvert outlet ditch	Foot*	200	
20419B	Drainage excavation, type culvert inlet channel	Foot*	10	
20420	Drainage excavation, type culvert catchbasin	Each	3	
20462	Unclassified borrow, compaction method E	Cubic Yard*	1	Suitable borrow material excessed from project operations may be used at this location.
25101	Placed riprap, class 3	Cubic Yard*	2	Commercial source.
30359	Roadway reconditioning, compaction method E	Mile	2.20	
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard*	500	Submit gradations meeting the specified requirements for F.S. grading T or ODOT 3/4 inch minus for approval. Commercial source.
60276A	18-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	52	Includes bands and hardware where applicable.
60276B	24-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	168	Includes bands and hardware where applicable.
60276C	36-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	48	Includes bands, gaskets and hardware where applicable.

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2600280	
		SEGMENT	2.14-4.34	
		PROJECT LENGTH (Miles)	2.20	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
60710	Reconditioning drainage structures, culvert inlet or outlet	Each	2	Straighten and reform circular opening or cut off ripped culvert edge, disposal method (a).
62509	Mulching, dry method	Lump Sum	All	Commercial Source. Certified weed free. Includes mulching of all areas included in these plans.
* Designates Contract Quantities				

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2633700	
		SEGMENT	2.88-3.32	
		PROJECT LENGTH (Miles)	0.44	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	0.44	Scatter existing woody debris or blowdown (located within the roadway) outside the clearing limits or as specified by CO.
20253	Removal of individual trees, miscellaneous:	Each	6	Fell and leave.
20419A	Drainage excavation, type culvert outlet ditch	Foot*	20	
30359	Roadway reconditioning, compaction method E	Mile	0.44	
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard*	90	Submit gradations meeting the specified requirements for F.S. grading T or ODOT 3/4 inch minus for approval. Commercial source.
60710	Reconditioning drainage structures, culvert inlet or outlet	Each	1	Straighten and reform circular opening or cut off ripped culvert edge, disposal method (a).
* Designates Contract Quantities				

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2633704	
		SEGMENT	0.00-0.72	
		PROJECT LENGTH (Miles)	0.72	
ITEM NO.	DESCRIPTION	Pay Unit	QTY	REMARKS
15755	Erosion control & pollution prevention	Each	2	Includes dewatering for culvert replacement.
20103	Clearing and grubbing, disposal of tops and limbs (f), logs (f), stumps (f)	Mile	0.72	Scatter existing woody debris or blowdown (located within the roadway) outside the clearing limits or as specified by CO.
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	9	Fell and leave.
20358	Removal of corrugated metal pipe, disposal method (a)	Each	2	
20419A	Drainage excavation, type culvert outlet ditch	Foot	10	
20420	Drainage excavation, type culvert catchbasin	Each	2	
25101	Placed riprap, class 3	Cubic Yard*	6	Commercial source.
30359	Roadway reconditioning, compaction method E	Mile	0.72	
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard*	320	Submit gradations meeting the specified requirements for F.S. grading T or ODOT 3/4 inch minus for approval. Commercial source.
60276B	24-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	56	Includes bands and hardware where applicable.
60276D	48-inch corrugated aluminized steel pipe, 0.079-inch thickness, method B	Foot	48	Includes bands, gaskets and hardware where applicable.
60710	Reconditioning drainage structures, culvert inlet or outlet	Each	1	Straighten and reform circular opening or cut off ripped culvert edge, disposal method (a).
* Designates Contract Quantities				

ESTIMATE OF QUANTITIES				
		ROAD NUMBER	2633706	
		SEGMENT	0.00-0.93	
		PROJECT LENGTH (Miles)	0.93	
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	0.93	Scatter existing woody debris or blowdown (located within the roadway) outside the clearing limits or as specified by CO.
20207	Removal of individual trees, disposal of tops and limbs (f), logs (f), stumps (f)	Each	3	
20253	Removal of individual trees, miscellaneous: disposal of tops & limbs (f) & logs (f)	Each	7	Fell and leave.
20358	Removal of corrugated metal pipe, disposal method (a)	Each	4	
20419A	Drainage excavation, type culvert outlet ditch	Foot*	60	
20419B	Drainage excavation, type culvert inlet channel	Foot*	12	
20420	Drainage excavation, type culvert catchbasin	Each	3	
20462	Unclassified borrow, compaction method E	Cubic Yard*	8	Suitable borrow material excessed from project operations may be used at this location.
25101	Placed riprap, class 3	Cubic Yard*	4	Commercial source.
30359	Roadway reconditioning, compaction method E	Mile	0.93	
32450	Crushed aggregate surfacing, compaction method B	Cubic Yard*	420	Submit gradations meeting the specified requirements for F.S. grading T or ODOT 3/4 inch minus for approval. Commercial source.
60276A	18-inch corrugated aluminized steel pipe, 0.064-inch thickness, method B	Foot	160	Includes bands and hardware where applicable.
* Designates Contract Quantities				

RECONSTRUCTION SUMMARY
ROAD 2600275

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
0.41		Reference: Boundary with Forest Service land. Beginning of project.	
	21201	Begin linear grading.	
0.56	60803	Begin construction of asphalt paved waterway.	
0.57		Reference: Gleen Creek Stream crossing.	
	60803	Low point of asphalt paved waterway.	
0.58	60803	End construction of asphalt paved waterway.	
0.62		Reference: Disposal area, right.	
0.77	60803	Begin construction of asphalt paved waterway.	
0.79		Reference: Goose Creek stream crossing.	
	20304	Remove corrugated metal pipes and timber bridge.	
	60803	Low point of asphalt paved waterway.	
0.81	60803	End construction of asphalt paved waterway.	
0.93		End of project.	
		End all reconstruction.	

RECONSTRUCTION SUMMARY
ROAD 2600280

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
2.14		Reference: End of county maintenance. End of asphalt pavement. Beginning of project.	
	20103	Begin clearing.	
	30359	Begin reconditioning roadway. Scarify a minimum of 1" below the depth of all existing potholes, corrugations or surface irregularities. Grubbing and disposal of all stumps and root masses within the roadbed and in the ditch is required unless otherwise noted in the work description. Haul material from the cleaning of ditches, inlets and outlets and slough and slide removal to designated disposal sites.	
	32450	Begin placement of crushed aggregate 420 CY, spot surfacing at locations specified by C.O. Blend new aggregate to existing roadbed surface and reshape roadbed to obtain a minimum 3% cross slope and smooth transitions.	
2.17	15755	Dewater culvert installation site.	
	20358	Remove existing culvert.	
	60276B	Install 24" x 40' culvert. Raise inlet 1' and outlet 6".	
	20419B	Reconstruct inlet channel, 10 feet.	
	20419A	Reconstruct outlet ditch, 30 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
2.26		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 30 feet.	
2.27	20358	Remove existing culvert.	
	60276A	Install 18" x 24' culvert.	
	20419A	Reconstruct outlet ditch, 20 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
2.29	15755	Dewater culvert installation site.	
	60276B	Install 24" x 28' culvert.	
	20419A	Construct outlet ditch, 10 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
2.37		Reference: Disposal area, right.	

RECONSTRUCTION SUMMARY
ROAD 2600280

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
2.61		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 30 feet.	
2.70		Reference: Blue gate.	
2.73		Reference: Boundary with Forest Service land.	
2.74		Reference: Intersection with private road, right.	
2.82		Existing 18" plastic culvert.	
	20302	Repair culvert inlet; cut off and remove 1'.	
2.94	20358	Remove existing culvert.	
	60276B	Install 24" x 34' culvert.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
3.03	20358	Remove existing culvert.	
	60276C	Install 36" x 48' culvert.	
	25101	Place 2 CY riprap at outlet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
3.10	20358	Remove existing culvert.	
	60276A	Install 18" x 28' culvert. Lower inlet 6" and outlet 1'.	
	20419A	Reconstruct outlet ditch, 20 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
3.19		Reference: Intersection with powerline access road, left.	
3.20		Existing culvert.	
	20462	Backfill catchbasin with 1 CY borrow material.	
3.26		Existing culvert.	
	20419A	Reconstruct outlet ditch, 20 feet.	
	20358	Remove segments of old culvert from roadside, right.	
3.42		Existing culvert.	
	20207	Remove 4 green trees from inlet and 3 green trees from outlet.	
3.44		Reference: Intersection with private spur road, right.	

RECONSTRUCTION SUMMARY
ROAD 2600280

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
3.52	20358	Remove existing culvert.	
	60276B	Install 24" x 38' culvert.	
	20419A	Reconstruct outlet ditch, 20 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
3.64		Reference: Boundary with Forest Service land.	
3.66		Reference: Powerline access road, left.	
3.67		Reference: Disposal site, right.	
3.73	20207	Remove 1 green tree, left.	
3.80	20207	Remove 1 green tree, left.	
3.96		Reference: Powerline access road, left.	
3.99		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 10 feet.	
4.00	20207	Remove 3 green trees, left.	
4.05		Reference: Disposal area, right.	
4.06	20207	Remove 3 green trees, left.	
4.08	20207	Remove 3 green trees, right.	
4.09	20207	Remove 3 green trees, left.	
4.13		Reference: Old skid road, left.	
4.16	20207	Remove 2 green trees, left.	
4.20	20207	Remove 1 green tree, left.	
4.24		Existing culvert.	
	60710	Repair culvert inlet; cut off ripped edge.	
	20419A	Reconstruct outlet ditch, 10 feet.	
	60710	Repair (jack open) culvert outlet; straighten and reform circular opening.	

RECONSTRUCTION SUMMARY
ROAD 2600280

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
4.29	15755	Dewater culvert installation site.	
	20358	Remove existing culvert.	
	60276B	Install 24" x 28' culvert. Lower outlet to natural ground.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
4.31		Reference: Powerline access road, left.	
4.34		End of project.	
		End all reconstruction.	
		Reference: Water source (labeled as pump chance).	
		DANGER TREE REMOVAL LIST	
2.19	20253	Remove 3 danger trees, left.	
2.21	20253	Remove 1 danger tree, right.	
2.25	20253	Remove 1 danger tree, left. Remove 1 danger tree, right.	
2.35	20253	Remove 2 danger trees, left.	
2.36	20253	Remove 3 danger trees, right.	
2.37	20253	Remove 3 danger trees, right.	
2.45	20253	Remove 1 danger tree, right.	
2.48	20253	Remove 1 danger tree, right.	
2.55	20253	Remove 1 danger tree, right.	
2.59	20253	Remove 3 danger trees, right.	
2.61	20253	Remove 2 danger trees, left.	
2.63	20253	Remove 1 danger tree, left. Remove 1 danger tree, right.	
2.65	20253	Remove 1 danger tree, left.	
2.67	20253	Remove 5 danger trees, left.	
3.77	20253	Remove 1 danger tree, left.	
3.79	20253	Remove 2 danger trees, left. Remove 1 danger tree, right.	
3.80	20253	Remove 2 danger trees, left.	
3.82	20253	Remove 1 danger tree, right.	
3.83	20253	Remove 4 danger trees, left.	
3.86	20253	Remove 1 danger tree, left.	
3.90	20253	Remove 2 danger trees, left. Remove 1 danger tree, right.	
3.93	20253	Remove 2 danger trees, left.	
3.97	20253	Remove 2 danger trees, left. Remove 1 danger tree, right.	
3.99	20253	Remove 1 danger tree, right.	
4.02	20253	Remove 1 danger tree, left.	
4.04	20253	Remove 4 danger trees, left.	
4.05	20253	Remove 4 danger trees, right.	
4.06	20253	Remove 2 danger trees, left.	
4.07	20253	Remove 4 danger trees, left.	
4.08	20253	Remove 1 danger tree, left.	
4.10	20253	Remove 1 danger tree, left.	
4.11	20253	Remove 1 danger tree, left.	
4.12	20253	Remove 1 danger tree, left. Remove 1 danger tree, right.	

RECONSTRUCTION SUMMARY
ROAD 2600280

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
4.14	20253	Remove 3 danger trees, left.	
4.15	20253	Remove 3 danger trees, left.	
4.16	20253	Remove 2 danger trees, left. Remove 1 danger tree, right.	
4.18	20253	Remove 1 danger tree, left. Remove 2 danger trees, right.	
4.19	20253	Remove 3 danger trees, left.	
4.21	20253	Remove 1 danger tree, left. Remove 1 danger tree, right.	
4.22	20253	Remove 1 danger tree, right.	
4.24	20253	Remove 1 danger tree, left. Remove 1 danger tree, right.	
4.25	20253	Remove 1 danger tree, left.	
4.26	20253	Remove 1 danger tree, left.	
4.28	20253	Remove 3 danger trees, left.	
4.29	20253	Remove 1 danger tree, left.	
4.30	20253	Remove 3 danger trees, left.	
4.31	20253	Remove 2 danger trees, right.	
4.33	20253	Remove 1 danger tree, left.	
NOTE:			
	20253	Remove 4 danger trees (to be field identified).	

RECONSTRUCTION SUMMARY
ROAD 2633700

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
2.88		Beginning of project.	
	20103	Begin clearing.	
	30359	Begin reconditioning roadway. Scarify a minimum of 1" below the depth of all existing potholes, corrugations or surface irregularities. Grubbing and disposal of all stumps and root masses within the roadbed and in the ditch is required unless otherwise noted in the work description. Haul material from the cleaning of ditches, inlets and outlets and slough and slide removal to designated disposal sites.	
	32450	Begin placement of crushed aggregate 90 CY, spot surfacing at locations specified by C.O. Blend new aggregate to existing roadbed surface and reshape roadbed to obtain a minimum 3% cross slope and smooth transitions.	
		Reference: Disposal area, left.	
2.93		Existing culvert.	
	20419A	Reconstruct outlet ditch, 20 feet.	
3.02		Existing culvert.	
	60710	Repair (jack open) culvert outlet; straighten and reform circular opening.	
3.04		Reference: Disposal area, right.	
3.20		Reference: Disposal area, right.	
3.32		Reference: Intersection of Road 2633704, left and 2633706, right.	
		End of project.	
		End all reconstruction.	
		DANGER TREE REMOVAL LIST	
2.99	20253	Remove 1 danger tree, left.	
3.01	20253	Remove 1 danger tree, left.	
3.07	20253	Remove 1 danger tree, left.	
3.23	20253	Remove 1 danger tree, left.	
NOTE:			
	20253	Remove 2 danger trees (to be field identified).	

RECONSTRUCTION SUMMARY
ROAD 2633704

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
0.00		Reference: End of road 2633700 and intersection with Road 2633706, right. Beginning of project.	
	20103	Begin clearing.	
	30359	Begin reconditioning roadway. Scarify a minimum of 1" below the depth of all existing potholes, corrugations or surface irregularities. Grubbing and disposal of all stumps and root masses within the roadbed and in the ditch is required unless otherwise noted in the work description. Haul material from the cleaning of ditches, inlets and outlets and slough and slide removal to designated disposal sites.	
	32450	Begin placement of crushed aggregate 300 CY, spot surfacing at locations specified by C.O. Blend new aggregate to existing roadbed surface and reshape roadbed to obtain a minimum 3% cross slope and smooth transitions.	
0.04		Existing culvert.	
	60710	Repair (jack open) culvert inlet; straighten and reform circular opening.	
0.20		Existing culvert.	
	20420	Reconstruct catchbasin.	
	25101	Place 1 CY riprap at outlet.	
0.26	15755	Dewater culvert installation site.	
	20358	Remove existing culvert.	
	60276B	Install 24" x 56' culvert.	
	25101	Place 5 CY riprap at outlet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.44		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 10 feet.	
0.54	15755	Dewater culvert installation site.	
	20358	Remove existing culvert.	
	60276D	Install 48" x 48' culvert.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.66		Reference: Sign for Frissell Trailhead.	
0.72		End of project.	
		End all reconstruction.	

RECONSTRUCTION SUMMARY
ROAD 2633704

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
DANGER TREE REMOVAL LIST			
0.02	20253	Remove 1 danger tree, right.	
0.10	20253	Remove 2 danger trees, right.	
0.16	20253	Remove 1 danger tree, right.	
0.47	20253	Remove 2 danger trees, left.	
0.51	20253	Remove 1 danger tree, left.	
NOTE:			
	20253	Remove 2 danger trees (to be field identified).	

RECONSTRUCTION SUMMARY
ROAD 2633706

Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
0.00		Reference: End of Road 2633700 and intersection with Road 2633704, left. Beginning of project.	
	20103	Begin clearing.	
	30359	Begin reconditioning roadway. Scarify a minimum of 1" below the depth of all existing potholes, corrugations or surface irregularities. Grubbing and disposal of all stumps and root masses within the roadbed and in the ditch is required unless otherwise noted in the work description. Haul material from the cleaning of ditches, inlets and outlets and slough and slide removal to designated disposal sites.	
	32450	Begin placement of crushed aggregate 380 CY, spot surfacing at locations specified by C.O. Blend new aggregate to existing roadbed surface and reshape roadbed to obtain a minimum 3% cross slope and smooth transitions.	
0.08		Reference: Disposal area, right.	
0.17	20358	Remove existing culvert.	
	60276A	Install 18" x 24' culvert.	
	20462	Place 5 CY borrow at outlet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.23	15755	Dewater culvert installation site.	
	20358	Remove existing culvert.	
	60276A	Install 18" x 50' culvert.	
	25101	Place 2 CY riprap at outlet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.26		Existing culvert.	
	20207	Remove 2 green trees from outlet.	
	25101	Place 2 CY riprap at outlet.	
0.42		Existing culvert.	
	20419B	Reconstruct inlet channel, 12' wide x 12' long.	
	20462	Armor inlet with 3 CY of material cleared from inlet channel to prevent additional scouring.	
0.48		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 15 feet.	
0.53		Existing culvert.	
	20419B	Reconstruct outlet ditch, 10 feet.	

RECONSTRUCTION SUMMARY
ROAD 2633706

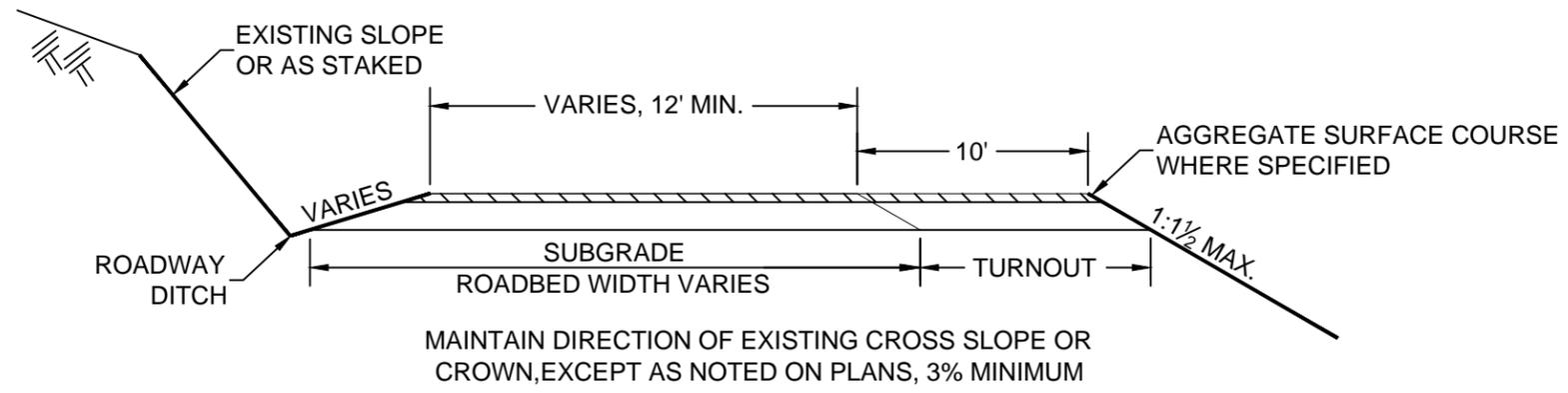
Milepost	Pay Item	Reference Point or Work Required	Field Verified (Date and Initial)
0.76	20358	Remove existing culvert.	
	60276A	Install 18" x 40' culvert.	
	20420	Reconstruct catchbasin.	
	20419A	Reconstruct outlet ditch, 20 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.81	20358	Remove existing culvert.	
	60276A	Install 18" x 46' culvert.	
	20419A	Reconstruct outlet ditch, 15 feet.	
	32450	Place 10 CY crushed aggregate over installation; blend to adjacent road surfaces to provide a smooth transition.	
0.87		Existing culvert.	
	20420	Reconstruct catchbasin.	
	20207	Remove 1 green tree from outlet.	
0.93		Reference: Abandoned culvert.	
		End of project.	
		End all reconstruction.	
		DANGER TREE REMOVAL LIST	
0.09	20253	Remove 4 danger trees, right.	
0.43	20253	Remove 1 danger tree, left.	
NOTE:			
	20253	Remove 2 danger trees (to be field identified).	

DRAINAGE LISTING

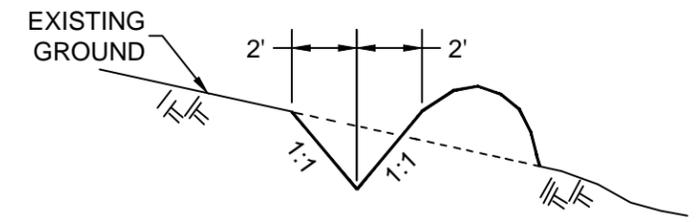
ROAD NO.	Dewater	Remove		Dimension		Installation Details				As Built		Date and Initial		Catch Basin	Inlet Channel	Outlet Ditch	Repair	Remove End (Feet)		Riprap	Agg.	REMARKS		
		EACH	FEET	SIZE	THICK	TYPE	SKEW	GRADE					Inlet					Outlet	C.Y.				C.Y.	
		-	+	in.	in.		Deg	%	M.P.	Feet														
2600275																								
Milepost																								
0.79		2																						
Totals		2																						
2600280																								
Milepost																								
2.17	1	1	40	24	0.064	3	#							10	30							10	Raise inlet 1' and outlet 6".	
2.26														Rec.		30								
2.27		1	24	18	0.064	3	#	#						Rec.		20						10		
2.29	1		28	24	0.064	3	90	6						Con.		10						10		
2.61														Rec.		30								
2.82																		1						
2.94		1	34	24	0.064	3	#	#														10		
3.03		1	48	36	0.074	3	#	#											2			10	Riprap is used as an energy dissipator.	
3.10		1	28	18	0.064	3	#									20						10	Lower inlet 6 inches and outlet 1 foot.	
3.20																								Backfill catchbasin with borrow material
3.26																20								Remove culvert from roadside.
3.52		1	38	24	0.064	3	#	#						Rec.		20						10		
3.99														Rec.		10								
4.24																10	2							Repair inlet (cut off ripped edge) and Repair (jack open) outlet.
4.29	1	1	28	24	0.064	3	#															10	Lower outlet to natural ground.	
Totals	3	7													10	200	2	1	0	2		80		
2633700																								
Milepost																								
2.93																20								
3.02																	1							Repair (jack open) outlet.
Totals																20	1					0		
# = Match Existing		Rec.= Reconstruct																						
THE ABOVE INSTALLATIONS TO INCLUDE CONNECTING BANDS. 36" AND 42" DIAMETER ALSO INCLUDE GASKETS.																								
NOTE: Standard pipe corrugation will be 2-2/3" x 1/2" unless otherwise noted.																								
Some culvert installations listed above may require additional excavation below grade line to obtain 1 foot minimum cover. Indirect to corresponding culvert installations.																								

DRAINAGE LISTING

ROAD NO.	Dewater	Remove		Dimension		Installation Details				As Built		Date and Initial		Catch Basin	Inlet Channel	Outlet Ditch	Repair	Remove End		Riprap	Agg.	REMARKS	
		EACH	FEET	SIZE	THICK	TYPE	SKEW	GRADE					Inlet					Outlet	C.Y.				C.Y.
		-	+	in.	in.		Deg	%	M.P.	Feet			Feet					Feet	-				
2633704																							
Milepost																						Repair (jack open) outlet.	
0.04																							
0.20														Rec.							1	Riprap is used as an energy dissipator.	
0.26	1	1	56	24	0.064	3	#	#												5	10	Riprap is used as an energy dissipator.	
0.44														Rec.		10							
0.54	1	1	48	48	0.079	3	#	#													10		
Totals	2	2														10					6	20	
2633706																							
Milepost																							
0.17		1	24	18	0.064	3	#	#													10	Place 5cy borrow at outlet.	
0.23	1	1	50	18	0.064	3	#	#													2	10	Riprap is used as an energy dissipator.
0.26																					2		Riprap is used as an energy dissipator.
0.42															12								Material excavated from channel is used to armor inlet to prevent scouring.
0.48														Rec.		15							
0.53																10							
0.76		1	40	18	0.064	3	#	#						Rec.		20						10	
0.81		1	46	18	0.064	3	#	#								15						10	
0.87														Rec.									
Totals	1	4														12	60				4	40	
# = Match Existing Rec.= Reconstruct																							
THE ABOVE INSTALLATIONS TO INCLUDE CONNECTING BANDS. 36" AND 42" DIAMETER ALSO INCLUDE GASKETS.																							
NOTE: Standard pipe corrugation will be 2-2/3" x 1/2" unless otherwise noted.																							
Some culvert installations listed above may require additional excavation below grade line to obtain 1 foot minimum cover. Indirect to corresponding culvert installations.																							

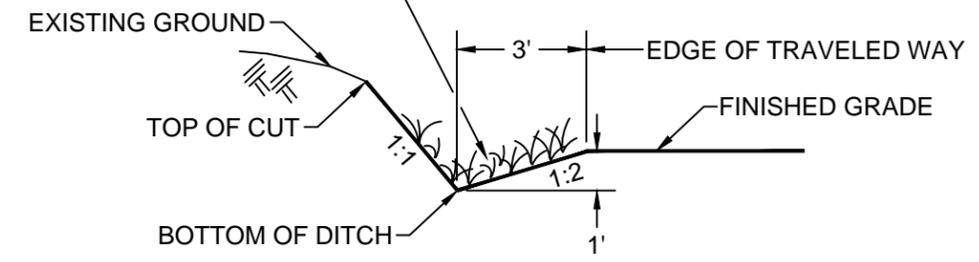


TYPICAL SINGLE, DOUBLE LANE, TURNOUT AND TURNAROUND

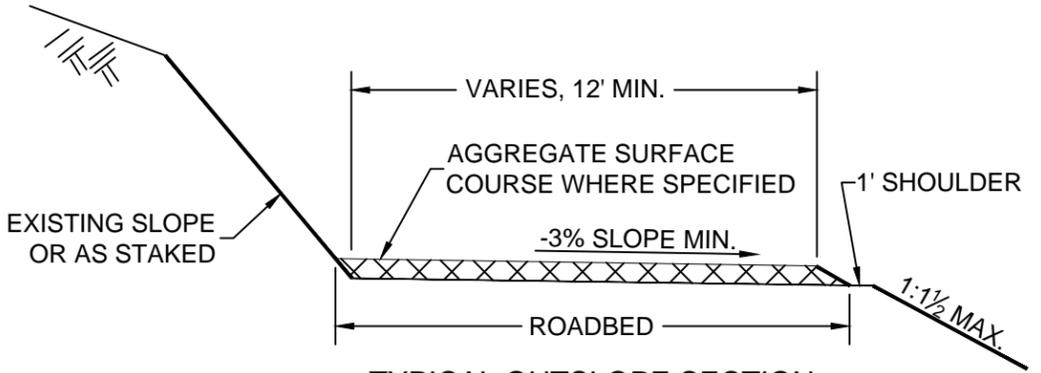


TYPICAL LEADOFF DITCH AND FURROW DITCH

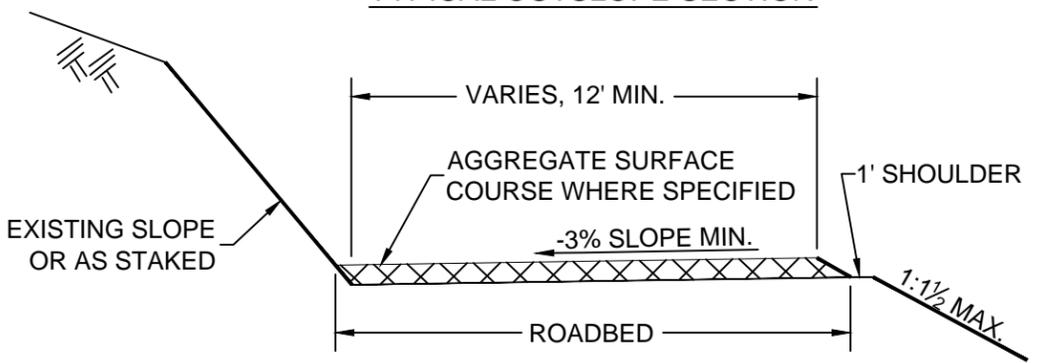
RETAIN LOW GROWING VEGETATION, SUCH AS GRASS AND FORBS, UNLESS IT OBSTRUCTS THE STRUCTURE AND INTERFERES WITH PROPER FUNCTION OR ENCLOSES INTO ROADBED. GRUB BRUSH & SMALL TREES



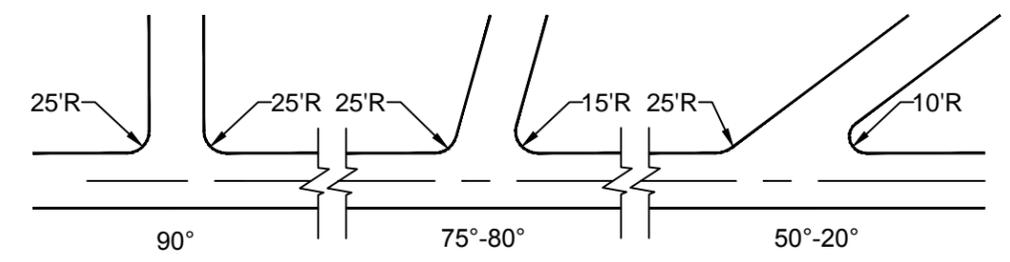
ROADWAY DITCH



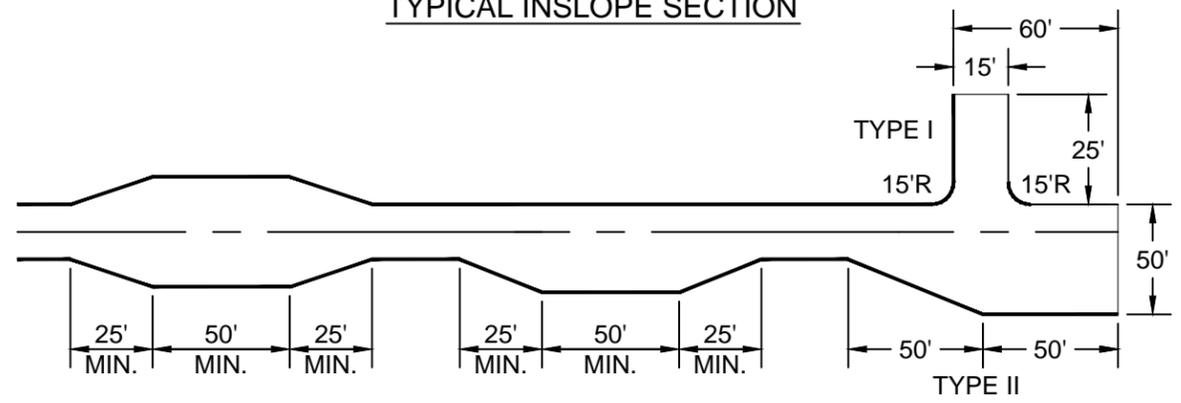
TYPICAL OUTSLOPE SECTION



TYPICAL INSLOPE SECTION



TYPICAL INTERSECTION



DOUBLE LANE OR SPLIT TURNOUT

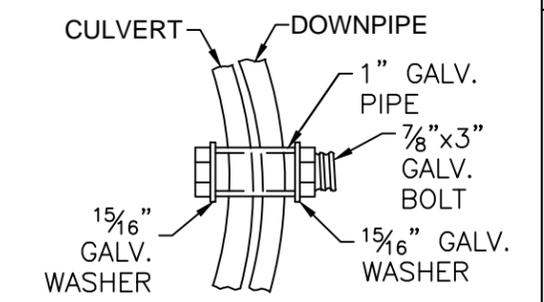
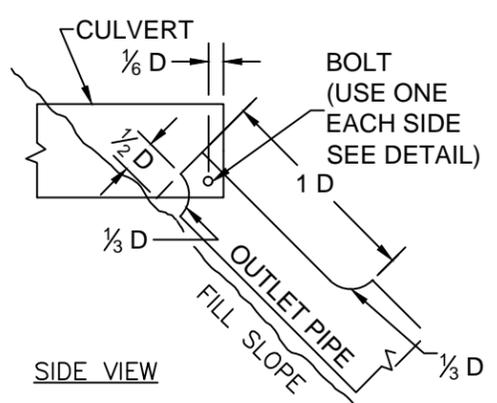
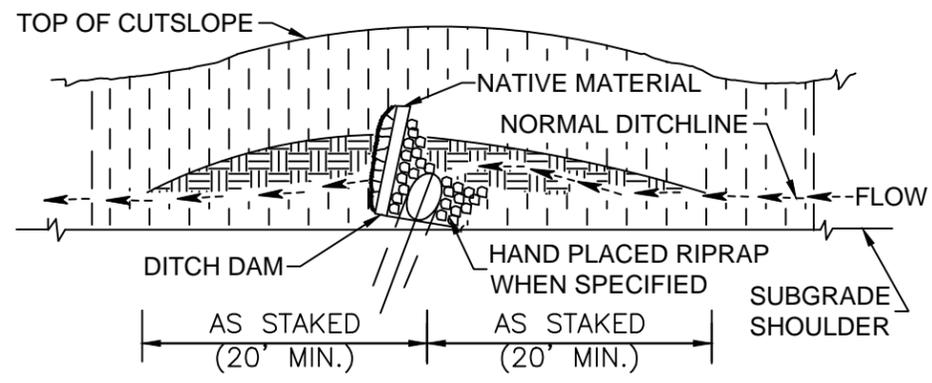
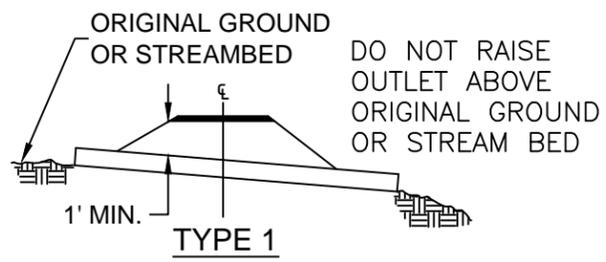
TURNOUT

TURNAROUND

NOTES:
 1) ILLUSTRATED SLOPE RATIO = RISE:RUN (WHERE RISE =1)
 2) ALL FILL SLOPES TO BE 1:1 1/2 UNLESS NOTED OTHERWISE
 3) DRAWINGS NOT TO SCALE

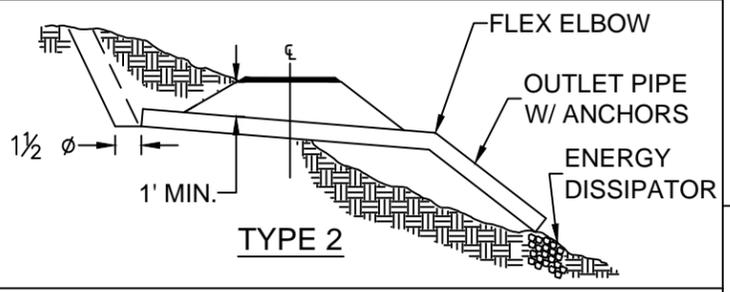
AGGREGATE LISTING							
ROAD #	GRADATION	TYPICAL SECTION	M.P. LOCATION	QUANTITY (cy)	COMPACTED DEPTH	TRAVELED WAY WIDTH	ROCK SLOPE
2600280	AS APPROVED	CROWNED	AS STAKED	420	3"	12'	1V:2H
2633700	AS APPROVED	CROWNED	AS STAKED	90	3"	12'	1V:2H
2633704	AS APPROVED	CROWNED	AS STAKED	300	3"	12'	1V:2H
2633706	AS APPROVED	CROWNED	AS STAKED	380	3"	12'	1V:2H

NOTES:
 1) LOCATIONS TO BE IDENTIFIED AND STAKED BY CO DURING RECONSTRUCTION
 2) SEE RECONSTRUCTION SUMMARIES FOR AGGREGATE REQUIRED FOR CULVERT INSTALLATIONS, ROADBED REPAIRS AND FULL DEPTH SURFACING LOCATIONS.



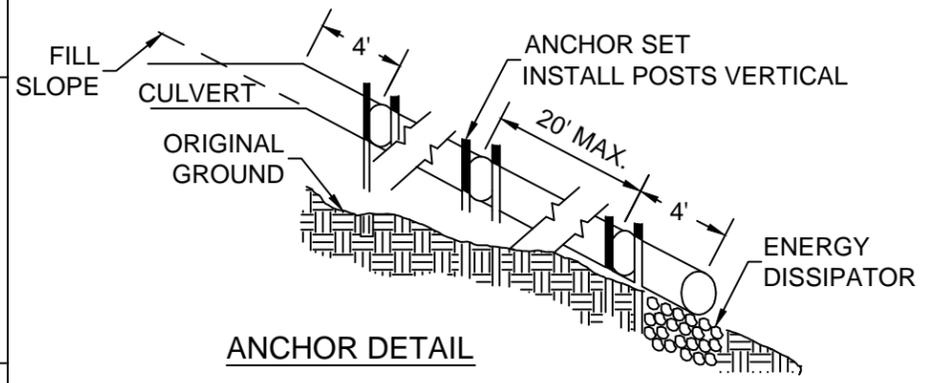
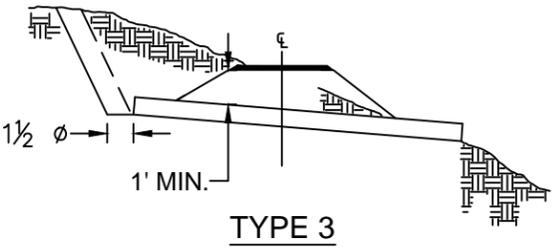
NOTES:
1) GASKETS FOR WATERTIGHT JOINTS NOT BE REQUIRED ON DOWNDRAINS.

BOLT ASSEMBLY DETAIL



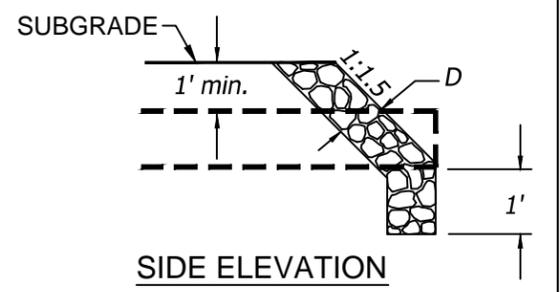
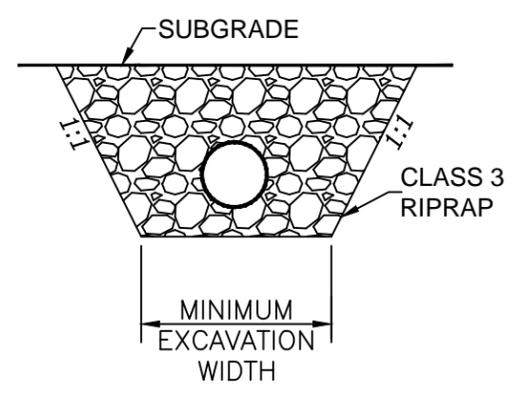
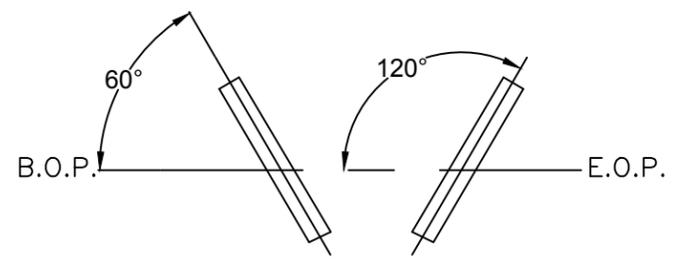
CATCH BASIN DETAIL

FLEX ELBOW DETAIL

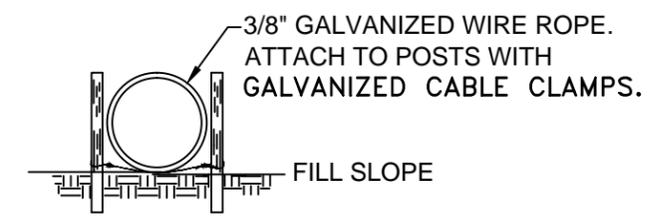


ANCHOR DETAIL

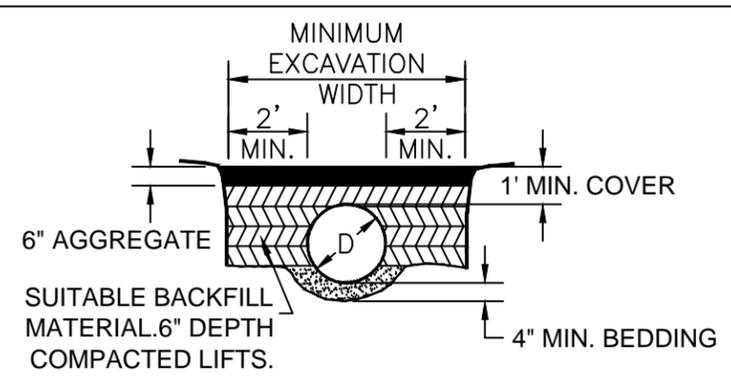
RIPRAP HEADWALL



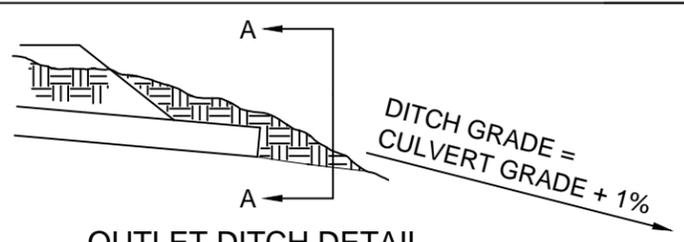
NOTES:
1) ANCHOR SETS CONSIST OF TWO 6' STEEL FENCE POSTS (AASHTO M 281) AND $\frac{3}{8}$ " GALVANIZED WIRE ROPE. PROVIDE 2 TIGHT WRAPS AROUND THE PIPE AND BOTH ANCHOR POSTS. USE 2 CABLE CLAMPS AT EACH POST TO SECURE THE ENDS.
2) BURY 36" DIAMETER AND OUTLET PIPES $\frac{1}{3}$ DIAMETER.



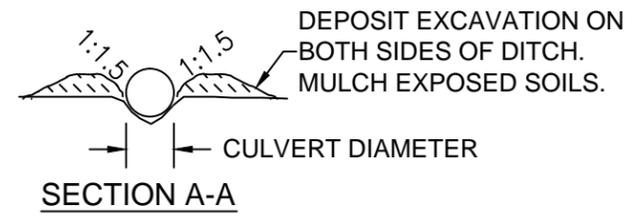
WIRE ROPE DETAIL



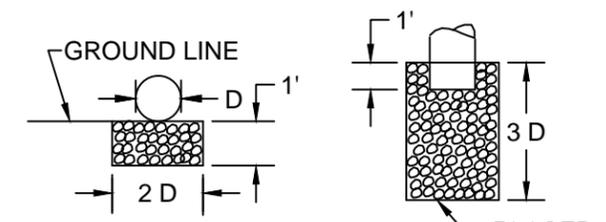
NOTES:
1) ALL DRAWINGS NOT TO SCALE
2) INSTALL HELICAL CORRUGATED LOCK SEAM ON CULVERT INLET/OUTLET BELOW PIPE ϵ .
3) CATCH BASIN REQUIRED ON ALL TYPE 2 & 3 INSTALLATIONS



OUTLET DITCH DETAIL

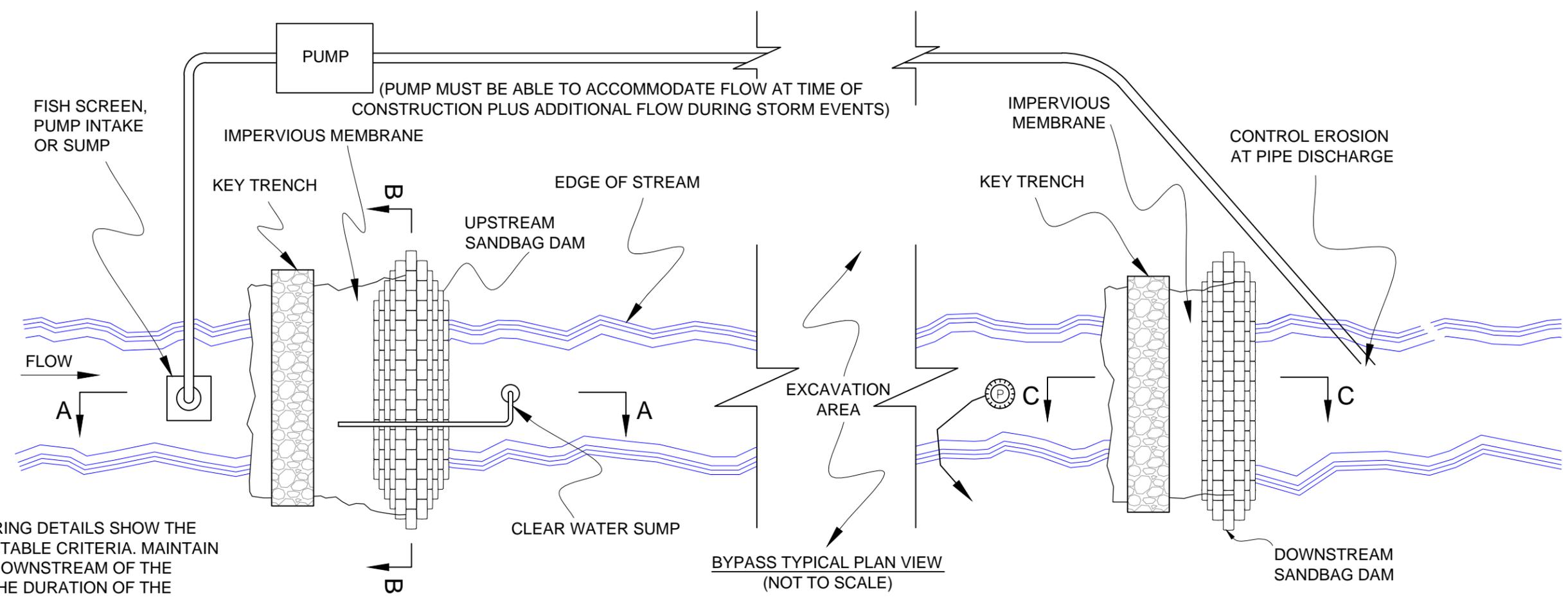


SECTION A-A

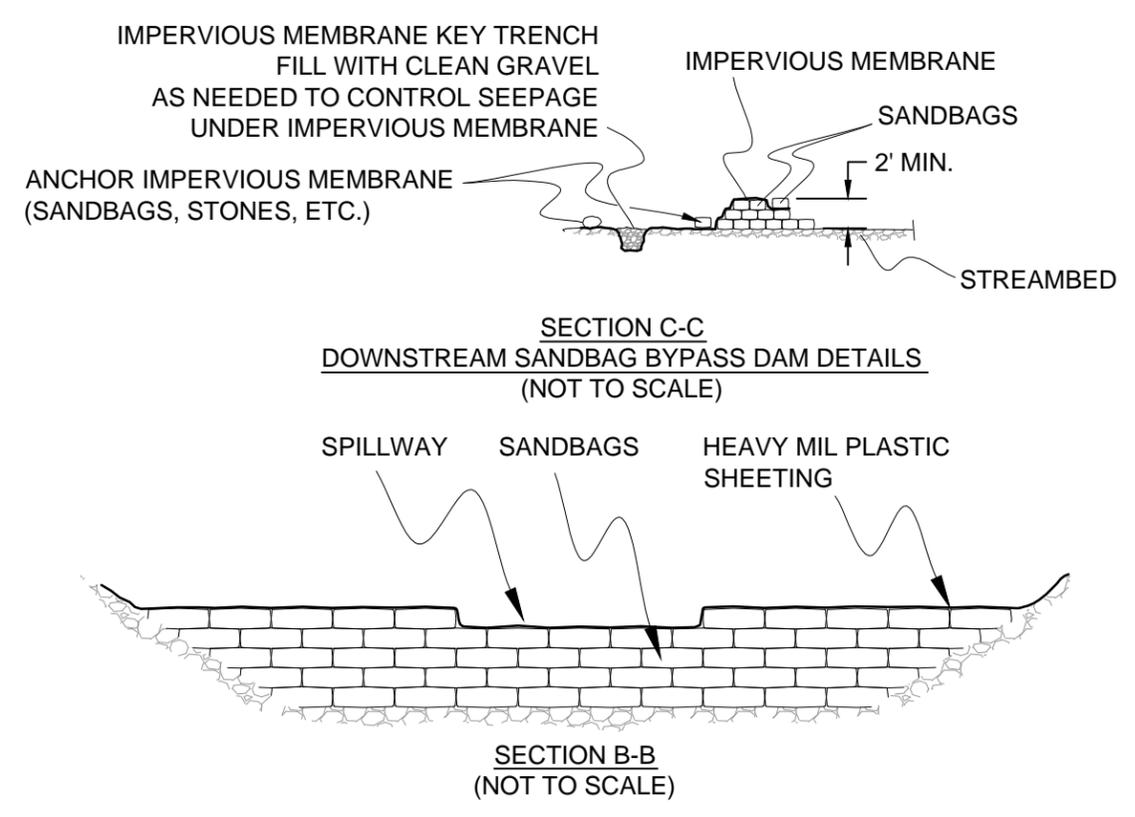
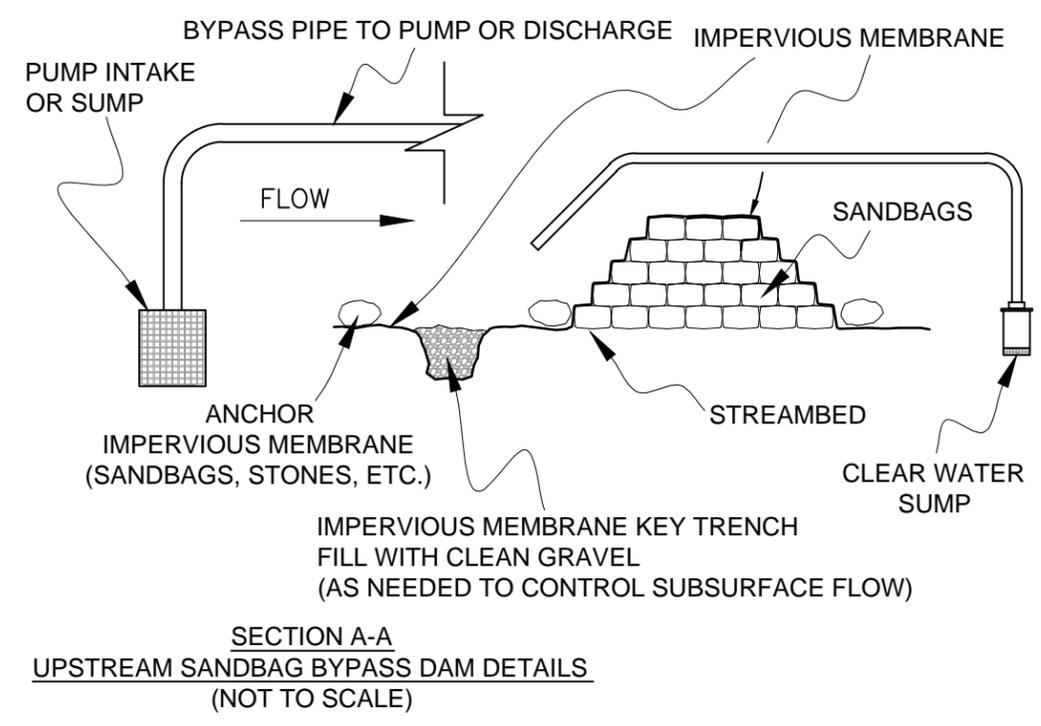


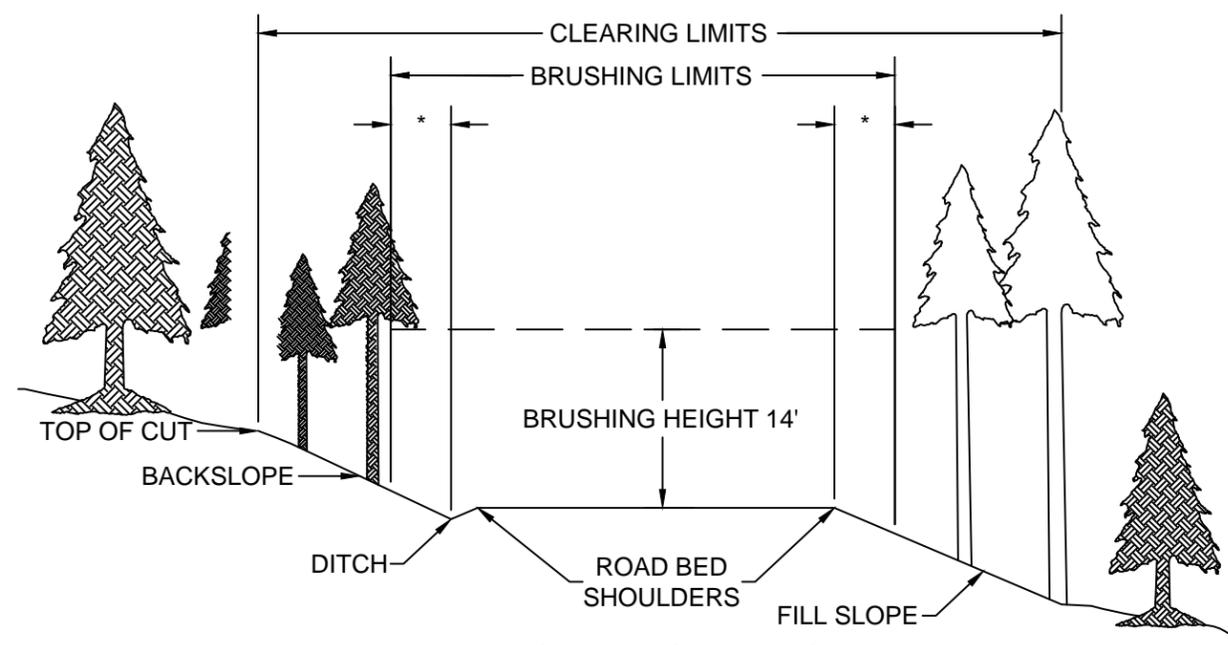
NOTES:
1) LEAVE SURFACE PROTRUDING WITH RIPRAP FOR VELOCITY BREAK

ENERGY DISSIPATER DETAIL



NOTES:
 1) THE DEWATERING DETAILS SHOW THE MINIMUM ACCEPTABLE CRITERIA. MAINTAIN CLEAN WATER DOWNSTREAM OF THE PROJECT FOR THE DURATION OF THE PROJECT.
 2) MAINTAIN PUMPING CAPACITY UNTIL THE STREAM IS FLOWING ON THE APPROVED, FINISHED STREAMBED.

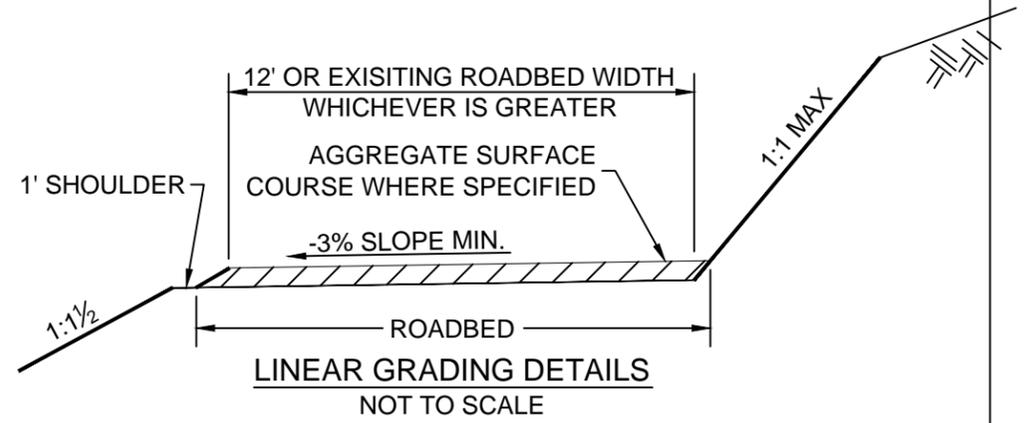




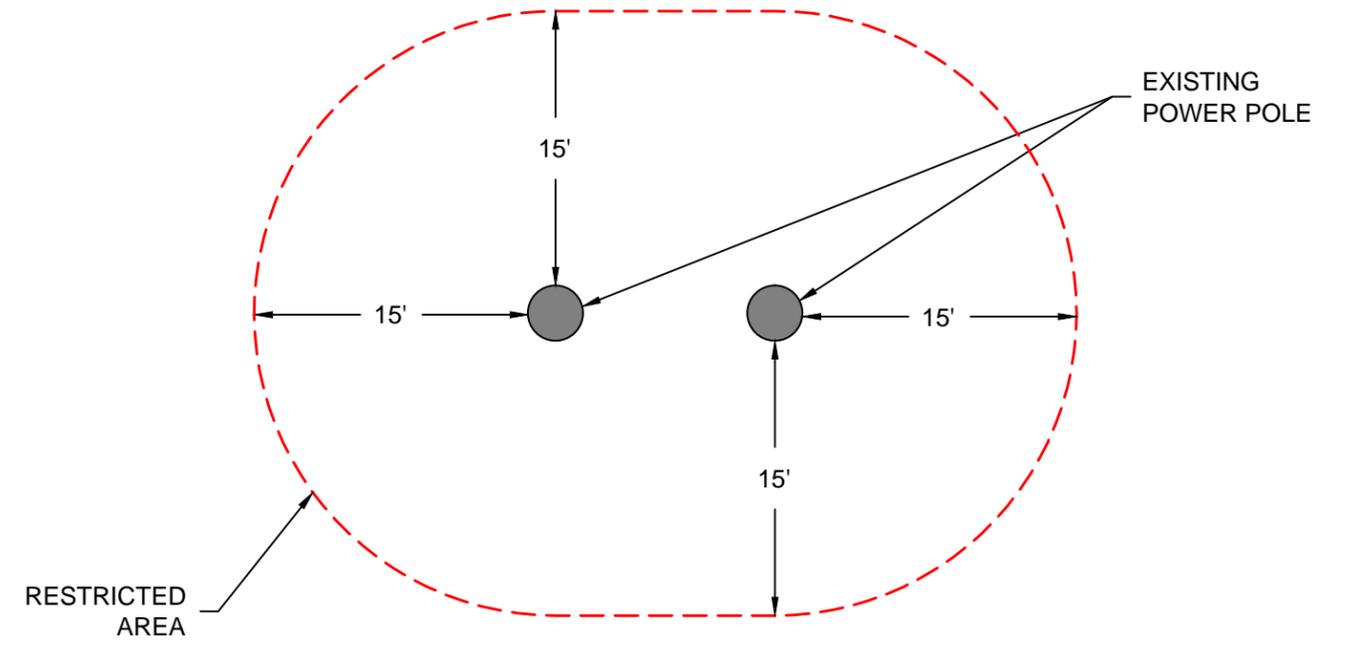
CLEARING DETAILS
NOT TO SCALE

- 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.

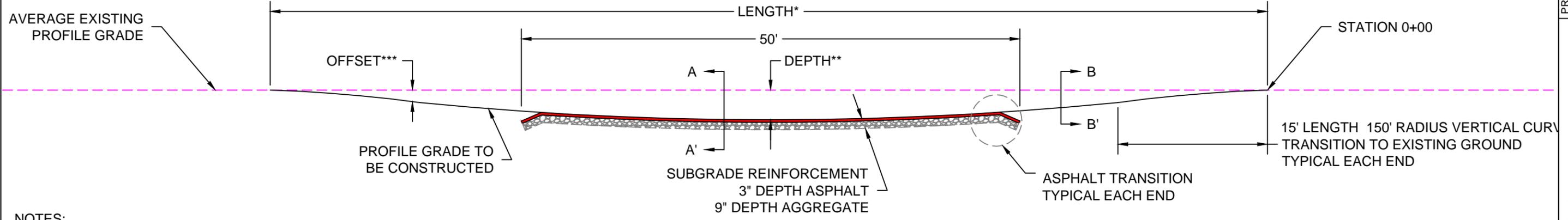
BRUSHING LIMITS		
ROAD #	M.P. LOCATION	* BRUSHING WIDTH
2600280	2.14-4.34	6'
2633700	2.88-3.32	4'
2633704	0.00-0.72	4'
2633706	0.00-0.93	4'



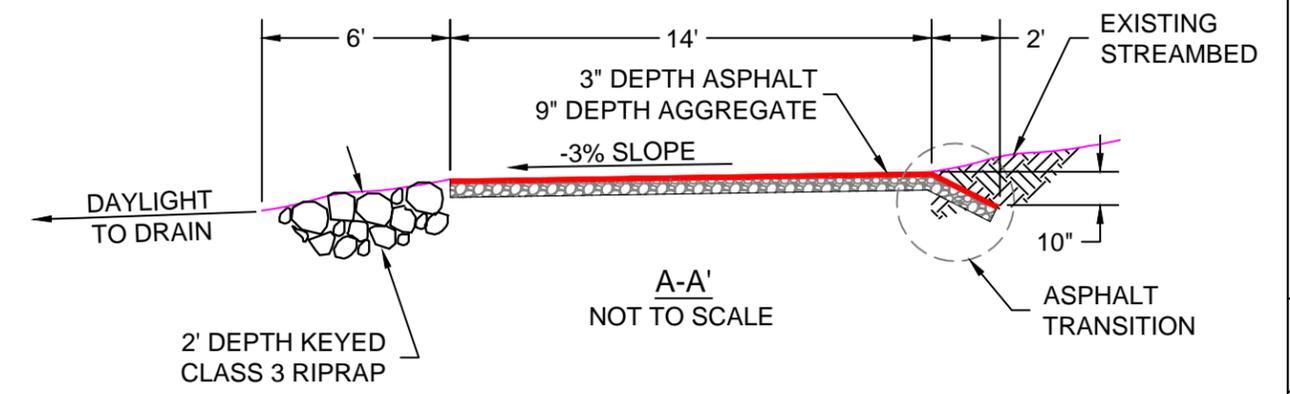
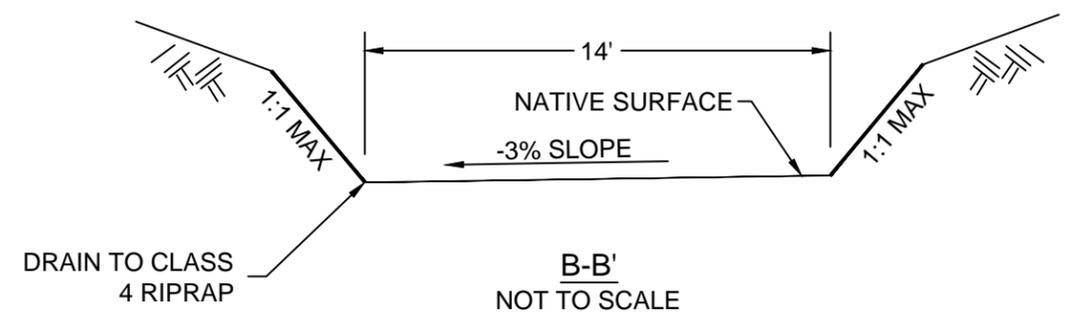
- NOTES:
- 1) REFER TO FSSS 212 - LINEAR GRADING & 201 - CLEARING AND GRUBBING.
 - 2) AREAS OF LINEAR GRADING TO MEET ALL REQUIREMENTS OF CLEARING TYPICAL WITH 4' BRUSHING WIDTH.
 - 3) APPLY CURVE WIDENING AS STAKED BY CO.
 - 4) ROAD LEVELING IS REQUIRED.
 - 5) ALL WORK IS INDIRECT TO PAY ITEM 21201.



- NOTES:
- 1) REALIGN ROADWAY SO THAT THE ROADBED IS NOT WITHIN 15' OF THE EXISTING POWER POLES, GUY WIRES, OR ANCHORS.
 - 2) CONTACT EWEB FOR APPROPRIATE OSHA CLEARANCES FOR WORKERS AND EQUIPMENT.



- NOTES:
- 1) REFER TO FP 608 - PAVED WATERWAYS.
 - 2) ALL WORK AND MATERIALS, COMMERCIAL SOURCE, REQUIRED FOR ASPHALT WATERWAY IS INDIRECT TO PAY ITEM 60803



- ASPHALT TRANSITION NOTES:
- 1) BEGIN PAVING IN THE BOTTOM OF THE TRENCH TOWARDS THE ROADWAY.
 - 2) IMMEDIATELY PLACE NATIVE BACKFILL BACK INTO THE TRENCH AND COMPACT, THEN COMPACT THE ASPHALT AS THE ROLLER MOVES ONTO THE ROADWAY ASPHALT.
 - 3) DO NOT COMPACT THE ASPHALT THAT IS ON THE SLOPE BEFORE PLACING THE BACKFILLED MATERIAL.

M.P.	LENGTH*	DEPTH**	OFFSET DEPTH BY STATION***																			
			0+10	0+20	0+30	0+40	0+50	0+60	0+70	0+80	0+90	1+00	1+10	1+20	1+30	1+40	1+50	1+60	1+70	1+80	1+90	
0.6	100'	3'	0.7'	1.7'	2.4'	2.8'	3.0'	2.8'	2.4'	1.7'	0.7'	0.0'										
0.8	200'	5'	0.7'	1.7'	2.5'	3.1'	3.7'	4.2'	4.5'	4.8'	4.85'	5.0'	4.85'	4.8'	4.5'	4.2'	3.7'	3.1'	2.5'	1.7'	0.7'	