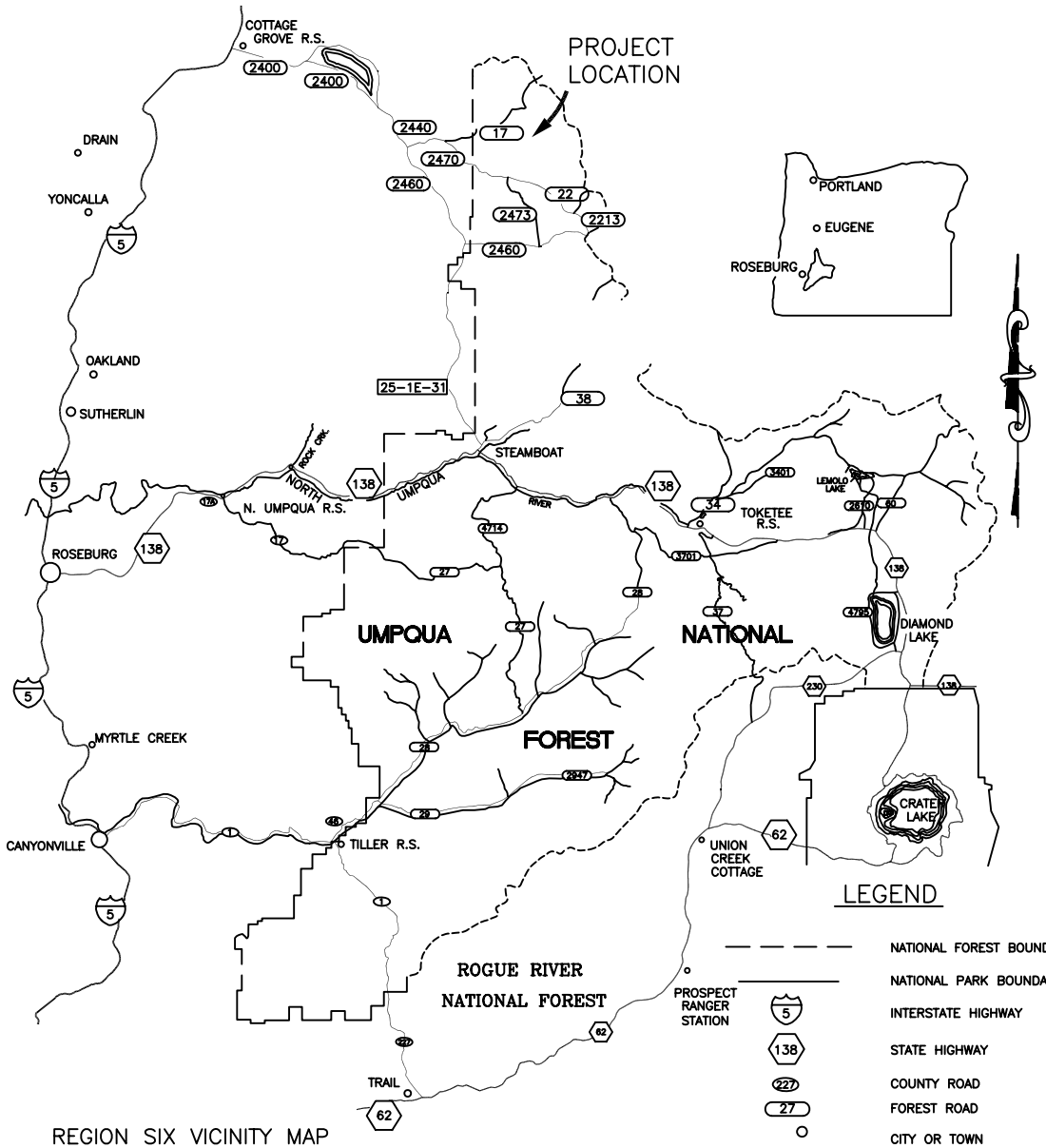
U.S. DEPARTMENT of AGRICULTURE
FOREST SERVICE
UMPQUA NATIONAL FOREST
COTTAGE GROVE RANGER DISTRICT



REGION SIX VICINITY MAP

INDEX

PROPOSED PROJECT

ROAD NUMBER	PROJECT LENGTH	TYPE OF WORK
1746–000	1.57	RECONSTRUCTION
1746–204	0.01	RECONSTRUCTION
1746–529	1.2	RECONSTRUCTION
1746–763	1.79	RECONSTRUCTION
1746–780	0.01	RECONSTRUCTION
1746–841	0.01	RECONSTRUCTION

RECOMMENDED BY: _____ DATE: _____
TRANSPORTATION ENGINEER

APPROVED BY: _____ DATE: _____
FOREST ENGINEER

DESIGNED BY: _____

PLAN IN HAND BY: _____

REVIEWED BY: _____ DATE: _____
PROJECT TEAM LEADER/DISTRICT ENGINEER

WILT TIMBER SALE

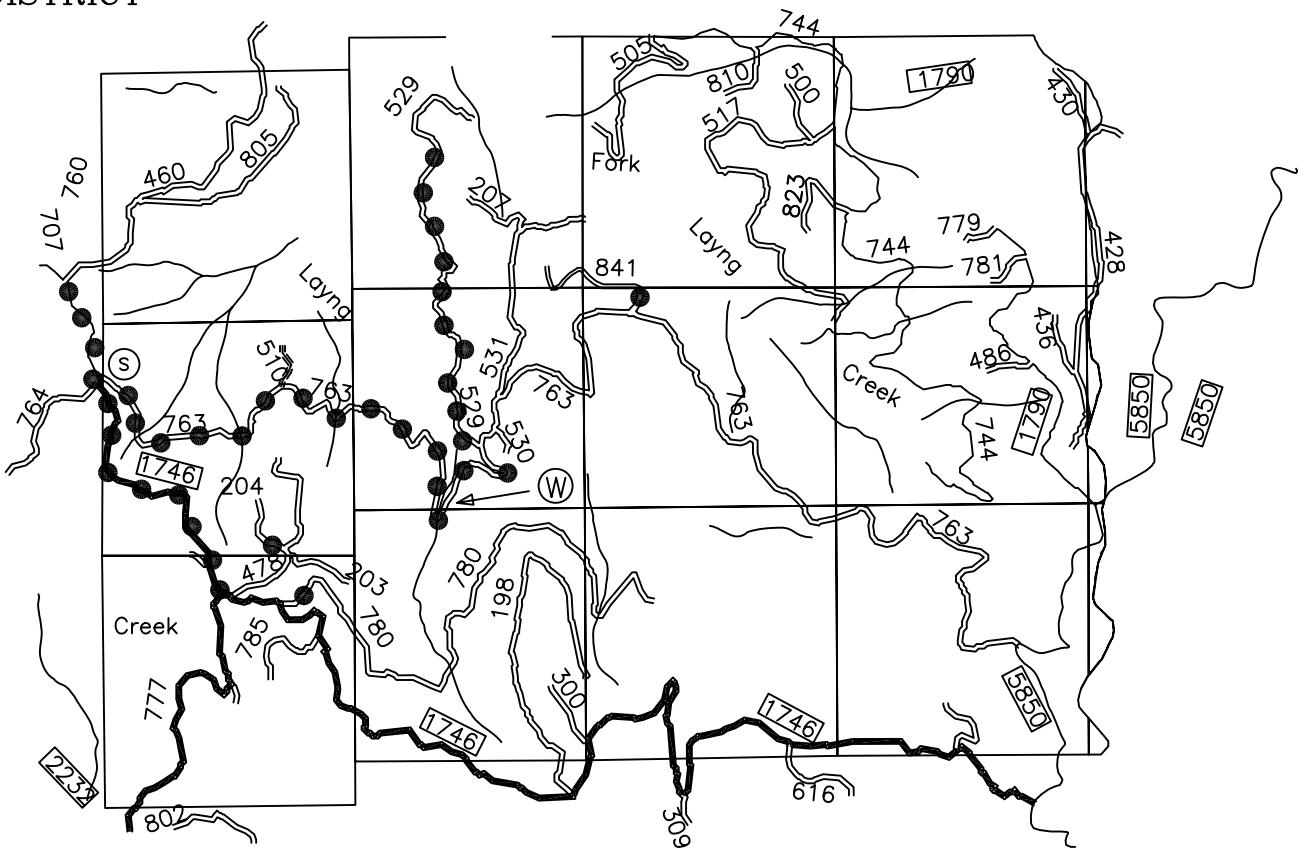
SHT 1
OF 9

UMPQUA NATIONAL FOREST

COTTAGE GROVE RANGER DISTRICT

LEGEND

- PROJECT LOCATION
- (S) STOCKPILE SITE
- (W) WATER SOURCE
- 700 2241 ROAD NUMBERS
- COUNTY ROAD (PAVED)
- IMPROVED ROAD (PAVED)
- IMPROVED ROAD (GRAVEL)
- IMPROVED ROAD (DIRT)



06-30-08	U.S. DEPARTMENT OF AGRICULTURE FOREST SERVICE UMPQUA NATIONAL FOREST THE PACIFIC NORTHWEST REGION	VICINITY MAP WILT T.S.	SHT 2 OF 9

WILT TIMBER SALE ROADS - ESTIMATE OF QUANTITIES

NOTES:
1) All volume unit pay items are measured in-place. All reference to quantities of excavated volumes refer to original (prior to excavation) volume.
2) See worklists and vicinity map for further description and location of work.
3) Construction tolerance class "F" (Spec. 204.13).
4) Units are measured as Contract Quantity unless denoted by an asterisk *
5) Roads 1746, 1746-529 and 1746-763 have other MP locations inclusive to the mile posts designated under the road number on this sheet. See worklist.

			Road No.	1746-000	1746-204	1746-529	1746-763	1746-780	1746-841		
			Project Length (MP)	1.57 Miles	0.01 Miles	1.20 Miles	1.79 Miles	0.01 Miles	0.01 Miles		
			Work Type	Drainage Recon-struction	Drainage Recon-struction	Drainage Recon-struction	Drainage Recon-struction	Drainage Recon-struction	Drainage Recon-struction		
Pay Item	**Description**		**Pay Item Quantities by Road**							**Total Quantities this sheet**	**Remarks**
151-01	Mobilization	Lump Sum	ALL REQUIRED							1	Mobilization for all roads on this sheets.
203-01.1	Removal of metal culvert, (ditch relief)	Each*	5	1	5	3	1	1		16	Excavation is indirect payment to culvert removal.
203-01.2	Removal of metal culvert (stream crossing under 10' deep at centerline)	Each*	1		2					3	Excavation is indirect payment to culvert removal.
203-01.3	Removal of metal culvert (stream crossing over 10' deep at centerline)	Each*			1					1	Excavation is indirect payment to culvert removal.
204-20	Drainage excavation, type- grade sag	Each*	1		1					2	Salvage, placement and compaction of existing aggregate over excavation area is indirect paymant to this item. Water aggregate as required for compaction.
209-59	Furnishing backfill material for pipes.	Cubic yard	35	5	45	15	5	5		110	Pipe bedding material, commercial source. 5 CY per 18" & 24" pipe, 10 CY per 36" pipe.
251-01.1	Placed riprap, class I	Cubic yard	21		21					42	Commercial source. Subgrade reinforcement.
251-01.3	Placed riprap, class III	Cubic yard	25	2	30	6	2	2		67	Commercial source. Slope protection, splash aprons
251-10.1	Hand place riprap, Class I	Cubic yard	6	1	8	3	1	1		20	Commercial source. Headwalls.
602-63.18	18" aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, Method B	L.F.*	234	32	250	122		41		679	See worklist for work activity details.
602-63.24	24" aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, Method B	L.F.*			124		42			166	See worklist for work activity details.
602-63.36	36" aluminized steel, type 2, corrugated steel pipe, 0.064 inch thickness, Method B	L.F.*	42		61					103	See worklist for work activity details.

LOCATION AND CULVERT LENGTHS						INSTALLATION DETAILS AND SPECIAL SECTIONS									RIPRAP REQUIREMENTS												SHEET 4 OF 9
DESIGNED			AS BUILT			CORRUGATED METAL PIPE			SPILLWAYS			BEVELED DROP INLET			HEADWALL			SPLASH APRON			SLOPE PROTECTION			SUBGRADE REINFORCEMENT			WILT TIMBER SALE DRAINAGE LISTING
MP	STA. (FT)	LENGTH (FT)	MP	STA. (FT)	LENGTH (FT)	DIA. (IN)	TH. (IN)	TYPE	DOWN-DRAIN LENGTH (FT)	ANCHORS (EA)	ELBOW	DIA (INCH)	LENGTH (FT)	"B" ANGLE	CY	CLASS	TYPE	CY	CLASS	TYPE	CY	CLASS	TYPE	CY	CLASS	TYPE	
									Road #1746-000																		Notes
6.94		51				18	0.064								1	1	1	2	3								See sheet 5 of 9 for culvert installation details.
7.06		36				18	0.064								1	1	1	2	3								
7.14		42				18	0.064								1	1	1	2	3								
7.94		60				18	0.064								1	1	1	2	3								
8.04		45				18	0.064								1	1	1	2	3								
8.51		42				36	0.064								1	1	1	4	3								Stream crossing
8.51	Grade Sag																				11	3		21	1		
									Road #1746-204																		
0.09		32				18	0.064								1	1	2	2	3								
									Road #1746-529																		
0.50		61				36	0.064								1	1	1	3	3								Stream crossing
0.53	Grade Sag																				11	3		21	1		
0.72		52				24	0.064								1	1	1	3	3								Stream crossing
0.89		34				18	0.064								1	1	2	2	3								
0.95		50				18	0.064								1	1	2	2	3								
1.01		42				18	0.064								1	1	2	2	3								
1.32		72				24	0.064								1	1	1	3	3								Stream crossing
1.53		58				18	0.064								1	1	2	2	3								
1.70		66				18	0.064								1	1	2	2	3								
									Road #1746-763																		
0.51		40				18	0.064								1	1	1	2	3								
0.91		42				18	0.064								1	1	1	2	3								
2.30		40				18	0.064								1	1	1	2	3								
									Road #1746-780																		
0.08		42				24	0.064								1	1	1	2	3								
									Road #1746-841																		
0.10		41				18	0.064								1	1	1	2	3								

Note:

1) Staking for culverts has been completed by the Forest Service. Culvert lengths and locations are based on as-staked conditions. Install culverts as staked.

2) Excavations for new culverts and culvert replacements may be deeper than existing culvert installations. Excavation of solid rock may be required in some locations.

3) Dimpled bands shall not be used on downpipes, elbows, or pipes laid on grades greater than 15%.

4) Unless shown otherwise, where cover heights exceed 11' , culverts shall be cambered an amount equal to 0.5% of the culvert length.

5) Riprap shall be placed to the minimum dimensions shown on typical section drawings.

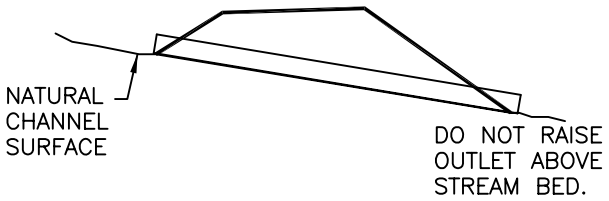
6) Riprap type abbreviations: D - Dumped, H - Hand Placed, M - Machine Placed.

7) Minimum one foot cover over culvert installation.

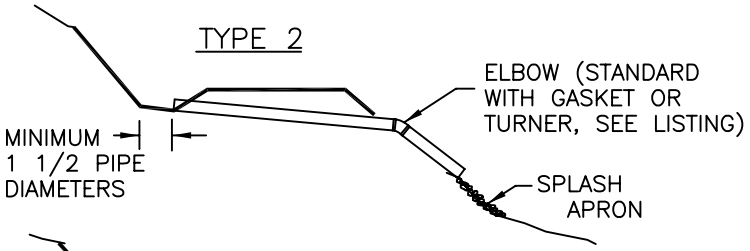
CULVERT CONSTRUCTION DETAILS

(NOT TO SCALE. ALSO REFER TO WORKLISTS.)

TYPE 1



TYPE 2



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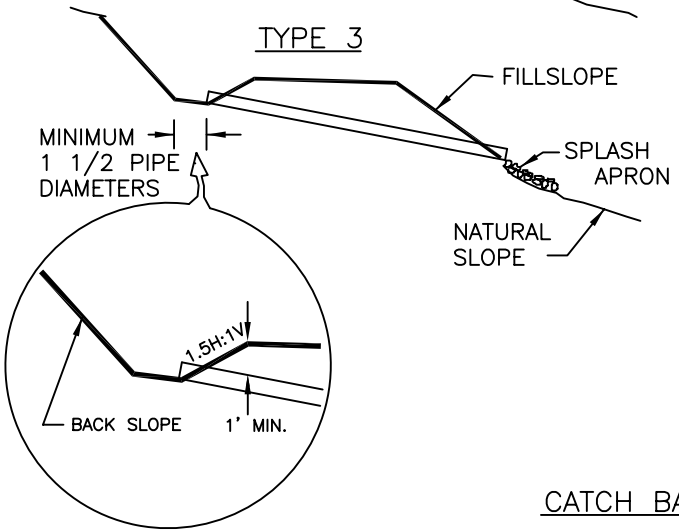
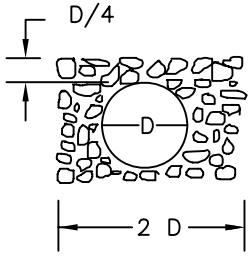
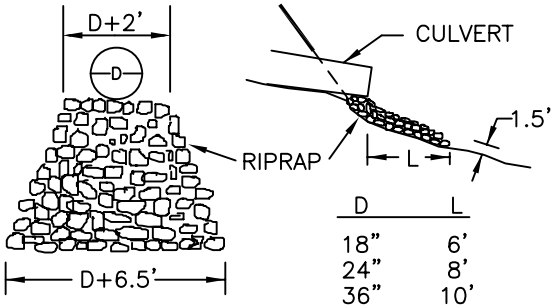


HEADWALLS FOR TYPE 1



NOTE:
ADJUST RIPRAP TO FIT ORIGINAL STREAM BANKS IN NARROW CHANNELS.

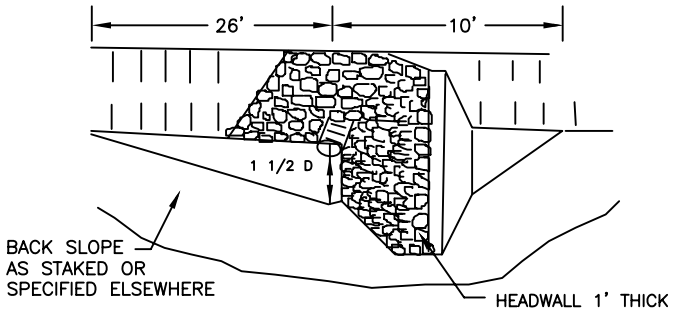
SPLASH APRON



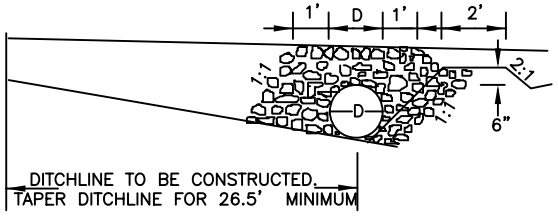
D	L
18"	6'
24"	8'
36"	10'

CATCH BASIN DETAIL FOR TYPE 2 & 3

HEADWALL – PLAN VIEW



HEADWALL – INLET PROFILE VIEW



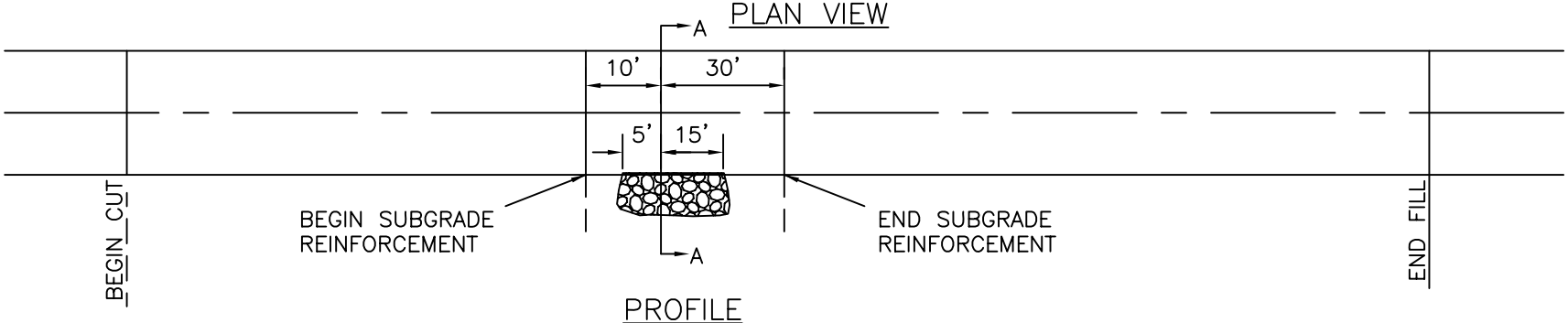
PROJECT	SHEET	TOTAL SHTS
WILT T.S.	6	9

GRADE SAG TYPICAL

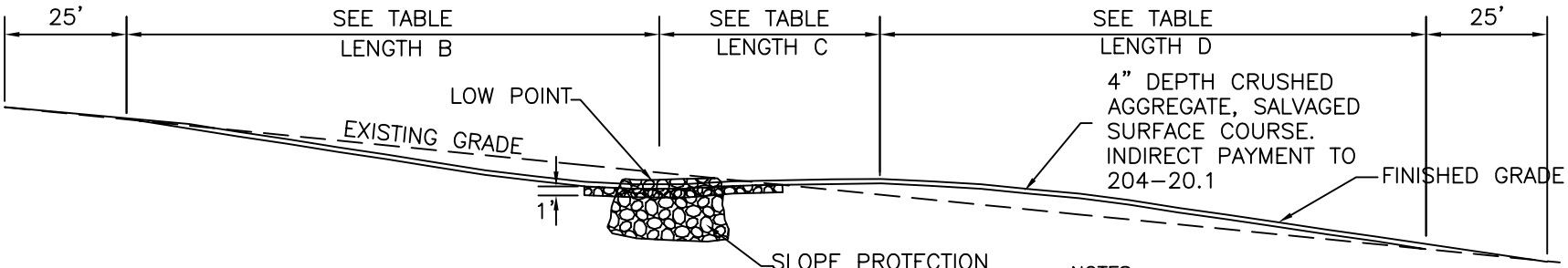
(NOT TO SCALE)

LOCATION:
RD. 1746–000 M.P. 8.51
RD. 1746–529 M.P. 0.53

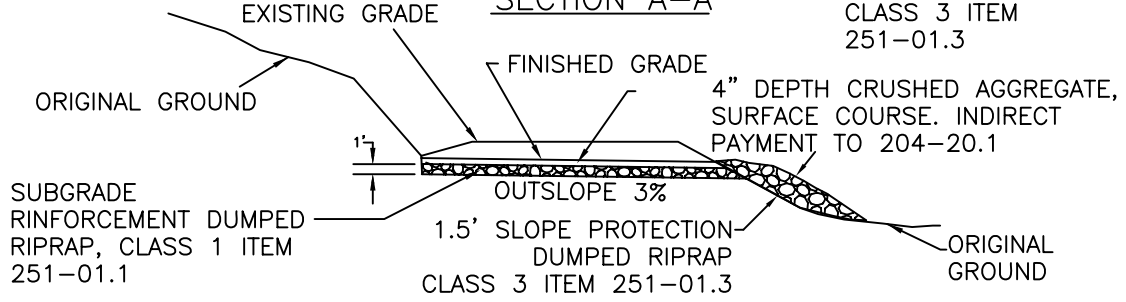
PLAN VIEW



PROFILE



SECTION A–A



% GRADE OF ROAD	TABLE GRADE SAG DIMENSIONS			CRUSHED AGGREGATE
	LENGTH B	LENGTH C	LENGTH D RUNOUT	
4% & UNDER	80	50	70	40 C.Y.
6	90	55	90	46 C.Y.
8	100	60	100	51 C.Y.

NOTES:

1) GRADE SAG LOW POINT LOCATIONS ARE STAKED ON THE GROUND.
2) SUBGRADE REINFORCEMENT LENGTH AND DEPTH SHOWN ON TYPICAL.
3) SUBGRADE REINFORCEMENT QUANTITY AND TYPE SHOWN ON DRAINAGE LISTING.
4) SLOPE PROTECTION QUANTITY AND TYPE SHOWN ON DRAINAGE LISTING.
5)SALVAGE EXISTING CRUSHED AGGREGATE AND PLACE OVER CONSTRUCTED GRADE SAG.
6) FOR DITCHES GREATER THAN 1 FOOT IN DEPTH, BLEND LEAD–IN DITCH TO MATCH FINISHED ELEVATION OF GRADE SAG LOW POINT.
7) LOW POINT OF GRADE SAG SHALL BE A MINIMUM OF 0.5' FEET LOWER IN ELEVATION THAN THE CREST OF GRADE SAG.
8) AVERAGE ROAD WIDTH HAS 14' RUNNING SURFACE.

D:\MISC\TS–SHEET.DWG

Reconstruction Worklist for Road 1746-000

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0	Beginning of road 1746-000, at intersection with Rd.17			
6.34	Stock pile location for aggregate and riprap hauled from Martin Creek Quarry			
6.39	Intersection of Rd. 1746 and Rd. 1746-763			
6.94	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 51	EA CY CY CY LF
7.06	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 36	EA CY CY CY LF
7.14	Remove existing culvert and replace with a new 18" CMP. Lower outlet invert 3 feet as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 42	EA CY CY CY LF
7.94	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 60	EA CY CY CY LF
8.04	Remove existing culvert and replace with a new 18" CMP. Lower outlet invert 3 feet as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 45	EA CY CY CY LF
8.51	Remove existing culvert and replace with a new 36" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. Construct grade sag as staked by Forest Service. See sheet 6 of 9 for grade sag details. End Reconstruction.	203-01.2 204-20 209-59 251-01.1 251-01.3 251-10.1 602-63.36	1 1 10 21 15 1 42	EA EA CY CY CY CY LF

Reconstruction Worklist for Road 1746-204

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0	Beginning of road 1746-204,at intersection with Rd. 1746-478			
0.09	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. End Reconstruction.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 32	EA CY CY CY LF

Reconstruction worklist for road 1746-529

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0	Road intersection 1746-763 and 1746-529			
0.50	Remove existing 30" culvert and replace with a new 36" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.3 209-59 251-01.3 251-10.1 602-63.36	1 10 3 1 61	EA CY CY CY LF
0.53	Salvage existing surface aggregate over the grade sag construction area then place back over constrcuted grade sag and compact.Construct grade sag as staked by Forest Service. See sheet 6 of 9 for Grade Sag details.	204-20 251-01.1 251-01.3	1 21 11	EA CY CY
0.72	Remove existing culvert and replace with a new 24" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.2 209-59 251-01.3 251-10.1 602-63.24	1 5 3 1 52	EA CY CY CY LF
0.89	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 34	EA CY CY CY LF
0.95	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 50	EA CY CY CY LF
1.01	Remove existing culvert and replace with a new 18" CMP. Lower outlet invert 1 foot as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 42	EA CY CY CY LF
1.32	Remove existing culvert and replace with a new 24" CMP. Lower outlet invert 4 feet as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.2 209-59 251-01.3 251-10.1 602-63.24	1 5 3 1 72	EA CY CY CY LF
1.53	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 58	EA CY CY CY LF
1.70	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. End Reconstruction.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 66	EA CY CY CY LF

Reconstruction Worklist for Road 1746-763

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0.00	Beginning of road 1746-763, at intersection with Rd.1746-000. Location of stockpile of aggregate and riprap.			
0.51	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 40	EA CY CY CY LF
0.91	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 42	EA CY CY CY LF
2.22	Water source			
2.3	Remove existing culvert and replace with a new 18" CMP. Lower outlet invert 3 feet as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. End Reconstruction.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 40	EA CY CY CY LF

Reconstruction Worklist for Road 1746-780

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0.00	Beginning of road 1746-780, at intersection with Rd. 1746-000			
0.08	Remove existing culvert and replace with a new 24" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. End Reconstruction.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 42	EA CY CY CY LF

Reconstruction Worklist for Road 1746-841

MILE POST	DESCRIPTION	PAY ITEM	QUANTITY	
0.00	Beginning of road 1746-841,at intersection with Rd. 1746-763			
0.1	Remove existing culvert and replace with a new 18" CMP as staked by the Forest Service. Salvage existing aggregate (indirect payment to 203-01.1) over the pipe, then place Aggregate and compact over the new installation. Construct headwall and splash apron. End reconstruction.	203-01.1 209-59 251-01.3 251-10.1 602-63.18	1 5 2 1 41	EA CY CY CY LF