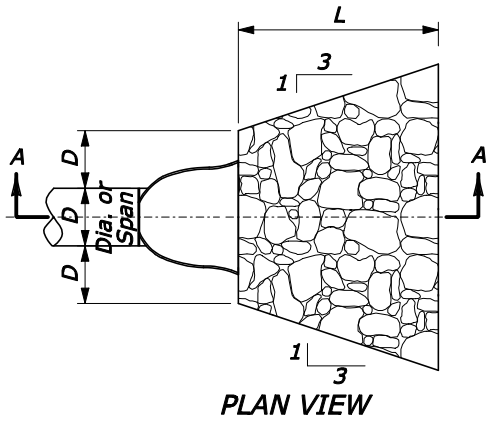


12/4/2014 4:17:02 PM W:\Civil 3D Projects\2014_027.001 ATKINS Saddle Road West Side Truck Escape Ramps\Roadway\Sheets\G-C251-50.dgn

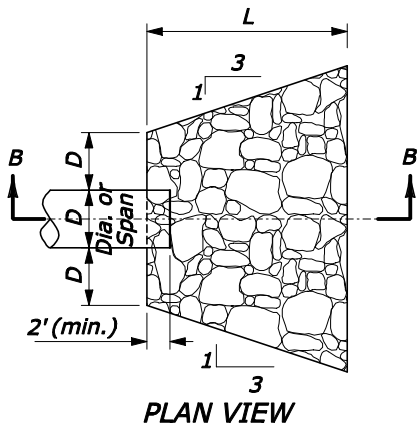
REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	HI	HI A-AD 6(8)	G4	G19

NOTE:

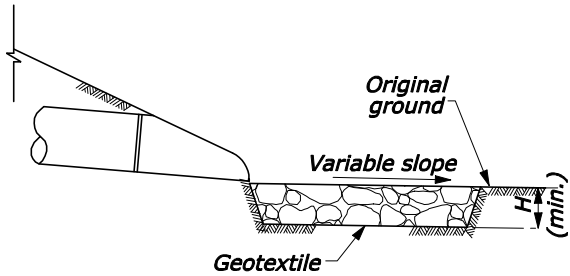
1. Use for aprons serving culverts with slopes of less than 10%.
2. Furnish geotextile conforming to Subsection 714.01(a).
3. Excavation for placement of riprap will not be measured for payment.



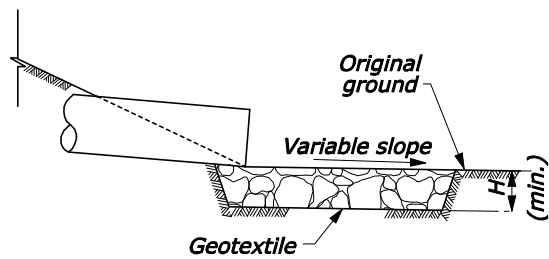
PLAN VIEW
CULVERT WITH STANDARD
END SECTION



PLAN VIEW
CULVERT WITHOUT STANDARD
END SECTION

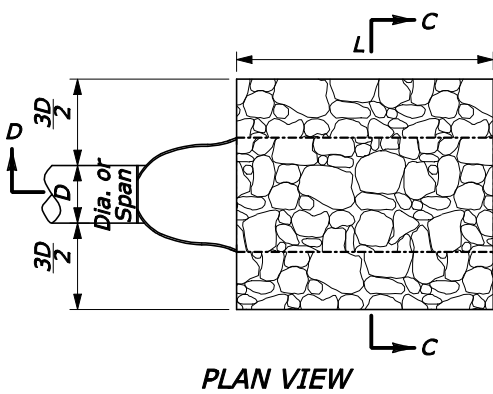


SECTION A-A

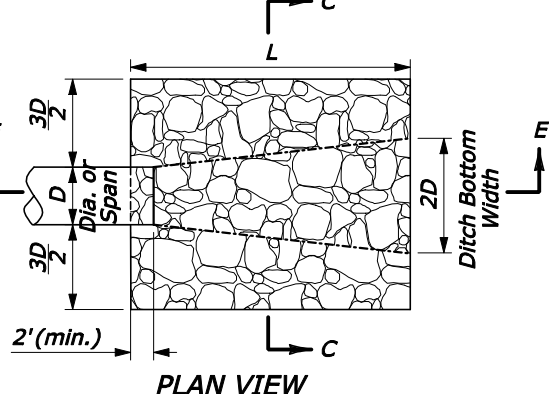


SECTION B-B

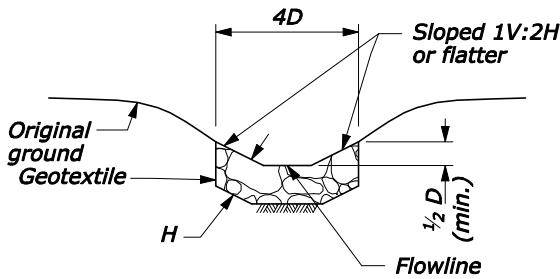
**PROTECTIVE APRON AT CULVERT OUTLET
WITHOUT DITCH**



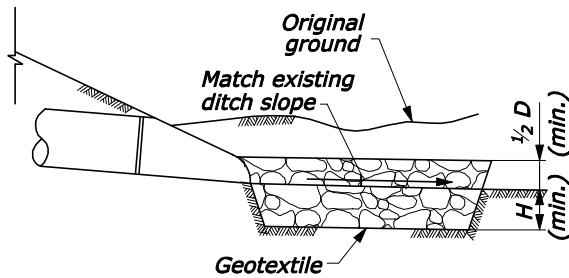
PLAN VIEW
CULVERT WITH STANDARD
END SECTION



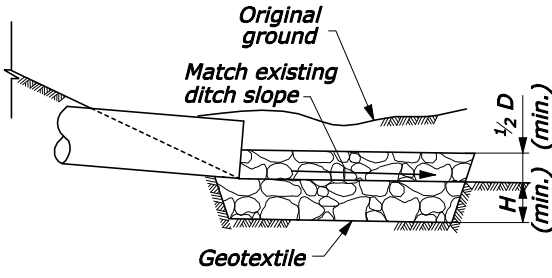
PLAN VIEW
CULVERT WITHOUT STANDARD
END SECTION



SECTION C-C



SECTION D-D



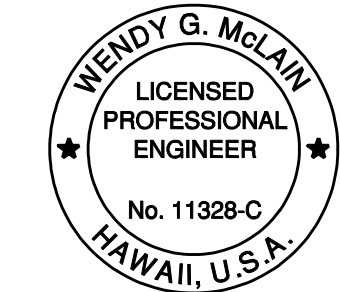
SECTION E-E

**PROTECTIVE APRON AT CULVERT OUTLET
WITH DITCH**

OUTLET WITHOUT DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	1	5
	18	2	6	1.5	2.2	9
	24	2	8	1.5	3.9	14
	30	3	12.5	2	10.9	28
	36	3	16	2	15.6	37
	42	4	21	2.5	34.1	63
WITHOUT END SECTION	48	4	24	2.5	44.5	79
	12	2	6	1.5	1.7	8
	18	2	8	1.5	3.2	12
	24	2	10	1.5	5.2	17
	30	3	14.5	2	13.3	33
	36	3	17	2	18.5	43
	42	4	23	2.5	38.7	70
	48	4	26	2.5	49.8	87

OUTLET WITH DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES						
	CULVERT SIZE D (inches)	RIPRAP CLASS	LENGTH OF APRON L (feet)	DEPTH OF APRON H (feet)	ESTIMATED RIPRAP QUANTITY (CY)	ESTIMATED GEOTEXTILE QUANTITY (SY)
WITH END SECTION	12	2	4	1.5	0.9	5
	18	2	6	1.5	2	8
	24	2	8	1.5	3.6	13
	30	3	12.5	2	9.3	24
	36	3	15	2	13.4	32
	42	4	21	2.5	27.3	53
WITHOUT END SECTION	48	4	24	2.5	35.6	65
	12	2	6	1.5	1.4	6
	18	2	8	1.5	2.7	10
	24	2	10	1.5	4.5	15
	30	3	14.5	2	10.8	27
	36	3	17	2	15.2	36
	42	4	23	2.5	29.9	57
	48	4	26	2.5	38.6	70

NO SCALE



THIS WORK WAS PREPARED BY ME OR
UNDER MY SUPERVISION.
SIGNATURE: *Wendy G. McLain* EXPIRATION DATE: 4/30/2016
OF THE LICENSE

U.S. DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION CENTRAL FEDERAL LANDS HIGHWAY DIVISION	
U.S. CUSTOMARY DETAIL	
PLACED RIPRAP AT CULVERT OUTLETS	
DETAIL APPROVED FOR USE 07/2004 REVISED: 08/2006 03/2009 11/2010 04/2011	DETAIL C251-50