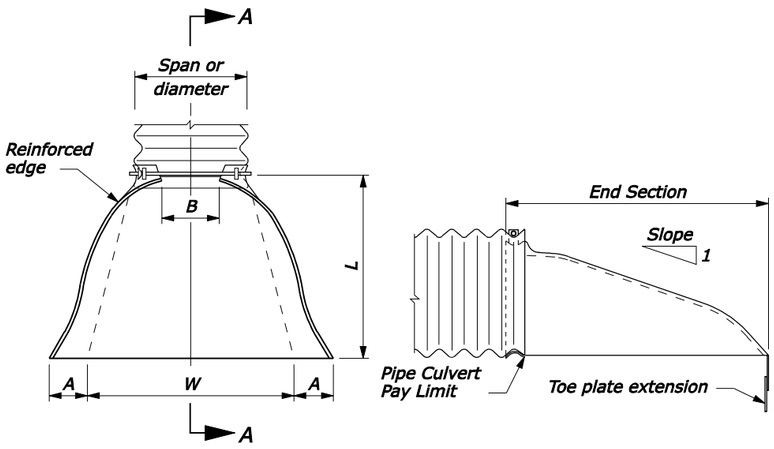
STATE	PROJECT	SHEET NUMBER

END SECTIONS FOR ROUND PIPE CULVERT

PIPE SIZE DIAMETER	METAL THICKNESS		DIMENSIONS					SLOPE
	STEEL	ALUMINUM	A (min)	B (max)	H (min)	L (±50)	W (max)	Approx.
300	1.63	1.52	125	175	150	525	1100	2¼
375	1.63	1.52	150	200	150	650	1300	2¼
450	1.63	1.52	175	250	150	775	1450	2⅛
525	1.63	1.52	200	300	150	900	1650	2⅛
600	1.63	1.52	225	325	150	1025	1800	2⅛
750	2.01	1.91	275	400	200	1275	2200	2⅛
900	2.01	1.91	325	475	225	1500	2625	2
1050	2.77	2.67	375	625	250	1725	3050	2⅛
1200	2.77	2.67	425	725	300	1950	3275	2
1350	2.77	2.67	425	825	300	2100	3575	2
1500	2.77	2.67	425	900	300	2175	3925	1⅞
1650	2.77	2.67	425	975	300	2175	4050	1⅝
1800	2.77	2.67	425	1100	300	2175	4225	1½
1950	2.77	2.67	425	1200	300	2175	4450	1⅜
2100	2.77	2.67	425	1300	300	2175	4600	1⅓
2250	2.77	2.67	425	1450	300	2175	4700	1¼
2400	2.77	2.67	425	1450	300	2175	4925	1⅛

END SECTIONS FOR PIPE ARCH CULVERT

PIPE SIZE SPAN x RISE	METAL THICKNESS		DIMENSIONS					SLOPE
	STEEL	ALUMINUM	A (min)	B (max)	H (min)	L (±50)	W (max)	Approx.
430 x 330	1.63	1.52	125	225	150	500	1300	2⅛
530 x 380	1.63	1.52	150	275	150	600	1450	2
610 x 460	1.63	1.52	175	300	150	700	1450	2⅛
710 x 510	1.63	1.52	175	400	150	800	1650	2
890 x 610	2.01	1.91	225	400	150	975	1800	1⅞
1070 x 740	2.01	1.91	275	450	175	1150	2200	1⅞
1240 x 840	2.77	2.67	300	525	225	1325	2625	1¾
1450 x 970	2.77	2.67	400	650	300	1550	3050	1⅞
1520 x 1170	2.77	2.67	425	900	300	1750	3550	1⅞
1630 x 1090	2.77	2.67	425	750	300	1725	3275	1⅞
1680 x 1300	2.77	2.67	425	900	300	1925	3900	1¾
1800 x 1190	2.77	2.67	425	900	300	1925	3575	1⅞
1850 x 1400	2.77	2.67	425	900	300	1925	4200	1½
1960 x 1320	2.77	2.67	425	900	300	1925	3925	1⅝
2060 x 1500	2.77	2.67	425	1100	300	1925	4475	1⅝
2110 x 1450	2.77	2.67	425	1100	300	1925	4050	1½
2210 x 1600	2.77	2.67	425	1100	300	1925	4650	1½
2410 x 1700	2.77	2.67	425	1100	300	2175	5250	1½
2620 x 1800	2.77	2.67	425	1100	300	2175	5550	1⅓
2840 x 1910	2.77	2.67	425	1100	300	2175	5650	1¼

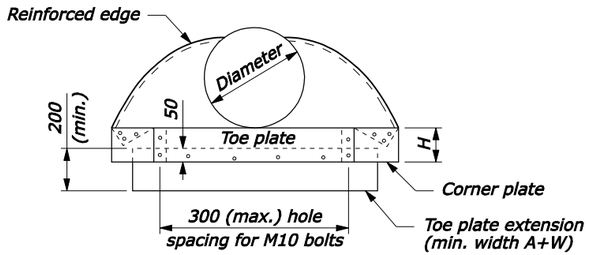


PLAN SECTION A-A

ROUND OR PIPE ARCH CULVERT

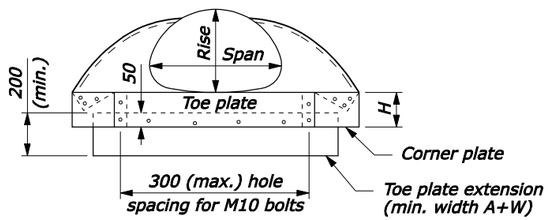
NOTE:

1. Variations in design and dimensions are permitted to allow for manufacturer's standards.
2. Fabricate the diameter of the end section of Design B to match the inside diameter of the concrete pipe culvert.
3. Design C may be used in lieu of design A for all metal pipe culvert sizes. Coupling bands may be any acceptable type for the pipe culvert specified.
4. Fabricate multiple piece bodies with lap seams tightly joined by M10 rivets or bolts. Fabricate end section center panels for 1500 mm and larger diameter pipe and equivalent pipe arch from 3.51 mm steel or 3.43 mm aluminum.
5. On end section center panels for 1650 mm and larger equivalent pipe arch provide 64 x 64 x 6.4 angle reinforcement bolted or riveted under the center panel seam.
6. Supplement the reinforced edges of end sections for 1500 mm and larger diameter pipe and 1650 mm and larger equivalent pipe arch with 51 x 51 x 6.4 stiffener angles attached with bolts or rivets.
7. Fabricate connector section, corner plate and toe plate extensions from the same metal thickness as the panel body. Use toe plate extension where shown on the plans.
8. Warp embankment slopes to match the slope of the flared end sections.
9. Dimensions without units are millimeters.



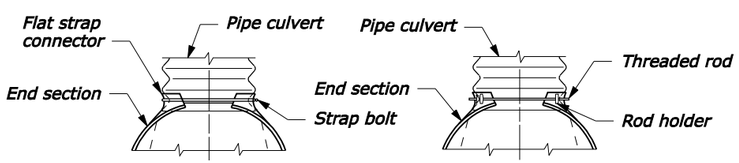
ELEVATION

ROUND PIPE CULVERT



ELEVATION

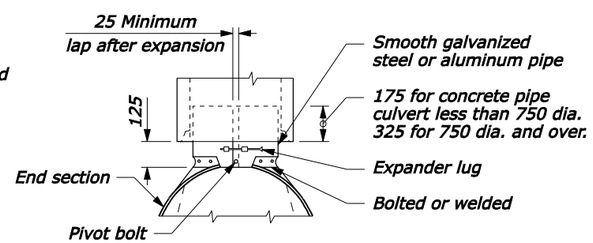
PIPE ARCH CULVERT



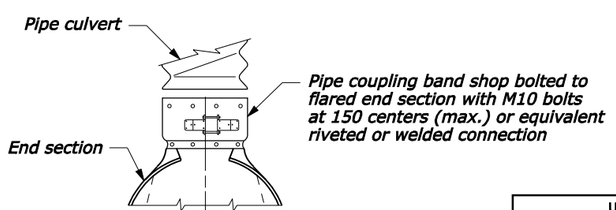
For 300 thru 600 mm round pipe and 430 x 330 mm thru 710 x 510 mm pipe arch

For 750 thru 1500 mm round pipe and 890 x 610 mm thru 1670 x 1290 mm pipe arch

DESIGN A
CONNECTION TO ANNULAR CORRUGATED METAL PIPE



DESIGN B
CONNECTION TO CONCRETE PIPE INLET END



For all sizes of round pipe and pipe arch

DESIGN C
CONNECTION TO METAL PIPE OR OUTLET END OF CONCRETE PIPE

NO SCALE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION
FEDERAL LANDS HIGHWAY

METRIC STANDARD

METAL END SECTIONS

STANDARD APPROVED FOR USE 3/1996	STANDARD
REVISED: 8/1997 6/2005 DRAFT: 10/2007	M602-4

31-Oct-2007 01:19 PM

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