STATE	PROJECT	SHEET NUMBER

STRUCTURAL PLATE PIPE ARCH CULVERT

FILL HEIGHT AND METAL THICKNESS TABLE

STEEL

152 x 51 CORRUGATIONS

2 BOLTS PER CORRUGATION

PIPE ARCH SIZE SPAN X RISE	CORNER RADIUS	MIN. COVER	METAL THICKNESS	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE METERS
1850 x 1400	460	300	2.82	4.9
1930 x 1450	460	300	2.82	4.6
2060 x 1500	460	300	2.82	4.3
2130 x 1550	460	300	2.82	4.3
2210 x 1600	460	300	2.82	4.0
2340 x 1650	460	300	2.82	4.0
2410 x 1700	460	300	2.82	3.7
2490 x 1750	460	450	2.82	3.7
2620 x 1800	460	450	2.82	3.4
2690 x 1850	460	450	2.82	3.4
2840 x 1910	460	450	2.82	3.0
2900 x 1960	460	450	2.82	3.0
2970 x 2010	460	450	2.82	3.0
3120 x 2060	460	450	2.82	2.7
3250 x 2110	460	450	2.82	2.7
3330 x 2160	460	450	2.82	2.7
3480 x 2210	460	450	2.82	2.4
3530 x 2260	460	450	2.82	2.4
3610 x 2310	460	450	2.82	2.4
3760 x 2360	460	600	2.82	2.1
3810 x 2410	460	600	2.82	2.1
3860 x 2460	460	600	2.82	2.1
3910 x 2540	460	600	2.82	1.8
4090 x 2570	460	600	2.82	1.8
4240 x 2620	460	600	2.82	1.8
4290 x 2670	460	600	2.82	1.5
4340 x 2720	460	600	2.82	1.5
4040 x 2840	790	750	2.82	3.7
4110 x 2900	790	750	2.82	3.7
4270 x 2950	790	750	2.82	3.7
4320 x 3000	790	750	2.82	3.7
4390 x 3050	790	750	2.82	3.4
4550 x 3100	790	750	2.82	3.4
4670 x 3150	790	750	2.82	3.4
4750 x 3200	790	750	2.82	3.4
4830 x 3250	790	750	2.82	3.0
4950 x 3300	790	750	2.82	3.0
5030 x 3350	790	750	2.82	3.0
5180 x 3400	790	750	2.82	3.0
5230 x 3450	790	750	2.82	3.0
5310 x 3510	790	750	2.82	2.7
5460 x 3560	790	750	2.82	2.7
5510 x 3610	790	750	2.82	2.7
5660 x 3660	790	750	2.82	2.7
5720 x 3710	790	750	2.82	2.7
5870 x 3760	790	750	3.56	2.4
5940 x 3810	790	750	3.56	2.4
5990 x 3860	790	750	3.56	2.4
6070 x 3910	790	750	3.56	2.4
6220 x 3960	790	750	3.56	2.1
6270 x 4010	790	750	3.56	2.1

ALUMINUM

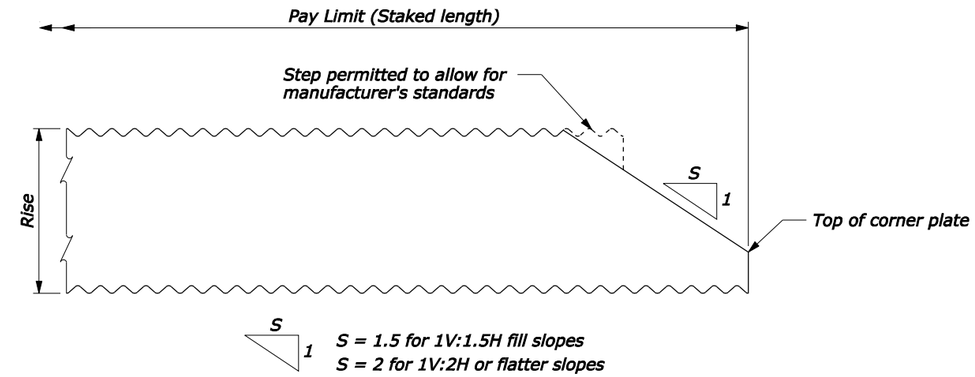
230 x 64 CORRUGATIONS

4 BOLTS PER CORRUGATION

PIPE ARCH SIZE SPAN X RISE	CORNER RADIUS	MIN. COVER	METAL THICKNESS	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE METERS
2010 x 1730	805	450	2.54	7.0
2110 x 1750	805	450	2.54	6.7
2210 x 1800	805	450	2.54	6.4
2360 x 1830	805	450	2.54	6.1
2460 x 1850	805	525	2.54	5.8
2570 x 1910	805	525	2.54	5.5
2690 x 1930	805	525	2.54	5.2
2820 x 1960	805	600	2.54	4.9
2920 x 1980	805	600	2.54	4.9
3020 x 2030	805	675	2.54	4.6
3120 x 2060	805	675	2.54	4.6
3280 x 2080	805	675	2.54	4.3
3380 x 2130	805	750	2.54	4.3
3480 x 2160	805	750	2.54	4.0
3580 x 2180	805	750	2.54	4.0
3730 x 2210	805	825	2.54	3.7
3840 x 2260	805	825	2.54	3.7
3940 x 2290	805	900	2.54	3.7
3990 x 2490	805	900	2.54	3.4
3990 x 2540	805	900	2.54	3.4
4240 x 2570	805	900	2.54	3.4
4240 x 2870	805	900	2.54	3.4
4240 x 2620	805	900	2.54	3.4
4340 x 2920	805	900	2.54	3.0
4470 x 2950	805	900	3.18	3.7
4550 x 3000	805	900	3.18	3.4
4670 x 3050	805	900	3.18	3.4
4750 x 3100	805	900	3.18	3.4
4900 x 3150	805	900	3.18	3.0
4980 x 3200	805	900	3.81	3.0
5110 x 3250	805	900	3.81	3.0
5180 x 3300	805	900	3.81	3.0
5260 x 3350	805	900	3.81	3.0
5410 x 3400	805	900	4.44	2.7
5490 x 3450	805	900	4.44	2.7
5610 x 3510	805	900	4.44	2.7
5690 x 3560	805	900	5.08	2.7
5840 x 3580	805	900	5.08	2.7
5920 x 3630	805	900	5.08	2.7
6050 x 3680	805	900	5.08	2.4
6120 x 3730	805	900	5.08	2.4
6120 x 3810	805	900	5.08	2.4
6350 x 3840	805	900	5.72	2.1
6430 x 3890	805	900	5.72	2.1
6550 x 3940	805	750	5.72	2.1

NOTE:

1. Fabricate the bottom plates one (1) thickness heavier than the side plates but not heavier than 9.65 mm for steel or 6.35 mm for aluminum.
2. Fasten plates with galvanized steel M20 bolts and nuts conforming to AASHTO M167M.
3. When directed, camber pipe culverts upward from a chord through the inlet and outlet inverts an ordinate amount equal to 1% of the pipe length. Develop camber on a parabolic curve. If the midpoint elevation on the parabolic curve as designed exceeds the elevation of the inlet invert, reduce the amount of camber or increase the pipe culvert gradient.
4. Measure minimum cover from the top of the pipe culvert to the subgrade for flexible pavements, and to the top of the pavement for rigid pavements. Measure maximum fill height from the top of the pipe to the top of the pavement for both flexible and rigid pavement.
5. Furnish hardware in the metric sizes shown. Equivalent US Customary sizes may be used when metric sizes are unavailable.
6. Dimensions without units are millimeters.



END TREATMENT DIAGRAM

NO SCALE

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

METRIC STANDARD

STRUCTURAL PLATE PIPE ARCH CULVERT

STANDARD APPROVED FOR USE 3/1996
REVISED: 6/2005

STANDARD M603-2

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