REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS

STRUCTURAL PLATE PIPE CULVERT

FILL HEIGHT AND METAL THICKNESS TABLE

STEEL

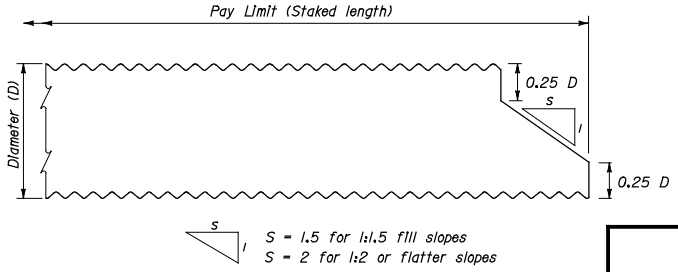
PIPE SIZE DIAMETER	MINIMUM COVER	152 x 51 CORRUGATIONS METAL THICKNESS/BOLTS PER CORRUGATION								
		2.82/2	3.56/2	4.32/2	4.79/2	5.54/2	6.32/2	7.11/2	7.87/3	9.65/4
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE IN METERS								
1500	300	14.0	20.7	27.4	30.0	30.0	30.0	30.0	30.0	30.0
1655	300	12.8	18.9	24.7	28.4	30.0	30.0	30.0	30.0	30.0
1810	300	11.6	17.4	22.9	26.2	30.0	30.0	30.0	30.0	30.0
1965	300	10.7	15.9	21.0	24.1	29.0	30.0	30.0	30.0	30.0
2120	300	10.1	14.9	19.5	22.3	28.8	30.0	30.0	30.0	30.0
2275	300	9.6	13.7	18.3	25.0	28.6	30.0	30.0	30.0	30.0
2430	300	8.8	13.1	17.1	19.6	23.5	27.7	30.0	30.0	30.0
2585	450	8.2	12.2	15.9	18.3	22.3	26.2	28.7	30.0	30.0
2740	450	7.6	11.6	15.2	17.4	21.0	24.7	26.8	30.0	30.0
2895	450	7.3	11.0	14.3	16.5	19.8	23.5	25.6	30.0	30.0
3050	450	7.0	10.4	13.7	15.5	18.9	22.3	24.4	30.0	30.0
3205	450	6.7	9.8	12.8	14.9	18.0	21.0	23.2	29.0	30.0
3360	450	6.4	9.5	12.2	14.0	17.1	20.1	22.0	27.7	29.6
3515	450	6.1	8.8	11.9	13.4	16.5	19.2	21.0	26.5	28.4
3670	450	5.8	8.5	11.3	13.1	15.5	18.6	20.1	25.3	27.1
3825	600	5.5	8.2	11.0	12.5	14.9	17.7	19.5	24.4	26.2
3980	600	5.2	7.9	10.4	11.9	14.3	17.1	18.6	23.2	25.0
4135	600	5.2	7.6	10.1	11.6	14.0	16.6	18.0	22.3	24.1
4290	600	4.9	7.3	9.8	11.0	13.4	15.9	17.4	21.6	23.2
4445	600	4.9	7.0	9.5	10.7	12.8	15.2	16.8	20.7	22.6
4600	600	4.6	6.7	9.1	10.4	12.5	14.6	16.2	20.1	21.6
4755	600	4.6	6.7	8.8	10.1	12.2	14.3	15.5	19.5	21.0
4910	600		6.4	8.5	9.8	11.6	13.7	15.2	18.9	20.4
5065	750		6.1	8.2	9.5	11.3	13.4	14.6	18.3	19.8
5220	750		6.1	7.9	9.1	11.0	13.1	14.3	17.7	19.2
5375	750		5.8	7.5	8.8	10.7	12.5	13.7	17.1	18.6
5530	750			7.5	8.5	10.4	12.2	13.4	16.5	18.0
5685	750			7.3	8.2	10.0	11.9	13.1	16.2	17.7
5840	750			7.0	7.9	9.8	11.6	12.8	15.5	17.1
5995	750			7.0	7.6	9.5	11.3	12.5	15.2	16.8
6150	900				7.6	9.5	11.0	12.2	14.9	16.2
6305	900					9.1	10.7	11.9	14.6	15.9
6460	900					8.8	10.4	11.6	14.0	15.5
6615	900					8.5	10.4	11.3	13.7	14.9
6770	900					8.5	10.1	11.0	13.4	11.6
6925	900					8.2	9.8	10.7	13.1	14.3
7080	900						9.5	13.4	12.8	14.0
7235	900						9.5	13.4	12.5	13.7
7390	900						9.1	10.1	12.2	13.4
7545	1050							9.8	12.2	13.1
7700	1050							9.8	11.9	12.8
7855	1050							9.5	11.6	12.5

ALUMINUM

PIPE SIZE DIAMETER	MINIMUM COVER	230 x 64 CORRUGATIONS METAL THICKNESS/BOLTS PER CORRUGATION						
		2.54/4	3.18/4	3.81/4	4.44/4	5.08/4	5.72/4	6.35/4
		MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE IN METERS						
1500	375	9.5	13.7	18.3	21.3	24.7	28.0	30.0
1655	375	8.5	12.5	16.5	19.5	22.6	25.6	28.7
1810	450	7.6	11.3	15.2	17.7	20.4	23.5	26.2
1965	450	7.0	10.7	14.0	16.5	18.9	21.6	24.1
2120	450	6.7	9.8	12.8	15.2	17.7	20.1	22.3
2275	525	6.1	9.1	12.2	14.3	16.5	18.6	20.7
2430	525	5.8	8.5	11.3	13.4	15.2	17.4	19.5
2585	600	5.5	7.9	10.7	12.5	14.3	16.5	18.3
2740	600	5.2	7.6	10.1	11.9	13.7	15.5	17.4
2895	675	4.9	7.0	9.5	11.3	12.8	14.6	16.5
3050	675	4.6	6.7	9.1	10.7	12.2	14.0	15.5
3205	750	4.3	6.4	8.5	10.1	11.6	13.4	14.9
3360	750	4.3	6.1	8.2	9.8	11.3	12.8	14.3
3515	825	4.0	5.8	7.9	9.1	10.7	12.2	13.4
3670	825	3.7	5.5	7.6	8.8	10.1	11.6	13.1
3825	825		5.5	7.3	8.5	9.8	11.0	12.5
3980	825		5.2	7.0	8.2	9.5	10.7	11.9
4135	825			6.7	7.9	9.1	10.4	11.6
4290	825			6.4	7.6	8.8	10.1	11.0
4445	825			6.1	7.3	8.5	9.5	10.7
4600	825				7.0	8.2	9.1	10.4
4755	825				6.7	7.9	8.8	10.1
4910	900					7.6	8.5	9.8
5030	900					7.3	8.5	9.5
5220	900					7.0	8.2	9.1
5385	900						7.9	8.8
5530	900						7.6	8.5
5685	900							8.2
5840	900							8.2

NOTE:

1. Dimensions not labeled are in millimeters.
2. 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.
3. Fasten plates with galvanized steel M20 bolts and nuts conforming to AASHTO M167M. Imperial sized ¾ inch bolts and nuts conforming to AASHTO M167 may be used until metric fasteners are available.
4. 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.
5. 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.



S = 1.5 for 1:1.5 fill slopes
S = 2 for 1:2 or flatter slopes

END TREATMENT DIAGRAM

NO SCALE

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

METRIC STANDARD

STRUCTURAL PLATE PIPE CULVERT

STANDARD APPROVED FOR USE 03/96

REVISED:

STANDARD M603-1

MST6030.DGN

$$$$$DGNSPEC$$$$$ $$$$$SYTIME$$$$$