STATE	PROJECT	SHEET NUMBER

STRUCTURAL PLATE PIPE ARCH CULVERT

FILL HEIGHT AND METAL THICKNESS TABLE

STEEL

6" x 2" CORRUGATIONS

2 BOLTS PER CORRUGATION

PIPE ARCH SIZE SPAN X RISE	CORNER RADIUS INCH	MIN. COVER INCH	METAL THICKNESS INCH	METAL THICKNESS GAGE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE FEET
6' - 1" x 4' - 7"	18	12	0.111	12	16
6' - 4" x 4' - 9"	18	12	0.111	12	15
6' - 9" x 4' - 11"	18	12	0.111	12	14
7' - 0" x 5' - 1"	18	12	0.111	12	14
7' - 3" x 5' - 3"	18	12	0.111	12	13
7' - 8" x 5' - 5"	18	12	0.111	12	13
7' - 11" x 5' - 7"	18	12	0.111	12	12
8' - 2" x 5' - 9"	18	18	0.111	12	12
8' - 7" x 5' - 11"	18	18	0.111	12	11
8' - 10" x 6' - 1"	18	18	0.111	12	11
9' - 4" x 6' - 3"	18	18	0.111	12	10
9' - 6" x 6' - 5"	18	18	0.111	12	10
9' - 9" x 6' - 7"	18	18	0.111	12	10
10' - 3" x 6' - 9"	18	18	0.111	12	9
10' - 8" x 6' - 11"	18	18	0.111	12	9
10' - 11" x 7' - 1"	18	18	0.111	12	9
11' - 5" x 7' - 3"	18	18	0.111	12	8
11' - 7" x 7' - 5"	18	18	0.111	12	8
11' - 10" x 7' - 7"	18	18	0.111	12	8
12' - 4" x 7' - 9"	18	24	0.111	12	7
12' - 6" x 7' - 11"	18	24	0.111	12	7
12' - 8" x 8' - 1"	18	24	0.111	12	7
12' - 10" x 8' - 4"	18	24	0.111	12	6
13' - 5" x 8' - 5"	18	24	0.111	12	6
13' - 11" x 8' - 7"	18	24	0.111	12	6
14' - 1" x 8' - 9"	18	24	0.111	12	5
14' - 3" x 8' - 11"	18	24	0.111	12	5
13' - 3" x 9' - 4"	31	30	0.111	12	12
13' - 6" x 9' - 6"	31	30	0.111	12	12
14' - 0" x 9' - 8"	31	30	0.111	12	12
14' - 2" x 9' - 10"	31	30	0.111	12	12
14' - 5" x 10' - 0"	31	30	0.111	12	11
14' - 11" x 10' - 2"	31	30	0.111	12	11
15' - 4" x 10' - 4"	31	30	0.111	12	11
15' - 7" x 10' - 6"	31	30	0.111	12	11
15' - 10" x 10' - 8"	31	30	0.111	12	10
16' - 3" x 10' - 10"	31	30	0.111	12	10
16' - 6" x 11' - 0"	31	30	0.111	12	10
17' - 0" x 11' - 2"	31	30	0.111	12	10
17' - 2" x 11' - 4"	31	30	0.111	12	10
17' - 5" x 11' - 6"	31	30	0.111	12	9
17' - 11" x 11' - 8"	31	30	0.111	12	9
18' - 1" x 11' - 10"	31	30	0.111	12	9
18' - 7" x 12' - 0"	31	30	0.111	12	9
18' - 9" x 12' - 2"	31	30	0.111	12	9
19' - 3" x 12' - 4"	31	30	0.140	10	8
19' - 6" x 12' - 6"	31	30	0.140	10	8
19' - 8" x 12' - 8"	31	30	0.140	10	8
19' - 11" x 12' - 10"	31	30	0.140	10	8
20' - 5" x 13' - 0"	31	30	0.140	10	7
20' - 7" x 13' - 2"	31	30	0.140	10	7

ALUMINUM

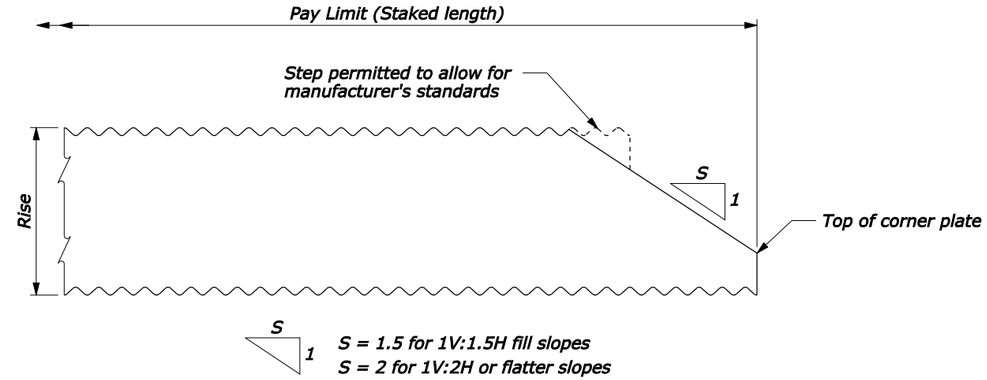
9" x 2½" CORRUGATIONS

4 BOLTS PER CORRUGATION

PIPE ARCH SIZE SPAN X RISE	CORNER RADIUS INCH	MIN. COVER INCH	METAL THICKNESS INCH	METAL THICKNESS GAGE	MAXIMUM FILL HEIGHT ABOVE TOP OF PIPE FEET
6' - 7" x 5' - 8"	32	18	0.100	12	23
6' - 11" x 5' - 9"	32	18	0.100	12	22
7' - 3" x 5' - 11"	32	18	0.100	12	21
7' - 9" x 6' - 0"	32	18	0.100	12	20
8' - 1" x 6' - 1"	32	21	0.100	12	19
8' - 5" x 6' - 3"	32	21	0.100	12	18
8' - 10" x 6' - 4"	32	21	0.100	12	17
9' - 3" x 6' - 5"	32	24	0.100	12	16
9' - 7" x 6' - 6"	32	24	0.100	12	16
9' - 11" x 6' - 8"	32	27	0.100	12	15
10' - 3" x 6' - 9"	32	27	0.100	12	15
10' - 9" x 6' - 10"	32	27	0.100	12	14
11' - 1" x 7' - 0"	32	30	0.100	12	14
11' - 5" x 7' - 1"	32	30	0.100	12	13
11' - 9" x 7' - 2"	32	30	0.100	12	13
12' - 3" x 7' - 3"	32	33	0.100	12	12
12' - 7" x 7' - 5"	32	33	0.100	12	12
12' - 11" x 7' - 6"	32	36	0.100	12	12
13' - 1" x 8' - 2"	32	36	0.100	12	11
13' - 1" x 8' - 4"	32	36	0.100	12	11
13' - 11" x 8' - 5"	32	36	0.100	12	11
13' - 11" x 9' - 5"	32	36	0.100	12	11
14' - 0" x 8' - 7"	32	36	0.100	12	11
14' - 3" x 9' - 7"	32	36	0.100	12	10
14' - 8" x 9' - 8"	32	36	0.125	11	12
14' - 11" x 9' - 10"	32	36	0.125	11	11
15' - 4" x 10' - 0"	32	36	0.125	11	11
15' - 7" x 10' - 2"	32	36	0.125	11	11
16' - 1" x 10' - 4"	32	36	0.125	11	10
16' - 4" x 10' - 6"	32	36	0.150	9	10
16' - 9" x 10' - 8"	32	36	0.150	9	10
17' - 0" x 10' - 10"	32	36	0.150	9	10
17' - 3" x 11' - 0"	32	36	0.150	9	10
17' - 9" x 11' - 2"	32	36	0.175	7	9
18' - 0" x 11' - 4"	32	36	0.175	7	9
18' - 5" x 11' - 6"	32	36	0.175	7	9
18' - 8" x 11' - 8"	32	36	0.200	6	9
19' - 2" x 11' - 9"	32	36	0.200	6	9
19' - 5" x 11' - 11"	32	36	0.200	6	9
19' - 10" x 12' - 1"	32	36	0.200	6	8
20' - 1" x 12' - 3"	32	36	0.200	6	8
20' - 1" x 12' - 6"	32	36	0.200	6	8
20' - 10" x 12' - 7"	32	36	0.225	4	7
21' - 1" x 12' - 9"	32	36	0.225	4	7
21' - 6" x 12' - 11"	32	36	0.225	4	7

NOTE:

1. Fabricate the bottom plates one (1) thickness heavier than the side plates but not heavier than 0.170 inch for steel or 0.175 inch for aluminum.
2. Fasten plates with galvanized steel ¾" bolts and nuts conforming to AASHTO M167.
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.



END TREATMENT DIAGRAM

NO SCALE

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

U.S. CUSTOMARY STANDARD

STRUCTURAL PLATE PIPE ARCH CULVERT

STANDARD APPROVED FOR USE 12/1993
REVISED: 4/1994 6/2005

STANDARD 603-2

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