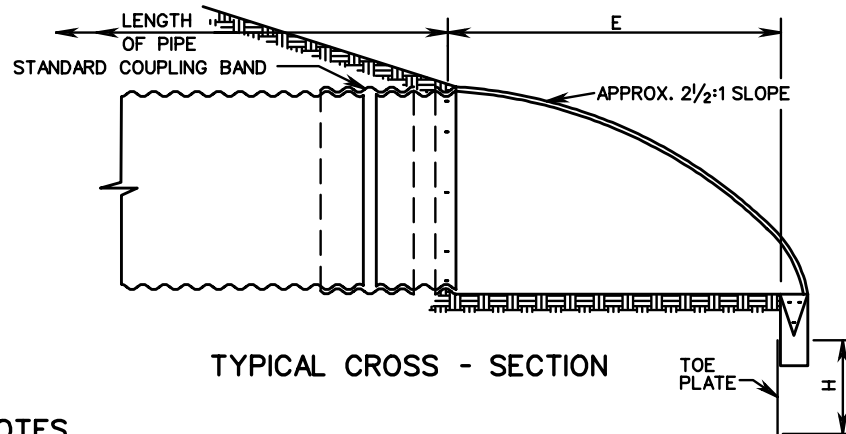
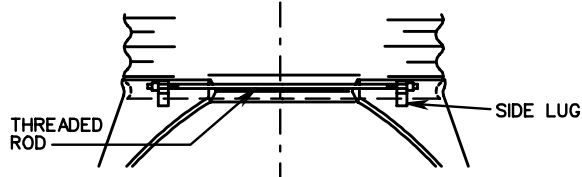
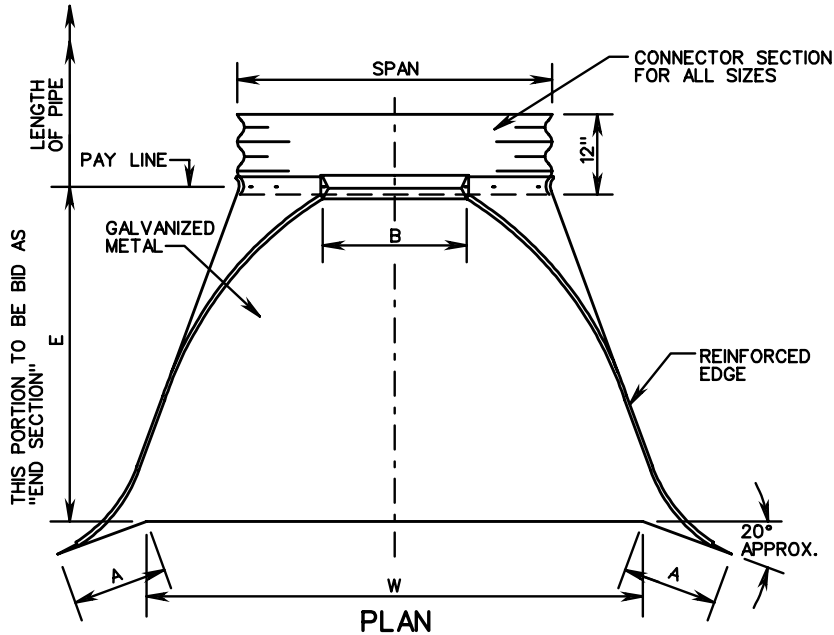


ES-3

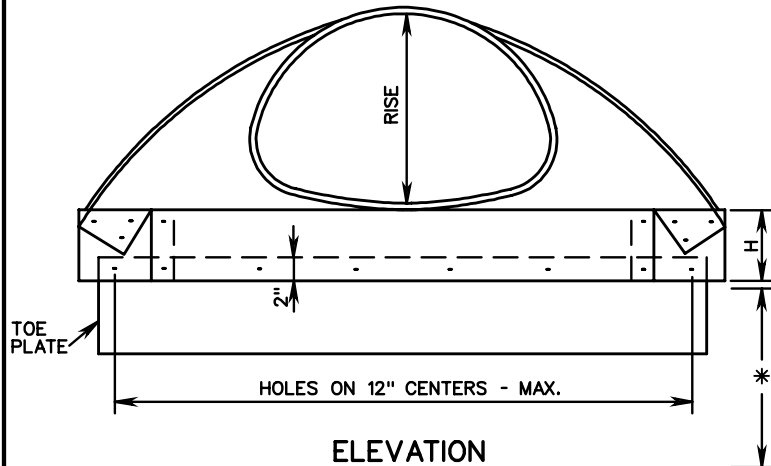
ALTERNATE CONNECTION



TYPICAL CROSS - SECTION



PLAN



ELEVATION

NOTES

1. TOE PLATE TO BE PUNCHED TO MATCH HOLES IN SKIRT LIP.
2. 3/8" GALVANIZED BOLTS TO BE FURNISHED, LENGTH OF TOE PLATE IS W + 10" WITH RISE OF 13" TO 29" INCLUDED AND W + 18" MIN. WITH RISE OF 33" TO 47" INCLUDED.
3. SKIRT SECTION WITH RISE OF 13" TO 24" INCLUDED TO BE MADE IN ONE PIECE.
4. SKIRT SECTION WITH RISE OF 29" TO 38" INCLUDED MAY BE MADE FROM TWO SHEETS JOINED BY RIVETING OR BOLTING ON CENTER LINE.
5. SKIRT SECTION WITH RISE OF 43" TO 47" INCLUDED MAY BE MADE FROM THREE SHEETS JOINED BY RIVETING OR BOLTING AT EQUAL DISTANCES FROM CENTER LINE.
6. CONNECTOR SECTION, CORNER PLATE AND TOE PLATE TO BE SAME SHEET THICKNESS AS SKIRT AND SAME TYPE OF MATERIAL AS CULVERT.
7. WHERE FLARED END - SECTIONS ARE TO BE USED WITH ASPHALT COATED AND PAVED METAL PIPE, END SECTIONS DO NOT NEED TO BE COATED OR PAVED.
8. \* INDICATES PIPE ARCHES FOR WHICH DIMENSIONS FOR EITHER CORRUGATION MAY BE USED WITHIN FILL HEIGHT LIMITATIONS.

PIPE-ARCH DIMENSIONS											
3" x 1" and 5" x 1" CORRUGATIONS			2 2/3 x 1/2" CORRUGATIONS				DIMENSIONS				
SPAN	RISE	SHEET THICKNESS	SPAN	RISE	SHEET THICKNESS		1" TOL.	MAX.	1" TOL.	1 1/2" TOL.	2" TOL.
					STEEL	ALUM.					
			17"	13"	.064"	.060	4 1/2"	9"	6"	19"	30"
			21"	15"	.064"	.060	5 1/4"	10"	6"	23"	36"
			24"	18"	.064"	.060	6 1/4"	11 1/2"	6"	28"	42"
			28"	20"	.064"	.060	7"	14"	6"	31 1/2"	48"
			35"	24"	.064"	.075	8 3/4"	16"	6"	38 1/2"	60"
40"	31"	.079"	42"	29"	.064"	.105	10 3/4"	17 1/2"	7 5/8"	47"	75"
46"	36"	.079"	49"	33"	.109"	.105	12 1/4"	20"	9 1/8"	54"	85"
53"	41"	.079"	57"	38"	.109"	.105	14"	22"	10 5/8"	63"	96"
60"	46"	.079"	64"	43"	.109"	.105	15 3/4"	23"	10 5/8"	70"	112"
66"	51"	.079"	71"	47"	.138"	.135	17 1/4"	24"	12 1/8"	77"	128"



ROAD AND BRIDGE STANDARDS

SHEET 1 OF 1

REVISION DATE

102.04

FLARED END-SECTION

13" - 47" RISE METAL PIPE ARCHES

VIRGINIA DEPARTMENT OF TRANSPORTATION

SPECIFICATION REFERENCE

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