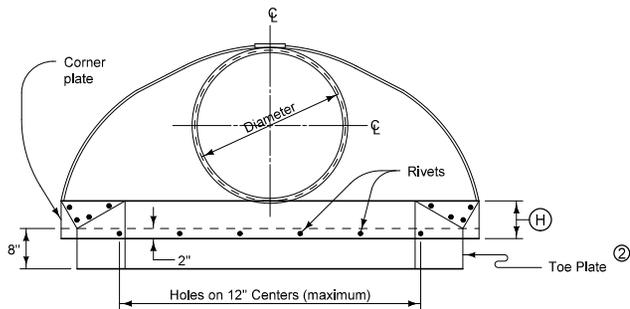
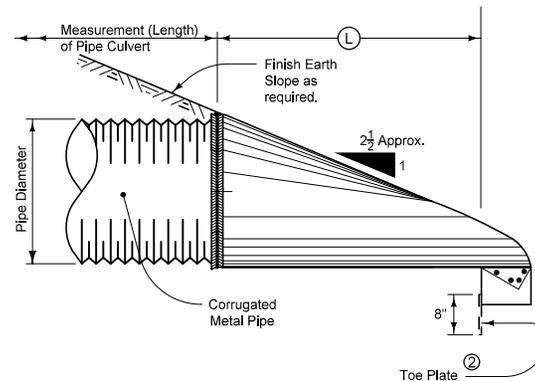


PLAN VIEW

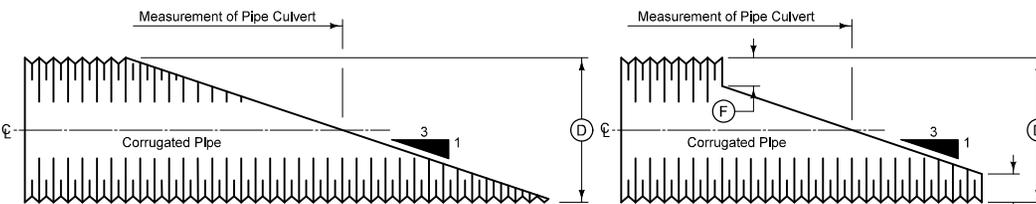
DIMENSIONS					
PIPE DIAM.	A (±1")	B MAX.	H (±1")	L (±1½")	W (±2")
6"	4½"	1"	3"	8¾"	12"
8"	5½"	3"	4"	14½"	16"
10"	7½"	6"	6"	21"	24"
12"	4¾"	6"	6"	21"	24"
15"	6"	8"	6"	26"	30"
18"	7"	9"	6"	31"	36"
21"	8½"	11"	6"	36"	42"
24"	9½"	12"	6"	42"	48"
30"	12"	15"	7½"	52½"	60"
36"	14"	18"	9"	63"	72"
42"	16"	21"	10½"	73½"	84"
48"	18"	27"	12"	84"	90"
54"	18"	30"	12"	84"	102"
60"	18"	33"	12"	87"	114"
66"	18"	36"	12"	87"	120"
72"	18"	39"	12"	87"	126"
78"	18"	42"	12"	87"	132"
84"	18"	45"	12"	87"	138"
90"	24"	37"	11"	87"	144"
96"	25"	35"	12"	87"	150"



END VIEW



SIDE VIEW



BEVELED ENDS FOR CORRUGATED METAL PIPE

BEVEL 3:1	
①	②
54"	3"
60"	6"
66"	9"
72"	12"
78"	15"
84"	18"
90"	21"
96"	24"

When specifically required as part of detail project plans, ends of pipe culvert may be provided with beveled ends as shown.

Either Full Bevel or Step Bevel may be used unless one type is specified. The slope of the bevel is 3:1 unless specified otherwise.

Beveled ends, when required, are incidental to the price bid for the culvert.

Install aprons and hardware fabricated from galvanized steel complying with Section 4141 of the Standard Specifications. Alternate design details may be submitted to the Engineer for approval.

Aprons may be attached to culvert pipe as follows:

- A. If normal culvert is of circumferential corrugation type, use an approved bolt or clamp to fasten apron directly to culvert.
- B. If normal culvert is of helical corrugation type:
  1. Use an approved sizing ring securely fastened to inside diameter of apron to connect to the culvert pipe using special dimple band connector.
  2. "Dimple" bands are not allowed when a positive joint is specified.

Refer to Materials I.M. 441 for approved coupling devices.

Repair, to the Engineer's satisfaction, breaks or damage to the coating that occur during handling or installation.

Price bid for "Aprons, Metal" is full compensation for fabrication and installation of the metal apron.

- ① On sizes 60" and larger, the reinforced edge should be supplemental with a galvanized stiffener angle attached with bolts.
- ② Install Galvanized Toe Plate (Same gage metal as apron) on all aprons 24" diameter and larger.

Possible Contract Item:

Apron, Metal

Possible Tabulations:

104-3  
104-5C

 Iowa Department of Transportation	REVISION 8 04-16-13
	<b>STANDARD ROAD PLAN</b> <b>RF-5</b>
	SHEET 1 of 1
REVISIONS: Modified notes and added Possible Contract Item and Possible Tabulations.	
 APPROVED BY DESIGN METHODS ENGINEER	
<b>METAL PIPE APRONS AND BEVELED ENDS</b>	