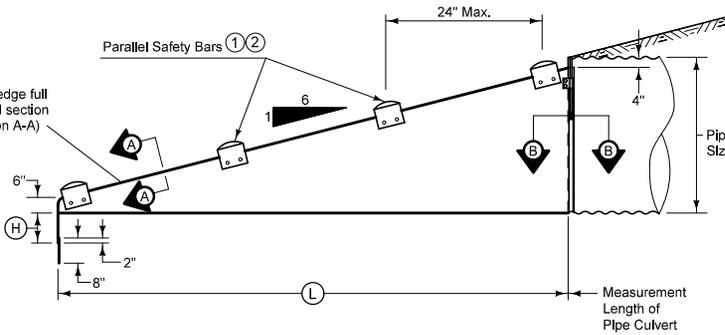
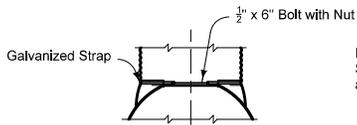


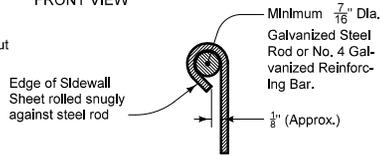
FRONT VIEW



SIDE ELEVATION



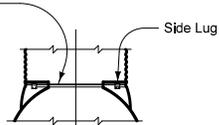
CONNECTOR DETAIL  
(15"-24" Dia.)



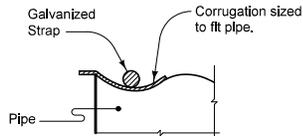
SECTION A-A

Pipe Dia. (In.)	Min. Thick. In.	Dimensions (Inches)					
		Gage	(A)	(H)	(W)	Overall Width	(L)
15	.064	16	8	6	21	37	30
18	.064	16	8	6	24	40	48
21	.064	16	8	6	27	43	66
24	.064	16	8	6	30	46	84
30	.109	12	12	9	36	60	120
36	.109	12	12	9	42	66	156
42	.109	12	16	12	48	80	192
48	.109	12	16	12	54	86	228
54	.109	12	16	12	60	92	264
60	.109	12	16	12	66	98	300

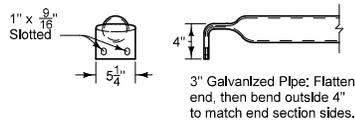
1/2" Dia. Threaded Rod over top of End Section. Side Lugs to be bolted to End Section.



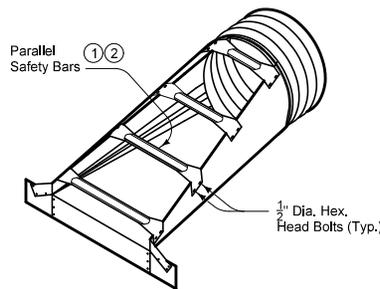
CONNECTOR DETAIL  
(30"-60" Dia.)



SECTION B-B



PARALLEL BARS  
DETAIL OF SAFETY BARS



PERSPECTIVE VIEW  
OF APRON

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.

Apron may be attached to culvert pipe as follows:

- If normal culvert is of circumferential corrugation type, use an approved bolt or clamp to fasten apron directly to culvert.
- If normal culvert is of helical corrugation type:
  - Use an approved sizing ring securely fastened to inside diameter of apron to connect to the culvert pipe using special dimple band connector.
  - "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, Safety Slope" is full compensation for fabrication and installation of the apron.

- Number of bars required will vary depending on the length of the end section.
- Parallel safety bars are required for pipes 30" diameter and larger. For pipe 24" diameter and smaller, parallel safety bars will be required only when specified in the project plans.

Possible Contract Item:  
Apron, Safety Slope

Possible Tabulation:  
104-3

 Iowa Department of Transportation <b>STANDARD ROAD PLAN</b>	REVISION
	4   04-16-13
	<b>RF-44</b>
SHEET 1 of 1	
REVISIONS: Modified notes, Added Possible Contract Item and Possible Tabulation.	
 APPROVED BY DESIGN METHODS ENGINEER	
<b>METAL SAFETY SLOPE APRON</b> <b>6:1 SLOPE</b>	