

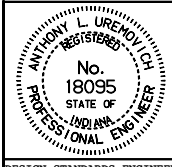
**9' x 2½" STRUCTURAL PLATE ALUMINUM ALLOY PIPE-ARCH (STEEL BOLTED)
HEIGHT OF COVER LIMITS (ft.)**

Rc (in.)	SPAN (ft.-in.)	RISE (ft.-in.)	AREA (sft)	THICKNESS (in.)									
				0.100		0.125		0.150		0.175		0.200	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
31.75	15-4	10-0	118			1.9	10.7	1.9	10.7	1.9	10.7	1.9	10.7
31.75	15-7	10-2	123			2.0	10.5	2.0	10.5	2.0	10.5	2.0	10.5
31.75	16-1	10-4	127			2.0	10.1	2.0	10.1	2.0	10.1	2.0	10.1
31.75	16-4	10-6	132					2.0	9.9	2.0	9.9	2.0	9.9
31.75	16-9	10-8	136					2.1	9.6	2.1	9.6	2.1	9.6
31.75	17-0	10-10	141					2.1	9.5	2.1	9.5	2.1	9.5
31.75	17-3	11-0	146					2.2	9.3	2.2	9.3	2.2	9.3
31.75	17-9	11-2	151							2.2	8.9	2.2	8.9
31.75	18-0	11-4	156							2.3	8.8	2.3	8.8
31.75	18-5	11-6	161							2.3	8.5	2.3	8.5
31.75	18-8	11-8	167							2.3	8.4	2.3	8.4
31.75	19-2	11-9	172									2.4	8.0
31.75	19-5	11-11	177									2.4	7.9
31.75	19-10	12-1	182									2.5	7.7
31.75	20-1	12-3	188									2.5	7.5
31.75	20-1	12-6	194										
31.75	20-10	12-7	199										
31.75	21-1	12-9	205										
31.75	21-6	12-11	211										
47.00	20-1	13-11	216										
47.00	20-7	14-3	224										
47.00	21-5	14-7	241										
47.00	21-11	14-11	254										
47.00	22-8	15-3	267										

NOTE:

1. The tabulated cover depths shall be measured from the bottom of the asphalt or concrete pavement to the top of the pipe.
2. A specific design shall be performed for structures with corner radii other than those tabulated above to determine the appropriate cover depth limits.

INDIANA DEPARTMENT OF TRANSPORTATION
**PIPE HEIGHT OF
COVER LIMITS**
JANUARY 1998
STANDARD DRAWING NO. E 717-PHCL-05

	DETAILS PLACED IN THIS FORMAT 11-15-99
	/s/ Anthony L. Uremovich 11-15-99 DESIGN STANDARDS ENGINEER DATE
	/s/ Firooz Zandi 11-15-99 CHIEF HIGHWAY ENGINEER DATE
	DESIGN STANDARDS ENGINEER ORIGINALLY APPROVED 1-02-98