

**3" x 1" CORRUGATED STEEL PIPE-ARCH (RIVETED OR LOCK SEAM)
HEIGHT OF COVER LIMITS (ft.)**

Rc (in.)	SPAN (in.)	RISE (in.)	AREA (sft)	THICKNESS (in.)									
				0.064		0.079		0.109		0.138		0.168	
				MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
8/18 $\frac{3}{4}$	60	46	15.6			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
9/20 $\frac{3}{4}$	66	51	19.3			1.1	20.9	1.1	20.9	1.1	20.9	1.1	20.9
12/22 $\frac{7}{8}$	73	55	23.2			1.1	20.8	1.1	20.8	1.1	20.8	1.1	20.8
14/20 $\frac{7}{8}$	81	59	27.4			1.2	17.1	1.2	17.1	1.2	17.1	1.2	17.1
14/22 $\frac{7}{8}$	87	63	32.1			1.2	17.3	1.2	17.3	1.2	17.3	1.2	17.3
16/24 $\frac{7}{8}$	95	67	37.0			1.2	17.1	1.2	17.1	1.2	17.1	1.2	17.1
16/26 $\frac{7}{8}$	103	71	42.4					1.2	16.9	1.2	16.9	1.2	16.9
18/27 $\frac{3}{4}$	112	75	48.0					1.3	16.5	1.3	16.5	1.3	16.5
18/29 $\frac{1}{2}$	117	79	59.2					1.2	16.8	1.2	16.8	1.2	16.8
18/31 $\frac{1}{4}$	128	83	60.5							1.3	16.2	1.3	16.2
18/33	137	87	67.4							1.3	16.0	1.3	16.0
18/34 $\frac{3}{4}$	142	91	74.5									1.3	16.3

NOTE:

- The tabulated cover depths shall be measured from the bottom of the asphalt or concrete pavement to the top of the pipe.
- Dual entries in the Corner Radius, column, such as 8/18 $\frac{3}{4}$, represent the following:
 8 - minimum corner radius allowed by AASHTO M 36.
 18 $\frac{3}{4}$ - corner radius typically available.
- The tabulated cover heights reflect pipe-arches with typically available corner radii. If a pipe-arch with corner radii other than what is typically available is to be used, a specific design shall be performed to verify structural adequacy.

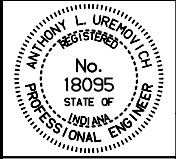
INDIANA DEPARTMENT OF TRANSPORTATION

**PIPE HEIGHT OF
COVER LIMITS**

JANUARY 1998

STANDARD DRAWING NO. E 715-PHCL-14

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