REINFORCED CONCRETE HORIZONTAL ELLIPICAL PIPE
HEIGHT OF COVER LIMITS (m)

SPAN (mm)	RISE (mm)	AREA (m^2)	Strength Class/D-load Rating									
			Class HE-A: $D_{0.3}$ = 30		Class HE-I: $D_{0.3}$ = 40		Class HE-II: $D_{0.3}$ = 50		Class HE-III: $D_{0.3}$ = 65		Class HE-IV: $D_{0.3}$ = 100	
			MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
575	365	0.17	0.40	1.2	0.30	2.4	0.30	3.4	0.30	6.1	0.30	30.5
770	490	0.31	0.34	1.5	0.30	2.1	0.30	3.0	0.30	4.9	0.30	14.3
865	550	0.38	0.30	1.5	0.30	2.4	0.30	3.4	0.30	5.2	0.30	14.6
960	610	0.47	0.30	1.5	0.30	2.4	0.30	3.4	0.30	5.5	0.30	14.9
1055	670	0.59	0.30	1.8	0.30	2.7	0.30	3.7	0.30	5.8	0.30	15.2
1150	730	0.68	0.30	1.8	0.30	2.7	0.30	3.7	0.30	5.8	0.30	13.7
1250	795	0.82	0.30	1.8	0.30	2.7	0.30	3.7	0.30	5.8	0.30	13.7
1345	855	0.95	0.30	1.8	0.30	2.7	0.30	3.7	0.30	6.1	0.30	13.4
1535	975	1.20	0.30	1.5	0.30	2.4	0.30	3.0	0.30	4.6	0.30	7.9
1730	1095	1.55	0.30	1.5	0.30	2.4	0.30	3.0	0.30	4.6	0.30	8.2
1920	1220	1.90	0.30	1.8	0.30	2.4	0.30	3.4	0.30	4.9	0.30	8.5
2110	1340	2.30	0.30	1.8	0.30	2.7	0.30	3.4	0.30	4.9	0.30	8.8
2305	1465	2.73	0.30	1.8	0.30	2.7	0.30	3.7	0.30	5.2	0.30	8.8
2495	1585	3.21	0.34	1.8	0.34	2.7	0.34	3.7	0.34	5.2	0.34	8.8
2690	1705	3.73	0.37	1.8	0.37	2.7	0.37	3.7	0.37	5.2	0.37	9.1
2880	1830	4.28	0.37	2.1	0.37	2.7	0.37	3.7	0.37	5.5	0.37	9.1
3070	1950	4.87	0.40	2.1	0.40	2.7	0.40	3.7	0.40	5.5	0.40	9.1
3265	2075	5.49	0.43	2.1	0.43	3.0	0.43	4.0	0.43	5.5	0.43	9.1
3455	2195	6.17	0.46	2.1	0.46	3.0	0.46	4.0	0.46	5.5	0.46	9.4
3648	2315	6.87	0.46	2.1	0.46	3.0	0.46	4.0	0.46	5.5	0.46	9.4
3840	2440	7.63	0.49	2.1	0.49	3.0	0.49	4.0	0.49	5.8	0.49	9.4
4225	2680	9.22	0.52	2.1	0.55	3.0	0.55	4.0	0.55	5.8	0.55	9.4
4610	2925	11.0	0.55	2.1	0.58	3.0	0.58	4.0	0.58	5.8	0.58	9.4

NOTE:

1. The tabulated cover depths shall be measured from the bottom of the bituminous or concrete pavement to the top of the pipe.

All dimensions are in mm unless otherwise specified.

INDIANA DEPARTMENT OF TRANSPORTATION

PIPE HEIGHT OF COVER LIMITS

JANUARY 1998

STANDARD DRAWING NO. **715-PHCL-23**

ANTHONY L. UREMOVICH REGISTERED No. 18095 STATE OF INDIANA PROFESSIONAL ENGINEER

DESIGN STANDARDS ENGINEER

/s/ Anthony L. Uremovich 1-02-98
DESIGN STANDARDS ENGINEER — DATE

/s/ Donald W. Lucas 1-02-98
CHIEF HIGHWAY ENGINEER — DATE

Source Sheet: NONE