

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

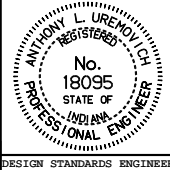
| SPAN (mm) | RISE (mm) | AREA (m ²) | Strength Class/D-load Rating | | | | | | | | | |
|--------------|--------------|---------------------------|-----------------------------------|------|-----------------------------------|------|------------------------------------|------|-------------------------------------|------|-------------------------------------|------|
| | | | 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 |
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All dimensions are in mm unless otherwise specified.

NOTE:

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

INDIANA DEPARTMENT OF TRANSPORTATION
PIPE HEIGHT OF COVER LIMITS
JANUARY 1998
STANDARD DRAWING NO. 715-PHCL-23

| | |
|---|--|
|  | /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