

**230 mm x 64 mm STRUCTURAL PLATE ALUMINUM ALLOY PIPE-ARCH (STEEL BOLTED)  
HEIGHT OF COVER LIMITS (m)**

| Rc<br>(mm) | SPAN<br>(mm) | RISE<br>(mm) | AREA<br>(m <sup>2</sup> ) | THICKNESS (mm) |      |      |      |      |      |      |      |      |      |
|------------|--------------|--------------|---------------------------|----------------|------|------|------|------|------|------|------|------|------|
|            |              |              |                           | 2.54           |      | 3.18 |      | 3.81 |      | 4.44 |      | 5.08 |      |
|            |              |              |                           | MIN.           | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. | MIN. | MAX. |
| 806        | 2010         | 1730         | 2.7                       | 0.30           | 7.0  | 0.30 | 7.9  | 0.30 | 7.9  | 0.30 | 7.9  | 0.30 | 7.9  |
| 806        | 2110         | 1750         | 2.9                       | 0.30           | 6.7  | 0.30 | 7.6  | 0.30 | 7.6  | 0.30 | 7.6  | 0.30 | 7.6  |
| 806        | 2210         | 1800         | 3.2                       | 0.34           | 6.4  | 0.30 | 7.3  | 0.30 | 7.3  | 0.30 | 7.3  | 0.30 | 7.3  |
| 806        | 2360         | 1830         | 3.3                       | 0.34           | 6.1  | 0.30 | 6.7  | 0.30 | 6.7  | 0.30 | 6.7  | 0.30 | 6.7  |
| 806        | 2460         | 1850         | 3.6                       | 0.34           | 5.8  | 0.34 | 6.4  | 0.34 | 6.4  | 0.34 | 6.4  | 0.34 | 6.4  |
| 806        | 2570         | 1910         | 3.8                       | 0.34           | 5.5  | 0.34 | 6.1  | 0.34 | 6.1  | 0.34 | 6.1  | 0.34 | 6.1  |
| 806        | 2690         | 1930         | 4.1                       | 0.37           | 5.2  | 0.34 | 5.8  | 0.34 | 5.8  | 0.34 | 5.8  | 0.34 | 5.8  |
| 806        | 2820         | 1960         | 4.4                       | 0.37           | 4.9  | 0.37 | 5.8  | 0.37 | 5.8  | 0.37 | 5.8  | 0.37 | 5.8  |
| 806        | 2920         | 1980         | 4.6                       | 0.40           | 4.9  | 0.37 | 5.5  | 0.37 | 5.5  | 0.37 | 5.5  | 0.37 | 5.5  |
| 806        | 3020         | 2030         | 4.8                       | 0.40           | 4.6  | 0.40 | 5.2  | 0.40 | 5.2  | 0.40 | 5.2  | 0.40 | 5.2  |
| 806        | 3120         | 2060         | 5.1                       | 0.40           | 4.6  | 0.40 | 5.2  | 0.40 | 5.2  | 0.40 | 5.2  | 0.40 | 5.2  |
| 806        | 3280         | 2080         | 5.4                       | 0.43           | 4.3  | 0.43 | 4.9  | 0.43 | 4.9  | 0.43 | 4.9  | 0.43 | 4.9  |
| 806        | 3380         | 2130         | 5.7                       | 0.46           | 4.3  | 0.43 | 4.6  | 0.43 | 4.6  | 0.43 | 4.6  | 0.43 | 4.6  |
| 806        | 3480         | 2160         | 5.9                       | 0.46           | 4.0  | 0.46 | 4.6  | 0.46 | 4.6  | 0.46 | 4.6  | 0.46 | 4.6  |
| 806        | 3580         | 2180         | 6.2                       | 0.46           | 4.0  | 0.46 | 4.3  | 0.46 | 4.3  | 0.46 | 4.3  | 0.46 | 4.3  |
| 806        | 3730         | 2210         | 6.5                       | 0.49           | 3.7  | 0.49 | 4.3  | 0.49 | 4.3  | 0.49 | 4.3  | 0.49 | 4.3  |
| 806        | 3840         | 2260         | 6.8                       | 0.52           | 3.4  | 0.49 | 4.0  | 0.49 | 4.0  | 0.49 | 4.0  | 0.49 | 4.0  |
| 806        | 3940         | 2290         | 7.2                       | 0.52           | 3.4  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  |
| 806        | 3990         | 2490         | 7.7                       | 0.52           | 3.4  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  |
| 806        | 3990         | 2540         | 8.0                       | 0.52           | 3.4  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  | 0.52 | 4.0  |
| 806        | 4240         | 2570         | 8.4                       | 0.58           | 3.0  | 0.55 | 3.7  | 0.55 | 3.7  | 0.55 | 3.7  | 0.55 | 3.7  |
| 806        | 4270         | 2620         | 8.7                       | 0.58           | 3.0  | 0.55 | 3.4  | 0.55 | 3.4  | 0.55 | 3.4  | 0.55 | 3.4  |
| 806        | 4240         | 2870         | 9.4                       | 0.58           | 3.0  | 0.55 | 3.7  | 0.55 | 3.7  | 0.55 | 3.7  | 0.55 | 3.7  |
| 806        | 4340         | 2920         | 9.8                       | 0.58           | 3.0  | 0.55 | 3.4  | 0.55 | 3.4  | 0.55 | 3.4  | 0.55 | 3.4  |
| 806        | 4470         | 2950         | 10.1                      |                |      | 0.58 | 3.4  | 0.58 | 3.4  | 0.58 | 3.4  | 0.58 | 3.4  |
| 806        | 4550         | 3000         | 10.6                      |                |      | 0.58 | 3.4  | 0.58 | 3.4  | 0.58 | 3.4  | 0.58 | 3.4  |
|            |              |              |                           |                |      |      |      |      |      |      |      |      |      |
|            |              |              |                           |                |      |      |      |      |      |      |      |      |      |
|            |              |              |                           |                |      |      |      |      |      |      |      |      |      |

**NOTE:**

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

All dimensions are in mm unless otherwise specified.

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| INDIANA DEPARTMENT OF TRANSPORTATION  |   |
| <b>PIPE HEIGHT OF COVER LIMITS</b>  |   |
| JANUARY 1998  |   |
| STANDARD DRAWING NO. 717-PHCL-03  |   |
|  | /s/ Anthony L. Uremovich 1-02-98<br>DESIGN STANDARDS ENGINEER      DATE |
| Source Sheet: NONE  | /s/ Donald W. Lucas 1-02-98<br>CHIEF HIGHWAY ENGINEER      DATE         |