## ELLIPTICAL CONCRETE PIPE



| ASTM 507 -- REINFORCED CONCRETE ELLIPTICAL CULVERT, STORM DRAIN AND SEWER PIPE |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| EQUIVALENT | HEIGHT | WIDTH | WALL | WATERWAY | WEIGHT |
| ROUND SIZE | INSIDE | INSIDE | THICKNESS | AREA | POUNDS |
| (INCHES) | (INCHES) | (INCHES) | (INCHES) | (SQ. FT.) | PER FOOT |
| 18 | 14 | 23 | $2{ }^{3 / 4}$ | 1.8 | 211 |
| 24 | 19 | 30 | $31 / 4$ | 3.3 | 319 |
| 30 | 24 | 38 | $3{ }^{3 / 4}$ | 5.1 | 452 |
| 36 | 29 | 45 | $41 / 2$ | 7.4 | 625 |
| 42 | 34 | 23 | 5 | 10.2 | 853 |
| 48 | 38 | 60 | $51 / 2$ | 12.9 | 1,061 |
| 54 | 43 | 68 | 6 | 16.6 | 1,235 |
| 60 | 48 | 76 | $61 / 2$ | 20.5 | 1,475 |
| 72 | 58 | 91 | $71 / 2$ | 29.5 | 2,040 |
| 84 | 68 | 106 | $81 / 2$ | 40.1 | 2,680 |

Horizontal elliptical concrete pipe offers the hydraulic advantage of greater capacity for the same depth of flow than most other structures of equivalent water way area.

Elliptical concrete pipe (C-507) carries approximately $25 \%$ more water than concrete arch pipe (C-506) due to the greater water way area and hydraulic radius. Elliptical pipe has a slightly greater capacity than round pipe.

The term "round equivalent" is a misnomer, and elliptical and arch pipe should not be considered equal alternates. The designer may refer to the "concrete pipe design manual" for flow coefficient values.

