



NOTES:

Headwall where required are provided for non-skewed culverts having a diameter or rise of 36" or less. Reinforcing Steel Bars shall be 5/8 inch round, Epoxy Coated.
 Dimensions and quantities are shown for circular sections only. It will be necessary to determine dimensions for the headwall required for reinforced elliptical concrete pipe in accordance with the equations listed on this drawing.
 Concrete shall be Class "C".
 The soil must have a bearing capacity of 3000 pounds per square foot prior to placing the headwall.

DIMENSIONS		
Diameter	H	L
12" thru 15"	6'-0"	8'-4"
18"	6'-0"	8'-4"
21"	6'-0"	11'-0"
24"	6'-0"	11'-0"
30"	7'-0"	13'-8"
36"	7'-0"	16'-4"

- L Circular Sections = $5D+4t$
- L Elliptical = $4R+t+S$
- H Circular Sections = $D+t+44"$
- H Elliptical = $R+t+44"$

D = Diameter of Pipe
 R = Rise of Pipe
 S = Span of Pipe
 t = Thickness of Barrel
 L = Length of Headwall
 H = Height of Headwall

<p>CHRIS E. BAUSERMAN, P.E., P.S. Delaware County Engineer</p> <hr/> <p style="text-align: center;"><i>Delaware County Engineer</i></p>	<p>STANDARD CONSTRUCTION DRAWING</p> <p>PRECAST PIPE CULVERT HEADWALLS</p> <p>12" TO 36" DIA.</p>	<p>DELAWARE COUNTY ENGINEER'S OFFICE 50 Channing Street Delaware, Ohio 43015 PHONE: (740)833-2400 FAX: (740)833-2399 www.co.delaware.oh.us</p>
<p>APPROVED 1-22-2008</p>	<p>REVISED 9-15-2014</p>	<p>Drawn <u>KS</u> sheet <u>1</u> FILE NO. Checked <u>EM</u> of <u>1</u> DCED-S168</p>