



NOTES:

1. HEADWALL WHERE REQUIRED WILL BE PROVIDED FOR NONSKEWED CULVERTS HAVING A DIAMETER OR RISE OF 96" OR LESS.
2. REINFORCING STEEL SHALL BE #5 BAR.
3. DIMENSIONS AND QUANTITIES ARE SHOWN FOR CIRCULAR SECTIONS ONLY. CALCULATE REINFORCEMENT FOR ELLIPTICAL CONCRETE OR CORRUGATED PIPE IN ACCORDANCE WITH EQUATIONS LISTED BELOW.
4. CONCRETE SHALL BE CLASS "C".
5. THE SOIL MUST HAVE A BEARING CAPACITY OF 2600 PSF PRIOR TO PLACING THE HEADWALL.
6. PIPE OPENING SHALL BE THE EXACT DIMENSION OF THE OUTSIDE DIAMETER OF THE SPECIFIED PIPE.

DIMENSIONS		
DIAMETER	H	L
8"	3'-0"	2'-0"
10"	3'-0"	2'-0"
12"	3'-0"	3'-6"
15"	3'-0"	3'-6"
18"	3'-6"	5'-0"
21"	3'-6"	6'-0"
24"	3'-6"	7'-0"
27"	3'-6"	7'-0"
30"	3'-6"	7'-0"
33"	3'-6"	7'-0"
36"	3'-6"	7'-0"
39"	4'-0"	7'-0"
42"	4'-6"	7'-0"
48"	4'-6"	8'-0"
54"	5'-0"	9'-6"
60"	5'-6"	10'-6"

LEGEND

- D = DIAMETER OF PIPE
- R = RISE OF PIPE
- S = SPAN OF PIPE
- t = THICKNESS OF BARREL
- L = LENGTH OF HEADWALL
- H = HEIGHT OF HEADWALL

EQUATIONS:

- L CIRCULAR SECTIONS = $5D+4t$
- L ELLIPTICAL OR PIPE ARCH = $4R+t+S$
- H CIRCULAR SECTIONS = $D+t+44"$
- H ELLIPTICAL OR PIPE ARCH = $R+t+44"$

CITY OF COLUMBUS, OHIO
 DEPARTMENT OF PUBLIC UTILITIES
 DIVISION OF SEWERAGE & DRAINAGE

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PRECAST PIPE ENDWALLS
 8" TO 60" DIAMETER

STANDARD DRAWING
 AA-S169

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