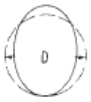
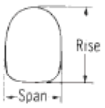
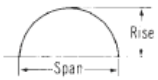
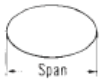
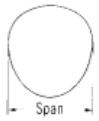
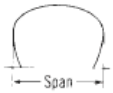
Table 2.1

Shapes and uses of corrugated conduits

Shape	Range of Sizes	Common Uses
Round 	6 in. - 51 ft	Culverts, subdrains, sewers,service tunnels, etc. All plates same radius. For medium and high fills (or trenches).
Vertical ellipse 5% nominal 	4 - 21 ft nominal; before elongating	Culverts, sewers, service tunnels, recovery tunnels. Plates of varying radii; shop fabrication. For appearance and where backfill compaction is only moderate.
Pipe Arch 	Span x Rise 17 in. x 13 in. to 20 ft 7 in x 13 ft 2 in.	Where headroom is limited. Has hydraulic advantages at low flows. Corner plate radius. 18 inches or 31 inches for structural plate.
Underpass* 	Span x Rise 5 ft 8 in. x 5 ft 9 in. to 20 ft 4 in. x 17 ft 9 in.	For pedestrians, livestock or vehicles (structural plate).
Arch 	Span x Rise 5 ft x 1 ft 9 1/2 in. to 82 ft x 42 ft	For low clearance large waterway opening, and aesthetics (structural plate).
Horizontal Ellipse 	Span 7 - 40 ft	Culverts, grade separations, storm sewers, tunnels (structural plate).
Pear 	Span 25 - 30 ft	Grade separations, culverts, storm sewers, tunnels (structural plate).
High Profile Arch 	Span 20 - 83 ft	Culverts, grade separations, storm sewers and tunnels. Ammunition magazines, earth covered storage (structural plate).
Low Profile Arch 	Span 20 - 83 ft	Low-wide waterway enclosures, culverts, storm sewers (structural plate).
Box Culverts 	Span 10 - 53 ft	Low-wide waterway enclosures, culverts, storm sewers (structural plate).
Specials	Various	For lining old structures or other special purposes. Special fabrication.

Notes: *For equal area or clearance, the round shape is generally more economical and easier to assemble.

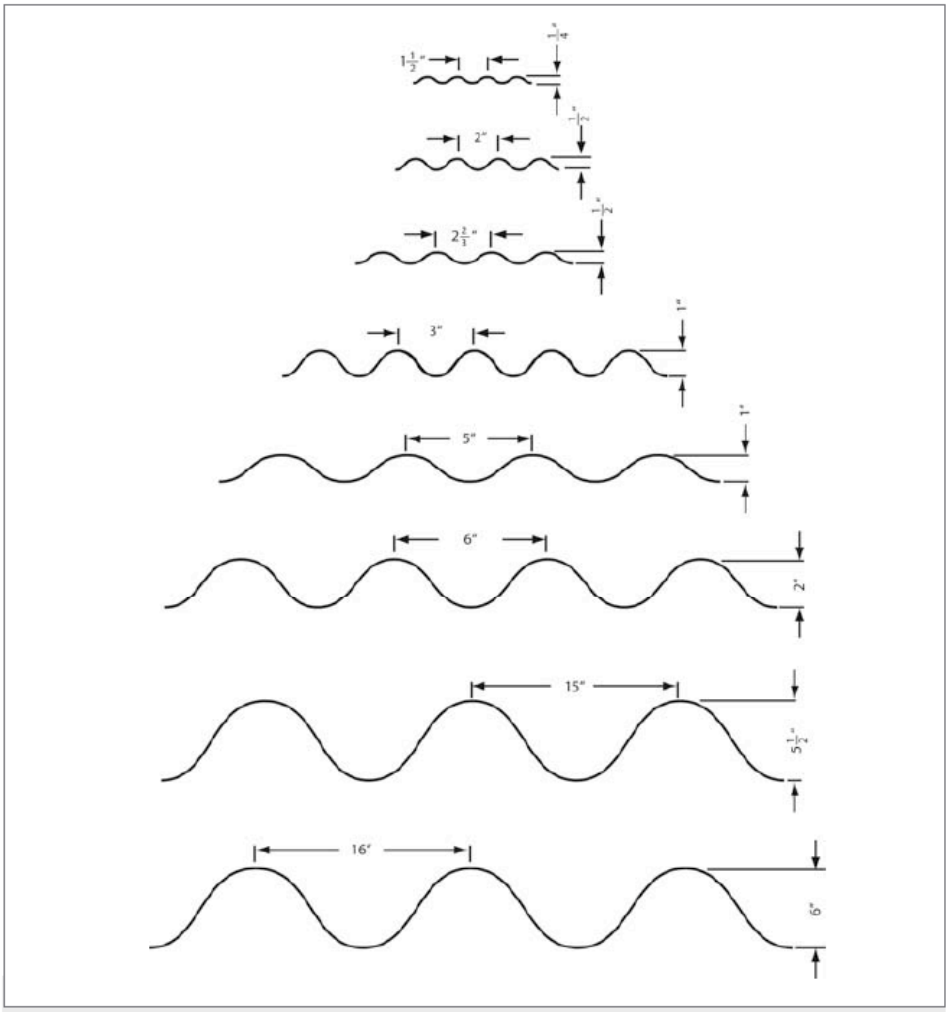


Figure 2.1 Arc and tangent corrugations.

For riveted or resistance spot-welded pipe with circumferential (annular) seams, the corrugations are of 2 2/3 inches pitch by 1/2 inch depth or 3 inches by 1 inch. For lock seam pipe, the seams and corrugations run helically (or spirally) around the pipe. For small diameter subdrain pipe (6, 8, 10 inches, etc.) the pitch vs. depth dimension is 1 1/2 x 1/4 inches. Larger sizes (diameters to 144 inches depending on profile) use 2 x 1/2 inch, 2 2/3 x 1/2 inch, 3 x 1 inch, and 5 x 1 inch corrugations.