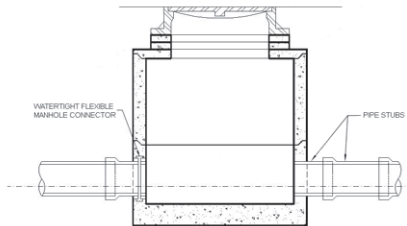


## CHAPTER 7

# CONNECTING TO MANHOLES & OTHER STRUCTURES

Manholes shall be installed on an unyielding foundation. Where the pipeline connects to a manhole or other structure, protection from differential settlement must be provided. A bell and spigot joint with a factory applied gasket or plain-end pipe joined with rubber compression couplings will provide the needed flexibility and watertightness. Two points of flexibility should be used within 36 inches of each manhole connection. This can be accomplished by using:

1. two short lengths (stubs of 24 inches or less) or
2. one short length and one flexible manhole connector



**Figure 32:** Two points of flexibility should be provided within 36 inches of a structure.

Acceptable points of flexibility shall be a factory-applied joint (per ASTM C425), an elastomeric compression coupling (per ASTM C425), or a flexible manhole connection (per ASTM C923 *Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures, Pipes, and Laterals*). Each connection shall be considered a single point of flexibility.

If a manhole connector is utilized as one of the points of flexibility, it is important that the pipe is centered in the connector and the tightening clamp is torqued per the



**Figure 33:** Two points of flexibility at this manhole are provided by the flexible manhole connector and the flexible compression joint on the short length of pipe.

manufacturer's instructions. Mortar or grout should never be placed between the pipe and the wall of the concrete structure.

ASTM C923 requires axial flexibility of 7° in any direction. The use of mortar in this area or not centering the pipe will limit the ability of the connector to compensate for differential settlement via axial flexibility. If a filler is required, the product used must remain flexible.