

12. Types of Manholes.

a. General.

- 1) Design all manholes as precast concrete, with the option given to the contractor to construct cast in place concrete manholes.
- 2) For design of manhole depths and diameter see Part Two, Section 18 (Manhole Depth design).

b. Types of Manholes.

- 1) Precast concrete manholes.
 - a) Minimum manhole diameter is 48-inch and maximum manhole diameter is 96-inch, see Standard Details S/1.0, S/1.1 and S/1.2.
 - b) If a manhole larger than 96-inch diameter is required, verify if they are available from all WSSC approved manufacturers of precast concrete manholes and submit design details, calculations and specifications for approval. Show all details on the drawings.
- 2) Brick manholes.
 - a) Brick manholes are not permitted for new construction.
 - b) When the design requires modifications to an existing brick manhole, see Part Two, Section 18 (Manhole Depth Design), to determine if the existing brick can be modified in place. If not, design the manhole to be replaced with a precast concrete manhole.
 - c) Minimum manhole diameter is 48-inch and maximum diameter is 84-inch, see Standard Detail S/3.0.
 - d) When connecting to an existing brick manhole, include the following in the design. Design only DIP or RCP pipelines between existing brick manholes and new manholes. Do not use PVC pipe to connect to existing brick manholes. Provide a note on the drawings stating the following: "Existing brick manhole. Grout pipe in the existing brick manhole with non-shrink grout and provide bentonite at the connection, see Standard Detail S/3.0a".
- 3) Cast in place. When precast manhole requires a special design or size, it may be necessary to provide a cast in place structure, see requirements in Part Three, Section 16 (Design of Pipeline Structures).

c. Labeling Manholes on the Drawings.

- 1) When connecting to an existing manhole, indicate if it is precast, brick or cast in place. The information for the type of existing manhole material can be taken from the "As-Built" drawings or if necessary, site visits to determine the type of manhole.
- 2) If a new manhole is larger than 48-inch diameter, provide the diameter of manhole on the sewer profile and/or in the General Notes.

