Section 02703 - WATER SERVICE CONNECTIONS AND METERS

1. SCOPE. This section covers installation of individual residential and commercial/industrial water service connections including corporation stops, service tubing, meter setters, meters and meter boxes for 2 inch and smaller service connections.

2. GENERAL. Materials furnished and installed under this section shall be fabricated and installed in proper operating conditions in full conformity with Drawings, Specifications, engineering data and manufacturer's recommendation and instructions unless exceptions are noted by the Engineer.

3. LOCATION OF SERVICES. The Contractor shall, where shown on the plans or instructed by the Engineer, make the necessary connection into the main using a tapping saddle, insert a corporation stop, run the service line, and set a meter box and yoke. Services lines shall be direct bored under all paved roads. A meter acceptable to the owner shall be turned over to Owner for each service installed.

4. TAPPING SADDLES. The Contractor shall furnish and install tapping saddles for all service taps, unless otherwise indicated on the Drawings. All 2 inch saddles shall be brass and shall be as manufactured by Ford "S-70", McDonald "Model 38D1", or Mueller "H-134-20".

When connecting to 6 to 12 inch water mains, the Contractor shall furnish and install double strap, stainless steel, epoxy or nylon coated; or solid brass service saddle as manufactured by Smith Blair "317", Romac "202N", or Ford "S-90".

5. CORPORATION STOPS. The Contractor shall furnish brass corporation stops with standard threads on the side for insertion into the tapping saddle and with service pipe connection complete with coupling and gasket on the service side threads shall be standard AWWA 800. The corporation stop shall be high pressure rated at 150 psi in accordance with section 3.3 of the standard. Direct tapping of pipe walls for installation of corporation stops will not be permitted. Corporation stops shall be compression fitting type as manufactured by Mueller "H-25008", Insta Tite "H-15006", or equivalent stops manufactured by Ford or McDonald.

6. YOKE BARS. The Contractor shall furnish all brass yoke bars with each connection. Yoke bars furnished shall be the angle type with a vertical inlet and a horizontal outlet installed so the meter dial shall be within 6 inches of the top of the meter box and shall be equipped with brass ground lockable meter cutoff cock. Yoke bars shall also be provided with a backflow preventer. Yoke bars for 5/8 by 3/4 inch services shall be Ford "Y502", Mueller "H-5020", or McDonald "14-2"; and yoke bars for 1 inch services shall be Ford "Y504", McDonald, or equivalent, manufactured by Mueller or McDonald.

7. METER BOXES. Meter boxes for 3/4-inch services shall be Russco "No. MBX-1" cast iron meter box and lid or meter boxes for 3/4-inch and 1-inch services shall be Brooks Products "No. 37-H" concrete body, concrete lid with cast-iron hinged lid, "37-T" cast-iron traffic lid or equal. Meter boxes for 2-inch services shall be Brooks Products "No. 66-S" concrete body, concrete lid with cast-iron hinged lid, "66-TR" steel cover, or equal. Contact should be made with individual municipality to confirm box requirements.

8. BACKFLOW PREVENTERS. Backflow preventers shall be Ford "HHS91-323", or equivalent backflow preventers as manufactured by Mueller or McDonald dual check backflow preventer for residential domestic services. For commercial or industrial services, backflow prevention devices shall be as required by local ordinance. See Special Conditions section.

8.01. Fire Protection Systems. Backflow preventers for fire protection systems shall be installed per the requirements of this section and in accordance with the standard details.

9. SERVICE TUBING. All service pipe shall be copper tubing and shall conform to ASTM B88-55, Type K or polyethylene tubing conforming to ASTM D2737, IPS SDR9, copper tubing size. All service tubing shall be minimum 200 psi size. Fittings for copper tubing shall be red brass containing 85 percent copper and 5 percent lead tin and zinc. Under paved surfaces, Type K copper shall be used. Where polyethylene tubing is used, conductive tracer wire shall be attached for location purposes.

10. WATER METERS. All appurtenances for the complete installation of water meters, including, but not limited to, the meter, lock wings, locks, and expansion connection, shall be furnished by the Contractor. See Special Conditions for water meters.

11. ANGLE VALVES. Angle meter ball valves shall be Ford "AV-94-323" Compression", Ford "BA-91-323W" 3/4-inch FIP, McDonald "4644" 3/4-inch FIP, or Mueller "H-15424" MIP Thread.

12. EXPANSION CONNECTION. Expansion connection for 3/4 inch shall be Ford "EC23", Mueller "H-14234", or McDonald "14-2E"; and for 1 inch shall be Ford "EC-4" or equal.

13. DRAWINGS AND DATA. Complete specifications, data, and catalog cuts or drawings covering the items furnished under this section shall be submitted in accordance with the submittals section.

End of Section