ITEM NO. 840

Water Tie-Ins

840.1 DESCRIPTION: This item shall consist of water main tie-ins installed in accordance with these specifications and as directed by the Engineer. A Water Tie-In is defined as a connection between a new main and an existing main that is no longer than one joint of pipe.

840.2 REFERENCED STANDARDS: Reference standards cited in this Specification Item No. 840 refer to the current reference standard published at the time of the latest revision date.

1. San Antonio Water System (SAWS):
   a. Specifications for Water and Sanitary Sewer Construction
   b. SAWS Materials Specifications
2. City of San Antonio (COSA) Specifications for Construction
3. Texas Commission on Environmental Quality (TCEQ)
   a. Chapter 290; Subchapter D – Rules and Regulations for Public Drinking Water
4. American National Standards Institute (ANSI)
   a. ANSI A 21.11/AWWA C111 - Standard for Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings.
   b. ANSI/NSF Standard 61 - Drinking Water System - Health Components.
5. American Society for Testing and Materials (ASTM) International:
   Pressure Pipe and Fittings.
   a. ASTM A 36 - Standard Specification for Carbon Structural Steel.
   b. ASTM A 536 - Standard Specification for Ductile Iron Castings.
   c. ASTM A 126 - Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings.
   d. ASTM B 21 - Standard Specification for Naval Brass Rod, Bar, and Shapes.
   e. ASTM B 98 - Standard Specification for Copper-Silicon Alloy Rod, Bar, and Shapes.
   f. ASTM B 301 - Standard Specification for Free-Cutting Copper Rod and Bar.
   g. ASTM B 584 - Standard Specification for Copper Alloy Sand Casting for General Application.
   h. ASTM E 165 - Standard Test Method for Liquid Penetrant Examination.
   i. ASTM E 709 - Standard Guide for Magnetic Particle Examination.
   j. ASTM F 1674 - Standard Test Method for Joint Restraint Products for Use with PVC Pipe.

6. American Water Works Association (AWWA)
   a. AWWA C 206 - Standard for Field Welding of Steel Water Pipe.
   b. AWWA C 207 - Standard for Steel Pipe Flanges for Waterworks Service - Sizes 4 Inches through 144 Inches.
   c. AWWA C 800 - Standard for Underground Service Line Valves and Fittings.
7. Occupational Safety and Health Administration (OSHA)
   a. OSHA 29 CFR 1926.1101 – Asbestos.

840.3 SUBMITTALS: Contractor shall submit manufacturer's product data, instructions, recommendations, shop drawings, and certifications. All submittals shall be in accordance with Engineer's requirements and submittals shall be approved prior to delivery.

840.4 MATERIALS: The materials for water main tie-ins shall conform to the specifications contained within the latest revision of SAWS' Material Specifications for all appropriate items.

840.5 CONSTRUCTION: The Contractor shall make tie-ins from new water mains to existing water mains as shown in the contract documents or as directed by the Engineer.

1. The Contractor shall be responsible for all shutdowns and isolation of the existing mains; cutting pipe for the connection; dewatering the excavation; advanced customer notification of the shutdown; and all other requirements as directed and coordinated through the SAWS Inspector to provide completion of this effort in a safe and secure manner.
2. The opening or closing of SAWS valves shall be performed by the contractor in the presence of the SAWS Inspector. Contractor shall assist in the operation of the SAWS valves. All valve operations shall be in the presence of the SAWS inspector.
3. The opening or closing of SAWS valves identified as critical (e.g., division valves) can only be operated by SAWS Distribution and Collection Department.
4. The planned shutdown, tie-in work and hours shall be coordinated through and approved by the SAWS Inspector. The Contractor is required to provide written notification to the SAWS Inspector at least twenty-five (25) Calendar Days in advance of the anticipated tie-in date for customer coordination and test shutdowns. The shutdowns shall be accomplished at a time that results in the least inconvenience to SAWS customers, including overnight shutdowns at no additional cost to SAWS. The twenty-five (25) Calendar Day notification is required for all shutdowns to account for cases where the shutdown affects a significant number of SAWS customers, critical services, or when an extended shutdown duration will negatively impact customers. The twenty-five (25) Calendar Day period begins at written notification to the SAWS Inspector and ends at initiation of the tie-in work. This will allow SAWS time to review shut-down options, coordinate with affected customers and engage with the public. Contractor should plan for the twenty-five (25) Calendar Days in their project schedule and bid for every shutdown.

5. A temporary water main, defined as a 4-inch main or greater, may be required to maintain customer services during the shutdown. SAWS approval will be required for the addition of a temporary water main. If approved by SAWS and there is no existing line item a separate temporary water main bid item will be established and negotiated for payment.
6. A cut-in valve may be required to facilitate the shutdown. If approved by SAWS and there is no existing line item a separate cut-in valve bid item will be established and negotiated for payment.
7. Tapping of CSC pipe is only allowed by the CSC Manufacturer of pipe brand being tapped or CSC Manufacturer approved by SAWS. See specification Item No. 820 Concrete Steel Cylinder Pipe Installation.
8. No additional compensation will be provided for tie-ins, and any related costs, accomplished outside of normal working hours.
9. Prior to installation of tie-ins, all materials and equipment to complete tie in work shall be on-site and verified by the inspector prior to beginning any associated work.
10. If System allows, multiple tie-ins must be coordinated and approved in advance with SAWS' Inspector, but multiple tie ins may not be guaranteed.
11. Contractor to be prepared for water main shutdown as coordinated with SAWS Inspector. Fines may be assessed if Contractor cancels or delays owner.
12. Contractor to consider dewatering of the main as part of the duration of tie-in work.
13. **SAWS cannot guarantee a complete water shutdown**, Contractor is responsible for providing adequate dewatering efforts to complete tie-in work
14. Contractor is responsible for providing temporary water connections to critical services that are required to stay in service during the tie-in or where a tie-in duration will affect a critical services normal operation. Advanced coordination with inspections will be required to identify critical services that could be impacted by the shutdown.
15. All tie-ins must be restrained in accordance with Specification Item No. 839,

    "Anchorage/Thrust Blocking And Joint Restraint."

840.6 MEASUREMENT: Tie-ins will be measured by the unit of each such assembly of the various sizes of tie-ins installed at the proposed mains to be accepted.

840.7 PAYMENT: Payment for "Tie-ins" will be made at the unit price bid for each tie-in of the various types and sizes completed from an existing main to the proposed main to be accepted.

1. Such payment shall include; shut-down and isolation of the existing main to which the new main is to be connected, cutting pipe for the connection, dewatering the excavation, assembly, excavation, selected embedment material, initial backfill, secondary backfill, anti-corrosion embedment when specified, compaction, compaction testing, blocking, transition coupling, all required restraints, accessories and appurtenances, hauling and disposition of surplus excavated material, including all existing pipe, fittings, appurtenances to be

abandoned or removed, surface and pavement restoration, installation of all-weather surface, dewatering of the main, other required testing, temporary service connections, customer coordination and customer notification of service interruption where required.

2. Connections between new and existing mains which are made with cut-in tees and tapping sleeves and valves will be processed as separate pay items in accordance with SAWS specification Item No. 831 and Item No. 832, respectively.
3. Temporary water mains (4" or greater) will be processed as a separate pay item.
4. Cut-in valves will be processed as a separate pay item.
5. Removal and handling of asbestos cement pipe required for tie-ins will be processed as a separate pay item in accordance with SAWS specification Item No. 3000.
6. Materials paid on site will be in accordance with Table 1 of Specification Item No. 100 Mobilization.

-End of Specification-