

ITEM# 1303396A REPAIR SERVICE CONNECTION
ITEM# 1303399A SERVICE CONNECTION (WATER MAIN)

Description

- A. The work covered under this section of the specifications includes furnishing of all labor, equipment, appliances and materials, and performing all operations in connection with installation of water service lines, together with pipe fittings and specials, disconnections, connections to existing and new piping, trenches, fills and backfills, accessories, appurtenances and miscellaneous work necessary for the installation of the water services to each building where indicated or as directed, complete in place and accepted, to the lines and grades indicated or directed, in strict accordance with these specifications.
- B. The Contractor shall coordinate all work under this Section with the City of Meriden Water Department. The City shall be responsible for opening and closing all valves as required for the Contractor's work. The Contractor shall notify the City a minimum of 24 hours in advance of any desired valve operations. The Contractor is advised that the Water Department may not be able to respond to valve operation requests within twenty-four (24) hours because of emergency conditions and that no claim shall be made against the City for this occurrence.
- C. The Contractor shall notify the City in writing with a copy of the customers affected by any service disruptions related to the work on this project at least 48 hours in advance of such disruptions. Water service to individual customers may be interrupted only during the Contractor's work hours and as allowed by the Meriden Water Department.
- D. The Contractor is responsible for all permits and fees including, but not limited to, tapping fees for new water service connections.
- E. Repairs shall consist of disconnection, alteration and reconnection of existing utility service connections at locations necessary to complete this project and as ordered by the Engineer, including any damage caused by the Contractor or Subcontractors, as determined by the Engineer. All repairs shall be corrected by the Contractor in accordance with this specification.
- F. Curb box relocations are included in Item# 1303396A -Repair Service Connection.
- G. New curb boxes are included in Item# 1303399A – Service Connection (Water Main)

Materials

- A. All materials shall be tested at the place of manufacture. All materials shall be subject to careful inspection in the presence of the Engineer or authorized representative just before being laid or installed and shall be subject to approval before acceptance. All materials found during the progress of the work to have cracks, flaws, or other defects shall be rejected by the Engineer or authorized representative, and the Contractor shall promptly remove such defective material from the site of the work.
- B. The Contractor shall furnish to the Engineer, in the manner as directed, three (3) notarized Certificates of Conformance and Manufacture that all materials and/or equipment to be furnished meets the specification requirements. When directed, each shipment of material shall be accompanied by the manufacturer's notarized Certificate of Conformance and Manufacture. Unless otherwise specifically specified, all testing of materials shall be provided by the Contractor at no additional expense to the City. In addition, each manufacturer's Certificate shall be endorsed or accompanied by the Contractor's Certificate that the material certified by the manufacturer will be the material incorporated in the work.
- C. Corporation stops shall be Mueller H-15000 or equal, which have Mueller (cc) thread inlet and copper thread outlet. Corporation stops shall be Mueller H-10003 (1.5" or 2") or equal suitable for compression connection to ASTM B-88, Type K Copper Tubing.
- D. Service pipe shall be ASTM B88, Type 'K' copper service tubing. The Contractor shall furnish the Owner with satisfactory evidence that the copper tubing and fittings meet the requirements of these Specifications.
- E. Connections to existing copper tubing shall be made with Mueller H-15403 compression connection couplings or equal.
- F. Connections to existing iron or brass pipe shall be made with a compression-type galvanized iron coupling similar to *dresser style 90* or equal.
- G. Joints in the copper service shall be kept to a minimum by use of coiled copper. Joints shall be flared tube fittings conforming to ANSI B16.26, latest issue. Bends in copper service pipe, shall be made with a bending tool especially designed for the purpose.
- H. Curb stops shall be Mueller H-1504-2 MKIII or equal for 3/4" and 1" service connections. Curb stops shall be Mueller H-15209 or equal for 1-1/2" or 2" service connections.
- I. Curb boxes shall be cast iron Buffalo Style screw type, 2-1/2". Must have brass pentagon nut and cover, fit flush, and be North American made. The lid shall have the word

“WATER” cast on it. The inside and outside of the curb box shall be coated with asphaltum varnish. Boxes shall be adjustable for a maximum bury depth of 5 feet. Curb boxes for 1-1/2” and 2” curb stops shall be buffalo screw type 94E, but with large base.

Construction Methods

- A. Pipe, fittings, and accessories shall be handled in such manner as to insure installation in sound undamaged condition. No other pipe or material of any kind shall be placed inside of a pipe, fitting or appurtenance. Proper and suitable tools and facilities for the safe and proper handling, storing and installation of the pipe and appurtenances shall be used. The Contractor shall be responsible for the safe storage of all water service materials.
- B. General piping, fittings, and appurtenances shall be of the types and materials specified herein. All materials shall be new and unused, of first quality, and as approved. The interior of the pipe shall be thoroughly cleaned of foreign matter before being lowered into the trench and shall be kept clean during laying operations by plugging or other approved method. Pipe shall not be laid in water, or when trench or weather conditions are unsuitable for the work. When work is not in progress, open ends of pipe and fittings shall be securely closed so that no trench water, earth or other substance will enter the pipes or fittings and no seal or plug shall be removed until trench is pumped completely dry. All material found to be defective before or after installation will be rejected and shall be replaced by the Contractor with new materials at no additional expense to the Owner. Where connections are made between new work and existing work, the connections shall be made using the specials and fittings specified, as required. The piping and appurtenances shall be provided in accordance with the printed recommendations of the respective manufacturer and as approved.
- C. All disconnections of existing piping and the installation of the new piping and appurtenances shall be performed in a continuous manner from the starting of the work to its satisfactory completion, at no additional expense to the Owner. Prior to starting work for disconnections of existing piping, the Contractor shall satisfactorily demonstrate to the Owner that all proper materials, equipment, personnel and other facilities necessary for the safe and proper completion of the work, and in accordance with the requirements specified, are on hand and suitable for the performance of the work.
- D. The Contractor shall be responsible for verifying in the field all lines, grades, dimensions and conditions affecting the work, and for the correct fitting of all parts of the water service lines and appurtenances in the completed water services prior to the ordering or fabrication of the various materials. Deflections from a straight line or grade, as required by vertical curves, horizontal curves or offsets shall be made using fittings or specials as indicated and/or as directed; the types of fittings or specials used

shall be as approved. No connections or joints shall be covered in any way until the connections have been inspected.

- E. Cutting of pipe shall be done in a neat and workmanlike manner without damage to the pipe resulting in a smooth end at right angles to axis of pipe. Unless otherwise authorized by the City, all cuts in copper tubing shall be made by a ring type cutter and any rough or abraided ends shall be filed smooth.

- F. Service connections to the water main shall be installed generally at locations shown on the contract drawings or as directed by the Engineer. Service connections (up to 2" in diameter) installed under this contract shall generally include the following:
 - 1. Tapping of main and furnishing and installing corporation stop, curb stop, curb box with cover, and all copper tubing, couplings and adapters required from the main to connection to the existing service pipe as detailed on the contract drawings.
 - 2. The exact locations for connections of new services and disconnections of existing piping shall be as directed by the Owner. The Contractor shall make the necessary excavations as directed to uncover existing services for the purpose of determining, by the City: the exact locations for new services; disconnections of existing piping; and serviceability of existing corporation stops, copper tubing, and curb stops and boxes. At the direction of the City Engineer, existing corporation stops, copper tubing, curb stops and boxes shall remain active as specified, and the Contractor shall complete necessary connections to install new piping and appurtenances as required.
 - 3. Service connections shall be installed by open cut methods unless otherwise permitted by the Engineer and the Owner.
 - 4. Taps for service connections shall be made by the City of Meriden Water Department, unless otherwise directed by the Owner. When directed, the Contractor shall make taps for service connections up to 2" diameter with a standard tapping machine, using a sharp tap, the threads of which shall have the same taper as the taper of the threads on the corporation stop.
 - 5. Service connections shall be the same size as the existing services, with the exception that 1-1/2" size with appropriate reducer shall be installed for connections to existing 1-1/4" service pipe and a minimum of 1" service is allowed.
 - 6. All couplings for service piping and connectors to corporation and curb stops up to 2" diameter shall be compression type.

- G. Existing water services noted on the contract drawings to be abandoned, or as directed by the Engineer to be abandoned, shall be disconnected at the water main (close corporation stop). Existing curb boxes shall be removed and the pipe ends shall be capped/plugged and anchored as necessary.

- H. Adjustment of curb stop and water gates shall consist of the minor adjustment of existing curb stop and gate valve boxes to the proposed grade not involving major reconstruction of the unit. (Examples of adjusting are: screwing/sliding adjustable type boxes up or down to bring the valve box to required grade, or using approved extension pieces to bring valve boxes to required grades).

Method of Measurement

- A. Water service connection consisting of tapping the main (by the Water Division), furnishing and installing a corporation stop, new copper tubing, new curb box and curb stop, fittings and adaptors shall be measured for payment by each service connection installed from the outside edge of the water main to the location of the connection to the existing service pipe. Measurements shall include lengths through corporation and curb stops. Copper service pipe shall be deleted as directed by the Owner if the service to be replaced is found to be inactive, or if the Owner determines the existing service is in good condition.
- B. Corporation stops and curb stops shall not be measured for payment.
- C. Existing water services abandoned, including plugs, caps, anchors, tie rods, etc., shall not be measured for payment.
- D. The adjustment of water curb stop boxes and gates shall not be measured for payment.
- E. Providing temporary water service shall not be measured for payment.
- F. Relocation of curb boxes will be measured in linear feet along the centerline of the service connection repaired.

Basis of Payment

- A. Water service connection pipe measured in place shall be paid for at the contract unit price bid per each service connection installed and accepted, which price shall constitute full compensation for all material, equipment, labor, curb box, corporation stop, including tapping of water main pipe (by Water Division), bedding and all other items necessary to furnish and install the service connection.
- B. No separate payment will be made for temporary water service, curb stops and boxes, corporation stops, tapping fees, abandoning existing water services, including plugs, caps, anchors, tie rods, etc. Compensation for such work as required, shall be considered to be included in the contract prices bid for other water service items.

- C. No separate payment will be made for adjusting existing water curb stop boxes and gates. Compensation for such work shall be considered to be included in the contract prices bid for other items of work elsewhere in the contract.
- D. Repairs of service connections shall be paid for at the contract unit price bid per linear foot installed and accepted, which price shall constitute full compensation for all material, equipment, labor, curb box, corporation stop, including tapping of water main pipe, bedding and all other items necessary to furnish and install the service connection.

<u>Pay Item</u>	<u>Pay Unit</u>
Service Connection (Water Main)	Each
Repair Service Connection	L.F.