Section 15107 - TAPPING SLEEVES AND VALVES

1. SCOPE. This section covers tapping sleeves and valves.

2. GENERAL.

The General Equipment Stipulations shall apply to all equipment furnished under this section.

3. TAPPING SLEEVES AND VALVES. Tapping sleeves and valves shall be furnished and installed where required by the drawings. Tapping sleeves and valves shall be suitable for connection under pressure with no loss of water or interruption of flow in the main. Sizes 2 inches through 12 inches shall be rated for a minimum water working pressure of 200 psi and shall be tested at 400 psi. Sizes 14 inches through 24 inches shall be rated for a working pressure of 150 psi and shall be tested at 300 psi.

With the exception of the valve ends and other modifications necessary for tapping service, tapping valves shall conform to AWWA C500 and WSACC Standard Specification, Section 15104 - RESILIENT-SEATED GATE VALVES and shall be Mueller T-2360 (2”-12”) or T-2361 (14”-24”), American Flow Control Series 2500, or approved equal. Each tapping valve shall be provided with a flanged inlet end designed, faced, and drilled for attachment to the outlet flange of the tapping sleeve; with an outlet end provided with a tapping flange for attachment of a standard drilling machine; and also with a mechanical joint type bell end for connection of the branch main.

The tapping valve seat opening shall be larger than nominal size to permit full diameter cuts to be made.

Tapping sleeves shall be cast iron or stainless steel, rated for a working pressure of 150 psi. All tapping sleeves shall have cast iron flanged outlets designed for attachment to the flanged inlet end of the tapping valves. Flanges shall be Class 125 in accordance with ANSI B16.1. Cast iron tapping sleeves shall have split-type mechanical joint ends at each end of the run with longitudinal compound rubber gaskets effecting a totally enclosed watertight seal. Side and end bolts for cast iron sleeves shall be high-strength cast iron. Cast iron tapping sleeves shall be Mueller "No. H-615", American Flow Control Series 2800 (2”-12”) or Series 1004 (14”-24”), or approved equal. Stainless steel tapping sleeves shall be constructed of ASTM A240, Type-304 stainless steel with Type 304 stainless steel bolts, washers, and nuts. Stainless steel tapping sleeves shall be Romac Industries, Inc., "Model SST" or approved equal.

Split-type cast iron tapping sleeves shall be required for all taps where the new branch line is of equal diameter as the existing main being tapped.

The assembled tapping sleeve and valve shall be pressure tested at 200 psi, to verify satisfactory sealing of gaskets.

4. EXTENSION STEMS.
Extension Stem(s) to valve(s) shall be installed when the operating nut is 3-1/2 feet below finish grade, or when directed by the Engineer. Measurement will be made on a vertical foot basis from the stem connection to operating nut located 1 foot below finish grade. Extension stems shall be of solid steel and shall be not smaller in diameter than the stem of the valve actuator shaft. Extension stems shall be connected to the valve actuator by means of a Lovejoy "Type D" single universal joint with grease-filled protective boot. All stem connections shall be pinned.
The installation shall include furnishing all labor, materials, tools, equipment and extension stems with operating nut and nut wrench, and associated appurtenances required for the installation of the extension stem(s) assembly complete, tested, and placed into satisfactory service. Extension stem shall provide operating nut one foot below finish grade.

5. VALVE BOXES. Each valve buried to a depth of 4 feet or less shall be provided with a slide type valve box. Valve boxes shall be cast iron, extension sleeve type, suitable for the depth of cover required by the drawings. Not more than one extension will be allowed with each slide type valve box. Valve boxes shall be not less than 5 inches in inside diameter, shall have a minimum thickness at any point of 3/16 inch, and shall be provided with suitable cast iron bases and covers. Valve boxes shall be Charlotte Foundry valve box, or equal.

Each valve buried to a depth greater than 4 feet shall be provided with a valve box consisting of a cast iron cover and a 6-inch cast iron pipe section. The pipe shaft shall be sized to extend from the valve to 5 inches inside the valve box cover. Covers shall have cast thereon designation of the service for which the valve is used.

All parts of valve boxes, bases, and covers shall be shop coated by dipping in asphalt varnish.

Valves and valve boxes shall be set plumb. Each valve box shall be placed directly over the valve it serves, with the top of the box brought flush with the finished grade. After being placed in proper position, earth shall be filled in around each valve box and thoroughly tamped on each side of the box.
Tapping sleeves and valves will be paid at the unit price bid. The unit price bid shall include furnishing all labor, materials, tools, equipment, gate valve, valve box, sleeve, concrete collars, and associated appurtenances required for the installation of the tapping sleeve with valve assembly complete, tested, and placed into satisfactory service.

6. 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.

Drawings and data submitted shall include complete connection and schematic wiring diagrams for electric actuators and controls.

End of Section