

ITEMIZED SPECIFICATION NUMBER TWO

VALVES

2.1 **SCOPE** - This item shall include the furnishing and installation of all gate valves, tapping valves and sleeves, valve boxes and appurtenances, and the furnishing of all labor, material, tools and equipment to construct all as herein specified and as shown on the Drawings.

All work, including excavation and backfill, shall be in accordance with all applicable requirements previously specified in the GENERAL SPECIFICATIONS.

The manufacturer shall furnish an affidavit indicating that all tests and provisions of AWWA Specifications have been met. All valves shall have ends suitable for laying with the type of pipe provided for the mains. Stem seals shall consist of at least two O-rings. All valves shall open by turning to the left (counterclockwise). All valves shall be as manufactured by American Flow Control; Mueller Company, or equal, and shall match existing gate valves in the system.

Valves shall be set plumb, with the valve box accurately centered over the valve or actuator nut.

2.3 **GATE VALVES** - Gate valves shall conform to AWWA C509, latest revision, and shall be fully mounted with bronze or other suitable non-corroding metal. All gate valves shall be designed for a working water pressure of 200 psi. All valves shall be of the non-rising stem type with a resilient seat gate.

2.4 **BUTTERFLY VALVES** - Butterfly valves shall conform to AWWA C504-Class 250, latest revision, and shall be fully mounted with bronze or other suitable non-corroding metal. All butterfly valves shall be suitable for a working water pressure of 250 psi.

2.5 **TAPPING VALVE** - Valve shall be of the type made especially for use with tapping machine. It shall be suitable for a working water pressure of 200 pounds per square inch, and shall conform in quality of workmanship and materials, to the specifications of AWWA C500. Valve shall be of the non-rising stem type (Clow F-6114, Mueller H-687, American Flow Control RW-500).

2.6 **SLEEVE** - Sleeve shall be all 18-8 stainless steel mechanical joint type, and shall be compatible with the tapping sleeve. All hardware (bolts, nuts, etc.) furnished with the sleeve shall also be 18-8 stainless steel. The sleeve shall conform to all applicable requirements of AWWA.

2.7 **VALVE BOXES** - Valve boxes shall be constructed of a good grade of cast iron; shall be coated; shall be of the three piece screw type; shall have a 5-1/4 inch shaft; and shall be provided with a heavy neat-fitting cover having the word "WATER" cast on the top. Bases shall cover the entire bonnet section of gate valves or the actuator nut of butterfly valves. Boxes shall extend to ground elevation with sufficient length for each section to be properly engaged. The top of the

cover shall be flush with the surrounding surface. Valve extensions shall be provided for valves deeper than 5-feet below grade.

2.8 **VALVES ABANDONED** – Valves shall be abandoned in the off position in place as shown on the plans. The valve box casting shall be removed and the casting shall be filled with stone. The price bid for the valves abandoned shall include all labor and material to abandon valves as shown on the plans.

2.9 **MINOR DETAILS** - Minor details not specifically mentioned in these Specifications nor shown on the Drawings, but necessary to secure a workmanlike job and proper operation, shall be provided by the CONTRACTOR without extra cost.

2.10 **SUBMITTALS** – The Contractor shall submit shop drawings for all material to be provided under this bid item for review by the Engineer.

2.11 **PRICE BID** - The price bid for Gate Valves shall include the furnishing and installation of the valves, tapping sleeves, and valve boxes in accordance with the foregoing Specifications and accompanying Drawings and shall be the price bid per each, installed complete.