

SECTION 33 12 16.11**GATE VALVES****PART 1: GENERAL**

1.01 SCOPE

Furnish, install, and test all gate valves shown on the Drawings.

1.02 SUBMITTALS

Submit shop drawings and manufacturer's literature to the AW Project Manager for approval in accordance with Section 01 33 00.

1.03 APPLICATION

All valves shall be resilient-seated type gate valves.

PART 2: PRODUCTS

2.01 REDUCTION OF LEAD IN DRINKING WATER ACT COMPLIANCE

- A. The Contractor shall comply with the requirements and standards of the Reduction of Lead in Drinking Water Act.
- B. Any pipe, fitting or fixture (e.g. corp stops, curb valves, gate valves less than 2 inches in diameter, backflow prevention devices, water meters, hose bibs, etc.), solder and flux installed or requiring replacement as of January 4, 2014 must be "lead free". The Contractor shall be responsible to comply with the State, local laws, ordinances, codes, rules, and regulations governing the Reduction of Lead in Drinking Water Act that may have additional limitations or requirements."
- C. The definition of 'lead free' is as follows:
 - 1. Not containing more than 0.2 percent lead when used with respect to solder and flux; and
 - 2. Not more than a weighted average of 0.25 percent lead when used with respect to the wetted surfaces of pipes, pipe fittings, plumbing fittings, and fixtures.

2.02 GATE VALVES

- A. All gate valves, shall be iron body, resilient-seated, nut-operated, non-rising stem gate valves suitable for buried service. The valve interior and exterior shall be epoxy coated at the factory by the valve manufacturer in accordance with AWWA Standard C550 (6-8 mil average, 4 mil minimum). The valves shall be designed for minimum differential pressure

of 250 psi and a minimum internal test pressure of 500 psi unless otherwise noted on the Drawings. Valves shall be designed to operate in the vertical position. All valves shall open left (CCW).

- B. Valves shall comply fully with AWWA Standard C509. Valve ends shall be restrained mechanical joint or as shown on the plans or approved in writing in accordance with AWWA Standard C111. Stems shall be made of a low zinc alloy in accordance with AWWA C509. Stem seals shall be double O-ring stem seals. Square operating nuts conforming to AWWA Standard C509 shall be used. Valves shall open left in accordance with AW standard. All valve materials shall meet the requirements of NSF 61.
- C. For exposed piping, valves shall be flanged joint.
- D. Valves shall have mechanical joint ends unless otherwise designated on the Drawings or approved by AW.
- E. Test valves (Operation Test and Hydrostatic Tests) at the manufacturer's plant in accordance with AWWA Standard C509. Provide AW with certified copies of all tests prior to shipment. AW reserves the right to observe all tests.
- F. The valves shall be designed for a minimum differential pressure of 150 psi and a minimum internal test pressure of 300 psi, unless otherwise noted on the Drawings. Make all valves tight under their working pressures after they have been placed and before the main is placed in operation. Defective parts shall be replaced at the Contractor's expense.

2.03 VALVE EXTENSIONS

- A. Valve extensions will be required on any gate valve where the distance from the finished grade to the top of the operating nut exceeds 4 foot. Extension shall be of a locking type to prevent it from coming off the valve. Top of extension will be no deeper than 1 foot from finished grade.

PART 3: EXECUTION

3.01 INSTALLATION

- A. Install the valves in strict accordance with the requirements contained in Section 33 11 00 and detail Drawings. All valves shall be restrained.

3.02 PROTECTION

- A. After field installation of the valve all external bolts except the operating nut shall receive a layer of tape coating or approved rubberized-bitumen based spray-on undercoating applied before backfill. All buried valves shall be encased in polyethylene encasement prior to backfill. The polyethylene encasement shall be installed up to the operating nut leaving the operating nut exposed and free to be operated. Valve box shall be installed per Specification Section 33 11 00.

END OF SECTION 33 12 16.11