ITEM 907

VALVES, FIRE HYDRANTS, AND ACCESSORIES

907.1 Description

This section shall govern the provisions for furnishing and installing all valves, fire hydrants and accessories as shown on the plans, which work includes excavation, trenching, thrust blocking, testing, back-filling, clean-up, and other necessary incidental work for a complete installation.

907.2 Materials

Gate Valves: Gate valves shall conform to requirements of AWWA Standard Specification C-509 (latest revision) as to design, component materials, construction, manufacturer, and testing, except as modified or supplemented herein.

Gate valves shall be furnished with 2-inch square operating nuts. Gate valves shall open by turning to the left (counter-clockwise).

Coatings for Gate Valves: AWWA C550, Indurall 3300 or approved equal; nontoxic, not to impart taste to water, function as physical, chemical, and electrical barrier between base metal and surroundings, minimum 8-mil-thick; fusion-bonded epoxy; prior to assembly of valves, apply protective coating to interior and exterior surfaces of valve.

Gate valve ends shall be push on rubber gasket joints for AWWA C-900 PVC pipe or AWWA C-151 ductile iron pipe designed for push-on rubber gasket joints, or mechanical joints or flanged joints.

Gate valve body shall be ductile iron conforming to the requirements of ASTM-395.

Gate valves shall be Mueller 2360 Series, American Darling, or approved equal.

Butterfly Valves: Valve shall be designed, manufactured, and tested in accordance with AWWA C-504, latest revision, and include the following design features. Valves shall be rated and tested for absolute, zero leakage shut-off.

Valve seats shall be designed to provide tight shut-off at pressure differentials of 150 psi upstream and zero pressure downstream.

Valve body shall be cast iron, short body, conforming to ASTM A-126, class B, or ductile iron per ASTM A-536.

Fire Hydrants: Fire Hydrants shall conform to the latest revision of AWWA Standard C-502 for dry barrel hydrants except for supplementary requirements contained herein.

Fire hydrants shall be of the traffic model type equipped with a barrel ground line frangible coupling of the split flange of victaulic type and main rod coupling designed to fail completely and uniformly when the hydrant is impacted by a motor vehicle. Weakened steel or weakened cast iron bolts, used in breakable barrel couplings will not be acceptable. The hydrant must be of dry barrel and dry top type with no part of the threads in the open waterway when the hydrant is pressurized.

The main valve opening shall not be less than five and one-quarter (5-1/4) inches. Hydrant shall open by turning to the left (counter-clockwise).

The inlet connection shall be 6 inch.

Fire hydrants shall have two each 2-1/2 inch hose nozzles and one each 4-1/2 inch pumper with national standard threads.

Hydrants shall be equipped with a seal plate with an integral lubrication chamber that lubricates the operating threads and bearing surfaces each time the hydrants are operated. The lubrication chamber shall be protected at the top from dirt and moisture intrusion by means of an O-ring seal.

Hydrant operating nut shall be national standard, 1-1/2 inch pentagon, measured from point to opposite flat.

Hydrant shall be for 4 foot bury unless otherwise indicated on the plans.

Hydrants shall have a double drain valve which is an integral part of main valve assembly to give positive, automatic operation without springs, toggle joints or synchronized mechanisms.

Hydrants shall have two external drain opening, full bronze mounted, in the ring and shoe which are momentarily force-flushed each time hydrant is operated.

Fire hydrants shall be painted to conform to the requirements established by AWWA Standard C-502, Section 4. In addition, the exterior barrel of the hydrant shall be painted two coats Rust-Oleum Safety Yellow, caps to be painted Rust-Oleum Safety Orange, or John Deere Green.

Fire Hydrants shall be Mueller Super Centurion 250, American Darling B-84B, AVK or approved equal.

Valve Boxes: Valve boxes shall be provided over all operating nuts of the valves as indicated on the drawing. Valve box shall be cast iron with a bottom configuration to fit the particular valve size on which it is to be used, with a screw type extension adjustment capable of twelve inches of extension to accommodate grade adjustment.

The cast iron shall conform to ASTM Specification A-48, class 20, coated with coal tar pitch varnish, and having a minimum thickness of 3/16 inch of metal. The word "water" shall be cast in the cover.

907.3 Measurement

Valves shall be measured as individual units and shall include valve boxes.

Fire hydrants shall be measured as individual units.

907.4 Payment

Valves shall be paid for at the unit price bid per each valve in place, which includes the valve box.

Fire hydrants shall be paid for at the unit price bid per each fire hydrant in place.

Payment for valves and fire hydrants shall be made as described above and shall constitute full compensation for furnishing all plant, equipment, labor, material, superintendence, and performing all operations required for a complete installation.

END OF ITEM 906