

03-09

**ROGERS WATER UTILITIES SEWER SYSTEM
ROGERS, ARKANSAS**

**SPECIFICATIONS FOR SEWER
FORCE MAIN MISCELLANEOUS
DECEMBER 2004**

1. **SCOPE**

This specification covers cast iron valve boxes, valve stem extensions, air-vacuum valve boxes, marking tape and trace wire.

2. **GENERAL REQUIREMENTS FOR VALVE BOXES**

- a. Valve boxes shall be cast iron with iron lid suitable for heavy traffic and conform to ASTM A48, Class 20 Specifications.
- b. Valve boxes shall be screw type and have 5¼ inch inside shaft diameter.
- c. Cast iron drop lids shall have the word "Sewer" cast into the lid.
- d. Valve boxes shall be provided with a petroleum asphaltic coating in accordance with the latest revision of AWWA/ANSI C151/A21.51.
- e. At bury depths greater than 80 inch (6'-8"), the use of six inch PVC, SDR 26 sewer pipe as an extension is allowed between the base and the bottom piece of a two piece valve box assembly.

3. **GENERAL REQUIREMENTS FOR VALVE STEM EXTENSIONS**

- a. Where the depth of the valve is such that the centerline is more than 4 feet below grade, provide operating extension stems to bring the operating nut to a point within 18 inches to 12 inches below the surface of the ground and/or box lid. Extension stems shall be steel and shall be complete with 2 inch square operating nut.
- b. A round center guide made from 3/16 inch or ¼ inch steel plate shall be placed on the valve stem extension approximately 6 inches from the upper end. The diameter of the guide shall be slightly less than the inside diameter of the valve box. The guide shall be affixed to the stem extension in such away that it can rotate freely on the stem.
- c. Valve stem extensions shall be of a solid design (no pinned couplings allowed) with guides.

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- d. Valve stem extensions shall be provided with a petroleum asphaltic coating in accordance with the latest revision of AWWA/ANSI C151/A21.51.

4. **GENERAL REQUIREMENTS FOR AIR-VACUUM VALVE BOXES**

- a. This specification covers air-vacuum valve boxes for 4 inch through 8 inch sewer force mains.
- b. Valve box shall be a round one-piece molded constructed for durability and impact strength out of high-density polypropylene material.
- c. Valve box frames and covers shall be made of gray cast iron and conform to ASTM A48, Class 35B.
- d. Valve box frames and covers shall be provided with a petroleum asphaltic coating in accordance with the latest revision of ANSI/AWWA C151/A21.51.
- e. Valve box cover shall have, plainly marked, the word "SEWER".

5. **GENERAL REQUIREMENTS OF MARKING TAPE**

- a. This specification covers marking tape for PVC and ductile iron sewer force mains. Marking tape shall be wrapped configuration around sewer force main.
- b. Marking tape shall be of the detectable type and shall consist of three layers sandwich with a layer of foil encased between two layers of plastic.
- c. Tape shall be 2 inches wide, polyethylene, 35 gauge minimum thickness. The tape shall a tensile strength of not less than 4000 psi (ASTM D-882) and a dart impact strength of not less than 120 grams per 1.5 mils.
- d. Tape shall have a green background in accordance with the APWA national color code and boldly labeled every 18 to 32 inches as follows "Caution Buried Sewer Line".
- e. Colors shall not deteriorate with long term exposures to soil and water.

6. **GENERAL REQUIREMENTS OF TRACE WIRE**

- a. This specification covers trace wire for PVC sewer force main (non-metallic). The tracer wire shall be installed 6 inches below the pipe.

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- b. Trace wire shall be shall be annealed copper in accordance with ASTM B-3 and shall be 12 gauge (AWG) solid copper wire.
- c. The wire insulation shall be PVC material and shall be designated as type THHN/THWN (green in color).
- d. Splices shall be made with copper split bolt wire connector and inserted into a direct bury gel-filled insulator tube.

QUALITY ASSURANCE

- a. The Rogers Water Utilities may, at no cost to the manufacturer, subject random valve boxes, valve stem extension, air-vacuum valve boxes, marking tape and tracer wire to testing by an independent laboratory for compliance with these standards. Any visible defect or failure to meet the quality standards herein will be grounds for rejecting.
- b. All valve boxes, valve stem extension, air-vacuum valve boxes and marking tape shall be domestically manufactured.

The following manufactures are approved for valve boxes, valve stem extension, air-vacuum valve boxes and marking tape.

APPROVED VALVE BOX MANUFACTURERS LIST

<u>Manufacturer</u>	<u>Model Number</u>	<u>Depth of Bury</u>
Tyler Pipe Company	6850 series, two piece #160 base	27” to 39”
East Jordan Iron Works, Inc.	8850 series, two piece #160 base	27” to 39”
Tyler Pipe Company	6860 series, three piece #160 base	44” to 80”
East Jordan Iron Works, Inc.	8860 series, three piece #160 base	44” to 80”

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APPROVED VALVE STEM EXTENSION MANUFACTURERS LIST

R & B Pipe Manufacture, Inc.

Trumbell Manufacturing

APPROVED AIR-VACUUM VALVE BOX MANUFACTURERS LIST

Manufacturer

Model Number

Mid-States Plastics, Inc.

Box-18”(Dia.) x30” (Height)

East Jordan Iron Works, Inc.

Watertight; Model 1775

APPROVED MARKING TAPE MANUFACTURERS LIST

Allen Systems
Empire Level Mfg. Corporation