

Austin Water 3rd Quarter 2016 Backup Material For Proposed Changes to Standard Specification Manual, Series 500, Item 506

ITEM NO. 506 - MANHOLES 3-15-11 version **with proposed additions** and **deletions** authorized by the Standards Committee at its 12-08-2015 meeting.

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Add the following to 506.2 - Qualifications

Individual(s) setting up and operating equipment to core through the walls of existing manholes or junction boxes shall have experience in coring similar size holes through the walls of similar size and type structures on at least ten projects (or 15 manholes) in Austin Water's jurisdiction.

Add the following to 506.3 - Project Submittals

A. Products and Materials

The Contractor shall submit descriptive information and evidence that the materials the Contractor proposes for incorporation in the Work are of the kind and quality that satisfy the requirements in the Contract Documents. The **City of Austin Water Utility** Standard Products Lists are considered a part of the Specifications for the Work. The Contractor shall use products from the SPLs for all water and wastewater construction unless alternative products are shown on the Drawings; called for in the specifications; or specified in the Bidding Requirements, Contract Forms and Conditions of the Contract. **Submitted items to be considered for approval, that are not included on Austin Water's Current Standard Product List, shall be reviewed by Austin Water.**

The submittal requirements of this specification item include:

6. For wastewater manhole coatings and linings: technical data sheets that include instructions on surface preparation, mixing, placing, and curing procedures; **technical data sheets for coating thickness measuring equipment and for holiday detection test equipment.**
7. **For connections to existing manholes or junction boxes: details showing the size, location, and method of removal of the wall section, including any temporary supports attached to the manhole or junction box wall; details showing the location of existing joints, other connecting pipes, and other features that penetrate or attach to the wall; and technical data sheets covering the pipe-to-manhole or pipe-to-junction box connectors.**

C. Installation

The Contractor shall submit evidence to the inspector that identifies the firms or individuals setting up the equipment and coring through the walls of manholes and junction boxes. The firms or individuals shall be qualified per Item 506.2 above.

Add the following to 506.4 - Materials

A. Concrete

All cast-in-place concrete shall conform to City of Austin Standard Specification Item No. 403S, "Concrete for Structures." Cast in place concrete shall be Class A or as specified on the Drawings. Concrete used in precast concrete manhole base sections, riser sections and appurtenances shall conform to the requirements of Texas Department of Transportation Item 421, Hydraulic Cement

Concrete, 2004 Edition. Concrete for backfill of over-excavated areas shall be City of Austin Class A, or Class J (City of Austin Standard Specification Item 403S, Concrete For Structures) or Controlled Low Strength Material (City of Austin Standard Specification Item 402S) as indicated on the Drawings.

E. Brick

The brick for ring adjustment courses and for stormwater manholes shall be of first quality, sound, hard burned, perfectly shaped brick conforming to the requirements of ASTM C 62, Grade SW, or concrete brick meeting the requirements of ASTM C 55, Grade N-1. Use of brick to construct any part of wastewater manholes is prohibited.

Add (and delete) the following to 506.5 - Construction

A.

General

~~A minimum horizontal separation of 12 inches shall be maintained between adjacent pipes inside and outside a manhole or junction box.~~

E. Pipe Connections to New Manholes and Junction Boxes

Wastewater pipe connections to new manholes and junction boxes shall be made using flexible, resilient, and non-corrosive watertight boot connectors or ring waterstops acceptable to the Engineer and conforming to the requirements of ASTM C-923. Any voids in the annular space between the pipe and boot connector or ring waterstop and the inside of the manhole wall shall be filled with non-shrink grout to prevent solids collection.

I. Height Adjustment of Manholes

3. Major Manhole Height Adjustment (Existing Manholes Only)

Any adjustment that exceeds the requirements of Minor Manhole Adjustments, shall be accomplished as indicated on City of Austin Standard 506S-2, Major Manhole Height Adjustment, and shall consist of any combination of removing and replacing the concrete rings, and/or the manhole cone section, and/or the straight riser section of the manhole in order to bring the manhole to final grade. Major manhole adjustments shall apply only to existing manholes. Manholes not located in paved areas shall have bolted covers. Manholes located within paved areas (street right of way only) shall be standard non-bolted unless otherwise noted on the drawings.

Add the following to 506.6 - Acceptance Testing of Wastewater Manholes

A. Test by the Vacuum Method

1. Equipment

c) Gauges shall be calibrated and read in inches of mercury (inches Hg or in Hg) or pounds per square inch gauge (psig) or both.

2. Procedures - applicable to new 48-inch diameter manholes

c) The vacuum test head shall be placed on the top of the cone section or, inside of the top of the manhole cone section, and the compression seal band inflated to the pressure recommended by its manufacturer. The vacuum pump shall be connected to the outlet port with the valve open. When a vacuum of 10 inches of mercury (-10 in Hg) (-5 psig) has been attained, the valve shall be closed and the time noted. Tampering with the test equipment will not be allowed.

- d) The manhole shall have passed the test if the vacuum does not drop below 9 inches of mercury **(-9 in Hg)** (-4.5 psig) within 3 minutes of the time the valve was closed. The actual vacuum shall be recorded at the end of the 3 minutes during which the valve was closed.

End

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| SPECIFIC CROSS REFERENCE MATERIALS | |
| Standard Specification Item No. 506, "Manholes" | |
| American Society for Testing and Materials (ASTM) | |
| Designation | Description |
| <u>ASTM D4787</u> | <u>Continuity Verification of Liquid or Sheet Linings Applied to Concrete Substrate</u> |