

PART 211 – VAULT, PITS, AND MANHOLES

- 211.1.1 Concrete masonry units shall conform to, and be tested in accordance with the specifications for Concrete Masonry, Hollow Load Bearing Concrete Masonry Units, ANSI/ASTM C90, or Concrete Building Brick C55, Grade A.
- 211.1.2 Precast manholes shall conform to, and be tested in accordance with, the specifications for Precast Reinforced Concrete Manhole Sections, ANSI/ASTM C478, flat slab top type.
- 211.1.3 Manhole adjusting ring shall be solid cast iron that fits in the standard City of Tulsa Sanitary Sewer manhole frame and the standard manhole lid fits in the adjusting ring.
- 211.1.4 Adjusting rings shall conform to and be tested in accordance with the Standard Specification for Gray Iron Castings ASTM A48 and Drainage Structure Castings, AASHTO Designation: M306-89. Castings shall be Class 35-B iron and unpainted.
- 211.1.5 The contact surface between manhole ring and manhole frame and the contact surface between manhole ring and manhole lid shall be machined smooth to prevent rocking and rattling.
- 211.1.6 The 2" manhole adjusting ring where specified shall have a minimum weight of 70 pounds and the 3" manhole adjusting ring where specified shall have a minimum weight of 100 pounds.
- 211.1.7 Markings on all gray iron castings shall conform to AASHTO Designation M306-89. (AASHTO M306-89 states: Each casting shall be identified by the foundry showing): Name of Foundry, Country of manufacturer, ASTM Designation Number, Class by a number followed by a letter indicating the minimum tensile strength and size of test bar. (i.e. Class 35-B), Heat Number and Date. No other wording or marking of any kind other than those stated above or shown on the plan will be permitted on castings.
- 211.1.8 Epoxy coating shall be required for any manhole receiving or discharging sewer pipe 15 inches in diameter or greater, as described in City of Tulsa Specification Part 217.
- 211.1.9 Manhole Coating: This section specifies the insitu-coating of new concrete sanitary sewer manholes to provide protection against corrosion to the manhole interior. This section includes requirements for product and contractor qualifications, work, materials, and equipment required for surface preparation, repairs, and application of a monolithic solvent-free epoxy coating to specified surfaces.
- 211.1.10 Submittals: The following items shall be submitted to Engineer for approval:
 - A) Technical data sheet and material safety data sheet (MSDS) on each product used, including ASTM test results indicating the product conforms to and is suitable for its intended use per these specifications.
 - B) Contractor Qualifications: