

## **SCOPE OF WORK**

### **1. INTENT**

The purpose of this specification is to establish an annual requirement contract for Sanitary Sewer Rings and Lids for the Water Utilities Department. Hinged manhole systems from the following manufacturers have been tested and approved by the city, only bids for these products, or an approved equal will be considered for award for the hinged manhole systems.

- East Jordon Iron Works
- Neenah Foundry

If an alternate product is bid, the City of Arlington shall act as the sole judge in determining equality and acceptability of products offered. Where the apparent low bidder has proposed an alternate product, that bidder shall demonstrate product equivalency to the satisfaction of the City. The product must meet salient physical, functional and/or performance characteristics to be deemed acceptable; once this occurs the product will be added to the approved product list for use.

The City reserves the right to make an award to either one vendor whose bid is the best value for the City, or to multiple vendors. If the City choose to award to multiple vendor, it will be award by sections listed in the bid pricing schedule.

### **2. REQUIREMENTS**

Sanitary sewer covers and lids under this specification will include 24" and 30" Hinged Manhole Systems (bolted and non-bolted), 24" and 30" Hinged Manhole Replacement covers (bolted and non-bolted), and 24" and 32" standard manhole drop-in replacement covers, (bolted and non-bolted)

### **3. SPECIFICATIONS**

**1. Material:** Material used in the construction of casting shall conform to the requirements below:

- AASHTO M306: Standard Specification for Drainage, Sewer, Utility, and Related Castings
- ASTM A48: Standard Specification for Gray Iron Castings
- ATSM A536: Standard Specification for Ductile Iron Castings

**2. Hinged Ring and Cover:** The manhole ring and cover shall be of ductile iron or gray cast iron construction. The cover shall be solid with no vent or pick holes; hinged with underlying special hinge area leakage protection; and shall have a recessed "pick bar" for cover opening. For watertight applications, approved manufacturers must provide results of inflow leakage testing and have met a maximum allowable leakage rate criterion of 1 gallon per minute (gpm) at 12 inches of water submergence above the manhole cover.

**3. Gasket:** The underside of the ring/cover shall be equipped with a continuous (one piece) vulcanized gasket for perimeter leakage sealing. The gasket shall either be of nitrile, neoprene, or EPDM construction.

**4. Machined Metal Surfaces:** The metal mating surfaces on the underside of the cover and the inner frame ledge supporting the cover shall have been machined smooth to allow uniform seating of the gasket. All

casting shall be true to pattern in form and dimension, free from pouring faults, sponginess, cracks, blow holes and other defects in positions affecting strength and value for the service intended. Angles shall be filleted and arises shall be sharp and true. All castings shall be stress relieved by shot blasting

**5. Cover Labeling:** All covers shall have the radial lettering "CITY OF ARLINGTON" and "SANITARY SEWER" cast thereon. Ring and cover shall have the specified foundry's name, part number, country of origin preceded by "Made in" (example: MADE IN USA) in compliance with the country-of-origin law of 1984, and production date (example: mm/dd/yy) for tracking purposes. Each casting must be marked with DI (ductile iron) and ASTM A536 or A536 80-55-06 or CI (cast iron) and ASTM A-48, Class 35B to verify the materials used. Castings without proper markings shall be rejected.

#### **6. Standard Covers, Bolted and Non-Bolted (non-hinged):**

- All standard covers shall have two 1" diameter pick bars cast into pockets to facilitate lifting.
- 24" Entertainment District Covers Shall have the Entertainment District logo centrally cast into the cover. The Top radial tag shall have "ENTERTAINMENT DISTRICT" cast in 1" Bookman Old-style recessed flush lettering. Bottom Radial Tag shall have "ARLINGTON, TEXAS" cast in ¾" lettering. "SANITARY SEWER" shall be cast reversed above Entertainment District radial tag. Cover shall have two Ergonomic Picks (EPIC) for lifting. Ent Dist. Nominal cover diameter shall be 24". Thickness at seat area shall be 2".
- 32" Entertainment District Covers Shall have the Entertainment District logo centrally cast into the cover. The Top radial tag shall be "ENTERTAINMENT DISTRICT" cast recessed flush Bookman Old-style. Bottom Radial Tag shall be "ARLINGTON, TEXAS". "SANITARY SEWER" shall be ½" Sharp Face Gothic cast reversed above Entertainment District radial tag. Cover shall have two Ergonomic Picks (EPIC) to facilitate lifting. 32" covers shall not weigh more than 175# +/-5%. Nominal cover diameter shall be 32". Thickness at seat area shall be 1-1/2".
- Nominal cover diameters shall be 24" or 32" and **EQUAL** to EJ Products 1342A 1342A1, 1342APT, V1432, V1432-3, V2432 or V2432-3 and **MUST** fit current installed rings EJ1324Z1 No. 00134215, 1324PT No. 00134217, 1480Z No.00148015, 2810ZPT No. 00281018.

**7. Cover Bolts:** A minimum of four (4) bolts of 1/2-inch diameter x 13 thread pitch shall be used to secure the cover. Bolts shall be of stainless steel, grade 304 or better. The top of the cover shall have a recessed area around each bolt assembly to accommodate the washer diameter and thickness and bolt head height so that the bolting assembly does not protrude from the top of the manhole cover. Where cover bolts directly thread into the underlying cast or ductile iron frame, the bolt threads shall be thoroughly coated with Nikal Jet Lube product, as manufactured by CSW Industrials Company or approved alternate before insertion to avoid subsequent "seize up" from dissimilar metals. Stainless steel bolts that are threaded into stainless steel nuts within recessed slots in the underlying frame optionally do not require an anti-seize coating of the bolt threads.

**8. Inspection:** Manufacturer Inspections must be conducted in accordance with 8.1 of AASHTO M306-10. Results of these tests shall be furnished to the City upon request. The heat or production date and product numbers, as cast on the casting shall be the basis of traceability and recording of the tests. Castings not produced within the borders of the USA shall be submitted for approval under section 8.1.1 and 8.1.3 of AASHTO M306-010. Failure to comply with inspection criteria will result in rejection of material. Sample test results shall be submitted with the bid packet.

**9. Coatings:** Castings shall not be coated.