

06-04

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

**SPECIFICATIONS FOR SANITARY  
SEWER MANHOLE ADJUSTMENTS  
AUGUST 2006**

1. **SCOPE**

This specification governs the adjustment of existing sanitary sewer manholes if required to meet site conditions.

2. **MATERIALS**

- a. Manhole frames and covers shall conform to Section 03-04 Manhole Frames and Covers of the RWU specification.
- b. Concrete shall conform to Section 04-07 Concrete of the RWU specification.
- c. Steel reinforcement shall conform to Section 04-08 Reinforcing Steel of the RWU specification.
- d. Joint sealant material shall conform to Section 04-09 Joint Sealant Material of the RWU specification.

3. **GENERAL**

- a. The Contractor shall furnish barricades around existing manholes to safeguard traffic and pedestrians.
- b. The Engineer shall be responsible for establishing the vertical lowering and/or raising height required to achieve grade.
- c. The Contractor shall take all necessary measures to prevent debris from entering the manhole under reconstruction. A temporary (waterproof) cover shall be required during the reconstruction period.
- d. The Contractor shall take all necessary measures to prevent damage to the existing manhole frame and cover during the adjustment work.
- e. In the event that the existing manhole is being located into paved area, the Contractor is required to replace existing manhole frame and cover with a traffic manhole frame and cover.

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- f. If an existing manhole frame and cover is damaged or debris enters the sanitary sewer main, the Contractor will be responsible for the cost of said damage.
- g. No backfill operation and/or paving operation shall be preformed against the adjusted manhole for a minimum of 48 hours after the placement of concrete.
- h. All excess material such as paving and manhole cone shall be removed from the manhole adjustment work area and disposed of by the Contractor in an approved area. Removed manhole cones shall be broken by the Contractor prior to disposal.

**4. RAISING MANHOLES IN PAVEMENT AREAS**

- a. The maximum height of vertical adjustment with a cast-in-place concrete riser block shall be 24 inches. The vertical height shall be measured from the top of the existing manhole cone to the top of the cast-in-place concrete riser block. Pre-cast concrete riser rings are not allowed.
- b. If the vertical height adjustment is greater than 24 inches, the Contractor shall perform the adjustment in accordance with Item 6 of this specification.
- c. The manhole frame and cover shall be removed from the existing manhole.
- d. The Contractor shall construct a 4 foot by 4 foot cast-in-place concrete riser block with a 24 inch diameter opening as shown on the RWU standard details.
- e. If the manhole frame is not reset as part of the cast-in-place concrete riser block pour, the Contractor shall apply a 1½ inch bed of concrete (Class B) for the re-installing of the manhole frame on the cast-in-place concrete riser block. The Contractor shall also place a concrete (Class B) collar (8 inch at the bottom of the frame to 2 inch at the top of the frame) on exterior of the manhole frame. The concrete collar on exterior of the manhole frame shall receive a broom finish.
- f. If no sewage flow is observed through the existing manhole, the Contractor shall preformed a vacuum test in accordance with Section 08-02 Sanitary Sewer Manhole Testing of the RWU specification. If sewage flow is observed through the existing manhole, the Engineer and RWU personnel will perform a visual inspection.

**5. RAISING MANHOLES IN GREEN AREAS**

- a. The maximum height of vertical adjustment with cast iron adjustment (riser) rings shall be 24 inches and riser rings shall only be used in green (grass) areas. The

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- vertical height shall be measured from the top of the manhole frame to the top of the cast iron riser ring/cover. Pre-cast concrete riser rings are not allowed.
- b. If the vertical height adjustment is greater than 24 inches, the Contractor shall perform the adjustment in accordance with Item 6 of this specification.
  - c. The number of riser rings shall be limited to the minimum number that is required to achieve grade.
  - d. Joint sealant shall be applied on existing manhole frame and each joint of the riser ring(s) that are required to achieve grade. If the outdoor temperature is below 70 degrees, the Contractor must heat the joint sealant before application.
  - e. The Contractor shall place concrete (Class B) collar (8 inch at the bottom of the frame to 2 inch at the top of the frame) on exterior of the manhole frame. The concrete collar on exterior of the manhole frame shall receive a broom finish.
  - f. If no sewage flow is observed through the existing manhole, the Contractor shall preformed a vacuum test in accordance with Section 08-02 Sanitary Sewer Manhole Testing of the RWU specification. If sewage flow is observed through the existing manhole, the Engineer and RWU personnel will perform a visual inspection.

6. **LOWERING OR RAISING OF MANHOLES IN PAVED AND GREEN AREAS THAT REQUIRE THE REMOVAL OF THE MANHOLE CONE**

- a. If the vertical height adjustment of the existing manhole is greater than 24 inches or the existing manhole must be lowered, the Contractor shall remove the manhole cone section to the straight barrel section of the existing manhole.
- b. The manhole frame and cover shall be removed from the existing manhole.
- c. The Contractor shall remove of the manhole cone by either the saw cut method or explosive (shot) cord method.
- d. The Contractor shall prepare the existing manhole barrel for the re-construction of the cast-in-place manhole as shown on the RWU standard details.
- e. The Contractor shall re-construct the cast-in-place concrete manhole as shown on the RWU standard details.
- f. If the manhole frame is not reset as part of the cast-in-place concrete manhole pour, the Contractor shall apply a 1½ inch bed of concrete (Class B) for the re-

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- install the manhole frame on the cast-in-place concrete manhole. The Contractor shall also place concrete (Class B) collar (8 inch at the bottom of the frame to 2 inch at the top of the frame) on exterior of the manhole frame. The concrete collar on exterior of the manhole frame shall receive a broom finish.
- g. If no sewage flow is observed through the existing manhole, the Contractor shall preformed a vacuum test in accordance with Section 08-02 Sanitary Sewer Manhole Testing of the RWU specification. If sewage flow is observed through the existing manhole, the Engineer and RWU personnel will perform a visual inspection.