

## 816 - ADJUSTMENT OF MANHOLE AND VALVES

### 816.1 DESCRIPTION

This item includes raising or lowering of existing manholes as required due to construction under this contract. Construction of storm sewer manholes, of both brick masonry and concrete type construction, shall be in accordance with Section 816 of the Standard Specifications except as otherwise modified herein.

Construction of sanitary sewer manholes shall be in accordance with "Construction and Materials Specification" as prepared by the Johnson County Unified Wastewater Districts, and on file with the State of Kansas, Department of Health and Environment, Permit No. 20969. Where existing sanitary sewer manhole frames and covers require raising or lowering due to construction under this contract, such adjustment shall be accomplished in accordance with the requirements of the owner.

### 816.2 MATERIALS

#### a. Brick

Brick for manholes shall be of uniform texture, handburned throughout, and free from lime, gypsum, or other substance which would affect the brick under wet or freezing conditions.

#### b. Mortar

Mortar for all manholes shall be mixed in the proportions of 1 part by volume of Portland Cement, 1/4 part by volume of hydrated lime, and 3 parts by volume of sand. The cement, lime and sand shall be thoroughly mixed dry and only enough water added to form a mortar of proper consistency for its intended use. All mortar shall be used within 40 minutes after mixing. Mortar which has begun to take on initial set shall be discarded and shall not be mixed with additional cement or new mortar.

#### c. Rings and Covers

The Contractor shall furnish new manhole frames with O-ring gasket and bolted cover (Clay & Bailey No. 2014 or approved equal) for all sanitary manholes located within limits of ditch liners, and as noted on the plans. Removed rings and covers shall become the property of the Johnson County Unified Wastewater Districts.

#### d. Steps

The existing steps may be reused except when they have been found to be unacceptable as determined by the Engineer. If required, replacement steps will be Clay & Bailey No. 2102 or approved equal.

#### e. Maintenance

The Contractor shall be responsible for keeping all debris and waste material out of sewers during manhole adjustments. Should any waste material, debris, earth or other foreign material enter sewers during adjustments or other construction operations, the Contractor shall be responsible for removal of such material and shall maintain sewer flow at all times.

#### f. Manhole Spraying

All manhole covers shall be sprayed with a releasing agent prior to the overlay by the Contractor. Release agent spraying and asphalt removal around manholes shall be subsidiary to other bid items.

#### g. Overlay Operations

##### (1) Planing

The Contractor shall plane around and/or over all manholes and utility valves within the limits of the specified work. Utility manholes and valves shall not be cut prior to the street planing. All manholes and valves damaged shall be replaced or corrected as approved by the Engineer at the Contractor's own expense. All manholes and valves shall be cut as directed by the Engineer. The actual location of each manhole shall determine the type of cut required. The approximate number and types of utility manholes and valves are shown in the Treatment Around Manholes and Valves Detail. This work shall be subsidiary to other bid items in the Proposal.

## (2) Overlay

All utility manhole covers located within the paved roadway requiring adjustment shall be raised by the Contractor, prior to the resurfacing operation. Asphalt overlay shall be neatly tapered around the ring of all manholes to conform to the existing grade.

The approximate number and method of raising the manholes shall be determined in the field prior to the overlay. Traffic control during this operation will be as specified in Traffic Control section of this specification. The elevation shall be the same as the elevation for the new proposed overlay surface. The area disturbed around the ring shall be maximum of 12 inches. The Contractor shall provide all necessary equipment and material to raise the rings to the required elevations. The mortar around the top row of bricks shall be removed, "Set 45" high early strength mortar replaced around the top row of bricks, and the ring reset. Two concentric rings of bitumastic flexible butyl rubber-like gasket materials, meeting or exceeding Federal Specifications SS-S-210 A, shall be installed between the mortar and ring, and between each riser ring. High early strength concrete shall be placed around the manhole up to the planed surface. Any damage to an adjusted manhole shall be the responsibility of the Contractor to repair. All manholes, which require raising prior to overlay, will require hot asphalt placed sufficiently around the manhole and 95% compacted.

Other manholes may require adjustment with a riser ring, as directed by the Engineer. The manhole shall be set at the required elevation with the riser ring and secured to the existing ring or riser prior to resurfacing. This work shall be performed the morning of that day's overlay schedule. All riser rings shall be provided to the Contractor. This work shall be subsidiary to other bid items.

The contractor shall coordinate and schedule with the owner of the facility, the adjustment of manhole covers show in the plans to be adjusted "By Others".

**Failure to match any manhole or valve after the street has been overlaid with asphalt shall result in a disincentive of \$1,000 per manhole or valve. The contractor shall be required to match a manhole or valve within a 1/8 inch difference measured between the outside ring and the overlaid surface. The contractor shall also take necessary measures to correct the mismatched manhole or valve as directed by the engineer. This disincentive shall be imposed each time the Contractor fails to properly match any manhole or valve after an overlay.**

## 816.3 CONSTRUCTION REQUIREMENTS

### a. Brick Manholes

Brick masonry manholes may be adjusted upward to accommodate construction by adding brick to obtain the proper dimension to match finish grade or surface as approved by the owner; adjustments downward will be limited to the removal of courses of brick to the top of the existing manhole cone. When greater adjustments are required, the manholes shall be reconed as indicated in the plans.

### b. Precast Concrete Manholes

Precast concrete manholes may be adjusted upward by a combination of adding barrel sections and/or a maximum of one foot of concrete riser rings. Adjustments downward may be accomplished by a combination of removing barrel sections and/or a maximum of one foot of concrete riser rings.

All sanitary sewer manhole wall sections to be over 16 foot in depth shall meet the requirements of the owner for deep manholes. The Contractor shall be responsible for inspection of existing manholes to determine the extent of reconstruction necessary to meet these requirements.

## **816.4 JURISDICTION**

~~Sanitary Sewer construction shall be in accordance with the "Construction and Materials Specification" as prepared by the Johnson County Unified Wastewater Districts, and on file with the State of Kansas, Department of Health and Environment, Permit No. 20969. All sewer construction shall be in accordance with the Overland Park Municipal Code, and shall additionally be in accordance with requirements of the jurisdiction listed herein.~~

~~All sanitary sewer service line work shall conform to requirements of the Johnson County Unified Wastewater Districts Service Line Design and Construction Standards, and the most recent edition of the BOCA National Plumbing Code.~~

#### ~~816.5 EXISTING MANHOLE CONE REMOVAL~~

~~Existing sanitary Sewer manhole shall have the existing ring and cover removed along with the bell section of the manhole. The existing sanitary sewer pipes shall be covered and the existing manhole filled with flowable fill to subgrade of street. The area around the manhole and including pavement base area shall be concreted to the milled surface.~~

#### ~~816.6~~16.4 MEASUREMENT AND PAYMENT

The Engineer will measure each manhole adjustment.

Payment for “Adjustment of Manholes” at the unit price bid is full compensation for the specified work.