

SECTION 02607

ADJUSTING MANHOLES, INLETS, AND VALVE BOXES TO GRADES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Adjusting elevation of existing manholes, inlets, and valve boxes to new grades and installation of concrete collar per City of Galveston Standard Details.

1.02 UNIT PRICES

- A. Measurement for adjusting utility structures to grade is on a per EACH basis for:
 - 1. Adjusting manholes.
 - 2. Adjusting inlets.
 - 3. Adjusting valve boxes.

PART 2 PRODUCTS

2.01 CONCRETE MATERIALS

- A. For cast in place concrete, refer to Section 03305 - Concrete for Utility Construction.
- B. For precast concrete manhole sections and adjustment rings, refer to Section 02601 - Precast Concrete Manholes.
- C. For mortar mix, conform to requirements of ASTM C 270, Type S using Portland Cement.

2.02 CAST IRON ADJUSTING RINGS

- A. For cast iron adjusting rings, refer to Section 02603 - Frames, Grates, Rings and Covers.

2.03 PIPING MATERIALS

- A. For riser pipes and fittings, refer to applicable piping materials specifications in Sections 02610 through 02620.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine existing structure, valve box, frame and cover or inlet box, frame and cover or inlet, and piping and connections for damage or defects that would affect adjustment to grade. Report such damage or defects to the Owner Representative.

3.02 ESTABLISHING GRADE

- A. Coordinate grade related items with existing grade and finished grade or paving, and relate to established benchmark or reference line.

3.03 ADJUSTING MANHOLES AND INLETS

- A. Elevation of manhole or inlet can be raised using precast concrete rings or metal adjusting rings. Use of brick for adjustment of sanitary sewer manholes to grade is prohibited. Elevation of manhole or inlet can be lowered by removing existing masonry, adjusting rings or the top section of the barrel below the new elevation and then rebuilding or raising the elevation to the proper height.
- B. Grout inside and outside adjusting ring joints.
- C. Salvage and reuse cast iron frame and cover or grate, unless directed otherwise by Owner's Representative.
- D. Protect or block off manhole or inlet bottom using wood forms shaped to fit so that no debris or soil falls to the bottom during adjustment.
- E. Set the cast iron frame for the manhole cover or grate in a full mortar bed and adjust to the established elevation. In streets, adjust covers to pavement elevation.
- F. Verify that manholes and inlets are free of visible leaks as a result of reconstruction. Repair leaks in a manner subject to the Owner Representative's approval.
- G. After manhole or inlet has been set, aligned, and adjusted so that top lid is level with final grade, pour a reinforced concrete collar around the manhole or inlet per City of Galveston Standard Details. Center manhole or inlet horizontally within the collar.

3.04 ADJUSTING VALVE BOXES

- A. Salvage and reuse valve box and surrounding concrete block, unless directed otherwise by the Owner's Representative.

- B. Remove and replace 6-inch riser pipe in accordance with City of Galveston Standard Details with suitable length for depth of cover required to establish the adjusted elevation to accommodate actual finish grade.
- C. Reinstall valve box and riser piping plumbed in vertical position. Provide minimum 6 inches telescoping freeboard space between riser pipe top butt end and interior contact flange of valve box for vertical movement damping.
- D. After valve box has been set, aligned, and adjusted so that top lid is level with final grade, pour a reinforced concrete collar around the valve box per City of Galveston Standard Details. Center valve box horizontally within concrete slab.

3.05 BACKFILL AND GRADING

- A. Backfill the area of excavation surrounding each adjusted manhole, inlet, and valve box and compact according to requirements of Section 02227 - Excavation and Backfill for Utilities.
- B. Grade the ground surface to drain away from each manhole and valve box. Place earth fill around the manhole collar block out. Place earth fill around the valve box collar block out.
- C. In unpaved areas, grade surface at a uniform slope of 1 to 5 from the manhole frame to natural grade.

END OF SECTION