SECTION 02605
CAST-IN-PLACE INLETS, JUNCTION BOXES, HEADWALLS AND WINGWALLS

PART I: GENERAL

1.1 GENERAL REQUIREMENTS
- A. Cast-in-place inlets for storm sewers, including cast iron frame and plate or grate.
- B. Cast-in-place headwalls including wingwalls for storm sewers.
- C. Cast-in-place junction box with lid or grate top.

1.2 MEASUREMENT AND PAYMENT
- A. Unit Prices:
  1. Payment for cast-in-place inlets is on a unit price basis for each inlet installed.
  2. Payment for cast-in-place headwalls including wingwalls is on a unit price basis for each headwall including wingwall installed.
  3. Payment for cast-in-place junction box with lid or grate top is on a unit price basis for each junction box installed.
  4. Payment for inlets, including wingwalls and junction boxes includes connection of lines and furnishing and installing frames, grates, rings and covers.
  5. Refer to Section 01270 – Measurement and Payment for unit price procedures.
- B. Stipulated Price (Lump Sum):
  1. If Contract is Stipulated Price Contract, payment for work in this Section is included in Total Stipulated Price.

1.3 REFERENCES
- A. CFTS – City of Friendswood Technical Specifications.

1.4 SUBMITTALS
- A. Conform to requirements of Section 01330 – Submittal Procedures.
- B. Submit shop drawings for approval of design and construction details for cast-in-place units which differ from units shown on the Drawings.
- C. Submit manufacturers' data and details for frames, grates, rings and covers.

1.5 QUALITY ASSURANCE
- A. Provide manufacturer's affidavits that material was manufactured in compliance with standards and Technical Specifications referenced in this Section.

PART II: P R O D U C T S

2.1 MATERIALS

A. Concrete: Class A concrete with a minimum compressive strength of four thousand pounds per square inch (4000 psi) conforming to requirements of Section 03300 – Structural Concrete, unless otherwise indicated on the Drawings.

B. Reinforcing Steel: Conform to requirements of Section 03300 – Structural Concrete.

C. Mortar and Hydraulic Cement – Conform to requirements of Section 03100 – Mortar.

D. Miscellaneous metals: Cast-iron frames, grates, rings and covers conforming to requirements of Section 02315 – Frames, Grates, Rings and Covers.

PART III: EXECUTION

3.1 EXAMINATION

A. Verify lines and grades are correct.

B. Verify compacted subgrade shall support loads imposed by inlets, junction boxes, headwalls and wingwalls.

3.2 INSTALLATION

A. Construct units complete in place to dimensions, lines and grades as shown on the Drawings.

B. Excavate in accordance with requirements of Section 02125 – Excavation and Backfill for Utilities.

C. Construct box section of inlets, junction boxes, headwalls and wingwalls of Class A concrete.

D. Forms required for both outside and inside faces of concrete inlet, junction box, headwall or wingwall walls; however, when nature of material excavated for inlet or junction box can be hand trimmed to smooth outside vertical face, outside forms may be omitted with approval of the Project Manager. When nature of material excavated for headwall or wingwall walls can be hand trimmed to a smooth backside vertical face, backside forms may be omitted with approval of the Project Manager.

E. Place reinforcing steel to conform to details shown on the Drawings. Provide positive means for holding steel cages in place during concrete placement. Welding of reinforcing steel is not permitted unless noted on the Drawings. A maximum variation in reinforcement position is plus or minus ten percent (10%) of wall thickness or plus or minus one-half inch (±1/2 In), whichever is less. Regardless of variation, maintain a minimum cover of concrete over reinforcement as shown on the Drawings.

F. Chamfer exposed edges unless otherwise indicated on the Drawings.

3.3 FINISHES

A. Cut off inlet or junction box leads neatly at inside face of inlet or junction box wall, or at outside face of headwall. Point up with mortar.

B. When box section of inlet or junction box complete, shape floor of inlet junction box with mortar to conform to detailed the Drawings.

C. Finish all concrete surfaces in accordance with requirements of Section 03300 – Structural Concrete.

3.4 QUALITY CONTROL

A. Verify that inlets and junction boxes are free of leaks. Repair leaks in approved manner.

3.5 CONNECTIONS

A. Connect storm sewer leads to inlets and junction boxes as shown on the Drawings. Seal all connections inside and outside with hydraulic cement. Make connections watertight.

3.6 BACKFILL

A. Backfill area of excavation surrounding each completed inlet, junction box, headwall and wingwalls according to requirements of Section 02125 – Excavation and Backfill for Utilities.

END OF SECTION