

**SECTION 03300 - MINOR CONCRETE**

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## SECTION 03300 - MINOR CONCRETE

### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

- A. Work includes concrete work for minor structures like concrete curbs, sidewalks, gutters, driveways, handicapped ramps, concrete encasements, street light footings, footings for fences, cast-in-place manhole bases, thrust blocks, and other minor structures.
- B. Concrete washout shall be contained and shall not be allowed to flow into the City storm drain system unless water is treated for particle removal by means of filtration, sedimentation, etc.

#### 1.02 RELATED REQUIREMENTS

- A. Section 01340, *"Submittals"*
- B. Section 02400, *"Storm Sewer System"*
- C. Section 02453, *"Traffic Signals"*
- D. Section 02500, *"Paving and Surfacing"*
- E. Section 02530, "Curb Ramps and other Minor Concrete Facilities"
- F. Section 02710, *"Water System Piping and Accessories"*
- G. Section 02720, *"Sanitary Sewer Collection System"*
- H. Section 16550, *"Street Lighting System"*

#### 1.03 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM)
- B. State Specifications

#### 1.04 QUALITY ASSURANCE

- A. The Contractor's attention is directed to Article 8 of the City's General Conditions (Section 00700). To validate that specified final elevations have been provided, the Contractor shall provide to the City applicable grade certificates as required by Article 8. No separate payment will be made for providing such certification. All costs therefore shall be included in the various work item(s) requiring certification.

## 1.05 MEASUREMENT AND PAYMENT

- A. Where specified in the Special Provisions, measurement and payment for minor concrete placed in the work will be paid for at the contract price per cubic yard. The contract price for such work will include full payment for all materials, labor, equipment, and other incidentals required to construct the concrete improvements in accordance with the Plans, these specifications and Special Provisions, and as directed by the Engineer.
- B. Measurement and payment for reinforcing bars will be considered included in the unit price for concrete unless specifically indicated in the Bid Schedule. When indicated in the Bid Schedule, reinforcing bars will be paid for at the contract price per pound.
- C. Where no separate bid item is indicated, costs for all work and materials specified herein shall be included in the bid prices for items of work requiring concrete.

## 1.06 SUBMITTALS

- A. Contractor shall submit a certificate showing that materials used on the project meet the requirements of these specifications.
- B. Contractor shall furnish samples of construction materials in such quantities as may be required by the Engineer for testing purposes, at no additional cost to the City.
- C. Contractor shall submit a certificate of compliance for the Portland Cement concrete mix design.
- D. Contractor shall submit a certificate of compliance for reinforcing bars.

## PART 2 - PRODUCTS

### 2.01 CONCRETE

- A. Concrete for concrete curbs, sidewalks, driveways, gutters, handicapped ramps, catch basins, street light footings, and cast-in-place manhole bases shall be Class A concrete and shall contain not less than five hundred sixty four pounds (564#) of Portland cement per cubic yard unless otherwise specified herein or in the Special Provisions.
- B. Concrete for pipe encasements, thrust blocks, trench caps, and footings for fences shall be Class B concrete and shall contain not less than four hundred seventy pounds (470#) of Portland cement per cubic yard.

### 2.02 PORTLAND CEMENT

- A. Portland cement shall conform to the provisions in Section 90-2.01, "Portland Cement," of the State Specifications.

- B. Concrete for pipe encasements, thrust blocks, trench caps, and footings for fences shall be Class B concrete and shall contain not less than four hundred seventy pounds (470#) of Portland cement per cubic yard.

## 2.03 AGGREGATE

- A. Aggregate shall be clean and free from deleterious coatings and other extraneous materials, conforming to the gradation requirements for one and one-half inches (1-1/2") maximum by three-quarter inch (3/4") minimum, in Section 90-3.02, "Coarse Aggregate Grading," of the State Specifications.

## 2.04 ADMIXTURES

- A. If authorized in writing by the Engineer, the use of admixtures shall conform to the provisions in Section 90-4, "Admixtures," of the State Specifications. Concrete containing admixtures shall be subject to the same compliance testing as specified for various classes of concrete.

## 2.05 WATER

- A. Water used for washing, mixing, and curing shall be free from oil, salts, and other impurities, which would discolor or etch the surface or have an adverse effect on the quality of the concrete.

## 2.06 CURING COMPOUND

- A. Curing compound for use on concrete surfaces exposed to the air shall be "Non-Pigmented Curing Compound - Chlorinated Rubber Base-Clear," conforming to Section 90-7.01B, "Methods of Curing", of the State Specifications.

## 2.07 FORMS

- A. Form materials shall be free from warp, with smooth and straight upper edges, and if used for the face of curb, shall be surfaced on the side against which the concrete is to be placed. Wooden forms for straight runs shall have a net thickness of one and one-half inches (1-1/2"). Metal forms shall be of a gage that will provide equivalent rigidity and strength. Forms shall be supported to adequately resist springing or deflection from placing and tamping the concrete.

## 2.08 REINFORCING BARS

- A. Unless otherwise specified, reinforcing bars shall be either Grade 40 or 60 billet steel, conforming to ASTM A 615.

## 2.09 TIE WIRE

- A. Tie wire shall be 16 gage, black annealed.

## 2.10 SUPPORTS

- A. Reinforcements shall be supported by metal, galvanized, plastic-coated, of approved manufacture, except that concrete blocks shall be used for slabs on grade.

## 2.11 EXPANSION JOINT FILLERS

- A. Pre-molded joint fillers shall conform to Section 51-1.12C, "Pre-molded Expansion Joint Fillers," of the State Specifications.
- B. Sheet packing, preformed pads and board fillers shall conform to Section 51-1.12D, "Sheet Packing, Preformed Pads and Board Fillers," of the State Specifications.

## PART 3 - EXECUTION

### 3.01 CONCRETE CURBS AND SIDEWALKS

- A. Construction of concrete curbs, gutters, sidewalks, island pavings, handicapped ramps, and driveways shall conform to Section 73, "Concrete Curbs and Sidewalks," of the State Specifications and applicable City Standard Drawings.

### 3.02 PIPE ENCASEMENTS AND THRUST BLOCKS

- A. Concrete pipe encasements and thrust blocks shall conform to Section 02710, "Water System Piping and Accessories," and Section 02720, "Sanitary Sewer Collection System," of these specifications and applicable City Standard Drawings.

### 3.03 BASES FOR MANHOLES

- A. Cast-in-place concrete bases for manholes shall conform to Section 02720, "Sanitary Sewer Collection System," and Section 02400, "Storm Sewer System," of these specifications and applicable City Standard Drawings.

### 3.04 FOOTINGS

- A. Footings for street lighting, traffic signals, and fences shall conform to Section 16550, "Street Lighting System," Section 02453, "Traffic Signals," and Section 02445, "Fences and Gates," of these specifications and applicable City Standard Drawings.

### 3.05 HAND MIXED CONCRETE

- A. Hand mixed concrete, if authorized by the Engineer, shall conform to Section 90-6.05, "Hand Mixing," of the State Specifications.

### 3.06 REPAIR AND RESTORATION

- A. Repairs to sidewalks, driveways, curbs, gutters, and ramps shall be made by removing and replacing the entire unit between scoring lines or joints. The Contractor shall match, as closely, the texture, finish, and color of adjacent existing structure.

### 3.07 REINFORCEMENT

- A. Reinforcing bars shall be placed, spliced, bent, and cleaned in accordance with Section 52, "Reinforcement", of the State Specifications.

End of Section