

## **SPEC SECTION 03450**

### **ARCHITECTURAL PRECAST CONCRETE**

#### **SCOPE:**

The work to be performed under this section of the specification shall include all labor, material, equipment, services and supervision required for the manufacturing of the Architectural Precast Concrete units shown on the drawings.

#### **REFERENCES:**

- A. American Concrete Institute (ACI)
  - 1. ACI 318 – Building Code Requirement for Reinforced Concrete.
  
- B. American Society for Testing and Materials (ASTM)
  - 1. ASTM A615 – Spec for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement.
  - 2. ASTM A767/A767M – Spec for Zinc Coating (Galvanized) Steel Bars for Concrete Reinforcement.
  - 3. ASTM A780 – Standard practice for Repair of Damaged and Uncoated Areas of Hot Dip Galvanized Coatings.
  - 4. ASTM C33 – Spec for Concrete Aggregates.
  - 5. ASTM C150 – Spec for Portland Cement.
  - 6. ASTM C26 – Spec for Air-Entraining Admixtures for Concrete.
  
- C. Precast Concrete Institute (PCI)
  - 1. PCI Design Handbook for Precast and Pre-stressed Concrete.
  - 2. PCI MNL-117 – Manual for Quality Control for Plant and Production of Architectural Concrete Products.

#### **QUALITY ASSURANCE:**

- A. Manufacturer Qualifications: A qualified manufacturer of cast stone units similar to those indicated for this Project, that has sufficient production capacity to manufacture required units, and is certified to produce Cast Stone by the Architectural Precast Association (APA).
  
- B. Acceptable Manufacturers:
  - a. Miller-Mize Precast  
2702 Martin Luther King Blvd.  
P.O. Box 5693  
Columbus, GA 31906  
Phone: (706) 322-1311  
Website: [millermizeprecast.com](http://millermizeprecast.com)

- C. A minimum of 10 years successful experience in the fabrication of precast concrete units, similar to the units required for this project.
- D. When requested by the Architect, the Manufacturer shall submit written evidence of the above requirements.
- E. Production and allowable tolerances of Architectural Precast Concrete units shall comply with the provisions of Precast Concrete institute (PCI) MNL 117, "Manual for Quality Control for Production of Architectural Precast Concrete Products."
- F. Sample and Testing shall be in accordance with current ASTM standards.
- G. A competent Erector or Masonry Contractor having experience in the erection of this type of material shall perform the installation of this project.

### **SUBMITTALS:**

- A. The Manufacturer shall submit for approval, prior to production of precast units, one sample representative of the actual elements as to quality and type of finish. The sample shall be at least 12"x 12" x 1" in size.
- B. Upon Request of the Architect, test cylinders and product date shall be available for review.
- C. The Manufacturer shall submit erection shop drawings for approval prior to undertaking any work. These drawings shall show all finishes, Dimensions, connection, and related details. Drawings must be certified by a registered P.E. in the state the project is located.
- D. Shop drawings and calculations shall be reviewed and certified by a engineer with a min. of 5 years experience in the design of precast concrete.

### **PRODUCTS:**

#### MATERIALS:

- A. All concrete and steel materials shall be as outlined in ACI 318 AISC Manual of steel construction, and conform to the latest ASTM standards.

#### STRUCTURAL DESIGN:

- A. Architectural Precast units shall be designed in accordance with the latest edition of ACI 318
- B. Concrete shall conform to the requirements for 28-day minimum Compressive strength as shown on the structural drawings or in approved design calculations.

### FABRICATION:

- A. Architectural Precast concrete units shall be fabricated in accordance with the provisions of PCI MNL 117.
- B. Finish shall match in texture and color the approved sample on file with architect or owner, and actual finishing techniques shall be developed by the manufacturer so as to meet the architectural specifications.

### DAMAGE AND REPAIR:

- A. In house patching may be required by the manufacture prior to shipping. These repairs will be deemed acceptable if the structural adequacy and/or aesthetic appearance is not impaired, subject to PCI MNL 117 repair/patching.
- B. Field patching shall be allowed and shall match color and texture of surrounding concrete from a distance of 20ft. in direct daylight illumination.

### STORAGE:

- A. Product shall be stored and handled in such a way as to prevent damage, both in storage at manufacturing facility (by manufacturer) and at jobsite (by contractor).

### ERECTION:

- A. A competent Erector or Masonry Contractor having experience in the erection of this type of material shall perform the installation of Architectural Precast units. Units shall be lifted by means of suitable lifting devices at points provided by the manufacturer. Temporary shoring and bracing, if necessary, shall comply with the manufacturer's recommendations.
- B. Dirt and stains that are a direct result of the erection process shall be cleaned by the erector.
- C. Any damage that occurs during erection will be the responsibility of the erector. These repairs will be deemed acceptable if the structural adequacy and or aesthetic appearance is not impaired, subject to PCI MNL 117 repair and patching.
- D. After completion, any further soiling or damage to the Architectural Precast Concrete units are the responsibility of the General Contractor.

**END OF SECTION**