

# SECTION 3400

## Precast Concrete Amenities

### Part 1 - General

#### 1.1 SUMMARY

- A. Types of precast concrete work include:
  - 1. Precast Concrete Stairs
  - 2. Precast Concrete Caps
  - 3. Precast Concrete Copings
  - 4. Precast Concrete Wall Panels
  - 5. Precast Concrete Base
  - 6. Precast Concrete \_\_\_\_\_
- B. Setting material, grouts, sealants and caulks.
- C. Installation of precast concrete stairs, caps, copings, etc.
- D. Related work not specified under this section.
  - 1. Installation of steel units to receive precast concrete.
  - 2. Installation of concrete substrate to receive precast concrete.

#### 1.2 REFERENCES

- A. American Society for Testing and Materials (ASTM)
  - 1. ASTM C-150
  - 2. ASTM C-33
  - 3. ASTM C-260
  - 4. ASTM C-494
  - 5. ASTM C-128
  - 6. ASTM C-31
- B. Precast/Prestressed Concrete Institute (PCI)
- C. American Concrete Institute (ACI)
  - 1. ACI-318

#### 1.3 SUBMITTALS

- A. Shop Drawings
  - 1. Submit shop drawings of all precast concrete items showing detail sections and profile for all precast items. Details shall show all reinforcing and special hardware required for fastening.
- B. Samples
  - 1. Submit 1 sample, 6" x 12" size for each color.
    - a. Color to be selected from Wausau Tile Site Furnishings color chart.
    - b. Sample to be submitted for color and texture.
    - c. Match existing or architect's sample.
  - 2. Submit copy of Quality Assurance and Procedure Program.

C. Performance Requirements

1. Compressive Strength 5000 p.s.i.
2. Air Content 6-8%
3. Water-Cement Ratio .45:1

D. Certification

1. Suppliers shall furnish certification attesting that materials meet specification requirements.

1.4 QUALITY ASSURANCE

- A. PCI Standards: Comply with specified provisions and recommendations of the Precast/Prestressed Concrete Institute. (PCI)
- B. ACI Manual of Concrete Practice: Comply with specified provisions and recommendations of the American Concrete Institute. (ACI)
- C. Manufacturer's Instructions: In addition to specified requirements, comply with precast concrete manufacturer's instructions and recommendations for substrate preparation, material storage, mixing and application, finishing and curing.
- D. Qualifications: Precast Concrete Manufacturer and Trade Contractor must have a minimum of 5 years of successful experience on projects of similar magnitude and complexity to that indicated project. Manufacturer and contractor to be prequalified by architect prior to bidding. Failure to prequalify will void bid.
- E. Manufacturer to supply a written Quality Assurance Program and Procedure Manual.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Packaging and Shipping: Precast concrete to be palletized and shrink wrapped, delivered in original unopened packaging with legible manufacturer identification, including size, piece number, quantities, manufacture date and inspectors initials.
- B. Storage and Protection: Precast concrete to be stored in secure area in original packaging. Protect from damage by other trades.

1.6 WARRANTY

- A. Manufacturer/Installer shall warrant installed system for a period of 2 years from date of substantial completion against failure of workmanship and materials.

## Part 2 - Products

### 2.1 MANUFACTURERS

- A. Acceptable manufacturer.
  - 1. Wausau Tile, Inc.
- B. Clarification Note: Drawings and specifications are based on manufacturer's proprietary literature from Wausau Tile, Inc. Other manufacturers shall comply with minimum levels of material specifications and detailing indicated on the drawings specified herein.

### 2.2 MATERIALS

- A. Portland Cement: ASTM C-150 specifications for Portland Cement.
- B. Aggregates: All aggregates to meet ASTM C-33 specifications, cleaned and properly graded to size. Aggregates shall be blended to meet individual project requirements.
- C. Coloring: Pigments used shall be inorganic, resistant to alkalinity and used per manufacturer's recommendations.
- D. Reinforcement and Hardware
  - 1. To conform with ACI and manufacturer's design.
  - 2. Reinforce precast with deformed rods or wire, or both, as recommended by precast concrete manufacturer.
- E. Caulks and Sealants
  - 1. Urethane or Polyurethane sealant
  - 2. Color to be selected by architect from standard color pallet.
- F. Sealer: Colorless, pure acrylic water-repellent penetrating sealer. Sealer to maintain natural look of concrete surface with no glaze or gloss, darkening or color change.

### 2.3 MANUFACTURED UNITS

- A. Sizing Tolerances
  - 1. All units to conform to shop drawings, with a 1/8" tolerance in dimension.
- B. Precast Surfaces and Edges
  - 1. All exposed edges to have minimum 1/8" chamfer to prevent chipping.
  - 2. Finished surfaces to match approved control sample.
  - 3. All precast concrete finished surfaces to be sealed with a sealer approved by manufacturer.

## Part 3 - Execution

### 3.1 INSPECTION

- A. Examine areas to receive precast concrete for the following:
  - 1. Defects in existing work or substrate.
  - 2. Deviation beyond allowable tolerances for the substrate.
- B. Start work only when defects have been corrected by others.

### 3.2 INSTALLATION

- A. Setting
  - 1. Set accurately as shown on approved shop drawing. Setting methods are:
    - a. Mud Set
    - b. Thin Set
    - c. Weld
    - d. Bolt
    - e. Setting Clips/Hangers
    - f. Tab Set
  - 2. Alignment of precast should be straight and true to all dimensions. It may not vary more than 1/8" in length, height or width.
  - 3. Install anchors as shown on details.
  - 4. Fill joints between with manufacturer approved caulk or as specified.
- B. Protection
  - 1. Upon completion, the work shall be ready for final inspection and acceptance by the owner or owner agent.
  - 2. General contractor shall protect the finished work from the time the installing contractor completes the work.
- C. Finish
  - 1. Overall uniformity in matrix and aggregate.
  - 2. All product to be sealed with approved sealer.