

## SECTION 10 73 46 PRE-FABRICATED SITE SHELTERS

### 1. GENERAL

#### 1.1. SUMMARY

- A. Design, fabrication, finishing, and delivery of pre-engineered, factory-fabricated site shelters.
- B. Site work related to installation, by Contractor or Owner, including:
  - 1. Unloading and temporary storage, if any.
  - 2. Soil testing, if necessary.
  - 3. Site preparation.
  - 4. Column foundations, rebar, anchor bolts, and anchor embedment.
  - 5. Concrete slab and embedment.
  - 6. Erection.
  - 7. Field touch up painting of factory finishes, if necessary.
- C. Site access for delivery vehicles to be provided by Owner.
- D. Related Sections: Section 033000 - Cast-In-Place Concrete: Concrete footings and slabs.

#### 1.2. SYSTEM DESCRIPTION

- A. Design shall meet or exceed applicable building code.
- B. Pre-fabricated package shall include structural steel framing members, pre-cut roof panels, trim, and fasteners.
- C. All bolts shall be hidden, concealed inside the steel tubes.
- D. Field labor required to install the pre-fabricated parts. Onsite welding shall not be required or permitted.

#### 1.3. REFERENCES

- A. American Society of Testing Material (ASTM)
  - 1. ASTM A325 - Standard Specification for Structural Bolts, Steel, Heat Treated
  - 2. ASTM A500 - Standard Specification for Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
  - 3. ASTM A563 - Standard Specification for Carbons and Alloy Steel Nuts
  - 4. ASTM A572 - Standard Specification for High-Strength Low-Alloy Columbium-Vanadium Structural Steel
  - 5. ASTM F1554 – Standard Specification for Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
- B. American Institute of Steel Construction (AISC)
- C. American Welding Society (AWS)

- D. Steel Structures Painting Council (SSPC); SSPC-SP10 - Near-White Blast Cleaning
- E. Leadership in Energy and Environmental Design (LEED)
- F. OSHA Standards 29 CFR, Part 1926, Subpart R (Steel Erection), Standard Number 1926.755: Compliance requires a minimum of four anchor bolts per column.

#### 1.4. QUALITY ASSURANCE

- A. Designer Qualifications: Design under direct supervision of a Professional Engineer experienced in design of this type of work and licensed in the State where the Project is located.
- B. Manufacturer Qualifications: Company experienced in design and manufacture of shelters of the type specified, and having the following:
  - 1. Minimum five years of experience in design and fabrication of pre-fabricated steel shelters.
  - 2. Three references of similar shelters completed within the past year.
  - 3. Fabricator membership in American Institute of Steel Construction (AISC), requiring quality control documentation and procedures. Provide current AISC shop certification upon request.
  - 4. All welding to be performed to AWS standards by AWS certified welders. Provide welding certification upon request.
- C. Perform the work in accordance with applicable federal, State, and local building and safety codes and regulations.

#### 1.5. SUBMITTALS

- A. Minimum 5 sets of shop drawings, showing all details of construction, including foundation sizes, reinforcement, and locations.
  - 1. Provide the licensed professional engineer's state stamp or seal on the shop drawings.
  - 2. Provide the licensed professional engineer's state stamp or seal on the structural calculations.
- B. Selection Samples: For each finish product specified, color charts representing manufacturer's full range of available colors.
- C. Warranty
  - 1. Provide minimum five year frame warranty against manufacturer defects.
  - 2. Provide roofing manufacturer's limited warranty.

#### 1.6. DELIVERY, STORAGE, AND PROTECTION

- A. Package factory-finished steel components in foam, cardboard, and stretch wrap to protect the finish during transit.
- B. Shipped knocked down for minimal shipping charges.
- C. Deliver products to project site in manufacturer's protective packaging.

- D. Follow shelter manufacturer's recommendations and instructions, including those printed on the shop drawings. To minimize damage during unloading, use only padded forks or non-marring slings.
- E. Store products in manufacturer's unopened packaging well off the ground and covered out of weather until ready for installation.

## 2.PRODUCTS

### 2.1. GENERAL

- A. Model: AS-\_\_\_\_\_ - \_\_as manufactured by RCP Shelters, Inc.
- B. Size and dimensions
  - 1. Shape: \_\_\_\_\_
  - 2. Dimensions: reference preliminary drawings
  - 3. Roof Style: \_\_\_\_\_
  - 4. Roof Pitch: \_\_\_\_\_
  - 5. Eave Height: minimum 7'-6"
  - 6. Quantity: reference bid package
- C. Approved Manufacturer: RCP Shelters, Inc.
  - 1. 2100 SE Rays Way, Stuart, FL 34994.
  - 2. Toll Free: 800-525-0207
  - 3. Fax: 772-288-0207
  - 4. Website: [www.rcpshelters.com](http://www.rcpshelters.com)
  - 5. Email: [info@rcpshelters.com](mailto:info@rcpshelters.com)
- D. Substitutions: Products other than specified must request and receive approval in writing by addendum at least ten (10) days prior to the bid date. See Instructions to Bidders for further instructions.

### 2.2. STEEL STRUCTURAL COMPONENTS

- A. Structural Framing: fabricated for field assembly using bolted connections with no welding required or permitted; cold-formed shapes prohibited.
  - 1. Columns & Beams: ASTM A500 Grade C structural steel tube. The following shapes are prohibited: I-beams, wide-flange beams, C-channels, Z-shapes.
  - 2. Plates: ASTM A572 Grade 50.
  - 3. Compression Ring: steel plate, ASTM A572 Grade 50.
  - 4. Fasteners
    - a. Bolts: ASTM A325 high strength bolts.
    - b. Nuts: ASTM A563 high strength nuts.
  - 5. Column Anchors: ASTM F1554 Grade 36, provided by Contractor or Owner, attached to top of foundation, recessed below slab on grade.
  - 6. Cap plates: factory bent and field installed with hidden fasteners on hip and ridge beams not normal to roof so that metal roof deck does not bear structurally on beam corner only
  - 7. Finish: Powder Coat
    - a. Pre-blast inspection to catch and remove oil, grease, and other coatings impeding contaminants

- b. Steel grit blasted to near white condition in accordance with SSPC-SP10, removing all oil residue, mil scale, weld spatter, and slag
  - c. Five stage phosphate wash (includes detergent, phosphate, rust protectant sealant)
  - d. Epoxy powder coat primer
  - e. Double topcoat TGIC polyester powder coat; color to be selected from manufacturer's standard color chart by Owner.
  - f. Primer plus finish coats shall be 7-12 mils thick
  - g. All materials inspected to meet 100% coating, proper cure, film thickness, and impact resistance
  - h. Wet-coat alternatives shall not be acceptable.
- B. Roof System: Galvalume® structural metal roof panels with exposed fasteners.
- 1. Acceptable Panel Profiles:
    - a. Galvalume® panels with 1-3/16" high ribs, 12" on center.
    - b. Galvalume® panels with 1-1/2" high ribs, 7.2" on center.
  - 2. Panel Gauge: minimum 24-gauge.
  - 3. Panel Width: 3'-0".
  - 4. Panel Length: Precut to the length from the eave to the ridge; angles factory precut.
  - 5. Panel Orientation: Ribs shall run with the pitch of the roof for proper drainage.
  - 6. Trim: Provide matching roof trim and fasteners.
  - 7. Finish: Factory pre-finished with Kynar 500® paint system; color to be selected by Owner from standard color chart.

### 3.EXECUTION

#### 3.1. EXAMINATION

- A. Verify that site earthwork has been performed as required for satisfactory installation.

#### 3.2. PREPARATION

- A. Install footings and column anchors of size, design, and location as specified by shelter manufacturer on approved shop drawings.

#### 3.3. INSTALLATION

- A. Perform installation in accordance with applicable federal, State, and local building and safety codes.
- B. Structural special inspections, if required, are to be arranged and paid for by the Contractor or Owner.
- C. Install shelter in accordance with manufacturer's approved shop drawing and good construction practices.
- D. Install slab in accordance with shelter manufacturer's shop drawings. Slab perimeter dimensions determined by Owner.

#### 3.4. CLEANING AND PROTECTION

- A. Clean installed work to like-new condition.
- B. Protect installed products until completion of project.
- C. Touch-up, repair, or replace damaged finishes before Substantial Completion. Touch up paint provided by manufacturer.

END OF SECTION