# PART 1 - GENERAL

* 1. **SECTION INCLUDES**
     1. Manufactured lunch shelters and shade shelters.
     2. Concrete footings and slab.
  2. **RELATED SECTIONS**
     1. Section 31 23 13: Backfilling and Compaction
     2. Section 03 30 53: Site Concrete Work.
  3. **REFERENCES**
     1. American Institute of Steel Construction (AISC).
     2. American Iron and Steel Institute (AISI) Specifications for Cold Formed Members.
     3. American Society of Testing of Materials (ASTM).
     4. American Welding Society (AWS).
     5. Steel Structures Painting Council (SSPC-SP2) as outlined in AISC 6.5.
  4. **SYSTEM DESCRIPTION**
     1. Design Loads: Latest/current edition of the CBC (at time of construction), 20 pounds per square foot snow load,, seismic zone 4.
     2. Subject to Fontana City Wind Loads available at www.fontana.org.
     3. Design Method: According to latest/current edition of the California Building Code.
     4. The pre-engineered package shall be shipped as a pre-cut and pre-fabricated package that shall include the structural frame members, roof material, fasteners, trim and installation instructions. The structure shall be shipped in knocked down for minimum shipping charges. Field labor will be kept to a minimum by pre-manufactured parts. No onsite welding will be required. Connection bolts shall be concealed within the tubing where possible.
  5. **SUBMITTALS**
     1. 2 sets of shop drawings and 2 sets structural calculations signed and sealed by a Professional Engineer licensed in the State of California.
     2. Structural calculations shall show the following code information: California Building Code latest/current edition, 20 psf snow or live load, seismic zone 4 and conformance to City of Fontana Wind Speed requirements available at www.fontana.org.
  6. **QUALITY ASSURANCE** 
     1. Provide evidence of commitment of quality craftsmanship as demonstrated by following supplier qualifications:
        1. The product shall be designed and produced at a facility owned and directly supervised by the supplier. The product shall be shipped from a single source.
        2. The supplier shall have been making steel frame pre-manufactured shelters for a minimum of five years and list three similar projects in the territory.
        3. Membership in American Institute of Steel Construction.
        4. Membership in American Welding Society.
        5. Full time on-staff licensed engineer.
        6. Full time on-staff quality control manager.
        7. Published quality assurance manual.
        8. Full time on-staff AWS certified welding inspectors.
        9. Continued certification by an independent inspection agency, hired by the Owner.
     2. Certifications:
        1. Division the State Architect DSA Pre-Checked approval number.
        2. Welder certificates and AWS welding inspector certificates.
  7. **DELIVERY AND STORAGE**
     1. Unload materials with necessary equipment, store covered out of weather, and keep out of direct sun. Inspect parts within 48 hours of delivery, compare with manufacturer’s bill of material, and report any missing or non-conforming parts to manufacturer within this time.
  8. **WARRANTY**
     1. Supply manufacturer’s five year warranty.

1. **- PRODUCTS**
   1. **ACCEPTABLE MANUFACTURERS**
      1. POLIGON, a Division of W.H. Porter, Inc., Holland, Michigan.
      2. Americana Building Products, Salem. IL.
      3. Or equal in accordance with Division 1.
         1. Substitutions must be pre-approved and have in-file certification with the Division of the State Architect prior to bid.
   2. **MATERIALS**
      1. Structural framing: structural steel tube minimum ASTM A500 grade B or cold formed box sections minimum ASTM A570 grade 55. “I” beams, tapered columns, open channels, or wood products shall not be accepted.
      2. Connection Accessories: structural channel or welded plate minimum ASTM A36.
      3. Fasteners: ASTM A325 structural bolts, ASTM A307 anchor bolts, self tapping screws, rivets. Hot-dip galvanized.
      4. Metal Roofing: 24 gauge galvalume ASTM A792, pan style and 2-1/2 inch rib, 8 inches on center. Fascia: extended aluminum alloy 6063T6. Ribs shall run with the pitch of the roof for proper drainage. Class A Roof per UBC Standard 15.2.
      5. Metal roofing trim shall match the color of the roof and shall be formed from 26 gauge galvalume steel as follows: Panel End Caps: pre-bent to a "V" shape to fit over ridge end of roof panels. The inside of the "V" shall match the roof color. Ridge Caps shall be preformed metal strips with a single central bend to match the roof pitch.
      6. Concrete Materials: In accordance with Section 03300 Concrete.
   3. **ACCESSORIES**
      1. Metal ridge battens shall be preformed metal strips with a single central bend to match the roof pitch.
      2. Zee closers shall be field cut and beveled to fit between the ribs of the roofing and shall be placed under the ridge caps.
      3. Ridge caps shall be preformed metal strips with a single central bend to match the roof pitch. They shall be hemmed on the sides. They shall be placed along the ridges of the roof over the roofing and zee closures.
      4. Eave top trim shall be attached to the roofing along the eave.
      5. Metal fascia shall be “C” shaped and shall cap the wood fascia material along the eave.
      6. Lightning protection kit: The kit shall consist of the following: one air terminal and base, two ground rods with clamps, class I conductors, cable fasteners, and stainless steel screws.
      7. Finishes:
         1. Metal Roofing Panels: Fluoropolymer KYNAR 500. Color: To be selected by Owner.
         2. Structural Frame: polyester powder coat. Factory frame finish, double corrosion protection. Steel shall be shot blasted to near white condition. Cationic Epoxy Electrocoat applied with 0.4-1.2 mil thickness. TGIC polyester powder coated with 3-6 mil thickness. Cured to accomplish heat fusion. Color: To be selected by Owner.
   4. **FABRICATION**
      1. Base plates, stiffener plates, U-clips, and end plates shall be factory welded into place and bolt connection holes shall be factory cut.
      2. Welded connections shall be made by certified welders in accordance with AWS Specifications and be supervised by an AWS certified welding inspector.
2. **EXECUTION**
   1. **INSTALLATION**
      1. The shelter shall be set on prepared footings. Footing details shall be designed by a license structural engineer retained by the manufacturer based on load requirements of California Building Code. The structure shall be attached to the top of the concrete by use of anchor bolts furnished by the installation contractor. Anchor bolts shall be inside the column.
         1. Lunch Shelter manufacturer shall provide concrete footings and slab in accordance with Section 03300 Concrete.
         2. Shelter Unit and Foundation design shall be approved by the Division of the State Architect prior to start of fabrication and installation.
      2. Install according to manufacturer’s plans and these specifications. If installing a wood roof deck such as structural insulated panel or tongue and groove, underside of wood materials shall be sealed before installation per architect’s or owner’s recommendations.
      3. Protection: Powder-coated materials, when unloading, pad forks and use other precautions to protect powder coat finish. Do not use chains or buckets to move materials. Field handled carefully to avoid scratching powder coat finish. Before installing roof deck, clean steel and touch up scratches and chips in powder coat finish using touch up paint from manufacturer.

**END OF SECTION**