PART 1 GENERAL

1.1 SECTION INCLUDES

A. Pre-engineered, pre-finished Pergola system.

B. Pre-engineered, pre-finished Trellis system.

1.2 RELATED SECTIONS

A. Section 03100 - Concrete Forms and Accessories.

B. Section 03300 - Cast-In-Place Concrete

C. Section 10530 – Protective Covers

1.3 REFERENCES

A. American Architectural Manufacturers Association (AAMA):
   1. AAMA 603 - Voluntary Performance Requirements and Test Procedures for Pigmented Organic Coatings on Extruded Aluminum.

1.4 DESIGN REQUIREMENTS

A. Columns and Beams: Aluminum extrusions.

B. Structural Framing:
   1. Heli-arc welded, support columns and beams forming one-piece rigid bents.

   2. Mechanically fastened support columns and beams using internally concealed bolted connections.

C. Building Code: ________________________________.

D. Design Loads:
   1. Comply with Building Code for site location.
2. Collateral Loads: Additional loads imposed by other materials or systems identified in contract documents.

E. Structural Design: Prepare complete structural design calculations for members except footings. Provide reactions as required for footing design by a registered professional engineer.

1.5 SUBMITTALS

A. Submit under provisions of Section 01300.
B. Product Data: Manufacturer's catalog data, detail sheets, and specifications.
C. Shop Drawings: Layout and erection drawings showing framing, cross sections, and details, clearly indicating proper assembly.
D. Samples: Color selection samples consisting of actual coating material or anodizing process on aluminum extrusions.
E. Quality Assurance/Control Submittals:
   1. Qualifications: Letter certifying manufacturer's required qualifications.
   2. Structural Design Calculations.
   3. Manufacturer's Installation Instructions.

1.6 QUALITY ASSURANCE

A. Overall Standard: Structural engineering design documents stamped by a structural engineer registered to practice in
   ________________________________.
B. Manufacturer Qualifications: Minimum five years experience in producing Pergola and Trellis structures and structures of the type specified.
C. Installer Qualifications: Minimum two years experience in erecting aluminum structures of the type specified.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Conform to Section 01660 - Product Storage and Handling Requirements.
B. Follow manufacturer's instructions.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Acceptable Manufacturer: Perfection Architectural Systems, Inc., 2310 Mercator Drive Orlando, FL 32807; ASD. Tel: (800) 238-7207, Fax: (407) 671-8252.
B. Representative: ________________________________.

C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

D. Substitutions: Not permitted.

E. Provide all components from a single manufacturer.

2.2 MATERIALS

A. Aluminum Extrusions: 6063 alloy, T-6 temper.

B. Grout: 1 part portland cement, 3 parts masonry sand; 2,000 pounds per square inch (13.8 MPa) compressive strength.

C. Foam Block-Outs: Rigid foam blocks sized as required for column embedment depth and shape.

2.3 COMPONENTS

A. Columns:
   1. Radius-cornered aluminum tubular extrusion of size shown on drawings.
   2. Radius-cornered aluminum tubular extrusion as required by structural engineering design.
   3. Grout Key: Provide two 1-1/2 inch (38 mm) diameter holes in column base, one each in opposite sides.
   4. Provide clear acrylic protection coat on surfaces in contact with grout.

B. Support Beams: Aluminum tubular extrusions with welded plate end closures and profile as indicated on drawings.
   1. Size: As shown on drawings.
   2. Size: As required by structural engineering design.

C. Cross Beams: Aluminum tubular extrusions with welded plate end closures shape and profile as indicated on drawings.
   1. Size: As shown on drawings.
   2. Size: As required by structural engineering design.

2.4 ACCESSORIES

A. Fasteners:
   1. Screws: No. 14 by 1 inch (25 mm), self-tapping, Type 18-8 stainless steel with neoprene washers.

   2. Other Fasteners: Type 18-8 stainless steel, type recommended by manufacturer for specific condition.

2.5 FABRICATION
A. Shop Assembly: Fabricate support beams and columns into one-piece rigid bents with corners mitered and heli-arc welded to the extent that completed bents can be shipped on local, state, and federal highways without special permit. Provide bolted connections for bents required to be shipped unassembled.

B. Shop Assembly: Fabricate cross beams for field assembled mechanical connections.

2.6 FINISHES

A. Columns:
   3. Thermo-Set Enamel: AA-C-12C-42R-1, comply with AAMA 603.
      a. Color: As selected by architect from manufacturer’s standard color range.
      b. Color: Custom color as selected by architect.
   4. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, custom color as selected by architect, comply with AAMA 605.
      a. Two coat application.
      b. Three coat application.

B. Support Beams:
   3. Thermo-Set Enamel: AA-C-12C-42R-1, comply with AAMA 603.
      a. Color: As selected by architect from manufacturer’s standard color range.
      b. Color: Custom color as selected by architect.
   4. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, custom color as selected by architect, comply with AAMA 605.
      a. Two coat application.
      b. Three coat application.

C. Cross Beams:
   3. Thermo-Set Enamel: AA-C-12C-42R-1, comply with AAMA 603.
      a. Color: As selected by architect from manufacturer’s standard color range.
      b. Color: Custom color as selected by architect.
   4. Fluoropolymer Coating: 70 percent PVDF resin based fluoropolymer, AA-C-12C-42R-1, custom color as selected by architect, comply with AAMA 605.
      a. Two coat application.
      b. Three coat application.
PART 3 EXECUTION

3.1 EXAMINATION

A. Examine footings in which columns will be set. Verify footing locations and elevations comply with shop drawings.

B. Examine building surfaces to which structure will connect.

C. Coordinate with responsible trade to perform corrective work on unsatisfactory footings or surfaces.

D. Commencement of work by installer is acceptance of existing conditions.

3.2 ERECTION

A. Erect in accordance with manufacturer's installation instructions.

B. Set columns straight, and true to line, adequately braced to maintain position until grout has cured.

C. Keep aluminum surfaces from direct contact with ferrous metal or other incompatible materials by applying one coat of clear acrylic coating.

3.3 CLEANING

A. Clean surfaces soiled by work as recommended by manufacturer.

B. Remove surplus materials and debris from the site.

3.4 PROTECTION

A. Protect finished aluminum surfaces from damage due to subsequent construction operations.

END OF SECTION