SECTION 10 71 13

EXTERIOR SUN CONTROL DEVICES

PART 1 - GENERAL

1.01 SECTION INCLUDES

1. Work in this section shall include the design, fabrication, and installation of aluminum Trex Pergola Solis open frame structures as shown in drawings and as specified.

1.02 RELATED SECTIONS

1. Section 03 30 00 Cast-in-Place Concrete.

1.03 REFERENCES

1. 2018 International Residential Code for One- and Two-Family Dwellings.
2. 2018 International Building Code.
3. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
4. ASCE 7-16 - Minimum Design Loads for Buildings and Other Structures.
5. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High-Performance Organic Coatings on Aluminum Extrusions and Panels.
6. Aluminum Design Manual 2015.
7. ASTM B 209, Specification for Aluminum and Aluminum Alloy Sheet and Plate.
8. ASTM B 221, Specification for Aluminum and Aluminum Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
9. ANSI/AWS D1.2, Structural Welding Code – Aluminum.

1.04 ADMINISTRATIVE REQUIREMENTS

1. SEQUENCING
   1. Ensure that product selections such as sizing, attachment conditions, and finishes are supplied to the manufacturer so as not to delay the release to fabricate.
   2. Ensure that site-specific engineering and code requirements are provided to the manufacturer before the engineering services scope begins.
   3. Ensure that footing plans and other information required for installation of products of this section are furnished to affected trades in time to prevent interruption of construction progress.
   4. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.
   5. Ensure that work surrounding the installation location is substantially complete to prevent interruption of installation of the products in this section.

1.05 SUBMITTALS

1. Submit under provisions of Division 01 - General Requirements
2. Action Submittals
   1. Specification Sheets: Indicate the basis of design, product sizing, and options selections
   2. Shop Drawings: Indicate dimensions, locations of members, connections, general construction details, anchorages, method of anchorage, and installation method.
   3. Samples: Submit material and color selection samples.
   4. Delegated Design Submittals: Submit engineered shop drawings signed and stamped by a licensed professional engineer employed by the Manufacturer licensed in the project location.
3. Informational Submittals
   1. Product Cut Sheets
   2. Manufacturer’s Warranty
   3. Product Finish Color Chart
   4. Product Fabric Color Chart
   5. Installation Guide
4. Closeout Submittals
   1. Operation and Maintenance Information
   2. Manufacturer’s Warranty

1.06 QUALITY ASSURANCE

1. Qualifications
   1. Manufacturer: Single source manufacturer for design, engineering, fabrication, and shipping with a minimum of 15 years of experience fabricating aluminum structures.
   2. Installers: Familiar with the manufacturer’s structures and installation techniques.
   3. Licensed Professionals: Professional Engineer to be licensed in the project state.

1.07 DELIVERY, STORAGE, AND HANDLING

1. Delivery and Acceptance Requirements: Upon receipt, all packages and pallets shall be opened and inspected for damage. Any missing or damaged components must be noted on the delivery receipt with the carrier before accepting the shipment.
2. Storage and Handling Requirements: Upon completion of the inspection, all items shall be repackaged and stored where protected from moisture, dirt, and excessive heat. Do not wrap material so that heat or moisture can become trapped. Ensure that items are level and fully supported and have airflow between parts. Handle materials to protect materials, coatings, and finishes during transportation and installation to prevent damage or staining.

1.08 WARRANTY

1. Aluminum Structures 10-Year Limited Commercial Warranty.
2. Aluminum Structures Lifetime Limited Residential Warranty.
3. Powder Coat Finish 10-Year Warranty.

PART 2 - PRODUCTS

2.01 MATERIALS

1. Trex Pergola Solis aluminum structure as indicated on architectural drawings.

2.02 MANUFACTURERS

* 1. Structureworks, the exclusive manufacturer of Trex Pergola  
     3300 Dill Smith Drive Fredericksburg, VA 22408  
     877-489-8064, info@structureworks.com, www.structureworks.com
  2. No substitutions

2.03 PERFORMANCE DESIGN/CRITERIA

1. Design structure, including comprehensive engineering analysis by a qualified engineer, using structural performance requirements and design criteria indicated.
2. Structure shall withstand the effects of gravity loads and the loads and stresses within limits and under conditions indicated, specific to the project location and code requirements, without permanent deformation of canopy components or permanent damage to fasteners and anchors.
3. Design members to withstand wind loads in accordance with ASCE 7-16 and applicable code.
4. Design foundations in accordance with applicable code for the specific structure and site conditions.
5. Design structure for required allowable ground snow load in accordance with applicable code.
6. Design structure in accordance with applicable fire code and provide data on ASTM E84 testing.

2.04 MATERIALS

1. Aluminum Components: Extruded aluminum ASTM B221, 6000 series alloy
2. Aluminum Sheet: ASTM B209, 5000 or 6000 series alloy
3. Fasteners: 300 or 400 series stainless steel

2.05 FINISHES

1. Apply powder coating to shade structure components in accordance with AAMA 2604.
2. Specify Frame Color: [NOTE TO SPECIFIER: ADD FINISH COLOR HERE]
3. Specify Canopy Color: [NOTE TO SPECIFIER: ADD FABRIC COLOR HERE]

2.06 ACCESSORIES [NOTE TO SPECIFIER: REMOVE ANY UNNECESSARY ITEMS BELOW]

1. All wiring shall be concealed unless otherwise noted.
2. Fan blocks shall be provided as indicated on architectural drawings.
3. Low-voltage lights shall be provided as indicated on architectural drawings.

PART 3 - EXECUTION

3.01 EXAMINATION

1. Only begin installation once supporting structures have been properly prepared.
2. Verify that all concrete, masonry, and roofing work in the vicinity is complete and cleaned.

3.02 INSTALLATION

1. Install all products true to line, level, and plumb and in accordance with the manufacturer’s installation guide.

3.03 CLEANING

1. Clean all surfaces and restore any marred surfaces to their original condition as approved by the Architect.

3.04 PROTECTION

1. Protect installed products until completion of the project.
2. Touchup, repair, or replace damaged products before substantial completion.

END OF SECTION