SECTION 107316 - PREFABRICATED CANOPY SYSTEMS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes design, fabrication and installation of complete welded, extruded aluminum wall mounted canopies. All work shall be in accordance with the drawings and this specification.

1. Manufacturer's standard building components and accessories may be used, provided components, accessories, and complete structure conform to design indicated and specified requirements.

B. Custom extruded aluminum canopies as shown on drawings at entrance.

1.3 SYSTEM PERFORMANCE REQUIREMENTS

A. General: Engineer, design, fabricate and erect the pre-engineered building system to withstand loads from winds, gravity, structural movement including movement thermally induced, and to resist in-service use conditions that the building will experience, including exposure to the weather, without failure.

B. Submittals:

1. Product Data: Submit manufacturer's product information, specifications and installation instructions for building components and accessories.
2. Shop Drawings: Submit complete shop drawings including all necessary plan dimensions, elevations and details. Contractor shall verify all dimensions and provide elevations at each column, finish floor, and related soffit before releasing to manufacturer for fabrication.
3. Certification: Submit design calculations signed and sealed by a Registered Professional Engineer. Design calculations shall state that the protective cover system design complies with the wind requirements of ANSI/ASCE 7-88, the stability criteria of applicable building code, and all other governing criteria. Engineer to be registered in state where project is located.

C. Quality Assurance:

1. Protective cover shall be wholly produced by a recognized manufacturer with at least **10** years experience in the design and fabrication of extruded aluminum protective cover system. Components shall be installed by manufacturer. Protective cover system, including material and workmanship, shall be warranted from defects for a period of one year from substantial completion.

PART 2 - PRODUCTS

2.1 AVAILABLE MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide **Mapes Architectural Products; Super Lumideck**, or comparable product by one of the following:

1. Dittmer Architectural Aluminum
2. Peachtree Protective Covers
3. E.L. Burns Co., Inc.

2.2 DESIGN

A. Protective cover shall be all welded extruded aluminum system complete with internal drainage. Non-welded systems are not acceptable. Roll formed deck is not acceptable. Expansion joints shall be included to accommodate temperature changes of 120°F.

2.3 MATERIALS

A. Aluminum Members: All sections shall be extended aluminum 6063 alloy, Heat treated to a T-6 Temper.

B. Fasteners: Fasteners shall be aluminum, 18-8 stainless steel, 300 series stainless steel, or 410 stainless steel.

C. Protective coating: Aluminum columns embedded in concrete or solid grouted cmu shall be protected by clear acrylic.

D. Grout:

1. Portland Cement: ASTM C 150, Type 1.
2. Sand: ASTM C 404.
3. Water: Potable

E. Gaskets: Gaskets shall be dry seal santoprene pressure type.

F. Aluminum Flashing: ASTM B 209, Type 3003 H14, 0.040 inch, minimum.

2.4 COMPONENTS

A. Beams: Beams shall be open-top tubular extrusion of size and shape shown on drawings, top edges thickened for strength and designed to receive deck members in self-flashing manner. Extruded structural ties shall be installed in tops of all beams.

B. Deck: Deck shall be extruded self-flashing sections interlocking into composite unit with sufficient chamber to offset dead load deflection and cause positive drainage. Welded plates shall be used as closures at deck ends.

C. Fascia: Fascia shall be manufacturer's standard shape. Size as indicated on drawings.

D. Flashing: Flashing shall be .040 aluminum (min.). All thru-wall flashing by others.

E. Hanger rods: Manufacturer's standard, as required to comply with structural performance requirements.

2.5 FABRICATION

A. Bent Construction: Beams and columns shall be factory welded with neatly mitered corners onto one-piece rigid bents. All welds shall be smooth and uniform using an inert gas shielded arc. Suitable edge preparation shall be performed to assure 100% penetration. Grind welds only where interfering with adjoining structure to allow for flush connection. Field welding is not permitted. Rigid mechanical joints shall be used shipping limitations prohibit the shipment of fully welded bents.

B. Deck Construction: Deck shall be manufactured of extruded modules that interlock in self-flashing manner. Interlocking joints shall be positively fastened at 8²0.C. creating a monolithic structural unit capable for developing the full strength of the sections. The fastenings must have minimum shear strength of 350 pounds each. Deck shall be assembled with sufficient camber to offset dead load deflection.

2.6 FINISHES

A. High-Performance Organic Finish: Three-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in both color coat and clear top coat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.

1. Color and Gloss: As selected by Architect from manufacturer's full range..

PART 3 - EXECUTION

3.1 PREPARATION

A. Erection shall be performed after all curtain wall, EIFS and roofing work in the vicinity is complete and cleaned.

B. Contractor shall verify and approve dimensions and elevations shown on shop drawings with actual field dimensions to verify conditions are satisfactory for installation.

3.2 INSTALLATION

A. Column Sleeves: Column sleeves (styrofoam blockouts) or anchor bolts (if required) shall be furnished by the protective manufacturer and installed by Contractor.

B. Erection: Protective cover shall be erected true to line, level and plumb. Aluminum columns embedded in concrete shall be filled with grout to the discharge level to prevent standing water. Non-draining columns shall have weep holes installed at top of concrete to remove condensation.

C. Coordination: Coordinate installation with other trades as necessary for a complete and operable installation.

3.3 CLEANING

A. All protective cover components shall be cleaned promptly after completion of installation.

3.4 PROTECTION

A. Extreme care shall be taken to protect materials during and after installation.

END OF SECTION 107316