SECTION 074213 PREFORMED METAL SIDING

PART 1 - GENERAL

1.1 GENERAL REQUIREMENTS

A. Work of this Section, as shown or specified, shall be in accordance with the requirements of the Contract Documents.

1.2 SECTION INCLUDES

A. The Work of this Section includes all labor, materials, equipment, and services necessary to complete the preformed metal siding as shown on the drawings and/or specified herein, including, but not necessarily limited to, the following:

1. Metal siding with factory applied finish, perforated and non-perforated.
2. Sub-girts, trim, feature strips and accessories required for complete installation.
3. Sealant in conjunction with metal siding work.

1.3 RELATED SECTIONS

A. Light-gauge metal framing (back-up) - Section 054000.

1.4 QUALITY ASSURANCE

A. Qualifications of Installers: Use only personnel who are thoroughly trained and experienced in the skills required and completely familiar with the requirements established for this work.

B. Vertical and Lateral Fire Propagation Test Characteristics: The exterior wall assembly is required to comply with NFPA 285 "Standard Method of Test for the Evaluation of Flammability Characteristics of Exterior Nonload-bearing Wall Assemblies Containing Combustible Components." The base wall, stud cavity insulation, wall sheathing, air barrier, continuous wall rigid insulation and exterior cladding are components that are required to be to be evaluated as part of this specific assembly test. The basis of design product listed herein is a component of the design test assembly selected by the Architect.

1.5 PERFORMANCE CRITERIA

A. Structural Design: Design calculations, certified by a registered professional engineer, licensed in New Jersey, shall be submitted to verify load carrying capability of panel system. Panel system shall be capable of resisting a minimum positive and negative wind load as specified in Section 084413 with a deflection of L/180.

B. Air Infiltration: The panel system shall be tested for static air infiltration in accordance with ASTM E283. The maximum allowable leakage shall be 0.06 CFM/FT2 at a positive pressure differential of 1.57 psf.

C. Water Penetration: No uncontrolled water shall occur when the panel system is subjected to a static water infiltration test per ASTM E331 at a positive pressure differential of 6.24 or 20% of the design wind pressure, whichever is greater.

1.6 SUBMITTALS

A. Manufacturer's Data: Submit standard detail drawings and installation instructions for preformed metal siding. Include manufacturer's certification or other data substantiating that the materials and finishes comply with the requirements. Indicate by copy of transmittal that the Installer has received a copy of the installation instructions.

B. Samples: Submit twelve (12) inch long by full width samples of preformed metal siding, complete with factory applied finish. Samples will be reviewed by Architect for pattern, texture and color only. Compliance with other requirements is the exclusive responsibility of the Contractor.

C. Shop Drawings: Submit shop drawings showing the profiles of preformed metal siding units, and the details of forming, jointing (gaskets, if any), internal supports, anchorages, trim, flashing, and accessories. Show details of weatherproofing at edges, terminations, and penetrations of the metal siding work. Show small scale layout and elevations of entire work.

D. Engineering Data: Submit engineering and test data and tables showing performance characteristics of the panels for loads, deflections and infiltration of air and water meeting standards specified herein.

1.7 PRODUCT HANDLING

A. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation, and to protect the installed work and materials of all other trades.

B. Replacements: In the event of damage, immediately make all repairs and replacements necessary.

1.8 WARRANTY

A. Exterior panel finish shall be warranted for a period of ten (10) years against failures of any kind.

B. Wall system shall be warranted for a period of five (5) years against failures of any kind.

1.9 COORDINATION

A. Contractor must carefully coordinate his work with work of other trades that are penetrating through or connecting to the metal siding. Openings required in siding to accommodate penetrations must be neatly and accurately made in the shop prior to job site delivery.

B. Provide concealed reinforcing plates, anchors and supports to receive items mounted on siding as required to prevent deflection of siding.

C. Provide all necessary trim, flashing, sealant as specified herein to ensure watertight integrity of siding where penetrations occur.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Provide corrugated steel wall panel system as manufactured by ATAS International, Inc.; "Belvedere Series,", as specified herein or equal by Centra, Kingspan, or approved equivalent. The profiles and gauges of panel sections and methods of interconnecting shall be as required to provide a combined action as a wall system to resist a minimum wind load of forty-five (45) psf without exceeding a deflection of L/180.

2.2 MATERIALS

A. Wall Assembly: Field-assembled wall system shall consist of a concealed fastener exterior face and sub-girts anchored to steel stud back-up. The exterior face shall be fastened to the sub-girts with concealed screw fasteners, and side joints shall interlock so as to eliminate exposed fasteners.

B. Panels
1. Face panel shall be ATAS "Belvedere Grand R" smooth texture, 1-1/2" depth and 39" coverage panel by ATAS International, Inc. or approved equal. Face panel shall be fabricated from twenty-four (24) gauge commercial galvanized steel conforming to ASTM A 653, G90 zinc coating.
    a. Panel Lengths: As indicated.
    b. Install at Penthouse, Elevator Machine Room and Mechanical Roof Screen Walls.
2. Face panel shall be ATAS "Gaten Series," pattern A24, 3/8" holes, 1/2" staggered centers, 51% open area, fabricated from twenty-four (24) gauge commercial galvanized steel conforming to ASTM A 653, G90 zinc coating.
    a. Perforated Pattern applied to ATAS "Belvedere Grand R" panels at Mechanical Roof Screen Walls.

C. Aluminum Finish
1. High-Performance Organic Finish: AA-C12C42R1x (Chemical Finish: Cleaned with inhibited chemicals; Chemical Finish: Acid-chromate-fluoride-phosphate conversion coating; Organic Coating: As specified below). Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer’s written instructions.
    a. Fluoropolymer Two-Coat System: Manufacturer’s standard two-coat, thermocured system consisting of specially formulated inhibitive primer and fluoropolymer color topcoat containing not less than 70 percent polyvinylidene fluoride resin by weight; complying with AAMA 2605.
    b. Color shall be as selected by the Architect. Color samples shall be submitted and approved prior to application of color coating.

D. Sub-Girts: Metal sub-girts shall be formed from eighteen (18) gauge hot dip galvanized steel. Sub girts shall be of the adjustable type.

E. Trim Material: Furnish necessary trim in conjunction with the metal wall system, including top, bottom, corner, end wall jamb, sill, head. Material shall be the same substrate, finish and gauge as the exterior panel. Corners of panels shall be preformed.

F. Sealant: One-part silicone conforming to the requirements of Section 079200.

2.3 FABRICATION

A. Comply with dimensions, profile limitations, gauges and fabrication details shown and specified.

B. Fabricate components of the system at factory, ready for field assembly.

C. Fabricate components and assemble units to comply with performance requirements specified.

D. Apply specified finishes in conformance with manufacturer's standards, and according to coating manufacturer's instructions.

PART 3 - EXECUTION

3.1 INSPECTION

A. Examine the areas and conditions where metal siding is to be installed and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

3.2 INSTALLATION

A. General: Comply with panel manufacturer's instructions for assembly, installation and erection of preformed metal siding.

B. Metal Separation: Apply a coat of bituminous paint, concealed, on one or both surfaces wherever dissimilar metals would otherwise be in contact. Use gasket fasteners where needed to eliminate the possibility of corrosive or electrolytic action between metals.

C. Anchor sub-girts to stud or CMU back-up spacing sub-girts not to exceed 16" o.c. unless closer spacing required to meet deflection criteria. Use stainless steel anchors to fasten sub-girts to stud framing or CMU; space anchors 8" o.c. at each stud and 8" o.c. at CMU back-up.

D. Erect panels plumb, level and true to line with tolerances not exceeding 1/16" in runs of 20' and within 1/16" of adjoining faces.

E. Fasteners: Provide a concealed fastener installation system, with no fasteners exposed on face of work.

F. Joint Sealers: Install gaskets, joint fillers and sealants where required for weatherproof performance of panel systems. Provide types of gaskets and sealants/fillers recommended by panel manufacturer.

G. Damaged Material: Remove and replace panels and component parts of the work which have been damaged (including finish) beyond successful repair, as directed by the Architect. Repair minor damage.

3.3 CLEANING AND PROTECTION

A. Clean exposed surfaces (exterior and interior) of preformed metal siding work promptly after completion of installation. Comply with recommendations of both the panel and coating manufacturer.

B. Protection: The Installer of preformed metal siding shall advise the Contractor in writing of protection and surveillance procedures which can be foreseen as needed to ensure that the work will be without damage or deterioration at the time of final acceptance after completion of other construction work.

END OF SECTION 074213