PART 1 GENERAL

1.1 SECTION INCLUDES

A. Manufactured metal panels for walls, with related flashings and accessory components.

1.2 RELATED REQUIREMENTS

A. Section 05 40 00 - Cold-Formed Metal Framing: Wall panel substrate.

B. Section 05 50 00 - Metal Fabrications.

C. Section 07 21 00 - Thermal Insulation.

D. Section 07 25 00 - Weather Barriers: Weather barrier under wall panels.

E. Section 07 46 13 - Siding Support System: Framing, sub-girts, and accessories.

F. Section 07 92 00 - Joint Sealants: Sealing joints between metal wall panel system and adjacent construction.

1.3 REFERENCE STANDARDS

A. AAMA 609 & 610 - Cleaning and Maintenance Guide for Architecturally Finished Aluminum (Combined Document); 2015.

B. ASCE 7 - Minimum Design Loads for Buildings and Other Structures; 2010, with 2013 Supplements and Errata.

C. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2015.

D. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process; 2010 (Reapproved 2015).

E. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2014.

F. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2012.

G. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Shop Drawings: Indicate dimensions, layout, joints, construction details, and methods of anchorage.

C. Samples: Submit two samples of wall panel, 12 inch by 12 inch in size illustrating finish color, sheen, and texture.

D. Manufacturer's Qualification Statement.

E. Installer's Qualification Statement.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum ten years of documented experience.

B. Installer Qualifications: Company specializing in installing products of the type specified in this section with minimum three years of documented experience.

1.6 MOCK-UP

A. Refer to Section 01 40 13 -Freestanding Mockup.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Protect panels from accelerated weathering by removing or venting sheet plastic shipping wrap.

B. Store prefinished material off the ground, with one end elevated for drainage, and protected from weather; prevent twisting, bending, or abrasion; provide ventilation; slope metal sheets to ensure proper drainage.

C. Protect panels against standing water and condensation between adjacent surfaces.

D. If panels become wet, immediately separate sheets, wipe dry with clean cloth, and keep sheets separate for air-drying.

E. Prevent contact with materials that may cause discoloration or staining of products.

F. Handle panels with non-marring slings.

1.8 WARRANTY

A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.

B. Correct defective work within a five year period after Date of Substantial Completion for degradation of panel finish, including color fading caused by exposure to weather.

C. Manufacturer's Warranty: Manufacturer's standard 25-year performance warranty, stating the following:
   1. Architectural fluorocarbon finish:
      a. Will be free of fading or color change in excess of 5 Hunter delta-E units as determined by ASTM D2244-02.
      b. Will not chalk in excess of numerical rating of 8 when measured in accordance with standard procedures specified in ASTM D4214-98 method D659.
      c. Will not peel, crack, chip, or delaminae.
      d. Metal substrate will not rupture, fail structurally, or perforate.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Metal Wall Panels - Concealed Fasteners:
   1. AEP Span, Flush Panel. Flat panels, non-vented: www.aepspan.com
   2. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 MANUFACTURED METAL PANELS

A. Wall Panel System: Factory fabricated prefinished metal panel system, site assembled.

1. Provide exterior panels and subgirt framing assembly.
2. Design and size components to support assembly dead loads, and to withstand live loads caused by positive and negative wind pressure acting normal to plane of wall.
3. Maximum Allowable Deflection of Panel: L/180 for length(L) of span.
4. Movement: Accommodate movement within system without damage to components or deterioration of seals, movement between system and perimeter components when subject to seasonal temperature cycling; dynamic loading and release of loads; and deflection of structural support framing.
5. Drainage: Provide positive drainage to exterior for moisture entering or condensation occurring within panel system.
6. Fabrication: Formed true to shape, accurate in size, square, and free from distortion or defects; pieces of longest practical lengths.
7. Corners: Factory-fabricated in one continuous piece with minimum 2 inch returns.
8. Provide continuity of air barrier and vapor retarder seal at building enclosure elements in accordance with materials specified in Section 07 25 00.
9. Panel Finishes:
10. Exterior Finish: Panel manufacturer's standard polyvinylidene fluoride (PVDF) coating, including full 70 precent Kynar 500/Hylar 5000 top coat over baked-on 0.15-0.30 mil corrosion resistant primer.
11. Color: To match PT-10.

B. Exterior Panels:
1. Profile: Vertical; style as indicated.
2. Side Seams: Double-interlocked, tight-fitting, sealed with continuous bead of sealant.
3. Material: Precoated aluminum sheet, 22 gage, 0.0299 inch minimum thickness.
4. Panel Width: 12 inches.
5. Color: To match PT-10.
6. Fasteners: concealed fasteners

C. Subgirts:
1. See Section 07 43 13 - Siding Support System.

D. Internal and External Corners: Same material, thickness, and finish as exterior sheets; profile to suit system; shop cut and factory mitered to required angles.
1. Provide mitered internal corners, back braced with ___ gage, ___ inch thick precoated metal sheet to maintain continuity of profile.

E. Expansion Joints: Same material, thickness and finish as exterior sheets; ___ gage, ___ inch thick; manufacturer's standard brake formed type, of profile to suit system.

F. Trim: Same material, thickness and finish as exterior sheets; brake formed to required profiles.

G. Anchors: Galvanized steel.

2.3 MATERIALS

A. Precoated Steel Sheet: Hot-dipped galvanized steel sheet, ASTM A653/A653M, Structural Steel (SS) or Forming Steel (FS), with G90/Z275 coating; continuous coil-coated on exposed surfaces with specified finish coating and on panel back with specified panel back coating.

B. Select materials with surface flatness, smoothness, and lack of surface blemishes where exposed to view in finished system.

2.4 FINISHES

A. Exposed Surface Finish: Panel manufacturer's standard polyvinylidene fluoride (PVDF) coating, top coat over epoxy primer.
   1. Product: Kynar-500 2-coat system
   2. Color: Custom color

B. Panel Backside Finish: Panel manufacturer's standard siliconized polyester wash coat.

2.5 ACCESSORIES

A. Gaskets: Manufacturer's standard type suitable for use with system, permanently resilient; ultraviolet and ozone resistant.

B. Concealed Sealants: Non-curing butyl sealant or tape sealant.

C. Sealants:
   1. Exposed Sealant: Elastomeric; silicone, polyurethane, or silyl-terminated polyether/polyurethane.
   2. Concealed Sealant: Non-curing butyl sealant or tape sealant.

D. Field Touch-up Paint: As recommended by panel manufacturer.

E. Bituminous Paint: Asphalt base.

F. Profile Closures: Polyethylene foam, die-cut or formed to panel configuration.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that building framing members are ready to receive panels.

B. Verify that weather barrier has been installed over substrate completely and correctly.

C. Prior to starting work, correct defects.

D. Field Measurements:
   1. Coordinate field measurements and fabrication schedule with construction progress.
   2. Field measure prior to fabrication. show recorded dimensions on shop drawings, including locations of shop-fabricated openings.
   3. If field measurements differ from drawing dimensions, notify Architect prior to fabrication.

3.2 PREPARATION

A. Treat contacting surfaces of dissimilar materials to prevent electrolytic corrosion.

B. Where panels or trim may come in contact with dissimilar materials or treated lumber, fabricate transitions to facilitate drainlage and minimize possibility of galvanic corrosion.

C. At points of contact with dissimilar metal or treated lumber, coat panel or trim with protective paint or separate materials with a weatherproof underlayment.

D. Avoid direct contact or run-off with CCA, ACQ, AC, or other treated lumber or fire retardant impregnated or treated wood shakes or siding.

3.3 INSTALLATION

A. Install panels on walls in accordance with manufacturer's instructions.

B. Protect surfaces in contact with cementitious materials and dissimilar metals with bituminous paint. Allow to dry prior to installation.

C. Fasten panels to structural supports; aligned, level, and plumb.

D. Locate joints over supports.

E. Lap panel ends minimum 2 inches.

F. Provide expansion joints where indicated.

G. Use concealed fasteners unless otherwise approved by Architect.

H. Seal and place gaskets to prevent weather penetration. Maintain neat appearance.

I. Comply with methods and recommendations of SMACNA Architectural Sheet Metal Manual for flashing configurations required.

J. Overlap flashing at least 6 inches.

K. Discrepancies between job site conditions and shop drawings shall be brought to the attention of the Architect for resolution.

L. Cutting and Fitting:
   1. Cut panels neat, square, and true with shearing acction cutters. Torch or power saw cutting is prohibited.
   2. Openings 6 inches and larger: Shop fabricate and reinfoce to maintain original load capacity.
   3. Opening less than 6 inches: Field cutting is acceptable.

M. Repairs:
   1. Touch up paint is not required for panels with scratches that do not expose metal.
   2. Panels or flashings with finish damage exposing metal or with substrate damage shall be replaced.

3.4 TOLERANCES

A. Maximum Offset From True Alignment Between Adjacent Members Butting or In Line: 1/16 inch.

B. Maximum Variation from Plane or Location Indicated on Drawings: 1/4 inch.

3.5 CLEANING

A. Remove site cuttings from finish surfaces.

B. Remove protective material from wall panel surfaces.

C. See Section 01 74 19 - Construction Waste Management and Disposal, for additional requirements.

D. Clean and wash prefinished surfaces with mild soap and water; rinse with clean water.

E. Upon completion of installation, thoroughly clean prefinished aluminum surfaces in accordance with AAMA 609 & 610.

END OF SECTION