SECTION 074646 - FIBER-CEMENT SIDING

1. GENERAL
	* + 1. RELATED DOCUMENTS

Retain or delete this article in all Sections of Project Manual.

* + - * 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.
			1. SUMMARY
				1. Section includes fiber-cement **[siding] [and] [soffit]**.
			2. REFERENCES
				1. ASTM E72 - Standard Test Methods for Conducting Strength Tests of Panels for Building Construction.
				2. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
				3. ASTM E119 - Standard Test Methods for Fire Tests of Building Construction and Materials.
			3. COORDINATION
				1. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.
			4. PREINSTALLATION MEETINGS
				1. Preinstallation Conference: Conduct conference at Project site.

Before the siding and soffit Work is scheduled to commence, a conference will be held by the Director’s Representative for the purpose of reviewing the Contract Documents and discussing requirements for the Work.

* + - 1. SUBMITTALS
				1. Submittals for this section are subject to the re-evaluation fee identified in Article 4 of the General Conditions.
				2. Manufacturer’s installation instructions shall be provided along with product data.
				3. Submittals shall be provided in the order in which they are specified and tabbed (for combined submittals).
				4. Include paragraph below when the Project Manager or Team Leader wants the submittals to be approved within the office (not field approved).
				5. Waiver of Submittals: The “Waiver of Certain Submittal Requirements” in Section 013300 does not apply to this Section.
				6. Delete paragraph below if project is not intended for LEED Update for LEED Credit requirements.
				7. Sustainability Submittals:

Recycled Content: Identify manufacturer’s name, the percentage of post-consumer recycled content by weight, the pre-consumer recycled content by weight, and the cost of the product.

Material Source: Identify source, cost, and the fraction by weight that is considered regional.

Material Renewal Content: Identify the manufacturers name, the rapidly renewable content of the product submitted, and the cost of the product.

* + - * 1. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
				2. Samples for Initial Selection: For fiber-cement [**siding**] [**and**] [**soffit**] including related accessories.
				3. Delete "Samples for Initial Selection" Paragraph above if colors and other characteristics are preselected and specified or scheduled. Retain first paragraph below with or without above. Retain option below if more than one type, color, texture, and pattern are required.
				4. Samples for Verification: For each type, color, texture, and pattern required.

Retain one of first two subparagraphs below.

12-inch-long-by-actual-width Sample of siding.

24-inch-wide-by-36-inch-high Sample panel of siding assembled on plywood backing.

Retain one or both subparagraphs below if required.

12-inch-long-by-actual-width Sample of soffit.

12-inch-long-by-actual-width Samples of trim and accessories.

* + - * 1. Color Samples: Manufacturer's standard colors for siding.
				2. Quality Control Submittals:

Product Certificates: For each type of fiber-cement [siding] [and] [soffit].

Manufacturer’s Field Reports: Verification of existing conditions.

Installer’s Qualifications.

Company Field Advisor Data.

Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for fiber-cement siding.

Research/Evaluation Reports: For each type of fiber-cement siding required, from ICC-ES.

* + - * 1. Design Consultant to review code references and verify that the referenced sections/tables are current. Note that code references shall be based on the current version of the Uniform Code.
				2. Contract Closeout Submittals:

Sample Warranty: For special warranty.

Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

* + - * 1. Maintenance Material Submittals

Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

Furnish full lengths of fiber-cement **[siding] [and] [soffit]** including related accessories, in a quantity equal to 2 percent of amount installed.

* + - 1. QUALITY ASSURANCE

Verify with the Project Manager or Team Leader before including either of the next 2 paragraphs.

* + - * 1. Benchmark: Erect a full size assembly of the Work of this Section. Upon completion and approval, the benchmark will be used to establish the standard of quality and performance by which the work will be judged.
				2. Benchmarks: Build benchmarks to verify selections made under Sample submittals and to demonstrate aesthetic effects and to set quality standards for fabrication and installation.

Retain first subparagraph below for large-scale benchmark. Indicate portion of wall represented by benchmark on Drawings or draw benchmark as separate element.

Build benchmark of typical wall area as shown on Drawings.

Retain first subparagraph below for limited benchmarks.

Build benchmarks for fiber-cement **[siding] [and] [soffit]** including accessories.

Size: 48 inches long by 60 inches high.

Include outside corner on one end of benchmark**[ and inside corner on other end]**.

Retain first subparagraph below if benchmarks are not only for establishing appearance factors.

Approval of benchmarks does not constitute approval of deviations from the Contract Documents contained in benchmarks unless Director’s Representative specifically approves such deviations in writing.

Retain subparagraph below if mockups are installed as part of building rather than erected separately and the intention is to make an exception to the default requirement for demolishing and removing benchmarks when directed, unless otherwise indicated.

Subject to compliance with requirements, approved benchmarks may become part of the completed Work if undisturbed at time of Substantial Completion.

* + - 1. DELIVERY, STORAGE, AND HANDLING
				1. Deliver and store packaged materials in original containers with labels intact until time of use.
				2. Store materials on elevated platforms, under cover, and in a dry location.
			2. WARRANTY

When warranties are required, verify with the Project Manager or Team Leader before including the Article below.

Paragraph below makes the Contractor and the Contractor’s Bonding Company responsible for the extended warranty. When this paragraph is used, the appropriate Supplementary Conditions must also be included in the Project Manual. Verify warranty time frame (generally 10, 25, or 50 years) and insert years in space below. Delete underline before inserting information.

* + - * 1. Special Warranty: The one year period required by paragraph 9.8 of the General Conditions is extended to 2 years for the Work of this Section. Refer to Supplementary Conditions.

Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Structural failures including cracking and deforming.

Deterioration of materials beyond normal weathering.

<Insert failure modes>.

Paragraph below does not require Supplementary Conditions. Verify warranty time frame (generally 10, 25, or 50 years) in space below. Delete underline before inserting information.

* + - * 1. Manufacturer’s Warranty: [10] [25] [50] year warranty for the siding and soffits.

Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

Failures include, but are not limited to, the following:

Structural failures including cracking and deforming.

Deterioration of materials beyond normal weathering.

<Insert failure modes>.

1. PRODUCTS
	* + 1. MANUFACTURERS
				1. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

Cemboard; James Harding Building Products, Inc.

CertainTeed Corporation; Saint-Gobain North America.

GAF.

James Hardie Building Products, Inc.

[Nichiha Architectural Panels](http://www.specagent.com/Lookup?uid=123456981250).

Approved equivalent.

* + - 1. FIBER-CEMENT SIDING
				1. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.

The International Building Code requires fiber-cement siding to be third-party tested and labeled according to ASTM C1186.

* + - * 1. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C1186 by a qualified testing agency acceptable to authorities having jurisdiction.
				2. Nominal Thickness: Not less than 5/16 inch.

Retain one or more of first four paragraphs below or revise to suit Project. "Horizontal Pattern" subparagraph includes some sizes advertised by manufacturers listed; verify availability before retaining. Widths are board sizes; exposure is 1-1/4 to 1-1/2 inches less.

* + - * 1. Horizontal Pattern: Boards **[5-1/4 inches] [6-1/4 to 6-1/2 inches] [7-1/4 to 7-1/2 inches] [8-1/4 to 8-1/2 inches] [9-1/4 to 9-1/2 inches]** wide in **[plain] [beaded-edge]** style.
				2. Texture: **[Smooth] [Rough sawn] [Wood grain]**.
				3. Vertical Pattern: 48-inch-wide sheets with wood-grain texture and grooves **[8 inches] [12 inches]** o.c.
				4. Shingle Pattern: 48-inch-wide, **[straight-edge notched] [staggered-edge notched]** sheets with wood-grain texture.
				5. Panel Texture: 48-inch-wide sheets with **[smooth] [stucco] [wood-grain]** texture.

Factory priming is generally offered as an optional feature by manufacturers listed.

* + - * 1. Factory Priming: Manufacturer's standard acrylic primer.

Delete the following if siding is to be painted on site.

* + - * 1. Factory Finish Color: Colors as indicated on the Drawings, or if not indicated, as selected by the Director’s Representative from manufacturer’s standard range of colors.
			1. FIBER-CEMENT SOFFIT
				1. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.
				2. Nominal Thickness: Not less than 5/16 inch.
				3. Pattern: **[12-inch-] [16-inch-] [24-inch-]** wide sheets with **[smooth] [wood-grain]** texture.

Perforated panels are offered by James Hardie.

* + - * 1. Ventilation: Provide **[perforated] [unperforated]** soffit, unless otherwise indicated.

Factory priming is generally offered as an optional feature by manufacturers listed.

* + - * 1. Factory Priming: Manufacturer's standard acrylic primer.

Delete the following if siding is to be painted on site.

* + - * 1. Factory Finish Color: Colors as indicated on the Drawings, or if not indicated, as selected by the Director’s Representative from manufacturer’s standard range of colors.
			1. ACCESSORIES
				1. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.

Provide accessories matching color and texture of adjacent siding unless otherwise indicated.

Retain "Decorative Accessories" paragraph below if decorative accessories are required for Project. Verify availability with manufacturers.

* + - * 1. Decorative Accessories: Provide the following fiber-cement decorative accessories as indicated:

Retain decorative accessories in subparagraphs below and revise to suit Project. Indicate locations and details on Drawings.

Corner posts.

Plain.

Fluted faces.

Door and window casings.

Plain.

Fluted faces.

Corner rosettes.

Fasciae.

Moldings and trim.

Entrance and Window Head Pediments.

Pilasters:

Plain.

Fluted faces.

Shutters:

Plain.

Paneled faces.

Louvered faces.

Louvers.

Lattice.

Retain one of four options in first paragraph below. If retaining first option, indicate colors in a separate schedule.

* + - * 1. Colors for Decorative Accessories:

As indicated by manufacturer's designations.

As shown on the drawings.

As selected by the Director’s Representative from manufacturer's full range of industry colors.

Match adjacent siding.

* + - * 1. Flashing: Provide minimum 24 ga. Corrosion resistant metal flashing complying with Section 076200 "Sheet Metal Flashing and Trim" at window and door heads and where indicated.

Select “Fasteners” below for appropriate substrate.

* + - * 1. Fasteners:

For fastening to wood, use siding nails or ribbed bugle-head screws of sufficient length to penetrate a minimum of 1 inch into substrate.

For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch, or three screw-threads, into substrate.

For fastening fiber cement, use hot-dip galvanized or stainless-steel fasteners.

* + - * 1. Insect Screening for Soffit Vents: **[Aluminum, 18-by-16 mesh] [PVC-coated, glass-fiber fabric, 18-by-14 or 18-by-16 mesh] [Stainless steel, 18-by-18 mesh]**.
				2. Continuous Soffit Vents: Aluminum, hat-channel shape, with **[stamped louvers] [perforations]**; 2 inches wide and not less than 96 inches long.

Net-Free Area: **[4 sq. in./linear ft.] [6 sq. in./linear ft.] [8 sq. in./linear ft.]**.

Finish: **[Mill finish] [White paint] [Brown paint]**.

* + - * 1. Round Soffit Vents: Stamped aluminum louvered vents, **[2 inches] [2-1/2 inches] [3 inches] [4 inches]** in diameter, made to be inserted in round holes cut into soffit.

Finish: **[Mill finish] [White paint] [Brown paint]**.

1. EXECUTION
	* + 1. EXAMINATION
				1. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement [siding] [and] [soffit] and related accessories.
				2. Proceed with installation only after unsatisfactory conditions have been corrected.
			2. PREPARATION
				1. Clean substrates of projections and substances detrimental to application.
			3. INSTALLATION
				1. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

Do not install damaged components.

Install fasteners no more than 24 inches o.c.

* + - * 1. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.
			1. FINISHING
				1. Finish unprimed siding with a minimum one coat, alkali resistant primer and one coat of either, 100 percent acrylic or latex or oil based, exterior grade topcoats or two coats alkali resistant 100 percent acrylic or latex, exterior grade topcoat within 90 days of installation. Follow paint manufacturer’s written product recommendation and written application instructions.
				2. Finish factory primed siding with a minimum of one coat of 100 percent acrylic or latex or oil based exterior grade paint within 180 days of installation. Follow paint manufacturer’s written product recommendation and written application instructions.

Use paragraph below if Section 079200 “Joint Sealants” is not used.

* + - * 1. Use exterior grade sealant that complies with either ASTM C-834 for primed products or ASTM C-920 for finished products for all gaps that require filling with sealant. Follow the manufacturer’s written instructions for use.
				2. Cover exposed field cut edges with sealant or paint.
				3. Fill dents, chips, scratches, and similar defects with exterior grade patching compound or putty. Follow the manufacturer’s instructions.
			1. PROTECTION
				1. Apply heavy kraft paper or other heavy protective coating approved by the Director’s Representative, masked in place to prevent surface damage.
			2. ADJUSTING AND CLEANING
				1. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.
				2. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646