SECTION 09 91 13 – ADDENDUM

PART 1 - GENERAL

1.1 PROJECT INFORMATION:

A. Project Name: Los Jardines de la Paz

B. Project Title: Building G, H & I, Partial Siding Rehab Addendum 01

C. Owner: Housing Development Center

D. Owner's Representative: Mary Bradshaw

E. Owner's Address: 847 NE 19th Ave, Ste 150, Portland, OR, 97232

F. Architect/Engineer of Record: Ariel Levy, RDH Building Sciences, Inc.

G. Architect/Engineer Project Number:B6553.003

H. Date/Number of Addendum: Addendum 01, dated July 30, 2014

1.2 NOTICE TO CONTRACTOR

A. This Addendum is issued to the Owner, and made available to the Contractor, pursuant to the Conditions of the Contract. This Addendum serves to clarify, revise, and supersede information in the Project Manual, Drawings, and previously issued Addenda. Portions of the Addendum affecting the Contract Documents will be incorporated into the Contract by enumeration of the Addendum in the Owner/Contractor Agreement.

B. The Contractor shall acknowledge receipt of this Addendum electronically.

1.3 ATTACHMENTS

A. This Addendum includes the following attached Specification Sections:
1. Section 05 73 00, Decorative Metal Railings (Galvanized), dated July 30, 2014, (new).
2. Section 06 16 53, Moisture Resistant Sheathing, dated July 30, 2014 (new).
3. Section 06 20 23, Interior Finish Carpentry, dated July 30, 2014 (revised).
4. Section 07 46 46, Fiber Cement Siding and Trim, dated July 30, 2014 (revised)

B. This Addendum includes the following attached Sheets:
1. Landscape Sheets
   a. L-1.00, Landscape Plan, dated July 30, 2014, (new).
2. Architectural Sheets
   a. BE-0.01, Cover Sheet, dated July 23, 2014 (reissued).

b. BE-1.00, Site Plan, dated July 30, 2014, (new).
c. BE-1.01, Demolition Plan, dated July 23, 2014 (reissued).
d. BE-1.02, Typical First Floor Plan, dated July 23, 2014 (reissued).
e. BE-1.03, Typical Second Floor and Roof Plan, dated July 23, 2014 (reissued).
f. BE-1.04, Enlarged Plans, dated July 23, 2014 (new).
g. BE-2.01, Typical Front Elevation and Window Schedule, dated July 23, 2014 (reissued).
h. BE-2.02, Buildings "G" and "H" Sections, dated July 30, 2014 (reissued).
i. BE-2.03, Building "I" Section, dated July 23, 2014 (reissued).
j. BE-3.01, Window Sequence, dated July 23, 2014 (reissued).
k. BE-3.02, Details, dated July 23, 2014 (reissued).
l. BE-3.03, Details, dated July 23, 2014 (reissued).
m. BE-3.04, Details, dated July 23, 2014 (reissued).
n. BE-3.05, Details, dated July 23, 2014 (reissued).
o. BE-3.06, Details, dated July 23, 2014 (reissued).
p. BE-3.07, Details, dated July 23, 2014 (reissued).

3. Structural Sheets
   a. S-1.01, Roof Framing Plan, dated July 30, 2014 (reissued).
   b. S-1.02, Structural Details, dated July 30, 2014 (reissued).
   c. S-1.03 is deleted from the documents.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 REVISIONS TO DIVISIONS 02 - 49 SPECIFICATION SECTIONS

A. Section 05 73 00 - Decorative Metal Railings (Galvanized), dated July 23, 2014 (new).

1. New specification section added to clarify metal railings.

B. Section 06 16 53 - Moisture Resistant Sheathing, dated July 23, 2014 (new)

1. New specification section added to clarify moisture resistant sheathing.

C. Section 06 20 23 - Interior Finish Carpentry, dated July 30, 2014 (reissued)

1. Edited to clarify that new interior trim is to be stained, not painted. Color to match existing interior window stools.

D. Section 07 46 46 - Fiber Cement Siding and Trim, dated July 30, 2014 (reissued)

1. Edited to clarify that Primex WC vents are to be used at dryer and exhaust locations.

3.2 REVISIONS TO DRAWING SHEETS

1. Drawings listed in Part 1.3.B above are made part of this addendum to clarify various design-related issues. Issued covered in the addendum include, but are not limited to:

    a. General clarifications to plans, elevations and sections;
    b. Structure and layout of new roofs over second floor balconies;
    c. Other details associated with balconies walking surfaces and balcony interface details;
    d. New railing design and layout;

END OF DOCUMENT

SECTION 05 73 00 - DECORATIVE METAL RAILINGS (GALVANIZED)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Galvanized steel decorative railings with powder coating

B. Related Sections:

1. 06 10 00 – Rough Carpentry

1.3 DEFINITIONS

A. Railings: Guards, handrails, and similar devices used for protection of occupants at open-sided floor areas, pedestrian guidance and support, visual separation, or wall protection.

1.4 PERFORMANCE REQUIREMENTS

A. General: In engineering railings to withstand structural loads indicated. Provide show drawings and engineering calculations bearing the seal of an engineer registered in Oregon.

B. Structural Performance: Railings shall withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ft. (0.73 kN/m) applied in any direction.
b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
b. Infill load and other loads need not be assumed to act concurrently.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes acting on exterior metal fabrications by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects.

1. Temperature Change: 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

D. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.5 ACTION SUBMITTALS

A. Product Data: For the following:

1. Manufacturer's product lines of railings assembled from standard components.

2. Grout, anchoring cement, and paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. Samples for Initial Selection: For products involving selection of color, texture, or design.

D. Samples for Verification: For each type of exposed finish required.

1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters.

2. Fittings and brackets.

3. Welded connections.

4. Assembled Samples of railing systems, made from full-size components, including top rail, post, handrail, and infill. Show method of finishing members at intersections. Samples need not be full height.

1.6 INFORMATIONAL SUBMITTALS

A. Preconstruction test reports.

1.7 QUALITY ASSURANCE

A. Source Limitations: Obtain each type of railing from single source from single manufacturer.

B. Product Options: Information on Drawings and in Specifications establishes requirements for system's aesthetic effects and performance characteristics. Aesthetic effects are indicated by dimensions, arrangements, alignment, and profiles of

components and assemblies as they relate to sightlines, to one another, and to adjoining construction. Performance characteristics are indicated by criteria subject to verification by one or more methods including structural analysis, preconstruction testing, field testing, and in-service performance.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

C. Product Options: Drawings indicate size, profiles, and dimensional requirements of railings and are based on the specific system indicated.

1. Do not modify intended aesthetic effects, as judged solely by Architect, except with Architect's approval. If modifications are proposed, submit comprehensive explanatory data to Architect for review.

D. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."

E. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Build mockups for each form and finish of railing consisting of two posts, top rail, infill area, and anchorage system components that are full height and are not less than 24 inches (600 mm) in length.

2. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

F. Pre-installation Conference: Conduct conference at Project site.

1. Meet with Owner, Consultant, Owner’s insurer if applicable, Installer, and installers whose work interfaces with or affects related assemblies.

2. Review methods of procedures related to application.

3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.

4. Review special details.

5. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

1.8 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication and indicate measurements on Shop Drawings.

1.9 COORDINATION AND SCHEDULING

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

C. Schedule installation so wall attachments are made only to completed walls. Do not support railings temporarily by any means that do not suit structural performance requirements.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. 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:

1. Steel Railings:

a. Buffalo Welding, Inc.
b. Zion Metal Works
c. A2 Fabrication, Inc.
d. Frontier Metal Fabrications

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Same metal and finish as supported rails unless otherwise indicated.

1. Provide formed brackets with predrilled hole for exposed bolt anchorage.

2.3 STEEL AND IRON

A. Tubing: ASTM A 500 (cold formed) or ASTM A 513.

B. Bars: Hot-rolled, carbon steel complying with ASTM A 29/A 29M, Grade 1010.

C. Plates, Shapes, and Bars: ASTM A 36/A 36M.

2.4 FASTENERS

A. Fastener Materials: Unless otherwise indicated, provide the following:

1. Hot dipped galvanized bolts and fasteners.

B. Fasteners for Anchoring to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction indicated and capable of withstanding design loads.

C. Provide concealed fasteners for interconnecting railing components and for attaching railings to other work unless exposed fasteners are unavoidable.

2.5 MISCELLANEOUS MATERIALS

A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.6 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

B. Assemble railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.

C. Make up wire-rope assemblies in the shop to field-measured dimensions with fittings machine swaged. Minimize amount of turnbuckle take-up used for dimensional adjustment so maximum amount is available for tensioning wire ropes. Tag wire-rope assemblies and fittings to identify installation locations and orientations for coordinated installation.

D. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.

E. Form work true to line and level with accurate angles and surfaces.

F. Fabricate connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate. Locate weep holes in inconspicuous locations.

G. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

H. Connections: Fabricate railings with welded connections unless otherwise indicated.

I. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.

2. Obtain fusion without undercut or overlap.

3. Remove flux immediately.

4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for Type 1 welds: no evidence of a welded joint.

J. Mechanical Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

1. Fabricate splice joints for field connection using an epoxy structural adhesive if this is manufacturer's standard splicing method.

K. Form changes in direction as follows:

1. By bending to smallest radius that will not result in distortion of railing member.

L. Bend members in jigs to produce uniform curvature for each configuration required; maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

M. Close exposed ends of hollow railing members with prefabricated end fittings.

N. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns, unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.

O. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

2.7 GENERAL FINISH REQUIREMENTS

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipment.

C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Variations in appearance of other

components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

D. Provide exposed fasteners with finish matching appearance, including color and texture, of railings.

2.8 STEEL FINISHES

A. Galvanized Railings:

1. Hot-dip galvanize exterior steel and iron railings, including hardware, after fabrication.

a. Comply with ASTM A 123/A 123M for hot-dip galvanized railings.
b. Comply with ASTM A 153/A 153M for hot-dip galvanized hardware.
c. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.
d. Fill vent and drain holes that are exposed in the finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.

2. For galvanized railings, provide hot-dip galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.

B. Powder-Coat Finish: Prepare, treat, and coat galvanized metal to comply with resin manufacturer's written instructions and as follows:

1. Prepare galvanized metal by thoroughly removing grease, dirt, oil, flux, and other foreign matter.

2. Treat prepared metal with zinc-phosphate pretreatment, rinse, and seal surfaces.

3. Apply thermosetting polyester or acrylic urethane powder coating with cured-film thickness not less than 1.5 mils (0.04 mm).

4. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Fit exposed connections together to form tight, hairline joints.

B. Perform cutting, drilling, and fitting required for installing railings. Set railings accurately in location, alignment, and elevation; measured from established lines and levels and free of rack.

1. Do not weld, cut, or abrade surfaces of railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.

2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).

3. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).

C. Adjust railings before anchoring to ensure matching alignment at abutting joints.

D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws using plastic cement filler colored to match finish of railings.

B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.

3.3 ATTACHING RAILINGS

A. Attached railings as shown in the drawings.

3.4 FIELD QUALITY CONTROL

A. Remove and replace railings where test results indicate that they do not comply with specified requirements unless they can be repaired in a manner satisfactory to Architect and will comply with specified requirements.

B. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

3.5 CLEANING

A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with the same material as used for shop painting to comply with SSPC-PA 1 for touching up shop-painted surfaces.

1. Apply by brush or spray to provide a minimum 2.0-mil (0.05-mm) dry film thickness.

B. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

3.6 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION

SECTION 06 16 53 – MOISTURE RESISTANT SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes

1. Supply and installation of moisture resistant wall sheathing.

B. Related Sections

1. 07 25 05 – Building Wrap Weather Barriers
2. 07 46 46 – Fiber Cement Siding and Trim
3. 07 62 00 – Sheet Metal Flashing and Trim
4. 07 65 26 – Self-Adhered Sheet Flashing

1.3 REFERENCES

A. ASTM A 153/A 153M – Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2004.

B. ASTM A 653M-[94], Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.

C. ASTM C 954-[93], Specification for Steel Drill Screws for the Application of Gypsum Board.

D. ASTM C 1177/C 1177M – Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing; 2004.

E. ASTM C 1178-[93], Specification for Glass Mat Water-Resistant Gypsum Backing Board (in bath and shower areas)

F. ASTM D 3273, Standard Test Method for Resistance to Growth of Mold

1.4 SUBMITTALS

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

B. Submit manufacturer's descriptive literature indicating material composition, thickness, sizes and fire resistance.

C. Submit manufacturer's written certificate that product meets specified requirements

1.5 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to the job site in manufacturer's original packaging, containers and bundles with manufacturer's brand name and identification intact and legible.

B. Store level and handle materials to protect against contact with damp and wet surfaces, exposure to weather, breakage and damage to edges. Provide air circulation under covering and around stacks of materials..

PART 2 - PRODUCTS

2.1 MATERIALS

A. Wall Sheathing

1. Glass Mat Faced Gypsum that is non-combustible (ASTM E 136), fire resistant, water resistant and mold resistant in accordance with ASTM C 1177/C 1177M. Board to contain a moisture resistant core with glass mats both sides and long edges.

2. Mold resistance to meet ASTM D3273, minimum score of 10.

3. Edges: Square.

2.2 MANUFACTURERS

A. Gypsum Sheathing:

1. Dens-Glass Gold Fireguard

2. Thickness: 5/8 inch.

B. Wall sheathing at Traffic Coating: Fiberglass-Mat Faced Gypsum Roof Board:

1. Dens-Deck Prime.

2. Thickness: 5/8 inch.

3. Edges: Square.

2.3 ACCESSORIES

A. Fasteners:

1. Corrosion resistance:

a. Hot-dipped galvanized steel per ASTM A 153/A 153M, G185.
b. Climacoat by ITW Buildex.

B. Weather Barriers: See Section 07 25 05 – Building Wrap Weather Barriers

C. Self-Adhered Sheet Flashing: See Section 07 65 26.

D. Construction adhesive/glue: Per Industry Standard APA AFG-01.

E. Cementitous Filler: Primus by Dryvit. 100% Polymer based product site mixed with Portland cement to form patching compound for filling joints in sheathing.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine sub-framing; verify that surface of framing and furring members to receive sheathing does not vary more than 1/4 inch from the face of adjacent members. Notify Consultant of any deviations or unacceptable conditions.

3.2 PREPARATION

A. Do application and finishing of gypsum board in accordance with ASTM C 840 except where specified otherwise.

B. Install blocking as required to provide continuous support of sheathing.

3.3 INSTALLATION OF WALL SHEATHING

A. Do not apply sheathing board until steel stud framing, anchors and blocking work are approved.

B. Secure with long dimension perpendicular to wall studs, with ends over firm bearing and staggered, using nails or screws.

C. Apply single layer gypsum board to metal furring or framing using screw (metal and wood framing) or nail (wood framing only) fasteners.

1. Fastener spacing: Per Building Code requirements.

D. Perimeter screws shall not be less than 3/8 inch nor more than 1/2 inch from edges, and ends and shall be opposite the screws on adjacent boards.

E. Drive fasteners to bear tight against and flush with surface of sheathing. Do not countersink. Do not break glass-mat facing.

F. Use maximum lengths possible to minimize number and placement of joints. Locate edge joints parallel to and with vertical orientations on framing. Stagger intermediate end joints of adjacent lengths of sheathing. Make joints tight, accurately aligned and rigidly secured. Particular care to taken at wall corners which are not at 90 degrees to obtain snug joint with maximum gap of 1/8 inch.

G. Typical board joints to be tight to provide continuous support for the weather barrier. Board joints at base of slab to provide for deflection as required, and to be supported by metal supports and blocking as indicated.

H. For sheathing supporting self-adhered membrane, fill all joints greater than 5/16" (8mm) with cementitous filler.

3.4 MINIMUM FASTENING SCHEDULE

A. Screw sheathing to studs and runners or plates with fasteners spaced, sized, and located as required by Building Code.

1. Wood studs: Use nails or bugle-head screws.

B. Use fasteners of sufficient length to penetrate into framing a minimum dimension to satisfy requirements of the Building Code.

1. Immediately contact Consultant if clarification of fastener length is needed.

END OF SECTION

SECTION 06 20 23 – INTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Interior window trim.

1.3 DEFINITIONS

A. Lumber grading agencies, and the abbreviations used to reference them, include the following:

1. NeLMA: Northeastern Lumber Manufacturers' Association.

2. NHLA: National Hardwood Lumber Association.

3. NLGA: National Lumber Grades Authority.

4. SPIB: The Southern Pine Inspection Bureau.

5. WCLIB: West Coast Lumber Inspection Bureau.

6. WWPA: Western Wood Products Association.

1.4 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product. Indicate component materials, dimensions, profiles, textures, and colors and include construction and application details.

B. Samples for Initial Selection: For each type of trim indicated.

C. Samples for Verification:

1. For each species and cut of lumber and panel products with non-factory-applied finish, with 1/2 of exposed surface finished, 50 sq. in. for lumber and 8 by 10 inches for panels.

2. For each finish system and color of lumber and panel products with factory-applied finish, 50 sq. in. for lumber and 8 by 10 inches for panels.

D. Warranty: Special warranty specified in this Section.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Protect materials against weather and contact with damp or wet surfaces. Stack lumber, plywood, and other panels flat with spacers between each bundle to provide air circulation. Provide for air circulation within and around stacks and under temporary coverings.

B. Deliver interior finish carpentry materials only when environmental conditions meet requirements specified for installation areas. If interior finish carpentry materials must be stored in other than installation areas, store only where environmental conditions meet requirements specified for installation areas.

1.6 PROJECT CONDITIONS

A. Environmental Limitations: Do not deliver or install interior finish carpentry materials until building is enclosed and weatherproof, wet work in space is completed and nominally dry, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

B. Do not install finish carpentry materials that are wet, moisture damaged, or mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 STANDING AND RUNNING TRIM

A. Lumber Trim for Opaque Finish (Stained to match existing window stools. Color to be approved by Owner/Architect.):

1. Species and Grade: White woods, Select; WWPA.

2. Maximum Moisture Content: 19 percent

3. Finger Jointing: Allowed

4. Face Surface: Surfaced (smooth)

2.2 MISCELLANEOUS MATERIALS

A. Fasteners for Interior Finish Carpentry: Nails, screws, and other anchoring devices of type, size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

1. Where galvanized finish is indicated, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153/A 153M.

B. Glue: Aliphatic-resin, polyurethane, or resorcinol wood glue recommended by manufacturer for general carpentry use.

1. Use wood glue that has a VOC content of 30 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

C. Multipurpose Construction Adhesive: Formulation complying with ASTM D 3498 that is recommended for indicated use by adhesive manufacturer.

1. Use adhesive that has a VOC content of 70 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

2.3 FABRICATION

A. Back out or kerf backs of the following members except those with ends exposed in finished work:

1. Interior standing and running trim except shoe and crown molds.

B. Ease edges of lumber less than 1 inch in nominal thickness to 1/16-inch radius and edges of lumber 1 inch or more in nominal thickness to 1/8-inch radius.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.

B. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Before installing interior finish carpentry, condition materials to average prevailing humidity in installation areas for a minimum of 24 hours unless longer conditioning is recommended by manufacturer.

3.3 INSTALLATION, GENERAL

A. Do not use materials that are unsound, warped, improperly treated or finished, inadequately seasoned, or too small to fabricate with proper jointing arrangements.

1. Do not use manufactured units with defective surfaces, sizes, or patterns.

B. Install interior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.

1. Scribe and cut interior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.

2. Countersink fasteners, fill surface flush, and sand where face fastening is unavoidable.

3. Install to tolerance of 1/8 inch in 96 inches for level and plumb. Install adjoining interior finish carpentry with 1/32-inch maximum offset for flush installation and 1/16-inch maximum offset for reveal installation.

4. Coordinate interior finish carpentry with materials and systems in or adjacent to it. Provide cutouts for mechanical and electrical items that penetrate interior finish carpentry.

3.4 STANDING AND RUNNING TRIM INSTALLATION

A. Install with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches long, except where necessary. Stagger joints in adjacent and related standing and running trim. Cope at returns and miter at corners to produce tight-fitting joints with full-surface contact throughout length of joint. Use scarf joints for end-to-end joints. Plane backs of casings to provide uniform thickness across joints where necessary for alignment.

1. Install trim after gypsum board joint finishing operations are completed.

2. Drill pilot holes in hardwood before fastening to prevent splitting. Fasten to prevent movement or warping. Countersink fastener heads on exposed carpentry work and fill holes.

3.5 ADJUSTING

A. Replace interior finish carpentry that is damaged or does not comply with requirements. Interior finish carpentry may be repaired or refinished if work complies with requirements and shows no evidence of repair or refinishing. Adjust joinery for uniform appearance.

3.6 CLEANING

A. Clean interior finish carpentry on exposed and semi-exposed surfaces. Touch up factory-applied finishes to restore damaged or soiled areas.

3.7 PROTECTION

A. Protect installed products from damage from weather and other causes during remainder of the construction period.

B. Remove and replace finish carpentry materials that are wet, moisture damaged, and mold damaged.

1. Indications that materials are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.

2. Indications that materials are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION

SECTION 07 46 46 – FIBER CEMENT SIDING AND TRIM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Mineral fiber-cement siding and trim
2. Mineral fiber-cement soffit panels
3. Miscellaneous cedar trim

B. Related Sections

1. 06 10 00 – Rough Carpentry, for wall framing.
2. 07 25 05 – Building Wrap Weather Barriers
3. 07 62 00 – Sheet Metal Flashing and Trim.
4. 07 65 26 – Self-Adhered Sheet Flashing.
5. 07 92 00 – Joint Sealers.
6. 09 90 00 – Painting and Coating.

1.3 REFERENCES

A. ASTM E 84 – Test Method for Surface Burning Characteristics of Building Materials.

B. ASTM E 136 – Test method for Behavior of Materials in a Vertical Tube Furnace at 750 degrees C.

C. ASTM C 1186 – Specifications for Non- Asbestos Fiber Cement Siding, grade II, type A.

1.4 SUBMITTALS

A. Product Data: For each type of product specified, include manufacturer's specifications, construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Samples: 12 inches by width of units, or 12 by 12 inch for panel products, of each type and texture specified.

1. Include samples of siding, soffit and trim products where applicable.

C. Submit three copies of specification, installation data and other pertinent manufacturer's literature.

D. Qualification Data: For qualified siding installers.

E. Product Certificates: For each type of siding and trim, from manufacturer.

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

G. Research Evaluation Reports: For each type of siding required, from the ICC.

H. Maintenance Data: For each type of siding and trim and related accessories to include in maintenance manuals.

I. Warranty: Sample of special warranty.

1.5 QUALITY ASSURANCE

A. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C 1186 by a qualified testing agency acceptable to authorities having jurisdiction.

B. Source Limitations: Obtain each type of siding and trim including related accessories from a single source from a single manufacturer.

C. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.

1. Construction mock-ups of each typical condition to show location, intersection preparation, color, size, and shape of intersections. Typical conditions are, but not limited to, windows, vents and balcony interfaces.

a. Size: Minimum 48 inches wide by 60 inches high, or similar area as fits the layout of the building exterior.

2. Include outside corner on one end of mockup and inside corner on other end.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.

4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

5. Provide 48 hours notification to Consultant, contractor and manufacturer prior to application of mock-up for review. Application to be reviewed by consultant, contractor and manufacturer before proceeding with cementitious panel work.

D. Pre-installation Conference: Conduct conference at Project Site.

1. Meet with Owner, Consultant, Owner's insurer if applicable, Installer, and installers whose work interfaces with or affects related assemblies.

2. Review methods of procedures related to application.

3. Examine substrate conditions for compliance with requirements, including flatness and attachment to structural members.

4. Review special details.

5. Document proceedings, including corrective measures and actions required, and furnish copy of record to each participant.

E. Manufacturer's Representative

1. A representative of the fiber board manufacturer is to be present at the start and periodically during the installation of fiber board, and to provide written reports on the quality of the installation.

1.6 DELIVERY, STORAGE AND HANDLING

A. Fiber-cement components to be stored under cover and kept dry. Store products stacked on edge, or laid flat on a smooth, level surface. Edges and corners shall be protected from chipping and moisture.

B. Store off ground, under cover and protected from damage.

1. If products become wet, allow to dry thoroughly before installing.

1.7 ENVIRONMENTAL AND SAFETY REQUIREMENTS

A. Comply with requirements of OSHA regarding use, handling, storage, and disposal of hazardous materials; and regarding labeling and provision of material safety data sheets.

1.8 COORDINATION

A. Coordinate with other trades affecting or affected by Work of this Section to ensure proper sequencing.

1.9 WARRANTY

A. Provide manufacturer's transferable warranty which is to indicate that the fiber-cement materials will be free from defects and deterioration, and continue to perform satisfactorily when maintained in general conformance with the submitted maintenance documents

B. Warranty Duration:

1. Panels: 30 years from the date of Substantial Completion.

2. Trim: 15 years, from the date of Substantial Completion of the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Fiber-Cement Siding: ASTM C 1186, Grade II, Type A.

B. Fire Resistance Characteristics:

1. Noncombustible when tested in accordance with ASTM E 136.

2. Surface burning characteristics when tested in accordance with ASTM E 84, UBC Class I:

a. Flame Spread: 0
b. Fuel Contributed: 0
c. Smoke Density: 5

C. Finish

1. In accordance with fiber board manufacturer's recommendations. Color selected by Consultant.

2. Pre-primed on all surfaces with alkali resistant primer approved by manufacturer.

3. Topcoat to be flat sheen and include fungicide.

2.2 MANUFACTURERS

A. James Hardie Building Products.

B. Substitutions: Submit in accordance with requirements of Section 01 60 00.

2.3 SIDING AND TRIM SCHEDULE

A. Siding – Fiber Cement

1. Lap siding: “HardiPlank”

    a. Thickness: 5/16 inch
    b. Weight: 2.3 lbs/sq. ft.
    c. Width: 7-1/4 inch (6 inch exposure)
    d. Length: 12 feet
    e. Prime Finish: Factory
    f. Texture: “Smooth”

2. Soffit Board: “Hardisoffit” vented horizontal soffit board complying with the following:

    a. Thickness: 1/4 inch
    b. Weight: 1.8 lbs/sq. ft.
    c. Size: 4 feet by 8 feet
    d. Prime Finish: Factory
    e. Texture: “Smooth”

B. Trim – Fiber Cement

1. “HardiTrim”, 4/4 NT3 Boards and 5/4 NT3 Boards

    a. Thickness: ¾-inch (4/4) and 1-inch (5/4), actual, as shown in the Drawings.
    b. Weight: 4.35 lbs/sq. ft., 5.65 lbs/sq. ft.
    c. Width: 3-1/2 inch, 4-1/5 inch, 5-1/2 inch, 7-1/4 inch, 11-1/4 inch, Sizes as shown or indicated in the Drawings and as determined by field measurements to match existing.
    d. Length: 12 feet.
    e. Prime finish: Factory.
    f. Texture: “Cedarmill”
    g. Color: “Arctic White”

C. Miscellaneous Cedar Trim

1. Cedar Fascia Boards

    a. Provide new cedar fascia boards to match existing size, thickness and texture as closely as possible in areas of Work.

2.4 FASTENERS

A. Stainless steel fasteners as recommended and approved by siding manufacturer, as described in OSSC Section 1405.16.

1. Length: Sufficient to penetrate into structural framing a minimum ¾-inch.

2.5 ACCESSORIES

A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration, and as shown on the Drawings.

1. Provide accessories made from some material as adjacent siding unless otherwise indicated.

B. Rainscreen furring strips: Per Section 06 10 00 – Rough Carpentry.

1. Preservative treatment of rainscreen furring per Section 06 05 73 – Wood Treatment.

C. Metal Flashings: Per Section 07 62 00 – Sheet Metal Flashing and Trim

D. Sealant for panel and trim joints: Per Section 07 92 00 – Joint Sealants.

E. Insect Screens:

1. Provide where shown in the drawings and in other locations as necessary to prevent insect ingress into the rainscreen cavity.

2. For concealed (non-visible) applications: Cor-A-Vent S-400 Strip Vent

3. For exposed (visible) locations: Perforated stainless steel flashing per Section 07 62 00 – Metal Flashings.

F. Vent Hoods:

1. Primex WC-series rainscreen vent hoods as shown in Drawings.

2. Pre-approved equivalent.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of siding and trim and related accessories.

B. Verify that surfaces to receive siding are straight, plumb, true, solid, rigid, dry, and otherwise properly prepared.

C. Correct conditions detrimental to timely and proper completion of work.

D. Do not start work until conditions are satisfactory.

3.2 PROTECTION

A. Protect installed work form other trades.

B. Repair any punctures or tears in the weather or tears in the water resistive barrier prior to the installation of the siding.

3.3 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

3.4 INSTALLATION

A. Install in accordance with manufacturer's written installation instructions applicable to products and applications indicated, unless more stringent requirements apply.

1. Do not install damaged components.

B. Fasten to solid backing in accordance with National Evaluation Service Report for specified wind resistance.

C. Install straight, plumb, level, parallel, true, and secure as appropriate.

D. Fit neatly at joints against trim.

E. Accurately scribe to adjacent surface irregularities.

F. Fit accurately and neatly around any projections through siding.

G. Lap siding:

1. Joint treatment:

a. Install joint flashings at each butt joint in lap siding.
b. Joint flashings to be minimum G-90 prefinished galvanized steel.
c. Sealant or "H" joint covers in lieu of joint flashings at siding butt joints are not acceptable, unless otherwise noted in drawings.

H. Panel siding:

1. Install blocking behind all joints where joints do not occur at stud framing.

2. Place fasteners as described in the latest manufacturer's literature.

3. Install to maximum variation in alignment of 1/8-inch in 10 lineal feet.

I. Trim, Fascia & Soffit Installation:

1. Install panels and trim in accordance with manufacturer's instructions.

2. All work shall be carried out by skilled workers familiar with the application of all products.

3. Panel length and joint location to be confirmed with Consultant. Panel edges at joints to have furred backing.

4. All cut edges to be primed.

5. Fastening: Fasteners to be installed per latest manufacturer's literature.

J. Install accessories as detailed on drawings and in accordance with manufacturer's instructions.

3.5 FINISHES

A. Paint all cut ends, notches and holes prior to installation of boards.

B. Apply two coats of topcoat onto primed fiber cement boards in accordance with 09 90 00 – Painting and Coating.

C. Color and sheen to be as selected by Consultant.

D. Fiber cement board to be painted within 90 days of installation.

1. Ensure fiber cement siding is dry prior to painting.

3.6 ADJUSTING AND CLEANING

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

1. Clean siding that has been soiled, or discolored.

C. Touch-up damaged paint surfaces.

D. Replace damaged units.

E. Remove debris from project site.

END OF SECTION