



State of Utah

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Department of Administrative Services

KIMBERLY K. HOOD
Executive Director

Division of Facilities Construction and Management

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Director

ADDENDUM NO. 3

Date: November 12, 2009

To: Short Listed Contractors

From: S'ean Crawford, Project Manager, DFCM

Reference: Salt Lake Community College
Taylorsville Campus
Student Center Skylight Replacement
DFCM Project No. 09126660

Subject: **Addendum No. 3**

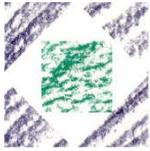
Pages	Addendum Cover Sheet	1 page
	Architects Addendum #3 Cover Sheet	1 page
	<u>Specification Section 08952</u>	<u>8 pages</u>
	Total	10 pages

Note: *This Addendum shall be included as part of the Contract Documents. Items in this Addendum apply to all drawings and specification sections whether referenced or not involving the portion of the work added, deleted, modified, or otherwise addressed in the Addendum. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to Disqualification.*

While we contend that SB220 should only be potentially applicable to a contract issued after the effective date of said bill, this is to clarify that for purposes of this contract, regardless of the execution or effective dates of this contract, the status of Utah Law and remedies available to the State of Utah and DFCM, as it relates to any matter referred to or affected by said SB220, shall be the Utah law in effect at the time of the issuance of this Addendum.

- 3.1 Schedule Changes – There are no further schedule changes, the schedule issued with Addendum #2 on November 4, 2009 is current.**
- 3.2 Reference the attached Addendum #3 and Specification 08952 from the Architect.**

End of Addendum #3



HFS ARCHITECTS

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Addendum No. 3

Project: Student Center Skylight Replacement
Address: SLCC Redwood Campus
City, State: Salt Lake City, Utah
Owner: DFCM

Date: 12 November 2009
DFCM Project No.: 09126660
HFS Project No.: 0911.01
Agency: Salt Lake Community College

To all Bidders of Record:

This addendum forms a part of the contract documents and modifies the original specifications and drawings as noted below. Items of general information are included without reference to the plans and specifications. Revisions to the specifications are referenced by page number and paragraph heading on that page. Revisions to the drawings are reference by the drawing number. Unless otherwise stated, any changes herein offset only the specific drawings, words, or paragraphs mentioned, and the balance of the drawings and specifications remain in full force. Acknowledge receipt of this addendum in the space provided on the Bid form. Failure to do so will subject the Bidder to disqualification.

Item No.	Section or Sheet No.	Description
GENERAL ITEMS		
1-1		None this addendum.
SPECIFICATION ITEMS		
1-2	08952	Replace the section in it's entirety with the attached specification section 08952 FIBERGLASS-SANDWICH-PANEL ASSEMBLIES.
DRAWING ITEMS		
1-3		None this addendum.
PRIOR APPROVALS		
1-4		As noted in the attached specification section 08952 FIBERGLASS-SANDWICH-PANEL ASSEMBLIES.
ATTACHMENTS		
1-5	8 pages	Section 08952 FIBERGLASS-SANDWICH-PANEL ASSEMBLIES.

SECTION 08952 - FIBERGLASS-SANDWICH-PANEL ASSEMBLIES

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 assemblies incorporating fiberglass sandwich panels and aluminum frame systems as follows:
 - 1. Wall assemblies.
 - 2. Skylight assemblies.
 - 3. Associated flashing.
- B. Related Sections include the following:
 - 1. Division 6 Section "Rough Carpentry" for miscellaneous blocking.
 - 2. Division 7 Section "Joint Sealants" for sealants installed at perimeters of assemblies.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide assemblies, including anchorage, capable of withstanding, without failure, the effects of the following:
 - 1. Structural loads.
 - 2. Thermal movements.
 - 3. Movements of supporting structure.
- B. Failure includes the following:
 - 1. Deflection exceeding specified limits.
 - 2. Water leakage.
 - 3. Thermal stresses transferred to building structure.
 - 4. Noise or vibration created by wind and thermal and structural movements.
 - 5. Loosening or weakening of fasteners, attachments, and other components.
 - 6. Delamination of fiberglass-sandwich-panel faces from panel cores.

- C. Structural Loads:

1. Wind Loads: 25 lb/sf.
2. Snow Loads: 30 lb/sf.
3. Concentrated Live Loads on Overhead Assemblies: 300 lbf applied to assemblies at locations that will produce greatest stress or deflection.

D. Deflection of Assemblies:

1. Vertical Assemblies: Limited to 1/100 of clear span for each assembly component.
2. Overhead Assemblies: Limited to 1/100 of clear span for each assembly component.

E. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F, ambient; material surfaces.

1.4 PERFORMANCE TESTING

A. Provide assemblies that comply with test-performance requirements indicated, as evidenced by reports of tests performed on manufacturer's standard assemblies by a qualified independent testing agency.

B. Structural-Performance Test: ASTM E 330.

1. Performance at Design Load: When tested at positive and negative wind-load design pressures, assemblies do not evidence deflection exceeding specified limits.
2. Performance at Maximum Test Load: When tested at 150 percent of positive and negative wind-load design pressures, assemblies, including anchorage, do not evidence material failures, structural distress, and permanent deformation of main supporting members exceeding 0.2 percent of span.
3. Test Durations: As required by design wind velocity but not less than 10 seconds.

C. Air-Infiltration Test: ASTM E 283.

1. Minimum Static-Air-Pressure Difference: 6.24 lbf/sq. ft..
2. Maximum Air Leakage: 0.06 cfm/sq. ft.

D. Test for Water Penetration under Static Pressure: ASTM E 331.

1. Minimum Static-Air-Pressure Difference: 20 percent of positive wind-load design pressure, but not less than 10 lbf/sq. ft..
2. Water Leakage: None.

E. Test for Water Penetration under Dynamic Pressure: AAMA 501.1.

1. Dynamic Pressure: 20 percent of positive wind-load design pressure, but not less than 15 lbf/sq. ft..

2. Water Leakage: None, as defined by AAMA 501.1. Water controlled by flashing and gutters that is drained to exterior and cannot damage adjacent materials or finishes is not considered water leakage.

1.5 SUBMITTALS

- A. Product Data: Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for assemblies.
- B. Shop Drawings: For assemblies. Include plans, elevations, sections, details, and attachments to other work.
- C. Samples for Verification: For each type of exposed finish required, in manufacturer's standard sizes.
- D. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for assemblies.
- E. Preconstruction Test Reports: For assemblies.
- F. Maintenance Data: For assemblies to include in maintenance manuals.
- G. Warranties: Special warranties specified in this Section.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Entity capable of assuming engineering responsibility, including preparation of Shop Drawings, and performing work of this Section and who is acceptable to manufacturer.
- B. Manufacturer Qualifications: For fiberglass sandwich panels, a qualified manufacturer whose facilities, processes, and products are monitored by an independent, accredited quality-control agency for compliance with applicable requirements in ICBO ES AC04, "Sandwich Panels." Manufacturer to have a minimum of 10 consecutive years years of documented experience in the fabrication of skylights of the type required for this project and be capable of providing field service representation during installation.
- C. Product Options: Information on Drawings and in Specifications establishes requirements for assemblies' 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 testing conducted by an independent testing agency 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.

- D. Fire-Test-Response Characteristics: Where fire-test-response characteristics are indicated for assemblies and components, provide products identical to those tested per test method indicated by an independent testing and inspecting agency acceptable to authorities having jurisdiction.
- E. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 1 Section "Project Management and Coordination."

1.7 PROJECT CONDITIONS

- A. Field Measurements: Indicate measurements on Shop Drawings.

1.8 WARRANTY

- A. Special Assembly Warranty: Manufacturer's standard form in which manufacturer and Installer agree to repair or replace components of assemblies that fail in materials or workmanship within specified warranty period.

- 1. Failures include, but are not limited to, the following:

- a. Structural failures including, but not limited to, excessive deflection.
- b. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
- c. Water leakage.

- 2. Warranty Period: Five years from date of Substantial Completion.

- B. Special Fiberglass-Sandwich-Panel Warranty: Manufacturer's standard form in which manufacturer agrees to replace panels that exhibit defects in materials or workmanship.

- 1. Defects include, but are not limited to, the following:

- a. Fiberbloom.
- b. Delamination of coating, if any, from exterior face sheet.
- c. Discoloration of exterior face sheet of more than 8.0 units Delta E when measured according ASTM D 2244.
- d. Delamination of panel face sheets from panel cores.

- 2. Warranty Period: 25 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Basis-of-Design Product: The design for assemblies is based on Kalwall. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:
1. Kalwall Corporation.
 2. Major Industries, Inc. (Platinum Edition only)
 3. Structures Unlimited, Inc.

2.2 ALUMINUM FRAME SYSTEMS

- A. Aluminum: Alloy and temper recommended in writing by manufacturer for type of use and finish indicated.
1. Sheet and Plate: ASTM B 209.
 2. Extruded Bars, Rods, Profiles, and Tubes: ASTM B 221.
- B. Components: Manufacturer's standard extruded-aluminum members of thickness required and reinforced as required to support imposed loads.
1. Construction: Thermally broken; framing members are composite assemblies of two separate extruded-aluminum components permanently bonded by a material of low thermal conductance.
- C. Exposed Flashing and Closures: Manufacturer's standard aluminum components not less than 0.040 inch thick.
- D. Frame-System Gaskets: Manufacturer's standard.
- E. Frame-System Sealants: As recommended in writing by manufacturer.
- F. Anchors, Fasteners, and Accessories: Manufacturer's standard, corrosion-resistant, nonstaining, and nonbleeding; compatible with adjacent materials.
1. At closures, retaining caps, or battens, use ASTM A 193/A 193M, 300 series stainless-steel screws.
 2. Where fasteners are subject to loosening or turning out from thermal and structural movements, wind loads, or vibration, use self-locking devices.
 3. At movement joints, use slip-joint linings, spacers, and sleeves of material and type recommended in writing by manufacturer.
- G. Frame System Fabrication:
1. Fabricate components before finishing.
 2. Fabricate components that, when assembled, have the following characteristics:
 - a. Profiles that are sharp, straight, and free of defects or deformations.
 - b. Accurately fitted joints with ends coped or mitered.
 - c. Internal guttering systems or other means to drain water passing joints, condensation occurring within components, and moisture migrating within the assembly to exterior.

3. Fabricate sill closures with weep holes and for installation as continuous component.
4. Reinforce components as required to receive fastener threads.
5. Weld components in concealed locations to greatest extent possible to minimize distortion or discoloration of finish. Remove weld spatter and welding oxides from exposed surfaces by descaling or grinding.

2.3 FIBERGLASS SANDWICH PANELS

- A. Panel Construction: Assembly of uniformly colored, translucent, thermoset, fiberglass-reinforced-polymer face sheets bonded to both sides of a grid core and complying with requirements applicable to panel materials in ICBO ES AC04, "Sandwich Panels."
 1. Face-Sheet, Self-Ignition Temperature: 650 deg F or more per ASTM D 1929.
 2. Face-Sheet Burning Extent: 1 inch or less per ASTM D 635.
 3. Face-Sheet, Smoke-Developed Index: 450 or less per ASTM E 84.
 4. Interior Face-Sheet, Flame-Spread Index: Not more than 25 per ASTM E 84.
- B. Panel Thickness: 2-3/4 inches.
- C. Panel U-Factor: Not more than 0.54, measured in Btu/sq. ft. x h x deg F according to NFRC 100 or ASTM C 1363 using procedures described in ASTM C 1199 and ASTM E 1423.
- D. Panel Light Transmission: 40%
- E. Panel Strength Characteristics:
 1. Maximum Panel Deflection: L/100
- F. Grid Core: Mechanically interlocked extruded-aluminum I-beams, with a minimum flange width of 7/16 inch.
 1. Extruded Aluminum: ASTM B 221, in alloy and temper recommended in writing by manufacturer.
 2. I-Beam Construction: Thermally broken; two separate extruded-aluminum components permanently bonded by a material of low thermal conductance.
 3. Grid Pattern: Inline rectangle, nominal 12 by 24 inches.
- G. Exterior Face Sheet:
 1. Thickness: 0.070 inches.
 2. Color: Crystal.
 3. Color Stability: Not more than 3.0 units Delta E when measured according to ASTM D 2244 after outdoor weathering in southern Florida according to procedures in ASTM D 1435 with panels mounted facing south and as follows:
 - a. Panel Mounting Angle: Not more than 45 degrees from horizontal.
 - b. Exposure Period: 60 months

4. Erosion Protection: Manufacturer's standard.
5. Impact Resistance: No fracture or tear at impact of 60 ft.lbs. by a 3-1/4-inch- diameter, 5-lb free-falling ball according to test procedure in UL 972.

H. Interior Face Sheet:

1. Thickness: 0.045 inch.
2. Color: White.

I. Fiberglass-Sandwich-Panel Adhesive: ASTM D 2559.

1. Compatible with facing and core materials.
2. Tensile and shear bond strength of aged adhesive ensures permanent adhesion of facings to cores, as evidenced by testing according to ASTM C 297 and ASTM D 1002 after accelerated aging procedures that comply with aging requirements for adhesives with high resistance to moisture in ICBO ES AC05, "Sandwich Panel Adhesives."

J. Panel Fabrication: Factory assemble and seal panels.

1. Laminate face sheets to grid core under a controlled process using heat and pressure to produce straight adhesive bonding lines that cover width of core members and that have sharp edges.
 - a. White spots indicating lack of bond at intersections of grid-core members are limited in number to 4 for every 40 sq. ft. of panel and limited in diameter to 3/64 inch.
2. Fabricate with grid pattern that is symmetrical about centerlines of each panel.
3. Fabricate panel to allow condensation within panel to escape.
4. Reinforce panel corners.

2.4 ALUMINUM FINISHES

- A. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Finish designations prefixed by AA comply with the system established by the Aluminum Association for designating aluminum finishes.
- C. Class I, Color Anodic Finish: AA-M12C22A42/A44 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class I, integrally colored or electrolytically deposited color coating 0.018 mm or thicker) complying with AAMA 611.
 1. Color: Dark bronze.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. General:
1. Comply with manufacturer's written instructions.
 2. Do not install damaged components.
 3. Fit joints between aluminum components to produce hairline joints free of burrs and distortion.
 4. Rigidly secure nonmovement joints.
 5. Install anchors with separators and isolators to prevent metal corrosion and electrolytic deterioration and to prevent impeding movement of moving joints.
 6. Seal joints watertight, unless otherwise indicated.
- B. Metal Protection: Where aluminum components will contact dissimilar materials, protect against galvanic action by painting contact surfaces with bituminous paint or by installing nonconductive spacers as recommended in writing by manufacturer for this purpose.
- C. Install continuous aluminum sill closure with weatherproof expansion joints and locked and sealed or welded corners. Locate weep holes at rafters.
- D. Install components to drain water passing joints, condensation occurring within aluminum members and panels, and moisture migrating within assembly to exterior.
- E. Install components plumb and true in alignment with established lines and elevations.
- F. Erection Tolerances: Install assemblies to comply with the following maximum tolerances:
1. Alignment: Limit offset from true alignment to 1/32 inch where surfaces abut in line, edge to edge, at corners, or where a reveal or protruding element separates aligned surfaces by less than 3 inches; otherwise, limit offset to 1/8 inch.
 2. Location and Plane: Limit variation from true location and plane to 1/8 inch in 12 feet; 1/2 inch over total length.

END OF SECTION 08952END OF SECTION 08952